

Environmental Sciences Division

**AN UPDATED GLOBAL GRID POINT SURFACE AIR TEMPERATURE
ANOMALY DATA SET: 1851-1990**

Contributed by

P. D. Jones, S. C. B. Raper, B. S. G. Cherry
C. M. Goodess, T. M. L. Wigley, B. Santer, P. M. Kelly
Climatic Research Unit
University of East Anglia
Norwich, United Kingdom

R. S. Bradley
University of Massachusetts
Amherst, Massachusetts

H. F. Diaz
National Oceanic and Atmospheric Administration
Environmental Research Laboratories
Boulder, Colorado

Prepared by R. J. Sepanski, T. A. Boden, and R. C. Daniels

Environmental Sciences Division
Publication No. 3520

Date Published: October 1991

Prepared for the
Carbon Dioxide Research Program
Environmental Sciences Division
U.S. Department of Energy
Office of Health and Environmental Research
(Budget Activity Number KP 05 00 00 0)

Prepared by the
OAK RIDGE NATIONAL LABORATORY
Oak Ridge, Tennessee 37831-6335
managed by
MARTIN MARIETTA ENERGY SYSTEMS, INC.
for the
U.S. DEPARTMENT OF ENERGY
under contract DE-AC05-84OR21400

RECOVER

TABLE OF CONTENTS

	<u>Page</u>
LIST OF FIGURES	v
LIST OF TABLES	vii
ABSTRACT	ix
PART 1: INFORMATION ABOUT THE NUMERIC DATA PACKAGE	1
1. NAME OF THE NUMERIC DATA PACKAGE	3
2. CONTRIBUTORS	3
3. KEYWORDS	3
4. BACKGROUND INFORMATION	3
5. SOURCE AND SCOPE OF THE DATA	4
6. APPLICATIONS OF THE DATA	5
7. LIMITATIONS AND RESTRICTIONS	5
8. REFERENCES	16
9. DATA CHECKS PERFORMED BY CDIAC	17
10. HOW TO OBTAIN THE PACKAGE	20
PART 2: INFORMATION ABOUT THE MAGNETIC TAPE	21
11. CONTENTS OF THE MAGNETIC TAPE	23
12. DESCRIPTIVE FILE ON THE TAPE	26
13. LISTINGS OF THE FORTRAN IV DATA RETRIEVAL PROGRAMS	33
14. LISTING OF THE SAS INPUT/OUTPUT RETRIEVAL PROGRAM	40
15. VERIFICATION OF DATA TRANSPORT	59

TABLE OF CONTENTS (continued)

APPENDIX A. REPRINTS OF PERTINENT LITERATURE	65
A grid point surface air temperature data set for the Northern Hemisphere, by P. D. Jones, S. C. B. Raper, B. Santer, B. S. G. Cherry, C. M. Goodess, P. M. Kelly, T. M. L. Wigley, R. S. Bradley, and H. F. Diaz. 1985.	A1
Global-scale temperature changes to August 1987 and a comparison of satellite and conventional data, by P. D. Jones, T. M. L. Wigley, G. Ohring, and A. Thomasell. 1988.	A258
A grid point surface air temperature data set for the Southern Hemisphere, by P. D. Jones, S. C. B. Raper, C. M. Goodess, B. S. G. Cherry, and T. M. L. Wigley. 1986.	A267
APPENDIX B. GLOBAL GRID POINT SURFACE AIR TEMPERATURE ANOMALIES, 1851-1990 — MICROFICHE	Back cover

LIST OF FIGURES

<u>Figure</u>		<u>Page</u>
1	Grid point locations for which any monthly surface air temperature anomaly data are available from the period 1851 to 1990	7
2	Grid point locations for which continuous monthly surface air temperature anomaly data are available over the entire period of record, 1851 to 1990	8
3	Grid point locations for which continuous monthly surface air temperature anomaly data are available over the period 1900 to 1990	9
4	Grid point locations for which surface air temperature anomaly data are available for at least 90% of all months over the period 1900 to 1990	10
5	Average number of stations contributing monthly temperature data from 1851 to 1990	11
6	Year 1851: Average number of stations contributing monthly temperature data for each grid point location	12
7	Year 1900: Average number of stations contributing monthly temperature data for each grid point location	13
8	Year 1960: Average number of stations contributing monthly temperature data for each grid point location	14
9	Year 1990: Average number of stations contributing monthly temperature data for each grid point location	15
10	Number of months per grid point location for which changes were made in the updated data set for the period 1979 to 1984	18
11	Variability in monthly temperature anomaly data for each grid point location over the period 1851 to 1990	19

LIST OF TABLES

<u>Table</u>		<u>Page</u>
1	Partial listing of the gridded surface air temperature anomalies for the Northern Hemisphere (File 10)	48
2	Partial listing of the gridded surface air temperature anomalies for the Southern Hemisphere (File 11)	50
3	Partial listing of the gridded surface air temperature anomalies for the Antarctic (File 12)	53
4	Partial listing of the monthly mean temperature records for individual stations in the Northern Hemisphere (File 13)	55
5	Partial listing of the monthly mean temperature records for individual stations in the Southern Hemisphere (File 14)	57
6	Characteristics of numeric variables for the gridded surface air temperature anomaly file for the Northern Hemisphere	60
7	Characteristics of numeric variables for the gridded surface air temperature anomaly file for the Southern Hemisphere	61
8	Characteristics of numeric variables for the gridded surface air temperature anomaly file for the Antarctic	62
9	Characteristics of numeric variables for the monthly mean temperature records for individual stations in the Northern Hemisphere	63
10	Characteristics of numeric variables for the monthly mean temperature records for individual stations in the Southern Hemisphere	64

ABSTRACT

JONES, P. D., S. C. B. RAPER, B. S. G. CHERRY, C. M. GOODESS,
T. M. L. WIGLEY, B. SANTER, P. M. KELLY, R. S. BRADLEY, and
H. F. DIAZ. 1991. An updated global grid point surface air temperature
anomaly data set: 1851-1990. ORNL/CDIAC-37, NDP-020/R1. Carbon
Dioxide Information Analysis Center, Oak Ridge National Laboratory, Oak
Ridge, Tennessee. 422 pp.

This document presents land-based monthly surface air temperature anomalies (departures from a 1951-1970 reference period mean) on a 5° latitude by 10° longitude global grid. Monthly surface air temperature anomalies (departures from a 1957-1975 reference period mean) for the Antarctic (grid points from 65°S to 85°S) are presented in a similar way as a separate data set. The data were derived primarily from the *World Weather Records* and the archives of the United Kingdom Meteorological Office. This long-term record of temperature anomalies may be used in studies addressing possible greenhouse-gas-induced climate changes. To date, the data have been employed in generating regional, hemispheric, and global time series for determining whether recent (i.e., post-1900) warming trends have taken place.

This document also presents the monthly mean temperature records for the individual stations that were used to generate the set of gridded anomalies. The periods of record vary by station. Northern Hemisphere station data have been corrected for inhomogeneities, while Southern Hemisphere data are presented in uncorrected form.

All data have been assessed for quality (gross accuracy and consistency, temporal variability, and spatial and temporal completeness of record) and for long-term homogeneity. Although the period of record extends from 1851 to 1990, few grid point locations have contributed data for the entire period of record.

These data are available free of charge as a numeric data package (NDP) from the Carbon Dioxide Information Analysis Center. The NDP consists of this document and a magnetic tape containing machine-readable files (not available on floppy diskettes, due to size constraints). This document provides sample listings of temperature anomalies, station numbers, and mean inverse distance data, as well as a complete listing of the gridded surface air temperature anomalies on microfiche (Appendix B). This document also offers retrieval program listings (in FORTRAN and SAS* languages), furnishes graphical summaries and information on sampling methods and data selection, defines limitations and restrictions of the data, and provides reprints of pertinent literature.

*SAS is the registered trademark of SAS Institute, Inc., Cary, North Carolina 27511-8000.

PART 1
INFORMATION ABOUT THE NUMERIC DATA PACKAGE

1. NAME OF THE NUMERIC DATA PACKAGE

An Updated Global Grid Point Surface Air Temperature Anomaly Data Set: 1851–1990

2. CONTRIBUTORS

P. D. Jones
B. S. G. Cherry
T. M. L. Wigley
P. M. Kelly
Climatic Research Unit
University of East Anglia
Norwich, United Kingdom

S. C. B. Raper
C. M. Goodess
B. Santer

R. S. Bradley
University of Massachusetts
Amherst, Massachusetts

H. F. Diaz
National Oceanic and Atmospheric Administration
Environmental Research Laboratories
Boulder, Colorado

3. KEYWORDS

Surface air temperatures, temperature anomalies, gridded temperature data, climatic trends, time series, data homogeneity

4. BACKGROUND INFORMATION

Because reliable thermometers were not developed until the mid-18th century, almost all long-term temperature records are shorter than 200 years. For the most part, the development of a large-scale temperature recording network did not begin until the early- to mid-19th century (Bradley et al. 1985). As additional stations began operating, global coverage improved. However, differences in instrumentation and calculation methods among stations and among countries have made it difficult to compile an accurate data set for global surface air temperatures. Furthermore, changes in location, in instrumentation, and in calculation methods at individual stations, as well as other factors, such as urbanization, have resulted in an inhomogeneous data set (i.e., showing jumps, discontinuities, or trends attributable to nonclimatic sources) (see, for example, Jones et al. 1986a). The data set contained and described in this package extends back to 1851 and is, to the extent possible, homogeneous. This package is an updated and expanded version of that contained in Jones et al. 1986b. These data sets are identical for the period 1851–1978; however, the updated version corrects erroneous data and adds new station data for the period 1979–1984. The updated package also extends the data set by adding data for the Northern (grid points from

85°N to 0°) and Southern (grid points from 5°S to 60°S) Hemispheres for the period 1985–1990, and, for the first time, presents Antarctic (grid points from 65°S to 85°S) data for the period 1957–1990. In addition, this package includes the monthly mean temperature records for the individual stations that were used to generate the gridded anomalies.

The gridded anomaly data were evaluated for homogeneity, by comparison with neighboring stations, and were classified as immediately usable, corrected, or uncorrectable. The results of this assessment (for data from grid points 85°N to 60°S and through 1984), including any corrections applied to the data, are presented in Jones et al. (1985, 1986c). The gridded data set was generated from the station anomalies by an interpolation procedure averaging station data that were weighted according to the inverse of the distance of the station to the nearest grid point. The gridded data are departures (anomalies) from the station means for each month over the 1951–1970 reference period, or, for the Antarctic data, the 1957–1975 reference period. It was necessary to reduce all the station data to anomalies because of different station elevations and, to a lesser extent, different observation times.

5. SOURCE AND SCOPE OF THE DATA

The basis of the data set is derived from the *World Weather Records* (WWR), published by the Smithsonian Institution (1927, 1935, and 1947) and the U.S. Weather Bureau (1959–1982). Additional data were added from material available in published and manuscript form in meteorological archives. For the Northern Hemisphere, much of the additional information came from the archives of the United Kingdom Meteorological Office. Areas where data coverage was considerably expanded include the Soviet Union, northern Europe, northern Africa, and the People's Republic of China. For the Southern Hemisphere, data were added for Argentina, Chile, Indonesia, Australia, Pacific Islands (particularly Tahiti), New Zealand, Peru, and (for 1957 onwards) some parts of Antarctica. Details of these additional sources can be found in Bradley et al. (1985) and Jones et al. (1985, 1986a) for the Northern Hemisphere and in Jones et al. (1986c, 1986d) for the Southern Hemisphere. Data for the Antarctic were assembled primarily from the *World Weather Records* and the *Monthly Climatic Data for the World*.

The present updated version of this data set is identical to the earlier version for all records from 1851 through 1978, except for the addition of a separate data set containing Antarctic (grid points from 65°S to 85°S) surface air temperature anomalies beginning in 1957. Beginning with 1979 data, this document differs from the earlier version (Jones et al. 1986b) in several ways. Erroneous data for some sites have been corrected after a review of the actual station temperature data, and inconsistencies in the representation of missing values have been removed. For some grid locations, data have been added from stations that had not contributed to the original set. Data from satellites have also been used to correct station records in cases in which large discrepancies were evident (Jones et al. 1988). The present package also extends the record by adding monthly surface air temperature anomalies for the Northern (grid points from 85°N to 0°) and Southern (grid points from 5°S to 60°S) Hemispheres for the period 1985–1990.

This document also includes the monthly mean temperature records for the individual stations that were used to generate the set of gridded anomalies. The periods of record vary by station, with data for 1988 being the most recent presented (although data for 1989 and 1990 were also used to generate the updated gridded anomalies). Northern Hemisphere

(stations from 87.5° N to 2.5° S) station data have been corrected for inhomogeneities, while Southern Hemisphere (stations from 2.5° S to 62.5° S) data are presented in uncorrected form and missing 5 stations (Masterton, New Zealand; Lincoln College, New Zealand; Cape Leeuwin, Australia; Cape Naturaliste, Australia; and Angururu, Australia). Further details concerning these station records, including station histories, are given in Jones et al. (1985; 1986c), copies of which are included in Appendix A. Individual station data for the Antarctic (stations south of 62.5° S) are not presented in this package but are given in Jones and Limbert (1989) and may be obtained free of charge from the Carbon Dioxide Information Analysis Center.

Analysis of these gridded surface air temperature anomaly data over the period 1881–1984 shows a linear warming trend of 0.52°C for the Northern Hemisphere (Jones et al. 1986a), and 0.51°C for the Southern Hemisphere, excluding the Antarctic (Jones et al. 1986d). A similar trends analysis incorporating the entire data set through 1990 has not yet been published.

6. APPLICATIONS OF THE DATA

A representative global data set of surface air temperatures is crucial for understanding past climatic trends and for comparing future measurements. For example, this baseline data set will be important in detecting any climate shift that may have been induced by increased concentrations of atmospheric greenhouse gases. The gridded data have been used in establishing hemispheric time series of surface air temperatures (e.g., Fig. 6, Jones et al. 1986c; Fig. 5, Jones et al. 1986a). The methods used to calculate spatial mean surface air temperatures differ among researchers, particularly in regard to averaging procedures and the extrapolation of extant data to data-poor areas (e.g., Wigley et al. 1985). When used in estimating global mean temperatures, these data are often combined with data for sea surface temperatures (SST) and, preferably, corrected for the effects of El Niño/Southern Oscillation (ENSO) events (see, for example, Jones 1988).

7. LIMITATIONS AND RESTRICTIONS

Although the data are calculated, stored, and presented in this data set to an accuracy of 0.01°C (0.1°C for Antarctic data), the individual monthly grid point anomalies are probably only accurate to at best $\pm 0.2^\circ\text{C}$, given the accuracy of the original data (see Jones et al. 1985). The size of this error decreases, however, as averages for larger and larger regions are calculated.

Homogeneity of the data was checked by comparison with data from adjacent stations; not all station histories were examined. Thus, it is possible that some inhomogeneities could have escaped detection if a group of stations were affected similarly by a non-climatic factor.

Interstation comparisons were based on annual means, rather than on monthly means. It is possible, then, that an inhomogeneity due to urbanization could have remained undetected if a season-specific effect was not identified in the annual data. More detail on the measures taken to improve the homogeneity of the data set can be found in Appendix A. An assessment of the effect of urban warming on hemispheric average temperature anomalies derived from this data set is given in Jones et al. (1989).

The data set suffers from large discontinuities in both temporal and spatial coverage (Figs. 1–9). During the period 1900–1988, for example, nearly 60% of all contributing grid locations lack 10 or more years of data. Spatially, coverage is particularly poor before 1900. In 1851, for example, temperature anomaly data are available for only 48 grid loci, virtually all north of the equator; the entire Southern Hemisphere is represented by a single grid point, using data from a single station (Fig. 6). Jones et al. (1986d) considers the Southern Hemisphere data to be reliable only back to about 1890 for making annual hemispheric estimates and back to about 1860 for estimating overall trends. Even in 1990, however, large spatial gaps exist in the data set (Fig. 9). In the Southern Hemisphere, there is a complete lack of data from a number of grid locations in South America and central Africa. In the Northern Hemisphere, data for high-latitude locations are sparse, and there are a number of gaps in temperate regions, including two grid locations in the continental United States (resulting from the rejection of some station data during the 1980s due to urbanization effects). Considering the overall sparsity of polar data and the low weighting factor usually assigned to high-latitude data in generating area average temperature series (e.g., Jones et al. 1985), the result is likely to be an effective omission of high latitude data from such area average series. However, on the basis of the consistency of findings derived from satellite data and from surface data, Jones and Wigley (1990) have argued that incomplete coverage does not seriously affect the quality of surface temperature data.

Although each grid point temperature anomaly serves as an average value for all stations nearest to that grid point, many of the gridded anomalies use data from a single station. In 1990, for example, over half of all grid point temperature anomalies were based (as a monthly average) on data from one station. Even in 1960, the year in which the number of contributing stations was at a maximum, over 40% of all grid point anomalies were based on single station data.

In cases for the period 1979–84 in which the updated data contained in this document involve a change in the number of stations contributing to a grid point temperature anomaly, no corresponding changes were made to the associated mean inverse distance values. In these instances, therefore, the mean inverse distance data presented in this document must be assumed to be incorrect.

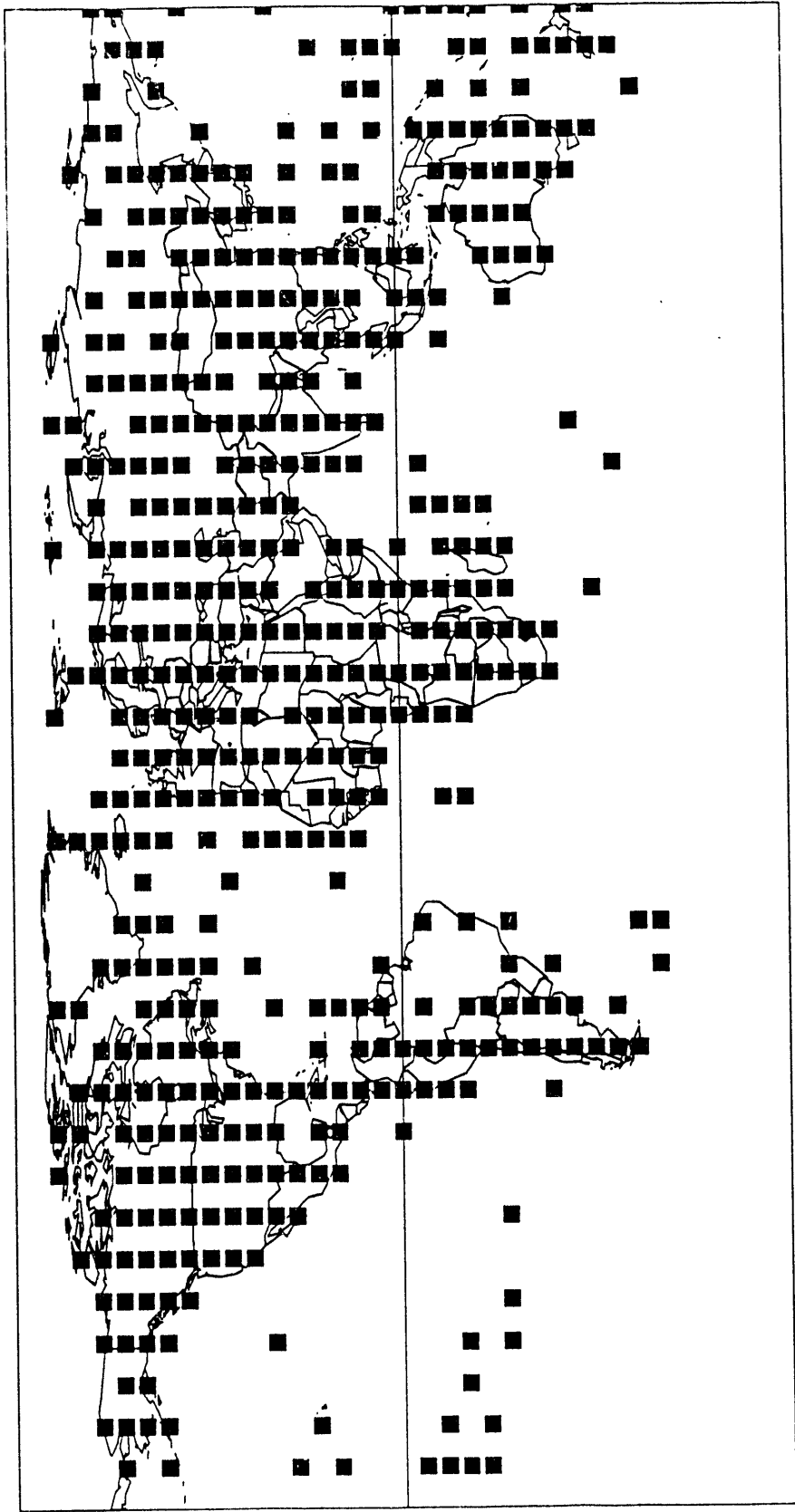


Fig. 1. Grid point locations for which any monthly surface air temperature anomaly data are available from the period 1851 to 1990.

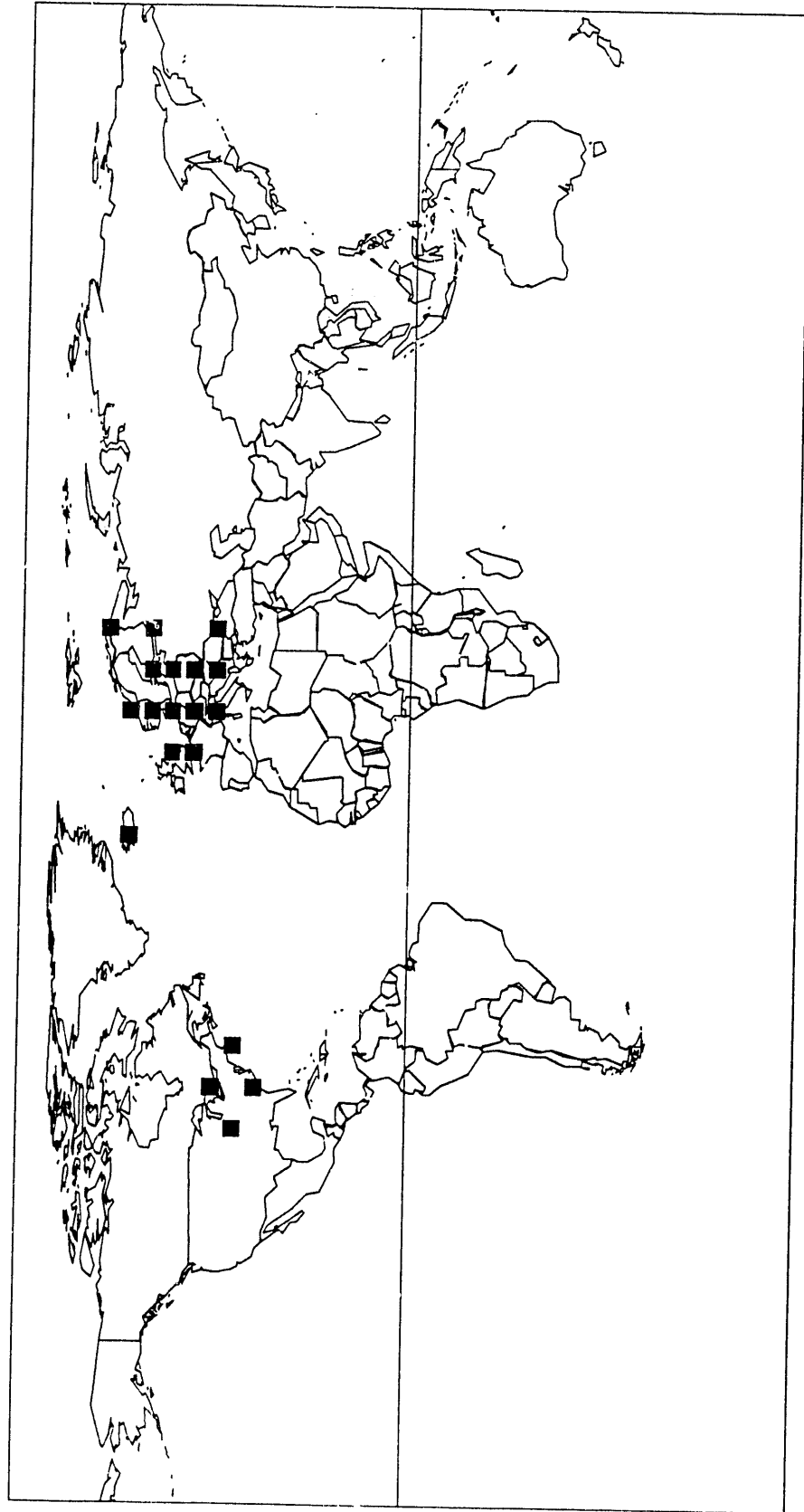


Fig. 2. Grid point locations for which continuous monthly surface air temperature anomaly data are available over the entire period of record, 1851 to 1990.

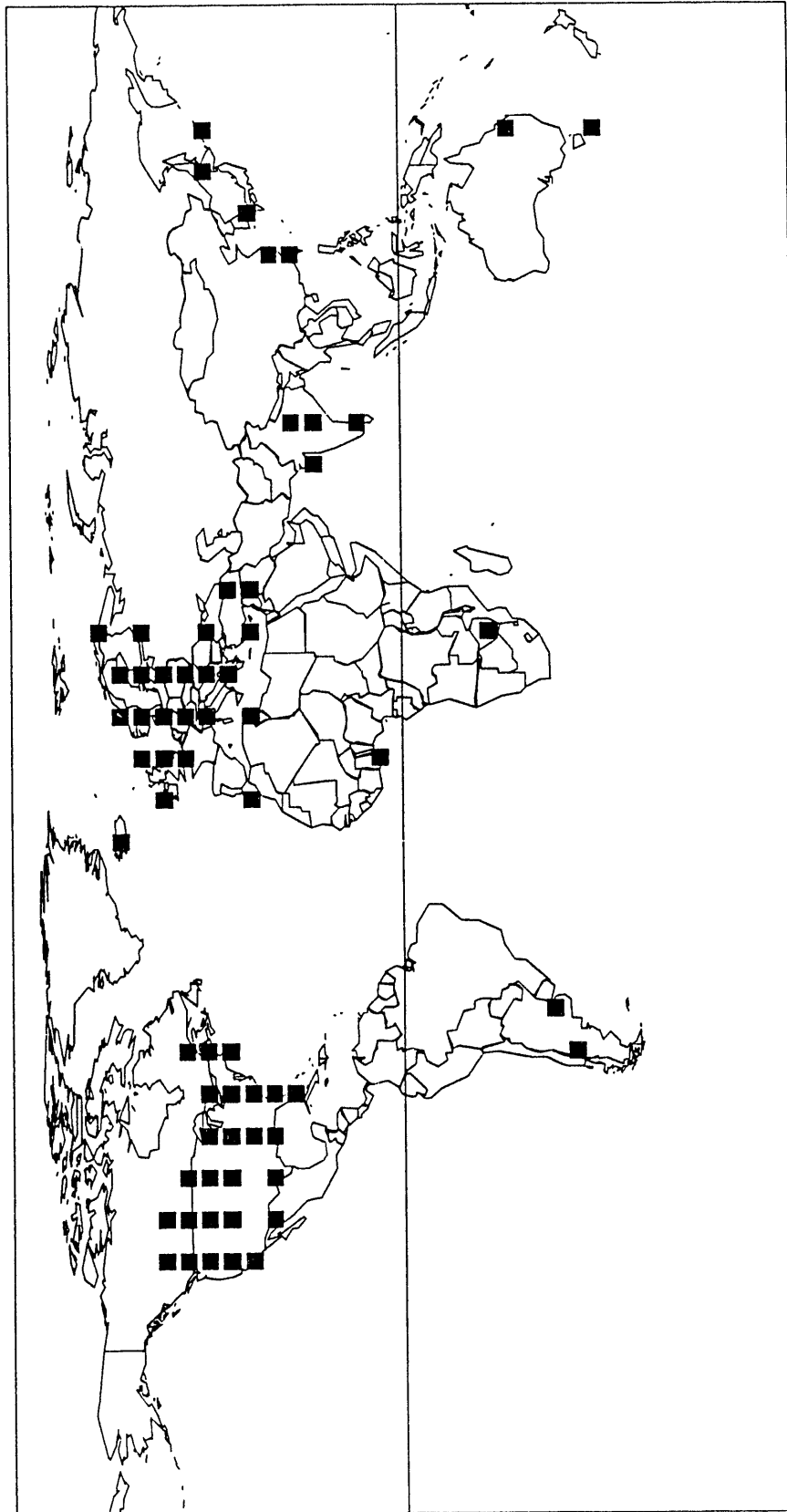


Fig. 3. Grid point locations for which continuous monthly surface air temperature anomaly data are available over the period 1900 to 1990.

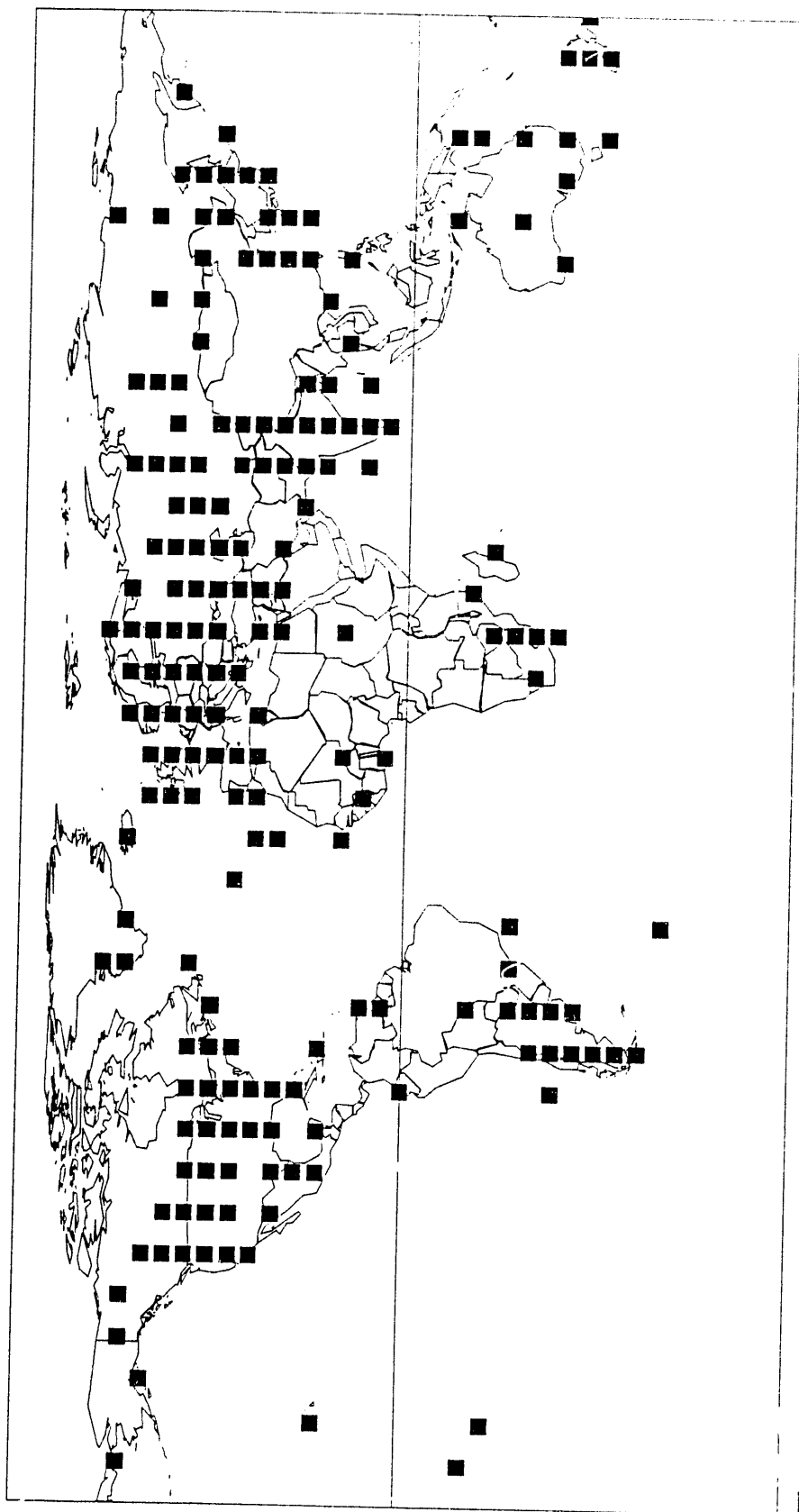


Fig. 4. Grid point locations for which surface air temperature anomaly data are available for at least 90% of all months over the period 1900 to 1990.

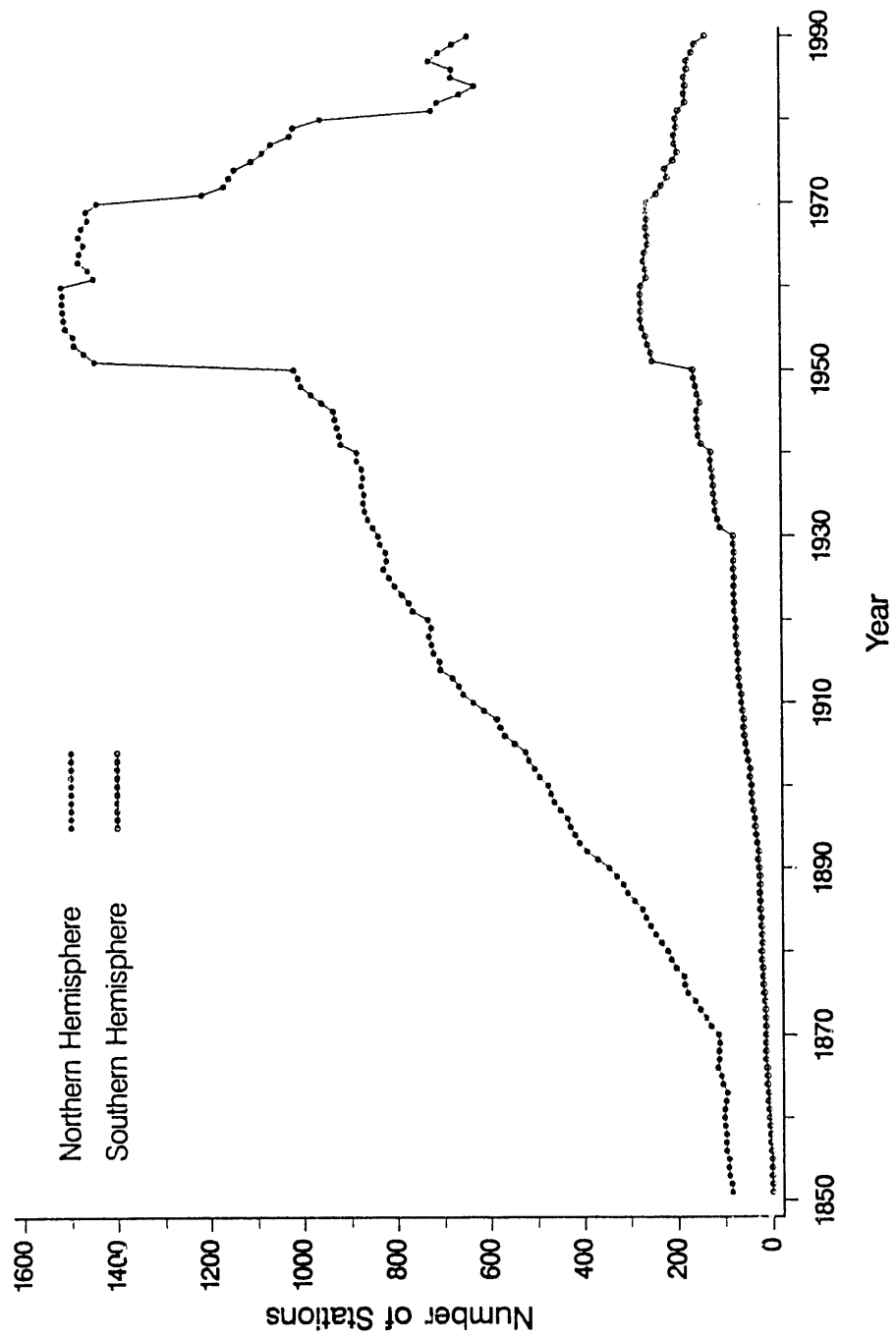
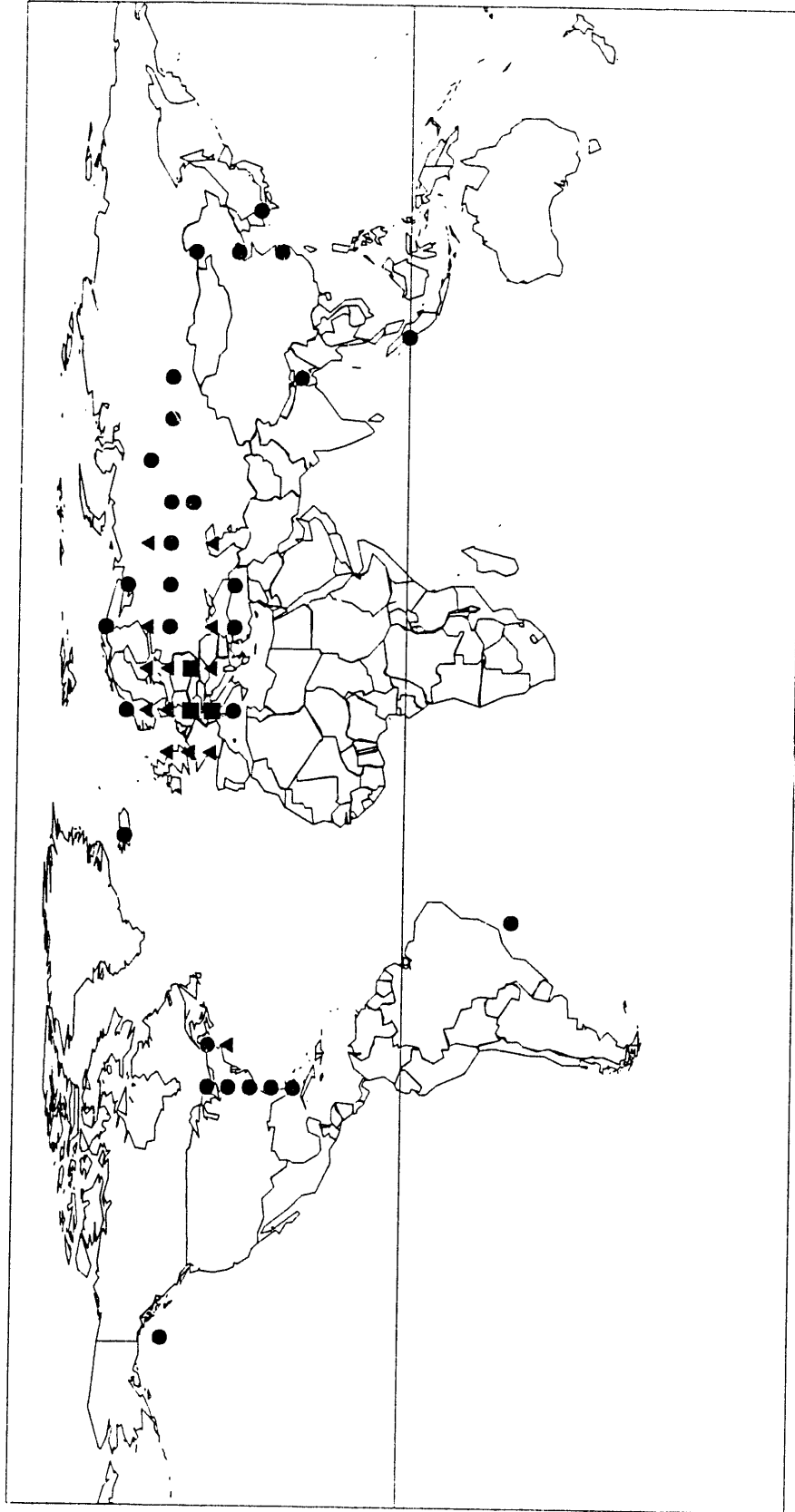
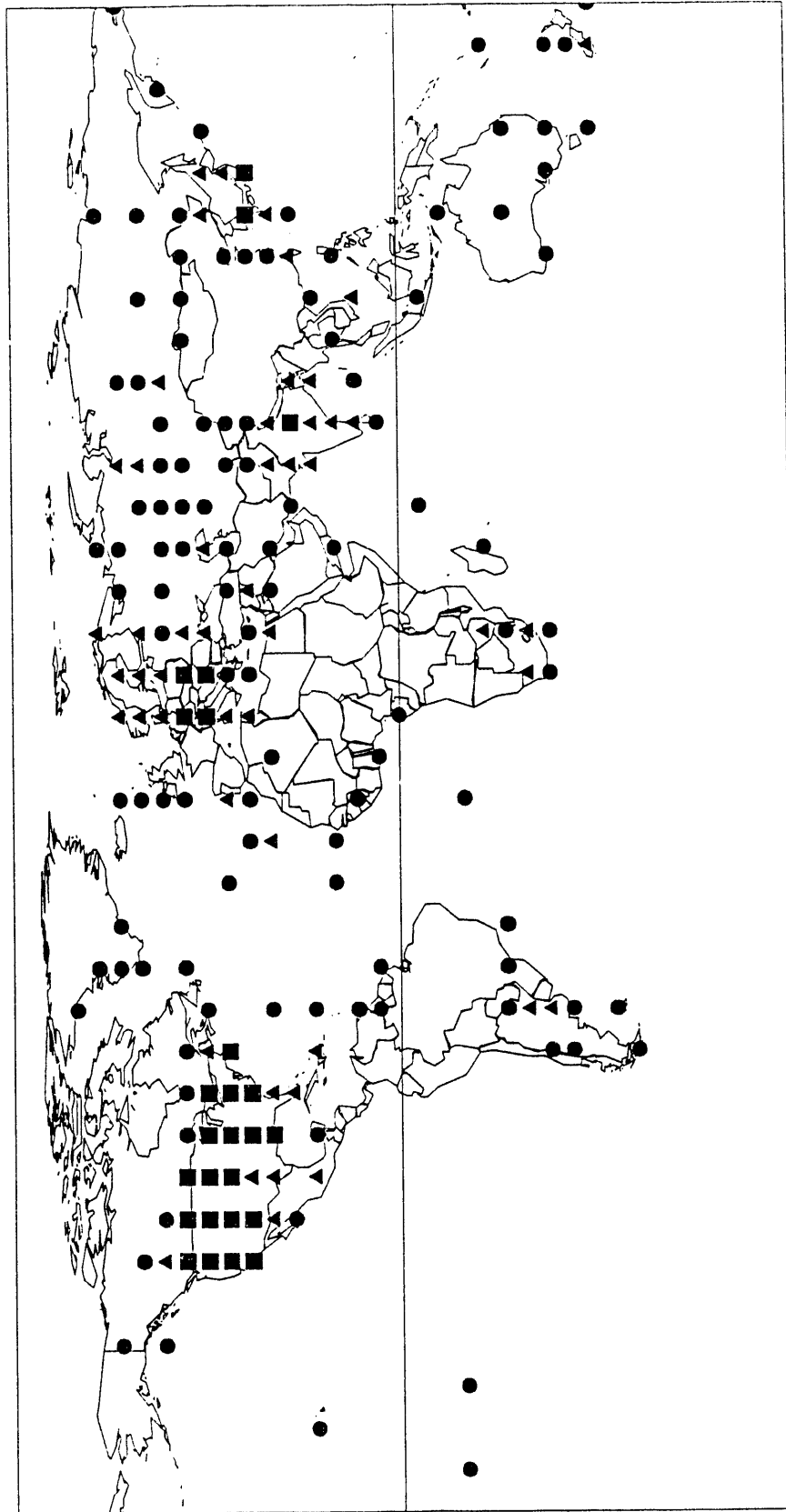


Fig. 5. Average number of stations contributing monthly temperature data from 1851 to 1990.



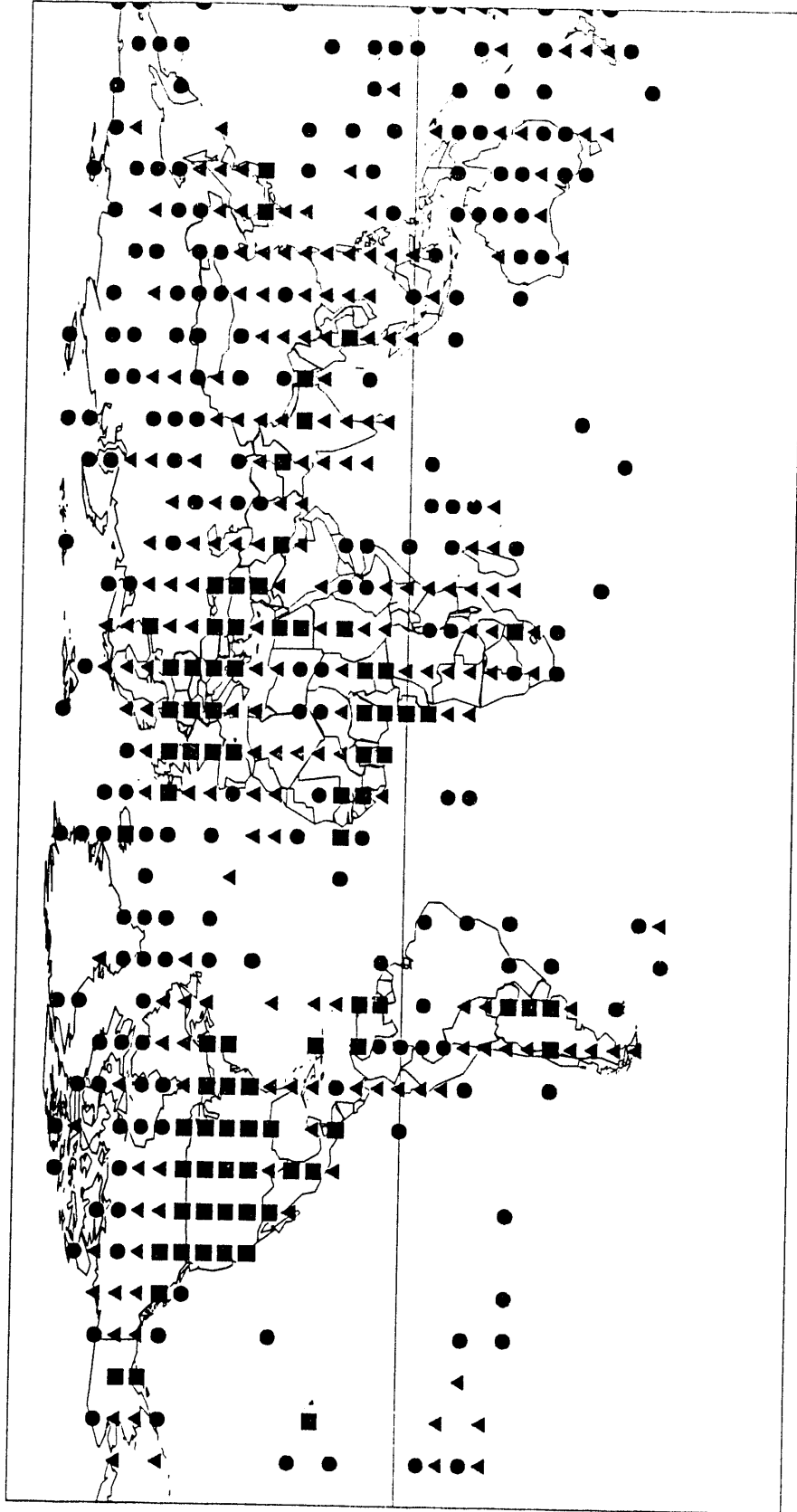
● 1 STATION ▲ 2 TO 5 STATIONS ■ MORE THAN 5 STATIONS

Fig. 6. Year 1851: Average number of stations contributing monthly temperature data for each grid point location.



● 1 STATION ▲ 2 TO 5 STATIONS ■ MORE THAN 5 STATIONS

Fig. 7. Year 1900: Average number of stations contributing monthly temperature data for each grid point location.



● 1 STATION ▲ 2 TO 5 STATIONS ■ MORE THAN 5 STATIONS
 Fig. 8. Year 1960: Average number of stations contributing monthly temperature data for each grid point location.

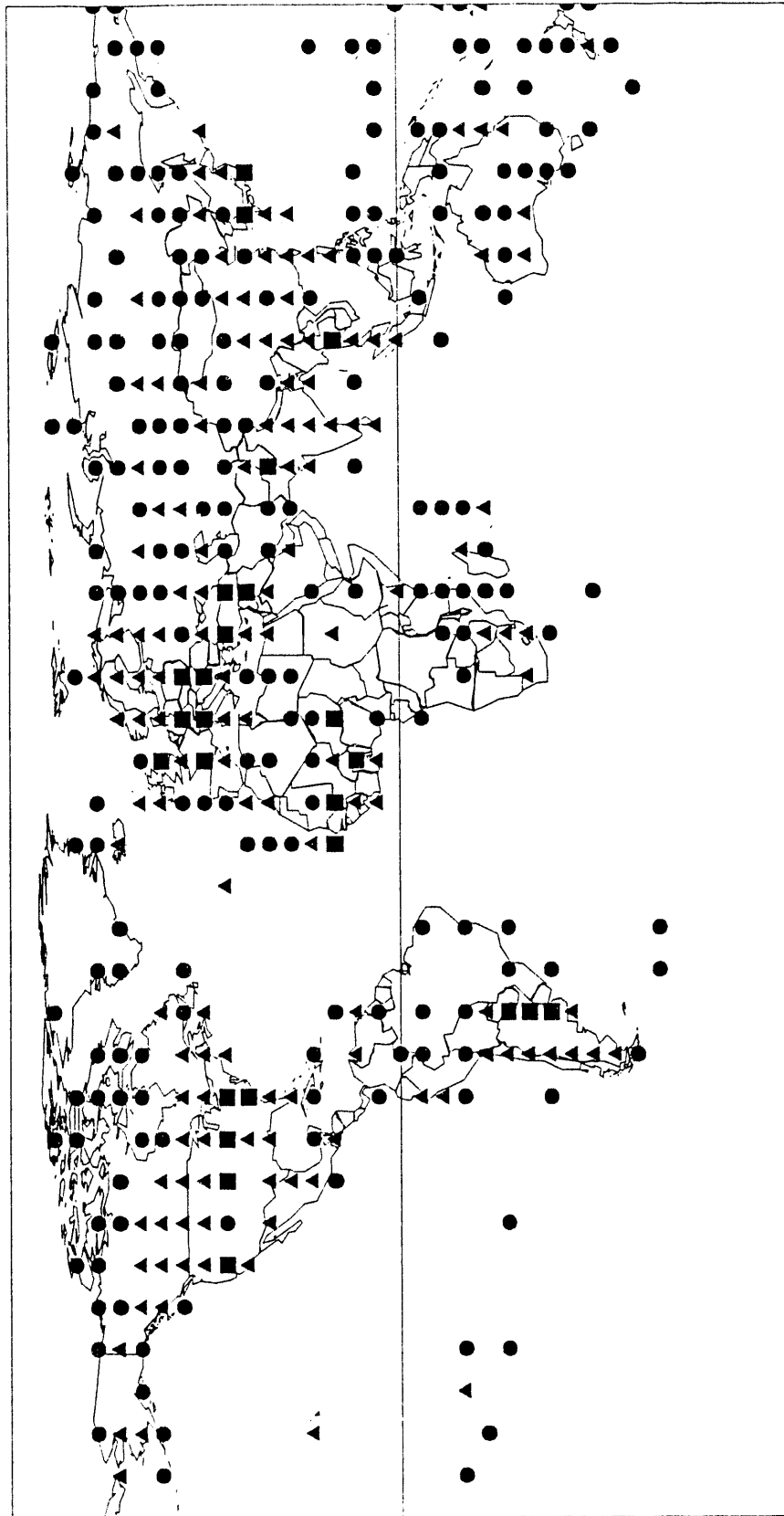


Fig. 9. Year 1990: Average number of stations contributing monthly temperature data for each grid point location.

8. REFERENCES

- Bradley, R. S., P. M. Kelly, P. D. Jones, C. M. Goodess, and H. F. Diaz. 1985. *A climatic data bank for Northern Hemisphere land areas, 1851–1980*. DOE Technical Report No. TR017. U.S. Department of Energy, Carbon Dioxide Research Division, Washington, D.C.
- Jones, P. D. 1988. The influence of ENSO on global temperatures. *Climate Monitor* 17:80–89.
- Jones, P. D., and D. W. S. Limbert. 1989. *Antarctic surface temperature and pressure data*. ORNL/CDIAC-27, NDP-032. Oak Ridge National Laboratory, Oak Ridge, Tennessee.
- Jones, P. D., and T. M. L. Wigley. 1990. Satellite data under scrutiny. *Nature* 344:711.
- Jones, P. D., S. C. B. Raper, B. Santer, B. S. G. Cherry, C. M. Goodess, P. M. Kelly, T. M. L. Wigley, R. S. Bradley, and H. F. Diaz. 1985. *A grid point surface air temperature data set for the Northern Hemisphere*. DOE Technical Report No. TR022. U.S. Department of Energy, Carbon Dioxide Research Division, Washington, D.C.
- Jones, P. D., S. C. B. Raper, R. S. Bradley, H. F. Diaz, P. M. Kelly, and T. M. L. Wigley. 1986a. Northern Hemisphere surface air temperature variations: 1851–1984. *Journal of Climate and Applied Meteorology* 25:161–79.
- Jones, P. D., S. C. B. Raper, B. S. G. Cherry, C. M. Goodess, T. M. L. Wigley, B. Santer, P. M. Kelly, R. S. Bradley, and H. F. Diaz. 1986b. *A global grid point surface air temperature data set: 1851–1984*. NDP-020. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, Oak Ridge, Tennessee.
- Jones, P. D., S. C. B. Raper, C. M. Goodess, B. S. G. Cherry, and T. M. L. Wigley. 1986c. *A grid point surface air temperature data set for the Southern Hemisphere*. DOE Technical Report No. TR027. U.S. Department of Energy, Carbon Dioxide Research Division, Washington, D.C.
- Jones, P. D., S. C. B. Raper, and T. M. L. Wigley. 1986d. Southern Hemisphere surface air temperature variations: 1851–1984. *Journal of Climate and Applied Meteorology* 25:1213–1230.
- Jones, P. D., T. M. L. Wigley, G. Ohring, and A. Thomasell. 1988. Global-scale temperature changes to August 1987 and a comparison of satellite and conventional data. pp. 326–334. *in Proceedings of the Twelfth Annual Climate Diagnostics Workshop, Department of Microbiology, University of Utah, Salt Lake City, October 12–16, 1987*. U.S. Department of Commerce, National Oceanic and Atmospheric Administration.
- Jones, P. D., P. M. Kelly, C. M. Goodess, and T. Karl. 1989. The effect of urban warming on the Northern Hemisphere temperature average. *Journal of Climate* 2:285–90.

Smithsonian Institution. 1927, 1935, 1947. *World Weather Records*. Miscellaneous Collections, Vols. 79, 90, 104. Washington, D.C.

U.S. Weather Bureau. 1959–1982. *World Weather Records*. 1941–1950 (1361 pp.), 1951–1960 (Vols. 1–6), 1961–1970 (Vols. 1–6). U.S. Department of Commerce, Washington, D.C.

Wigley, T. M. L., J. K. Angell, and P. D. Jones. 1985. Analysis of the temperature record. pp. 55–90. *in* M. C. MacCracken and F. M. Luther (eds.), *Detecting the Climatic Effects of Increasing Carbon Dioxide*. DOE/ER-0235. U.S. Department of Energy, Washington, D.C.

This data package includes reprints of Jones et al. 1985, Jones et al. 1986c, and Jones et al. 1988 (see Appendix A).

9. DATA CHECKS PERFORMED BY CDIAC

The Carbon Dioxide Information Analysis Center (CDIAC) endeavors to provide quality assurance (QA) of all data before their distribution. To ensure the highest possible quality in the data, CDIAC conducts extensive reviews for reasonableness, accuracy, completeness, and consistency of form. While having common objectives, the specific form of these reviews must be tailored to each data set; the process may involve considerable programming efforts. The entire QA process is an important part of CDIAC's effort to ensure that accurate, usable CO₂-related data are available to researchers.

The following summarizes the QA checks performed on the gridded surface air temperature data by CDIAC.

1. The format of all information, including header items, was checked to ensure consistency throughout each data file. Inconsistencies discovered either within the data set or between the original version and the present updated version include: (1) the presence of an extraneous line length record, not present in the earlier version of the data set, at the beginning of each line; and (2) inconsistencies in the form in which the year of record was presented within the data set.
2. All records were compared with the corresponding records (where available) in the original version to cite changes made to the updated version. These changes are summarized in Fig. 10.
3. The spatial and temporal continuity of the gridded temperature data set was reviewed, along with the corresponding data on the number of contributing stations. These results are summarized in Figs. 1–9.
4. Range and variability checks were performed on the temperature anomaly data to ensure reasonableness. The variability of the temperature data for years 1851–1990, is shown in Fig. 11.

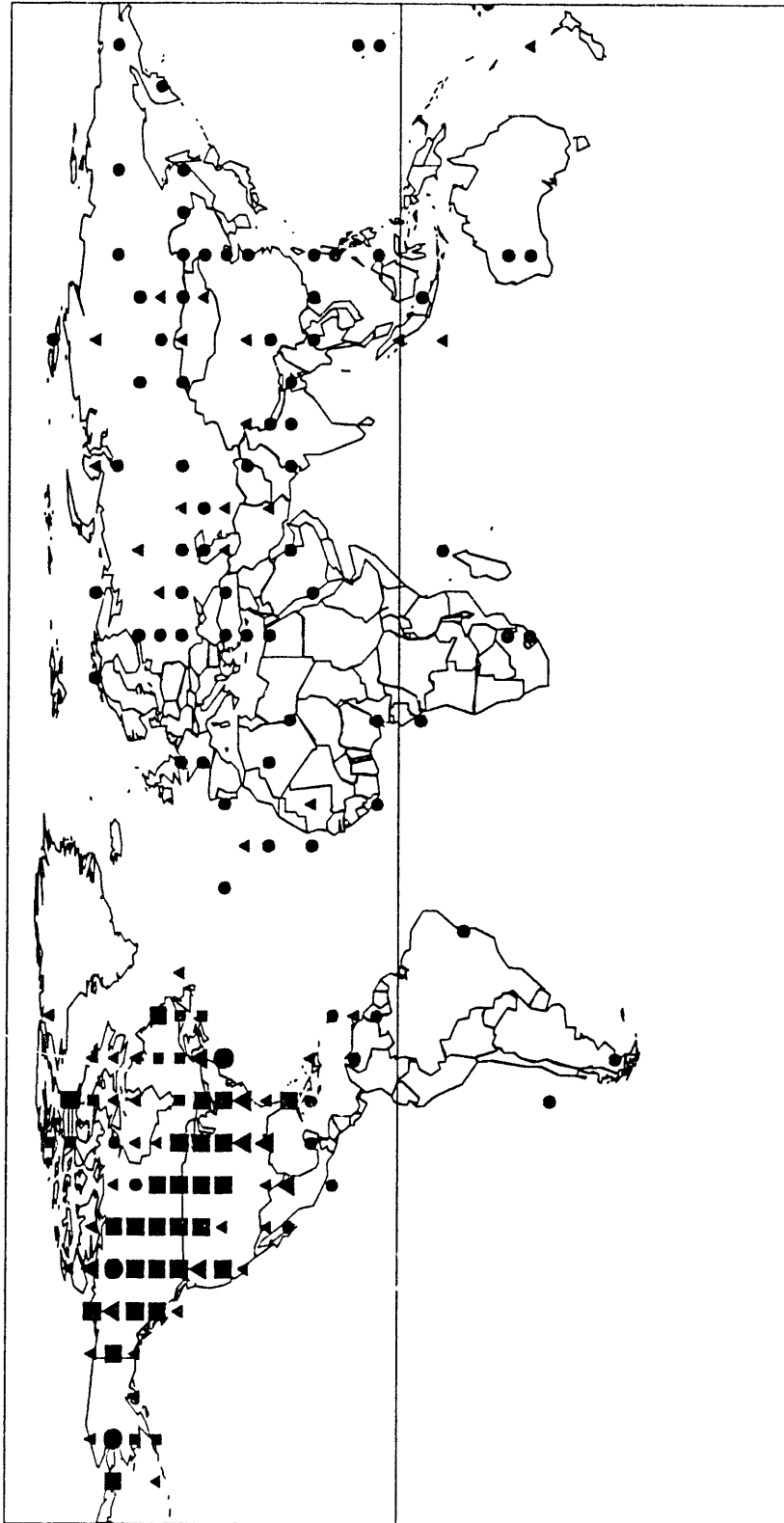
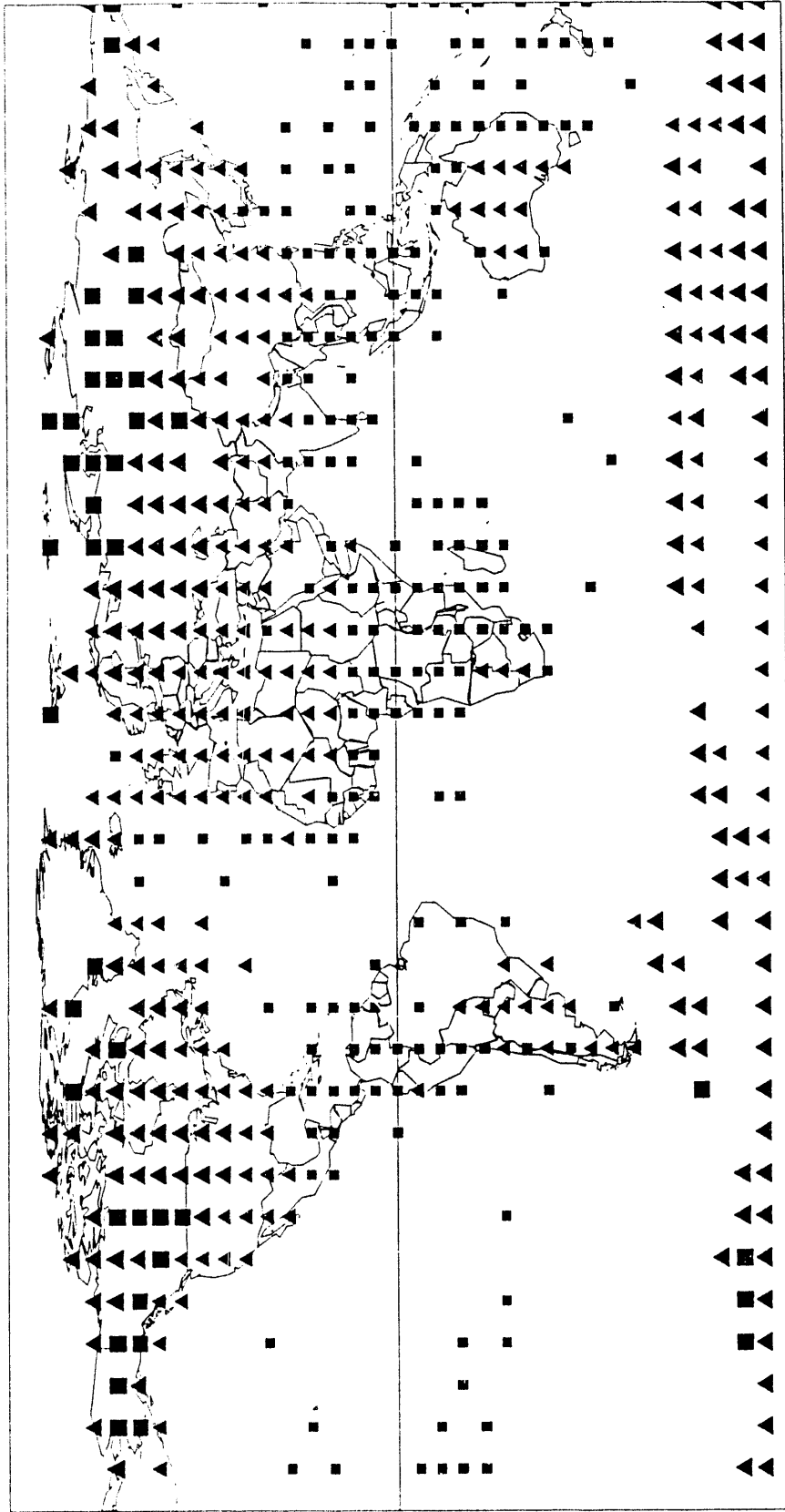


Fig. 10. Number of months per grid point location for which changes were made in the updated data set for the period 1979 to 1984.



- 0.0 to 1.0
- ▲ 1.1 to 2.0
- 2.1 to 3.0
- ▲ 3.1 to 4.2

Fig. 11. Variability in monthly temperature anomaly data for each grid point location over the period 1851 to 1990. Numbers represent standard deviations (in degrees Celsius).

It is not the task of CDIAC to make alterations or deletions to the values of data it receives. Therefore, aside from the elimination of inconsistencies and redundancies in header items described in item 1 above, the surface air temperature anomaly files distributed by CDIAC in this package are identical to the original files sent to CDIAC.

Packaging of the monthly mean temperature records for individual stations required the merging of a number of separate files and the correction of incomplete or inconsistent header information. In addition, each data record, containing the 12 monthly mean temperatures for a given year, was appended with a summary value representing the mean of the 12 monthly values. No alterations have otherwise been made to any of the monthly data values contained in these files. Therefore, any limitations present in these data (e.g., the lack of corrections for inhomogeneities and the absence of data for 5 stations in the Southern Hemisphere) reflect those present in the original files obtained by CDIAC.

10. HOW TO OBTAIN THE PACKAGE

This document describes a data set consisting of the departures of 1851–1990 surface air temperatures from the mean of the 1951–1970 reference period, expressed on a global 10° longitude grid by 5° latitude grid, covering latitudes from 85°N to 60°S. Antarctic (65°S to 85°S) data are similarly presented as a separate data set consisting of the departures of 1957–1990 surface air temperatures from the mean of the 1957–1975 reference period. These data are provided on microfiche (inside back cover) in the package and are available upon request on nine-track magnetic tapes from CDIAC. Also described is a data set consisting of the actual monthly mean temperature records for individual stations from which the set of gridded departures (anomalies) were derived. Requests for magnetic tapes should include any specific instructions for transmitting the data required by the user to access the data. Requests not accompanied by specific instructions will be filled on nine-track, 6250 BPI, standard-labeled tapes with characters written in EBCDIC (Extended Binary Codes Decimal Interchange Code) and files formatted as noted in Section 11. Because of the size of the data files (12–20 MB), it is not feasible to distribute these data on floppy diskettes, even as compressed files. Requests should be addressed to the following:

Carbon Dioxide Information Analysis Center
Oak Ridge National Laboratory
Post Office Box 2008
Oak Ridge, Tennessee 37831-6335
U.S.A.

The tapes and documentation can be ordered by telephone, fax machine, or electronic mail.

Telephone: (615) 574-0390
 FTS 624-0390
Fax: (615) 574-2232
 FTS 624-2232
Electronic Mail: BITNET: CDP@ORNLSTC
 INTERNET: CDP@STC10.CTD.ORNL.GOV
 OMNET: CDIAC

PART 2
INFORMATION ABOUT THE MAGNETIC TAPE

11. CONTENTS OF THE MAGNETIC TAPE

The following is a list of files distributed on magnetic tape by CDIAC along with this documentation.

File number and description	Number of logical records	Record format ^a	Block size	Record length
1. General descriptive information file	361	FB	8000	80
2. FORTRAN IV data retrieval code to read and print the gridded surface air temperature anomaly data file for the Northern Hemisphere (File 10)	56	FB	8000	80
3. FORTRAN IV data retrieval code to read and print the gridded surface air temperature anomaly data file for the Southern Hemisphere (File 11)	56	FB	8000	80
4. FORTRAN IV data retrieval code to read and print the gridded surface air temperature anomaly data file for the Antarctic (File 12)	42	FB	8000	80
5. FORTRAN IV data retrieval code to read and print the monthly mean temperature records for individual stations (Files 13 and 14)	27	FB	8000	80

File number and description	Number of logical records	Record format ^a	Block size	Record length
6. SAS ^b input/output routine to read and print the gridded surface air temperature anomaly data file for the Northern Hemisphere (File 10)	102	FB	8000	80
7. SAS ^b input/output routine to read and print the gridded surface air temperature anomaly data file for the Southern Hemisphere (File 11)	82	FB	8000	80
8. SAS ^b input/output routine to read and print the gridded surface air temperature anomaly data file for the Antarctic (File 12)	35	FB	8000	80
9. SAS ^b input/output routine to read and print the monthly mean temperature records for individual stations (Files 13 and 14)	24	FB	8000	80
10. Gridded surface air temperature anomalies for the Northern Hemisphere, 1851–1990	186,480	FB	5400	108
11. Gridded surface air temperature anomalies for the Southern Hemisphere, 1851–1990	186,480	FB	8000	80
12. Gridded surface air temperature anomalies for the Antarctic, 1957-1990	15,096	FB	8000	80

File number and description	Number of logical records	Record format ^a	Block size	Record length
13. Monthly mean temperature records for individual stations in the Northern Hemisphere (corrected)	116,931	FB	8000	80
14. Monthly mean temperature records for individual stations in the Southern Hemisphere (uncorrected and 5 stations ^c missing)	16,738	FB	8000	80
Total records	<u>522,510</u>			

^aFB = fixed block.

^bSAS is the registered trademark of SAS Institute, Inc., Cary, North Carolina 27511-8000.

^cMasterton, New Zealand
 Lincoln College, New Zealand
 Cape Leeuwin, Australia
 Cape Naturaliste, Australia
 Angururu, Australia

12. DESCRIPTIVE FILE ON THE TAPE

The following is a listing of File 1 on the magnetic tape distributed by CDIAC. This file is intended to complement the documentation and provide details (i.e., variable descriptions, formats, and units) about each data file on the magnetic tape.

TITLE OF THE DATA SET

An Updated Global Grid Point Surface Air Temperature Anomaly Data Set: 1851–1990

DATA CONTRIBUTORS

P. D. Jones S. C. B. Raper
B. S. G. Cherry C. M. Goodess
T. M. L. Wigley B. Santer
P. M. Kelly
Climatic Research Unit
University of East Anglia
Norwich, United Kingdom

R. S. Bradley
University of Massachusetts
Amherst, Massachusetts

H. F. Diaz
National Oceanic and Atmospheric Administration
Environmental Research Laboratories
Boulder, Colorado

SOURCE AND SCOPE OF THE DATA

The data files included on this magnetic tape provide gridded surface air temperature anomaly data for a total of 486 grid cells in the Northern and Southern Hemispheres (latitudes from 85°N to 60°S), and an additional 100 grid cells in the Antarctic (latitudes from 65°S to 85°S). Each grid cell represents an area of 5° latitude by 10° longitude. These data are derived from temperature records of land-based stations for the period 1851–1990, except for the Antarctic data, where the period is 1957–1990. The gridded data are departures (anomalies) from the station means for each month over the 1951–1970 reference period, or, for the Antarctic data, the 1957–1975 reference period. It was necessary to reduce all the station data to anomalies because of different station elevations and, to a lesser extent, different observation times.

The primary sources of these data are the *World Weather Records* (WWR), published by the Smithsonian Institution and the U.S. Weather Bureau, the archives of the United Kingdom Meteorological Office, and the *Monthly Climatic Data for the World*, published by the National Climatic Data Center (Asheville, North Carolina). Additional sources are

described in Bradley et al. (1985) and in Jones et al. (1985, 1986a, 1986c, 1986d). The present updated version of this data set is identical to the earlier version (Jones et al. 1986b) for all records from 1851 through 1978. For the period 1979–1984, the present data set corrects erroneous data using satellite data for some sites and appends data for other sites by adding previously unavailable station data (Jones et al. 1988). The present package also adds monthly surface air temperature anomalies for the period 1985–1990, Antarctic monthly surface air temperature anomalies for the period 1957–1990, as well as the monthly mean temperature records for individual stations (Antarctic stations excluded) that were used to generate the set of gridded anomalies. Individual station data for the Antarctic (stations south of 62.5°S) are not presented in this package but are given in Jones and Limbert (1989) and may be obtained free of charge from the Carbon Dioxide Information Analysis Center.

DATA FORMAT

Fourteen files are provided on this magnetic tape, including this descriptive file, four FORTRAN IV and four SAS data retrieval programs, three data files containing gridded surface air temperature anomaly data, and two files containing the monthly mean temperature records for individual stations.

Gridded Anomaly Data, Northern Hemisphere

The data file containing the gridded surface air temperature anomaly data for the Northern Hemisphere (File 10) is formatted in the following way:

```

      INTEGER I, J, YEAR, MONTH, ANOM(18), NSTA(18), IDIST(18)
10  READ (5,100,END=999) YEAR, MONTH
      DO 20 I=1,36
          READ (5,200) (ANOM(J), J=1,18)
20  CONTINUE
      READ (5,100) YEAR, MONTH
      DO 30 I=1,36
          READ (5,200) (NSTA(J), J=1,18)
30  CONTINUE
      READ (5,100) YEAR, MONTH
      DO 40 I=1,36
          READ (5,200) (IDIST(J), J=1,18)
40  CONTINUE
      GOTO 10
100  FORMAT (20X,I4,4X,I2)
200  FORMAT (18(1X,I5))

```

where

YEAR is the year of the data record being read;

MONTH is the month of the data record being read;

ANOM is the gridded surface air temperature anomaly in degrees Celsius, multiplied by 100;

NSTA is the number of stations used to calculate the gridded anomaly;

IDIST is 10,000 times the mean value (for all contributing stations) of the inverse of the great circle distance between the station and the grid point;

I represents the data line being read (each of the 36 lines of data represents a 10° longitude band, centered on 0°, 10°E, 20°E, ..., 170°E, 180°, 170°W, ..., 10°W);

J represents the data column being read (each of the 18 columns of data represents a 5° latitude band, centered on 85°N, 80°N, ..., 5°N, 0°);

Missing values for the temperature anomalies are represented by -9999. Missing values for the number of stations and mean inverse distances are represented by 0.

Gridded Anomaly Data, Southern Hemisphere

The data file containing the gridded surface air temperature anomaly data for the Southern Hemisphere (File 11) is formatted in the following way:

```

      INTEGER I, J, YEAR, MONTH, ANOM(12), NSTA(12), IDIST(12)
10  READ (5,100,END=999) YEAR, MONTH
      DO 20 I=1,36
          READ (5,200) (ANOM(J), J=1,12)
20  CONTINUE
      READ (5,100) YEAR, MONTH
      DO 30 I=1,36
          READ (5,200) (NSTA(J), J=1,12)
30  CONTINUE
      READ (5,100) YEAR, MONTH
      DO 40 I=1,36
          READ (5,200) (IDIST(J), J=1,12)
40  CONTINUE
      GOTO 10
100  FORMAT (20X,I4,4X,I2)
200  FORMAT (12(1X,I5))

```

where

YEAR is the year of the data record being read;

MONTH is the month of the data record being read;

- ANOM is the gridded surface air temperature anomaly in degrees Celsius, multiplied by 100;
- NSTA is the number of stations used to calculate the gridded anomaly;
- IDIST is 10,000 times the mean value (for all contributing stations) of the inverse of the great circle distance between the station and the grid point;
- I represents the data line being read (each of the 36 lines of data represents a 10° longitude band, centered on 0°, 10°E, 20°E, ..., 170°E, 180°, 170°W, ..., 10°W);
- J represents the data column being read (each of the 12 columns of data represents a 5° latitude band, centered on 5°S, 10°S, ..., 60°S);

Missing values for the temperature anomalies are represented by -9999. Missing values for the number of stations and mean inverse distances are represented by 0.

Gridded Anomaly Data, Antarctic

The data file containing the gridded surface air temperature anomaly data (anomalies only — no information concerning the number of stations and the mean inverse distances) for the Antarctic (File 12) is formatted in the following way:

```

      INTEGER I, J, YEAR, MONTH, ANOM(5)
10  READ (5,100,END=999) YEAR, MONTH
      DO 20 I=1,36
          READ (5,200) (ANOM(J), J=1,5)
20  CONTINUE
      GOTO 10
100  FORMAT (20X,I4,4X,I2)
200  FORMAT (5(1X,I5))

```

where

- YEAR is the year of the data record being read;
- MONTH is the month of the data record being read;
- ANOM is the gridded surface air temperature anomaly in degrees Celsius, multiplied by 100;

- I represents the data line being read (each of the 36 lines of data represents a 10° longitude band, centered on 0°, 10°E, 20°E, ..., 170°E, 180°, 170°W, ..., 10°W);
- J represents the data column being read (each of the 5 columns of data represents a 5° latitude band, centered on 65°S, 70°S, 75°S, 80°S, 85°S);

Missing values for the temperature anomalies are represented by -9999.

Monthly Mean Temperature Data for Individual Stations

The data files containing the monthly mean temperature records for individual stations (Files 13 and 14) are each formatted as

```

      INTEGER ID, LAT, LONG, ALT, TYPE, STYEAR, ENDEAR,
1     QCCODE, FRYEAR, J
      CHARACTER STATION*19, NATION*12, YEAR*4, TEMP(12)*4,
1     TMEAN*4
10  READ (5,500,END=100) ID, LAT, LONG, ALT, STATION, NATION,
1     TYPE, STYEAR, ENDEAR, QCCODE, FRYEAR
      YEAR='INIT'
20  IF (YEAR.EQ.' ') THEN
      GOTO 10
      ELSE
      READ (5,600) YEAR, (TEMP(J),J=1,12), TMEAN
      GOTO 20
      END IF
500  FORMAT (1X,I6,1X,I4,1X,I5,1X,I5,1X,A19,1X,A12,1X,I1,1X,I4,
1     1X,I4,1X,I2,1X,I4)
600  FORMAT (1X,A4,12(1X,A4),2X,A4)

```

where

- ID is the station identification number given by the World Meteorological Organization (WMO);
- LAT is the latitude of the station (north is positive), multiplied by 10;
- LONG is the longitude of the station (west is positive), multiplied by 10;
- ALT is the altitude of the station in meters above sea level;
- STATION is the station name;
- NATION is the country in which the station is located;

TYPE is an integer code whose value indicates whether data entries are temperature ('1') or precipitation ('2');

STYEAR is the first year for which temperature records are given;

ENDYEAR is the most recent year for which temperature records are given;

QCCODE is the quality control code (see Jones et al. 1985);

FRYEAR is the first year for which reliable data is available (see Jones et al. 1985);

YEAR is the year of the data record being read;

TEMP is the monthly temperature value in degrees Celsius, multiplied by 10. Temperature values for Northern Hemisphere stations (File 13) have been corrected for inhomogeneities, while those for Southern Hemisphere stations (File 14) are uncorrected;

J represents the data column being read. Each of the 12 columns of data represents the average temperature for one month (January - December);

TMEAN is the mean of the 12 monthly temperatures in degrees Celsius, multiplied by 10;

Missing values for the monthly temperatures are represented by -999. In cases where one or more monthly temperatures are missing, values for the mean of the 12 monthly temperatures are given as -999. Missing values for latitude and altitude are represented by -999. Missing values for longitude are represented by -1999.

File 13 contains the monthly temperature data (corrected for inhomogeneities) for stations in the Northern Hemisphere (87.5°N to 2.5°S). File 14 contains the monthly temperature data (uncorrected) for stations in the Southern Hemisphere (2.5°S to 62.5°S), with the following 5 stations missing: Masterton, New Zealand; Lincoln College, New Zealand; Cape Leeuwin, Australia; Cape Naturaliste, Australia; and Angururu, Australia.

REFERENCES

Bradley, R. S., P. M. Kelly, P. D. Jones, C. M. Goodess, and H. F. Diaz. 1985. *A climatic data bank for Northern Hemisphere land areas, 1851-1980*. DOE Technical Report No. TR017. U.S. Department of Energy, Carbon Dioxide Research Division, Washington, D.C.

- Jones, P. D., and D. W. S. Limbert. 1989. *Antarctic surface temperature and pressure data*. ORNL/CDIAC-27, NDP-032. Oak Ridge National Laboratory, Oak Ridge, Tennessee.
- Jones, P. D., S. C. B. Raper, B. Santer, B. S. G. Cherry, C. M. Goodess, P. M. Kelly, T. M. L. Wigley, R. S. Bradley, and H. F. Diaz. 1985. *A grid point surface air temperature data set for the Northern Hemisphere*. DOE Technical Report No. TR022. U.S. Department of Energy, Carbon Dioxide Research Division, Washington, D.C.
- Jones, P. D., S. C. B. Raper, R. S. Bradley, H. F. Diaz, P. M. Kelly, and T. M. L. Wigley. 1986a. Northern Hemisphere surface air temperature variations: 1851–1984. *Journal of Climate and Applied Meteorology* 25:161–79.
- Jones, P. D., S. C. B. Raper, B. S. G. Cherry, C. M. Goodess, T. M. L. Wigley, B. Santer, P. M. Kelly, R. S. Bradley, and H. F. Diaz. 1986b. *A global grid point surface air temperature data set: 1851–1984*. NDP-020. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, Oak Ridge, Tennessee.
- Jones, P. D., S. C. B. Raper, C. M. Goodess, B. S. G. Cherry, and T. M. L. Wigley. 1986c. *A grid point surface air temperature data set for the Southern Hemisphere*. DOE Technical Report No. TR027. U.S. Department of Energy, Carbon Dioxide Research Division, Washington, D.C.
- Jones, P. D., S. C. B. Raper, and T. M. L. Wigley. 1986d. Southern Hemisphere surface air temperature variations: 1851–1984. *Journal of Climate and Applied Meteorology* 25:1213–1230.
- Jones, P. D., T. M. L. Wigley, G. Ohring, and A. Thomasell. 1988. Global-scale temperature changes to August 1987 and a comparison of satellite and conventional data, pp. 326–334 in *Proceedings of the Twelfth Annual Climate Diagnostics Workshop, Department of Microbiology, University of Utah, Salt Lake City, October 12–16, 1987*. U.S. Department of Commerce, National Oceanic and Atmospheric Administration.
- Smithsonian Institution. 1927, 1935, 1947. *World Weather Records*. Miscellaneous Collections, Vols. 79, 90, 104. Washington, D.C.
- U.S. Weather Bureau. 1959–1982. *World Weather Records*. 1941–1950 (1361 pp.), 1951–1960 (Vols. 1–6), 1961–1970 (Vols. 1–6). U.S. Department of Commerce, Washington, D.C.

13. LISTINGS OF THE FORTRAN IV DATA RETRIEVAL PROGRAMS

The following is a listing of the FORTRAN IV data retrieval program provided on magnetic tape (File 2) by CDIAC to read and print the gridded surface air temperature anomaly file for the Northern Hemisphere (File 10—see Table 1 for a partial listing of this file). The job control language (JCL) statements shown below are not provided in the file on the magnetic tape. The JCL statements required will vary for each individual requesting these data. The JCL statements shown below are provided to illustrate the statements that would be required by an individual at ORNL who has requested these data on a nine-track, 6250 BPI, standard-labeled tape with characters written in EBCDIC and is attempting to read the tape on an IBM mainframe (e.g., IBM 3090).

```
//UIDNHM JOB (12345), 'USER ADDRESS'  
//PRT OUTPUT DEFAULT=YES, JESDS=ALL, DEST=LOCAL  
// EXEC FORTVCLG  
//FORT.SYSIN DD *
```

C

```
C*****  
C FORTRAN PROGRAM TO READ AND PRINT THE GRIDDED SURFACE AIR  
C TEMPERATURE ANOMALY FILE FOR THE NORTHERN HEMISPHERE  
C*****  
C
```

```
      INTEGER I, J, K, DATA(18), LONG(36), LAT(18), YEAR, MONTH  
      LONG(1)=0  
      DO 20 I=2,19  
          LONG(I)=LONG(I-1)+10  
20  CONTINUE  
      LONG(20)=170  
      DO 30 I=21,36  
          LONG(I)=LONG(I-1)-10  
30  CONTINUE  
      LAT(1)=85  
      DO 40 I=2,18  
          LAT(I)=LAT(I-1)-5  
40  CONTINUE  
45  DO 70 I=1,3  
      READ (5,400,END=800) YEAR, MONTH  
      IF (I.EQ.1) THEN  
          WRITE (6,450) YEAR, MONTH  
      END IF  
      IF (I.EQ.2) THEN  
          WRITE (6,460) YEAR, MONTH  
      END IF  
      IF (I.EQ.3) THEN  
          WRITE (6,470) YEAR, MONTH  
      END IF  
      WRITE (6,500) (LAT(K), K=1,18)  
      DO 50 J=1,19  
          READ (5,550) (DATA(K), K=1,18)
```

```

        WRITE (6,600) LONG(J), (DATA(K), K=1,18)
50     CONTINUE
        DO 60 J=20,36
            READ (5,550) (DATA(K), K=1,18)
            WRITE (6,650) LONG(J), (DATA(K), K=1,18)
60     CONTINUE
        WRITE (6,700)
70     CONTINUE
        GOTO 45
400    FORMAT (20X,I4,4X,I2)
450    FORMAT (1X,'TEMPERATURE ANOMALY DATA',4X,'YEAR = ',I4,
1       2X,'MONTH = ',I2/)
460    FORMAT (1X,'NUMBER OF CONTRIBUTING STATIONS',4X,
1       'YEAR = ',I4,2X,'MONTH = ',I2/)
470    FORMAT (1X,'MEAN INVERSE DISTANCE OF STATIONS',4X,
1       'YEAR = ',I4,2X,'MONTH = ',I2/)
500    FORMAT (9X,18(3X,I2,'N'))/
550    FORMAT (18(1X,I5))
600    FORMAT (1X,I3,'E',4X,18(1X,I5))
650    FORMAT (1X,I3,'W',4X,18(1X,I5))
700    FORMAT (2(/))
800    STOP
        END

```

```

//GO.FT05F001 DD UNIT=TAPE62,VOL=SER=TAPEVOL,DISP=(,PASS),
// DSN=TAB.NDP020R1.NHEM90.ANOM,LABEL=(10,SL),
// DCB=(RECFM=FB,LRECL=108,BLKSIZE=5400)
//GO.FT06F001 DD *

```

The following is a listing of the FORTRAN IV data retrieval program provided on magnetic tape (File 3) by CDIAC to read and print the gridded surface air temperature anomaly file for the Southern Hemisphere (File 11—see Table 2 for a partial listing of this file.). The JCL statements shown below are not provided in the file on the magnetic tape. The JCL statements required will vary for each individual requesting these data. The JCL statements shown below are provided to illustrate the statements that would be required by an individual at ORNL who has requested these data on a nine-track, 6250 BPI, standard-labeled tape with characters written in EBCDIC and is attempting to read the tape on an IBM mainframe (e.g., IBM 3090).

```
//UIDSHM JOB (12345), 'USER ADDRESS'
//PRT OUTPUT DEFAULT=YES, JESDS=ALL, DEST=LOCAL
// EXEC FORTVCLG
//FORT.SYSIN DD *
```

C

```
C*****
C FORTRAN PROGRAM TO READ AND PRINT THE GRIDDED SURFACE AIR
C TEMPERATURE ANOMALY FILE FOR THE SOUTHERN HEMISPHERE
C*****
```

C

```
      INTEGER I, J, K, DATA(12), LONG(36), LAT(12), YEAR, MONTH
      LONG(1)=0
      DO 20 I=2,19
      LONG(I)=LONG(I-1)+10
20    CONTINUE
      LONG(20)=170
      DO 30 I=21,36
      LONG(I)=LONG(I-1)-10
30    CONTINUE
      LAT(1)=5
      DO 40 I=2,12
      LAT(I)=LAT(I-1)+5
40    CONTINUE
45    DO 70 I=1,3
      READ (5,400,END=800) YEAR, MONTH
      IF (I.EQ.1) THEN
        WRITE (6,450) YEAR, MONTH
      END IF
      IF (I.EQ.2) THEN
        WRITE (6,460) YEAR, MONTH
      END IF
      IF (I.EQ.3) THEN
        WRITE (6,470) YEAR, MONTH
      END IF
      WRITE (6,500) (LAT(K), K=1,12)
      DO 50 J=1,19
        READ (5,550) (DATA(K), K=1,12)
        WRITE (6,600) LONG(J), (DATA(K), K=1,12)
50    CONTINUE
      DO 60 J=20,36
```

```

                READ (5,550) (DATA(K), K=1,12)
                WRITE (6,650) LONG(J), (DATA(K), K=1,12)
60             CONTINUE
                WRITE (6,700)
70             CONTINUE
                GOTO 45
400            FORMAT (20X,I4,4X,I2)
450            FORMAT (1X,'TEMPERATURE ANOMALY DATA',4X,'YEAR = ',I4,
1              2X,'MONTH = ',I2/)
460            FORMAT (1X,'NUMBER OF CONTRIBUTING STATIONS',4X,
1              'YEAR = ',I4,2X,'MONTH = ',I2/)
470            FORMAT (1X,'MEAN INVERSE DISTANCE OF STATIONS',4X,
1              'YEAR = ',I4,2X,'MONTH = ',I2/)
500            FORMAT (9X,12(3X,I2,'S'))/
550            FORMAT (12(1X,I5))
600            FORMAT (1X,I3,'E',4X,12(1X,I5))
650            FORMAT (1X,I3,'W',4X,12(1X,I5))
700            FORMAT (2(/))
800            STOP
                END

```

```

//GO.FT05F001 DD UNIT=TAPE62,VOL=SER=TAPEVOL,DISP=(,PASS),
// DSN=TAB.NDP020R1.SHEM90.ANOM,LABEL=(11,SL),
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=8000)
//GO.FT06F001 DD *

```


The following is a listing of the FORTRAN IV data retrieval program provided on magnetic tape (File 4) by CDIAC to read and print the gridded surface air temperature anomaly file for the Antarctic (File 12—see Table 3 for a partial listing of this file.). The JCL statements shown below are not provided in the file on the magnetic tape. The JCL statements required will vary for each individual requesting these data. The JCL statements shown below are provided to illustrate the statements that would be required by an individual at ORNL who has requested these data on a nine-track, 6250 BPI, standard-labeled tape with characters written in EBCDIC and is attempting to read the tape on an IBM mainframe (e.g., IBM 3090).

```
//UIDSHM JOB (12345), 'USER ADDRESS'
//PRT OUTPUT DEFAULT=YES, JESDS=ALL, DEST=LOCAL
// EXEC FORTVCLG
//FORT.SYSIN DD *

C
C*****
C FORTRAN PROGRAM TO READ AND PRINT THE GRIDDED SURFACE
C TEMPERATURE ANOMALY FILE FOR THE ANTARCTIC
C*****
C
      INTEGER I, J, K, DATA(5), LONG(36), LAT(5), YEAR, MONTH
      LONG(1)=0
      DO 20 I=2,19
        LONG(I)=LONG(I-1)+10
20 CONTINUE
      LONG(20)=170
      DO 30 I=21,36
        LONG(I)=LONG(I-1)-10
30 CONTINUE
      LAT(1)=65
      DO 40 I=2,5
        LAT(I)=LAT(I-1)+5
40 CONTINUE
45 READ (5,400,END=800) YEAR, MONTH
      WRITE (6,450) YEAR, MONTH
      WRITE (6,500) (LAT(K), K=1,5)
      DO 50 J=1,19
        READ (5,550) (DATA(K), K=1,5)
        WRITE (6,600) LONG(J), (DATA(K), K=1,5)
50 CONTINUE
      DO 60 J=20,36
        READ (5,550) (DATA(K), K=1,5)
        WRITE (6,650) LONG(J), (DATA(K), K=1,5)
60 CONTINUE
      WRITE (6,700)
      GOTO 45
400 FORMAT (20X,I4,4X,I2)
450 FORMAT (1X,'TEMPERATURE ANOMALY DATA',4X,'YEAR = ',I4,
1      2X,'MONTH = ',I2/)
500 FORMAT (9X,5(3X,I2,'S'))/)
```

```
550 FORMAT (5(1X,I5))
600 FORMAT (1X,I3,'E',4X,5(1X,I5))
650 FORMAT (1X,I3,'W',4X,5(1X,I5))
700 FORMAT (2(/))
800 STOP
    END
```

```
//GO.FT05F001 DD UNIT=TAPE62,VOL=SER=TAPEVOL,DISP=(,PASS),
// DSN=TAB.NDP020R1.ANTARC.ANOM,LABEL=(12,SL),
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=8000)
//GO.FT06F001 DD *
```

The following is a listing of the FORTRAN IV data retrieval program provided on magnetic tape (File 5) by CDIAC to read and print either of the monthly mean temperature records for individual stations (Files 13 and 14—see Tables 4 and 5 for partial listings of these files). The JCL statements shown below are not provided in the file on the magnetic tape. The JCL statements required will vary for each individual requesting these data. The JCL statements shown below are provided to illustrate the statements that would be required by an individual at ORNL who has requested these data on a nine-track, 6250 BPI, standard-labeled tape with characters written in EBCDIC and is attempting to read the tape on an IBM mainframe (e.g., IBM 3090).

```
//UIDSHM JOB (12345), 'USER ADDRESS'
//PRT OUTPUT DEFAULT=YES, JESDS=ALL, DEST=LOCAL
// EXEC FORTVCLG
//FORT.SYSIN DD *

C
C*****
C FORTRAN PROGRAM TO READ AND PRINT THE MONTHLY MEAN TEMPERA-
C TURE RECORDS FOR INDIVIDUAL STATIONS
C*****
C
      INTEGER ID, LAT, LONG, ALT, TYPE, STYEAR, ENDEAR,
1      QCCODE, FRYEAR, J
      CHARACTER STATION*19, NATION*12, YEAR*4, TEMP(12)*4,
1      TMEAN*4
10 READ (5,500,END=100) ID, LAT, LONG, ALT, STATION, NATION,
1      TYPE, STYEAR, ENDEAR, QCCODE, FRYEAR
      WRITE (6,500) ID, LAT, LONG, ALT, STATION, NATION, TYPE,
1      STYEAR, ENDEAR, QCCODE, FRYEAR
      YEAR='INIT'
20 IF (YEAR.EQ.' ') THEN
      GOTO 10
      ELSE
      READ (5,600) YEAR, (TEMP(J),J=1,12), TMEAN
      WRITE (6,600) YEAR, (TEMP(J),J=1,12), TMEAN
      GOTO 20
      END IF
500 FORMAT (1X,I6,1X,I4,1X,I5,1X,I5,1X,A19,1X,A12,1X,I1,1X,I4,
1      1X,I4,1X,I2,1X,I4)
600 FORMAT (1X,A4,12(1X,A4),2X,A4)
100 STOP
      END

//GO.FT05F001 DD UNIT=TAPE62,VOL=SER=TAPEVOL,DISP=(,PASS),
// DSN=TAB.NDP020R1.NHEMST.DATA,LABEL=(13,SL),
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=8000)
//GO.FT06F001 DD *
```

14. LISTING OF THE SAS INPUT/OUTPUT RETRIEVAL PROGRAM

The following is a listing of the SAS data retrieval program provided on magnetic tape (File 6) by CDIAC to read and print the gridded surface air temperature anomaly file for the Northern Hemisphere (File 10). The JCL statements shown below are not provided in the file on the magnetic tape. The JCL statements required will vary for each individual requesting these data. The JCL statements shown below are provided to illustrate the statements that would be required by an individual at ORNL who has requested these data on a nine-track, 6250 BPI, standard-labeled tape with characters written in EBCDIC and is attempting to read the tape on an IBM mainframe (e.g., IBM 3090).

```
//UIDNHM JOB (12345), 'USER ADDRESS'
//PRT OUTPUT DEFAULT=YES, JESDS=ALL, DEST=LOCAL
//STEP1 EXEC SAS, SASRGN=4096K, WORK=16000, SORT=50
//IN DD UNIT=TAPE62, VOL=SER=TAPEVOL, DISP=(, PASS),
// DSN=TAB.NDPO20R1.NHEM90.ANOM, LABEL=(10, SL),
// DCB=(RECFM=FB, LRECL=108, BLKSIZE=5400)
//FT06F001 DD SYSOUT=A
//SYSIN DD *

OPTIONS LINESIZE=135;
DATA ANOMALY;
  INFILE IN;
  INPUT YEAR 21-24 MONTH 29-30 #2 @2 (T1-T648) (:5.) #39 @2
  (S1-S648) (:5.) #76 @2 (D1-D648) (:5.);
DATA PRINT;
  SET ANOMALY;
  FILE PRINT;
  ARRAY TEMP(36,18) T1-T648;
  ARRAY STA(36,18) S1-S648;
  ARRAY DIST(36,18) D1-D648;
  ARRAY LONG(36) X1-X36;
  ARRAY LAT(18) Y1-Y18;
  LONG(1)=0;
  DO I=2 TO 19;
    LONG(I)=LONG(I-1)+10;
  END;
  LONG(20)=170;
  DO I=21 TO 36;
    LONG(I)=LONG(I-1)-10;
  END;
  LAT(1)=85;
  DO I=2 TO 18;
    LAT(I)=LAT(I-1)-5;
  END;
  PUT ' TEMPERATURE ANOMALY DATA' @35 YEAR= @50 MONTH= /;
  PUT @2 'LONG' @72 'LAT (N)';
  PUT LAT(1) 15-16 LAT(2) 22-23 LAT(3) 29-30 LAT(4) 36-37
  LAT(5) 43-44 LAT(6) 50-51 LAT(7) 57-58 LAT(8) 64-65
  LAT(9) 71-72 LAT(10) 78-79 LAT(11) 85-86 LAT(12) 92-93
  LAT(13) 99-100 LAT(14) 106-107 LAT(15) 113-114 LAT(16)
```

```

120-121 LAT(17) 127-128 LAT(18) 134-135 /;
DO I=1 TO 19;
  PUT LONG(I) 2-4 @5 'E' TEMP(I,1) 12-16 TEMP(I,2)
    19-23 TEMP(I,3) 26-30 TEMP(I,4) 33-37 TEMP(I,5)
    40-44 TEMP(I,6) 47-51 TEMP(I,7) 54-58 TEMP(I,8)
    61-65 TEMP(I,9) 68-72 TEMP(I,10) 75-79 TEMP(I,11)
    82-86 TEMP(I,12) 89-93 TEMP(I,13) 96-100
    TEMP(I,14) 103-107 TEMP(I,15) 110-114 TEMP(I,16)
    117-121 TEMP(I,17) 124-128 TEMP(I,18) 131-135;
END;
DO I=20 TO 36;
  PUT LONG(I) 2-4 @5 'W' TEMP(I,1) 12-16 TEMP(I,2)
    19-23 TEMP(I,3) 26-30 TEMP(I,4) 33-37 TEMP(I,5)
    40-44 TEMP(I,6) 47-51 TEMP(I,7) 54-58 TEMP(I,8)
    61-65 TEMP(I,9) 68-72 TEMP(I,10) 75-79 TEMP(I,11)
    82-86 TEMP(I,12) 89-93 TEMP(I,13) 96-100
    TEMP(I,14) 103-107 TEMP(I,15) 110-114 TEMP(I,16)
    117-121 TEMP(I,17) 124-128 TEMP(I,18) 131-135;
END;
PUT // '      NUMBER OF CONTRIBUTING STATIONS' @40 YEAR=
@55 MONTH= /;
PUT LAT(1) 15-16 LAT(2) 22-23 LAT(3) 29-30 LAT(4) 36-37
LAT(5) 43-44 LAT(6) 50-51 LAT(7) 57-58 LAT(8) 64-65
LAT(9) 71-72 LAT(10) 78-79 LAT(11) 85-86 LAT(12) 92-93
LAT(13) 99-100 LAT(14) 106-107 LAT(15) 113-114 LAT(16)
120-121 LAT(17) 127-128 LAT(18) 134-135 /;
DO I=1 TO 19;
  PUT LONG(I) 2-4 @5 'E' STA(I,1) 15-16 STA(I,2) 22-23
    STA(I,3) 29-30 STA(I,4) 36-37 STA(I,5) 43-44
    STA(I,6) 50-51 STA(I,7) 57-58 STA(I,8) 64-65
    STA(I,9) 71-72 STA(I,10) 78-79 STA(I,11) 85-86
    STA(I,12) 92-93 STA(I,13) 99-100 STA(I,14)
    106-107 STA(I,15) 113-114 STA(I,16) 120-121
    STA(I,17) 127-128 STA(I,18) 134-135;
END;
DO I=20 TO 36;
  PUT LONG(I) 2-4 @5 'W' STA(I,1) 15-16 STA(I,2) 22-23
    STA(I,3) 29-30 STA(I,4) 36-37 STA(I,5) 43-44
    STA(I,6) 50-51 STA(I,7) 57-58 STA(I,8) 64-65
    STA(I,9) 71-72 STA(I,10) 78-79 STA(I,11) 85-86
    STA(I,12) 92-93 STA(I,13) 99-100 STA(I,14)
    106-107 STA(I,15) 113-114 STA(I,16) 120-121
    STA(I,17) 127-128 STA(I,18) 134-135;
END;
PUT // '      MEAN INVERSE DISTANCE OF STATIONS' @42 YEAR=
@57 MONTH= /;
PUT LAT(1) 15-16 LAT(2) 22-23 LAT(3) 29-30 LAT(4) 36-37
LAT(5) 43-44 LAT(6) 50-51 LAT(7) 57-58 LAT(8) 64-65
LAT(9) 71-72 LAT(10) 78-79 LAT(11) 85-86 LAT(12) 92-93
LAT(13) 99-100 LAT(14) 106-107 LAT(15) 113-114 LAT(16)
120-121 LAT(17) 127-128 LAT(18) 134-135 /;
DO I=1 TO 19;

```

```

                PUT LONG(I) 2-4 @5 'E' DIST(I,1) 14-16 DIST(I,2)
                21-23 DIST(I,3) 28-30 DIST(I,4) 35-37 DIST(I,5)
                42-44 DIST(I,6) 49-51 DIST(I,7) 56-58 DIST(I,8)
                63-65 DIST(I,9) 70-72 DIST(I,10) 77-79 DIST(I,11)
                84-86 DIST(I,12) 91-93 DIST(I,13) 98-100
                DIST(I,14) 105-107 DIST(I,15) 112-114 DIST(I,16)
                119-121 DIST(I,17) 126-128 DIST(I,18) 133-135;
END;
DO I=20 TO 36;
    PUT LONG(I) 2-4 @5 'W' DIST(I,1) 14-16 DIST(I,2)
    21-23 DIST(I,3) 28-30 DIST(I,4) 35-37 DIST(I,5)
    42-44 DIST(I,6) 49-51 DIST(I,7) 56-58 DIST(I,8)
    63-65 DIST(I,9) 70-72 DIST(I,10) 77-79 DIST(I,11)
    84-86 DIST(I,12) 91-93 DIST(I,13) 98-100
    DIST(I,14) 105-107 DIST(I,15) 112-114 DIST(I,16)
    119-121 DIST(I,17) 126-128 DIST(I,18) 133-135;
END;
PUT //;
RUN;

```

The following is a listing of the SAS data retrieval program provided on magnetic tape (File 7) by CDIAC to read and print the gridded surface air temperature anomaly file for the Southern Hemisphere (File 11). The JCL statements shown below are not provided in the file on the magnetic tape. The JCL statements required will vary for each individual requesting these data. The JCL statements shown below are provided to illustrate the statements that would be required by an individual at ORNL who has requested these data on a nine-track, 6250 BPI, standard-labeled tape with characters written in EBCDIC and is attempting to read the tape on an IBM mainframe (e.g., IBM 3090).

```
//UIDSHM JOB (12345), 'USER ADDRESS'
//PRT OUTPUT DEFAULT=YES, JESDS=ALL, DEST=LOCAL
//STEP1 EXEC SAS, SASRGN=4096K, WORK=16000, SORT=50
//IN DD UNIT=TAPE62, VOL=SER=TAPEVOL, DISP=(, PASS),
// DSN=TAB.NDP020R1.SHEM90.ANOM, LABEL=(11, SL),
// DCB=(RECFM=FB, LRECL=80, BLKSIZE=8000)
//FT06F001 DD SYSOUT=A
//SYSIN DD *

OPTIONS LINESIZE=95;
DATA ANOMALY;
  INFILE IN;
  INPUT YEAR 21-24 MONTH 29-30 #2 @2 (T1-T432)(:5.) #39 @2
    (S1-S432)(:5.) #76 @2 (D1-D432)(:5.);
DATA PRINT;
  SET ANOMALY;
  FILE PRINT;
  ARRAY TEMP(36,12) T1-T432;
  ARRAY STA(36,12) S1-S432;
  ARRAY DIST(36,12) D1-D432;
  ARRAY LONG(36) X1-X36;
  ARRAY LAT(12) Y1-Y12;
  LONG(1)=0;
  DO I=2 TO 19;
    LONG(I)=LONG(I-1)+10;
  END;
  LONG(20)=170;
  DO I=21 TO 36;
    LONG(I)=LONG(I-1)-10;
  END;
  LAT(1)=5;
  DO I=2 TO 12;
    LAT(I)=LAT(I-1)+5;
  END;
  PUT ' TEMPERATURE ANOMALY DATA' @35 YEAR= @50 MONTH= /;
  PUT @2 'LONG' @51 'LAT (S)';
  PUT LAT(1) 15-16 LAT(2) 22-23 LAT(3) 29-30 LAT(4) 36-37
    LAT(5) 43-44 LAT(6) 50-51 LAT(7) 57-58 LAT(8) 64-65
    LAT(9) 71-72 LAT(10) 78-79 LAT(11) 85-86 LAT(12) 92-93
    /;
  DO I=1 TO 19;
    PUT LONG(I) 2-4 @5 'E' TEMP(I,1) 12-16 TEMP(I,2)
      19-23 TEMP(I,3) 26-30 TEMP(I,4) 33-37 TEMP(I,5)
```

```

40-44 TEMP(I,6) 47-51 TEMP(I,7) 54-58 TEMP(I,8)
61-65 TEMP(I,9) 68-72 TEMP(I,10) 75-79 TEMP(I,11)
82-86 TEMP(I,12) 89-93;
END;
DO I=20 TO 36;
  PUT LONG(I) 2-4 @5 'W' TEMP(I,1) 12-16 TEMP(I,2)
    19-23 TEMP(I,3) 26-30 TEMP(I,4) 33-37 TEMP(I,5)
    40-44 TEMP(I,6) 47-51 TEMP(I,7) 54-58 TEMP(I,8)
    61-65 TEMP(I,9) 68-72 TEMP(I,10) 75-79 TEMP(I,11)
    82-86 TEMP(I,12) 89-93;
END;
PUT // '      NUMBER OF CONTRIBUTING STATIONS' @40 YEAR=
  @55 MONTH= /;
PUT LAT(1) 15-16 LAT(2) 22-23 LAT(3) 29-30 LAT(4) 36-37
  LAT(5) 43-44 LAT(6) 50-51 LAT(7) 57-58 LAT(8) 64-65
  LAT(9) 71-72 LAT(10) 78-79 LAT(11) 85-86 LAT(12) 92-93
  /;
DO I=1 TO 19;
  PUT LONG(I) 2-4 @5 'E' STA(I,1) 15-16 STA(I,2) 22-23
    STA(I,3) 29-30 STA(I,4) 36-37 STA(I,5) 43-44
    STA(I,6) 50-51 STA(I,7) 57-58 STA(I,8) 64-65
    STA(I,9) 71-72 STA(I,10) 78-79 STA(I,11) 85-86
    STA(I,12) 92-93;
END;
DO I=20 TO 36;
  PUT LONG(I) 2-4 @5 'W' STA(I,1) 15-16 STA(I,2) 22-23
    STA(I,3) 29-30 STA(I,4) 36-37 STA(I,5) 43-44
    STA(I,6) 50-51 STA(I,7) 57-58 STA(I,8) 64-65
    STA(I,9) 71-72 STA(I,10) 78-79 STA(I,11) 85-86
    STA(I,12) 92-93;
END;
PUT // '      MEAN INVERSE DISTANCE OF STATIONS' @42 YEAR=
  @57 MONTH= /;
PUT LAT(1) 15-16 LAT(2) 22-23 LAT(3) 29-30 LAT(4) 36-37
  LAT(5) 43-44 LAT(6) 50-51 LAT(7) 57-58 LAT(8) 64-65
  LAT(9) 71-72 LAT(10) 78-79 LAT(11) 85-86 LAT(12) 92-93
  /;
DO I=1 TO 19;
  PUT LONG(I) 2-4 @5 'E' DIST(I,1) 14-16 DIST(I,2)
    21-23 DIST(I,3) 28-30 DIST(I,4) 35-37 DIST(I,5)
    42-44 DIST(I,6) 49-51 DIST(I,7) 56-58 DIST(I,8)
    63-65 DIST(I,9) 70-72 DIST(I,10) 77-79 DIST(I,11)
    84-86 DIST(I,12) 91-93;
END;
DO I=20 TO 36;
  PUT LONG(I) 2-4 @5 'W' DIST(I,1) 14-16 DIST(I,2)
    21-23 DIST(I,3) 28-30 DIST(I,4) 35-37 DIST(I,5)
    42-44 DIST(I,6) 49-51 DIST(I,7) 56-58 DIST(I,8)
    63-65 DIST(I,9) 70-72 DIST(I,10) 77-79 DIST(I,11)
    84-86 DIST(I,12) 91-93;
END;
PUT //;
RUN;

```


The following is a listing of the SAS data retrieval program provided on magnetic tape (File 8) by CDIAC to read and print the gridded surface air temperature anomaly file for the Antarctic (File 12). The JCL statements shown below are not provided in the file on the magnetic tape. The JCL statements required will vary for each individual requesting these data. The JCL statements shown below are provided to illustrate the statements that would be required by an individual at ORNL who has requested these data on a nine-track, 6250 BPI, standard-labeled tape with characters written in EBCDIC and is attempting to read the tape on an IBM mainframe (e.g., IBM 3090).

```
//UIDSHM JOB (12345), 'USER ADDRESS'
//PRT OUTPUT DEFAULT=YES, JESDS=ALL, DEST=LOCAL
//STEP1 EXEC SAS, SASRGN=4096K, WORK=1600
//IN DD UNIT=TAPE62, VOL=SER=TAPEVOL, DISP=(, PASS),
// DSN=TAB.NDP02OR1.ANTARC.ANOM, LABEL=(12, SL),
// DCB=(RECFM=FB, LRECL=80, BLKSIZE=8000)
//FT06F001 DD SYSOUT=A
//SYSIN DD *

DATA ANOMALY;
  INFILE IN;
  INPUT YEAR 21-24 MONTH 29-30 #2 @2 (T1-T180) (:5.);
DATA PRINT;
  SET ANOMALY;
  FILE PRINT;
  ARRAY TEMP(36,5) T1-T180;
  ARRAY LONG(36) X1-X36;
  ARRAY LAT(5) Y1-Y5;
  LONG(1)=0;
  DO I=2 TO 19;
    LONG(I)=LONG(I-1)+10;
  END;
  LONG(20)=170;
  DO I=21 TO 36;
    LONG(I)=LONG(I-1)-10;
  END;
  LAT(1)=65;
  DO I=2 TO 5;
    LAT(I)=LAT(I-1)+5;
  END;
  PUT '      TEMPERATURE ANOMALY DATA' @35 YEAR= @50
    MONTH= /;
  PUT @2 'LONG' @26 'LAT (S)';
  PUT LAT(1) 15-16 LAT(2) 22-23 LAT(3) 29-30 LAT(4)
    36-37 LAT(5) 43-44 /;
  DO I=1 TO 19;
    PUT LONG(I) 2-4 @5 'E' TEMP(I,1) 12-16 TEMP(I,2)
      19-23 TEMP(I,3) 26-30 TEMP(I,4) 33-37
      TEMP(I,5) 40-44;
  END;
  DO I=20 TO 36;
    PUT LONG(I) 2-4 @5 'W' TEMP(I,1) 12-16 TEMP(I,2)
```

```
19-23 TEMP(I,3) 26-30 TEMP(I,4) 33-37  
TEMP(I,5) 40-44;  
END;  
PUT //;  
RUN;
```

The following is a listing of the SAS data retrieval program provided on magnetic tape (File 9) by CDIAC to read and print either of the monthly mean temperature records for individual stations (Files 13 and 14). The JCL statements shown below are not provided in the file on the magnetic tape. The JCL statements required will vary for each individual requesting these data. The JCL statements shown below are provided to illustrate the statements that would be required by an individual at ORNL who has requested these data on a nine-track, 6250 BPI, standard-labeled tape with characters written in EBCDIC and is attempting to read the tape on an IBM mainframe (e.g., IBM 3090).

```
//UIDSHM JOB (12345), 'USER ADDRESS'
//PRT OUTPUT DEFAULT=YES,JESDS=ALL,DEST=LOCAL
//STEP1 EXEC SAS,SASRGN=4096K,WORK=1600
//IN DD UNIT=TAPE62,VOL=SER=TAPEVOL,DISP=(,PASS),
// DSN=TAB.NDP020R1.NHEMST.DATA,LABEL=(13,SL),
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=8000)
//FT06F001 DD SYSOUT=A
//SYSIN DD *
```

```
DATA STADATA;
  INFILE IN;
  INPUT X $ 5 Y $ 6 @;
  IF X NE ' ' AND Y NE ' ' THEN
    INPUT ID 2-7 LAT 9-12 LONG 14-18 ALT 20-24 STATION $ 26-44
    NATION $ 46-57 TYPE 59 STYEAR 61-64 ENDYEAR 66-69 QCCODE 71-
    72 FRYEAR 74-77;
  ELSE IF X NE ' ' AND Y EQ ' ' THEN
    INPUT YEAR 2-5 TJAN 7-10 TFEB 12-15 TMAR 17-20 TAPR 22-25
    TMAY 27-30 TJUN 32-35 TJUL 37-40 TAUG 42-45 TSEP
    47-50 TOCT 52-55 TNOV 57-60 TDEC 62-65 TMEAN 68-71;
  ELSE INPUT;
  RETAIN STATION;
DATA PRINT;
  SET STADATA;
  FILE PRINT;
  OPTIONS MISSING=' ';
  IF STATION=LAG(STATION) THEN GO TO DATALINE;
  PUT /ID 2-7 LAT 9-12 LONG 14-18 ALT 20-24 STATION $ 26-44
  NATION $ 46-57 TYPE 59 STYEAR 61-64 ENDYEAR 66-69 QCCODE
  71-72 FRYEAR 74-77;
  DATALINE: PUT YEAR 2-5 TJAN 7-10 TFEB 12-15 TMAR 17-20 TAPR
  22-25 TMAY 27-30 TJUN 32-35 TJUL 37-40 TAUG 42-45
  TSEP 47-50 TOCT 52-55 TNOV 57-60 TDEC 62-65 TMEAN
  68-71;
RUN;
```


Table 1. (continued)

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0
0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-9999	-9999	-9999	1851	1	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999
0	0	0	0	0	0	133	70	93	0	0	0	0	0	0	0	0	0
0	0	0	0	103	135	78	87	102	66	0	0	0	0	0	0	0	0
0	0	0	0	0	107	109	86	59	0	0	0	0	0	0	0	0	0
0	0	0	200	0	133	61	0	81	138	0	0	0	0	0	0	0	0
0	0	0	0	200	0	106	0	0	42	0	0	0	0	0	0	0	0
0	0	0	0	0	111	175	0	142	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	91	47	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	82	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	60	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	52	0	0	0	0	0	64	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	169
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	126	0	62	0	98	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	72	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	51	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	49	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	68	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	66	45	76	56	99	0	0	0	0	0
0	0	0	0	0	0	0	0	47	64	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	141	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-9999	-9999	-9999	1851	2	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999
-9999	-9999	-9999	-9999	-9999	-9999	120	-15	-71	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999
-9999	-9999	-9999	-9999	270	202	161	-7	112	-30	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999
-9999	-9999	-9999	-9999	-9999	124	230	94	28	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999

Table 2. (continued)

0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	46	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	1851	2	0	0	0	0	0	0	0
-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999
-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999
-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999
-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999

Table 3. Partial listing of the gridded surface air temperature anomalies for the Antarctic (File 12)

-9999	-9999	-9999	1957	1
-9999	-9999	-9999	-9999	-20
-9999	-9999	-9999	-9999	-20
-9999	-9999	-9999	-9999	-10
-9999	-9999	-9999	-9999	-10
-9999	-9999	-9999	-9999	-10
-9999	-9999	-9999	-9999	-10
80	60	-9999	-9999	-10
90	60	-9999	-9999	-10
-9999	-9999	-9999	-9999	-10
110	70	-9999	-9999	-10
110	70	-9999	-9999	-10
-9999	-9999	-9999	-9999	-10
-9999	-9999	-9999	-9999	-10
100	60	-9999	-9999	-10
100	60	-9999	-9999	-10
100	50	-10	-50	-10
-9999	-9999	-20	-60	-10
-9999	-9999	-30	-60	-10
-9999	-9999	-20	-50	-60
-9999	-9999	-9999	-60	-60
-9999	-9999	-9999	-9999	-60
-9999	-9999	-9999	-9999	-60
-9999	-9999	-9999	-90	-70
-9999	-9999	-9999	-90	-60
-9999	-9999	-50	-90	-60
-9999	-9999	-9999	-80	-60
-9999	-9999	-9999	-70	-60
-9999	-9999	-9999	-9999	-50
-9999	50	-9999	-9999	-50
80	90	-9999	-9999	-40
30	60	-9999	-9999	-30
-10	-9999	-9999	-9999	-30
-9999	-9999	-50	-9999	-30
-9999	-9999	-60	-50	-30
-9999	-9999	-70	-50	-20
-9999	-9999	-60	-9999	-20
-9999	-9999	-9999	1957	2
-9999	-9999	-9999	-9999	130
-9999	-9999	-9999	-9999	130
-9999	-9999	-9999	-9999	140
-9999	-9999	-9999	-9999	140
-9999	-9999	-9999	-9999	150
-9999	-9999	-9999	-9999	150
-10	30	-9999	-9999	160
-10	30	-9999	-9999	160
10	20	-9999	-9999	160
50	50	-9999	-9999	160

Table 3. (continued)

40	50	-9999	-9999	170
-9999	-9999	-9999	-9999	170
-9999	-9999	-9999	-9999	170
-10	20	-9999	-9999	170
-20	10	-9999	-9999	180
-20	10	40	70	180
-9999	-9999	30	70	190
-9999	-9999	30	60	190
-9999	-9999	-100	-60	-10
-9999	-9999	-9999	-50	-10
-9999	-9999	-9999	-9999	10
-9999	-9999	-9999	-9999	0
-9999	-9999	-9999	-90	0
-9999	-9999	-9999	-90	0
-9999	-9999	-60	-90	10

Table 4. Partial listing of the monthly mean temperature records for individual stations in the Northern Hemisphere (File 13)

	10010	710	84	9 JAN MAYEN				NORWAY			1	1921	1988	10	1921
1921	-44	-71	-68	-43	-8	22	47	58	27	-20	-21	-40	-13		
1922	-10	-18	-62	-38	-16	28	47	62	27	-1	-38	-27	-4		
1923	-60	-30	-9	-16	-16	10	48	41	22	9	-24	-38	-5		
1924	-8	-49	-51	-38	-2	27	68	72	38	13	-26	-26	2		
1925	-34	-32	-42	-9	9	38	50	61	42	1	-30	-46	1		
1926	-19	-24	-59	-5	1	32	61	57	23	-26	-10	-48	-1		
1927	-45	-23	-39	-54	-17	20	60	60	32	-13	-12	-36	-6		
1928	-35	-33	-36	-20	-7	19	41	47	37	13	-11	-22	-1		
1929	-30	0	-19	-32	0	26	40	49	28	-18	-6	1	3		
1930	-32	-28	-50	8	14	53	60	73	43	1	-30	-12	8		
1931	-36	-42	-61	-3	-5	22	61	52	35	-20	20	-37	-1		
1932	-45	-16	-35	-40	6	28	66	61	21	-4	-31	-20	-1		
1933	-8	-49	-32	-46	-1	43	61	73	55	-4	-2	-6	7		
1934	-43	-71	-35	-46	-5	33	68	77	80	19	-14	3	6		
1935	-30	-60	-31	-32	-15	22	54	55	28	2	9	-31	-2		
1936	-70	-46	-58	-34	17	30	57	69	36	7	-18	-70	-7		
1937	-9	-61	-69	-10	9	29	54	60	40	-3	-20	-6	1		
1938	-51	-34	-59	-39	-11	37	58	59	41	42	11	17	6		
1939	-26	-32	-14	-29	12	31	59	74	45	21	-37	-58	4		
1940	-31	-72	-49	-42	6	36	48	45	-999	-999	-999	-999	-999		
1941	-999	-103	-999	-999	-13	18	56	49	44	4	8	-43	-999		
1942	-31	-145	-86	-73	-29	-999	-999	45	30	4	-31	-57	-999		
1943	-76	-52	-55	-45	-26	12	41	22	29	12	-25	-31	-16		
1944	-68	-36	-52	-46	1	24	49	49	36	2	-30	-30	-8		
1945	-54	-63	-36	-21	5	31	56	58	47	-6	-4	-53	-3		
1946	2	-52	-48	-39	-9	29	56	65	48	30	-17	6	6		
1947	12	-20	-74	-31	14	32	64	69	41	9	-33	-68	1		
1948	-79	-21	-38	-29	-18	9	48	42	20	-2	-33	-44	-12		
1949	-46	-39	-47	-41	-9	33	47	41	32	-9	3	-37	-6		
1950	-2	-999	-43	-27	-5	22	53	72	45	21	-5	-41	-999		
1951	-43	-24	-70	-52	-7	3	39	62	41	7	-39	-38	-10		
1952	-43	-59	-51	-13	-4	25	45	35	21	37	-16	-34	-5		
1953	-50	-56	-60	-59	-6	46	55	74	47	19	-4	-5	0		
1954	-42	-33	-87	-41	-1	15	45	43	26	-2	23	-16	-6		
1955	-71	-78	-66	-31	-20	17	49	53	43	-12	-21	-41	-15		
1956	-49	-39	-27	-45	-6	6	49	37	20	0	-4	1	-5		
1957	-11	-33	-32	-12	-9	13	42	51	34	6	-5	-41	0		
1958	-26	-48	-32	-12	-3	27	42	57	41	24	-7	-41	2		
1959	-66	-54	-28	-59	-16	9	36	47	33	34	-10	-11	-7		
1960	-25	-51	-16	-14	4	25	53	57	59	7	4	-22	7		
1961	-21	-36	-69	-56	2	24	42	64	46	41	-14	-58	-3		
1962	-29	-37	-72	-30	5	11	41	55	36	-18	-26	-31	-8		
1963	-67	-116	-30	-39	4	30	33	46	40	20	-28	-37	-12		
1964	-52	-60	-17	-22	-10	15	37	44	8	5	-59	-64	-15		
1965	-55	-43	-110	-31	-20	12	36	58	30	19	-33	-76	-18		
1966	-111	-89	-87	-12	-12	33	49	40	13	-7	-37	-42	-22		
1967	-79	-38	-92	-43	-10	11	35	34	30	-28	-59	-55	-25		

Table 4. (continued)

1968	-999	-123	-134	-51	-31	10	22	25	24	-35	-18	-83	-999		
1969	-97	-999	-97	-52	-12	26	51	67	22	-22	-61	-71	-999		
1970	-999	-999	-999	-44	1	28	37	44	27	0	-19	-55	-999		
1971	-100	-49	-74	-47	-1	25	36	44	25	13	-89	-60	-23		
1972	-11	-62	-51	-36	-1	29	53	44	32	-6	-19	-18	-4		
1973	-20	-126	-66	-74	-9	19	41	51	41	-11	-74	-66	-25		
1974	-14	-38	-13	-14	9	31	37	45	29	13	6	-56	3		
1975	-68	-36	-59	-50	-16	6	41	52	14	9	-16	-84	-17		
1976	-66	-26	-15	-44	4	30	51	53	28	33	-27	-31	-1		
1977	-59	-52	-82	-56	-15	15	40	42	28	11	-28	-23	-15		
1978	-69	-95	-55	-27	-7	21	45	56	31	3	-58	-45	-17		
1979	-98	-68	-50	-34	-27	18	39	54	22	13	-24	-13	-14		
1980	-33	-49	-28	-27	9	27	50	52	32	-22	-41	-68	-8		
1981	-77	-52	-69	-40	-7	6	37	46	21	-10	-28	-60	-19		
1982	-90	-35	-46	-58	-19	7	36	47	14	9	-30	-42	-17		
1983	-41	-49	-53	-33	-1	16	44	43	20	-14	-18	-45	-11		
1984	-30	-13	-33	-4	-5	27	46	51	34	10	-1	4	7		
1985	-34	-50	-46	-58	-3	21	50	48	21	-3	-34	-73	-13		
1986	-59	-60	-44	-36	-7	27	36	52	26	11	-20	-20	-8		
1987	-26	-93	-42	-16	2	25	53	48	36	8	-21	-110	-11		
1988	-109	-33	-77	-71	-10	15	44	58	31	4	-46	-87	-23		
10050	780	-142	9 ISFJORD RADIO					NORWAY			1	1912	1979	10	1912
1912	-245	-264	-219	-197	-60	19	41	26	-28	-87	-130	-125	-106		
1913	-158	-208	-178	-97	-52	2	46	52	7	-86	-78	-132	-74		
1914	-218	-240	-199	-105	-52	18	49	48	-9	-46	-133	-179	-89		
1915	-143	-196	-216	-110	-88	16	39	36	-5	-49	-208	-226	-96		

Table 5. Partial listing of the monthly mean temperature records for individual stations in the Southern Hemisphere (File 14)

619000	-80	145	-999	ASCENSION IS.				ASCENSION IS				1 1923	1976	10 1923
1923	-999	-999	271	268	268	262	251	252	277	254	263	271	-999	
1924	272	278	281	277	273	266	254	248	243	247	248	252	262	
1925	257	267	277	275	271	265	256	252	254	252	-999	258	-999	
1926	263	276	279	281	268	263	253	251	246	249	248	254	261	
1927	262	269	274	271	271	261	253	249	245	247	251	255	259	
1928	261	271	276	276	267	259	251	246	243	242	244	251	257	
1929	262	271	279	281	273	263	252	247	239	243	244	251	259	
1930	-999	-999	-999	-999	-999	-999	-999	-999	-999	-999	-999	-999	-999	
1931	259	274	278	277	273	261	251	243	243	241	243	251	258	
1932	261	266	268	277	269	261	248	246	239	237	246	248	256	
1933	260	268	277	279	272	264	255	252	246	248	245	252	260	
1934	259	270	274	277	268	262	261	258	259	258	258	262	264	
1935	266	277	281	279	276	270	253	253	247	250	252	256	263	
1936	263	268	271	275	271	264	259	248	245	246	250	256	260	
1937	263	269	276	278	273	263	258	249	255	256	253	258	263	
1938	262	269	268	272	272	269	266	253	254	254	259	262	263	
1939	264	266	269	272	269	266	256	254	253	254	254	257	261	
1940	259	263	265	268	267	267	256	255	256	259	258	263	261	
1941	267	271	271	267	267	264	255	255	243	244	249	253	259	
1942	256	266	272	268	264	257	248	245	246	247	251	252	256	
1943	254	255	256	256	255	257	255	247	247	249	247	250	252	
1944	257	258	262	266	263	265	258	253	250	253	252	257	258	
1945	258	258	264	262	259	253	257	252	251	254	257	256	257	
1946	257	266	267	269	267	262	256	255	244	243	248	251	257	
1947	264	273	282	277	272	261	252	251	247	251	256	258	262	
1948	263	274	285	280	276	263	254	248	243	243	247	252	261	
1949	263	274	281	284	278	265	259	252	252	252	254	257	264	
1950	265	274	281	279	276	262	253	248	246	248	249	252	261	
1951	258	266	275	276	271	259	253	247	245	243	249	260	259	
1952	265	272	282	279	273	259	249	244	244	243	254	258	260	
1953	263	268	279	279	271	262	251	245	246	247	251	256	260	
1954	261	269	274	274	271	260	252	246	238	244	249	253	258	
1955	258	271	277	278	273	264	255	246	244	245	253	253	260	
1956	258	268	272	274	272	262	254	250	248	246	253	255	259	
1957	262	274	277	281	275	267	258	251	248	245	252	257	262	
1958	261	271	278	278	275	272	253	245	237	240	247	249	259	
1959	262	263	271	273	268	259	254	248	243	245	246	251	257	
1960	259	267	279	277	269	258	256	246	247	242	251	253	259	
1961	267	275	281	277	273	261	253	247	242	243	252	256	261	
1962	261	271	275	277	271	260	253	249	245	249	251	257	260	
1963	264	275	280	284	273	262	253	245	253	253	261	268	264	
1964	276	281	286	283	274	263	256	250	245	249	248	251	264	
1965	261	269	279	279	275	254	253	250	239	244	246	253	259	
1966	259	271	277	278	273	266	259	251	251	247	252	261	262	
1967	267	278	280	280	272	254	250	241	241	239	245	255	259	
1968	267	275	275	275	271	261	257	251	248	249	251	251	261	

Table 5. (continued)

1969	251	271	272	274	265	251	242	233	229	231	239	241	250			
1970	245	255	260	261	261	250	251	238	235	233	-999	228	-999			
1971	254	267	281	282	266	263	255	248	251	242	244	249	259			
1972	265	271	279	270	273	264	257	253	251	247	251	259	262			
1973	271	277	285	284	-999	-999	-999	-999	-999	-999	-999	-999	-999			
1974	-999	278	281	280	272	261	-999	-999	-999	-999	-999	-999	-999			
1975	-999	-999	280	283	-999	-999	-999	-999	246	251	250	254	-999			
1976	262	275	279	275	268	-999	-999	-999	-999	-999	-999	-999	-999			
619010	-160	57	604 ST HELENA					ST. HELENA				1	1892	1980	10	1892
1892	-999	191	191	179	164	148	139	138	131	142	143	158	-999			
1893	166	175	181	181	173	158	148	135	134	144	143	161	158			
1894	182	186	187	178	168	152	148	136	142	152	158	175	164			
1895	183	190	191	187	178	154	154	149	148	150	157	166	167			
1896	180	182	192	191	172	164	149	133	146	151	151	156	164			

15. VERIFICATION OF DATA TRANSPORT

The data files containing the gridded surface air temperature anomalies and the mean monthly temperatures for individual stations can be read by using the FORTRAN or SAS input/output routines provided. Users should verify that the data have been correctly transported to their systems by generating some or all of the statistics presented in Tables 6 through 10. These statistics were generated in SAS (PROC MEANS) but can be duplicated in other statistical packages or languages. If the statistics generated by the user differ from those presented here, the data sets may have been corrupted in transport.

These statistics are presented only as a tool to ensure proper reading of the data sets. They are not to be construed as summarizing these data.

Table 6. Characteristics of numeric variables for the gridded surface air temperature anomaly file for the Northern Hemisphere

Variable	Number of observations	Mean	Minimum value	Maximum value
YEAR	1680	1920.500	1851.000	1990.000
MONTH	1680	6.500	1.000	12.000
MTEMP	1680	-6884.168	-9305.241	-4497.821
MSTA	1680	1.073	0.130	2.350
MDIST	1680	37.603	6.370	405.093

The following is a listing of the SAS program used to generate the statistics described in the table.

```

DATA SUMSTATS(KEEP=YEAR MONTH MTEMP MSTA MDIST);
  INFILE 'NDP020R1.NHEM90.ANOM';
  INPUT YEAR 21-24 MONTH 29-30 #2 @2 (T1-T648):(5.) #39 @2
        (S1-S648) (:5.) #76 @2 (D1-D648):(5.);
  ARRAY TEMP(648) T1-T648;
  ARRAY STA(648) S1-S648;
  ARRAY DIST(648) D1-D648;
  SUMTEMP=0;
  SUMSTA=0;
  SUMDIST=0;
  DO I=1 TO 648;
    SUMTEMP=SUMTEMP+TEMP(I);
    SUMSTA=SUMSTA+STA(I);
    SUMDIST=SUMDIST+DIST(I);
  END;
  MTEMP=SUMTEMP/648;
  MSTA=SUMSTA/648;
  MDIST=SUMDIST/648;
PROC MEANS DATA=SUMSTATS MAXDEC=3;
  VAR YEAR MONTH MTEMP MSTA MDIST;
RUN;

```


Table 7. Characteristics of numeric variables for the gridded surface air temperature anomaly file for the Southern Hemisphere

Variable	Number of observations	Mean	Minimum value	Maximum value
YEAR	1680	1920.500	1851.000	1990.000
MONTH	1680	6.500	1.000	12.000
MTEMP	1680	-8612.954	-9975.947	-7094.181
MSTA	1680	0.243	0.002	0.639
MDIST	1680	10.671	0.106	22.512

The following is a listing of the SAS program used to generate the statistics described in the table.

```

DATA SUMSTATS(KEEP=YEAR MONTH MTEMP MSTA MDIST);
  INFILE 'NDP020R1.SHEM90.ANOM';
  INPUT YEAR 21-24 MONTH 29-30 #2 @2 (T1-T432)(:5.) #39 @2
        (S1-S432) (:5.) #76 @2 (D1-D432)(:5.);
  ARRAY TEMP(432) T1-T432;
  ARRAY STA(432) S1-S432;
  ARRAY DIST(432) D1-D432;
  SUMTEMP=0;
  SUMSTA=0;
  SUMDIST=0;
  DO I=1 TO 432;
    SUMTEMP=SUMTEMP+TEMP(I);
    SUMSTA=SUMSTA+STA(I);
    SUMDIST=SUMDIST+DIST(I);
  END;
  MTEMP=SUMTEMP/432;
  MSTA=SUMSTA/432;
  MDIST=SUMDIST/432;
PROC MEANS DATA=SUMSTATS MAXDEC=3;
  VAR YEAR MONTH MTEMP MSTA MDIST;
RUN;

```

Table 8. Characteristics of numeric variables for the gridded surface air temperature anomaly file for the Antarctic

Variable	Number of observations	Mean	Minimum value	Maximum value
YEAR	408	1973.500	1957.000	1990.000
MONTH	408	6.500	1.000	12.000
MTEMP	408	-5183.105	-9999.000	-4330.278

The following is a listing of the SAS program used to generate the statistics described in the table.

```

DATA SUMSTATS(KEEP=YEAR MONTH MTEMP);
  INFILE 'NDP020R1.ANTARC.ANOM';
  INPUT YEAR 21-24 MONTH 29-30 #2 @2 (T1-T180)(:5.);
  ARRAY TEMP(180) T1-T180;
  SUMTEMP=0;
  DO I=1 TO 180;
    SUMTEMP=SUMTEMP+TEMP(I);
  END;
  MTEMP=SUMTEMP/180;
PROC MEANS DATA=SUMSTATS MAXDEC=3;
  VAR YEAR MONTH MTEMP;
RUN;

```

Table 9. Characteristics of numeric variables for the monthly mean temperature records for individual stations in the Northern Hemisphere

Variable	Number of observations	Mean	Minimum value	Maximum value
ID	1584	538993.548	10010.000	999060.000
LAT	1584	355.812	-23.000	825.000
LONG	1584	157.770	-1799.000	1795.000
YEAR	113763	1934.064	1701.000	1988.000
TMEAN	113763	-136.370	-999.000	318.000

The following is a listing of the SAS program used to generate the statistics described in the table.

```

DATA SUMSTATS;
    INFILE 'NDP020R1.NHEMST.DATA';
    INPUT X $ 5 Y $ 6 @;
    IF X NE ' ' AND Y NE ' ' THEN
        INPUT ID 2-7 LAT 9-12 LONG 14-18;
    ELSE IF X NE ' ' AND Y EQ ' ' THEN
        INPUT YEAR 2-5 TMEAN 68-71;
    ELSE INPUT;
PROC MEANS MAXDEC=3 DATA=SUMSTATS;
    VAR ID LAT LONG YEAR TMEAN;
RUN;

```

Table 10. Characteristics of numeric variables for the monthly mean temperature records for individual stations in the Southern Hemisphere

Variable	Number of observations	Mean	Minimum value	Maximum value
ID	288	827340.538	619000.000	999006.000
LAT	288	-238.736	-608.000	-26.000
LONG	288	-124.083	-1791.000	1800.000
YEAR	16163	1947.656	1787.000	1988.000
TMEAN	16163	-55.135	-999.000	296.000

The following is a listing of the SAS program used to generate the statistics described in the table.

```

DATA SUMSTATS;
    INFILE 'NDP020R1.SHEMST.DATA';
    INPUT X $ 5 Y $ 6 @;
    IF X NE ' ' AND Y NE ' ' THEN
        INPUT ID 2-7 LAT 9-12 LONG 14-18;
    ELSE IF X NE ' ' AND Y EQ ' ' THEN
        INPUT YEAR 2-5 TMEAN 68-71;
    ELSE INPUT;
PROC MEANS MAXDEC=3 DATA=SUMSTATS;
    VAR ID LAT LONG YEAR TMEAN;
RUN;

```

APPENDIX A
REPRINTS OF PERTINENT LITERATURE

July 1985

Prepared for:
United States Department of Energy

DOE/EV/10098-2
Dist. Category UC-11

Office of Energy Research
Office of Basic Energy Sciences
Carbon Dioxide Research Division
Washington, D.C. 20545

TRO22

A Grid Point Surface Air Temperature Data Set for the Northern Hemisphere

Prepared by:

P.D. Jones, S.C.B. Raper, B. Santer

B.S.G. Cherry, C. Goodess, P.M. Kelly, T.M.L. Wigley

University of East Anglia

Norwich, UK

R.S. Bradley

University of Massachusetts

Amherst, MA

and

H.F. Diaz

NOAA/ERL

Boulder, CO

Under Contract No. DE-AC02-79EV10098

ABSTRACT

A compilation of 2666 station records of monthly surface air temperature has been assembled for the Northern Hemisphere. In order to use these data to form a gridded data set for the Northern Hemisphere we have assessed, where possible, the homogeneity of each of these records. The results of this assessment are presented and stations are classed as immediately usable, corrected or uncorrectable. Full details of how this has been achieved for each station are presented in tabular form.

Of the 2666 station records, 1584 were used to produce the gridded temperature data set. Temperature anomalies were calculated with respect to the appropriate monthly mean for the reference period 1951-70 using the homogenized data. Anomalies at each point of a 5° latitude by 10° longitude grid were interpolated from the station data for each month for the period 1851 to 1984.

LIST OF FIGURES

Page

- Fig. 1: Station temperature difference time series: Gordon Castle (57.6°N , 3.1°W) minus Aberdeen (57.2°N , 2.1°W), 1901-1974. The analysis identifies Aberdeen as the errant station as a similar jump at 1948 also occurs when the station is compared with Glasgow (55.9°N , 4.3°W) and Edinburgh (55.9°N , 3.4°W). The station history information reveals that the site was moved to Dyce airport in 1948. The straight lines are the mean station differences for the two periods, 1901-1947, 1948-1974. Correction details are given in Appendix A. 7
- Fig. 2: Station temperature difference time series: Vishakhapatnam (17.7°N , 83.3°E) minus Begampet (17.5°N , 78.5°E), 1901-1980. The analysis identifies Begampet as the errant station as a similar jump at 1951 also occurs when the station is compared with Akola (20.7°N , 77.0°E) and Jagdalpur (19.1°N , 82.0°E). The station history information reveals that the station was moved to the airport in 1951. The straight lines are the mean station differences for the two periods, 1901-1950, 1951-1980. Correction details are given in Appendix A. 7
- Fig. 3: Station temperature difference time series: Nemuro (44.3°N , 145.6°E) minus Sapporo (43.1°N , 141.4°E), 1901-1980. The analysis identifies Sapporo as the errant station as a similar jump during 1939 also occurs when the station is compared with Abashiri (44.0°N , 144.3°E) and Akita (39.7°N , 140.1°E). The station history information reveals that the station was moved to a new site approximately 2km southeast of its earlier position. The straight lines are the mean station differences for the two periods, 1901-1938, 1940-1980. Correction details are given in Appendix A. 8
- Fig. 4: Station temperature difference time series: Rome (41.7°N , 12.5°E) minus Naples (40.9°N , 14.3°E), 1871-1980. The two parts of Naples record 1871-1925 and 1961-1980 were records from different sites. The straight lines are the mean station differences for the two periods, 1901-1925, 1961-1980. Correction details are given in Appendix A. 8
- Fig. 5: Locations of the 1584 stations used in the gridding technique. 14

ACKNOWLEDGEMENTS

The work described in this Technical Report was funded by the U.S. Department of Energy under Contracts: DE-AC02-79EV10098 and DE-AC02-81EV10739.

LIST OF FIGURES

Page

- Fig. 1: Station temperature difference time series: Gordon Castle (57.6°N , 3.1°W) minus Aberdeen (57.2°N , 2.1°W), 1901-1974. The analysis identifies Aberdeen as the errant station as a similar jump at 1948 also occurs when the station is compared with Glasgow (55.9°N , 4.3°W) and Edinburgh (55.9°N , 3.4°W). The station history information reveals that the site was moved to Dyce airport in 1948. The straight lines are the mean station differences for the two periods, 1901-1947, 1948-1974. Correction details are given in Appendix A. 7
- Fig. 2: Station temperature difference time series: Vishakhapatnam (17.7°N , 83.3°E) minus Begampet (17.5°N , 78.5°E), 1901-1980. The analysis identifies Begampet as the errant station as a similar jump at 1951 also occurs when the station is compared with Akola (20.7°N , 77.0°E) and Jagdalpur (19.1°N , 82.0°E). The station history information reveals that the station was moved to the airport in 1951. The straight lines are the mean station differences for the two periods, 1901-1950, 1951-1980. Correction details are given in Appendix A. 7
- Fig. 3: Station temperature difference time series: Nemuro (44.3°N , 145.6°E) minus Sapporo (43.1°N , 141.4°E), 1901-1980. The analysis identifies Sapporo as the errant station as a similar jump during 1939 also occurs when the station is compared with Abashiri (44.0°N , 144.3°E) and Akita (39.7°N , 140.1°E). The station history information reveals that the station was moved to a new site approximately 2km southeast of its earlier position. The straight lines are the mean station differences for the two periods, 1901-1938, 1940-1980. Correction details are given in Appendix A. 8
- Fig. 4: Station temperature difference time series: Rome (41.7°N , 12.5°E) minus Naples (40.9°N , 14.3°E), 1871-1980. The two parts of Naples record 1871-1925 and 1961-1980 were records from different sites. The straight lines are the mean station differences for the two periods, 1901-1925, 1961-1980. Correction details are given in Appendix A. 8
- Fig. 5: Locations of the 1584 stations used in the gridding technique. 14

ABSTRACT

A compilation of 2666 station records of monthly surface air temperature has been assembled for the Northern Hemisphere. In order to use these data to form a gridded data set for the Northern Hemisphere we have assessed, where possible, the homogeneity of each of these records. The results of this assessment are presented and stations are classed as immediately usable, corrected or uncorrectable. Full details of how this has been achieved for each station are presented in tabular form.

Of the 2666 station records, 1584 were used to produce the gridded temperature data set. Temperature anomalies were calculated with respect to the appropriate monthly mean for the reference period 1951-70 using the homogenized data. Anomalies at each point of a 5° latitude by 10° longitude grid were interpolated from the station data for each month for the period 1851 to 1984.

TABLE OF CONTENTS

	Page
Abstract	i
Table of Contents	ii
List of Figures	iii
Acknowledgements	iv
Introduction	1
Station Homogeneity Assessment	3
Gridding the Station Surface Air Temperature Data	12
Results	17
Conclusions	18
References	20
Appendix A: Station History Information and Homogeneity Assessment Details	22
Appendix B: Stations used in the Gridding Algorithm	217

INTRODUCTION

Most studies of "global" or "hemispheric" temperature fluctuations have relied on the compilations of station data in World Weather Records (WWR), published by the Smithsonian Institution (1927, 1934, 1947) and the United States Weather Bureau (1959-82). These data have formed the basis of many attempts to grid surface air temperature onto a regular spatial network and/or to form large area average surface air temperature series.

Comprehensive reviews of these studies, from the early analyses of Willett (1950) and Mitchell (1961, 1963) to the recent work of Jones et al. (1982), are given by Chen (1982) and Ellsaesser et al. (1985).

Bradley et al. (1985) have added considerably to the WWR data using material available in published and manuscript form in meteorological archives, particularly those of the U.K. Meteorological Office. The additions made to the air temperature data base for the Northern Hemisphere prior to 1900 allow much more representative values of hemispheric mean air temperature to be calculated back to 1851. Full details of these improvements in station coverage are given in Bradley et al. (1985). The most important improvements in coverage occur over parts of the Soviet Union and northern Europe, particularly before 1881. The lack of readily available data for the Soviet Union has constrained all previous studies of hemispheric mean temperatures to start about 1880 or later. Further improvements in coverage have also been made for the twentieth century, particularly over northern Africa before 1940 and over the Peoples Republic of China (PRC). In the latter region, some 30 station records have been assembled with data back to the 1920s with another 20 station records covering northern and western China for 1951-84. No other source of data for the 1951-60 decade is known outside the PRC.

In this technical note, we document the use of this extended data bank to construct a reliable gridded surface air temperature data set for the Northern Hemisphere for the years 1851-1984. In order to achieve this, it has been necessary to examine each individual station temperature series for possible inhomogeneities (errors of non-climatic origin). The full results of this examination are described here and the derivation of the gridded data set is presented. Details of each of the 2666 stations in the data bank are documented in Appendices using the formats described in Goodess et al. (1985)

and Bradley et al. (1985).

STATION HOMOGENEITY ASSESSMENT

Reasons for Station Inhomogeneities

The four main factors affecting station homogeneity are (Mitchell, 1953; see also the summary by Bradley and Jones, 1985):

- (i) changes in instrumentation, exposure and measurement techniques;
- (ii) changes in station location (altitude or position);
- (iii) changes in observation times and the methods used to calculate monthly means; and
- (iv) changes in the environment around the station, particularly with respect to urban growth.

The effects of these four major factors have been discussed at length in Bradley et al. (1985), Bradley and Jones (1985) and Jones et al. (1985).

Effects of Station Inhomogeneities

Change in station location could be an important factor in determining station homogeneity. As will be shown later in this report, at least 80% of all inhomogeneities in station records can be traced back in the station history information to changes in station location. However, merely searching through the station histories for indications of site changes, of which there may be a number, gives a pessimistic view of the potential homogeneity of a particular station's data. Comparisons with neighbouring stations show that, in the majority of cases, documented site changes have an insignificant effect on the homogeneity of the data.

The station history information given by Bradley et al. (1985) shows that there have also been changes in observation times and/or the way monthly means are calculated at almost every station. Correction of all observations to a common standard is, however, extremely difficult, mostly because sufficient hourly data are not available for the calculation of correction factors. Nevertheless, in many publications (including WWR) both documented and undocumented corrections have been applied to adjust values to a 'true' or 24 hour mean. Such procedures were widely used up until the 1940s. They are discussed in more detail with reference to the United States data in WWR by Bradley et al. (1985).

Changes in the environment around the station, especially the growth of cities, has often been considered to have an important effect on station

homogeneity (Mitchell, 1953; Dronia, 1967; Cayan and Douglas, 1984; Kukla et al., 1985). Many more references are cited by Landsberg (1981). From the mass of literature on the subject it would appear that the effect is widespread. However, although effects have been demonstrated in both small and large cities in Europe and North America in particular, relationships between city size and the magnitude of the urbanization effect are not straightforward, being highly dependent on local climate and the exact location of the station in the city. Relationships found in North America cannot be extrapolated to other parts of the Northern Hemisphere, particularly to cities on the Asian and African continents.

Assessment of Homogeneity

There are 2666 stations in the temperature station data set for the Northern Hemisphere. To check all these stations for homogeneity represents an awesome task. There are two possible approaches to this problem: all records could be exhaustively checked using the available station history information as a guide to potential errors; or, inconsistencies between neighbouring stations can be used as a guide to the major inhomogeneities in the data set. For the whole data set, the former approach could only be undertaken by an organization such as the World Meteorological Organization through correspondence with all the member countries of WMO, simply because station history information is seldom published. We have chosen to use the latter method. We are only concerned with errors that are large enough to affect studies of large scale climatic change. For such a purpose, the detailed checking of individual records is not considered necessary.

To test homogeneity, we have compared records from neighbouring stations, searching for discontinuities and trends in station differences. The method assumes that, within small areas (the size depends on data availability and latitude and varies from 10^3 to 10^5 km²), the effects of changes in climate will be similar. Records from four to five neighbouring sites were compared on climatological time scales of the order of 20 years using the following procedure:

- (1) For each station, the entire record was listed as anomalies from the appropriate monthly mean based on the entire station record length. Outliers were detected by inspection and either verified, corrected, or

replaced with a missing observation code. The use of automatic statistical tests to identify outliers is not always effective as, in data sets of less than 30 years, the outliers can easily distort estimates of the monthly standard deviation. Outliers identified were commonly the result of the use of the wrong units, punching errors of exactly 10°C , or by the omission of a minus sign (this occurred in the Jenne (1975) version of WWR at almost every station in Greenland during the Novembers of the years 1951-60). Outlier inspections were carried out for every station, including those which were geographically isolated and could not subsequently be compared with neighbouring stations.

- (2) For all groups of neighbouring stations, the record of annual temperature anomalies, after removal of outliers, was compared with all other records in the group by plotting the differences between the annual values as a time series, a method proposed by Conrad and Pollak (1962). If no inhomogeneity exists, the series of differences should be a stationary time series. Abrupt changes in these difference time series point to an inhomogeneity in one of the series. By comparing all possible station pairs, the erroneous stations generally become apparent. In some instances, it was necessary to compare stations with additional stations that were not initially selected in the comparison group. For stations with long records, data were compared with data from the nearest station with an appropriately long record. When inhomogeneities were identified, confirmation was sought in the station history information. For stations with records starting in the nineteenth century, the station history information given in Bradley et al. (1985) was used. For other stations, we used the compilation given in Appendix A.
- (3) When a particular record showed a sudden jump or discontinuity, corrections were derived on a monthly basis and the errant data were adjusted. Station records which indicated numerous (generally more than two) discontinuities were not corrected, but were flagged as uncorrectable and unusable in subsequent analyses.

(4) The time series of station differences often showed trends or gradual changes. It was often possible to identify such warming or cooling trends with a particular station, but it was not possible to adequately correct such records. These were, therefore, also flagged as uncorrectable and unusable. Stations with inhomogeneous warming trends which were likely to be caused by urbanization were classed in a separate "affected by urbanization" category.

Some examples of the approach are shown in Figures 1 to 4. Each is discussed in the appropriate figure caption. The examples are:

Figure 1, Gordon Castle (WMO No. 030680) minus Aberdeen (030910) (United Kingdom)

Figure 2, Vishakhapatnam (431280) minus Begampet (431280) (India)

Figure 3, Nemuro (474200) minus Sapporo (474120) (Japan)

Figure 4, Rome (162420) minus Naples (162890) (Italy).

Further examples are given in Jones et al. (1985).

For each of the 2666 stations, a few (generally two) of the neighbouring stations used in the homogeneity comparisons are listed in Appendix A together with the years over which comparisons were made. In general, more intercomparisons were made than are listed. Only the relevant stations which supplied the necessary evidence of homogeneity or inhomogeneity have been included.

Correcting Errant Station Records

When an abrupt change in a station's record was identified and sufficient overlap with neighbouring correct stations available, correction factors were calculated on a monthly basis to produce a homogeneous series for that site. In the above examples, the records for Aberdeen, Begampet, Sapporo and Naples were adjusted or "homogenized". Correction factors were obtained by differencing the mean temperature before and after the discontinuity and comparing this with a similar difference at correct neighbouring station(s). Corrections were always made to adjust an earlier part of the errant station record to the most recent period. Correction factors were derived on a monthly basis despite the errant stations having

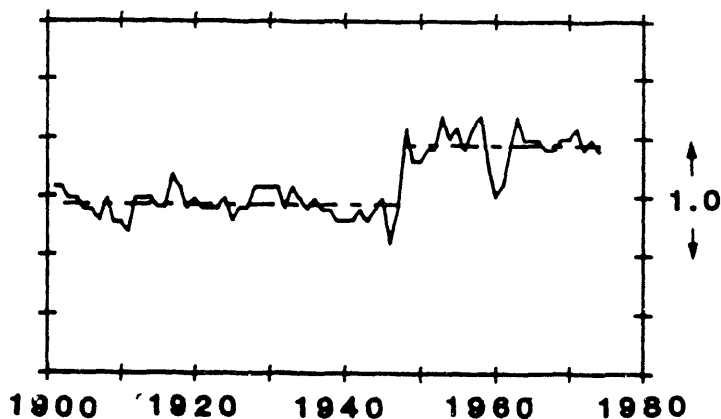


Fig. 1: Station temperature difference time series: Gordon Castle (57.6°N , 3.1°W) minus Aberdeen (57.2°N , 2.1°W), 1901-1974. The analysis identifies Aberdeen as the errant station as a similar jump at 1948 also occurs when the station is compared with Glasgow (55.9°N , 4.3°W) and Edinburgh (55.9°N , 3.4°W). The station history information reveals that the site was moved to Dyce airport in 1948. The straight lines are the mean station differences for the two periods, 1901-1947, 1948-1974. Correction details are given in Appendix A.

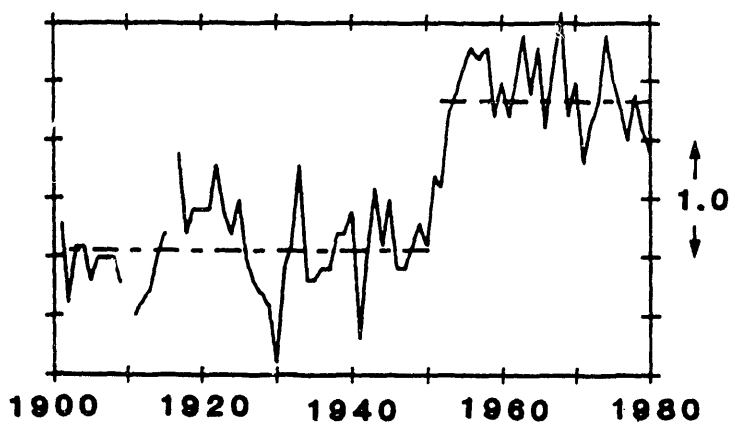


Fig. 2: Station temperature difference time series: Vishakhapatnam (17.7°N , 83.3°E) minus Begampet (17.5°N , 78.5°E), 1901-1980. The analysis identifies Begampet as the errant station as a similar jump at 1951 also occurs when the station is compared with Akola (20.7°N , 77.0°E) and Jagdalpur (19.1°N , 82.0°E). The station history information reveals that the station was moved to the airport in 1951. The straight lines are the mean station differences for the two periods, 1901-1950, 1951-1980. Correction details are given in Appendix A.

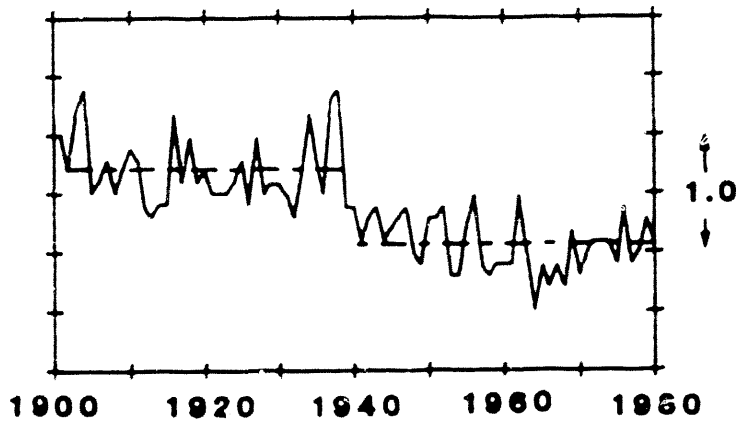


Fig. 3: Station temperature difference time series: Nemuro (44.3°N , 145.6°E) minus Sapporo (43.1°N , 141.4°E), 1901-1980. The analysis identifies Sapporo as the errant station as a similar jump during 1939 also occurs when the station is compared with Abashiri (44.0°N , 144.3°E) and Akita (39.7°N , 140.1°E). The station history information reveals that the station was moved to a new site approximately 2km southeast of its earlier position. The straight lines are the mean station differences for the two periods, 1901-1938, 1940-1980. Correction details are given in Appendix A.

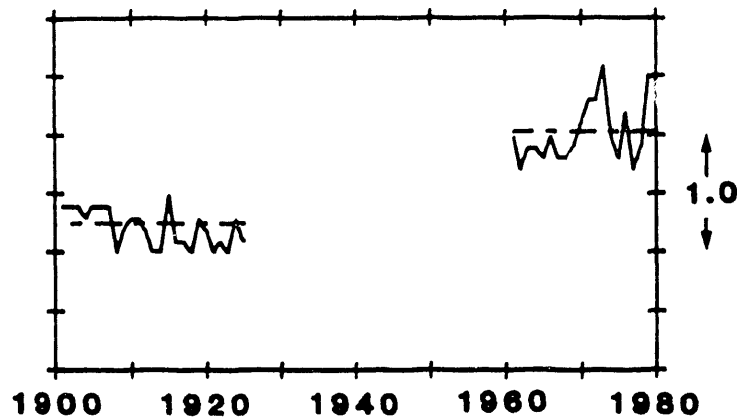


Fig. 4: Station temperature difference time series: Rome (41.7°N 12.5°E) minus Naples (40.9°N , 14.3°E), 1871-1980. The two parts of Naples record 1871-1925 and 1961-1980 were records from different sites. The straight lines are the mean station differences for the two periods, 1901-1925, 1961-1980. Correction details are given in Appendix A.

been identified on an annual basis. The correction factor in a particular month is given by

$$C = X_0 - X_1 - \frac{1}{N} \sum_{i=1}^N (Y_{i0} - Y_{i1}) \quad (1)$$

where subscripts 0 and 1 refer to the time periods before and after the discontinuity, X is the monthly mean temperature at the errant site and Y_i is the monthly mean temperature at the ith (of N) neighbouring sites with a homogeneous record.

In the Sapporo example in Figure 3, N=3, 0=1900-1938, 1=1940-1970. The monthly correction factors for Sapporo (and all other corrected stations) are given in Appendix A. The corrections were applied to all months prior to July 1939 as it was known that the station moved to a new site at the beginning of July 1939. If the exact month of the station move were known, it was used. This detail was generally only known for the United States, Canada and Japan. In other cases, such as the other three examples illustrated above, the corrections were applied through to December of the year in which the discontinuity was identified.

Details for each corrected station are given in Appendix A in the relevant station history information. For each station where corrections were made, the twelve monthly correction factors are listed, together with the homogeneous or part-homogeneous stations used in their derivation and the periods over which they were calculated and applied.

Results of the Station Homogeneity Assessment

Full details of the homogenization analyses are listed in Appendix A. From the many-station intercomparisons undertaken, each station has been assigned a quality control code. Details of the code are given at the beginning of Appendix A. For each station, the stations used to define this code and the stations used to correct errant stations are listed in Appendix A. Approximately 24% of the 2666 stations could not be tested for homogeneity. Some station records were too short for comparison with neighbouring stations, whilst other stations were located in regions or operated in time periods for which neighbouring station data were not available. The lack of availability of comparison data is evident at many island stations, particularly in the Pacific. Such stations were, however,

checked carefully for extreme outliers.

In order to summarise the information contained in Appendix A, the numbers of stations in each homogenization category have been totalled for seven regions of the Northern Hemisphere. The regions were selected on the basis of their World Meteorological Organization station numbers, and therefore correspond to large geographical areas. The station counts are listed in Table 1. 65.5% of all the stations in the data set were classed in either the correct or corrected category. Only 10.5% of stations were classed as uncorrectable and, of these, less than 2% were found to be affected by urban warming.

The small number of stations identified as affected by urbanization may be due in part to the method of analysis. It is possible that the urbanization effect might be seasonally specific and not easily identified by an analysis of annual data. If so, then errors could occur in our monthly data; but any errors in the annual data must, of course, be minimal. Urbanization effects could also escape detection by our methods if all the stations in a large area were affected. In such cases, we would only fail to identify an urbanization effect if all stations were affected almost equally. This seems unlikely. Nevertheless, some of the data which we have judged to be correct may still have spurious trends due to urbanization, and more detailed analyses are certainly warranted in regions like eastern USA and western Europe, especially if regional studies of the hemispheric data set are contemplated.

Further discussion of the results of the homogeneity assessment can be found in Jones et al. (1985).

TABLE 1. Numbers of stations in each homogenization category for different regions of the Northern Hemisphere.

	A	B	C	D	E	F
Europe (excl. USSR)	290	12	170	58	7	537
USSR	188	8	0	7	0	203
Asia (excl. PRC)	149	30	91	7	0	277
PRC	42	0	70	10	0	122
Africa (N of 2.5°S)	160	39	144	16	0	359
Americas (N of 2.5°S)	588	160	136	131	31	1046
Indonesia, Philippines, Pacific Is.	78	0	34	10	0	122
All 7 regions	1495	249	645	239	38	2666
% of 2666	56	9.5	24	9	1.5	

A: Stations correct after a specified year. (The specified year is not always the first year of record; in such cases, the earlier untested parts of the record were not used in any subsequent analyses. The length of the discarded section of records can be found by comparing the first year of record with the first reliable year of record, both of which are listed in Appendix A.)

B: Stations homogenized.

C: Stations not examined (record too short or no adjacent stations for comparison).

D: Stations incorrect (e.g. numerous jumps and/or trends including non-climatic cooling trends).

E: Stations with non-climatic warming trends.

F: Station totals.

GRIDDING THE STATION SURFACE AIR TEMPERATURE DATA

Having assessed, where possible, the homogeneity of each station record in our Northern Hemisphere data bank, we have over 2000 potentially usable stations. The stations are irregularly distributed over the land masses of the Northern Hemisphere with the majority of stations located in Europe and over the United States. Station density is considerably less in the less densely populated areas, particularly over Saharan Africa and parts of Asia. In order to reduce the effects of this irregular distribution, it is necessary to interpolate the data onto a regular grid.

Because of differing station altitudes, differing methods of calculating monthly means and differing observation times, it is not appropriate to interpolate raw station data. Almost all previous analyses overcome this problem by using anomalies from a selected reference period. (Of course, reference period means and anomalies must be calculated using the homogenized data.) A decision must be made concerning how many years of data are necessary to calculate a suitable reference period mean. For example, Yamamoto (1981) selected a near-hundred year reference period but, because so few stations have such long records, he was forced to omit many stations. The best method is to calculate anomalies from a period of good data coverage; for example, Jones et al. (1982) used the period 1946-60.

The period of best data coverage in the data set described here is 1951-70. For stations to be used in the gridding analysis we require at least 15 years of the data between 1951-70. Even using this reference period omits many valuable long records that ceased recording in 1950 or 1960. In order to use some of these data, reference period means were estimated using data from nearby stations. The accuracy of these reference period means is probably better than $\pm 0.2^{\circ}\text{C}$.

Inevitably, some station data cannot be used because reference period means cannot be calculated. This reduces the number of usable stations to 1584. These stations are listed in Appendix B and their locations are shown in Figure 5. Station counts for the seven regions (used in Table 1) are listed in Table 2.

Most of the previous methods of data interpolation have been discussed in Jones et al. (1982, 1985). Further information may also be found in Ellsaesser et al. (1985) and Wigley et al. (1985). Previous analyses can be

TABLE 2. Stations with sufficient data in the reference period mean, 1951-70.

	A	B	C	D
Europe (excl. USSR)	227	12	44	283
USSR	134	8	0	142
Asia (excl. PRC)	118	26	19	163
PRC	42	0	0	42
Africa (N. of 2.5°S)	141	37	8	186
Americas (N of 2.5°S)	534	149	7	690
Indonesia, Philippines, Pacific Is.	78	0	0	78
All 7 regions	1274	232	78	1584
% of 1584	80.4	14.7	4.9	

A: Stations correct after a specified year.

B: Stations homogenized.

C: Stations not checked.

D: Totals.

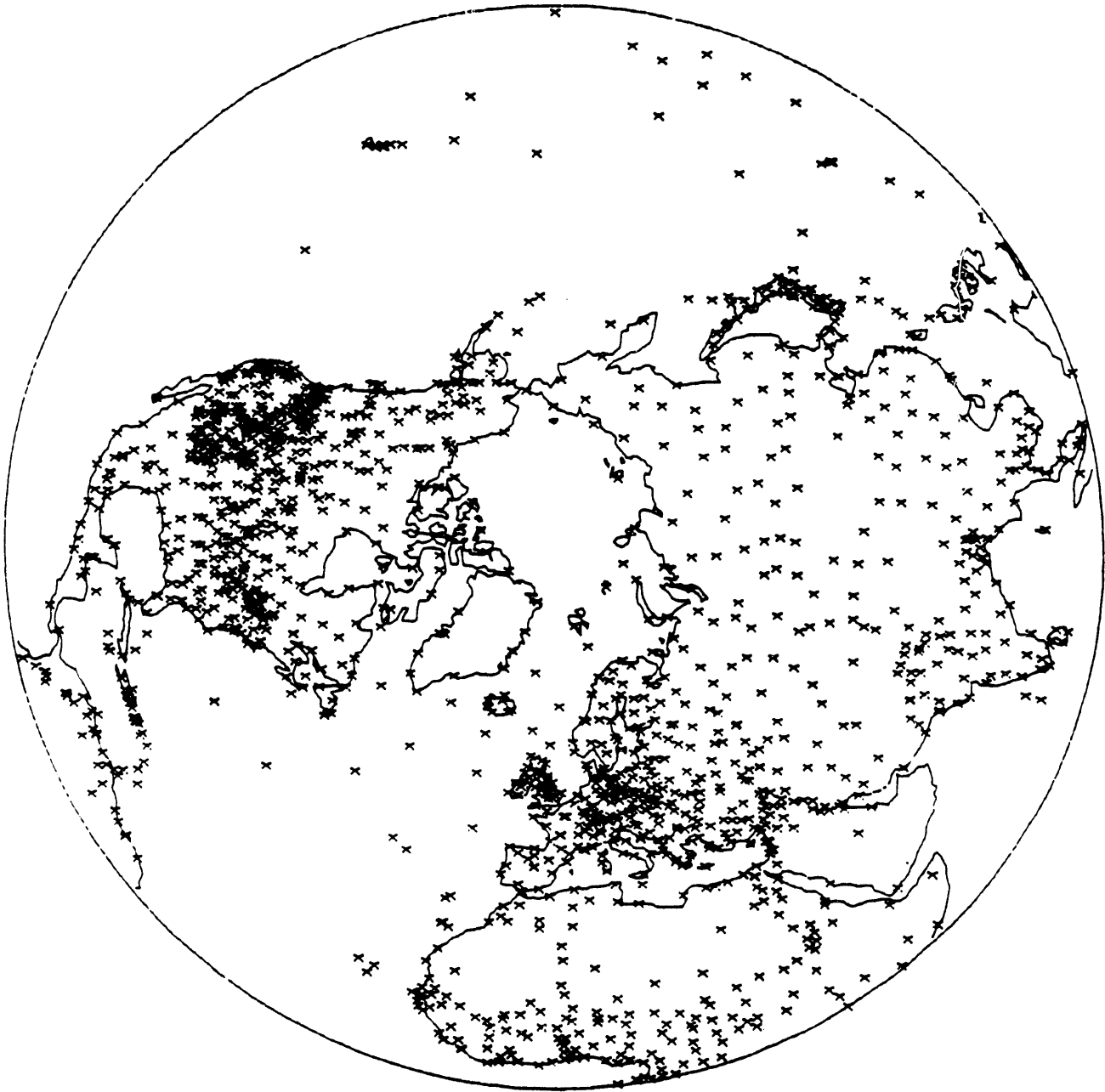


Fig. 5: Locations of the 1584 stations used in the gridding technique.

classed into two main categories, subjective or objective techniques.

Subjective techniques have been used almost entirely by Soviet workers, in particular by Borzenkova et al. (1976) and Vinnikov et al. (1980). In these studies, station temperature data were hand plotted onto hemispheric charts for each month over the period of analyses, in this case 1891-1978. The maps were contoured subjectively and grid point values extracted onto a 5° latitude by 10° longitude grid. Recent workers have essentially built on earlier analysis of a chart series available in the Soviet Union; see, for example, Sharov (1960-67), Budyko (1969) and Vinnikov (1977). Further details of the techniques are given by Vinnikov (1977), Jones et al. (1982) and Robock (1982).

Objective methods have employed numerical techniques to extrapolate or interpolate grid point temperature from the irregular distribution of station data. Examples are the works of Yamamoto and co-workers (e.g. Yamamoto and Hoshiai, 1980; Yamamoto 1981), Hansen et al. (1981), and Jones et al. (1982).

All of the published methods (both subjective and objective) have deficiencies. The method of Vinnikov et al. (1980), involving nearly 1200 maps, is both time-consuming and subjective. The results could not practically be repeated even if the precise data sources were known. Yamamoto's (1981) results are not strictly comparable to the other analyses discussed here because a zero anomaly value was assumed for all grid points where interpolation could not be made. This assumption reduces the variance of their Northern Hemisphere average series by about one half compared to the other analyses (Kellogg and Bojkov, 1982). Hansen et al's (1981) method is difficult to assess as no complete description of the method has been published.

The method of Jones et al. (1982) is described in detail, but there are also problems with their method. They used the six stations nearest to a grid point in order to calculate the grid point value. However, because the station density increases through time, the six stations nearest to a grid point change. The stations used during the period of best data coverage in the 1950s were, on average, nearer the grid point than at other times. In some regions, particularly Arctic regions, stations were used to interpolate grid point values at more than one grid point. This could raise the degree of spatial autocorrelation above the real value. In data-dense areas, particularly over the United States and central Europe, much of the station

data was not used at all.

In order to eliminate some of these problems, a new method of gridding has been employed. The grid spacing used in the present analysis is 5° latitude by 10° longitude involving 649 grid points over the Northern Hemisphere. At each grid point, anomaly values for all stations that have this as their nearest grid point are averaged using inverse distance weighting:

$$T_g = \frac{\sum_{s=1}^n \alpha_s T_s}{\sum_{s=1}^n \alpha_s} \quad (2)$$

where T_g is the interpolated grid point temperature anomaly
 T_s ($s=1,n$) is the station temperature anomaly
 α_s ($s=1,n$) is the inverse of the great circle distance between the station and grid point. (α_s was constrained to $1/\alpha_s < 0.02$ nautical miles, since some stations are located very close to grid points.)

This method has two advantages: data for a particular station are used for interpolation at only one grid point; and all the available station data are used. For some grid points, when only one station record is available, the station anomaly value becomes the grid point value. In data dense areas of North America and Europe, up to 40 stations may be averaged to calculate a single grid point value. The method has a slight disadvantage in that T_g values based on large N may have lower inter-annual variance compared with those based on smaller N . However, spatial correlation effects and the inverse distance weighting factors tend to minimize this problem.

RESULTS

The Gridded Data Set

The new gridding method has been used to interpolate from station anomalies, with respect to the 1951-70 reference period, to the regular grid, for each month from January 1851 to December 1984. Grid point anomalies have been calculated to an accuracy of 0.01°C. Such an accuracy, however, does not necessarily reflect the accuracy of the original data and has only been used for computer storage purposes. Individual monthly grid point anomalies are probably accurate to $\pm 0.2^\circ\text{C}$.

The number of stations (n) available at each grid point varies through time and from grid point to grid point. In some cases, n is one, and the station anomaly value is used as the grid point value. In order to assess the reliability of the interpolated grid point temperature anomaly, two quantities other than the temperature anomaly itself have been stored in our gridded data file. These two quantities are the number of stations used (n) and the quantity $\beta = 1/n \sum_{s=1}^n d_s$ for every gridpoint for each month for each year. β is a measure of how close the stations are to the relevant grid point; $1/\beta$ being a mean distance in nautical miles.

The data set is available on a computer magnetic tape.

CONCLUSIONS

The Hemispheric Average Series

The method of calculation of the area average surface air temperature series is relatively straight forward; each grid point is averaged after being weighted by the area of the hemisphere it represents. Weighting is achieved using the cosine of the latitude of the grid point.

$$NHT = \frac{\sum_{g=1}^M T_g \cos(\phi_g)}{\sum_{g=1}^M \cos(\phi_g)} \quad (3)$$

where M is the number of grid points with temperature anomalies (T_g) in a particular month and ϕ_g is the latitude of the grid point.

The number of grid points for which a value can be calculated increases between 1851 and 1950. The estimates of hemispheric mean temperature are, therefore, more reliable in recent decades (especially since 1930) than during the nineteenth century. The spatial representativeness of the series over the 1851 to 1930 period has been assessed by Jones et al. (1985). The hemispheric temperature series appears to be reliable on a year to year basis after about 1875 despite the marked changes in spatial coverage. Prior to 1875, yearly temperature estimates are less reliable. Although the general trends of temperature over the 1851-1874 period are considered reliable by Jones et al. (1985), differences between land and marine data exist which still require explanation.

The nineteenth-century data shows a slight cooling between the 1870s and the late 1880s. The mean temperature prevailing between 1851 and the late 1870s was similar to that of the 1900s and 1910s. Around 1920, a rapid warming took place and the period 1921-1984 was about 0.4°C warmer than the earlier period 1851-1920. Most of the warming between 1921 and 1984 took place over the periods 1921 to 1940 and 1965 to 1984. A cooling of about 0.28°C is evident between 1940 and 1965. The magnitude of this cooling in the present analysis is considerably smaller than in the earlier analyses of Vinnikov et al. (1980), Hansen et al. (1981) and Jones et al. (1982), amounting to about 0.38°C in those studies.

There is no doubt that further errors could be eliminated from the data set, but not without considerable effort. For studies of hemispheric-scale temperature variations the consistency between various independent data sets (upper air data, marine data and surface station data) attests to the

reliability of the data set produced here (see Wigley et al., 1985).
Further discussion of the data set is given in Jones et al. (1985).

REFERENCES

- Borzenkova, I.I., K.Ya. Vinnikov, L.P. Spirina and D.J. Stekhnovskii, 1976: Change in air temperature of the Northern Hemisphere for the period 1881-1975. Meteorologiya i Gidrologiya, 1976, No. 7, 27-35 (in Russian).
- Bradley, R.S., and P.D. Jones, 1985: Data bases for detecting CO₂-induced climatic change. (In) U.S. Department of Energy State of the Art Report on the Detection of Climatic Change, U.S. Dept. of Energy Carbon Dioxide Research Division, Washington, D.C. (to be published).
- Bradley, R.S., P.M. Kelly, P.D. Jones, H.F. Diaz and C. Goodess, 1985: A climatic data bank for the Northern Hemisphere land areas, 1851-1980. DoE Technical Report No. TR017, U.S. Dept. of Energy Carbon Dioxide Research Division, Washington, D.C., 335 pp.
- Cayan, D.R., and A.V. Douglas, 1984: Urban influences on surface temperatures in the Southwestern United States during recent decades. J. Climate and Applied Meteorology, 23, 1520-1530.
- Conrad, V., and Pollak, L.D. 1962: Methods in Climatology. Harvard University Press, Cambridge, Mass., 459 pp.
- Dronia, H., 1967: Der Städtteeinfluss auf den weltweiten Temperaturtrend (On Urban influences on worldwide temperature trends.) Meteor. Abh. Berlin 74(4), 68 pp. (In German.)
- Elisaesser, H.W., M.C. MacCracken and J.J. Walton, 1985: Global climatic trends as revealed by the recorded data. Reviews of Geophysics and Space Physics (in press).
- Goodess, C.M., M. Wigzell and P.M. Kelly, 1985: The design of a climate data bank and information retrieval system. Proc. Tenth Northern Libraries Colloquy, Centre for Cold Oceans Resources Engineering (C-CORE) Special Report, Memorial University of Newfoundland, St John's (in press).
- Hansen, J.E., D. Johnson, A. Lacis, S. Lebedeff, P. Lee, D. Rind and G. Russell, 1981: Climatic impact of increasing atmospheric carbon dioxide. Science, 213, 957-966.
- Jenne, R. 1975: Data sets for meteorological research. NCAR-TN/JA-111. National Center for Atmospheric Research, Boulder, 194 pp.
- Jones, P.D., T.M.L. Wigley and P.M. Kelly, 1982: Variations in surface air temperatures: Part 1. Northern Hemisphere, 1881-1980. Monthly Weather Review, 110, 59-72.
- Jones, P.D., S.C.B. Raper, R.S. Bradley, H.F. Diaz, P.M. Kelly and T.M.L. Wigley, 1985: Northern Hemisphere Surface Air Temperature Variations 1851-1984. Journal of Climate and Applied Meteorology (in press).

- Kellogg, W.W. and Bojkov, R.D. (Eds.), 1982: Report of JSC/CAS Meeting of Experts on Detection of Possible Climate Change, WCP-29, World Meteorological Organization, Geneva.
- Kukla, G.J., J. Gavin and T.R. Karl, 1985: Impact of urban heating on recent temperature trends in eastern and central North America. Preprints, Third Conference on Climate Variations and Symposium on Contemporary Climate: 1850-2100, 23-24. American Meteorological Society, Boston, Mass.
- Landsberg, H.E., 1981: The Urban Climate. Academic Press, New York, 275 pp.
- Mitchell, J.M. Jr, 1953: On the causes of instrumentally observed secular temperature trends. Journal of Meteorology, 10, 244-261.
- Robock, A., 1982: The Russian surface temperature data set. Journal of Applied Meteorology, 21, 1781-1785.
- Sharov, V.Ya. (Ed.), 1960-1967: Maps of Air Temperature Deviations from Long-Term Means for the Northern Hemisphere, No. 1-4, Main Geophysical Observatory, Leningrad. (In Russian.)
- Smithsonian Institution, 1927, 1935, 1947: World Weather Records, Smithsonian Inst. Miscellaneous Collections, Vols. 79, 90 and 104. Smithsonian Inst., Washington, D.C.
- U.S. Weather Bureau, 1959-1982: World Weather Records, 1941-50 (1361 pp.), 1951-60 (Vols. 1-6), 1961-70 (Vols. 1-6). U.S. Department of Commerce, Washington, D.C.
- Vinnikov, K.Ya., 1977: Procedures for acquisition and interpretation of data on the variations of Northern Hemisphere surface air temperature during 1881-1975. Meteorologiya i Gidrologiya, 1977, No. 9, 110-114. (In Russian.)
- Vinnikov, K.Ya., G.V. Gruza, V.F. Zakharov, A.A. Kirillov, N.P. Kovyneva and E.Ya. Rankova, 1980: Contemporary variations of the Northern Hemisphere climate. Meteorologiya i Gidrologiya, 1980, No. 6, 5-17 (in Russian).
- Wigley, T.M.L., J.K. Angell and P.D. Jones, 1985: Analysis of the temperature record. (In) U.S. Department of Energy State of the Art Report on the Detection of Climatic Change, U.S. Dept. of Energy Carbon Dioxide Research Division, Washington, D.C. (to be published).
- Yamamoto, R., 1981: Change of global climate during recent 100 years. Proc. of the Technical Conference on Climate - Asia and Western Pacific, 15-20 Dec. 1980, Guangzhou, China. WMO Report No. 578, Geneva.
- Yamamoto, R., and M. Hoshiai, 1980: Fluctuations of the Northern Hemisphere mean surface air temperature during recent 100 years estimated by optimum interpolation. J. Meteor. Soc. Japan, 58, 187-193.

APPENDIX A

Station History Information and Homogeneity Assessment Details

Column Headings

Line 1:

WMO Number (generally with additional 0)
Station Name
Country
Latitude
Longitude
Height
First year of data (In some cases this may be the first year with
precipitation data. Temperature data starts later.)
Last year of data
Quality code
First reliable year of data

Line 2:

Source: Codes used by Bradley et al. (1985)

Subsequent lines:

Notes and homogeneity details.

Additional Information

Missing Codes:

Latitude - 999
Longitude - 1999
Height - 999

Quality Code:

First Digit

1 - Reliable back to first reliable year
2 - Corrected back to first reliable year
4 - Affected by urban warming
5,8 - Non-homogeneous and uncorrectable
6 - Not compared with neighbouring stations
7 - Reliable back to first reliable year, uncorrectable for earlier
years

Second Digit

0 - Record 90% complete
1 - Short record of less than 20 years
2 - Record less than 90% complete, generally containing many years of
missing data
3 - Antique record with data almost entirely from the nineteenth
century or earlier

- 010010: JAN MAYEN NORWAY 71.0N 8.4W 9m 1921-1980 10 1921
Sources: AI
- Notes: AI: 1921-1950; Koppen formula, $m = n - k(n - \min)$, where n is the mean of 3 daily observations, k is a seasonally dependent factor & \min is the mean min temp. 1921-1948; $n = 1/3(08 + 14 + 19)$ 15E meridian time. 1949-1950; $n = 1/3(07 + 14 + 19)$ 15E meridian time. 1921-Aug 1940; site unknown.
May-July 1941; 71 00' N 8 25' W, alt = 15m. July-Sept 1941; 71 00' N 8 21' W, alt = 28m. Sept 1941-Sept 1943; 71 00' N 8 26' W, alt = 28m. Sept 1943-Aug 1946; 21m. Aug 1946-Sept 1949; 71 01' N 8 26' W, alt = 5m. Sept 1949-1950; 71 01' N 8 25' W, alt = 39m. 1951-1960; $n = 1/3(06 + 12 + 18)$ GMT. 71 01' N 8 28' W, alt = 39m. 1961-1970; 70 57' N 8 40' W, alt = 9m. Reliability: compared with 010250 & 010280 for the years 1921-1980 & 1951-1980.
- 010050: ISFJORD RADIO NORWAY 78.0N 14.2E 9m 1912-1979 10 1912
Sources: AI
- Notes: AI: 1931-1937; means of 3 daily observations taken at 08, 14 & 19h Central European Time, calculated by the Koppen Formula, $m = n - k(n - \min)$, where n is the mean of the daily observations, k is a seasonally dependent factor & \min is the mean min temp. 1931-Aug 1934; Svalbard Radio, 78 13' N 15 38' E, alt = 53m. Sept 1934-Dec 1937; Isfjord Radio, 78 04' N 13 38' E, alt = 11m. 1938-1941; alt = 8m. 1946-1950; 78 04' N 13 38' E, alt = 9m. 1948-1950; $n = 1/3(07 + 14 + 19)$ 15E meridian time. 1951-June 1958; 78 04' N 13 38' E, alt = 7m. Station moved 60m NW in June 1958 to an alt of 6m. 1951-1960; $n = 1/3(06 + 12 + 18)$ GMT. Reliability: compared with 010280 & 010250 for the years 1951-1979 & 1912-1979.
- 010100: ANDENES NORWAY 69.3N 16.2E 1868-1955 10 1868
Sources: AI36
- Notes: AI36: Alt = 5m. Instruments may have changed Aug 1924. No other details available. Reliability: compared with 010250 for the years 1868-1955.
- 010250: TROMO/SKATTO NORWAY 69.5N 19.0E 11m 1856-1980 12 1876
Sources: AI, A36, AI36
- Notes: Station was also known as Skattora. AI: Alt; 1951-1960 = 24m, 1961-1970 = 19m. Means are from Koppen formula, $m = n - k(n - \min)$, where n is the mean of 3 observations made at 06, 12 & 18 GMT, k is a factor appropriate to the station & season & \min is the mean min temp. In 1964 Skattora, 69 42' N 19 00' E, was replaced by Langnes, 69 41' N 18 55' E, alt = 10m. A36: "True" means. No other details available. AI36: 1867-1926; Gyllenborg, 69 39' N 18 58' E, alt = 45m. 1920-1955; Geofysisk Institutt, 69 39' N 18 57' E, alt = 102m. Reliability: compared with 010650 & 010980 for the years 1876-1970 & 1856-1980. Data gap 1881-1920.
- 010280: BJORNOVA NORWAY 74.5N 19.0E 14m 1951-1980 10 1951
Sources: AI
- Notes: AI: 1951-1970; Koppen formula, $m = n - k(n - \min)$, where $n = 1/3(06 + 12 + 18)$ GMT, k is a seasonally dependent factor & \min is the mean min temp. 74 31' N 19 01' E, alt = 15m. 1961-1964; alt = 16m. Reliability: compared with 010010 for the years 1951-1980.
- 010490: ALTA NORWAY 70.0N 23.2E 1871-1939 10 1871
Sources: AI36
- Notes: AI36: Alt = 14m. Instruments may have changed Nov 1924. No other details available. Reliability: compared with 010250 for the years 1871-1939.
- 010530: HAMMERFEST NORWAY 70.7N 23.7E 1848-1863 63
Sources: A35
- Notes: A35: Anomalies from memo (no years given). No other details available. Reliability: uncheckable.
- 010620: HOPEN NORWAY 76.5N 25.1E 1947-1959 10 1947
Sources: AI36
- Notes: AI36: No details available. Reliability: compared with 010650 for the years 1947-1959.
- 010650: KARASJOK NORWAY 69.5N 25.5E 133m 1876-1970 10 1876
Sources: AI, AI36
- Notes: AI: 1901-June 1920; $1/3(07 + 13 + 19)$ GMT. July 1920-1948, $1/3(07 + 13 + 18)$ GMT. Jan-June 1949; $1/3(07 + 12 + 18)$ GMT. July 1949-1970; $1/3(06 + 12 + 18)$ GMT. Means were calculated from the Koppen formula, $m = n - k(n - \min)$ where n is the mean of the 3 daily observations, k is a factor appropriate to the station & season & \min is the mean min temp. 1931-1940; station made a few small moves, alt varied from 20 to 120m. 1961-1970; alt = 133m. AI36: 69 28' N 25 31' E, alt = 129m. No other details available. Reliability: compared with 010250 & 011520 for the years 1876-1970. Some evidence for a jump in 1955, not large enough to correct given the high variability in the comparisons.
- 010920: MAKEAUR NORWAY 70.7N 30.1E 1951-1960 61
Sources: AI
- Notes: AI: 1951-1960; Koppen formula, $m = n - k(n - \min)$, where $n = 1/3(06 + 12 + 18)$ GMT, k is a seasonally dependent factor & \min is the mean min temp. 70 42' N 30 05' E, alt = 11m. Reliability: uncheckable.
- 010980: VARDØ NORWAY 70.4N 31.1E 15m 1829-1980 12 1829
Sources: AI, A36, AI36
- Notes: AI: 1881-1940; means from Koppen formula, $m = n - k(n - \min)$, where n is mean of 3 daily observations (08, 14 & 20 15E meridian time since 1903), \min is mean of daily \min & k is a factor, which differs for each month. 1931-1943; alt = 10m. In 1944 Sletnes, 71 05' N 28 14' E, was replaced by Vardo, 70 22' N 31 06' E, alt = 14m. 1941-1948; Koppen formula, $n = 1/3(08 + 14 + 19)$. 1949-1950, $n = 1/3(07 + 14 + 19)$. 1951-1970; alt = 15m. $n = 1/3(06 + 12 + 18)$ GMT. A36: Alt; 10m. Koppen formula, see AI. 1829-1870; $n = 1/3(08 + 14 + 20)$. 1871-1880; $n = 1/3(08 + 13 + 20)$ Oslo Time. AI36: 70 22' N 31 06' E, alt = 13m. Reliability: compared with 010280, 010650 & 011520 for the years 1856-1980, 1876-1970 & 1868-1980. Data gaps 1831-1839 & 1881-1940.

- 011120: BRONNOYSUND NORWAY 65.6N 12.3E 1870-1955 10 1870
Sources: A115, A136
- Notes: A115: No details available. A136: 1869-1951; 65° 28' N 12° 12' E, alt = 4m. 1948-1955; Kshaugen, 65° 29' N 12° 13' E, alt = 13m. Reliability: compared with 011520 for the years 1870-1955.
- 011520: RODO NORWAY 67.3N 14.4E 13m 1868-1980 10 1868
Sources: A1
- Notes: A1: 1868-1920; means of (hours not given). Alt: 20m. 1921-1930; true means $m = n - k(n - \min)$, where \min is daily \min , n is $1/3(08 + 14 + 20)$ and k is a coefficient whose monthly values are given on p55, Vol 79. In 1928 the station moved from 67° 17' N 14° 24' E, to 67° 17' N 14° 26' E. The alt became 17m. Temp from 1928 on is reduced to the old station as there is a marked difference between data. NB. Observations are all at 15E meridian time. 1941-1948; $n = 1/3(08 + 14 + 19)$, 1949-1950 = $1/3(07 + 14 + 19)$ 15E meridian time. 1951-1970 = $1/3(06 + 12 + 18)$ GMT. Sites: 1941-April 1943; 67° 17' N 14° 26' E, alt = 17m, April 1943-1947; 67° 17' N 14° 28' E, 35m. 1948-June 1949; 67° 17' N 14° 25' E, 17m. In Dec 1953 moved 500m S, alt = 10m. 1951-May 1953; alt = 19m, 1961-1970; 67° 16' N 14° 22' E, 13m. Reliability: compared with 010250, 010650 & 012420 for the years 1868-1980, 1876-1970 & 1871-1955.
- 012120: OMA NORWAY 62.9N 6.6E 1868-1955 10 1868
Sources: A136
- Notes: A136: No details available. Reliability: compared with 012580 for the years 1868-1955.
- 012410: ORLAND NORWAY 63.7N 9.6E 7m 1951-1980 10 1951
Sources: A1
- Notes: A1: 1951-1970; Koppen formula, $m = n - k(n - \min)$, where $n = 1/3(06 + 12 + 18)$ GMT, k is a seasonally dependent correction factor & \min is the mean winter temp. 1951-1954; Orland II. 1954-1970; Orland III, 2km W of previous site, 63° 42' N 9° 37' E, alt = 7m. Reliability: compared with 012580, 021270 & 022260 for the years 1951-1980. Some evidence of a small trend in comparison with Trondheim.
- 012420: MOROS NORWAY 62.6N 11.4E 628m 1871-1955 10 1871
Sources: A136
- Notes: A136: Alt: 628m. No other details available. Reliability: compared with 011520 & 012710 for the years 1871-1955. Some slight evidence for a warming trend seen in Trondheim comparison.
- 012580: TRONDHEIM/TTHOLT NORWAY 63.4N 10.5E 115m 1761-1980 10 1761
Sources: A1, A36, A136
- Notes: A1: Alt: 133m. Means from Koppen formula, $m = n - k(n - \min)$, where n is the mean of 3 observations at 06, 12 & 18 GMT, k is a factor appropriate to the station & season & \min is the mean winter temp. 1951-1967; 63° 25' N 10
- Z' E, alt = 133m. A36: Temp; "True" means. Press; "True" means, reduced to sea level. A136: 1870-1944; 63° 28' N 10° 25' E, alt = 58m. 1923-1955; Vøll, 63° 25' N 10° 27' E, alt = 127m. Reliability: compared with 011520 & 023610 for the years 1868-1969 & 1859-1969. Station merged with 012710 & 012587.
- 013130: HELLISOY FYR NORWAY 60.8N 4.7E 20m 1867-1955 10 1867
Sources: A136
- Notes: A136: Alt: 20m. No other details available. Reliability: compared with 013160 & 014040 for the years 1867-1955. Some evidence of a trend prior to 1900, but very small in scale.
- 013160: BERGEN/FREDRIKSBERG NORWAY 60.4N 5.3E 44m 1816-1980 10 1816
Sources: A1, A35, A89, A136
- Notes: A1: 1816-1950; Temp is reduced to a uniform series by Birkeland, through an intercomparison of stations in Norway with long-term records. From 1861 the following formula was used; $m = n - k(n - \min)$, where n is the mean of 3 daily observations (08, 14 & 20 15E meridian time, since 1903), \min is the mean of the daily minima & k is a factor which differs for each month. The means of preceding years were determined from observations of several different observers & were made to conform as nearly as possible with the means after 1861. 1920-1948; $n = 1/3(08 + 14 + 19)$ 15E MT, 1949-1950 = $1/3(07 + 14 + 19)$ 15E MT, 1951-1970 = $1/3(06 + 12 + 18)$ GMT. 1961-1970; 4m. A35: No details available. A89: No details available. A136: 1861-1926, Pleistiftelena, 60° 23' N 5° 21' E, 20m. 1903-1955, Fredriksberg, 60° 24' N 5° 19' E, 43m. Reliability: compared with 013130 & 014040 for the years 1867-1955.
- 013C40: OSLO/GARDERMOEN NORWAY 60.2N 11.1E 203m 1951-1980 81
Sources: A1
- Notes: A1: Koppen formula, $m = n - k(n - \min)$, where $n = 1/3(06 + 12 + 18)$ GMT, k is a seasonally dependent correction factor & \min is the mean winter temp. In July 1951 station moved 970m NW. The thermometer moved 56m & the rain gauge 45m SW in Oct 1952. Jan-Aug 1951; alt = 204m. Aug 1951-Oct 1965; 60° 12' N 11° 05' E, alt = 202m. Nov 1966-1970; alt = 204m. Instruments moved 20m NW from previous site. Reliability: compared with 014150, 014920 & 024180 for the years 1951-1980. Definite trend, shown in all comparisons.
- 014040: UTSTIRA NORWAY 59.3N 4.9E 55m 1867-1955 10 1867
Sources: A136
- Notes: A136: Alt: 55m. No other details available. Reliability: compared with 013130 & 013160 for the years 1867-1955.
- 014090: FERDER NORWAY 59.0N 10.5E 6m 1885-1955 10 1885
Sources: A136
- Notes: A136: Alt: 6m. No other details available. Reliability: compared with 014920 for the years 1885-1955.

014150: STAVANGER/SOLA NORWAY 58.9N 5.6E 8m 1951-1980 10 1951
Sources: A1

Notes: A1: 1951-1960; Koppen formula, $m = n - k(n - \text{min})$, where $n = 1/3(06 + 12 + 18)$ GMT, k is a seasonally dependant factor & min is the mean min temp. 58° 53' N 5° 38' E, alt = 8m. 1961-1970; alt = 9m. Reliability: compared with 014920 & 024180 for the years 1951-1980.

014720: TORUNGEN FYR NORWAY 58.4N 8.8E 12m 1867-1955 10 1867
Sources: A136

Notes: A136: Alt; 12m. No other details available. Reliability: compared with 014920 for the years 1885-1955.

014920: OSLO/GARDERMOEN NORWAY 59.9N 10.7E 96m 1816-1980 20 1816
Sources: A1, A35

Notes: A1: 1816-1920; means of 3 or 5 daily obs. + C. In later years 08 14 & 19/20 GMT. Alt; 25m. 1920-1970; Koppen formula, $m = n - k(n - \text{min})$, where n is mean of 3 daily obs. & k is factor different for each month. 1920-40; $n = 1/3(08 + 13 + 20)$, 1941-48; $1/3(08 + 14 + 19)$, 1949-50; $1/3(07 + 14 + 19)$, all 15E MT. 1951-70; $1/3(07 + 12 + 18)$ GMT. Replaced by Blaudern, 59° 56' N 10° 44' E, in 1937, corrections on p32, vol 103. 1941-50; alt; 96m. Jan-Aug 1951; 204m, Aug 1951-1960; 202m. Moves; 970m NW in July 1951, Oct 1952, Nov 1966 moved 20m NW to 204m. A35: No details available. Reliability: compared with 014090, 014720, 014150 & 024180 for the years 1885-1955, 1867-1955, 1951-1980 & 1951-1980. Corrected for site change. Correction Factors: Stations used: 014090 & 014720. Calculation dates: 1890-1940 & 1941-1955. Correction dates: 1816-1940. Factors: -7 -5 -3 -4 -6 -5 -4 -2 -7 -8 -5.

020570: LULEA/KALLAX SWEDEN 65.6N 22.1E 16m 1951-1970 10 1951
Sources: A1

Notes: A1: 1951-1970; $0.01(\text{pt7} + \text{qt13} + \text{rt19} + \text{stn})$ where $t7$, $t13$ & $t19$ are the monthly means of 07, 13 & 19h temps & stn is the mean min. $s = 0$ for Jan-Mar & for Oct-Dec. Values for the constants P , q , r & s are given on p385, vol 2 & p313, vol 2. 65° 33' N 22° 08' E, alt = 16m. Reliability: compared with 028970 for the years 1951-1970.

020760: UPPSALA SWEDEN 59.9N 17.6E 15m 1739-1976 12 1855
Sources: A1, A14, A35, A67, A68

Notes: A1: 1855-1862; $1/4(07 + 14 + 21 + 21)$. 1863-May 1865; $1/3(08 + 14 + 21)$, calculated by Ekholm's formula. June 1865-1950; means of 24 hours, 15E meridian time. Alt; 1855-1950 = 24m, 1951-1960 = 15m, 1961-1970 = 14m. 1951-1970; $0.01(\text{pt7} + \text{qt13} + \text{rt19} + \text{stn})$, where $t7$, $t13$ & $t19$ are the monthly means of the 07, 13 & 19h temps & stn is the monthly mean min temp. $s = 0$ for Jan-Mar & for Oct-Dec. Values for the constants P , q , r & s are given on p385, vol 2. A14: Alt; 24m. No other details available. A35: No details available. A67: Alt; 24m. No other details available. A68: No details available. Reliability: compared with 024640 & 029740 for the years 1756-1970 & 1829-1970. Data gaps 1758-1836 & 1846-1854. 1739-1757 period is difficult to check.

020800: KARESHANDO SWEDEN 66.3N 22.5E 327m 1830-1980 72 1951
Sources: A1, A35, A67, A68

Notes: A1: Alt; 1879-1950 = 333m, 1951-1970 = 327m. In June 1945 the station was moved, but with no alt change. Means; $0.01(\text{pt7} + \text{qt13} + \text{rt19} + \text{stn})$, where $t7$, $t13$ & $t19$ are the monthly means of the 07, 13 & 19h temps & stn is the monthly mean min temp. $s = 0$ for Jan to Mar & for Oct to Dec. Values for the constants P , q , r & s are given on p385, vol 2. Rain gauge moved in June 1945, no details given. A35: No details available. A67: Alt = 333m. No other details available. A68: No details available. Reliability: compared with 028360, 021960 & 010250 for the years 1951-1980, 1951-1980 & 1856-1980. Data gap 1839-1950. 1830-1839 difficult to check.

021270: STENSELE SWEDEN 65.1N 17.2E 327m 1860-1980 10 1951
Sources: A1, A67, A68

Notes: A1: Means of $0.01(\text{pt7} + \text{qt13} + \text{rt19} + \text{stn})$, where $t7$, $t13$ & $t19$ are the monthly means of the 07, 13 & 19h temps & stn is the monthly mean min temp. $s = 0$ for Jan-Mar & for Oct-Dec. Values for the constants P , q , r & s are given on p385, vol 2. Alt; 1951-1960 = 330m, 1961-1970 = 327m. A67: Alt; 328m. No other details available. A68: No details available. Reliability: compared with 012580 for the years 1951-1980.

021420: JOCKMOCK SWEDEN 66.6N 19.9E 255m 1860-1910 12 1860
Sources: A67, A68, A69

Notes: A67: Alt; 255m. No other details available. A68: No details available. A69: No details available. Reliability: compared with 021960 for the years 1860-1907.

021960: HAPARANDA SWEDEN 65.8N 24.2E 7m 1860-1980 10 1860
Sources: A1, A67, A68

Notes: A1: 1860-1946; Means of 08, 14 & 21h computed by Ekholm's formula (a reference to this is given on p56, vol 79). Time is 15E meridian. Alt; 9m. In Aug 1942 the station moved from 65° 50' N 27° 09' E to 65° 50' N 24° 09' E, alt = 7m. 1947-1960; means of $1/3(07 + 13 + 19)$ 15E meridian time, by Ekholm's formula. 1961-1970; means = $0.01(\text{pt7} + \text{qt13} + \text{rt19} + \text{stn})$, where $t7$, $t13$ & $t19$ are the monthly means of the 07, 13 & 19h temps, stn is the monthly mean min temp. $s = 0$ for Jan-Mar & for Oct-Dec. Values for the constants P , q , r & s are given on p385, vol 2. A67: Site; 65° 50' N 24° 09' E. 1860-1885; alt = 9m, 1886-1904 = 3m, 1905-1910 = 2m. A68: No details available. Reliability: compared with 028360 for the years 1908-1980.

022260: OSTERGUND SWEDEN 63.2N 14.7E 1862-1980 10 1951
Sources: A1, A67, A68

Notes: Station was also known as Frosön. A1: Alt; 1874-1920 = 310m, 1921-1950 = 330m, 1951-1960 = 297m, 1961-1970 = 347m. Means; $0.01(\text{pt7} + \text{qt13} + \text{rt19} + \text{stn})$, where $t7$, $t13$ & $t19$ are the monthly means of the 07, 13 & 19h temps, stn is the monthly mean min temp. $s = 0$ for Jan-Mar & for Oct-Dec. Values for the constants P , q , r & s are given on p385, vol 2. Station moved in May 1948. 1951-Jan 1956; alt = 338m, Feb-Mar 1956 = 297m, April 1956-April 1957 = 388m, April 1957-1960 = 297m, 1961-Aug 1965 = 297m, Sept 1965-April

1967 = 320m, April 1967-1970 = 347m. A67: Alt = 308m. No other details available. A68: No details available. Reliability: compared with 012580 for the years 1951-1980.

02790: UMEA SWEDEN 63.8N 20.3E 12m 1796-1910 63
Sources: A35, A67, A68

Notes: A35: Alt; 65m. No other details available. A67: Alt; 12m. No other details available. A68: No details available. Reliability: uncheckable.

021610: HARNOSAND SWEDEN 62.6N 18.0E 8m 1859-1980 10 1859
Sources: A1, A67, A68, A69

Notes: A1: Alt; 8m. Means of $0.01(pt7 + qt13 + rt19 + stn)$, where $t7$, $t13$ & $t19$ are the monthly means of the 07, 13 & 19h temps, tn is the monthly mean min temp. $s = 0$ for Jan-Mar & for Oct-Dec. Values for the constants p , q , r & s are given on p385, vol 2. A67: Alt; 15m. No other details available. A68: No details available. A69: No details available. Reliability: compared with 011520 & 012710 for the years 1868-1980 & 1859-1969. Data gap 1908-1950.

024180: KARLSTAD SWEDEN 59.4N 13.5E 55m 1861-1980 10 1951
Sources: A1, A14, A67, A68

Notes: A1: Alt; 47m. Means: $0.01(pt7 + qt13 + rt19 + stn)$, where $t7$, $t13$ & $t19$ are the monthly means of the 07, 13 & 19h temps, tn is the monthly mean min temp. $s = 0$ for Jan-Mar & for Oct-Dec. Values for the constants p , q , r & s are given on p385, vol 2. A14: Alt; 55m. No other details available. A67: Alt; 50m. No other details available. A68: No details available. Reliability: compared with 024640, 025500 & 025900 for the years 1951-1980.

024360: OREBO SWEDEN 59.3N 15.2E 33m 1859-1976 83
Sources: A14, A67, A68, A69

Notes: A14: Alt; 33m. No other details available. A67: Alt; 32m. No other details available. A68: No details available. A69: No details available. Reliability: compared with 024640, 025760 & 026040 for the years 1859-1907. Record appears to have a trend and a definite jump at 1900/1901.

024640: STOCKHOLM SWEDEN 59.4N 18.1E 52m 1756-1980 10 1756
Sources: A1, A8, A35, A67, A68, A69

Notes: Station was also known as Bromma. A1: Means of $0.01(pt7 + qt13 + rt19 + stn)$, where $t7$, $t13$ & $t19$ are the monthly means of the 07, 13 & 19h temps, tn is the monthly mean min temp. $s = 0$ for Jan-Mar & for Oct-Dec. Values for the constants p , q , r & s are given on p385, vol 2. Alt: 1951-Mar 1959 = 44m, Mar 1959-1970 = 52m. A8: No other details available. A35: No details available. A67: Alt; 44m. No other details available. A68: No details available. A69: No details available. Reliability: compared with 020760, 029720 & 029740 for the years 1756-1970, 1756-1980 & 1829-1980.

024707: KLEVDZBURG SWEDEN 60.0N 18.2E 621m 1823-1849 33 1823
Sources: A35

Notes: A35: Alt; 621m. No other details available. Reliability: uncheckable.

025120: COTHENBURG/SAVE SWEDEN 57.7N 12.0E 31m 1951-1980 81
Sources: A1, A14, A67, A68

Notes: A1: Alt; 31m. Means = $0.01(pt7 + qt13 + rt19 + stn)$, where $t7$, $t13$ & $t19$ are monthly means of 07, 13 & 19h temps, tn is the monthly mean min temp. $s = 0$ for Jan-Mar & for Oct-Dec. Values for the constants p , q , r & s are given on p385, vol 2. A14: Alt; 4m. No other details available. A67: Alt; 9m. No other details available. A68: No details available. Reliability: compared with 025500 & 024180 for the years 1951-1980. Definite trend 1960-1980.

025140: TORSLANDA SWEDEN 57.7N 11.8E 1961-1969 61
Sources: A1

Notes: A1: 1961-1970; means of $0.01(pt7 + qt13 + rt19 + stn)$ where $t7$, $t13$ & $t19$ are monthly means of 07, 13 & 19h temps, tn is the monthly mean min temp. $s = 0$ for Jan-Mar & for Oct-Dec. Values for constants p , q , r & s are given on p314, vol "1961-1970". 57 43'N 11 47'E, alt = 6m. Reliability: uncheckable.

025500: JONKOPING SWEDEN 57.8N 14.2E 232m 1951-1980 10 1951
Sources: A1, A14, A67, A68

Notes: A1: 1951-1970; Alt = 99m. Means of $0.01(pt7 + qt13 + rt19 + stn)$, where $t7$, $t13$ & $t19$ are the monthly means of the 07, 13 & 19h temps, tn is the monthly mean min temp. $s = 0$ for Jan-Mar & for Oct-Dec. Values for the constants p , q , r & s are given on p385, vol 2. A14: Alt; 98m. No other details available. A67: Alt; 94m. No other details available. A68: No details available. Reliability: compared with 024180 & 024640 for the years 1951-1980. 1980 is suspect being 1C cooler than surrounding stations.

025760: VASTERVIK SWEDEN 57.8N 16.6E 9m 1859-1976 10 1859
Sources: A14, A68, A69

Notes: A14: Alt; 9m. No other details available. A68: No details available. A69: No details available. Reliability: compared with 024640 for the years 1859-1907.

025900: VISBY SWEDEN 57.7N 18.3E 28m 1861-1980 10 1951
Sources: A1, A14, A67, A68

Notes: A1: Alt; 28m. Means of $0.01(pt7 + qt13 + rt19 + stn)$, where $t7$, $t13$ & $t19$ are monthly means of the 07, 13 & 19h temps, tn is the mean monthly min temp. $s = 0$ for Jan-Mar & for Oct-Dec. Values for the constants p , q , r & s are given on p385, vol 2. A14: Site; 57.5N 18.3E. No other details available. A67: Alt; 11m. No other details available. A68: No details available. Reliability: compared with 024180 & 024640 for the years 1951-1980.

026180: HALMSTAD SWEDEN 56.7N 12.9E 64m 1859-1976 10 1859
Sources: A14, A67, A68, A69

Notes: A14: Alt: 64m. No other details available. A67: Alt: 6m. No other details available. A68: No details available. A69: No details available. Reliability: compared with 024640 for the years 1859-1907.

026180: LUND SWEDEN 55.7N 13.2E 73m 1748-1976 63
Sources: A14, A35, A67, A68

Notes: A14: Alt: 73m. No other details available. A35: No details available. A67: Alt: 35m. No other details available. A68: No details available. Reliability: uncheckable due to data gaps at other long-record stations.

028070: IVALO FINLAND 68.6N 27.4E 1961-1970 61
Sources: A1

Notes: A1: 1961-1970; 1/4(00 + 06 + 12 + 18) GMT + K. Values of K are given on p49, vol "1961-1970". 68 36'N 27 25'E, alt = 147m. Reliability: uncheckable.

028360: SODANKYLA FINLAND 67.2N 26.6E 181m 1907-1980 10 1908
Sources: A1

Notes: A1: 1951-1960; Method of obtaining the monthly mean temp is given in "Supplement to the Meteorological Yearbook of Finland.", full reference on p61, vol 2. 67 22'N 26 39'E, alt = 179m. 1961-1970; alt = 180m. 1/4(00 + 06 + 12 + 18) GMT + K. Values of K, a correction factor, are given on p49, vol 2. Reliability: compared with 021690 & 020800 for the years 1908-1980 & 1951-1980.

028440: TORNEO FINLAND 66.4N 23.8E 1801-1832 63
Sources: A35

Notes: A35: No details available. Reliability: compared with 029117 for the years 1801-1824 but considered uncheckable.

028450: ROVANIEMI FINLAND 66.6N 25.8E 1961-1970 61
Sources: A1

Notes: A1: 1961-1970; 1/4(00 + 06 + 12 + 18) GMT + K. Values of K are given on p49, vol "1961-1970". 66 34'N 25 50'E, alt = 201m. Reliability: uncheckable.

028690: KUUSAMO FINLAND 66.0N 29.2E 1961-1970 61
Sources: A1

Notes: A1: 1961-1970; 1/4(00 + 06 + 12 + 18) GMT + K. Values of K are given on p49, vol "1961-1970". 65 58'N 29 11'E, alt = 263m. Reliability: uncheckable.

028740: CARLO FINLAND 65.0N 24.7E 1817-1836 63
Sources: A35

Notes: A35: No details available. Reliability: uncheckable.

028750: ULEABORG FINLAND 64.9N 25.4E 1776-1970 62
Sources: A35

Notes: Station was also known as Oulu. A35: No details available. Reliability: compared with 021420 for the years 1860-1907. Data gap 1788-1860.

028970: KAJAANI FINLAND 64.3N 27.7E 136m 1951-1980 10 1951
Sources: A1

Notes: A1: 1951-1956; Town, 64 13'N 27 13'E, alt = 140m. 1957-1970; Airport, 64 17'N 27 41'E, alt = 136m. From 1953 means were recomputed according to the Kolki formulas. Details of these are given in "Supplement to the Meteorological Yearbook of Finland", full reference on p61, vol 2. 1961-1970; 1/4(00 + 06 + 12 + 18) GMT + K. Values of the correction factor, K, are given on p49, vol 2. Reliability: compared with 029110 & 021270 for the years 1951-1980.

029110: VAASA FINLAND 63.1N 21.8E 8m 1951-1980 10 1951
Sources: A1

Notes: A1: 1951-1960; Method of obtaining the monthly mean temp is given in "Supplement to the Meteorological Yearbook of Finland", full reference on p61, vol 2. 1951-1956; Town, 63 05'N 21 37'E, alt = 4m. 1957-1960; 63 03'N 21 46'E, alt = 6m. 1961-1970; alt = 8m. 1/4(00 + 06 + 12 + 18) GMT + K. Values of K, a correction factor, are given on p49, vol 2. Reliability: compared with 028970 & 021270 for the years 1951-1980.

029117: WORO FINLAND 63.2N 22.0E 1800-1824 63
Sources: A35

Notes: A35: No details available. Reliability: compared with 028440 for the years 1801-1824 but considered uncheckable.

029290: JOENSUU FINLAND 62.7N 29.6E 1961-1970 61
Sources: A1

Notes: A1: 1961-1970; 1/4(00 + 06 + 12 + 18) GMT + K. Values of K are given on p49, vol "1961-1970". 62 40'N 29 38'E, alt = 117m. Reliability: uncheckable.

029350: JYVASKYLA FINLAND 62.4N 25.7E 145m 1951-1980 10 1951
Sources: A1

Notes: A1: 1951-1960; 62 24'N 25 40'E, alt = 145m. The source states that the method used for obtaining means is given in "Supplement to the Meteorological Yearbook of Finland", reference on p61, vol 2. 1961-1970; 1/4(00 + 06 + 12 + 18) + K, a correction factor. Reliability: compared

with 029630 & 029720 for the years 1957-1980 & 1951-1980.

029430: TAMPERE FINLAND 61.5N 23.7E 1961-1970 61
Sources: A1

Notes: A1: 1961-1970; 1/4(00 + 06 + 12 + 18) GMT + K. Values of K are given on p49, vol "1961-1970". 61 28°N 23 44°E, alt = 86m. Reliability: uncheckable.

029580: LAPPEENRANTA FINLAND 61.1N 28.2E 1961-1970 61
Sources: A1

Notes: A1: 1961-1970; 1/4(00 + 06 + 12 + 18) GMT + K. Values of K are given on p49, vol "1961-1970". 61 03°N 28 09°E, alt = 106m. Reliability: uncheckable.

029630: JOKIOINEN FINLAND 60.8N 23.5E 103m 1951-1980 10 1957
Sources: A1

Notes: A1: 1951-1960; The method of obtaining the mean is given in "Supplement to the Meteorological Yearbook of Finland", full reference on p61, vol 2. 60 49°N 23 29°E, alt = 103m. 1961-1970; 1/4(00 + 06 + 12 + 18) GMT + K. Values for the correction factor, K, are given on p49, vol 2. 60 49°N 23 30°E, alt = 103m. Reliability: compared with 029350 & 029720 for the years 1957-1980.

029700: MAARIANRANTA FINLAND 60.1N 19.9E 1961-1970 61
Sources: A1

Notes: A1: 1961-1970; 1/4(00 + 06 + 12 + 18) GMT + K. Values of K are given on p49, vol "1961-1970". 60 07°N 19 54°E, alt = 6m. Reliability: uncheckable.

029720: TUUSK FINLAND 60.5N 22.3E 54m 1750-1980 72 1951
Sources: A1, A35

Notes: A1: 1951-1960; Method of obtaining the monthly mean temp given in "Supplement to the Meteorological Yearbook of Finland", full reference on p61, vol 2. 1951-April 1955; 60 27°N 22 12°E, alt = 16m. May 1955-1970; 60 31°N 22 15°E, alt = 54m. 1961-1970; 1/4(00 + 06 + 12 + 18) GMT + K. Values of K, a correction factor, are given on p49, vol 2. A35: No details available. Reliability: compared with 029350, 020760 & 024640 for the years 1951-1980, 1750-1970 & 1756-1980. Data gap 1762-1950.

029740: HELSINKI/SEUTULA FINLAND 60.2N 25.0E 56m 1829-1980 20 1829
Sources: A1, A28, A35

Notes: A1: 1829-1920; alt; 12m. 1921-28; 1/3(07 + 14 + 21) LT. 1927-40; 1/3(07 + 15 + 21) Eastern Europe Time corrected to means of 24 hours. 1941-50; 1/2(08 + 20) + K, 30E MT. Values of K on p32. 1951-60; alt; 12m. Method for obtaining mean is in "Supplement to the Meteorological Yearbook of Finland", reference p61. Rain measured at 08 & credited to previous day. 196.-70; alt; 56m. 1/4(00 + 06 + 12 + 18) + K, values on p49. A28: No details available. A35: No details available. Reliability: compared with 029350, 029720 & 024640 for the years 1951-1980, 1951-1980 & 1829-1980.

Corrected for a site change in 1961. Correction Factors: Stations used: 029350 & 029720. Calculation dates: 1961-1980. Correction dates: 1829-1960. Factors: -16 -10 -8 -1 1 -2 -4 -6 -9 -11 -12 -11.

030050: LEHWICK UK 60.1N 1.2W 82m 1931-1980 10 1931
Sources: A1

Notes: A1: 1/2(max + min). 1931; Coastguard, 60 09°N 1 08°W, alt = 18m. 1932; 60 09°N 1 10°W, alt = 16m. 1933-Aug 1941; 60 09°N 1 08°W, alt = 46m. Sept 1941-1960; Observatory, 60 08°N 1 11°W, alt = 82m. 1961-1970; alt = 83m. Reliability: compared with 030260 for the years 1931-1980.

030170: ORKNEY UK 59.1N 3.3W 22m 1827-1907 10 1827
Sources: A35, A39, A117

Notes: A39: Means of 1/2(max + min). Observations taken at the following sites: 1827-1884, Sandwick, 59 03°N 03 18°W, alt = 72ft. 1885-1890, Swanbister, 58 56°N 03 08°W, alt = 100ft. 1891-1906, Deerness, 58 57°N 02 45°W, alt = 150ft. A35: Observations taken at Stromness, 59.0N 3.3W, alt; 32m. Anomalies from mean (no years given). A117: Observations taken at Sandwick. Alt; 100ft. No other details available. Reliability: compared with 038997 & 031607 for the years 1856-1906 & 1827-1906.

030260: STORMWAY UK 58.2N 6.3W 3m 1931-1980 10 1931
Sources: A1

Notes: A1: 1/2(max + min). 1931-1934; 58 12°N 6 24°W, alt = 10m. 1935; alt = 24m. 1936-1942; 58 11°N 6 21°W, alt = 24m. 1943-1947; 58 13°N 6 20°W, alt = 4m. 1948-1960; alt = 3m. 1961-1970; alt = 5m. Reliability: compared with 031000 for the years 1931-1980.

030680: GORDON CASTLE UK 57.6N 3.1W 32m 1781-1975 72 1900
Sources: A8, A14, A39

Notes: A8: No details available. A14: Alt; 32m. No other details available. A39: Alt; 80ft. Temp; 1/2(08 + 15), corrected for "daily range", no details given. Press; Means at 8 a.m. reduced to 32E. Reliability: compared with 038997, 031400 & 031607 for the years 1879-1969, 1857-1975 & 1781-1960. Data gap 1827-1878. Obvious trend prior to 1900. Two smaller trends are evident, starting and ending in 1960.

030881: FORT WILLIAM UK 56.8N 5.1W 66m 1884-1903 61
Sources: A14, A29

Notes: A14: Alt; 66m. No other details available. A29: No details available. Reliability: uncheckable.

030882: BEN NEVIS UK 56.8N 5.1W 1343m 1884-1903 61
Sources: A29

Notes: A29: Alt; 1343m. No other details available. Reliability: uncheckable.

030910: ABERDEEN/DYCE UK 57.2N 2.1W 59m 1829-1980 20 1871
Sources: A1, A39
Notes: A1: 1817-1947; Means of 24 hours (photographic thermograph). Alt: 14m. Moved to Dyce in 1948. Annual average rain 1881-1915 at Aberdeen was 749mm & for Dyce estimated at 813mm. 1948-70; 1/2(max + min). Alt: Jan 1951-Dec 1952; 72m, Jan 1953-Nov 1958; 56m, Dec 1958-1960; 58m, 1961-70; 59m. Aberdeen; 57 10'N 2 06'W. Dyce; 57 12'N 2 12'W. A39; Alt: 1829-Mar 1837; 125ft, Apr 1837-Dec 1842; 50ft, 1843-1859; 70 & 90ft, 1860-1865; 95ft. Reliability: compared with 030680 & 038997 for the years 1879-1969 & 1871-1969. Corrected for move to Dyce Airport in 1948. Correction Factors: Stations used: 030680, 031400 & 031600. Calculation dates: 1948-1960. Correction dates: 1871-1947. Factors: -10 -8 -7 -3 -2 -2 0 -1 -3 -6 -9 -10.

031000: TIREE UK 56.5N 6.9W 9m 1931-1980 10 1931
Sources: A1
Notes: A1: 1/2(max + min). 1931-Oct 1942; 56 32'N 6 55'W, alt = 7m. Oct 1942-Sept 1946; 56 30'N 6 53'W, alt = 13m. Oct 1946-1970; alt = 10m. Reliability: compared with 030250 & 031620 for the years 1931-1980.

031400: GLASGOW UK 55.9N 4.3W 1857-1978 10 1857
Sources: A8
Notes: A8: No details available. Reliability: compared with 030680, 031600 & 039530 for the years 1857-1975, 1857-1960 & 1869-1978.

031540: DUMFRIES UK 55.1N 3.1W 1871-1969 70 1910
Sources: A8
Notes: A3: No details available. Reliability: compared with 031607, 038988, 038994 & 038995 for the years 1871-1960, 1871-1969, 1871-1969 & 1898-1968. Record has trends prior to 1900 and a jump in 1910.

031600: EDINBURGH/TURNHOUSE UK 56.0N 3.4W 35m 1951-1980 10 1951
Sources: A1
Notes: A1: 1961-1970; 1/2(max + min). 55 57'N 3 21'W, alt = 44m. Reliability: compared with 030910 for the years 1951-1980.

031607: EDINBURGH/ROYAL OBS. UK 55.9N 3.2W 134m 1764-1975 10 1857
Sources: A1, A8, A14, A35
Notes: A1: 1/2(max + min). Various sites prior to 1930. Royal Observatory used from 1901 for temp & from 1924 for rain. Various corrections made, see P24, vol IC. Alt: 1921-1930; 250ft, 1931-1950; 441ft, 1951-1960; 134m. 1941-1950; 1/2(max + min) GMT. 1951-1960; 1/2(max + min) read at zone time closest to 09 GMT. In 1958 moved to Turnhouse Airport. 1958-1960; alt; 35m. 1961-1970; alt; 44m. 1961-1970; max credited to previous day. A8: No details available. A14: No details available. A35: No details available. Reliability: compared with 031400 & 030680 for the years 1857-1960 & 1781-1960. Difficult to check because of data gaps at other long-term stations so rest of record may well be good.

031620: BSKDALE/KUIR UK 55.3N 3.2W 239m 1931-1980 10 1931
Sources: A1
Notes: A1: 1951-1960; 1/2(max + min). 55 19'N 3 12'W. 1931-1936; alt = 243m. 1937-1960; 262m. 1961-1970; 237m. Reliability: compared with 030260 & 031000 for the years 1931-1980.

032570: LEMING UK 54.3N 1.5W 1971-1980 61
Sources: A1
Notes: A1: 1961-1970; 1/2(max + min). No other details available. Reliability: uncheckable.

033020: VALLEY UK 53.3N 4.5W 10m 1931-1980 10 1931
Sources: A1
Notes: A1: 1/2(max + min). 53 15'N 4 32'W, alt = 12m. 1931-June 1941 data from Holyhead; 53 19'N 4 37'W, alt = 9m. Reliability: compared with 033340 for the years 1951-1980.

033210: HAWARDEN UK 53.2N 3.0W 1951-1957 61
Sources: A1
Notes: A1: 1951-1957; 1/2(max + min). 53 11'N 2 58'W, alt = 5m. Reliability: uncheckable.

033230: BIDSTON UK 53.4N 2.9W 1870-1971 70 1900
Sources: A8
Notes: A8: No details available. Reliability: compared with 033400 & 038993 for the years 1882-1971 & 1887-1969. Pre-1900 record shows a possible trend.

033340: MANCHESTER AIRPORT UK 53.4N 2.3W 77m 1786-1980 72 1951
Sources: A1, A14, A35
Notes: A1: Means of 1/2(daily max + daily min), read at 09 GMT. Alt: 1950-1960 = 76m, 1961-1970 = 84m. A14: Alt; 37m. No other details available. A35: Anomalies from mean (no years given). Site: 53.5N 2.3W. Reliability: compared with 033020, 033230 & 038994 for the years 1951-1980, 1870-1971 & 1847-1980. Data gap 1840-1950.

033400: SHEFFIELD UK 53.4N 1.5W 1882-1978 10 1882
Sources: A8
Notes: A8: No details available. Reliability: compared with 038993 for the years 1887-1969.

033770: WADDINGTON UK 53.2N .5W 68m 1951-1980 10 1951
Sources: AI

Notes: AI: 1/2(max + min). 1951-1960; 53 10'N 00 31'W, alt = 68m. 1961-1970; alt = 69m. Reliability: compared with 034970 for the years 1951-1975.

034970: GOLESTON UK 52.6N 1.7E 2m 1931-1975 10 1931
Sources: AI

Notes: AI: 1931-1970; 1/2(max + min). 1931; 52 35'N 1 43'E, alt = 4m. 1932-1965; alt = 2m. In 1966 the rain gauge height was re-assessed from 2 to 4m, no site change involved. 1961-1970; alt = 8m. Reliability: compared with 037430 & 038900 for the years 1931-1960 & 1931-1975.

035340: BIRMINGHAM/ELMDON AP UK 52.5N 1.7W 96m 1951-1980 10 1951
Sources: AI

Notes: AI: 1961-1970; 1/2(max + min). 52 27'N 1 44'W, alt = 100m. Reliability: compared with 033340 for the years 1951-1980.

016970: FELLISTONE UK 52.0N 1.2E 3m 1931-1960 8I
Sources: AI

Notes: AI: 1931-1960; 1/2(max + min). 51 57'N 1 20'W, alt = 5m. 1940-1960; alt = 3m. Reliability: compared with 034970, 037430 & 038900 for the years 1931-1960. Record shows a definite warming trend.

037150: GLANBEGAN/BHOOSE APT UK 51.4N 3.4W 67m 1961-1980 10 1961
Sources: AI

Notes: AI: 1961-1970; 1/2(max + min). 51 25'N 3 21'W, alt = 70m. Reliability: compared with 033020 for the years 1961-1980.

037430: LARKHILL UK 51.2N 1.8W 131m 1931-1960 10 1931
Sources: AI

Notes: AI: 1931-1942; 51 11'N 1 48'W, alt = 134m. 1943-1957; alt = 131m. 1958-1960; 51 12'N 1 48'W, alt = 131m. 1/2(max + min). Reliability: compared with 038900 & 038270 for the years 1931-1960.

037750: KEN UK 51.5N .3W 5m 1697-1980 40
Sources: AI, A6, A14

Notes: AI: 1941-1950; Means of 24 hours. 1951-1970; 1/2(daily max + daily min). Alt; 1951-1960 = 5m, 1961-1970 = 10m. Rain is read at 09 GMT & credited to the previous day. A6: No details available. A14: Alt; 5m. No other details available. Reliability: compared with 038900 & 038996 for the years 1872-1969 & 1871-1969. Definite urban warming trend apparent, especially after 1945.

037760: LONDON/GATWICK APT UK 51.2N .2W 59m 1961-1980 10 1961
Sources: AI

Notes: AI: 1961-1970; 1/2(max + min). 51 09'N 0 11'W, alt = 60m. Reliability: compared with 038620 for the years 1961-1980.

037837: GREENWICH/MARITIME M UK 51.5N .0W 7m 1763-1969 80
Sources: AI, A6, A35, A43, A117

Notes: AI: 1841-Dec 1848; means of 12 obs. 1849-1933; means of hourly values from photographic thermograph reduced using dry-bulb thermometer which moved in Jan 1899. Other minor changes occurred in 1846 & 1863. Further site details on p46, vol 79. 1934-1949; 1/2(max + min), corrected to means of 24 hours, see p28, vol 105. 1949-60; 1/2(max + min). Site moved May 1951 from 46 to 7m. Earlier obs. not comparable. A6: No details available. A35: No details available. A43: "Real" means. Alt; 49m. A117: Alt; 158ft. No other details available. Reliability: Compared with 038900 & 038996 for the years 1872-1969 & 1871-1969. Record has a jump around 1950 which has not been corrected.

037897: SOUTHWAMPTON UK 50.9N 1.4W 1855-1978 40
Sources: A6

Notes: A6: No details available. Reliability: compared with 037898, 038270 & 038900 for the years 1877-1975, 1865-1978 & 1855-1978.

037898: ROSS-ON-WYE UK 51.9N 2.6W 1877-1975 10 1877
Sources: A6

Notes: A6: No details available. Reliability: compared with 038270, 038900 & 038996 for the years 1877-1975, 1877-1975 & 1877-1969.

038247: TURO UK 50.3N 5.1W 1851-1900 80
Sources: A43

Notes: A43: "Real" means. No other details available. Reliability: compared with 038270 & 038637 for the years 1865-1900 & 1851-1900. Record shows a definite warming trend, particularly around 1890.

038270: PLYMOUTH/MT. BATTEN UK 50.4N 4.1W 27m 1865-1980 10 1865
Sources: AI, A6

Notes: AI: Alt; 27m, Mount Batten. 1931-1940; 1/3(07 + 13 + 18) GMT. 1941-1942; 1/3(07 + 13 + 15). 1943-July 1944; 1/4(01 + 07 + 13 + 18). Aug 1944-Dec 1944; 1/4(00 + 06 + 12 + 18). 1945-1960; 1/4(03 + 09 + 15 + 21). 1961-1970; 1/2(daily max + daily min). Site changes: 1931-1945; 50 22'N 04 08'W, alt = 25m. 1946-1948; 50 22'N 04 10'W, alt = 9m. 1949-1970; 50 21'N 04 07'W, alt = 27m. A6: Site; 50.4N 4.2W. No other details available. Reliability: compared with 038637, 038940, 037430, 037898 & 038900 for the years 1865-1900, 1865-1900, 1931-1960, 1877-1975 & 1865-1980.

038620: BOURNEMOUTH/HURN APT UK 50.8N 1.6W 10m 1961-1980 10 1961
Sources: A1
Notes: A1: 1961-1970; 1/2(max + min). 50 47'N 1 50'W, alt = 14m. Reliability: compared with 037760 for the years 1961-1980.

038637: OSBORNE UK 50.8N 1.3W 52m 1851-1900 10 1851
Sources: A43
Notes: Osborne is on the Isle of Wight. A43: Temp; "Real" means. Press; "Real" means. Alt; 52m. Reliability: compared with 038940 for the years 1851-1900.

038900: OXFORD UK 51.7N 1.2W 63m 1767-1980 70 1900
Sources: A8, A14, A35, A43
Notes: A8: Site; 51.8N 1.3W. No other details available. A14: Alt; 63m. No other details available. A35: 1856-1868; anomalies from mean (no year given). No other details available. A43: "Real" means. Alt; 63m. Reliability: compared with 037898, 038989 & 038993 for the years 1877-1975, 1872-1969 & 1887-1969. Trends are apparent in the pre-1900 record, but scale is generally small.

038940: GUERNSEY UK 49.5N 2.6W 62m 1851-1900 10 1851
Sources: A43, A117
Notes: A43: Alt; 62m. Temp; "Real" means. Press; "Real" means. A117: Alt; 123ft. No other details available. Reliability: compared with 038637 for the years 1851-1900.

038988: YORK UK 53.9N 1.1W 1871-1969 10 1871
Sources: A8
Notes: A8: No details available. Reliability: compared with 031607, 038994 & 038995 for the years 1871-1960, 1871-1969 & 1898-1968.

038989: ROTHAMSTEAD UK 51.7N 19.3E 1872-1969 10 1872
Sources: A8
Notes: A8: No details available. Reliability: compared with 037898, 038993 & 038996 for the years 1877-1969, 1887-1969 & 1872-1969. Very small jump (0.2-0.3C) around 1915/1916 has not been corrected.

038991: STONYHURST UK 53.8N 2.5W 115m 1848-1975 10 1848
Sources: A8, A14
Notes: A8: No details available. A14: Alt; 115m. No other details available. Reliability: compared with 038988 & 038992 for the years 1871-1969 & 1872-1969.

038992: SCARBOROUGH UK 54.2N .4W 1872-1969 10 1872
Sources: A8
Notes: A8: No details available. Reliability: compared with 038988 & 038991 for the years 1872-1969. 1912 temps are 2C cooler than surrounding stations - probably need correcting.

038993: EDCMASTON UK 52.5N 1.9W 1887-1969 10 1887
Sources: A8
Notes: A8: No details available. Reliability: compared with 033400 & 037898 for the years 1887-1969.

038994: DURHAM UK 54.8N 1.6W 1847-1981 10 1847
Sources: A8
Notes: A8: No details available. Reliability: compared with 031607, 038995 & 033400 for the years 1847-1960, 1898-1968 & 1882-1878. A discontinuity is apparent around 1933/1934 & needs correcting.

038995: COCKLE PARK UK 55.2N 1.6W 1898-1968 10 1898
Sources: A8
Notes: A8: No details available. Reliability: compared with 038988 & 038994 for the years 1898-1968.

038996: CAMBRIDGE UK 52.2N .1E 12m 1848-1975 10 1871
Sources: A8, A14
Notes: A8: No details available. A14: Alt; 12m. No other details available. Reliability: compared with 038989 for the years 1872-1969.

038997: BRAEMAR UK 57.0N 3.4W 339m 1856-1973 80
Sources: A8, A14, A35
Notes: A8: No details available. A14: Alt; 339m. No other details available. A35: Anomalies from mean (no year given). Reliability: compared with 030680 & 030910 for the years 1879-1969 & 1871-1969. An uncorrected jump is apparent at around 1911/1912.

038999: ABERYSTWYTH UK 52.4N 4.1W 1889-1969 80
Sources: A8
Notes: A8: No details available. Reliability: compared with 037898, 038900 & 038993 for the years 1889-1969. Obvious warming trend from about 1960 could be urban warming.

039170: BELFAST/ALDERGROVE A UK 54.7N 6.2W 73m 1834-1980 72 1885
Sources: AI, AI4

Notes: AI: means of 1/2(daily max + daily min), read at 0900 GMT. Alt: Jan 1931-Dec 1937 = 73m, Jan 1938-Dec 1942 = 82m, Jan 1943-Dec 1950 = 90m, Jan 1951-Dec 1959 = 69m, Jan 1960-Dec 1970 = 73m. AI4: Site; 54.7N 6.2W. Alt: 115m. No other details available. Reliability: compared with 039530, 031400 & 033020 for the years 1869-1980, 1857-1976 & 1931-1980. Data gap 1847-1865. A trend is apparent prior to 1885.

039520: ROCHES POINT IRELAND 51.8N 8.3W 41m 1955-1970 61
Sources: AI

Notes: AI: 1951-1970; 1/2(max + min). 51 48'N 8 15'W, alt = 41m. Reliability: uncheckable.

039530: VALENTIA OBSERVATORY IRELAND 51.9N 10.3W 14m 1861-1980 10 1869
Sources: AI, AI4

Notes: AI: 1869-1920; means of hourly readings, from a photographic thermograph. Alt: 1921-1970 = 14m. 1931-1940; Corrections for reducing the means of 1/2(max + min) to the means of 24 hours are given on p28, vol 105. 1941-1950; means of 24 hours, GMT, from a photographic thermograph. 1951-1970; means of 1/2(max + min), of 24 hours ending at 2100 GMT. AI4: Alt; 9m. No other details available. Reliability: compared with 039170 & 031400 for the years 1869-1980 & 1869-1978.

039550: CORE AIRPORT IRELAND 51.9N 8.2W 162m 1836-1980 62
Sources: AI, AI4

Notes: AI: Means of 1/2(mean daily max + mean daily min). Daily values of max & min refer to periods of 24 hours, ending at 21 GMT. Rain is measured at 06 GMT & accredited to the previous day. Alt: 162m. AI4: Alt; 18m. No other details available. Reliability: compared with 039700 & 039710 for the years 1949-1970. Data gap 1956-1961 so is uncheckable.

039570: ROSSLARE IRELAND 52.3N 6.3W 1961-1970 61
Sources: AI

Notes: AI: 1961-1970; 1/2(max + min). 52 15'N 6 20'W, alt = 25m. Reliability: uncheckable.

039600: KILKENNY IRELAND 52.7N 7.3W 1961-1970 61
Sources: AI

Notes: AI: 1961-1970; 1/2(max + min). 52 40'N 7 16'W, alt = 64m. Reliability: uncheckable.

039620: SHERMOR AIRPORT IRELAND 52.7N 8.9W 7m 1861-1980 40
Sources: AI, AI4

Notes: AI: Means of 1/2(max + min) of 24 hours, ending at 21 GMT. Alt; 1948-1960 = 7m, 1961-1970 = 13m. AI4: Alt; 7m. No other details available. Reliability: compared with 039170 & 039530 for the years 1948-1980.

039650: BIRR IRELAND 53.1N 7.9W 72m 1845-1975 61
Sources: AI, AI4

Notes: AI: Alt; 72m. Means of 1/2(max + min). Daily values of max & min refer to periods of 24 hours, ending at 2100 GMT, except during 1948 when 24 hours end at 1800 GMT. Rain was determined from daily values, referring to periods of 24 hours, ending at 0600 GMT & 0700 GMT in 1948. AI4: Alt; 53m. No other details available. Reliability: uncheckable.

039670: CASHMENT AP. IRELAND 53.3N 6.4W 1961-1970 61
Sources: AI

Notes: AI: 1961-1970; 1/2(max + min). 53 18'N 6 26'W, alt = 93m. Reliability: uncheckable.

039690: DUBLIN AIRPORT IRELAND 53.4N 6.3W 81m 1831-1980 40
Sources: AI, AI4, A35, A99, AI00, AI05, AI38

Notes: AI: Airport site; alt = 81m, except for Feb-Dec 1957, when it was 77m. Means of 1/2(max + min). Daily values refer to periods of 24 hours, ending at 21 GMT, except in 1948, when it ended at 18 GMT. AI4: Alt; 47m. No other details available. A35: Anomalies from mean (no years given). A99: Station located at Trinity College. No other details available. AI00: Temp; 1831-1838 = 1/2(09 + 15). 1839-1852 = 1/2(09 + 21). Values for 1831-1840 have been reduced to values it is assumed they would have had in the position used in later years, by applying corrections (details given in source). Press; means as above. Corrections on p484 of the source. AI05: No details available. AI38: Observations taken in Phoenix Park. No other details available. Reliability: compared with 039170 & 039530 for the years 1834-1980 & 1869-1980. "Classic example of urban warming"!

039700: CLAREMORRIS IRELAND 53.7N 9.0W 69m 1949-1970 10 1949
Sources: AI

Notes: AI: 1949-1970; 1/2(max + min). 53 43'N 8 59'W, alt = 69m. Reliability: compared with 039710 for the years 1949-1970.

039710: MULLINGAR IRELAND 53.5N 7.4W 110m 1949-1970 10 1949
Sources: AI

Notes: AI: 1949-1960; 1/2(max + min). 53 31'N 7 21'W, alt = 110m. Reliability: compared with 039700 for the years 1949-1970.

039740: CLONES IRELAND 54.2N 7.2W 89m 1950-1970 10 1950
Sources: AI
Notes: AI: 1950-Jan 1966; 1/2(max + min). 54 11' N 7 14' W, alt = 89m. Feb 1966-1970; alt = 86m. Reliability: compared with 039170 for the years 1950-1970.

039760: BELMULLET IRELAND 54.2N 10.0W 9m 1961-1980 10 1961
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 54 14' N 10 00' W, alt = 10m. Reliability: compared with 039170 & 039530 for the years 1961-1980.

039800: MALIN HEAD IRELAND 55.4N 7.3W 25m 1955-1980 10 1955
Sources: AI
Notes: AI: 1/2(max + min). 1955-1970; 55 22' N 7 20' W, alt = 25m. An additional rain gauge was used from Oct 1955 & became the official gauge from Jan 1957. Earlier data were adjusted to this gauge. Reliability: compared with 039170 & 039530 for the years 1955-1980.

040130: STYKKISHOLMUR ICELAND 65.0N 22.8W 26m 1846-1980 70 1846
Sources: AI, A37
Notes: AI: 3 different methods were used, up to 1931; 1: 1845-May 1923; means of 07h. June 1873-1923; means of 08h. 2: 1845-1868; 14h. 1869-May 1873; 12h. June 1873-1923; 14h. 3: 1/2(08 + 14). Alt: 1921-1930 = 25m, 1931-1940 = 21 to 28m, 1941-1950 = 26m. The station moved in 1921, 1923, 1938 & 1940, but no details are given. 1951-1960; 1/8(02 + 05 + 08 + 11 + 14 + 17 + 20 + 23) Icelandic Mean Time. The old thermometer wall screen was replaced by a freely exposed but in Mar 1951. Both were used for a year & the differences (-0.1 to +0.3C) are listed in vol 2. 1961-1970; 1/8(03 + 06 + 09 + 12 + 15 + 18 + 21 + 24) GMT. 65 05' N 22 44' W, alt = 16m. A37: Means of 12 noon, reduced to 3Z. Reliability: compared with 040300 & 040650 for the years 1901-1980 & 1874-1970. Uncheckable prior to 1874. High variability seen in all comparisons.

040180: KEFLAVIK ICELAND 64.0N 22.6W 49m 1952-1980 10 1952
Sources: AI
Notes: AI: 1952-1960; 1/8(02 + 05 + 08 + ...23) Icelandic Mean Time. 63 59' N 22 37' W, alt = 50m. 1961-1970; 1/8(03 + 06 + ...24) GMT. 63 58' N 22 36' W, alt = 52m. Reliability: compared with 040480 & 040820 for the years 1952-1970 & 1952-1980.

040300: REYKJAVIK ICELAND 64.0N 22.0W 16m 1829-1980 10 1901
Sources: AI, A35
Notes: A35: Alt; 11m. No other details available. AI: 1951-1960; 1/8(02 + 05 + 08 + 11 + 14 + 17 + 20 + 22) Icelandic Mean Time. 64 08' N 21 56' W, alt = 18m. 1961-1970; 1/8(03 + 06 + 09 + 12 + 15 + 18 + 21 + 24) GMT. Alt = 13m. Reliability: compared with 040130 & 040650 for the years 1901-1980 & 1901-1970.

040480: VESTHANNAYJAR ICELAND 63.4N 20.3W 122m 1881-1970 20 1884
Sources: AI
Notes: AI: 1884-1950; Means of 1/2(08 + 14) 15M meridian time. 1921-1930; Data have been corrected by 0.7C for this period, to "make observations at the 2 sites comparable", but no details of any change are given. Alt: 1884-1930 = 132m, 1931-1960 = 124m. The wall screen was replaced by a freely exposed but in June 1933. Corrections are given on p273, vol 6. 1951-1960; 1/8(02 + 05 + 08 + 11 + 14 + 17 + 20 + 23) Icelandic Mean Time. 1961-1970; 1/8(03 + 06 + 09 + 12 + 15 + 18 + 21 + 24) GMT. 63 24' N 20 17' W, alt = 118m. Reliability: compared with 040300 for the years 1901-1970. Corrected for a definite jump 1930/1931. Correction Factors: Stations used: 040300. Calculation dates: ýýi 1970. Correction date: 1884-1930. Factors: -8 -8 -11 -12 -13 -12 -11 -10 -9 -7 -7.

040630: AKUREYRI ICELAND 65.7N 18 1W 27m 1882-1980 10 1882
Sources: AI, A136
Notes: AI: 1930-1940; 1/2(08 + 14). 1941-1950; 1/2(08 + 14) 15M meridian time. 1951-1960; 1/8(02 + 05 + 08 + 11 + 14 + 17 + 20 + 23) GMT. Corrections are given on p280, vol 6 for 1/2(08 + 14). 1961-1970; 1/8(03 + 06 + ...24) GMT. 1931-1950; alt varied from 50 to 57m. In Mar 1943 the station moved 1km north. 1951-1960; alt = 5m, 1961-1970 = 23m, 65 41' N 18 05' W. A136: No details available. Reliability: compared with 040130, 040300 & 040650 for the years 1882-1980, 1901-1980 & 1882-1970.

040650: GRIMSEY ICELAND 66.6N 18.0W 6m 1874-1970 10 1874
Sources: AI
Notes: AI: 1874-1940; means of 1/2(08 + 14). Alt = 22m. The station moved in July 1945, no details given. In 1943 the old wall thermometer was replaced by a screen. 1941-1948; 1/2(5(08) + 14 + 17 + 3(21)). 1949-1950; 1/8(02 + 05 + 08 + 11 + 14 + 17 + 20 + 23). The hours of observation were 08, 11, 14, 17 & 23 Icelandic Mean Time. Other values were taken from a diagram of diurnal temp variation. 1951-1960; Alt = 6m. 1/2(08 + 20) + Cl. Cl is a correction factor, listed on p280, vol 6. 1961-1970; 1/2(09 + 21) + C. GMT. Values for C are given on p30, vol 2. 66 32' N 18 01' W, alt = 10m. Reliability: compared with 040630, 040300 & 040130 for the years 1882-1970, 1901-1970 & 1874-1970.

040820: BOLAR I HORNAFIRDI ICELAND 64.3N 15.2W 17m 1951-1980 10 1951
Sources: AI
Notes: AI: 1951-1964; 54 18' N 15 12' W, alt = 17m. Thermometer screen was replaced by a freely exposed but in Aug 1956. In June 1956 the rain gauge was fitted with a shield. 1/8(02 + 05 + 08 + ...23) Icelandic Mean Time. July 1965-1970; 64 15' N 15 11' W, alt = 8m. Mean temp difference given on p29, vol 6, ratio for prec is 0.89. Both sets of values are based on 1966-1970 comparison. 1/8(03 + 06 + ...24) GMT. Reliability: compared with 040887 for the years 1951-1970.

040887: TRIGARHORN ICELAND 64.7M 14.4W 18m 1873-1970 10 1884
Sources: AI

Notes: AI: 1884-1950; 1/2(08 + 14) 15W meridian time. 1951-1960; 1/2(08 + 21) + C2. Values for C2 & corrections for earlier data are given on p280, vol 6. Alt; 18m. Reliability: compared with 040630 for the years 1884-1970. Station merged with 040000.

042000: DUNDAS RADIO GREENLAND 76.6M 68.8W 20m 1961-1970 61
Sources: AI

Notes: AI: 1961-1970; 1/8(00 + 03 + ...21) GMT, corrections on p24, vol "1961-1970". 76 34'N 68 48'W, alt = 20m. Reliability: uncheckable.

042020: THULE US AFB GREENLAND 76.5M 68.8W 11m 1946-1964 61
Sources: AI

Notes: AI: 1946-1950; 1/2(max + min). 76 34'N 68 49'W, alt = 124ft. Nov 1951-1960; 76 31'N 68 50'W, alt = 11m. 1/8(00 + 03 + ...21) GMT. 1961-1970; alt = 59m. Reliability: uncheckable.

042100: UPERNAVIK GREENLAND 72.8M 56.1W 63m 1873-1980 10 1873
Sources: AI, A94

Notes: AI: Means of 1/9(2(08 + 14) + 5(21)) 45W meridian time. Alt; 1873-1944 = 19m, 1945-1950 = 36m, 1951-1960 = 64m. 1961-1970; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) GMT. 72 47'N 56 10'W, alt = 63m. A94: Anomalies from mean. No other details available. Reliability: compared with 042160, 042500 & 043600 for the years 1873-1970, 1873-1980 & 1895-1980.

042160: JAKOBSHAVN GREENLAND 69.2M 51.0W 47m 1866-1970 10 1866
Sources: AI, A8, A94

Notes: AI: 1873-1940; 1/9(08 + 08 + 14 + 14 + 5(21)). 1941-1950; means as above at 45W meridian time. 1951-1970; 1/6(4(00) + 12 + 18) GMT. Data for this period are from the synoptic station, the climatic station closed in 1962. Site changes; 1873-1930; 69 13'N 51 02'W, alt = 13m. 1931-1940; alt = 32m. 1941-1950 = 44m, 1951-1960 = 47m. 1961-1970; 69 13'N 51 03'W, alt = 39m. A8: No details available. A94: Anomalies from mean. 1/9(08 + 08 + 14 + 14 + 5(21)), corrected by +0.1C for Jan & Dec & by -0.1C for other months. Reliability: compared with 042100, 042500 & 043600 for the years 1873-1970, 1866-1970 & 1895-1970. Nov data 1951-1960 had wrong signs.

042200: EGEDSHINDE GREENLAND 68.7N 52.8W 48m 1951-1980 10 1951
Sources: AI

Notes: AI: 1/4(00 + 06 + 12 + 18) GMT. 1951-1960; 68 42'N 52 52'W, alt = 48m. 1961-1970; 68 42'N 52 45'W, alt = 48m. 1/8(00 + 03 + ...21) GMT. Reliability: compared with 043200 & 043400 for the years 1951-1980.

042500: GODTHAAB GREENLAND 64.2M 51.7W 20m 1866-1980 10 1866
Sources: AI, A3, A94

Notes: AI: 1875-1950; means of 1/9(2(08 + 14) + 5(21)). Alt; 1875-1930 = 9m, 1931-1960 = 20m. 1937 on; Observation times are 45W meridian time. 1951-1960; A correction, C, is applied to the above rough mean temps. C depends on the mean amplitude, which is T14 T08 T21/2. True mean temp = M + C. Corrections given on p270, vol 6. Observations are at Western Greenland Time (GMT - 3 hours). 1961-1970; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) GMT. 64 10'N 51 45'W, alt = 25m. A35: No details available. A94: Anomalies from mean. Temp; 1/9(2(08 + 14) + 5(21)), corrected by 0.1 for Jan & Dec & by -0.1C for other months. Reliability: compared with 043600, 042100 & 042160 for the years 1895-1980, 1873-1980 & 1866-1970. Nov data 1951-1960 had wrong signs.

042610: GROENEDAL GREENLAND 61.2M 48.1W 27m 1951-1970 61
Sources: AI

Notes: AI: 1961-1970; 1/8(00 + 03 + ...21) GMT. 61 13'N 48 07'W, alt = 27m. Reliability: uncheckable.

042620: IVIGTUT GREENLAND 61.2M 48.2W 30m 1875-1966 10
Sources: AI, A8, A94

Notes: AI: 1875-1920; means of 1/7(08 + 14 + 5(20)), corrected to means of 24 hours. 1921; 1/9(08 + 08 + 14 + 14 + 5(21)). 1922-Mar 1923; 1/9(08 + 08 + 15 + 15 + 5(21)). April 1923-1950; 1/9(08 + 08 + 14 + 14 + 5(21)) 45W meridian time. 1951-1960; means as above, time is Western Greenland Time, (GMT - 3 hours), corrected by adding a correction of C. C is found for every month by means of the mean amplitude S which is T14 T08 T21/2, see p270, vol 6. Alt = 30m. A8: No details available. A94: Anomalies from mean. Temp; means of 1/9(08 + 08 + 14 + 14 + 5(09)), corrected by +0.1C for Jan & Dec & by -0.1C for other months. Reliability: compared with 043600 & 042500 for the years 1895-1960 & 1875-1960. Nov data 1951-1960 had wrong signs.

043100: MORD GREENLAND 81.5M 16.8W 35m 1952-1972 10 1952
Sources: AI

Notes: AI: 1/8(00 + 03 + ...21) GMT. 1951-1960; 81 36'N 16 40'W, alt = 36m. 1961-1970; alt = 35m. Reliability: compared with 043200 & 043400 for the years 1952-1972.

043200: DANMARKSHAVN GREENLAND 76.7N 18.9W 11m 1951-1980 10 1951
Sources: AI

Notes: AI: 1/8(00 + 03 + ...21) GMT. 1951-1960; 76 46'N 18 46'W, alt = 18m. 1961-1970; alt = 11m. Reliability: compared with 043400 for the years 1951-1980.

043400: KAP TOBIN GREENLAND 70.5N 22.0W 41m 1931-1980 10 1951
 Sources: A1
 Notes: A1: 1931-1936; 1/9 (2(08 + 14) + 5(21)) 30W meridian time. 70 29°N 21 58'W, alt = 17m. 1948-1950; 1/4(22 + 04 + 10 + 16) 30W meridian time. 70 25°N 21 58'W, alt = 42m. 1951-1970; 1/8(00 + 03 + ...21) GMT. Reliability: compared with 043200 for the years 1951-1980.

043600: ANGMAGSSALIK GREENLAND 65.6N 37.6W 35m 1895-1980 10 1895
 Sources: A1, A8
 Notes: A1: 1894-1930; alt = 32m. Means of 1/9(2(08 + 14) + 5(21)), this gives an approximation of the 24 hour mean. 1931-1940; alt = 30m. Means as above. 1941-1950; as above, but time is given as 30E meridian time. Alt; 29m. 1951-1960; alt = 36m. Means as above. The climatic station closed in 1959, so latter data is from the synoptic station. The differences in mean temp are great (see p.289, vol 6) mainly because the synoptic station is more often snow covered in winter. 1961-1970; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) GMT. 65 25'N 37 38'W, alt = 35m. A8: No details available. Reliability: compared with 042500 & 042617 for the years 1895-1980 & 1895-1960.

043900: PRINS CHRISTIANS S. GREENLAND 66.0N 43.1W 76m 1951-1980 10 1951
 Sources: A1

Notes: A1: 1/8(00 + 03 + 06 + ...21) GMT. 1951-1960; 60 03'N 43 12'W, alt = 77m. 1961-1970; 60 02'N 43 07'W, alt = 76m. Reliability: compared with 042500 & 043600 for the years 1951-1980. Nov data 1951-1960 had wrong signs.

060110: THORSHAVN FAEROES 62.1N 6.8W 39m 1867-1980 10 1867
 Sources: A1, A131

Notes: Station was also known as Hojvig. A1: Means of 1/4(08 + 14 + 21 + 21) GMT. Alt; 1873-1925 = 26m at Thorshavn, 1926-1950 = 23m at Hojvig, 1951-1960 = 39m at Thorshavn. 1951-1960; 1/4(00 + 06 + 12 + 18) GMT. 1961-1970; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) GMT. 62 01'N 6 46'W, alt = 24m. A131: Press corrected to MSL. No other details available. Reliability: compared with 040130 for the years 1867-1980.

060300: ALBORG DENMARK 57.1N 9.9E 3m 1961-1980 10 1961
 Sources: A1

Notes: A1: 1961-1970; Means of observations taken at 07, 13 & 20 GMT. Reference to calculation method is given on p.46, vol "1961-1970". No other details available. Reliability: compared with 061860 for the years 1961-1980.

060317: SKAGEN FYR DENMARK 57.7N 10.6E 3m 1873-1926 80
 Sources: A12, A110

Notes: A12: A1; 3m. No other details available. A110: Means of 1/3(08 + 14 + 21). Reliability: compared with 061860 & 061967 for the years 1873-1926 & 1873-1925. Record shows definite jump 1914/1915.

060527: VESTERVIK DENMARK 56.8N 8.3E 19m 1874-1969 10 1874
 Sources: A12, A110

Notes: A12: Alt; 19m. No other details available. A110: Means of 1/3(08 + 14 + 21). Reliability: compared with 061807 & 060667 for the years 1874-1969.

060667: TARN DENMARK 55.9N 8.5E 7m 1861-1969 10 1861
 Sources: A12, A110

Notes: A12: Alt; 7m. No other details available. A110: Means of 1/3(08 + 14 + 21). Reliability: compared with 060527, 061607 & 061860 for the years 1874-1969, 1873-1969 & 1861-1969.

060767: RANDERS DENMARK 56.5N 10.1E 5m 1869-1925 10 1869
 Sources: A12

Notes: A12: Alt; 5m. No other details available. Reliability: compared with 061860 & 061967 for the years 1869-1925 & 1877-1925. Some evidence of a small trend in pre-1900 record.

061607: BOCO DENMARK 54.9N 12.1E 27m 1873-1969 10 1873
 Sources: A12, A110

Notes: A12: Alt; 40m, later 27m. No other details available. A110: Means of 1/3(08 + 14 + 21). Reliability: compared with 060527 & 060667 for the years 1874-1969 & 1873-1969.

061860: COPENHAGEN DENMARK 55.7N 12.6E 22m 1768-1980 10 1768
 Sources: A1, A14, A35

Notes: A1: 1768-1920; 11 obs. time combinations used, reduced to means of 24 hours by 25 years of hourly obs., see p.50, vol 79. 3 sites; Rundetaarn 1768-1817; 43m, Botanical Gardens 1818-May 1860; 4m, Agricultural High School June 1860-1920; 13m. Rundetaarn reduced to Botanical Gardens with 5.5 years of simultaneous obs., both reduced to High School with 14.5 years of simultaneous obs. 1920-1930; alt; 5m. Means of 24 hours. 1931-1950; 1/3(08 + 14 + 21) 15E MT. 1951-1960; alt; 22m. 1/3(08 + 14 + 21) Central Europe Time + C. 1961-1970; Airport = 5m, High School = 9m. 1/3(07 + 13 + 20) GMT + C. A14: alt; 5m. No other details available. A35: No details available. Reliability: compared with 060527, 060667 & 061607 for the years 1874-1969, 1861-1969 & 1873-1969. Record shows some very slight evidence of warming.

061967: BODILSSHO DENMARK 55.1N 15.1E 48m 1877-1925 80
 Sources: A12

Notes: A12: Alt; 48m. No other details available. Reliability: compared with 060767 & 061860 for the years 1877-1925. Some evidence for a jump around 1900 and a post-1900 warming trend of about 0.3-0.4C.

061990: DUELDODE DENMARK 55.0N 15.1E 6m 1961-1976 6i
 Sources: A1

Notes: A1: 1961-1970; Means of observations taken at 07, 13 & 20 GMT. Reference to calculation method given on p46, vol "1961-1970". No other details available. Reliability: uncheckable.

062800: DE BILLI NETHERLANDS 52.1N 5.2E 8m 1706-1980 10 1951
 Sources: A1, A8, A14, A35, A43, A90

Notes: A1: 1849-1940; 1/3(08 + 14 + 19). Alt: 3m. 1941-1950; 1/3(08 + 14 + 19) LT, corrections on p34 to reduce to means of 24 hours. In Jan 1946 rain gauge height was reduced from 1.50 to 0.40m. Error due to wind estimated at 1.50m as @ 42. 1951-1960; alt: 2m. Means of 24 hourly obs., from thermograph readings & corrected by comparison with regular obs. at 08, 14 & 19h. 1961-1970; alt: 8m. A8: No details available. A14: Alt: 2m. No other details available. A35: 1859-1868; anomalies from mean (no years given). A43: 1/3(08 + 14 + 22). Alt: 14m. A90: No details available. Reliability: compared with 064470 & 071500 for the years 1833-1980 & 1764-1980. 1706-1950 record above warming & then cooling trends so has been rejected.

063807: MAASTRICHT NETHERLANDS 50.9N 5.7E 49m 1818-1868 83
 Sources: A14, A35, A90

Notes: A14: Alt: 49m. No other details available. A35: 1858-1868; Anomalies from mean (no years given). No other details available. A90: No details available. Reliability: compared with 062800 for the years 1818-1868. Data gap 1834-1851. Jump in record 1856/1857.

064470: UCCLE BELGIUM 50.8N 4.4E 104m 1833-1980 10 1833
 Sources: A1, A14, A35, A43, A76, A119

Notes: A1: In 1890 the station moved from 50.9 4.5E, alt 39m, to Uccle. Means of bi-hourly observations 1/12 (02 + 04 + .24), measured by an aspiration psychrometer from 0800 through 1800 & read from a register from 2000 through 0600. Rain is read at 0800. Time standard is Universal Time. Alt: 100m. A14: No details available. A35: No details available. A43: Alt: 56m. Temp: means of 1/2(max + min). Press: means of observations at 12 noon. A76: No details available. A119: 1833-1979; means of 1/2(max + min), read at midday. 1901-1979; means of bi-hourly observations (true means). Reliability: compared with 071500 & 071900 for the years 1833-1980.

065900: LUXEMBOURG/TOWN LUXEMBOURG 49.5N 6.0E 330m 1841-1980 20 1878
 Sources: A1, A15

Notes: A1: Alt: 1951-1960 - 330m, 1961-1970 - 337m. Means of 1/3(07 + 13 + 21) local time. A15: 1838-1852; 1/3(sunrise + 12 + sunset). 1853-1875; 1/3(0730 + 1200 + 1930). 1876-1893; 1/3(0630 + 1200 + 2130). 1896-1906; means of 3 observations, no details given. 1907-1949; 1/3(07 + 13 + 21). Alt: 334m. Reliability: compared with 064470, 071900 & 071500 for the years 1838-1980. Correction Factors: Stations used: 064470 & 071900. Calculation dates: 1973-1980. Correction dates: 1838-1890 & 1951-1971. Factors: i) 1951-1971, -15 -8 -8 -12 -8 -8 -7 -5 -7 -10 -11 -8. ii) 1838-1890, -25 -18

-15 -19 -17 -17 -18 -16 -17 -15 -23 -23.

066100: PAYERNE /ST. AEROL. SWITZERLAND 46.8N 7.0E 491m 1951-1970 10 1954
 Sources: A1

Notes: A1: 1951-1970; 46 49'N 6 57'E, alt = 491m. 1/4(0730 + 1330 + 2130 + 2130). Reliability: compared with 066450 for the years 1954-1970.

066300: BERN SWITZERLAND 47.0N 7.4E 1826-1851 83
 Sources: A35

Notes: A35: No details available. Reliability: compared with 066450 for the years 1826-1851.

066450: BASEL/BINNINGEN SWITZERLAND 47.6N 7.6E 318m 1755-1975 10 1755
 Sources: A1, A14, A35, A43, A101

Notes: A1: Press; means of 1/3(0730 + 1330 + 2130). Prior to 1951 it is reduced to 0C, without correction for gravity. (G = 0.008m). Temp; means of 1/4(0730 + 1330 + 2130). Rain is measured at 0730 & ascribed to the previous day. A14: No details available. A35: No details available. A43: Temp & Press; "Real" means, no other details given. Alt: 278m. A101: No details available. Reliability: compared with 066800 for the years 1883-1970.

066600: ZURICH/TOWN/VILLE SWITZERLAND 47.4N 8.6E 569m 1708-1980 20 1864
 Sources: A1, A35, A101

Notes: A1: Alt: 1864-1890 = 470m, 1891-1920 = 477m, 1921-1950 = 493m. 1921-1970; 1/4(0730 + 1330 + 2130 + 2130) 15E meridian time. In Jan 1951 the station moved from 47 23'N 08 33'E, alt = 493m, to 47 23'N 08 34'E, alt = 569m. Corrections are given on p402, vol 2. NB. Sites: 1864-1890; Astronomical Observatory of Zurichberg, alt = 470m. 1891-1920; Physics Building, alt = 477m. In 1874 a wooden thermometer shelter was introduced & shed moved slightly in Sept 1891 & Oct 1895. A35: No details available. A101: Alt: 1708-1739 = 430m, 1740-1829 = 415m, 1830-1863 = 435m, 1864-1890 = 470m. Reliability: compared with 066450 & 066800 for the years 1832-1970 & 1883-1980. Corrected for a site change in 1951. Correction Factors: Stations used: 066450 & 066800. Calculation dates: 1951-1980. Correction dates: 1864-1950. Factors: -5 -3 -6 -5 -6 -6 -5 -5 -7 -9 -8 -5.

066800: SANTS SWITZERLAND 47.3N 9.3E 2496m 1883-1980 10 1883
 Sources: A1, A101

Notes: A1: 1883-1920; means of (hours not given). Alt = 2500m. 1921-1970; 1/4(0730 + 1330 + 2130 + 2130) 15E meridian time. 1951-1970; alt = 2496m. A101: No details available. Reliability: compared with 066600 & 066450 for the years 1883-1980.

067000: GENEVA SWITZERLAND 46.2N 6.2E 416m 1753-1980 20 1753
Sources: A1, A8, A14, A35, A43

Notes: A1: Means of 1/4(0730 + 1330 + 2130). Rain is measured at 0730 & ascribed to the previous day. 1951-1960; alt = 405m, 1961-1970 = 416m. In 1961 the station moved from 46 12'N 6 09'E to 46 14'N 6 06'E. Temps at the new site, Coistrin, are slightly lower (1.3C - 0.9C), details on p329, vol 2. A8: No details available. A14: Site: 46.3N 6.1E. alt = 416m. A35: No details available. A43: "Real" means. Alt: 405m. No other details available. Reliability: compared with 066450 for the years 1755-1970. Corrected for a move in 1961. Correction Factors: Stations used: 066450 & 066800. Calculation dates: 1961-1970. Correction dates: 1753-1960. Factors: -9 -5 -7 -9 -6 -10 -8 -9 -15 -17 -10 -4.

067050: GENÈVE/TOWN/VILLE SWITZERLAND 46.1N 6.1E 405m 1961-1974 10 1961
Sources: A1

Notes: A1: 1951-1960; 1/4(0730 + 1330 + 2130). Alt = 405m. Reliability: compared with 067000 for the years 1961-1970.

067700: LUGANO SWITZERLAND 46.0N 9.0E 276m 1861-1980 10 1951
Sources: A1, A14

Notes: A1: Alt: 276m. Means of 1/4(0730 + 1330 + 2130). Rain is measured at 0730 & ascribed to the previous day. A14: Alt: 276m. No other details available. Reliability: compared with 066600 for the years 1951-1980.

070067: MONTDIDIER FRANCE 49.7N 2.6E 90m 1784-1869 83
Sources: A43

Notes: A43: Temp: 1/3(06 + 14 + 22). Press: reduced to 0C & to sea level. Alt: 90m. Reliability: compared with 070150, 070370 & 071500 for the years 1851-1869, 1845-1869 & 1784-1869. Record shows obvious trends and a jump at about 1856.

070150: LILLE FRANCE 50.6N 3.1E 47m 1784-1973 10 1851
Sources: A14, A43

Notes: A14: Alt: 47m. No other details available. A43: Temp: 1/2(max + min). Press: "Real" means. Alt: 23m. Also known as Leventie. Reliability: compared with 071500 for the years 1851-1897.

070210: CHERBOURG FRANCE 49.7N 1.6W 12m 1861-1973 61
Sources: A1, A14

Notes: A1: Chanterre, alt = 12m. Means of 8 3-hourly observations, at 00, 03, ... 21h GMT. A14: Alt: 135m. No other details available. Reliability: uncheckable.

070240: CHERBOURG-MAUPERTUS FRANCE 49.7N 1.5W 139m 1966-1980 61
Sources: A1

Notes: A1: Alt: 139m. Means of 8 3-hourly observations taken at 00, 03, ... 21 GMT. Reliability: uncheckable.

070370: ROUEN FRANCE 49.4N 1.2E 155m 1845-1973 60
Sources: A14, A35, A43

Notes: A14: Alt: 155m. No other details available. A35: No details available. A43: "Real" means. No other details available. Reliability: compared with 071500 for the years 1845-1882, but considered uncheckable.

070900: METZ FRANCE 49.1N 6.2E 186m 1799-1885 83
Sources: A35, A10;

Notes: A35: Alt: 557m, 1859-1868; anomalies from means (no years given). No other details available. A10: Alt: 186m. No other details available. Reliability: compared with 071500 & 071900 for the years 1825-1868. Record has both a trend & a jump.

071007: CHALONS FRANCE 48.9N 4.4E 89m 1806-1973 10 1806
Sources: A14, A35, A117

Notes: Station was also known as Chalon-sur-Marne. A14: Alt: 89m. No other details available. A35: No details available. A117: Alt: 594ft. No other details available. Reliability: compared with 071500 & 071900 for the years 1806-1848.

071100: BREST/GUIPAVAS FRANCE 48.5N 4.4W 103m 1951-1980 10 1951
Sources: A1, A35, A43

Notes: A1: Means of 8 3-hourly observations. Alt: 103m. A35: No details available. A43: "Real" means. Alt: 9m. Reliability: compared with 072220 for the years 1951-1980.

071450: TRAPPES FRANCE 48.8N 2.0E 168m 1951-1980 10 1951
Sources: A1

Notes: A1: 1951-1960; Means of 8 3-hourly observations. 48 46'N 2 01'E, alt = 168m. 1961-1970; 1/8(00 + 03 + ... 21) GMT. Reliability: compared with 071500 for the years 1951-1980.

071500: PARIS/LE BOURGET FRANCE 48.8N 2.5E 53m 1757-1980 10 1764
Sources: A1, A14, A35, A43

Notes: A1: 1874-1930; means of 24 hours. Alt: 50m. 1931-1940; means of (hours not given). 1941-1950; means of 24 hours GMT. 1951-1970; means of 1/8(00 + 03 + ... 21) GMT. A14: 48.9N 2.3E, alt = 62m. No other details available. A35: No details available. A43: Temp; No details given. Press; "Real" means. Alt: 49m. Reliability: compared with 070067, 070150, 071900 & 076300 for the years 1784-1869, 1851-1897, 1801-1980 & 1784-1980.

071517: PARIS/PARC ST MAUR FRANCE 48.0M 2.3E 77m 1951-1960 10 1951
Sources: A1

Notes: A1: 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) GMT. Alt; 77m. Reliability: compared with 071500 for the years 1951-1960.

071560: PARIS / MONTSGOURIS FRANCE 48.0M 2.3E 77m 1961-1970 61
Sources: A1, A43

Notes: A1: 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) GMT. Alt; 77m. A43: "Real" means. Alt; 49m. No other details available. Reliability: uncheckable.

071800: NANCY/ESSEY FRANCE 48.7M 6.2E 217m 1811-1980 72 1951
Sources: A1, A14, A35, A101

Notes: A1: Alt; 217m. Means of 8 3-hourly observations, 00,03.....21 GMT. A14: Alt; 212m. No other details available. A35: No details available. A101: Alt; 221m. No other details available. Reliability: compared with 071500 & 071900 for the years 1841-1980. Data gap 1850-1950.

071900: STRASBOURG/ENTZREIM FRANCE 48.6M 7.6E 154m 1801-1980 12 1801
Sources: A1, A14, A35, A82, A101

Notes: A1: Means of 8 3-hourly observations (00, 0321 GMT). Alt; 154m. A14: Alt; 150m. No other details available. A35: No details available. A43: Temp; 1/3(06 + 13 + 21). Press; "Real" means. Alt; 144m. A82: No details available. A101: Alt; 144m. No other details available. Reliability: compared with 071500 for the years 1801-1980. Data gap 1898-1950.

072120: NANTES FRANCE 47.3M 1.6W 27m 1835-1980 10 1851
Sources: A1, A14, A43

Notes: A1: Alt; 1881-1950 = 37m, 1957-1970 = 27m, 1881-1950; mean of 24 hours, 1951-1970; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) GMT. A14: Site; 47.2M 1.6W, alt = 26m. No other details available. A43: Temp & Press; "Real" means. Alt; 41m. Reliability: compared with 076300 & 075100 for the years 1851-1980.

072100: ANGERS FRANCE 47.5M .5W 1851-1900 10 1851
Sources: A43

Notes: Station was also known as La Benquette. A43: Means of 1/2(max + min). No other details available. Reliability: compared with 072497 for the years 1851-1897.

072497: VENDOME FRANCE 47.8M 1.1E 79m 1851-1973 10 1851
Sources: A14, A35, A43

Notes: A14: Alt; 79m. No other details available. A35: No details available. A43: Means of 1/2(max + min). No other details available. Reliability: uncheckable.

072550: BOURGES FRANCE 47.1E 2.4E 162m 1851-1980 8;
Sources: A1, A43

Notes: A1: means of 8 3-hourly observations, 1961-1970; alt = 166m. A43: Means of 1/2(max + min). Reliability: compared with 072300, 072497, 072220, 075100 & 074800 for the years 1851-1900, 1851-1897, 1851-1980, 1851-1980 & 1851-1980. Data gap 1898-1950. Record above a trend prior to 1860 & may show a cooling trend 1951-1980.

072800: DIJON FRANCE 47.3E 5.1E 227m 1831-1980 72 1951
Sources: A1, A14, A35

Notes: A1: 1951-1960; alt = 225m, 1961-1970 = 227m. Means of 8 3-hourly observations. Main is recorded at 06 GMT. A14: Alt; 238m. No other details available. A35: No details available. Reliability: compared with 074800 for the years 1851-1980. Data gaps 1849-1850 & 1854-1950.

073907: SAINT BERNARD FRANCE 45.8M 6.1E 2070m 1818-1890 60
Sources: A35, A101

Notes: A35: Alt; 233m, 1858-1868; anomalies from means (no years given). No other details available. A101: Alt; 2070m. No other details available. Reliability: uncheckable.

074340: LIMOGES/BELLEGARDE FRANCE 45.9M 1.2E 403m 1961-1980 10 1961
Sources: A1

Notes: A1: 1961-1970; 1/8(00 + 03 +21) GMT. No other details available. Reliability: compared with 074350 for the years 1961-1972.

074350: LIMOGES FRANCE 45.8M 1.3E 284m 1860-1973 10 1951
Sources: A1, A14

Notes: A14: Alt; 284m. No other details available. A1: 1951-1970; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) GMT. 1951-1960; alt = 284m, 1961-1970 = 402m. Reliability: compared with 072800 for the years 1951-1972.

074600: CLERMONT FERRAND FRANCE 45.8M 3.1E 403m 1856-1973 63
Sources: A14, A35, A43

Notes: A14: Alt; 403m. No other details available. A35: Anomalies from mean (no years given). A43: "Real" means. Instrument correction of +0.24mm is not applied. Alt; 388m. Reliability: uncheckable.

074700: LE PUT FRANCE 45.0M 3.9E 714m 1849-1973 63
Sources: A14, A35

Notes: A14: Alt; 714m. No other details available. A35: Anomalies from mean (no years given). Reliability: uncheckable.

- 074800: LYON** FRANCE
Sources: A1, A8, A14, A35, A43, A117
Notes: Station was also known as Brom. A1: Alt: 1841-1920 = 199m, 1921-1930 = 196m, 1931-1950 = 198m, 1951-1970 = 201m. 1921-1950; 1/2(daily max + daily min). 1951-1970; means of 8 3-hourly observations. GMT. A8: No details available. A14: Alt: 290m. No other details available. A35: No details available. A43: "Real" means. Alt: 174m. No other details available. A117: Alt: 598ft. No other details available. Reliability: compared with 076300, 076500 & 072550 for the years 1851-1980, 1951-1980 & 1851-1980.
- 075100: BORDEAUX/MERIGNAC** FRANCE
Sources: A1, A14, A35, A43
Notes: A1: means of 8 3-hourly observations. Alt: 1951-1955 = 52m, site = 44 51'N 00 42'W, 1955-1959 = 49m, 1959-1960 = 51m, site = 44 50'N 00 42'W. A14: Alt: 13m. No other details available. A35: 1860-1866; anomalies from mean (years not known). No other details available. A43: Alt: 74m. "Real" means. Probable instrument correction is +0.33mm, not applied. Reliability: compared with 072220 for the years 1851-1980.
- 076300: TOULOUSE/BLAGNAC** FRANCE
Sources: A1, A14, A35, A43
Notes: A1: Means of 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) GMT. Alt: 1951-1960 = 152m, 1961-1970 = 153m. A14: No details available. A35: No details available. A43: "Real" means. Alt: 194m. Reliability: compared with 076500, 072220 & 071500 for the years 1838-1980, 1851-1980 & 1784-1980. Data gaps 1788-1817, 1825-1838 & 1901-1950.
- 076430: MONTPELLIER** FRANCE
Sources: A14, A35, A43
Notes: A14: Alt: 81m. No other details available. A35: No details available. A43: Means of 1/2(max + min). No other details available. Reliability: compared with 076900 & 076500 for the years 1827-1897 & 1838-1897.
- 076450: NIMES/COURBESSAC** FRANCE
Sources: A1
Notes: A1: 1951-1960; Means of 8 3-hourly observations. A method of partial interpolation was used in Feb 1954. A3 52'N 4 24'E, alt = 60m. 1961-1970; 1/8(00 + 03 + ...21) GMT. Alt: 62m. Reliability: compared with 076300, 076500 & 074800 for the years 1951-1980.
- 076490: SALON** FRANCE
Sources: A1
Notes: A1: 1951-1960; A3 37'N 5 06'E, alt = 60m. Means of 8 3-hourly observations. 1961-1970; 1/8(00 + 03 + ...21) GMT. A3 36'N 5 06'E, alt = 60m. Reliability: uncheckable.
- 076500: MARSILLE/MARIGNANE** FRANCE
Sources: A1, A14, A35, A43
Notes: A1: 1871-1920; means of 8 3-hourly observations. Alt = 75m. 1921-1950; 1/2(daily max + daily min). Alt: 1921-1950 = 11m, 1951-1960 = 3m, 1961-1970 = 8m. 1951-1970; means of 8 3-hourly observations, (00, 03 ... 21 GMT). A14: Alt: 75m. No other details available. A35: No details available. A43: Temp; means of 1/2(max + min). Press; "Real" means. Alt: 75m. No other details available. Reliability: compared with 076300 for the years 1838-1980.
- 076600: TOULON** FRANCE
Sources: A1
Notes: A1: 1951-1960; Means of 8 3-hourly observations. A3 06'N 5 55'E, alt = 27m. 1961-1970; 1/8(00 + 03 + ...21) GMT. A3 06'N 5 56'E. Reliability: compared with 076300 for the years 1951-1970.
- 076900: NICE/COTE D'AZUR** FRANCE
Sources: A1, A35, A43
Notes: A1: Alt: 10m. Means of 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) GMT. A35: No details available. A43: Alt: 340m. "Real" means. No other details available. Reliability: compared with 076300 for the years 1806-1980. Data gaps 1826-1828, 1832-1854 & 1857-1950.
- 077470: PERPIGNAN** FRANCE
Sources: A1, A14, A18, A43
Notes: A1: Means of 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) GMT. Alt: 48m. A14: Alt: 43m. No other details available. A18: Means of 1/2(max + min). A43: Press; "Real" means. Temp; 1/2(max + min). Alt: 32m. Reliability: compared with 076300 & 076500 for the years 1836-1980 & 1838-1980. Some evidence of warming 1950-1980, could be urban warming.
- 077610: AJACCIO/CAMPO D. ORO** FRANCE
Sources: A1, A81
Notes: A1: Temp; means of 8 3-hourly observations. Times not given for 1951-1960. From 1960 times are 00, 03, ..., 21 GMT. Alt: 1951-1960 = 5m, 1961-1970 = 9m. A81: Observations come from several different sites, but no details are available; 1853-1873 from P.C., 1874-1895 from a variety of sites & 1896-1973 from Corsica. Reliability: compared with 077470 for the years 1951-1980.
- 080010: LA CORUÑA** SPAIN
Sources: A1, A43
Notes: A1: Alt: 1950-1960 = 58m, 1961-1970 = 67m. Means of 1/2(mean max + mean min). A43: No details available. Reliability: compared with 081410 & 081610 for the years 1951-1980.
- 076500: MARSILLE/MARIGNANE** FRANCE
Sources: A1, A14, A35, A43
Notes: A1: 1871-1920; means of 8 3-hourly observations. Alt = 75m. 1921-1950; 1/2(daily max + daily min). Alt: 1921-1950 = 11m, 1951-1960 = 3m, 1961-1970 = 8m. 1951-1970; means of 8 3-hourly observations, (00, 03 ... 21 GMT). A14: Alt: 75m. No other details available. A35: No details available. A43: Temp; means of 1/2(max + min). Press; "Real" means. Alt: 75m. No other details available. Reliability: compared with 076300 for the years 1838-1980.
- 076600: TOULON** FRANCE
Sources: A1
Notes: A1: 1951-1960; Means of 8 3-hourly observations. A3 06'N 5 55'E, alt = 27m. 1961-1970; 1/8(00 + 03 + ...21) GMT. A3 06'N 5 56'E. Reliability: compared with 076300 for the years 1951-1970.
- 076900: NICE/COTE D'AZUR** FRANCE
Sources: A1, A35, A43
Notes: A1: Alt: 10m. Means of 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) GMT. A35: No details available. A43: Alt: 340m. "Real" means. No other details available. Reliability: compared with 076300 for the years 1806-1980. Data gaps 1826-1828, 1832-1854 & 1857-1950.
- 077470: PERPIGNAN** FRANCE
Sources: A1, A14, A18, A43
Notes: A1: Means of 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) GMT. Alt: 48m. A14: Alt: 43m. No other details available. A18: Means of 1/2(max + min). A43: Press; "Real" means. Temp; 1/2(max + min). Alt: 32m. Reliability: compared with 076300 & 076500 for the years 1836-1980 & 1838-1980. Some evidence of warming 1950-1980, could be urban warming.
- 077610: AJACCIO/CAMPO D. ORO** FRANCE
Sources: A1, A81
Notes: A1: Temp; means of 8 3-hourly observations. Times not given for 1951-1960. From 1960 times are 00, 03, ..., 21 GMT. Alt: 1951-1960 = 5m, 1961-1970 = 9m. A81: Observations come from several different sites, but no details are available; 1853-1873 from P.C., 1874-1895 from a variety of sites & 1896-1973 from Corsica. Reliability: compared with 077470 for the years 1951-1980.
- 080010: LA CORUÑA** SPAIN
Sources: A1, A43
Notes: A1: Alt: 1950-1960 = 58m, 1961-1970 = 67m. Means of 1/2(mean max + mean min). A43: No details available. Reliability: compared with 081410 & 081610 for the years 1951-1980.

- 080150: OVIEDO SPAIN 43.2N 5.5W 244m 1851-1948 62
Sources: A29, A35, A41, A43, A130
- Notes: A29: No details available. A35: No details available. A41: Alt: 244m. Means of 1/2(max + min). A43: No details available. A130: 1941-1948; observations taken at La Catedral. No other details available. Reliability: uncheckable due to many large data gaps.
- 080160: GIJON SPAIN 43.5N 5.7W 1922-1950 80
Sources: A125
- Notes: A125: Means of 1/2(max + min). No other details available. Reliability: compared with 080420 & 082020 for the years 1923-1948. Some evidence for a trend 1926-1934. Data gap 1936-1938.
- 080230: SANTANDER SPAIN 43.5N 3.8W 68m 1877-1970 10 1951
Sources: A1, A43
- Notes: A1: Means of 1/2(mean max + mean min). Alt: 1951-1960 = 66m, 1961-1970 = 64m. A43: No details available. Reliability: compared with 080530, 081600 & 082220 for the years 1951-1970.
- 080250: BILBAO SPAIN 43.3N 2.8W 16m 1861-1900 80
Sources: A41, A43
- Notes: A41: Alt: 16m. Means of 1/2(max + min). A43: No details available. Reliability: compared with 081800 & 084180 for the years 1866-1900. Record has a definite trend & a jump.
- 080270: SAN SEBASTION SPAIN 43.3N 2.0W 25m 1877-1948 82
Sources: A41, A43, A130
- Notes: A41: Alt: 25m. Means of 1/2(max + min). A43: No details available. A130: Observations taken at Igueldo. No other details available. Reliability: compared with 081800 & 084180 for the years 1878-1948. Data gaps 1901-1925 & 1935-1939.
- 080420: SANTIAGO/COMPOSTELA SPAIN 42.8N 8.1W 1849-1948 12 1849
Sources: A35, A43, A130
- Notes: A35: No details available. A43: No details available. A130: 1947-1948; observations taken at the University. No other details available. Reliability: compared with 080150 for the years 1851-1948. Data gaps 1854-1925 & 1935-1939.
- 080530: PONFERRADA SPAIN 42.6N 6.6W 544m 1951-1970 10 1951
Sources: A1
- Notes: A1: 1951-1960; 1/2(max + min). 42.34°N 6.35°W, alt = 543m, 1961-1970; alt = 544m. Reliability: compared with 080230, 082210 & 082220 for the years 1951-1970.
- 080750: BURGOS/VILLAVIEJA SPAIN 42.4N 3.7W 891m 1862-1970 12 1951
Sources: A1, A41, A43, A130
- Notes: A1: Alt: 891m. Means of 1/2(mean max + mean min). A41: Alt: 860m. No other details available. A43: Means of 1/2(max + min). No other details available. A130: Observations taken at the Institute. No other details available. Reliability: compared with 081410 & 082220 for the years 1866-1970. Data gaps 1901-1925, 1935-1939 & 1945-1950.
- 081410: VALLADOLID SPAIN 41.7N 4.7W 715m 1861-1980 12 1866
Sources: A1, A41, A43, A130
- Notes: A1: Alt: 1951-1960 = 695m, 1961-1970 = 715m. Means of 1/2(mean max + mean min). A41: Alt: 760m. No other details available. A43: No details available. A130: No details available. Reliability: compared with 082220 & 085360 for the years 1866-1980. Data gaps 1900-1925 & 1935-1939. Very slight evidence of trends in this record.
- 081590: ZARAGOZA SPAIN 41.8N 1.1W 1953-1959 61
Sources: A1
- Notes: A1: 1953-1959; 1/2(max + min). 41.50°N 1.05°W, alt = 252m. Reliability: uncheckable.
- 081600: ZARAGOZA/SANJURJO SPAIN 41.7N 1.0W 258m 1951-1970 10 1951
Sources: A1, A43
- Notes: A1: Means of 1/2(mean max + mean min). Alt: 258m. A43: No details available. Reliability: compared with 082210 & 082220 for the years 1951-1970.
- 081610: ZARAGOZA SPAIN 41.7N .9W 233m 1861-1980 10 1951
Sources: A1, A43
- Notes: A1: Alt: 1951-1960 = 237m, 1961-1970 = 233m. Means of 1/2(mean max + mean min). A43: No details available. Reliability: compared with 080010 & 081410 for the years 1951-1980.
- 081800: BARCELONA SPAIN 41.4N 2.2E 95m 1835-1980 72 1926
Sources: A1, A35, A41, A43, A130
- Notes: A1: 1951-1960; alt = 93m. Temp: means of 1/2(mean max + mean min). Press: Values are reduced to 0C. The formula used for reduction of pressure to sea level is $P_0 = P_{\text{red}}(9.8/RT_m)$, applied observation by observation. The mean of these values is then obtained. 1961-1970; alt = 95m. A35: No details available. A41: No details available. A43: Press: Reduced to altitude of 43m. 1/2(09 + 15). A130: 1926-1931; University, 1932-1939; Oficina Regional, 1940-1942; Centro Meteorológico, 1943-1948; Observatory. No other details available. Reliability: compared with 076500 for the years 1838-1980. Record has numerous data gaps but is certainly inhomogeneous prior to 1900.

082020: SALAMANCA SPAIN 41.0N 5.7W 814m 1861-1948 12 1866
 Sources: A41, A43, A130
 Notes: A41: Alt; 814m. Means of 1/2(max + min). A43: No details available. A130: No details available. Reliability: compared with 082220 for the years 1866-1948. Data gaps 1900-1925 & 1935-1939.

082210: MADRID/BARAJAS SPAIN 40.5N 3.6W 606m 1951-1970 10 1951
 Sources: A1
 Notes: A1: 1951-1960; 1/2(max + min). 40 28'N 3 34'W, alt = 605m. 1961-1970; alt = 592m. Reliability: compared with 081600, 082220 & 080530 for the years 1951-1970.

082220: MADRID/RETIRO SPAIN 40.4N 3.7W 657m 1840-1980 12 1851
 Sources: A1, A35, A43
 Notes: A1: 1860-1920; means of 7 3-hourly observations. Alt = 652m. 1921-1930; 1/3(07 + 13 + 18) GMT. 1931-1940; 1/2(max + min). Alt = 667m. 1951-1960; Alt = 660m, 1961-1970 = 667m. A35: 1856-1859; anomalies from mean (no years given). No other details available. A43: No details available. Reliability: compared with 076500 & 085360 for the years 1940-1980 & 1854-1980. Data gap 1843-1853.

082800: ALBACETE SPAIN 39.0N 1.8E 43m 1866-1948 82
 Sources: A41, A43, A130
 Notes: A41: Alt; 43m. Means of 1/2(max + min). A43: No details available. A130: 1943-1948; observations taken at airport. No other details available. Reliability: compared with 076500, 076300 & 082220 for the years 1866-1948. Data gaps 1901-1925 & 1934-1942. Pre-1900 record shows distinct trends.

082850: VALENCIA SPAIN 39.5N .4W 11m 1861-1970 10 1951
 Sources: A1, A43
 Notes: Station was also known as Viveros. A1: Alt; 1951-1960 = 13m. 1961-1970 = 11m. Means of 1/2(mean max + mean min). A43: No details available. Reliability: compared with 084880 & 076500 for the years 1951-1970.

083010: PALMA/SON BONET BALEARIC IS. 39.5N 2.6E 45m 1866-1980 80
 Sources: A1, A43, A130
 Notes: A1: 1866-1920; 1/2(daily max + daily min). 1921-1925; 1/3(07 + 13 + 18) GMT. Alt; 23m. 1926-1970; 1/2(max + min). Alt; 1926-1950 = 28m, 1951-1960 = 43m, 1961-1970 = 28m. A43: No details available. A130: No details available. Reliability: compared with 083020 & 081800 for the years 1901-1970.

083020: PALMA/SON BONET BALEARIC IS. 39.6N 2.7E 45m 1861-1970 80
 Sources: A1, A43
 Notes: A1: 1866-1921; Means of 1/2(max + min). 1921-1925; 1/3(07 + 13 + 18) GMT. Alt; 23m. 1926-1970; 1/2(max + min). 1951-1960; alt = 43m, 1961-1970 = 28m. A43: No details available. Reliability: compared with 076500, 083010 & 081800 for the years 1901-1970. Record has many well-defined jumps & trends.

083060: SANTA CRUZ/FLORES PORTUGAL 39.5N 31.1W 1961-1970 61
 Sources: A1
 Notes: A1: 1961-1970; 1/2(max + min). 39 27'N 31 08'W, alt = 40m. Reliability: uncheckable.

083070: POLLENÇA BALEARIC IS. 39.9N 3.1E 2m 1951-1970 80
 Sources: A1
 Notes: A1: 1951-1960; 1/2(max + min). 39 54'N 3 06'E, alt = 2m. 1961-1970; alt = 12m. Reliability: compared with 083140 & 081800 for the years 1951-1970. Record has a definite trend & a jump.

083140: MAHON/SAN LUIS BALEARIC IS. 39.9N 4.3E 59m 1865-1980 82
 Sources: A1, A43, A130
 Notes: A1: Alt; 1951-1960 = 47m, 1961-1970 = 82m. Means of 1/2(mean max + mean min). A43: Temp; 1/2(max + min). Observations are also taken at same time as Press; 1890-1891; 1/2(09 + 15). 1892-1893; 1/3(09 + 15 + 21). 1896-1910; 1/2(09 + 15). Alt; 43m. 1911-1914; 39 53'N 1 57'E of Paris, alt = 43m. A130: No details available. Reliability: compared with 081800 & 076500 for the years 1890-1980. Data gaps 1911-1925 & 1935-1941.

083290: BADAJOZ SPAIN 38.9N 6.8W 192m 1951-1980 80
 Sources: A1
 Notes: A1: 1951-1960; Alt = 185m. Means of 1/2(mean max + mean min). Reliability: compared with 083900 & 082220 for the years 1951-1980. Record shows definite warming and cooling trends.

083300: BADAJOZ SPAIN 38.9N 6.8W 192m 1866-1948 12 1866
 Sources: A1, A41, A43, A130
 Notes: A41: Alt; 69m. No other details available. A43: No details available. A130: Observations taken at Institute. No other details available. A1: Means of 1/2(max + min). 1951-1960; alt = 185m. 1961-1970; alt = 192m. Reliability: compared with 082220 for the years 1866-1948. Data gaps 1900-1925 & 1935-1939.

- 083400: FONTE DELGADA AZORES 37.8N 25.7W 1961-1970 61
Sources: A1
Notes: A1: 1961-1970; 1/2(max + min). No other details available. Reliability: uncheckable.
- 083590: ALICANTE SPAIN 38.4N .5W 82m 1861-1980 80
Sources: A1, A43, A130
Notes: A1: Alt; 1951-1960 = 81m, 1961-1970 = 92m. Temp; means of 1/2(max + min). A43: No details available. A130: 1926-1939; observations taken at Institute, 1940-1948; at Ciudad Jardin. No other details available. Reliability: compared with 083900 & 084880 for the years 1951-1980. Record has a definite trend.
- 083900: SEVILLA/TARLADA SPAIN 37.4N 6.0W 13m 1862-1980 10 1951
Sources: A1, A43
Notes: A1: Means of 1/2(mean max + mean min). Alt; 1951-1960 = 8m, 1961-1970 = 14m. A43: No details available. Reliability: compared with 082220 & 081410 for the years 1951-1980.
- 084180: SCRIA SPAIN 41.7N 1.2E 1068m 1861-1948 12 1866
Sources: A41, A43, A130
Notes: A41: Alt; 1068m. No other details available. A43: No details available. A130: No details available. Reliability: compared with 082220 for the years 1866-1948. Data gaps 1901-1926 & 1935-1939.
- 084190: GRANADA SPAIN 37.2N 3.6W 680m 1861-1948 82
Sources: A41, A43, A130
Notes: A41: Alt; 680m. Means of 1/2(max + min). A43: No details available. A130: 1926-1940; observations taken at the University, 1941-1948; taken at La Cartuja. No other details available. Reliability: compared with 076500 & 076300 for the years 1866-1948. Data gaps 1886-1897, 1901-1925 & 1935-1940. Definite trends in pre-1900 record.
- 084530: SAN FERNANDO SPAIN 36.3N 6.1W 1850-1895 10 1850
Sources: A29, A43
Notes: A29: 1850-Mar 1855; 1/4(09 + 12 + 18 + 21). Apr 1855-Nov 1866; 1/6(06 + 09 + 12 + 15 + 18 + 21). Dec 1866-1885; 1/2(max + min). A43: No details available. Reliability: compared with 076500 & 076300 for the years 1850-1885.
- 084880: ALMERIA SPAIN 36.8N 2.5W 7m 1951-1980 10 1951
Sources: A1
Notes: A1: 1951-1970; 1/2(max + min). 36 50'N 2 28'W, alt = 6m. Reliability: compared with 084950 for the years 1951-1980.
- 084950: NORTH FRONT GIBRALTAR 36.2N 5.4W 3m 1951-1980 10 1951
Sources: A1
Notes: A1: 1961-1970; 1/2(max + min). No other details available. Reliability: compared with 084880 for the years 1951-1980.
- 085030: CORVO PORTUGAL 39.7N 31.1W 1961-1970 61
Sources: A1
Notes: A1: 1961-1970; 1/2(max + min). 39 40'N 31 07'W, alt = 29m. Reliability: uncheckable.
- 085050: HORTA AZORES 38.5N 28.7W 62m 1902-1980 70 1920
Sources: A1
Notes: A1: 1902-1914; alt = 31m. 1915-1930; 64m. 1902-1907; 1/4(09 + 12 + 15 + 21) corrected to means of 24 hours, corrections given on p81, vol 79. 1908-1930; means of 24 hours taken from a thermograph compared with a thermometer 5 times a day. 38 32'N 28 38'W. 1931-1946; means of 24 hours. Alt = 65m. In Jan 1915 observatory moved to town outskirts from 28m to 61m. 1947-1950; 1/4(12 + 24 + max + min) GMT. 1951-1960; 1/2(max + min). 38 31'N 28 38'W, alt = 62m. 1961-1970; alt = 60m. Reliability: compared with 085120, 085210 & 085360 for the years 1902-1980. Record shows very strong trends.
- 085090: LAJES AZORES 38.8N 27.1W 54m 1951-1970 81
Sources: A1
Notes: A1: 1951-1960; 1/2(max + min). 38 45'N 27 05'W, alt = 54m. Reliability: compared with 085120, 085210 & 085360 for the years 1951-1970. Record seems to have two trends.
- 085120: FONTE DELGADA AZORES 37.7N 25.7W 36m 1865-1980 70 1865
Sources: A1, A8, A29, A42, A52
Notes: A1: 1894-1907; 1/4(09 + 12 + 15 + 21), corrected to the means of 24 hourly readings, by corrections given on p82, vol 79. 1908-1950; means of 24 hourly readings, from a thermograph, compared with a standard thermometer 3 times a day. Alt; 1894-1930 = 22m, 1931-1950 = 37m. In Jan 1937 the station moved from 37 44'N 25 40'W to 37 45'N 25 40'W, alt = 30m. 1951-1960; 1/2(max + min). 1961-1970; 37 45'N 25 43'W, alt = 67m. A8: No details available. A29: No details available. A42: Alt = 20m. No other details available. A52: Alt = 20m. No other details available. Reliability: compared with 085210 for the years 1865-1980.
- 085150: SANTA MARIA PORTUGAL 37.0N 25.2W 100m 1961-1979 61
Sources: A1
Notes: A1: 1961-1970; 1/2(max + min). 36 58'N 25 10'W, alt = 100m. Reliability: uncheckable.

085210: FUNCHAL MADEIRA 32.6N 16.9W 56m 1864-1980 70 1900
Sources: A1, A35, A42, A52

Notes: A1: 1880-1930; Mean temps are an approximation to the mean of 24 hourly readings given by 1/4(09 + 21 + max + min). Alt = 25m. 1931-1940; 1/4(1008 + 2208 + max + min). 1941-1950; means of 24 hours GMT. On Jan 1 1950 the observatory was transferred to the town outskirts. A thermometer screen & rain gauge were maintained at the former site for comparison. 1951-1960; 1/2(max + min). Alt = 56m. 1961-1970; 32 41'N 16 46'W, alt = 50m. A35: No details available. A42: Alt: 25m. No other details available. A52: Alt = 25m. No other details available. Reliability: compared with 085120 for the years 1865-1980. Suspect prior to 1900.

085240: PORTO SANTO PORTUGAL 33.1N 16.3W 82m 1940-1970 10 1940
Sources: A1

Notes: A1: Alt: 82m. Means of 1/2(max + min). Reliability: compared with 085050 & 085120 for the years 1940-1970.

085300: CABO CARVOZEIRO PORTUGAL 39.4N 9.4W 1961-1970 61
Sources: A1

Notes: A1: 1961-1970; 1/2(max + min). 39 21'N 9 24'W, alt = 34m. Reliability: uncheckable.

085360: LISBON PORTUGAL 38.7N 9.1W 95m 1886-1980 70 1864
Sources: A1, A35, A42, A43, A80

Notes: Station was also known as Portela. A1: Alt: 1864-1960 = 95m, 1961-1970 = 110m. 1864-1960; means of 24 hours, GMT. In 1931 the rain gauge was moved, mean values of ratios for the 2 sites are given on p36, vol "1941-1950". 1961-1970; 1/2(max + min). A35: No details available. A42 & A43: Press; 1856-1863; means of 24 hours. 1864-1875; 1/4(09 + 12 + 15 + 21). Temp; 1856-1863; means of 24 hours. 1864-1875; 1/2(max + min). Alt: 102m. A80: No details available. Reliability: compared with 085210, 085120 & 082220 for the years 1864-1980, 1865-1980 & 1854-1980.

085377: SINTRA/GRANJA PORTUGAL 38.8N 9.3W 133m 1939-1960 62
Sources: A1

Notes: A1: 1939-1960; 38 50'N 9 20'W, alt = 133m. 1/2(max + min). Reliability: uncheckable.

085380: SAGRES PORTUGAL 37.0N 9.0W 1961-1970 61
Sources: A1

Notes: A1: 1961-1970; 1/2(max + min). 36 59'N 8 57'W, alt = 41m. Reliability: uncheckable.

085430: VIANA DO CASTELO PORTUGAL 41.7N 8.8W 1961-1970 61
Sources: A1

Notes: A1: 1961-1970; 1/2(max + min). 41 41'N 8 50'W, alt = 10m. Reliability: uncheckable.

085450: PORTO PORTUGAL 41.2N 8.7W 70m 1862-1980 12 1961
Sources: A1, A42, A43, A52, A106

Notes: Station was also known as Pedras Rubas. A1: Alt: 73m. Means of 1/2(max + min). A42: Alt: 85m. Means of 1/2(max + min). A43: No details available. A52: Alt: 85m. Means of 1/2(max + min). A106: Normal values, /CIHO/, only. No other details available. Reliability: compared with 083360 for the years 1863-1980. Data gap 1901-1960.

085490: COIMBRA PORTUGAL 40.2N 8.4W 141m 1866-1975 12 1866
Sources: A1, A20, A21, A43, A106

Notes: A1: Alt: 140m. Means of 1/2(mean max + mean min). A20: Alt: 140m. No other details available. A21: Alt: 140m. No other details available. A43: No other details available. A106: Normal values, /CIHO/, only. No other details available. Reliability: compared with 083360 for the years 1866-1975. Data gap 1941-1960.

085540: FARO PORTUGAL 37.0N 8.0W 8m 1961-1975 61
Sources: A1

Notes: A1: 1961-1970; 1/2(max + min). 37 01'N 7 58'W, alt = 9m. Reliability: uncheckable.

085570: EVORA PORTUGAL 38.6N 7.9W 1869-1970 61
Sources: A1, A43

Notes: A1: 1961-1970; 1/2(max + min). Alt = 309m. A43: No details available. Reliability: uncheckable.

085607: GUARDA PORTUGAL 40.5N 7.3W 85m 1863-1930 82
Sources: A42, A43, A52, A71

Notes: A42: Alt: 85m. Means of 1/2(max + min). A43: No details available. A52: Alt: 85m. Means of 1/2(max + min). A71: Means of 1/4(09 + 21 + max + min). No other details available. Reliability: compared with 082220 & 085360 for the years 1863-1930. Data gap 1921-1929. Record shows trends both prior to & after 1900.

085620: BEJA PORTUGAL 38.0N 7.9W 246m 1961-1975 61
Sources: A1

Notes: A1: 1961-1970; 1/2(max + min). 38 01'N 7 52'W, alt = 247m. Reliability: uncheckable.

085660: VILA REAL PORTUGAL 41.3N 7.7W 1961-1970 61
Sources: A1
Notes: A1: 1961-1970; 1/2(max + min). 41 19'N 7 44'W, alt = 482m. Reliability: uncheckable.

085680: FERNAS DOURADAS PORTUGAL 40.4N 7.6W 1380m 1961-1975 61
Sources: A1
Notes: A1: 1961-1970; 1/2(max + min). 40 25'N 7 33'W, alt = 1380m. Reliability: uncheckable.

085707: CAMPO MAIOR PORTUGAL 39.0N 7.0W 280m 1861-1930 82
Sources: A42, A43, A52, A71
Notes: A42: Alt; 280m. Means of 1/2(max + min). A43: No details available. A52: Alt; 280m. Means of 1/2(max + min). A71: Means of 1/4(09 + 21 + max + min). Reliability: compared with 082220, 085360 & 085607 for the years 1863-1930. Data gap 1882-1897. Record above trends both prior to & after 1900.

085710: FORTALEGRE PORTUGAL 39.3N 7.4W 1961-1970 61
Sources: A1
Notes: A1: 1961-1970; 1/2(max + min). 39 17'N 7 25'W, alt = 590m. Reliability: uncheckable.

085750: BRAGANCA PORTUGAL 41.8N 6.8W 691m 1961-1975 61
Sources: A1
Notes: A1: 1961-1970; 1/2(max + min). 41 49'N 6 46'W, alt = 692m. Reliability: uncheckable.

085810: MINDELO CAPE VERDE I 16.9N 25.1W 16m 1884-1961 10 1884
Sources: A1, A52, A71
Notes: A1: 1921-1930; 1/4(09 + 21 + max + min) local time. Alt; 11m. 1931-1950; 1/4(11 + 23 + max + min) GMT. Alt; 16m. 1951-1960; 1/2(mean max + mean min). Alt; 15m. A71: Press; means of 1/3(09 + 15 + 21), reduced to 0C. Temp; 1/4(09 + 21 + max + min). A52: Alt; 11m. Means of 1/2(max + min). Reliability: Compared with 085890 & 085940 for the years 1904-1960 & 1951-1961.

085890: PRAIA CAPE VERDE I 14.9N 23.5W 35m 1904-1960 10 1904
Sources: A1, A71
Notes: A71: Also known as Sao Thiago. Press; 1/3(09 + 15 + 21). Temp; 1/4(09 + 21 + max + min). A1: 1921-1930; 1/4(09 + 21 + max + min) local time. 1921-1950; alt = 34m, 1951-1960 = 35m. 1931-1950; 1/4(11 + 23 + max + min) GMT. In 1941 station moved from 14 54'N 23 31'W to 14 55'N 23 31'W. 1951-1960; 1/2(max + min). Reliability: compared with 085830 & 085940 for the years 1904-1960 & 1951-1960.

085940: SAL CAPE VERDE I 16.7N 23.0W 55m 1951-1975 10 1951
Sources: A1
Notes: A1: 1/2(max + min). 1951-1960; 16 44'N 22 37'W, alt = 55m. 1961-1970; 16 45'N 22 37'W, alt = 54m. Reliability: compared with 085830 & 085890 for the years 1951-1961 & 1951-1960.

085997: SERRO DO PILLAR PORTUGAL 1901-1930 10 1901
Sources: A71
Notes: A71: Means of 24 hourly observations. No other details available. Reliability: compared with 085890 for the years 1904-1930.

090360: MAGDEBURG E. GERMANY 52.1N 11.6E 1961-1970 61
Sources: A1
Notes: A1: 1961; 1/4(01 + 07 + 13 + 19) local time. 1962-1966; 1/4(00 + 06 + 12 + 18) GMT. 1967-1970; 1/8(00 + 03 + ...21) GMT. No other details available. Reliability: uncheckable.

090916: FURUS E. GERMANY 54.7N 13.4E 42m 1854-1977 63
Sources: A14, A35
Notes: A14: Alt; 42m. No other details available. A35: Anomalies from mean (no years given). Reliability: uncheckable.

090917: ROSTOCK E. GERMANY 54.1N 12.2E 1832-1868 10 1832
Sources: A35
Notes: A35: 1859-1868; Anomalies from mean (no years given). No other details available. Reliability: compared with 090927 & 094700 for the years 1832-1863 & 1832-1868.

090927: SYLT E. GERMANY 54.1N 12.7E 650m 1830-1888 10 1830
Sources: A35, A101
Notes: A35: 1859-1863; Anomalies from mean (no years given). No other details available. A101: Alt; 1862-1884 = 439m, 1882-1888 = 650m. No other details available. Reliability: compared with 090917 & 103840 for the years 1832-1863 & 1830-1863.

091700: WARMERONDE E. GERMANY 54.2N 12.1E 4m 1951-1980 10 1951
Sources: A1
Notes: A1: 1951-1952; 1/4(01 + 07 + 13 + 19) local time. 54 11'N 12 05'E, alt = 10m. 1953-1960; alt = 13m. 1961; alt = 10m. 1962-1965; 1/4(00 + 06 + 12 + 18) GMT. 1966-1970; 1/8(00 + 03 + 06 + ...21) GMT. Reliability: compared with 091840 & 103840 for the years 1951-1980.

091840: GRIEFSWALD/WIECK E. GERMANY 54.1N 13.5E 1m 1951-1980 10 1951
Sources: A1

Notes: A1: 1951; 54 06'N 13 23'E, alt = 10m. 1952-1960; 54 06'N 13 27'E, alt = 3m. 1961-Sept 1964; alt = 1m. Oct 1964-1970; alt = 2m. 1951-1961; 1/4(01 + 07 + 13 + 19) local time. 1962-1966; 1/4(00 + 06 + 12 + 18) GMT. 1967-1970; 1/8(00 + 03 +21) GMT. Reliability: compared with 103840 & 091700 for the years 1951-1980.

092190: NEUSTRELITZ E. GERMANY 53.4N 13.1E 64m 1951-1976 10 1951
Sources: A1

Notes: A1: 1951-1954; 53 21'N 13 05'E, alt = 65m. 1/4(01 + 07 + 13 + 19) local time. 1955-1960; alt = 70m. 1961; alt = 66m. 1962-1966; 1/4(00 + 06 + 12 + 18) GMT. 1967-1970; 1/8(00 + 03 +21) GMT. Reliability: compared with 103840 & 091840 for the years 1951-1976.

093610: MACDEBURG E. GERMANY 52.1N 11.6E 79m 1951-1976 10 1951
Sources: A1

Notes: A1: 1951-1952; 52 06'N 11 35'E, alt = 82m. 1953-1961; alt = 85m. 1/4(01 + 07 + 13 + 19) local time. 1962-1966; 1/4(00 + 06 + 12 + 18) GMT. Reliability: compared with 103840 & 091840 for the years 1951-1976.

093700: POTSDAM E. GERMANY 52.4N 13.1E 85m 1893-1980 10 1893
Sources: A1

Notes: A1: 1893-1940; 1/4(07 + 14 + 21 + 21). Alt; 80m. 1941-1950; 1/4(07 + 13 + 21 + 21) 15E meridian time. Alt; 85m. 1951-1961; 1/4(01 + 07 + 13 + 19) local time. 1962-1966; 1/4(00 + 06 + 12 + 18) GMT. 1967-1970; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21). 52 23'N 13 4'E, alt = 81m. Reliability: compared with 103810 & 103640 for the years 1893-1970 & 1893-1980.

093930: LINDENBERG E. GERMANY 52.2N 14.1E 98m 1951-1980 10 1951
Sources: A1

Notes: A1: 1951-1960; 1/4(01 + 07 + 13 + 19) local time. 52 13'N 14 07'E, alt = 106m. Reliability: compared with 093610 & 094530 for the years 1951-1976.

093980: FRANKFURT AMODER E. GERMANY 52.3N 14.6E 48m 1848-1976 63
Sources: A14, A35

Notes: A14; 48m. No other details available. A35; 1859-1868; anomalies from mean (years not given). No other details available. Reliability: uncheckable.

094530: BROCKEN E. GERMANY 51.8N 10.6E 1142m 1951-1976 10 1951
Sources: A1

Notes: A1: 1951-1961; 51 48'N 10 37'E, alt = 1153m. 1/4(01 + 07 + 13 + 19) local time. 1962-1966; 1/4(00 + 06 + 12 + 18) GMT. 1967-1970; 1/8(00 + 03 +

...21) GMT. Reliability: compared with 093610 & 093930 for the years 1951-1976.

094540: WERMIGERODE E. GERMANY 51.9N 10.8E 234m 1961-1976 61
Sources: A1

Notes: A1: 1951-1961; 51 51'N 10 46'E, alt = 240m. 1/4(01 + 07 + 13 + 19) GMT. 1962-1965; 1/4(00 + 06 + 12 + 18) GMT. 1966-1970; 1/8(00 + 03 +21) GMT. Reliability: uncheckable.

094547: WERMIGERODE E. GERMANY 51.9N 10.8E 234m 1951-1967 61
Sources: A1

Notes: A1: 1961; 1/4(01 + 07 + 13 + 19) local time. 1962-1966; 1/4(00 + 06 + 12 + 18) GMT. 1967; 1/8(00 + 03 +21) GMT. No other details available. Reliability: uncheckable.

094557: KOTHEN E. GERMANY 51.8N 11.9E 1823-1847 62
Sources: A35

Notes: A35: No details available. Reliability: uncheckable.

094690: LEIPZIG E. GERMANY 51.3N 12.4E 148m 1951-1980 10 1951
Sources: A1

Notes: A1: 1951-1960; alt = 148m. 1961-1970 = 127m. 1951-1957; 1/4(01 + 07 + 13 + 19) local time. 1958-1960; 1/4(07 + 14 + 21 + 21) local time. Irec is measured at 07h & credited to the day of measurement. After 1969 rain is credited to the previous day. 1961; 1/4(01 + 07 + 13 + 19) local time. 1962-1966; 1/4(00 + 06 + 12 + 18) GMT. 1967-1970; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) GMT. Reliability: compared with 093790 for the period 1951-1980.

094700: LEIPZIG E. GERMANY 51.4N 12.4E 137m 1759-1935 12 1840
Sources: A34, A35

Notes: A34; Alt; 128m. No other details available. A35; 1759-1831; Anomalies from mean (no years given). No other details available. Reliability: compared with 094999 for the years 1770-1935. Data gaps 1772-1824.

094797: TOBGAU E. GERMANY 51.6N 13.0E 80m 1848-1977 63
Sources: A14, A35

Notes: A14; Alt; 80m. No other details available. A35; 1859-1868; anomalies from mean (years not given). No other details available. Reliability: uncheckable.

094798: HALLE E.GERMANY 51.5N 11.9E 111m 1820-1976 81
Sources: A14, A35

Notes: A14; Alt; 111m. No other details available. A35: 1859-1868; anomalies from mean (years not given). No other details available. Reliability: compared with 103840 & 094700 for the years 1820-1868.

094800: VAHNSDORF E.GERMANY 51.1N 13.7E 246m 1812-1974 10 1812
Sources: A1, A14, A35

Notes: A1; Alt; 1951-1960 - 257m, 1961-1970 - 246m, 1951-1961; means of 1/4(01 + 07 + 13 + 19) local time. Rain is measured at 07h & assigned to the day of measurement. 1962-1970; 1/4(00 + 06 + 12 + 18) GMT. From Jan 1969 rain is measured at 07h & assigned to the previous day. A14: No details available. A35: 1859-1868; anomalies from mean (years not given). 1848-1858; Mar-Aug only. Alt; 360m. Reliability: compared with 094700 for the years 1812-1974.

094810: DRESDEN E.GERMANY 51.1N 13.8E 246m 1851-1980 61
Sources: A1, A14, A35, A169

Notes: A1; Alt; 1951-1960 - 257m, 1961-1970 - 246m, 1951-1961; 1/4(01 + 07 + 13 + 19) local time. Prec is measured at 07h & credited to the day of measurement. 1962-1970; 1/4(00 + 06 + 12 + 18) GMT. From Jan 1969 prec is measured at 07h & assigned to the previous day. A14: No details available. A35: 1859-1868; anomalies from mean. Alt; 360m. No other details available. A169: Alt; 112m. No other details available. Reliability: uncheckable.

094930: GOBLITZ E.GERMANY 51.2N 15.0E 237m 1836-1980 10 1836
Sources: A1, A14, A35

Notes: A1; Alt; 238m, 1951-1961; means of 1/4(01 + 07 + 13 + 19) local time. Rain is measured at 07h & credited to the day of measurement. 1962-1966; 1/4(01 + 06 + 12 + 18) GMT. 1967-1970; means of 8 3-hourly observations, 01, 03...21 GMT. From 1969 rain is ascribed to the previous day. A14: Alt; 238m. No other details available. A35: 1859-1868; anomalies from mean (years not given). No other details available. Reliability: compared with 103840, 094700 & 094999 for the years 1836-1980, 1836-1935 & 1836-1935. Data gap 1869-1950.

094998: ARMSTADT E.GERMANY 50.8N 11.7E 89m 1823-1867 10 1823
Sources: A35

Notes: A35; Alt; 89m, 1858-1867; Anomalies from mean (no years given). No other details available. Reliability: compared with 103840 & 094700 for the years 1823-1867.

094999: JENA E.GERMANY 50.9N 11.6E 155m 1770-1973 10 1833
Sources: A8, A14, A35

Notes: A8; No details available. A14; Alt; 155m. No other details available. A35: No details available. Reliability: compared with 103840 & 094700 for the years 1770-1935. Data gap 1801-1819.

095460: KALTENORDRIZIM E.GERMANY 50.6N 10.2E 1970-1980 61
Sources: A1

Notes: A1; 1/8(00 + 03 +21) GMT. No other details available. Reliability: uncheckable.

095540: ERFURT/BINDERSEEBEN E.GERMANY 51.0N 11.0E 314m 1827-1980 12 1848
Sources: A1, A14, A35, A169

Notes: A1; Means of 1/4(01 + 07 + 13 + 19). Rain is measured at 07 GMT & credited to the day of measurement. Alt; 1951-June 1957 - 257m, July 1957-1964 - 316m, Sept 1964-1970 - 315m, 1962-1966; 1/4(00 + 06 + 12 + 18) GMT. 1967-1968; 1/8(00 + 03 +21) GMT. 1969 on; rain is credited to the previous day. A14; Alt; 314m. No other details available. A35: 1859-1868; Anomalies from mean (no years given). Alt; 700m. No other details available. A169: Alt; 218m. No other details available. Reliability: compared with 094998, 093790, 103810 & 103840 for the years 1848-1867, 1893-1980, 1848-1970 & 1848-1980. Data gap 1869-1950.

095599: STRALSUND E.GERMANY 54.3N 13.1E 1828-1852 10 1828
Sources: A35

Notes: A35; No details available. Reliability: compared with 090927 & 094700 for the years 1830-1852 & 1828-1852.

095780: FICHTELBERG E.GERMANY 50.4N 13.0E 1215m 1963-1980 61
Sources: A1

Notes: A1; 1963-1966; 1/4(00 + 06 + 12 + 18) GMT. 1967-1970; 1/8(00 + 03 +21) GMT. No other details available. Reliability: uncheckable.

100350: SCHLESWIG V.GERMANY 54.5N 9.6E 48m 1954-1980 10 1954
Sources: A1

Notes: A1; 1954-1970; 1/4(07 + 14 + 21 + 21) local time. 54 32'N 9 33'E, alt - 48m. Reliability: compared with 103380 & 101470 for the years 1954-1980.

100450: KIEL V.GERMANY 54.3N 10.1E 4m 1849-1974 10 1849
Sources: A14, A35, A169

Notes: A14; Alt; 4m. No other details available. A35: 1859-1868; anomalies from mean (no years given). No other details available. A169: Alt; 47m. No other details available. Reliability: compared with 102030 & 103380 for the years 1869-1930. 1927-1930 data have been omitted.

101307: LUNEBURG V.GERMANY 53.3N 10.4E 11m 1854-1975 63
Sources: A14, A35

Notes: A14; Alt; 11m. No other details available. A35: Anomalies from mean (no years given). Reliability: uncheckable.

101308: EUTIN W.GERMANY 54.1N 10.6E 47m 1856-1974 63
 Sources: A14, A35

Notes: A14: Alt; 49m. No other details available. A35: Anomalies from mean (no years given). Reliability: uncheckable.

101470: HAMBURG/FUHLSDUTTEL W.GERMANY 53.6N 10.0E 16m 1951-1980 10 1951
 Sources: A1

Notes: A1: 1951-May 1968; Fuhlbuettel, 53 38'N 10 00'E, alt = 15m. 1/4(07 + 14 + 21 + 21). June 1968-1970; 53 38'N 9 59'E, alt = 16m. Reliability: compared with 100350 & 103380 for the years 1954-1980 & 1951-1980.

101560: LUBECK W.GERMANY 53.9N 10.7E 1840-1868 83
 Sources: A35

Notes: A35: 1859-1868; anomalies from mean (no years given). No other details available. Reliability: compared with 103810 & 103840 for the years 1840-1868. Record shows two trends.

101770: TETERON W.GERMANY 53.8N 12.6E 1951-1960 61
 Sources: A1

Notes: A1: 1951-Oct 1952; 53 46'N 12 38'E, alt = 65m. Oct 1952-1960; 53 46'N 12 37'E, alt = 50m. 1/4(01 + 07 + 13 + 19) local time. Reliability: uncheckable.

102020: ENDEN W.GERMANY 53.4N 7.2E 1961-1970 61
 Sources: A1

Notes: A1: May 1955-Mar 1960; 53 22'N 7 13'E, alt = 1m. April-Dec 1960; 53 20'N 7 12'E, alt = 12m. 1/4(07 + 14 + 21 + 21) local time. Reliability: uncheckable.

102030: EMDEN-WOLTHUSEN W.GERMANY 53.3N 7.2E 1m 1864-1980 40
 Sources: A1, A14, A35, A101, A169

Notes: Station was also known locally as Neeserland. A1: 1955-1970; means of 1/4(07 + 14 + 21 + 21). Rain is measured at 07h & credited to the day of measurement. 1955-Mar 1960; alt = 1m, April 1960-1977 = 12m. A14: No details available. A35: 1859-1868; anomalies from mean (no years given). A101: No details available. A169: Alt; 6m. No other details available. Reliability: compared with 103380 & 100350 for the years 1856-1980 & 1954-1980. Data gap 1869-1955, followed by urban warming.

102240: BREMEN W.GERMANY 53.1N 8.8E 4m 1829-1975 62
 Sources: A14, A35, A101

Notes: A14: Alt; 4m. No other details available. A35: 1856-1866; anomalies from mean (years not given). No other details available. A101: No details available. Reliability: uncheckable.

103130: XUNSTER W.GERMANY 52.0N 7.6E 64m 1818-1975 73 1853
 Sources: A14, A35, A101

Notes: A14: Alt; 64m. No other details available. A35: 1859-1868; Anomalies from mean (no years given). No other details available. A101: Alt; 55m. No other details available. Reliability: compared with 105010 for the years 1829-1868. Data gap 1827-1852.

103380: BARMOYER W.GERMANY 52.5N 9.7E 55m 1856-1980 10 1856
 Sources: A1, A14, A35, A101, A169

Notes: A1: Alt; 1951-1960 = 53m, 1961-1970 = 54m. Means of 1/4(07 + 14 + 21 + 21) local time. Rain is measured at 07h & credited to the day of measurement. A14: Alt; 50m. No other details available. A35: Anomalies from mean (years not given). A101: No details available. A169: Alt; 57m. No other details available. Reliability: compared with 104020 & 101470 for the years 1856-1980 & 1951-1980. Data gap 1869-1950.

103480: BRAUNSCHWEIG W.GERMANY 52.3N 10.5E 83m 1825-1890 10 1825
 Sources: A35, A101

Notes: A35: Anomalies from mean. No other details available. A101: Alt; 83m. No other details available. Reliability: compared with 103810 & 103840 for the years 1825-1855.

103810: BERLIN/DARLEM W.GERMANY 52.6N 13.4E 58m 1769-1975 80
 Sources: A1

Notes: A1: 1769-1786; 1/3(0700 + 1430 + 2200) summer time & 1/3(0800 + 1430 + 2200) winter. 1787-1821; 1/3(08 + 13 + 23). 1822-1846; 1/4(08 + 14 + 22 + 22). 1841-1847; 1/2(max + min) reduced to 1/3(06 + 14 + 22) by means of simultaneous observations. 1848-1886; 1/3(06 + 14 + 22). 1887-1920; 1/4(07 + 14 + 21 + 21). See p51, vol 79 for notes on homogeneity & errors. Alt; 35m. 1921-1950; 1/4(07 + 14 + 21 + 21) 15E meridian time. 1951-1970; 1/4(07 + 14 + 21 + 21). Rain is measured at 07h & credited to the day of measurement. 1804-1816 temp too low, 1873-1882 0.2C too warm & in 1886 0.2C too low. Reliability: compared with 103840 & 093790 for the years 1769-1970 & 1893-1970. Record shows a jump about 1930.

103840: BERLIN W.GERMANY 52.5N 13.4E 50m 1701-1980 10 1701
 Sources: A1, A14, A26, A35, A95

Notes: A1: 1951-1970; 1/4(07 + 14 + 21 + 21). Rain is measured at 07h & credited to day of measurement. Alt; 1951-1957 = 49m, 1957-1970 = 55m. A minor local move in this site occurred in 1970, with a change in alt to 46m. A14: No details available. A26: No details available. A35: No details available. A95: No details available. Reliability: compared with 103810, 094700, 094880 & 095540 for the years 1769-1970, 1759-1935, 1851-1930 & 1869-1930. Data gaps 1710-1721 & 1750-1755. Record shows definite trend 1900-1930 & jumps at about 1908 & 1951.

104060: BOCHUM W.GERMANY 51.5N 7.2E 1820-1851 83
Sources: A35
Notes: A35: No details available. Reliability: compared with 105010, 106380 & 104247 for the years 1829-1851, 1820-1851 & 1820-1851.

104100: ESSEN W.GERMANY 51.4N 7.0E 161m 1951-1980 10 1951
Sources: A1
Notes: A1: 1951-1960; 51 25'N 6 57'E, alt = 128m. 1/4(07 + 14 + 21 + 21) local time. 1961-Nov 1965; alt = 120m. Dec 1965-1970; 51 24'N 6 58'E, alt = 154m. Reliability: compared with 106280 for the years 1951-1980.

104247: ARNSBERG W.GERMANY 51.4N 8.1E 212m 1817-1890 13 1817
Sources: A35, A101
Notes: A35: Alt; 188m. No other details available. A101: Alt; 212m. No other details available. Reliability: compared with 106380 for the years 1817-1851.

104380: KASSEL W.GERMANY 51.3N 9.5E 163m 1863-1980 81
Sources: A1, A169
Notes: A169: Alt; 200m. No other details available. A1: 1953-1970; 1/4(07 + 14 + 21 + 21) local time. 51 19'N 9 29'E, alt = 163m. Reliability: compared with 104100 & 106280 for the years 1953-1980. Record shows definite cooling trend 1975-1980.

104440: GOTTINGEN W.GERMANY 51.5N 9.9E 176m 1857-1975 63
Sources: A14, A35, A101
Notes: A14: Alt; 176m. No other details available. A35: Anomalies from mean (no years given). A101: No details available. Reliability: uncheckable.

104577: KLAUSTHAL W.GERMANY 51.8N 10.3E 566m 16 1975 63
Sources: A14, A35, A101
Notes: A14: Alt; 566m. No other details available. A35: Anomalies from mean (no years given). No other details available. A101: No details available. Reliability: uncheckable.

105010: AACHEN W.GERMANY 50.8N 6.1E 177m 1829-1893 13 1833
Sources: A29, A35, A101
Notes: A29: Alt; 1838-1857 = 123m, 1858-1872 = 175m, 1873-1893 = 177m. 1829-1837; 1/3(0700 + 1430 + 2150). 1838-1846; 1/3(07 + 13 + 21). 1847-1886; 1/3(06 + 14 + 22). 1887-1893; 1/4(07 + 14 + 21 + 21). A35: No details available. A101: Alt; 175m. No other details available. Reliability: compared with 064470 for the years 1833-1893.

105090: KOLN W.GERMANY 51.0N 7.0E 45m 1848-1975 63
Sources: A14, A35, A101

Notes: A14: Alt; 45m. No other details available. A35: No details available. A101: No details available. Reliability: uncheckable.

105150: KOBLENZ W.GERMANY 50.4N 7.6E 69m 1818-1868 63
Sources: A35, A101

Notes: A35: No details available. A101: Alt; 69m. No other details available. Reliability: uncheckable.

105550: WEIMAR W.GERMANY 51.0N 11.3E 1951-1960 61
Sources: A1

Notes: A1: 1951; 50 59'N 11 19'E, alt = 266m. 1952-1960; alt = 268m. 1/4(01 + 07 + 13 + 19) local time. Reliability: uncheckable.

106090: TRIER W.GERMANY 49.8N 6.7E 273m 1788-1975 82
Sources: A1, A14, A35, A43, A101

Notes: Station was also known as Petriberg. A1: 1806-1937; Alt = 146m. 1938-1950; Alt = 149m. 1951-1970; Alt = 273m. Means of 1/4(07 + 14 + 21 + 21) 15E meridian time. Sept 1944-Aug 1946; Temp values were interpolated from Berrkatel. A14: Site; 49.7N 6.7E. Alt; 273m. No other details available. A35: No details available. A43: "Real" means. A101: No details available. Reliability: compared with 109670 & 108660 for the years 1788-1970 & 1788-1950. Data gaps 1817-1849 & 1898-1937.

106280: GEISENHEIM W.GERMANY 50.0N 8.0E 108m 1951-1980 10 1951
Sources: A1

Notes: A1: 1951-1970; 1/4(07 + 14 + 21 + 21) local time. 49 59'N 7 58'E, alt = 108m. Reliability: compared with 104100 & 109340 for the years 1951-1980 & 1951-1976.

106370: FRANKFURT A MAIN W.GERMANY 50.1N 8.6E 113m 1961-1970 61
Sources: A1

Notes: A1: Flughafen. Alt; 113m. 1/4(07 + 14 + 21 + 21) 15E meridian time. Reliability: uncheckable.

106380: FRANKFURT A MAIN W.GERMANY 50.1N 8.7E 109m 1757-1975 10 1757
Sources: A1, A14, A35, A87, A101, A118

Notes: A1: 1835-Mar 1853; 1/4(09 + 15 + 22 + min). April 1853-Dec 1892; 1/3(06 + 14 + 22). 1893-1920; 1/4(07 + 14 + 21 + 21). From 1888 the thermometer was in a screen & after Feb 1899, in an English shelter. Dec 1907 station moved. Temp was about 0.3C too high 1857-1861 & 1899-1907. 1921-1940; 1/4(07 + 14 + 21 + 21). Alt; 98m. 1931-1950; alt = 103m. 1941-1961; 1/4(07 + 14 + 21 + 21) 15E MT. Alt; 1951-1960; 109m. Stadt closed in 1961, having become inhomogeneous due to several interruptions & transfers. A14: Alt; 109m. No

- other details available. A35: No details available. A87: No details available. A101: No details available. A118: 1826; 1/4(08 + 20 + max + min). 1827-1892; 1/4(09 + 15 + 22 + min). 1893-1895; 1/4(07 + 14 + 21 + 21). Reliability: compared with 103840 for the years 1757-1961.
- 106390: DARMSTADT W.GERMANY 49.9N 8.7E 157m 1830-1930 10 1830
Sources: A35, A101, A169
- Notes: A35: Anomalies from mean (no years given). No other details available. A101: Alt; 57m. No other details available. A169: Alt; 147m. No other details available. Reliability: compared with 106380 & 108660 for the years 1830-1866.
- 106877: BAYREUTH W.GERMANY 49.9N 11.6E 320m 1814-1930 63
Sources: A35, A101, A169
- Notes: A35: No details available. A101: Alt varied from 338 to 359m. No other details available. A169: Alt; 364m. No other details available. Reliability: uncheckable.
- 107080: SAARBRUECKEN W.GERMANY 49.2N 7.0E 191m 1951-1970 61
Sources: A1
- Notes: A1: 1951-Aug 1955; 49 13'W 7 01'E, alt = 190m. Sept 1957-1960; alt = 191m. Station moved several times Sept 1955-Aug 1957 but no details are given. Data from Sept 1957 are not homogeneous with the earlier site. 1/4(07 + 14 + 21 + 21) local time. 1961-1970; Ensheims, 49 13'W 7 07'E, alt = 334m, does not continue former record of Stadt. Reliability: uncheckable.
- 107270: KARLSRUHE W.GERMANY 49.0N 8.4E 114m 1779-1976 10 1779
Sources: A14, A35, A101, A169
- Notes: A14: Alt; 114m. No other details available. A35: No details available. A101: Alt; 118m. No other details available. A169: Alt; 125m. No other details available. Reliability: compared with 107390, 109620 & 108660 for the years 1869-1930, 1855-1930 & 1855-1930.
- 107380: STUTTGART/ECHTERD W.GERMANY 48.7N 9.2E 396m 1952-1970 61
Sources: A1
- Notes: A1: Means of 1/4(07 + 14 + 21 + 21). Alt; 396m. Reliability: uncheckable.
- 107390: STUTTGART/CANNSTADT W.GERMANY 48.8N 9.2E 315m 1792-1980 10 1961
Sources: A1, A14, A35, A101, A169
- Notes: A1: Means of 1/4(07 + 14 + 21 + 21). Alt; 315m. A14: Alt; 401m. No other details available. A35: 1856-1868; Anomalies from mean (no years given). No other details available. A101: 426; 268m. No other details available. A169: Alt; 267m. No other details available. Reliability: compared with 108660 & 109610 for the years 1792-1950 & 1951-1980.
- 107630: KURBBERG W.GERMANY 49.5N 11.1E 319m 1879-1980 41
Sources: A1, A35, A101, A106
- Notes: Station was also known as Kraftshoe. A1: 1955-1970; 1/4(07 + 14 + 21 + 21) local time. Alt; 312m. A35: No details available. A101: Alt; 315m. No other details available. A106: Normal values, /CLIM0/, only. Press; 1/3(07 + 14 + 21) reduced to mean sea level. Temp; 1/4(07 + 14 + 21 + 21). Reliability: compared with 109340 & 106280 for the years 1955-1976 & 1955-1980.
- 107760: REGENSBURG W.GERMANY 49.0N 12.1E 377m 1773-1975 83
Sources: A14, A35
- Notes: A14: Alt; 377m. No other details available. A35: No details available. Reliability: compared with 108660 for the years 1781-1834.
- 108520: AUGSBURG W.GERMANY 48.4N 10.4E 490m 1813-1973 63
Sources: A14, A35
- Notes: A14: Alt; 490m. No other details available. A35: No details available. Reliability: uncheckable.
- 108660: MUNCHEN/RIEM W.GERMANY 48.1N 11.7E 529m 1781-1980 10 1781
Sources: A1, A14, A35, A83, A169, A171
- Notes: A1: Alt; 1951-1960 = 527m, 1961-1970 = 529m, 1951-1960; 1/4(01 + 07 + 13 + 19) local time. In April 1969 the station moved from 48 08'N 11 42'E, alt = 524m, to 48 09'N 11 43'E, alt = 527m. New temp values are about 0.3C lower than the former site. 1961-1970; 1/4(07 + 14 + 21 + 21). A14: 48.2N 11.6E, alt = 315m. No other details available. A35: 1825-1866; anomalies from mean (no years given). Alt; 1590m. No other details available. A83: No details available. A169: Alt; 530m. No other details available. A171: No details available. Reliability: compared with 109620 for the years 1781-1970.
- 109340: FRIEDRICHSHAFEN W.GERMANY 47.7N 9.5E 407m 1826-1976 10 1866
Sources: A1, A14, A101, A169
- Notes: Station was also known as Bodensee. A1: Means of 1/4(07 + 14 + 21 + 21) local time. Rain is measured at 07h & credited to the day of measurement. Alt; 407m. A14: Alt; 401m. No other details available. A101: Alt; 407m. No other details available. A169: Alt; 408m. No other details available. Reliability: compared with 106280 & 109610 for the years 1951-1976.
- 109610: ZUGSPITZE W.GERMANY 47.4N 11.0E 2962m 1951-1980 10 1951
Sources: A1
- Notes: A1: 1951-1970; 1/4(07 + 14 + 21 + 21). 47 25'N 10 59'E, alt = 2962m. Reliability: compared with 109340 & 106280 for the years 1951-1976 & 1951-1980.

109670: HOHENPEISSENBERG W. GERMANY 47.0N 11.0E 983m 1781-1970 10 1781
Sources: A1, A35

Notes: A1: Alt: 1951-1960 = 983m, 1961-1966 = 986m, 1967-1970 = 977m. Means of 1/4(07 + 14 + 21). Rain is measured at 07h & credited to the day of measurement. Corrections had to be made to observations prior to 1936 in order to reduce all values to true means & to the English shelter, details on p96, vol 2. The means of 1937-1955 were inserted in the original. Summer time has not been considered. The differences are small, so data have been taken unchanged. The differences between the true means & the combination 1/4(07 + 14 + 21 + 21) are practically zero. A35: No details available. Reliability: compared with 107390 & 108660 for the years 1869-1930 & 1781-1950.

110100: LINZ AUSTRIA 48.3N 14.3E 305m 1852-1974 10 1852
Sources: A14, A22

Notes: A14: Alt: 305m. No other details available. A22: 48.2N 14.2E. No other details available. Reliability: compared with 110350 for the years 1852-1956.

110120: KREUZENSTER AUSTRIA 48.1N 14.1E 386m 1767-1980 10 1800
Sources: A8, A35

Notes: A8: No details available. A35: Alt: 386m. No other details available. Reliability: compared with 110350 for the years 1767-1980.

110207: HOHENFURTH AUSTRIA 48.6N 15.3E 1817-1843 13 1817
Sources: A35

Notes: A35: No details available. Reliability: compared with 110120 & 110350 for the years 1817-1843.

110280: ST. POLTEN AUSTRIA 48.2N 15.6E 282m 1951-1980 10 1951
Sources: A1

Notes: A1: 1951-May 1955; Viehofen, 48 13'N 15 39'E, alt = 261m. May 1955-Aug 1955; Ortweingasse, alt = 265m. Aug 1955-1960; 11, Wallnerstrasse, 48 13'N 15 38'E, alt = 282m. 1/4(07 + 14 + 21 + 21) local time. 1961-1970; 48 12'N 15 37'E, alt = 282m. Reliability: compared with 110350 for the years 1951-1980.

110350: WIEN HOHE WARTE AUSTRIA 48.2N 16.4E 212m 1775-1981 10 1777
Sources: A1, A14, A35

Notes: A1: 1775-1920; means of 24 hours. Alt = 203m. All observations have been reduced to the present location at Hohe-Warte. 1921-1930; means of 24 hours, local time. 1931-1940; 1/4(07 + 14 + 21 + 21) local time. 1931-1950; means of 24 hours local time. In vol "1941-1950" it is said that 1775-1850 data have not been corrected to Hohe-Warte, corrections given on p31. From 1953 observations were taken in an open-air, rather than a Hann shelter, corrections given on p13, vol 2. 1951-1970; 1/4(07 + 14 + 21 + 21) local time. A14: Alt: 203m. No other details available. A35:

No details available. Reliability: compared with 110120 for the years 1777-1980.

111197: WILTEN AUSTRIA 47.3N 11.4E 184m 1829-1858 63
Sources: A35

Notes: A35: Alt: 184m. No other details available. Reliability: uncheckable.

111200: INNSBRUCK/UNIVERSITY AUSTRIA 47.3N 11.4E 582m 1777-1980 10 1880
Sources: A1, A8, A14, A35

Notes: A1: 1906-1960; Alt = 582m. No details given, but could be means of 1/4(07 + 14 + 21 + 21) local time. In 1948 the station moved from the court to the garden of the Institute, 41m apart. Temps in the court were 0.2C higher than in the garden. Rain corrections are given on p11, vol 2. 1961-1970; Alt = 579m. Means of 1/4(07 + 14 + 21 + 21) local time. A8: No details available. A14: Alt: 573m. No other details available. A35: No details available. Reliability: compared with 111460 for the years 1887-1980.

111460: SONNBLICK AUSTRIA 47.1N 13.0E 3107m 1887-1980 10 1887
Sources: A1

Notes: A1: Means of 1/4(07 + 14 + 21 + 21) local time. Alt: 1886-1950 = 3107m, 1951-1970 = 3106m. From June-Dec 1936 rain was read at a different site & values tend to be low. 1951-1970; rain was measured from 2 gauges because of the mountainous area, so rain is 1/2(W + 8 rain gauge). Reliability: compared with 111200 for the years 1887-1980.

111500: SALZBURG-FLUGHAFEN AUSTRIA 47.8N 13.0E 446m 1951-1980 10 1951
Sources: A1

Notes: A1: 1951-1970; 1/4(07 + 14 + 21 + 21) local time. 1951-Jan 1952; Marglan, 47 48'N 13 00'E, alt = 436m. Feb 1952-May 1953; alt = 434m. May 1953-Jan 1955; 437m. Feb 1955-May 1958; 438m. May 1958-April 1964; 435m. May 1964-Oct 1969; 446m. Oct 1969-1970; 450m. Reliability: compared with 111460 & 111200 for the years 1951-1980.

112310: KLAGENFURT-FLUGHAFEN AUSTRIA 46.7N 14.3E 452m 1813-1980 80
Sources: A1, A8, A14, A35

Notes: A1: Alt: 1951-1960 = 448m, 1961-1970 = 452m. Means of 1/4(07 + 14 + 21 + 21) local time. A8: No details available. A14: Alt: 448m. No other details available. A35: Alt: 1349ft. No other details available. Reliability: compared with 111460 & 110350 for the years 1887-1980 & 1813-1980.

112400: GRAZ-THALERHOF AUSTRIA 47.0N 15.5E 347m 1951-1980 10 1951
Sources: A1

Notes: A1: 1951-1954; 46 59'N 15 27'E, alt = 338m. 1955-Feb 1969; alt = 342m. Mar 1969-1970; 47 00'N 15 28'E, alt = 347m. 1951-1970; 1/4(07 + 14 + 21 + 21) local time. Reliability: compared with 111460 & 112310 for the years

1951-1980.

114055: NEUFJDE CZECH 50.5N 16.5E 237m 1823-1843 63
Sources: A35

Notes: A35: Alt: 237m. No other details available. Reliability: uncheckable.

114057: HOFENEIB CZECH 50.6N 15.6E 1817-1850 83
Sources: A35

Notes: A35: No details available. Reliability: compared with 115180, 116590 & 124240 for the years 1817-1850, 1828-1850 & 1817-1850.

114058: TETSCHEN CZECH 50.8N 14.2E 288m 1828-1842 63
Sources: A35

Notes: A35: Alt: 288m. No other details available. Reliability: uncheckable.

114060: CHEB CZECH 50.1N 12.4E 471m 1953-1980 10 1953
Sources: A1

Notes: A1: 1/4(07 + 14 + 21 + 21) local time. 1951-1952; 50 05'N 12 24'E. Jan 1953-Nov 1954; alt = 491m. Dec 1954-Oct 1959; alt = 474m. Nov 1959-1970; alt = 471m. Reliability: compared with 115180 & 117230 for the years 1953-1980.

114180: MARIANSKE LAZNE CZECH 49.9N 12.7E 1951-1960 61
Sources: A1

Notes: A1: 1951-1960; 1/4(07 + 14 + 21 + 21) local time. 49 55'N 12 44'E, alt = 541m. Reliability: uncheckable.

114667: SMETSCHNA CZECH 50.2N 14.0E 1077m 1817-1847 83
Sources: A35

Notes: A35: Alt: 1077m. No other details available. Reliability: compared with 114055, 115180, 124240 & 116590 for the years 1817-1847, 1817-1847, 1817-1847 & 1828-1847. Data gap 1822-1827.

115180: PRAGUE CZECH 50.1N 14.3E 381m 1771-1980 20 1771
Sources: A1, A14, A29, A33, A35

Notes: A1: Alt: 1951-1960 = 374m, 1961-1970 = 381m. Means of 1/4(07 + 14 + 21 + 21) local mean solar time. A14: No details available. A29: Means of 1/3(07 + 14 + 21). A33: Alt: 202m. No other details available. A35: No details available. Reliability: compared with 125660, 128400 & 124240 for the years 1825-1980, 1780-1980 & 1792-1980. Data gap 1939-1950, involves a jump in the record, probably a site change & has been corrected. Correction Factors: Stations used: 128400. Calculation dates: 1951-1980. Correction dates: 1771-1939. Factors: -19 -27 -20 -15 -16 -17 -19 -16 -20 -21.

115200: LIBUS CZECH 50.0N 14.5E 1971-1980 61
Sources: A1

Notes: A1: 1961-1970; 1/4(07 + 14 + 21 + 21) local time. 50 40'N 17 58'E, alt = 178m. Reliability: uncheckable.

116587: SCHOSSL CZECH 50.5N 13.5E 1838-1865 13 1838
Sources: A35

Notes: A35: 1858-1865; Anomalies from mean (no years given). No other details available. Reliability: compared with 115180 & 124240 for the years 1838-1865.

116590: DEUTSCHBROD CZECH 49.6N 15.6E 1238m 1828-1866 83
Sources: A35

Notes: A35: Alt: 1238m, 1858-1866; Anomalies from mean (no years given). No other details available. Reliability: compared with 115180, 114057 & 124240 for the years 1828-1866, 1828-1850 & 1828-1866.

116797: LANDSKRON CZECH 49.9N 16.6E 1025m 1817-1840 83
Sources: A35

Notes: A35: Alt: 1025m. No other details available. Reliability: compared with 115180 & 117357 for the years 1817-1840.

117230: BRNO/TURANY CZECH 49.2N 16.7E 242m 1951-1980 10 1951
Sources: A1

Notes: A1: 1/4(07 + 14 + 21 + 21) local time. 1951-April 1958; Station, 49 11'N 16 39'E, alt = 248m. May 1958-1970; Turany, 49 09'N 16 42'E, alt = 242m. Reliability: compared with 114060 & 115180 for the years 1953-1980 & 1951-1980.

117357: LEOSCHUITZ CZECH 50.2N 17.8E 357m 1805-1849 10 1805
Sources: A35

Notes: A35: Alt: 357m. No other details available. Reliability: compared with 115180 & 128400 for the years 1805-1849.

117820: OSTRAVA CZECH 49.8N 18.3E 253m 1951-1980 10 1951
Sources: A1

Notes: A1: 1/4(07 + 14 + 21 + 21) local time. Jan-May 1951; 49 47'N 18 16'E, alt = 251m. June 1951-Oct 1959, 245m. Nov 1959-1960; 253m. 1961-1970; 49 42'N 18 07'E, alt = 253m. Reliability: compared with 119030 & 119340 for the years 1951-1980.

118160: BRATISLAVA/IVANKA CZECH 48.2N 17.2E 132m 1951-1970 61
Sources: A1
Notes: A1: 1/4(07 + 14 + 21 + 21) local time. Jan-Oct 1951; Dvornik, 48 12'N 17 12'E, alt = 132m. Nov 1951-1960; Ivanka, 48 10'N 17 13'E, alt = 130m. 1961-1970; 48 10'N 17 12'E, alt = 130m. Reliability: uncheckable.

119030: SLIAC CZECH 48.6N 19.2E 319m 1951-1980 10 1951
Sources: A1
Notes: A1: 1951-1960; 1/4(07 + 14 + 21 + 21) local time. 48 38'N 19 09'E, alt = 316m. Reliability: compared with 119340 & 117820 for the years 1951-1980.

119271: ARVAVARALJA CZECH 49.3N 19.3E 501m 1851-1900 10 1851
Sources: A150
Notes: A150: 49 16'N 19 21'E, alt = 501m. Anomalies from real means. Series has probably been corrected, possibly from means of 1/4(07 + 14 + 21 + 21) & 1/4(07 + 13 + 21 + 21). Reliability: compared with 115180 for the years 1851-1900.

119340: POFRAD/TATRY CZECH 49.1N 20.3E 709m 1951-1980 10 1951
Sources: A1
Notes: A1: 1951-1960; 1/4(07 + 14 + 21 + 21) local time. 49 04'N 20 15'E, alt = 707m. 1961-1970; 49 03'N 20 18'E, alt = 709m. Reliability: compared with 119030 & 117820 for the years 1951-1980.

119640: KOSICE CZECH 48.7N 21.3E 235m 1951-1970 61
Sources: A1
Notes: A1: 1/4(07 + 14 + 21 + 21) local time. Jan-Mar 1951; 48 42'N 21 16'E, alt = 235m. April 1951-1970; 48 42'N 21 15'E, alt = 232m. Reliability: uncheckable.

120001: ZECHEM POLAND 51.1N 380m 1839-1868 83
Sources: A35
Notes: A35: 1859-1868; Anomalies from mean (no years given). Alt; 380m. Reliability: compared with 121050, 122050 & 124240 for the years 1848-1868, 1839-1868 & 1839-1868. Record may be inhomogeneous around 1853/1854.

121050: KOSZALIN POLAND 54.2N 16.2E 34m 1848-1976 10 1848
Sources: A1, A14, A35, A169
Notes: A1: Alt; 1950-1960 = 36m, 1961-1970 = 34m, 1951-1965; 1/4(07 + 13 + 21 + 21). Rain is measured at 07h & ascribed to the previous day. 1966-1970; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) GMT. A14: Alt; 33m. No other details available. A35: 1859-1868; anomalies from mean (no years given). A169: Alt; 46m. No other details available. Reliability: compared with 125660 & 122050 for the years 1848-1970. Data gap 1869-1950.

121450: GDYNIA POLAND 54.5N 18.6E 5m 1951-1960 61
Sources: A1
Notes: A1: 1951-1960; 1/4(07 + 13 + 21 + 21) local time. 54 31'N 18 33'E, alt = 15m. Reliability: uncheckable.

121500: GDMMBK-WRZESZCZ POLAND 54.4N 18.6E 12m 1807-1980 20 1807
Sources: A1, A35
Notes: A1: Alt; 12m. Means of 1/4(07 + 13 + 21 + 21) local solar mean time. Rain is measured at 07h & ascribed to the previous day. From Jan 1966; means of 8 daily observations, (00, 03, 06...21 GMT). A35: 1859-1868; anomalies from mean (no years given). No other details available. Reliability: compared with 123750, 125660 & 123300 for the years 1807-1980, 1825-1980 & 1951-1980. Data gaps 1839-1852 & 1869-1950. Corrected for a station move during late 1973. Correction Factors: Stations used: 122050 & 123750. Calculation dates: 1974-1980. Correction dates: 1807-1973. Factors: -17 -17 -17 -6 -7 -9 -10 -13 -14 -12 -10 -16.

121600: ELBING POLAND 54.2N 19.4E 1829-1842 63
Sources: A35
Notes: A35: No details available. Reliability: uncheckable.

121907: ARYS POLAND 53.8N 22.1E 450m 1830-1865 13 1830
Sources: A35
Notes: A35: Alt; 450m. 1858-1865; anomalies from mean (no years given). No other details available. Reliability: compared with 123750 & 124240 for the years 1830-1865.

121950: SUWALKI POLAND 54.1N 23.0E 170m 1951-1970 61
Sources: A1
Notes: A1: 1951-1960; 1/4(07 + 13 + 21 + 21) local time. 54 06'N 22 57'E, alt = 170m. 1961-1970; 54 05'N 22 57'E, alt = 170m. 1966-1970; 1/8(00 + 03 + ...21) GMT. Reliability: uncheckable.

122050: SZCZECIN-DABIE POLAND 53.4N 14.6E 7m 1836-1980 12 1836
Sources: A1, A14, A35
Notes: A1: Alt; 7m. 1951-1965; 1/4(07 + 13 + 21 + 21) local solar mean time. 1966-1970; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) GMT. A14: Alt; 1m. No other details available. A35: 1859-1868; anomalies from mean (no years given). No other details available. Reliability: compared with 121050 & 124240 for the years 1848-1970 & 1836-1980. Data gap 1869-1950.

122500: TOMIN POLAND 53.1N 18.6E 70m 1951-1970 61
Sources: A1
Notes: A1: 1951-1965; 1/4(07 + 13 + 21 + 21) local time. 53 03'N 18 35'E, alt = 70m. 1966-1970; 1/8(00 + 03 + ...21) GMT. Reliability: uncheckable.

12390: BIALYSTOK POLAND 53.1N 23.2E 141m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1965; 1/4(07 + 13 + 21 + 21) local time. 53 07'N 23 11'E, alt = 141m. 1966-1970; 1/8(00 + 03 + ...21) GMT. Reliability: compared with 12650 for the years 1951-1980.

12300: POZNAŃ-LAVICA POLAND 52.4N 16.8E 92m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1965; 1/4(07 + 13 + 21 + 21) local time. 52 25'N 16 50'E, alt = 92m. 1966-1970; 1/8(00 + 03 + ...21) GMT. Reliability: compared with 121500, 123750, 124240 & 125660 for the years 1951-1980.

123740: LEGIONÓWO POLAND 52.4N 21.0E 104m 1951-1964 61
Sources: AI

Notes: AI: 1951-1960; 1/4(07 + 13 + 21 + 21) local time. 52 24'N 20 56'E, alt = 104m. Reliability: uncheckable.

123750: WARSZAWA-ORCIE POLAND 52.2N 21.0E 107m 1779-1980 12 1831
Sources: AI, A2, A13, A111, A150

Notes: AI: 1885-1920; means of (hours not given). Alt = 133m. In 1923 the station moved from 52 13'N 21 01'E to 52 13'N 21 03'E, alt = 88m. 1951-1970; alt = 107m. 1921-1965; means of 1/4(07 + 13 + 21 + 21) 15E meridian time. 1966-1970; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) GMT. A2: No details available. A13: Alt; 120m. Means of 1/3(06 + 14 + 22). Corrections are given on pVI. A111: No details available. A150: 52 13'N 21 02'E, alt = 121m. Anomalies from real means for period 1851-1900. Series has been corrected, probably from means of 1/4(07 + 14 + 21 + 21) & 1/4(07 + 13 + 21 + 21). Reliability: compared with 125660 & 124240 for the years 1825-1980 & 1792-1980. Record has data gaps, largest is 1938-1950.

123950: BIALA POLAND 52.0N 23.1E 1951-1960 61
Sources: AI

Notes: AI: 1951-1960; 1/4(07 + 13 + 21 + 21) local time. 52 01'N 23 08'E, alt = 147m. Reliability: uncheckable.

12390: TERESPOL POLAND 52.1N 23.6E 144m 1951-1967 61
Sources: AI

Notes: AI: 1951-1960; 1/4(07 + 13 + 21 + 21) local time. 52 05'N 23 37'E, alt = 135m. Reliability: uncheckable.

124000: ZIELONA GÓRA POLAND 51.9N 15.5E 174m 1951-1970 61
Sources: AI

Notes: AI: 1951-1965; 1/4(07 + 13 + 21 + 21) local time. 51 56'N 15 30'E, alt = 174m. 1966-1970; 1/8(00 + 03 + ...21) GMT. Reliability: uncheckable.

124050: ZGORZELEC POLAND 51.2N 15.0E 218m 1951-1967 61
Sources: AI

Notes: AI: 1951-1960; 1/4(07 + 13 + 21 + 21) local time. 51 10'N 15 00'E, alt = 218m. Reliability: uncheckable.

124240: WROCLAW POLAND 51.1N 17.0E 119m 1792-1980 70 1831
Sources: AI, A8, A14, A35

Notes: Station was also known as Breslau & as Maly Cadow. AI: 1851-1886; 1/3(06 + 14 + 22). 1887-1945; 1/4(07 + 14 + 21 + 21) 15E meridian time. 1946-1965; 1/4(07 + 13 + 21 + 21) 15E meridian time. Alt: 1851-1930 = 116m, 1931-1936 = 147m. From 1870-1887 temp seems too low. In 1936 Breslau, 51 05'N 17 00'E, alt = 147m, was replaced by Wroclaw, 51 07'N 17 05'E, alt = 123m. 1951-1960; alt = 119m. In 1961 Strachowice, 51 06'N 16 53'E, alt = 121m, replaced Maly Cadow. 1966-1970; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) GMT. A8: No details available. A14: Site; 51.1N 16.1E, alt = 121m. No other details available. A35: No details available. Reliability: compared with 123750, 125307 & 122050 for the years 1792-1980. 1823-1951 & 1836-1980. Record shows definite trend 1823-1830.

125290: KLODZKO POLAND 50.4N 16.7E 320m 1951-1970 61
Sources: AI

Notes: AI: 1951-1960; 1/4(07 + 13 + 21 + 21) local time. 50 26'N 16 39'E, alt = 320m. 1961-1970; alt = 317m. 1966-1970; 1/8(00 + 03 + ...21) GMT. Reliability: uncheckable.

125300: OPOLE POLAND 50.7N 18.0E 176m 1951-1970 61
Sources: AI

Notes: AI: 1961-1965; 1/4(07 + 13 + 21 + 21) local time. 1966-1970; 1/8(00 + 03 + ...21) GMT. No other details available. Reliability: uncheckable.

125307: WYSA POLAND 50.3N 17.3E 581m 1823-1851 13 1823
Sources: A35

Notes: A35: Alt; 581m. No other details available. Reliability: compared with 123750 & 121907 for the years 1823-1851 & 1830-1851.

125500: CZĘSTOCHOWA POLAND 50.8N 19.1E 263m 1951-1970 61
Sources: AI

Notes: AI: 1951-1960; 1/4(07 + 13 + 21 + 21) local time. 50 49'N 19 06'E, alt = 263m. 1961-1970; alt = 295m. 1966-1970; 1/8(00 + 03 + ...21) GMT. Reliability: uncheckable.

125660: KRAKÓW POLAND 50.0N 20.0E 216m 1825-1980 10 1825
Sources: AI, A35, A112, A150

Notes: AI: Alt; 1951-1960 = 213m, 1961-1970 = 237m. 1951-1965; 1/4(07 + 13 + 21 + 21) local solar mean time. Rain is measured at 07h & assigned to the

previous day. 1966-1970; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) GMT. 1951-1964; 50.1W 20.0E, alt = 216m. 1964-1977; Balice, alt = 237m. A35: 1858-1867; anomalies from mean (no years given). Alt2: No details given. Alt50: 50 04'N 19 57'E, alt = 220m. Anomalies from real means for period 1851-1900. Series probably corrected from means of 1/4(07 + 14 + 21 + 21) & 1/4(07 + 13 + 21 + 21). Reliability: compared with 123750, 121050 & 115180 for the years 1825-1980, 1848-1970 & 1825-1980. Data gap 1867-1950.

125850: SANDOMIERZ POLAND 50.7N 21.8E 200m 1951-1970 61
Sources: AI

Notes: AI: 1951-1965; 1/4(07 + 13 + 21 + 21) local time. 50 41'N 21 45'E, alt = 200m. 1966-1970; 1/8(00 + 03 + ...21) GMT. Reliability: uncheckable.

125950: ZAMOSC POLAND 50.7N 23.3E 219m 1951-1970 61
Sources: AI

Notes: AI: 1951-1960; 1/4(07 + 13 + 21 + 21) local time. 50 44'N 23 15'E, alt = 219m. 1961-1970; 50 42'N 23 15'E, alt = 213m. 1966-1970; 1/8(00 + 03 + ...21) GMT. Reliability: uncheckable.

126250: ZAKOPANE POLAND 49.3N 20.0E 857m 1951-1970 61
Sources: AI

Notes: AI: 1961-1965; 1/4(07 + 13 + 21 + 21) local time. 1966-1970; 1/8(00 + 03 + ...21) GMT. 49 18'N 19 57'E, alt = 860m. Reliability: uncheckable.

126707: KRYNICA HUNGARY 49.4N 21.0E 1878-1960 61
Sources: AI

Notes: AI: Alt: 1878-1940 = 586m, 1941-1950 = 600m, 1951-1960 = 586m. 1951-1960; means of 1/4(07 + 13 + 21 + 21) local solar mean time. Reliability: uncheckable.

126950: PRZEMYSL POLAND 49.8N 22.8E 239m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1965; 1/4(07 + 13 + 21 + 21) local time. 49 48'N 22 46'E, alt = 239m. 1966-1970; 1/8(00 + 03 + ...21) GMT. Reliability: compared with 12950 for the years 1951-1980.

127720: MISTOLC HUNGARY 48.1N 20.8E 120m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1960; 48 08'N 20 48'E, alt = 120m. 1/4(07 + 14 + 21 + 21) local time. 1961-1970; at some stage observation times changed to 01, 04, 07, ...22 Central European Time. Alt = 112m. Reliability: compared with 115180, 125660, 128400 & 129420 for the years 1951-1980.

128150: MACTAROVAR HUNGARY 47.9N 17.3E 121m 1859-1977 61
Sources: AI, A14

Notes: AI: Alt: 121m. 1951-1960; 1/8(01 + 04 + 07 + 10 + 13 + 16 + 19 + 22) Central European Time. A14: Alt: 122m. No other details available. Reliability: uncheckable.

128400: BUDAPEST/MET LOGIA HUNGARY 47.5N 19.0E 130m 1780-1980 10 1780
Sources: AI, A14

Notes: AI: 1780-1960: Notes of site changes & references to methods of data preparation are on p33 of the source. No other details are given. 1961-1970; This note is given; "During this period observation times were changed, from 07,14 & 21, to 01,04,07,10,13,16,19 & 22 Central European Time. The data are calculated from the real mean values, instead of the earlier daily 3 observations. Averages for 1931-1960, too, refer to the real mean values. Budapest with unchanged exposure carries out observations also at 07,14 & 21. Nevertheless, in order to ensure uniformity of all Hungarian data the 1961-1970 data set for Budapest, with its normal values /CLINO/, is given on the basis of the real daily mean values." Alt: 130m. A14: No details available. Reliability: compared with 115180 for the years 1780-1980.

128430: BUDAPEST/LORINC HUNGARY 47.4N 19.2E 140m 1953-1980 10 1953
Sources: AI

Notes: AI: 1951-1960; 47 26'N 19 11'E, alt = 140m. 1/4(07 + 14 + 21 + 21) Central European Time. 1961-1970; 1/8(01 + 04 + ...22) Central European Time. Reliability: compared with 128820 for the years 1953-1980.

128800: DEBRECEN HUNGARY 47.6N 21.6E 114m 1853-1980 10 1853
Sources: AI, A8

Notes: AI: 1951-1968; 1/3(07 + 14 + 21). Alt: 114m. 1969-1970; 1/8(01 + 04 + 07 + 10 + 13 + 16 + 19 + 22) Central European Time. Alt: 128m. A8: Alt: 128m. No other details available. Reliability: compared with 128400 for the years 1853-1980. Station merged with 128820.

129400: PECS HUNGARY 46.1N 18.2E 1961-1970 61
Sources: AI

Notes: AI: 1951-Mar 1957; Airport Meteorological Station, alt = 124m. April 1957-1960; 46 03'N 18 14'E, alt = 135m. 1/4(07 + 14 + 21 + 21) local time. 1961-1970; 46 00'N 18 14'E, alt = 203m. At some stage observation times became 01, 04, 07, ...22 Central European Time. Reliability: uncheckable.

129420: PECS HUNGARY 46.0N 18.1E 135m 1951-1980 81
Sources: AI

Notes: AI: 1951-1960; 1/4(07 + 14 + 21 + 21) Central European Time. 1961-1970; 1/8(01 + 04 + 07 + ...22) Central European Time. 46 00'N 18 14'E, alt = 203m. Reliability: compared with 115180, 127720 & 128400 for the years 1951-1980. Some evidence of a trend in this record.

129100: SZEGED HUNGARY 46.3N 20.2E 96m 1951-1970 61
 Sources: AI
 Notes: AI: 1951-1960; 46 15'N 20 09'E, alt = 97m. 1/4(07 + 14 + 21 + 21) local time. 1961-1970; at some stage the observation times changed to 1/8(01 + 04 + ...22) Central European Time. 46 15'N 20 06'E, alt = 84m. Reliability: uncheckable.

129820: SZEGED HUNGARY 46.3N 20.1E 83m 1961-1980 61
 Sources: AI
 Notes: AI: 1961-1970; 1/8(01 + 04 + ...22) Central European Time. No other details available. Reliability: uncheckable.

131290: ZAGREB YUGOSLAVIA 45.8N 16.0E 163m 1861-1980 10 1862
 Sources: AI, A14, A27
 Notes: AI: Means of 1/4(07 + 14 + 21 + 21) local time. Alt: 163m. A14: No details available. A27: No details available. Reliability: compared with 132740 for the years 1888-1980.

131300: ZAGREB /MAKSIMIR YUGOSLAVIA 45.8N 16.0E 122m 1951-1970 61
 Sources: AI
 Notes: AI: Means of 1/4(07 + 14 + 21 + 21) local time. Alt: 122m. 1951-1960; alt = 157m. Reliability: uncheckable.

131330: SISAK YUGOSLAVIA 45.5N 16.4E 98m 1951-1970 61
 Sources: AI
 Notes: AI: 1951-1960; 1/4(07 + 14 + 21 + 21) local time. 45 29'N 16 23'E, alt = 98m. 1961-1970; alt = 106m. Reliability: uncheckable.

131370: OSIJEK YUGOSLAVIA 45.6N 18.7E 1882-1955 10 1882
 Sources: A8
 Notes: A8: No details available. Reliability: compared with 131290 for the years 1882-1955.

132740: BEOGRAD YUGOSLAVIA 44.8N 20.5E 1888-1980 10 1888
 Sources: AI
 Notes: AI: 1888-1920; means of (hours not given). Alt: 138m. 1921-1930; 1/4(07 + 14 + 21 + 21). 1941-1960; means as above, time is local time. Alt: 139m. 1951-1960; Main is recorded at 07h & credited to the previous day. 1961-1970; alt = 132m. Means as above. Reliability: compared with 131290 for the years 1888-1980.

132750: BEOGRAD YUGOSLAVIA 44.8N 20.5E 1961-1970 61
 Sources: AI

Notes: AI: 1961-1970; Alt: 132m. 1/4(07 + 14 + 21 + 21) local time. Main is recorded at 07h & credited to the previous day. Reliability: uncheckable.

133340: SPLIT/MARJAN YUGOSLAVIA 43.5N 16.4E 129m 1926-1980 10 1926
 Sources: AI

Notes: AI: 1/4(07 + 14 + 21 + 21) local time. 1926-1950; 43 31'N 16 26'E, alt = 128m. Site is described on p40, vol "1931-1950". Jan & Feb 1945 data are interpolated from Praznica 43 19'N 16 42'E, alt = 391m. 1951-1960; 43 31'N 16 26'E, alt = 122m. 1961-1970; alt = 128m. Reliability: compared with 133350 & 133540 for the years 1926-1970 & 1951-1970.

133350: NYAR YUGOSLAVIA 43.2N 16.4E 1859-1970 10 1859
 Sources: AI

Notes: AI: 1859-1918; means of (hours not given). 1951-1970; 1/4(07 + 14 + 21 + 21) local time. Alt: 20m. 1961-1970; alt = 25m. Reliability: compared with 133340 & 132740 for the years 1926-1980 & 1888-1970.

133400: LIVNO YUGOSLAVIA 43.8N 17.0E 730m 1951-1970 61
 Sources: AI

Notes: AI: 1951-1960; 1/4(07 + 14 + 21 + 21) local time. 43 50'N 17 01'E, alt = 730m. 1961-1970; alt = 728m. Reliability: uncheckable.

133540: SARAJEVO YUGOSLAVIA 43.9N 18.4E 637m 1880-1980 10 1891
 Sources: AI, A29

Notes: AI: Means of 1/4(07 + 14 + 21 + 21) local time. Alt: 1951-1960 = 630m, 1961-1970 = 637m. A29: Means of 1/4(07 + 14 + 21 + 21). Alt: 540m. Reliability: compared with 133340 & 131290 for the years 1951-1980 & 1891-1980.

134620: TITOGRAD/COLUBOVCI YUGOSLAVIA 42.4N 19.3E 33m 1951-1980 10 1951
 Sources: AI

Notes: AI: 1951-1960; 1/4(07 + 14 + 21 + 21) local time. 42 26'N 19 17'E, alt = 52m. 1961-1970; alt = 51m. Reliability: compared with 133340 for the years 1951-1980.

134830: SKOPJE YUGOSLAVIA 42.0N 21.5E 241m 1951-1970 61
 Sources: AI

Notes: AI: 1951-1970; 1/4(07 + 14 + 21 + 21) local time. 41 59'N 21 28'E, alt = 241m. Reliability: uncheckable.

135810: BITOLA YUGOSLAVIA 41.0N 21.4E 617m 1896-1910 61
Sources: A43
Notes: Station was also known as Monastir. A43: Means of $1/2(\max + \min)$. Alt: 617m. Reliability: uncheckable.

135860: SKOPJE YUGOSLAVIA 42.0N 21.5E 240m 1961-1980 61
Sources: A1
Notes: A1: 1961-1970; $1/4(07 + 14 + 21 + 21)$ local time. No other details available. Reliability: uncheckable.

136000: SHKODER AP ALBANIA 42.1N 19.5E 43m 1951-1970 61
Sources: A1
Notes: A1: 1951-1960; $42^{\circ}06'N$ $19^{\circ}32'E$, alt = 43m. $1/4(07 + 14 + 21 + 21)$ local time. 1961-1970; alt = 44m. Reliability: uncheckable.

136150: TIRANE AP ALBANIA 41.3N 19.8E 89m 1951-1970 61
Sources: A1
Notes: A1: 1951-1960; $41^{\circ}20'N$ $19^{\circ}47'E$, alt = 89m. $1/4(07 + 14 + 21 + 21)$ local time. 1961-1970; alt = 97m. Reliability: uncheckable.

136230: VLOBE ALBANIA 40.5N 19.5E 1m 1951-1970 61
Sources: A1
Notes: A1: 1951-1960; $1/4(07 + 14 + 21 + 21)$. $40^{\circ}28'N$ $19^{\circ}29'E$, alt = 3m. 1961-1970; alt = 5m. Reliability: uncheckable.

150047: BAITA MARE RUMANIA 47.6N 23.6E 227m 1871-1930 10 1871
Sources: A6
Notes: A6: Alt; 227m. 1871-1915; $1/3(07 + 14 + 21)$. 1921-1930; $1/3(08 + 14 + 20)$. Reliability: compared with 151200 for the years 1881-1930.

150810: ORADEA RUMANIA 47.1N 21.9E 135m 1951-1970 81
Sources: A1
Notes: A1: 1951-1960; $1/4(01 + 07 + 13 + 19)$ local time. $47^{\circ}03'N$ $21^{\circ}56'E$, alt = 135m. 1961-1970; alt = 136m. Reliability: compared with 150850 & 152600 for the years 1951-1970.

150850: BISTRITA RUMANIA 47.1N 24.5E 366m 1951-1980 10 1951
Sources: A1
Notes: A1: 1951-1970; $1/4(01 + 07 + 13 + 19)$ local time. $47^{\circ}08'N$ $24^{\circ}30'E$, alt = 366m. Reliability: compared with 150900 & 154200 for the years 1951-1980.

150900: IASI RUMANIA 47.2N 27.6E 103m 1951-1980 10 1951
Sources: A1
Notes: A1: 1951-1960; $1/4(01 + 07 + 13 + 19)$ local time. $47^{\circ}10'N$ $27^{\circ}36'E$, alt = 102m. 1961-1970; alt = 103m. Reliability: compared with 150850 & 154200 for the years 1951-1980.

151117: ROMAN RUMANIA 46.9N 26.9E 190m 1886-1930 10 1886
Sources: A6
Notes: A6: Alt; 190m. 1887-1915; $1/3(07 + 14 + 21)$. 1921-1930; $1/3(08 + 14 + 20)$. Reliability: compared with 151200 for the years 1886-1930.

151200: CLUJ RUMANIA 46.8N 23.7E 415m 1833-1980 10 1951
Sources: A1, A6
Notes: A1: 1951-1960; alt = 313m. 1961-1970 = 315m. Means of 01, 07, 13 & 19, local time. A6: Alt; 363m. Prior to 1915; no details of means given. 1915-1920; means of 07, 14 & 21h. 1921-1930; means of 08, 14 & 21h. Reliability: compared with 152600 & 152470 for the years 1881-1980. Data gap 1931-1950.

152470: TIMISOARA RUMANIA 45.8N 21.3E 91m 1873-1980 12 1880
Sources: A1, A6
Notes: A1: Alt; 1951-1960 = 90m, 1961-1970 = 91m. Means of $1/4(01 + 07 + 13 + 19)$ local time. A6: Alt; 92m. 1880-1915; $1/3(07 + 14 + 21)$. 1921-1930; $1/3(08 + 14 + 20)$. Reliability: compared with 152600 for the years 1880-1980.

152577: STANISLAV RUMANIA 45.9N 24.8E 205m 1839-1854 63
Sources: A35
Notes: Station was also known as Galision. A35: Alt; 205m. No other details available. Reliability: uncheckable.

152600: SIBIU RUMANIA 45.8N 24.3E 452m 1851-1980 10 1851
Sources: A1
Notes: A1: 1851-1881; $1/4(06 + 14 + 22 + 22)$. 1881-1930; $1/4(07 + 14 + 21 + 21)$ Eastern European Time. Alt; 1851-1940 = 419m, 1941-1950 = 409m, 1951-1970 = 452m. 1931-1940; $1/3(07 + 14 + 21)$, calculated according to the Koppen formula; $s = n - k(n - \min)$, where n is the mean of the 3 daily observations, \min is the mean of the daily \min & k is a factor, different for each month, time is 30E meridian. 1941-1950; Koppen formula as above is used, but hours are 08, 14 & 20h. 1951-1970; $1/4(01 + 07 + 13 + 19)$ local time. Reliability: compared with 151200 & 152470 for the years 1881-1980 & 1880-1980.

153600: BULGARIA 45.2N 29.7E 9m 1868-1980 10 1876
Sources: AI

Notes: AI: 1876-1920; means of (hours not given). Alt = 2m. 1921-1950; 1/3(08 + 14 + 20), calculated by Koppen Formula; $m = n - k(n - \text{min})$, where n is the mean of the 3 daily observations, min is the mean of the daily minima & k is a factor, differing for each month. Time is Eastern Europe, 30E meridian. 1941-1946; Where data are missing observations from Constanta, 44 11'N 28 40'E, alt = 30m, have been corrected to give values for Sulina, see p36, vol "1941-1950". Alt: 1951-1960 = 3m, 1961-1970 = 9m. 1951-1970; 1/4(01 + 07 + 13 + 19) local time. Reliability: compared with 154220 for the years 1876-1980.

154200: BUCURESTI/BANEASA ROMANIA 44.5N 26.1E 92m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1970; 1/4(01 + 07 + 13 + 19) local time. Alt: 92m. Reliability: compared with 150850 & 150900 for the years 1951-1980.

154220: BUCURESTI/PILARET ROMANIA 44.4N 26.1E 82m 1857-1980 10 1857
Sources: AI

Notes: AI: 1857-1920; The site changed many times, as did hours of observation. The various means have been corrected to the means of 24 hourly observations. After 1881 the Koppen formula was used; $m = n - k(n - \text{min})$, where m = true mean, min = daily min, k is a coefficient & n is the mean of 3 observations. 1921-1950; means of 1/3(08 + 14 + 20), calculated according to Koppen formula. Observations taken at 30E meridian time. 1951-1970; 1/4(01 + 07 + 13 + 19) local time. Reliability: compared with 153600 for the years 1876-1980.

154800: CONSTANTA ROMANIA 44.2N 28.7E 32m 1951-1970 10 1951
Sources: AI

Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time. 44 11'N 28 40'E, alt = 32m. 1961-1970; alt = 34m. Reliability: compared with 154220 for the years 1951-1970.

155050: VRATZA BULGARIA 43.2N 23.5E 360m 1951-1970 10 1951
Sources: AI

Notes: AI: 1951-1960; 1/4(07 + 14 + 21 + 21). 43 12'N 23 32'E, alt = 309m. 1961-1970; alt = 348m. Reliability: compared with 155440 for the years 1951-1970.

155110: LOM BULGARIA 43.8N 23.2E 33m 1961-1979 61
Sources: AI

Notes: AI: 1961-1970; 1/4(07 + 14 + 21 + 21) local time. No other details available. Reliability: uncheckable.

155260: PLEVEN BULGARIA 43.4N 24.6E 75m 1951-1970 81
Sources: AI

Notes: AI: 1951-1957; 43 25'N 24 36'E, alt = 163m. 1958-1960; alt = 116m. 1/4(07 + 14 + 21 + 21). 1961-1970; 43 25'N 24 35'E, alt = 138m. Reliability: compared with 156140 & 156550 for the years 1951-1970. Record shows a discontinuity about 1953/1954.

155440: KOLAROVGRAD BULGARIA 43.3N 26.9E 198m 1951-1971 10 1951
Sources: AI

Notes: AI: 1/4(07 + 14 + 21 + 21). 1951-1955; 43 16'N 26 56'E, alt = 216m. 1956-1960; alt = 220m. Reliability: compared with 155050 for the years 1951-1970.

155220: VARENA BULGARIA 43.2N 27.9E 41m 1961-1979 61
Sources: AI

Notes: AI: 1961-1970; 1/4(07 + 14 + 21 + 21) local time. No other details available. Reliability: uncheckable.

156140: SOFIA BULGARIA 42.7N 23.3E 564m 1951-1979 62
Sources: AI

Notes: AI: 1951-1960; 42 41'N 23 20'E, alt = 552m. 1/4(07 + 14 + 21 + 21). 1958-1960; alt = 564m. 1961-1970; 42 39'N 23 23'E, alt = 595m. Reliability: compared with 156550 for the years 1951-1979. Data gaps make record uncheckable.

156150: MUSSALAH TOP BULGARIA 42.2N 23.6E 1963-1969 61
Sources: AI

Notes: AI: 1963-1969; 1/4(07 + 14 + 21 + 21) local time. No other details available. Reliability: uncheckable.

156250: PLOWDIV BULGARIA 42.2N 24.8E 160m 1951-1970 61
Sources: AI

Notes: AI: 1951-1970; 42 09'N 24 45'E, alt = 160m. 1/4(07 + 14 + 21 + 21). Reliability: uncheckable.

156270: BOTEV VRAH TOP BULGARIA 42.7N 24.9E 1963-1969 61
Sources: AI

Notes: AI: 1963-1969; 1/4(07 + 14 + 21 + 21) local time. No other details available. Reliability: uncheckable.

- 156460: KARNOBAT BULGARIA 42.7N 27.0E 1961-1969 61
Sources: AI
- Notes: AI: 1961-1969; 1/4(07 + 14 + 21 + 21) local time. No other details available. Reliability: uncheckable.
- 156550: BOURGAS BULGARIA 42.5N 27.5E 28m 1951-1979 62
Sources: AI
- Notes: AI: 1951-1955; 1/4(07 + 14 + 21 + 21). 1951-1955; 42 32'N 27 32'E, alt = 27m. 1956-1960; 42 29'N 27 29'E, alt = 5m. 1961-1970; alt = 38m. Reliability: compared with 156140 & 155440 for the years 1951-1979 & 1951-1971. Data gaps make record uncheckable.
- 160207: TRENTO ITALY 46.1N 11.1E 312m 1816-1976 62
Sources: AI4, A35
- Notes: AI4: Alt; 312m. No other details available. A35; 1856-1866; anomalies from mean (no years given). No other details available. Reliability: compared with 160880 & 160900 for the years 1820-1846 & 1816-1866. Data gaps make record uncheckable.
- 160450: UDINE/CAMPORFONIDO ITALY 46.0N 13.1E 92m 1803-1980 82
Sources: A35, A38, A106, A117, A129
- Notes: A35: No details available. A38: No details available. A106: Normal values, /CLINO/, only. Press; 1/4(00 + 06 + 12 + 18), reduced to MSL. Temp; 1/2(max + min). 1946-1960; means are corrected to those of 1931-1960, by correlation with the nearest station. A117: Alt; 359ft. No other details available. A129: 46 04'N 0 44'E of Rome. Alt; 116m. No other details available. Reliability: compared with 160800 for the years 1808-1970.
- 160590: TURIN ITALY 45.2N 7.7E 238m 1753-1976 10 1753
Sources: AI, AI4, A25, A35, A129
- Notes: AI4: Alt; 238m. No other details available. A25: No details available. A35: No details available. A129: 45 04'N 4 47'W of Rome. Alt; 276m. No other details available. AI: 1961-1970; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) GMT. Alt = 287m. Reliability: compared with 160800 for the years 1763-1970.
- 160660: MILANO MALPENSA ITALY 45.6N 8.7E 1961-1970 61
Sources: AI
- Notes: AI: 1961-1970; 1/8(00 + 03 + ...21) GMT. 45 37'N 8 44'E, alt = 211m. Reliability: uncheckable.
- 160707: RIVA ITALY 46.1N 9.2E 1869-1891 63
Sources: A29
- Notes: A29: Temp; 1/4(07 + 14 + 21 + 21), plus a correction factor, given on p28. Press; No details available. Reliability: compared with 160900 for the years 1869-1891.
- 160800: MILANO/LIMATE ITALY 45.5N 9.2E 103m 1763-1980 10 1764
Sources: AI, AI4, A35, A38
- Notes: AI: 1866-1921; means of (hours not given). Alt; 1866-1950 = 147m, 1951-1960 = 120m, 1961-1970 = 103m. 1921-Nov 1932; 1/4(09 + 21 + max + min) Central Europe Time. Dec 1932-1960; 1/4(08 + 19 + max + min) 15E meridian time. 1961-1970; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) GMT. AI4: Site; 45.5N 9.3E, alt = 121m. No other details available. A35; 1859-1866; anomalies from mean (no years given). No other details available. A38: Press; 1835-1838; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21). 1839-1843; 1/8(02 + 05 + 08 + 11 + 14 + 17 + 20 + 23). 1844-1858; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21). 1859-Nov 1932; 1/3(09 + 15 + 21). Dec 1932-1962; 1/3(08 + 14 + 19). Temp; No details available. Reliability: compared with 160590 & 162420 for the years 1764-1970 & 1871-1980.
- 160880: BRESCIA ITALY 45.5N 10.1E 143m 1820-1846 80
Sources: A35, A129
- Notes: A35: Alt; 143m. No other details available. A129: 45 32'N 2 16'W of Rome. Alt; 172m. No other details available. Reliability: compared with 160207 & 160800 for the years 1820-1846.
- 160900: VERONA VILLAFRANCA ITALY 45.4N 10.9E 67m 1788-1980 82
Sources: AI, A35, A106
- Notes: AI: Means of 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) GMT. A35: No details available. A106: Normal values, /CLINO/, only. Press; 1/4(00 + 06 + 12 + 18), reduced to MSL. Temp; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21). 1946-1960; means are corrected to those of 1931-1960, by correlation with the nearest station. Reliability: compared with 160950 & 160800 for the years 1788-1827 & 1788-1980.
- 160950: PADOVA ITALY 45.4N 12.0E 13m 1725-1974 73
Sources: AI4, A35, A37, A129
- Notes: AI4: Alt; 13m. No other details available. A35: No details available. A37: No details available. A129: 45 24'N 0 37'W of Rome. Alt; 31m. No other details available. Reliability: compared with 160800 for the years 1780-1827.
- 161050: VENEZIA/S NICOLO ITALY 45.5N 12.1E 17m 1951-1980 10 1951
Sources: AI, A35, A129
- Notes: AI: Alt = 17m. No details given, but probably 1/4(08 + 19 + max + min) 15E meridian time. A35: No details available. A129: 45 26'N 0 09'W of Rome. Alt; 21m. No other details available. Reliability: compared with 161900 for the years 1951-1978.

161100: TRIESTE ITALY 45.7N 13.8E 20m 1841-1980 10 1841
Sources: AI, A14, A32, A35, A43
Notes: AI: Means of 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) GMT. Alt; 1951-1960 = 9m, 1961-1970 = 20m. A14: Site; 45.6N 13.7E. No other details available. A32: Means reduced to OC & to sea level. A43: "Real" memos. Alt; 26m. A35: 1857-1866; anomalies from mean (no years given). No other details available. Reliability: compared with 160800 & 161900 for the years 1841-1980 & 1951-1978.

161400: BOLOGNA ITALY 44.5N 11.5E 60m 1808-1974 12 1808
Sources: AI, A14, A35
Notes: A14: Alt; 60m. No other details available. A35: No details available. AI: 1961-1970; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) GMT. Alt = 49m. Reliability: compared with 162390 for the years 1808-1970.

161490: RIMINI ITALY 44.0N 12.6E 1961-1970 61
Sources: AI
Notes: AI: 1961-1970; 1/8(00 + 03 + ...21) GMT. 44 01'N 12 38'E, alt = 13m. Reliability: uncheckable.

161580: PISA S.GIUSTO ITALY 43.7N 10.4E 2m 1961-1980 61
Sources: AI
Notes: AI: 1961-1970; 1/8(00 + 03 + ...21) GMT. 43 40'N 10 23'E, alt = 1m. Reliability: uncheckable.

161700: FLORENCE ITALY 43.8N 11.3E 75m 1821-1977 12 1822
Sources: AI, A14, A35, A124, A129
Notes: A14: Alt; 75m. No other details available. A35: Alt; 220m. No other details available. A124: Means of 1/2(max + min). 43 46'N 11 15'E. Alt; 75m. A129: 43 46'N 11 14'W of Rome. Alt; 73m. No other details available. AI: 1961-1970; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) GMT. Alt = 38m. Reliability: compared with 160800 for the years 1822-1970.

161900: ANCONA ITALY 43.6N 13.5E 104m 1951-1978 10 1951
Sources: AI
Notes: AI: 1951-1960; 43 37'N 13 31'E, alt = 114m. 1961-1970; 1/8(00 + 03 + ...21) GMT. Alt = 104m. Reliability: compared with 161100 for the years 1951-1978.

162060: GROSSETO ITALY 42.8N 11.1E 1961-1970 61
Sources: AI
Notes: AI: 1961-1970; 1/8(00 + 03 + ...21) GMT. 42 45'N 11 04'E, alt = 7m. Reliability: uncheckable.

162300: PESCARA ITALY 42.4N 14.2E 9m 1961-1980 61
Sources: AI
Notes: AI: 1961-1970; 1/8(00 + 03 + ...21) GMT. 42 26'N 14 12'E, alt = 11m. Reliability: uncheckable.

162420: ROME ITALY 41.7N 12.5E 3m 1782-1980 10 1811
Sources: AI, A8, A24, A35
Notes: AI: 1871-1920; means of (hours not given). Alt; 63m. 1921-1940; 1/4(09 + 21 + max + min) Central European Time. Alt; 50m. 1941-1960; 1/4(08 + 19 + max + min) 15E meridian time. Alt; 46m. 1951-1960; alt = 131m, 1961-1964 = 101m. 1965 on; Fiumicino; alt = 3m. 1961-1970; 1/8(00 + 03 + ...21) GMT. A8: No details available. A24: No details available. A35: No details available. Reliability: compared with 162600 for the years 1879-1952. Station merged with 162390.

162600: FOGGIA ITALY 41.5N 15.6E 101m 1879-1952 10 1879
Sources: A23, A129
Notes: A23: Alt; 101m. No other details available. A129: 41 27'N 3 02'W of Rome. Alt; 87m. No other details available. Reliability: compared with 162420 for the years 1879-1952.

162610: ARIENDELA ITALY 41.5N 15.7E 1961-1970 61
Sources: AI
Notes: AI: 1961-1970; 1/8(00 + 03 + ...21) GMT. 41 32'N 15 43'E, alt = 60m. Reliability: uncheckable.

162700: BARI PALESE ITALY 41.1N 16.8E 1961-1970 61
Sources: AI
Notes: AI: 1961-1970; 1/8(00 + 03 + ...21) GMT. 41 08'N 16 47'E, alt = 49m. Reliability: uncheckable.

162800: PONZA ITALY 40.9N 13.0E 1961-1970 61
Sources: AI
Notes: AI: 1961-1970; 1/8(00 + 03 + ...21) GMT. 40 55'N 12 57'E, alt = 185m. Reliability: uncheckable.

162890: NAPOLI CAPODICHINO ITALY 40.9N 14.3E 86m 1866-1980 22 1866
Sources: AI, A35, A106, A113, A126, A129
Notes: AI: Alt; 72m. Means of 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) GMT. A35: No details available. A106: Normal values, /CLIMO/, only. Press; 1/4(00 + 06 + 12 + 18), reduced to MSL. Temp; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21). 1946-1960; corrected to means of 1931-1960, by correlation with the nearest station. A113: Press; 1/3(09 + 15 + 21). Temp; 1/2(max + min). A126: No details available. A129: 40 52'N 14 47'E of Rome. Alt; 149m. No other details available. Reliability: compared with 162420 for the

years 1871-1980. Corrected for change in site either side of a data gap, 1926-1961. Correction Factors: Stations used: 162420. Calculation dates: 1961-1980. Correction dates: 1866-1925. Factors: -18 -13 -7 -2 -1 3 2 -5 -8 -14 -17 -15.

163000: POTENZA ITALY 40.6N 15.5E 1961-1970 61
Sources: A1

Notes: A1: 1961-1970; 1/8(00 + 03 +21) GMT. 40 38'N 15 48'E, alt = 842m. Reliability: uncheckable.

163100: CAPO PALINURO ITALY 40.0N 15.3E 1961-1970 61
Sources: A1

Notes: A1: 1961-1970; 1/8(00 + 03 +21) GMT. 40 01'N 15 17'E, alt = 185m. Reliability: uncheckable.

163200: BRINDISI ITALY 40.7N 18.0E 15m 1961-1980 61
Sources: A1

Notes: A1: 1961-1970; 1/8(00 + 03 +21) GMT. 40 39'N 17 57'E, alt = 10m. Reliability: uncheckable.

163250: MARINA DI GINOSA ITALY 40.4N 16.9E 12m 1967-1980 61
Sources: A1

Notes: A1: 1967-1970; 1/8(00 + 03 +21) GMT. No other details available. Reliability: uncheckable.

163300: TARANTO ITALY 40.5N 17.3E 41m 1951-1967 61
Sources: A1

Notes: A1: 1951-1960; 40 28'N 17 17'E, alt = 41m. 1/8(00 + 03 +21) GMT. Reliability: uncheckable.

163500: CROTONE ITALY 39.0N 17.1E 1961-1970 61
Sources: A1

Notes: A1: 1961-1970; 1/8(00 + 03 +21) GMT. 39 00'N 17 04'E, alt = 161m. Reliability: uncheckable.

163600: S. MARIA DI LECCE ITALY 39.8N 18.4E 1961-1970 61
Sources: A1

Notes: A1: 1961-1970; 1/8(00 + 03 +21) GMT. 39 49'N 18 21'E, alt = 111m. Reliability: uncheckable.

164000: USTICA ITALY 38.7N 13.2E 1961-1970 61
Sources: A1

Notes: A1: 1961-1970; 1/8(00 + 03 +21) GMT. 38 42'N 13 11'E, alt = 251m. Reliability: uncheckable.

164050: PALERMO ITALY 38.1N 13.4E 229m 1791-1868 83
Sources: A35, A129

Notes: A35: Alt: 229m. 1791-1863; No details available. 1864-1868; anomalies from mean (no years given). A129: 38 06'N 0 51'E of Rome. Alt: 71m. No other details available. Reliability: compared with 162390 for the years 1811-1868.

164060: TERMINI ITALY 38.0N 13.7E 75m 1880-1906 83
Sources: A128, A129

Notes: A128: Means of 1/2(max + min). Alt: 75m. A129: 37 59'N 1 15'E of Rome. Alt: 75m. No other details available. Reliability: compared with 162890 & 165970 for the years 1880-1906.

164200: MESSINA ITALY 38.2N 15.6E 51m 1961-1980 61
Sources: A1

Notes: A1: 1961-1970; 1/8(00 + 03 +21) GMT. No other details available. Reliability: uncheckable.

164290: TRAPANI ITALY 37.9N 12.5E 79m 1961-1980 61
Sources: A1

Notes: A1: 1961-1970; 1/8(00 + 03 +21) GMT. No other details available. Reliability: uncheckable.

164500: ENNA ITALY 37.6N 14.3E 1961-1970 61
Sources: A1

Notes: A1: 1961-1970; 1/8(00 + 03 +21) GMT. 37 34'N 14 17'E, alt = 965m. Reliability: uncheckable.

164600: CATANIA ITALY 37.5N 15.1E 65m 1892-1980 20 1892
Sources: A1, A8, A106, A129

Notes: A1: 1892-1920; means of (hours not given). Alt = 65m. 1921-1940; 1/4(09 + 21 + max + min) Central European Time. 1941-1950; 1/4(08 + 19 + max + min)15E meridian time. 1961-1970; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) GMT. Alt = 17m. A8: No details available. A106: Normal values, /CLIM0/, only. Press: 1/4(00 + 06 + 12 + 18) reduced to MSL. Temp: 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21). 1946-1948; means are corrected to those of 1931-1960 by correlation with the nearest station. A129: 37 30'N 2 35'E of Rome. Alt: 31m. No other details available. Reliability: compared with 162420 & 165970 for the years 1892-1980. Data gaps 1931-1940 & 1951-1960. Corrected for site change in 1961. Correction Factors:

Stations used: 162420 & 165970. Calculation dates: 1961-1980. Correction dates: 1892-1950. Factors: -9 -10 -6 -8 -10 -11 -9 -11 -7 -8 -12 -7.

164700: PANTELLEIA ITALY 36.8N 12.0E 1961-1970 61
Sources: AI

Notes: AI: 1961-1970; 1/8(00 + 03 +21) GMT. 36 49'N 11 58'E, alt = 170m. Reliability: uncheckable.

165200: ALCHERO ITALY 40.6N 8.3E 23m 1961-1980 61
Sources: AI

Notes: AI: 1961-1970; 1/8(00 + 03 +21) GMT. 40 38'N 8 17'E, alt = 40m. Reliability: uncheckable.

165600: CAGLIARI/ELMAS ITALY 39.3N 9.1E 18m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1960; 39 15'N 9 03'E, alt = 18m. 1961-1970; 1/8(00 + 03 +21) GMT. Reliability: compared with 165970 for the years 1951-1980.

165970: LUQA MALTA 35.9N 14.5E 80m 1841-1980 20 1853
Sources: AI, A7, A16, A43, A79, A120

Notes: AI: 1/2(max + min). Alt: 80m. A7: Site near Valetta. 1/2(max + min). 35 54'N 14 30'E. Alt: April 1852-Feb 1853; 201ft. Mar 1853-June 1853; 151ft. July 1853-1861; 234ft. 1865-74; 112ft. 35 54'N 14 31'E, 1875-86; 70ft. A16: No details available. A43: Rabat. 1881-82; means of 2 daily obs. times in source. 1893-1902; 1/2(max + min). 10ft. A79: No details available. A120: 1683-1900; St. Ignatius College, 35 55'N 14 29'E, 58ft. 1/2(max + min). 1900-53; Valetta Uni. 35 53'N 14 30'E, 175ft. Temp 1903-1953 probably adjusted to Luqa. Reliability: compared with 165600, 162600, 162420 & 162890 for the years 1951-1980, 1871-1980, 1871-1980 & 1866-1980. Corrected for a site change 1881/1882. Correction Factors: Stations used: 162420. Calculation dates: 1961-1980. Correction dates: 1871-1881. Factors: -27 -25 -14 -5 -1 4 7 5 -9 -17 -24 -24.

166200: THESSALONIKI SERDES GREECE 40.5N 23.0E 1961-1970 61
Sources: AI

Notes: AI: 1961-1970; 1/4(08 + 14 + 20 + 20) Mean East European Time. 1961-July 1962; 40 31'N 23 01'E, alt = 32m. Aug 1962-Sept 1964; 40 33'N 22 58'E, alt = 52m. Oct 1964-1970; 40 33'N 23 01'E, alt = 30m. Reliability: uncheckable.

166220: THESSALONIKI/MIKRA GREECE 40.5N 23.0E 61m 1892-1980 80
Sources: AI, A137

Notes: AI: 1/4(08 + 14 + 20 + 20) Mean East European Time. Alt: 61m. A137: 7 sites used, but all observations reduced to Aristotelean University (same site since 1930) and to 24 hour means. Sites & observation times were: 1) 1892-Jan 1894; 08, 14 & 21h winter time, 07, 14 & 21h summer time, Jan 1895-Nov 1900; 08, 14 & 21, Dec 1900-Jan 1901; 08, 14, 17, 8, Feb 1901-Mar

1901; 08, 14 & 17, Mar 1901-Nov 1912; 07, 14 & 18, 2) Bulgarian Gymnasium; 1900-June 1912; 07, 14 & 21h. 3) Greek Gymnasium; May 1909-Nov 1922; 08, 14 & 21h. 4) Sedes Flying School; May-Oct 1923, 1936-June 1940 & Jan 1950-May 1959. 5) American Farm School; July 1924-1929; 08, 14 & 21h, 1930-May 1959; 08, 14 + 20. 6) German Weather Station; Nov 1941-July 1944. 7) Aristotelean University. Jan 1959 moved 230m E. Reliability: compared with 166140, 166480 & 167140 for the years 1951-1980. Trend may well be urban warming.

166410: XERKYRA GREECE 39.6N 19.9E 2m 1852-1980 72 1951
Sources: AI, A7

Notes: AI: 1951-1970; 1/4(08 + 14 + 20 + 20) Mean East European Time. Alt = 2m. A7: Means of 1/2(max + min). No other details available. Reliability: compared with 166480 & 167140 for the years 1951-1980.

166480: LARISSA GREECE 39.6N 22.4E 74m 1899-1980 80
Sources: AI, A137

Notes: AI: Means of 1/4(08 + 14 + 20 + 20) Mean East European Time. 1951-1960; alt = 72m, 1961-1970 = 74m. A137: 1899-1929; 1/3(08 + 14 + 21). 1930-1949; 1/3(08 + 14 + 20). 1950-1973; 1/4(08 + 14 + 20 + 20). All observations reduced to means of 24 hours. June 1963-1973; hourly observations were also taken. 1899-June 1940; observations from the Meteorological Station, 1940-1950; from the Institute for Forage Cultivations & 1950-1973, from the Airport. Reliability: compared with 166220, 166410 & 167140 for the years 1951-1973, 1951-1973 & 1951-1980. Trend may well be urban warming.

166510: LIMNOS GREECE 39.9N 25.1E 17m 1951-1970 61
Sources: AI

Notes: AI: 1951-1970; 1/4(08 + 14 + 20 + 20) Mean East European Time. 1951-June 1955; 39 53'N 25 04'E, alt = 5m. June 1955-1970; alt = 17m. Reliability: uncheckable.

166870: ARAXOS GREECE 38.2N 21.4E 23m 1951-1970 61
Sources: AI

Notes: AI: 1951-1970; 1/4(08 + 14 + 20 + 20) Mean East European Time. 38 10'N 21 25'E, alt = 20m. 1963-1970; alt = 14m. Reliability: uncheckable.

166890: PATRAI GREECE 38.3N 21.7E 3m 1951-1975 81
Sources: AI

Notes: AI: 1951-1970; 1/4(08 + 14 + 20 + 20) Mean East European time. 38 15'N 21 44'E, alt = 3m. Reliability: compared with 167260 & 167160 for the years 1951-1975. Record has definite warming trend.

- 167050: ZAKYNTHOS GREECE 37.8N 20.9E 8m 1951-1980 62
Sources: AI
- Notes: AI: 1951-1960; 1/4(08 + 14 + 20 + 20) Mean East European Time. 37 47'N 20 53'E, alt = 4m. 1961-Nov 1966; 37 44'N 20 53'E, alt = 4m. 1968-1970; 37 47'N 20 53'E, alt = 8m. Reliability: uncheckable.
- 167140: ATHENS GREECE 38.0N 23.7E 107m 1858-1980 10 1858
Sources: AI, A19, A137
- Notes: AI: 1895-1920; means of 24 hours, derived from direct observations at 06, 12 & 19h GMT, combined with hourly readings of a thermograph. No corrections were made. 1858-1950; means of 1/2(max + min) 30E meridian time. 1951-1960; means of hourly observations. Alt; 107m. A19: No details available. A137: 1858-1895; means of 08, 14 & 21h reduced to true means of 24 hours by calculating differences of the 24 hour mean for 1895-1930. These correction factors are given on p326 of the source. National Observatory, same site since Sept 1890; 37 58'N 23 05'E. Alt; 107m. Reliability: compared with 166480, 154220 & 170620 for the years 1899-1973, 1858-1980 & 1858-1980.
- 167160: A'RHINA/HELLENIKON GREECE 37.9N 23.7E 10m 1951-1980 40
Sources: AI
- Notes: AI: 1951-1960; 37 54'N 23 44'E, alt = 9m. 1/4(08 + 14 + 20 + 20) Mean East European Time. 1961-April 1968; 37 54'N 23 48'E, alt = 9m. May 1968-1970; 37 54'N 23 44'E, alt = 15m. Reliability: compared with 166480 for the years 1951-1980.
- 167210: SAMOS GREECE 37.7N 27.0E 49m 1951-1970 61
Sources: AI
- Notes: AI: 1951-1970; 1/4(08 + 14 + 20 + 20) Mean East European Time. 37 44'N 27 00'E, alt = 49m. Reliability: uncheckable.
- 167260: KALAMAI GREECE 37.0N 22.0E 5m 1951-1980 62
Sources: AI
- Notes: AI: 1951-1970; 1/4(08 + 14 + 20 + 20) Mean East European Time. 37 02'N 22 06'E, alt = 10m. April 1964-1970; alt = 5m. Reliability: uncheckable.
- 167340: MATHIONI GREECE 36.8N 21.7E 34m 1951-1970 61
Sources: AI
- Notes: AI: 1951-Feb 1953; 36 50'N 21 43'E, alt = 25m. Mar 1953-Feb 1960; alt = 35m. Mar 1960-1970; alt = 34m. 1951-1970; 1/4(08 + 14 + 20 + 20) Mean East European Time. Reliability: uncheckable.
- 167460: SOUDA CRETE GREECE 35.6N 24.1E 1974-1980 61
Sources: AI
- Notes: AI: 1961-1970; 1/4(08 + 14 + 20 + 20) Mean East European Time. No other details available. Reliability: uncheckable.
- 167540: HIRAKLION/CRETE GREECE 35.3N 25.2E 48m 1951-1980 10 1951
Sources: AI
- Notes: AI: 1951-1970; 1/4(08 + 14 + 20 + 20) Mean East European Time. 35 20'N 25 11'E, alt = 48m. Nov 1968-1970; alt = 39m. Reliability: compared with 167140 for the years 1951-1980.
- 170300: SANSUN TURKEY 41.3N 36.3E 44m 1819-1980 10 1929
Sources: AI, A43
- Notes: AI: Means of 1/4(07 + 14 + 21 + 21) 30E meridian time. Alt; 1929-1950 = 23m, 1951-1970 = 44m. A43: Temp; 1/2(max + min). Observations were also taken at same time as Press; 1880-1885; 1/2(1509 + 2109). 1886-1904; means of 1436h. Alt; 1880-1890 = 8m, 1891-1894 = 15m, 1895-1901 = 3m, 1902-1904 = 8m. Reliability: compared with 172200, 170620 & 154220 for the years 1929-1980, 1929-1980 & 1857-1980. Early data are uncheckable because of data gaps.
- 170380: TRABZON TURKEY 41.0N 39.7E 37m 1951-1970 61
Sources: AI
- Notes: AI: 1951-1960; 1/4(07 + 14 + 21 + 21). 41 00'N 39 43'E, alt = 37m. 1961-1970; alt = 30m. Reliability: uncheckable.
- 170400: RIZE TURKEY 41.0N 40.5E 4m 1929-1980 10 1929
Sources: AI
- Notes: AI: 1929-1950; 1/4(07 + 14 + 21 + 21) 30E meridian time. 41 02'N 40 30'E, alt = 60m. 1951-1970; alt = 4m. Reliability: compared with 170960 & 170920 for the years 1929-1980 & 1951-1980.
- 170500: EDIRNE TURKEY 41.7N 26.6E 48m 1929-1980 10 1929
Sources: AI
- Notes: AI: 1929-1950; 1/4(07 + 14 + 21 + 21) 30E meridian time. 41 40'N 26 34'E, alt = 47m. 1951-1970; alt = 48m. Reliability: compared with 170620 & 171120 for the years 1929-1980 & 1951-1980.
- 170580: FLORYA TURKEY 41.0N 28.8E 1961-1970 61
Sources: AI
- Notes: AI: 1951-1970; 1/4(07 + 14 + 21 + 21). 40 59'N 28 48'E, alt = 34m. Reliability: uncheckable.

170600: FLORYA TURKEY 41.0N 28.8E 1951-1960 61
Sources: AI

Notes: AI: 1961-1970; 1/4(07 + 14 + 21 + 21) local time. No other details available. Reliability: uncheckable.

170620: ISTANBUL/GOZTEPE TURKEY 41.0N 29.1E 40m 1839-1980 12 1839
Sources: AI, A7, A29, A35, A56, A57, AI23

Notes: AI: Means of 1/4(07 + 14 + 21 + 21) 30E meridian time. Rain is the total of the daily readings at 07h & is credited to the preceding 24 hours. A7: Scutari, alt = 18m. Means of 1/2(max + min). A29: No details available. A35: No details available. A56: No details available. A57: No details available. AI23: Means of 1/2(max + min). No other details available. Reliability: compared with 154220 & 172200 for the years 1857-1980 & 1843-1980.

170700: BOLU TURKEY 40.7N 31.6E 742m 1951-1970 61
Sources: AI

Notes: AI: 1951-1970; 1/4(07 + 14 + 21 + 21). 40 44'N 31 36'E, alt = 742m. Reliability: uncheckable.

170740: KASTAMONU TURKEY 41.4N 33.8E 799m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1970; 1/4(07 + 14 + 21 + 21). 41 22'N 33 46'E, alt = 800m. Reliability: compared with 170300 & 171300 for the years 1951-1980.

170800: CANKIRI TURKEY 40.6N 33.6E 1961-1970 61
Sources: AI

Notes: AI: 1951-1960; 1/4(07 + 14 + 21 + 21). 40 36'N 33 37'E, alt = 730m. 1961-1970; alt = 751m. Reliability: uncheckable.

170900: SIVAS TURKEY 39.8N 37.0E 1285m 1929-1980 80
Sources: AI

Notes: AI: 1929-1970; 1/4(07 + 14 + 21 + 21) 30E meridian time. 39 45'N 37 01'E, alt = 1285m. Reliability: compared with 170740 & 170920 for the years 1951-1980. Record shows some evidence of a warming trend.

170920: ERZINCAN TURKEY 39.7N 39.5E 1215m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1960; 1/4(07 + 14 + 21 + 21). 39 44'N 39 30'E, alt = 1213m. Station probably moved in Aug 1952 but no details are given. 1961-1970; alt = 1215m. Reliability: compared with 170300 for the years 1951-1980.

170960: ERZURUM TURKEY 39.9N 41.3E 1869m 1929-1980 10 1929
Sources: AI

Notes: AI: 1929-1950; 1/4(07 + 14 + 21 + 21) 30E meridian time. 39 55'N 41 16'E, alt = 1892m. 1951-1960; alt = 1893m. 1961-1970; alt = 1869m. Reliability: compared with 170400 & 170920 for the years 1929-1980 & 1951-1980.

171120: CANKALE TURKEY 40.1N 26.4E 3m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1970; 1/4(07 + 14 + 21 + 21). 40 08'N 26 24'E, alt = 3m. Reliability: compared with 170500 for the years 1951-1980.

171160: BURSA TURKEY 40.2N 29.1E 100m 1951-1980 80
Sources: AI

Notes: AI: 1951-1970; 40 11'N 29 04'E, alt = 100m. 1/4(07 + 14 + 21 + 21). Reliability: compared with 170500 & 170620 for the years 1951-1980. Record shows two separate trends.

171287: CANKIRI TURKEY 40.6N 33.6E 1951-1960 61
Sources: AI

Notes: AI: 1961-1970; 1/4(07 + 14 + 21 + 21) local time. No other details available. Reliability: uncheckable.

171300: ANKARA/CENTRAL TURKEY 40.0N 32.9E 894m 1926-1980 10 1926
Sources: AI

Notes: AI: 1926-1950; 1/4(07 + 14 + 21 + 21) 30E meridian time. 39 57'N 32 53'E, alt = 891m. 1951-1960; alt = 902m. 1961-1970; 894m. Reliability: compared with 170300 & 170740 for the years 1926-1980 & 1951-1980.

171600: KIRSEHIR TURKEY 39.1N 34.2E 985m 1951-1970 61
Sources: AI

Notes: AI: 1951-1970; 1/4(07 + 14 + 21 + 21). 39 08'N 34 10'E, alt = 985m. Reliability: uncheckable.

171700: VAN TURKEY 38.5N 43.4E 1661m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1960; 1/4(07 + 14 + 21 + 21). 38 28'N 43 21'E, alt = 1732m. Station probably moved in May 1960 but no details are given. 1961-1970; alt = 1725m. Reliability: compared with 170960 for the years 1951-1980.

171900: AFYON TURKEY 38.8N 30.5E 1034m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1960; 1/4(07 + 14 + 21 + 21). 38 45'N 30 32'E, alt = 1020m. 1961-1970; alt = 1034m. Reliability: compared with 172920 & 172200 for the

years 1951-1980.

171930: KAYSERI/ERKILEY TURKEY 38.6N 35.5E 1070m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1960; 1/4(07 + 14 + 21 + 21). 38 43'N 35 29' E, alt = 1071m.
1961-1970; alt = 1068m. Reliability: compared with 172440 & 173500 for the
years 1951-1980.

172000: MALATYA TURKEY 38.4N 38.3E 998m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1960; 1/4(07 + 14 + 21 + 21). 38 21'N 38 18' E, alt = 977m.
1961-1970; alt = 998m. Reliability: compared with 170300 for the years
1951-1980.

172020: ELAZIG TURKEY 38.7N 39.2E 882m 1951-1970 61
Sources: AI

Notes: AI: 1951-1970; 1/4(07 + 14 + 21 + 21). 38 40'N 39 30' E, alt = 1105m.
Reliability: uncheckable.

172100: SIIRT TURKEY 37.9N 41.9E 895m 1951-1970 61
Sources: AI

Notes: AI: 1951-1970; 1/4(07 + 14 + 21 + 21). 37 56'N 41 56' E, alt = 895m.
Reliability: uncheckable.

172200: IZMIR TURKEY 38.4N 27.3E 25m 1843-1980 10 1929
Sources: AI, A29, A31, A43

Notes: Station was also known as Smyrna. AI: Means of 1/4(07 + 14 + 21 + 21) 30E
meridian time. 1921-1950; Alt = 4m, 1951-1970 = 25m. A29: 1843-1844; means
of 1409h. 1857-1874; 1/3(07 + 14 + 21). 1902-1907; 1/4(07 + 09 + 14 + 21).
Alt: 10m. A31: No details available. A43: 1/2(max + min). 1908-1913; 38
26'N 24 49' E of Paris, alt = 1m. Reliability: compared with 170620 &
170300 for the years 1929-1980.

172400: ISPARTA TURKEY 37.8N 30.6E 1043m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1960; 1/4(07 + 14 + 21 + 21). 37 45'N 30 33' E, alt = 1052m.
1961-1970; alt = 997m. Reliability: compared with 172440 for the years
1951-1980.

172440: KONYA TURKEY 37.9N 32.5E 1022m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1960; 1/4(07 + 14 + 21 + 21). 37 52'N 32 30' E, alt = 1026m.
1961-1970; alt = 1029m. Reliability: compared with 173500 & 176060 for the
years 1951-1980 & 1951-1974.

172497: ULUKISLA TURKEY 37.6N 34.5E 1951-1960 61
Sources: AI

Notes: AI: 1961-1970; 1/4(07 + 14 + 21 + 21) local time. No other details
available. Reliability: uncheckable.

172500: ULUKISLA TURKEY 37.6N 34.5E 1961-1970 61
Sources: AI

Notes: AI: 1951-1960; 1/4(07 + 14 + 21 + 21). 37 33'N 34 29' E, alt = 1430m.
1961-1970; alt = 1451m. Reliability: uncheckable.

172600: GAZIANTEP TURKEY 37.1N 37.4E 840m 1951-1970 61
Sources: AI

Notes: AI: 1951-1960; 1/4(07 + 14 + 21 + 21). 37 05'N 37 22' E, alt = 840m.
1961-1970; alt = 855m. Reliability: uncheckable.

172700: URFA TURKEY 37.1N 38.8E 547m 1900-1980 10 1951
Sources: AI, A29

Notes: AI: Alt: 547m. Means of 1/4(07 + 14 + 21 + 21). A29: Alt: 564m. Site;
37.2N 38.8E. No other details available. Reliability: compared with 170300
for the years 1951-1980.

172800: DIYARBAKIR TURKEY 37.9N 40.2E 677m 1929-1980 10 1929
Sources: AI

Notes: AI: 1929-1950; 1/4(07 + 14 + 21 + 21) 30E meridian time. 37 55'N 40 12' E,
alt = 653m. 1951-1980; alt = 677m. 1961-1970; alt = 676m. Reliability:
compared with 170960 for the years 1929-1980.

172920: MUGLA TURKEY 37.2N 28.4E 646m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1970; 1/4(07 + 14 + 21 + 21). 37 12'N 28 21' E, alt = 646m.
Reliability: compared with 172200 & 171900 for the years 1951-1980.

173000: ANTALYA TURKEY 36.9N 30.7E 43m 1929-1980 10 1930
Sources: AI

Notes: AI: 1929-1960; 1/4(07 + 14 + 21 + 21) 30E meridian time. 36 53'N 30 42' E,
alt = 43m. 1961-1970; alt = 42m. Reliability: compared with 172200 for the
years 1930-1980.

173500: ADANA INCIRLIK TURKEY 37.0N 35.3E 66m 1929-1980 10 1929
Sources: AI

Notes: AI: 1929-1950; 1/4(07 + 14 + 21 + 21) 30E meridian time. 36 59'N 35 18' E,
alt = 24m. 1951-1970; alt = 20m. Reliability: compared with 171300 & 172200
for the years 1929-1980.

176060: NICOBIA
Sources: AI, A54
Notes: AI: Means of 1/2(max + min). Alt: 1901-Aug 1939 = 522ft, Sept 1939-1950 = 508ft, 1951-1960 = 218m, 1961-1970 = 220m. A54: Alt: 155m. No other details available. Reliability: compared with 176107 for the years 1887-1950.

176090: LARNAKA
Sources: A29
Notes: A29: Means of 1/4(09 + 21 + max + min). 1881-1902; Alt = 11m. 1903-1909; Alt = 6m. Reliability: compared with 176060 & 176107 for the years 1881-1909.

176107: LIMASSOL
Sources: A54
Notes: A54: Alt; 8m. No other details available. Reliability: compared with 176060 for the years 1887-1950.

200460: DROJMAYA/OSTROVHEJSA USSR
Sources: AI
Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 80 37'N 58 03'E, alt = 20m. Reliability: compared with 200690 & 206740 for the years 1957-1980.

200690: OSTROV VIZE USSR
Sources: AI
Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 79 30'N 76 59'E, alt = 18m. Reliability: compared with 200460 & 206740 for the years 1957-1980.

202740: OSTROV UEDINENIJA USSR
Sources: AI
Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 79 30'N 82 14'E, alt = 9m. Reliability: compared with 200690 for the years 1951-1960.

202920: MYS GELJUSKIN USSR
Sources: AI
Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 77 43'N 104 17'E, alt = 13m. Reliability: compared with 206740 for the years 1951-1980.

203530: MYS ZELANIJA USSR
Sources: AI
Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 76 57'N 68 35'E, alt = 8m. Reliability: compared with 206740 for the years 1931-1960.

206740: OSTROV DIKSON USSR
Sources: AI
Notes: AI: 1921-1935; 1/3(07 + 13 + 21) local time corrected to means of 24 hours. 73 31'N 80 23'E, alt = 13m. 1931-1960; 73 30'N 80 24'E, alt = 20m. 1936-1950; 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. 1961-1970; 73 30'N 80 14'E, alt = 20m. Reliability: compared with 203530, 231460 & 230740 for the years 1931-1960, 1951-1980 & 1917-1960.

207440: MALYE KARMAKULY USSR
Sources: AI
Notes: AI: 1921-1930; 1/3(07 + 13 + 21). Alt: 15m. 1931-1935; 1/3(07 + 13 + 21) local time, corrected to means of 24 hours. 1936-1950; 1/4(01 + 07 + 13 + 19) local time, corrected to means of 24 hours. 1917-1963 & 1897-1963.

208910: BATAANGA/KHATANGA USSR
Sources: AI
Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 71 59'N 102 28'E, alt = 24m. Reliability: compared with 206740 & 241250 for the years 1951-1980.

214320: OSTROV KOTELNYJ USSR
Sources: AI
Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 76 00'N 137 54'E, alt = 10m. Reliability: compared with 219460 for the years 1951-1980.

216470: MYS SALAUROYA USSR
Sources: AI
Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 73 11'N 143 56'E, alt = 10m. Reliability: compared with 219460 for the years 1951-1960.

218240: BUKHTA TIBRAYHA USSR
Sources: AI
Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. No other details available. Reliability: compared with 206740 for the years 1929-1963.

219460: COKURDAH USSR 70.6N 147.9E 48m 1951-1980 10 1951
Sources: AI
Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 70 37'N 147 53'E, alt = 48m. Reliability: compared with 219650 for the years 1951-1980.

219650: CETREHSTOLBOVOI USSR 70.6N 162.4E 6m 1951-1980 10 1951
Sources: AI
Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 70 38'N 162 24'E, alt = 6m. Reliability: compared with 219460 for the years 1951-1980.

219820: OSTROW VRANGEL'JA USSR 71.0N 178.5W 1951-1960 11 1951
Sources: AI
Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 70 58'N 178 32'W, alt = 3m. Reliability: compared with 251730 for the years 1951-1960.

221120: KOLA USSR 68.9N 33.0E 1901-1954 10 1901
Sources: AI
Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. No other details available. Reliability: compared with 225500 for the years 1901-1954.

221130: MURMANSK USSR 69.0N 33.1E 46m 1951-1980 10 1951
Sources: AI
Notes: AI: 1951-1970; 68 58'N 33 03'E, alt = 46m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 225500 for the years 1951-1980.

221650: KAMIN NOS USSR 68.7N 43.3E 1951-1980 10 1951
Sources: AI
Notes: AI: 1951-1970; 68 39'N 43 18'E, alt = 0m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 225500 for the years 1951-1980.

224220: GRIDINO USSR 65.9N 34.8E 10m 1951-1970 10 1951
Sources: AI
Notes: AI: 1951-1970; 65 54'N 34 46'E, alt = 10m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 225500 for the years 1951-1970.

225220: KEM PORT USSR 65.0N 34.8E 10m 1862-1970 60
Sources: AI, A2, A8, A13
Notes: AI: Alt; 10m. No details given, but probably means of 1/4(01 + 07 + 13 + 19) local time, corrected to the means of 24 hours. A2: 1876-1882; alt = 5m. No other details available. A8: No details available. A13: Alt; 10m. 1862-Nov 1862; 1/3(08 + 1/2(00 + 16) + 20), Nov 1862-May 1865; 1/3(06 + 14 + 22), Oct 1865-Dec 1882; 1/3(07 + 13 + 21). Corrections given on p1111. Reliability: uncheckable.

225500: ARKANGELSK USSR 64.6N 40.6E 13m 1813-1980 10 1813
Sources: AI, A2, A13, A35
Notes: AI: 1881-1920; alt = 7m. Means of 1/3(07 + 13 + 21), reduced to means of 24 hours using corrections from Wild. These mean temps were reduced to a standard level for the station by assuming a decrease of -0.45C for each 100m of alt. 1921-1935; 1/3(07 + 13 + 21) local time, corrected to means of 24 hours. 1936-1950; 1/4(01 + 07 + 13 + 19) local time. Alt; 10m. 1951-1970; Alt; 13m. No details given about means, but presumed to be same as above. NB. Station moved in Aug 1935 to 64 35'N 40 30'E, alt = 7m. Corrections for the period 1881-1915 & for an unspecified site change are given on p1111, vol 19. A2: No details available. A13: Alt; 10m. 13 different observation times & means were used. Details of these & their corrections are given on p1111 of the source. A35: No details available. Reliability: compared with 276120 & 221120 for the years 1813-1980 & 1901-1954.

226200: REBOLY USSR 63.8N 30.8E 181m 1951-1980 10 1951
Sources: AI
Notes: AI: 1951-1970; 63 49'N 30 49'E, alt = 181m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 225500 for the years 1951-1980.

227680: SHENKURSK USSR 62.1N 42.9E 1901-1954 10 1901
Sources: AI
Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. No other details available. Reliability: compared with the years 1901-1954.

228020: SORTOVALA USSR 61.7N 30.7E 18m 1951-1970 10 1951
Sources: AI
Notes: AI: 1951-1970; 61 43'N 30 43'E, alt = 18m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 226020 for the years 1951-1970.

228200: PETROZAVODSK USSR 61.8N 34.3E 40m 1816-1979 12 1951
Sources: AI, A2, A35
Notes: AI: Alt; 40m. No details given, but probably 1/4(01 + 07 + 13 + 19) local time, corrected to means of 24 hours. A2: No details available. A35: No

details available. Reliability: compared with 225500 for the years 1816-1980. Early record incompatible with later record.

228370: VYTEGRA USSR 61.0N 36.5E 59m 1963-1980 11 1963 Sources: AI Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. No other details available. Reliability: compared with 228200 & 225500 for the years 1963-1980.

228540: HJARDOMA USSR 61.7N 40.2E 224m 1951-1970 10 1951 Sources: AI Notes: AI: 1951-1970; 61 40'N 40 11'E, alt = 224m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 228200 & 225500 for the years 1951-1970 & 1963-1980.

230740: DUDINKA USSR 69.4N 86.2E 1906-1960 10 1906 Sources: AI Notes: AI: 1906-1960; 1/3(07 + 13 + 21) corrected to means of 24 hours by corrections given on pxii, vol 79. Reduced to standard alt of 20m by assuming a decrease of -.6C for every 100m. 69 23'N 86 04'E, alt = 20m. 1961-1970; 69 24'N 86 10'E, alt = 28m. Reliability: compared with 234720 & 206740 for the years 1906-1960 & 1917-1960.

231460: MYS KAHENNYJ USSR 68.5N 73.6E 7m 1951-1980 10 1951 Sources: AI Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. No other details available. Reliability: compared with 206740 & 233300 for the years 1951-1980.

232050: MAR JAN-MAR USSR 67.7N 53.0E 7m 1961-1980 10 1961 Sources: AI Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. No other details available. Reliability: compared with 225500 for the years 1961-1980.

232190: HOSEDA-HARD USSR 67.1N 59.4E 81m 1963-1980 11 1963 Sources: AI Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. No other details available. Reliability: compared with 225500 for the years 1963-1980.

233300: SALEHARD USSR 66.5N 66.5E 35m 1883-1980 10 1883 Sources: AI, A51 Notes: AI: 1882-1915; 1/3(07 + 13 + 21) corrected to the means of 24 hours. Alt = 26m. 1951-1960; alt = 35m. No details given, but probably means of 1/4(01 + 07 + 13 + 19) local time, corrected to means of 24 hours. A51: Alt = 26m. No other details available. Reliability: compared with 225500 & 234720 for the years 1881-1980.

234720: TURUBANSK USSR 65.9N 87.6E 37m 1881-1980 10 1881 Sources: AI, A51 Notes: AI: 1881-1915; 1/3(07 + 13 + 21) corrected to the means of 24 hours. Temp reduced to a standard alt by assuming a decrease of .6C for every 100m. 1916-1935; 1/3(07 + 13 + 21) local time, corrected to the means of 24 hours. 1936-1940; 1/4(01 + 07 + 13 + 19) local time. 1941-1960; 1/4(01 + 07 + 13 + 19) local time, corrected to the means of 24 hours. Site; 1881-Aug 1911; 65 55'N 87 38'E, alt = 40m. Oct 1911-1915; 65 47'N 88 47'E, alt = 45m. 1916-1960; 65 47'N 87 57'W, Alt; 1915-1950 = 45m. 1951-1960 = 32m. A51: Alt = 40m. No other details available. Reliability: compared with 238490 & 282750 for the years 1885-1980 & 1881-1980.

235520: TARKO-SALE USSR 64.9N 77.8E 27m 1963-1980 11 1963 Sources: AI Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. No other details available. Reliability: compared with 234720 for the years 1963-1980.

236310: BEREZOV USSR 63.9N 65.1E 20m 1881-1960 10 1881 Sources: AI, A51 Notes: AI: 1881-1920; 1/3(07 + 13 + 21) corrected to means of 24 hours. Temp reduced to a standard height by assuming a decrease of .6C for every 100m. Alt; 46m. 1921-1935; 1/3(07 + 13 + 21) local time. Alt; 40m. 1936-1960; 1/4(01 + 07 + 13 + 19) local time corrected to the means of 24 hours. Alt; 43m. MB. Corrections to reduce temp to means of 24 hours, for 1881-1915, are given on pxiii, vol 79. A51: Alt; 32m. No other details available. Reliability: compared with 238490 for the years 1881-1960.

237240: NJAKSIMVOL USSR 62.4N 60.9E 50m 1963-1980 11 1963 Sources: AI Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. No other details available. Reliability: compared with 238490 & 239330 for the years 1963-1980.

238040: SYKTYVKAR USSR 61.7N 50.9E 96m 1817-1980 10 1817 Sources: A35, A70 Notes: A35: No details available. A70: A combination of; 1/3(06 + 12 + 22), 1/3(06 + 14 + 22), 1/4(07 + 14 + 21 + 21) & 1/3(09 + 12 + 20). Corrections, but no other details are given on pACVIII. Alt; 100m. Reliability:

249440: OLJEVNIK USSR 60.4N 120.4E 226m 1882-1960 10 1882
Sources: A1, A8
Notes: A1: 1881-1925; 1/3(07 + 13 + 21) corrected to the means of 24 hours, by corrections given on pxi1, vol 79. Alt: 152m. 1926-1935; 1/3(07 + 13 + 21) local time corrected to the means of 24 hours. 1936-1940; 1/4(01 + 07 + 13 + 19) local time. Alt: 105m. 1941-1960; 1/4(01 + 07 + 13 + 19) local time, corrected to means of 24 hours. Alt = 161m. 1951-1960; alt = 226m. 1881-1925 temp reduced to a standard height, by assuming a decrease of .6C for every 100m. A8: No details available. Reliability: compared with 249590 for the years 1882-1960.

249590: JAKUTSK USSR 62.0N 129.7E 103m 1829-1980 10 1882
Sources: A1, A13, A35, A51
Notes: A1: Site: 1882-1950; 62 01'N 129 43'E. 1951-1960; 62 05'N 129 45'E, alt = 103m. 1888-1920; 1/3(07 + 13 + 21) corrected to the means of 24 hours, see pxi1, vol 79. Alt = 102m. 1921-1930; 1/3(07 + 13 + 21). Alt = 108m. 1916-1920; corrections on p583. 1931-1936; 1/3(07 + 13 + 21) local time corrected to means of 24 hours. Alt: 106m. 1936-1940; 1/4(01 + 07 + 13 + 19) local time. 1941-1960; 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. 1888-1920 temp reduced to standard height by assuming means of 24 hours. A13: 62 01'N 129 42'E, alt = 160m. 1829-Mar -6C decrease for every 100m. A13: 62 01'N 129 42'E, alt = 160m. 1829-Mar 1844; 1/3(07 + 13 + 22). April 1844-Feb 1854; 1/3(06 + 14 + 22). 1/2(09 + 21) & 1/2(10 + 22) also used. Corrections on pxi1. A35: No details available. A51: Alt: 163m. No other details available. Reliability: compared with 249440 & 242660 for the years 1882-1960 & 1885-1980.

249660: DST MAJA USSR 60.4N 134.5E 175m 1893-1960 10 1893
Sources: A1
Notes: A1: 1893-1921; means of (hours not given). Alt: 100m. 1925-1935; 1/3(07 + 13 + 21) local time, corrected to means of 24 hours. Alt: 163m. 1931-1950; alt = 178m. 1936-1960; 1/4(01 + 07 + 13 + 19) local time, corrected to means of 24 hours. 1951-1960; alt = 175m. Reliability: compared with 249590 for the years 1893-1960.

251730: MYS SMIDTA USSR 68.9N 179.5W 7m 1951-1980 10 1951
Sources: A1
Notes: A1: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 68 55'N 179 29'W, alt = 7m. Reliability: compared with 253990 for the years 1951-1980.

252480: ILIRNEJ USSR 67.3N 168.2E 426m 1951-1980 10 1951
Sources: A1
Notes: A1: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 67 20'N 168 14'E, alt = 426m. Reliability: compared with 255630 for the years 1951-1980.

253250: VST -OLOJ USSR 66.6N 159.4E 125m 1962-1980 11 1962
Sources: A1
Notes: A1: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. No other details available. Reliability: compared with 254000 for the years 1962-1980.

253990: MYS UZLEN USSR 66.2N 169.8W 7m 1951-1980 10 1951
Sources: A1
Notes: A1: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 66 10'N 169 50'W, alt = 7m. Reliability: compared with 251730 for the years 1951-1980.

254000: ZYRJANKA USSR 65.7N 150.9E 43m 1951-1980 10 1951
Sources: A1
Notes: A1: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 65 44'N 150 54'E, alt = 43m. Reliability: compared with 246880 for the years 1951-1980.

255510: MAREOVA USSR 64.7N 170.4E 1951-1960 11 1951
Sources: A1
Notes: A1: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 64 41'N 170 25'E, alt = 33m. Reliability: compared with 255630 for the years 1951-1960.

255630: AMADYR USSR 64.8N 177.6E 67m 1898-1980 10 1898
Sources: A1
Notes: A1: 1898-1915; 1/3(07 + 13 + 21) corrected to the means of 24 hours. Reduced to a standard height, by assuming a decrease of .6C for every 100m. Alt = 23m. 1926-1935; 1/3(07 + 13 + 21) local meridian time. 1936-1940; 1/4(01 + 07 + 13 + 19) local time. 1941-1960; 1/4(01 + 07 + 13 + 19) local time corrected to the means of 24 hours. 1951-1960; alt = 62m. Reliability: compared with 310880 & 313690 for the years 1898-1980.

255940: BURETA PROVIDENIJA USSR 64.4N 173.2W 1951-1960 11 1951
Sources: A1
Notes: A1: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 64 28'N 173 14'W, alt = 3m. Reliability: compared with 253990 for the years 1951-1960.

257030: SEJMCAN USSR 62.9N 152.4E 207m 1951-1980 10 1951
Sources: A1
Notes: A1: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 62 55'N 152 25'E, alt = 207m. Reliability: compared with 259540 for the years 1951-1980.

257440: KAMENSKOE USSR 62.5M 166.2E 106m 1963-1980 10 1963
Sources: A1
Notes: A1: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. No other details available. Reliability: compared with 259540 for the years 1963-1980.

259540: KORF USSR 60.4M 166.0E 2m 1951-1980 10 1951
Sources: A1
Notes: A1: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 60 27'N 169 35'E. Reliability: compared with 257030 for the years 1951-1980.

259560: APUPA USSR 60.5M 169.6E 10m 1951-1963 11 1951
Sources: A1
Notes: A1: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 60 27'N 169 35'E, alt = 8m. Reliability: compared with 259540 for the years 1951-1963.

260380: TALLIN USSR 59.4M 24.8E 44m 1806-1980 12 1806
Sources: A1, A2, A70
Notes: A2: Alt; 0m, but unknown for 1850-1865. A70: A combination of; 1/3(05 + 14 + 22), 1/3(06 + 14 + 22), 1/3(06 + 14 + 22), 1/3(06 + 14 + 22), 1/3(07 + 14 + 21), 1/3(08 + 14 + 22), 1/4(07 + 14 + 21 + 21) & 1/3(07 + 13 + 21). Corrections, but no other details are given on pCXIII. A1: 1951-1970; alt = 44m. No other details available. Reliability: compared with 260630 & 264220 for the years 1806-1980.

260630: LENINGRAD/TOWN/VILLE USSR 60.0M 30.3E 4m 1740-1980 20 1743
Sources: A1, A2, A13, A111
Notes: A1: 1871-1935; means of 1/3(07 + 13 + 21), corrected to means of 24 hours, local time. Alt; 5m. In July 1933 the station moved, no details given. 1936-1970; 1/4(01 + 07 + 13 + 19) local time corrected to the means of 24 hours. 1951-1970; alt = 4m. NB. 1871-1920; temp reduced to a standard height by assuming a decrease of .45C for every 100m. A2: No details available. A13: No details available. A111: No details available. Reliability: compared with 260380, 264220 & 276120 for the years 1806-1980, 1795-1970 & 1779-1980. Corrected for a site move in 1881. Correction Factors: Stations used: 264220. Calculation dates: 1901-1970. Correction dates: 1743-1880. Factors: 8 4 9 14 14 11 12 17 14 8 10 13.

260637: KKMNSTADT USSR 60.0M 29.8E 20m 1844-1882 13 1844
Sources: A2, A70
Notes: A2: Alt; 20m. No other details available. A70: A combination of; 1/3(06 + 14 + 22), 1/3(06 + 17 + 20) & 1/3(07 + 13 + 21). Corrections, but no other details are given on pCXVII. Reliability: compared with 260630 for the years 1844-1875.

261790: WISCHENYI NOVOROD USSR 58.5M 31.3E 1805-1853 13 1835
Sources: A35
Notes: A35: No details available. Reliability: compared with 260630 for the years 1835-1853.

262310: DORPAT USSR 58.4M 24.5E 10m 1828-1882 33
Sources: A2, A35, A70
Notes: A2: Alt; 10m. No other details available. A35: No details available. A70: A combination of; 1/2(10 + 22) & 1/3(07 + 14 + 23). Corrections, but no other details are given on pCXIX. Reliability: compared with 260380 & 260630 for the years 1828-1875.

262330: FELLIN USSR 58.4M 25.6E 61m 1824-1847 13 1824
Sources: A35
Notes: A35: Alt; 61m. No other details available. Reliability: compared with 260380 & 260630 for the years 1824-1847.

262380: IDVIZH USSR 57.9M 25.2E 60m 1853-1867 13 1853
Sources: A70
Notes: A70: Alt; 60m. Means of 1/3(06 + 14 + 22). Corrections are given on pC. Reliability: compared with 260630 & 260380 for the years 1853-1867.

262580: PRKOV USSR 57.8M 28.4E 42m 1951-1979 10 1951
Sources: A1
Notes: A1: 1951-1970; 57 50'N 28 21'E, alt = 42m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 260380 for the years 1951-1979.

262890: VALDAJ USSR 58.0M 33.2E 219m 1951-1970 10 1951
Sources: A1
Notes: A1: 1951-1970; 57 50'N 33 14'E, alt = 219m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 260630 for the years 1951-1980.

262980: BOLOGOJE USSR 57.9M 34.1E 178m 1951-1970 10 1951
Sources: A1
Notes: A1: 1951-1970; 57 54'N 34 03'E, alt = 178m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 260630 & 262890 for the years 1951-1970.

264060: LIEPALJA USSR 56.6N 21.0E 8m 1951-1970 10 1951
Sources: A1

Notes: A1: 1951-1970; 56 33'N 21 01'E, alt = 8m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 264220 for the years 1951-1970.

264220: RIGA USSR 57.0N 24.1E 3m 1795-1970 12 1795
Sources: A1, A2, A8, A35, A70, A150

Notes: A1: Alt: 3m. No details, but probably 1/4(01 + 07 + 13 + 19) local time, corrected to means of 24 hours. A2: No details available. A8: No details available. A35: No details available. A70: A combination of: 1/3(07 + 12 + 22), 1/3(08 + 12 + 22), 1/3(0700 + 1330 + 2130), 1/3(06 + 14 + 22), 1/3(07 + 13 + 21) & 1/3(08 + 13 + 21). Corrections are given on pLXXV. Alt: 10m. A150: 56 57'N 24 06'E, alt = 13m. Anomalies from real means for period 1851-1900. Series has probably been corrected. Reliability: compared with 260630 & 276120 for the years 1795-1970.

264250: MITAU USSR 56.7N 23.7E 10m 1823-1872 13 1823
Sources: A35, A70, A117

Notes: A35: No details available. A70: A combination of: 1/3(07 + 12 + 22), 1/3(08 + 15 + 22), 1/3(08 + 14 + 22), 1/3(0630 + 1400 + 2200), 1/3(07 + 13 + 21) & 1/3(06 + 14 + 22). Corrections, but no other details are given on pLXXVII. Alt: 10m. A117: Alt: 13ft. No other details available. Reliability: compared with 264220 for the years 1823-1872.

264770: VELIKIE LUKI USSR 56.4N 30.6E 98m 1951-1980 10 1951
Sources: A1

Notes: A1: 1951-1970; 56 23'N 30 36'E, alt = 98m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 266290 for the years 1951-1980.

266150: SOVETSK USSR 55.1N 21.8E 1820-1930 13 1820
Sources: A35, A169

Notes: Also known as Tilsit. A35: Anomalies from mean (no years given). No other details available. A169: Alt: 18m. No other details available. Reliability: compared with 267020 & 264220 for the years 1848-1866 & 1820-1866.

266290: KAUNAS USSR 54.9N 23.9E 75m 1951-1980 10 1951
Sources: A1

Notes: A1: 1951-1970; 54 53'N 23 53'E, alt = 75m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 264770 for the years 1951-1980.

267020: KALININGRAD USSR 54.7N 20.5E 27m 1848-1970 10 1848
Sources: A1, A35

Notes: Also known as Königsberg. A1: 1851-1857; 1/3(06 + 14 + 22). 1858-1960; 1/4(07 + 14 + 21 + 21). Alt: 1851-May 1887 = 20m, June 1887-Sept 1889 = 15m, Oct 1889-1920 = 5m. On July 1, 1887 the station was moved & the thermometer exposed in a Will shelter. In Oct 1889 it moved again & thermometers were exposed in an English shelter. 1851-1855; mean temps are about 0.5C too high. 1921-1930; alt = 118m. In 1940 the station moved from 54 43'N 20 30'E, alt 25m, to 54 44'N 20 34'E, alt 6m. Observations made at 15E meridian time. 1951-1970; Site = 54 42'N 20 37'E, alt = 27m. A35: Alt: 68m. No other details available. Reliability: compared with 264220 & 276120 for the years 1848-1970.

267300: VIL'NIUS USSR 54.6N 25.3E 189m 1777-1970 10 1777
Sources: A1, A2, A8, A13, A35

Notes: Also known as Vilna. A1: 1881-1915; means of (hours not given). Alt: 148m. 1916-1940; 1/4(07 + 13 + 21 + 21) 30E meridian time. Alt: 136m. 1941-1970; 1/4(01 + 07 + 13 + 19) local time, corrected to means of 24 hours. Alt: 1951-1960 = 100m, 1961-1970 = 189m. NB. 1881-1920 temps are reduced to a standard height by assuming a decrease of .45C for every 100m. A2: No details available. A8: No details available. A13: Alt: 170m. 1777-June 1849; no details given. July 1849-May 1853; 1/2(10 + 22). June 1853-April 1858; 1/4(04 + 10 + 16 + 22). May 1858-1868; 1/3(06 + 14 + 22). 1870-Nov 1876; 1/2(06 + 22). Dec 1876-1880; 1/3(07 + 13 + 21). Corrections are given on pV. A35: No details available. Reliability: compared with 260630 & 276120 for the years 1779-1970.

267810: SHOLEMSK USSR 54.8N 32.1E 241m 1951-1979 10 1951
Sources: A1

Notes: A1: 1951-1970; 54 45'N 32 04'E, alt = 241m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 268500 for the years 1951-1979.

268300: SLATONIST USSR 55.2N 59.7E 410m 1837-1882 13 1837
Sources: A2, A35, A70

Notes: A2: Alt: 410m. No other details available. A35: No details available. A70: A combination of: 1/4(08 + 14 + 22 + 22), 1/3(06 + 14 + 22) & 1/3(07 + 13 + 21). Corrections, but no other details are given on pLXXV. Reliability: compared with 276120 for the years 1837-1875.

268500: MINSK USSR 53.9N 27.5E 234m 1951-1980 10 1951
Sources: A1

Notes: A1: 1951-1970; 53 52'N 27 32'E, alt = 234m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 267810 for the years 1951-1980.

- 268980: BRJANSK
Sources: AI USSR 53.3M 34.2E 162m 1951-1970 10 1951
- Notes: AI: 1951-1970; 53 20'N 34 14'E, alt = 162m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 276120 for the years 1951-1970.
- 270370: VOLGOIDA
Sources: AI USSR 59.3M 39.9E 118m 1951-1980 10 1951
- Notes: AI: 1951-1970; 59 17'N 39 52'E, alt = 118m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 276120 for the years 1951-1970.
- 271960: KIROV
Sources: AI, A13 USSR 58.7M 49.6E 164m 1845-1980 12 1845
- Notes: Also known as Vjatka. AI: Alt; 164m. No details given, but probably means of 1/4(01 + 07 + 13 + 19) local time, corrected to the means of 24 hours. A13: Alt; 180m. 1845-Jan 1852 = 1/2(09 + 21). Feb 1852-Dec 1861 = 1/3(07 + 14 + 21). 1874-1880 = 1/3(07 + 13 + 19). Corrections given on pLIV. Reliability: compared with 275950 for the years 1845-1980.
- 274537: BALACHNA
Sources: A70 USSR 56.5M 43.6E 60m 1842-1875 33
- Notes: A70: A combination of; 1/2(09 + 21), 1/2(08 + 20) & 1/3(07 + 13 + 21). Corrections, but no other details are given on pCLIII. Alt; 60m. Reliability: compared with 276120 for the years 1842-1875.
- 275530: GORKIJ
Sources: AI, A2 USSR 56.2M 43.8E 82m 1951-1970 10 1951
- Notes: AI: 1951-1960; 56 13'N 43 49'E, alt = 82m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. A2: Alt; 210m. No other details available. Reliability: compared with 270370 for the years 1951-1970.
- 275950: KAZAN
Sources: AI, A2, A35, A70 USSR 55.8M 49.1E 64m 1812-1980 12 1812
- Notes: AI: Alt; 1881-1930 = 81m, 1931-1950 = 82m, 1951-1970 = 64m. 1881-1940; 1/3(07 + 13 + 21) local time, corrected to means of 24 hours. Reduced to a standard height, by assuming a decrease of .45C for each 100m. 1941-1970; 1/4(01 + 07 + 13 + 19) local time, reduced to the mean of 24 hours. A2: Alt; 80m. No other details available. A35: No details available. A70: A combination of; 1/3(07 + 12 + 20), 1/4(07 + 14 + 21 + 21), 1/2(09 + 21), 1/3(07 + 13 + 21) & 1/3(08 + 13 + 21). Corrections but no other details are given on pLXXXI. Reliability: compared with 276120 & 271960 for the years 1812-1980 & 1845-1980.
- 276120: MOSKVA
Sources: AI, A2, A35 USSR 55.8M 37.6E 156m 1779-1980 10 1779
- Notes: AI: 1881-1935; 1/3(07 + 13 + 21), corrected to means of 24 hours, local time. Alt; 164m. 1936-1970; 1/4(01 + 07 + 13 + 19) local time, corrected to the means of 24 hours. Alt; 167m. 1951-1970; alt = 156m. NB. Temp 1881-1920; reduced to standard height by assuming a decrease of .45C for every 100m. A2: Alt = 150m. No other details available. A35: No details available. Reliability: compared with 225500 & 264220 for the years 1813-1980 & 1795-1970.
- 276650: LUKOJANOV
Sources: AI USSR 55.0M 44.5E 206m 1951-1970 10 1951
- Notes: AI: 1951-1970; 55 02'N 44 30'E, alt = 206m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 279470 & 276120 for the years 1951-1970.
- 279470: TAMBOV
Sources: AI USSR 52.7M 41.5E 139m 1951-1970 10 1951
- Notes: AI: 1951-1970; 52 44'N 41 28'E, alt = 139m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 276650 & 276120 for the years 1951-1970.
- 280260: URSOLJE
Sources: A35 USSR 59.3M 56.8E 107m 1837-1853 13 1837
- Notes: A35: Alt; 107m. No other details available. Reliability: compared with 275950 for the years 1837-1853.
- 282250: PERM
Sources: AI, A8 USSR 56.0M 56.3E 161m 1883-1980 10 1883
- Notes: AI: 1882-1930; 1/3(07 + 13 + 21) corrected to means of 24 hours. Alt = 159m. 1931-1935 & April-Dec 1938; 1/3(07 + 13 + 21) local time, corrected to the means of 24 hours. 1936-Mar 1938 & 1939-1960; 1/4(01 + 07 + 13 + 19) local time. Alt = 144m. 1951-1960; alt = 161m. NB. Temp 1882-1920 reduced to a standard height by assuming a decrease of .45C for every 100m. A8: No details available. Reliability: compared with 284400 for the years 1883-1980.
- 282400: WISHNE-ZAGILSK
Sources: A2, A35, A70 USSR 57.9M 59.9E 210m 1839-1882 33
- Notes: A2: Alt; 210m. No other details available. A35: No details available. A70: No details available. Reliability: compared with 282250 & 284400 for the years 1839-1865.

289520: KUSTANAJ USSR 53.1N 63.5E 171m 1951-1980 10 1951
Sources: A1

Notes: A1: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 53 13'N 63 37'E, alt = 171m. Reliability: compared with 282750 & 286980 for the years 1951-1980.

292310: KOLPASEV USSR 58.3N 82.9E 76m 1951-1980 10 1951
Sources: A1

Notes: A1: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 58 18'N 82 54'E, alt = 76m. Reliability: compared with 282750 & 286980 for the years 1951-1980.

292830: KRIBELSK USSR 58.5N 92.2E 78m 1871-1980 10 1871
Sources: A1, A13, A51, A70

Notes: A1: 1881-1915; 1/3(07 + 13 + 21) corrected to means of 24 hours. Temp reduced to a standard alt, by assuming a decrease of .6C for every 100m. Alt = 81m. 1916-1935; 1/3(07 + 13 + 21) local time, corrected to the means of 24 hours. Alt = 78m. 1936-1940; 1/4(01 + 07 + 13 + 19) local time. 1941-1960; 1/4(01 + 07 + 13 + 19) local time, corrected to the means of 24 hours. Temp corrections for 1881-1914 & for an unspecified site change are given on pXIII, vol 79. A13: Alt = 80m. 1/3(07 + 13 + 21). Corrections are given on pXVI. A51: Alt = 84m. No other details available. A70: Alt = 80m. 1/3(07 + 13 + 21). Corrections are given on pXVI. Site: 58.5N 92.6E. Reliability: compared with 294300 & 298380 for the years 1871-1980.

292820: BOUCUANY USSR 58.4N 97.4E 134m 1963-1980 12 1963
Sources: A1

Notes: A1: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. No other details available. Reliability: compared with 303090 for the years 1963-1980.

294300: TOMSK USSR 56.5N 85.0E 121m 1837-1960 12 1837
Sources: A1, A35, A51, A70

Notes: A1: 1881-1915; 1/3(07 + 13 + 21) corrected to the means of 24 hours, by corrections given on pXIII, vol 79. Temp reduced to a standard height, by assuming a decrease of .6C for every 100m. Alt = 123m. 1916-1935; 1/3(07 + 13 + 21) local time, corrected to the means of 24 hours. 1936-1940; 1/4(01 + 07 + 13 + 19) local time. 1941-1960; 1/4(01 + 07 + 13 + 19) local time, corrected to the means of 24 hours. 1951-1960; alt = 121m. A35: No details available. A51: No details available. A70: A combination of 1/4(07 + 14 + 21 + 21), 1/3(08 + 12 + 20), 1/2(08 + 20), 1/4(08 + 15 + 21 + 21), 1/3(07 + 15 + 20), 1/3(07 + 15 + 23) & 1/3(07 + 13 + 21). Corrections, but no other details are given on pVII. Reliability: compared with 298380 & 298660 for the years 1838-1980 & 1886-1980.

282750: TUBOLSK USSR 58.2N 68.2E 44m 1832-1980 10 1832
Sources: A1, A2, A35, A51, A70,

Notes: A1: 1888-1920; 1/3(07 + 13 + 21) corrected to the means of 24 hours, by corrections given on pXIII, vol 79. Temp reduced to a standard height, by assuming a decrease of .6C for every 100m. Alt = 98m. 1921-1935; 1/3(07 + 13 + 21) local time, corrected to the means of 24 hours. 1936-1960; 1/4(01 + 07 + 13 + 19) local time, corrected to the means of 24 hours. Alt: 1941-1950 = 98m, 1951-1960 = 44m. A2: No details available. A35: No details available. A70: A combination of 1/2(08 + 12), 1/4(08 + 12 + 21 + 21), 1/3(06 + 14 + 22) & 1/3(07 + 15 + 23). Corrections, but no other details are given on pCIX. A51: No other details available. Reliability: compared with 238490 for the years 1885-1980.

284400: SVEDLOVSK USSR 56.8N 60.6E 237m 1831-1980 10 1831
Sources: A1, A2, A13, A35, A111

Notes: Also known as Katherineburg. A1: 1881-1935; 1/3(07 + 13 + 21) corrected to means of 24 hours. Alt = 281m. 1936-1960; 1/4(01 + 07 + 13 + 19) local time, corrected to the means of 24 hours. NB: 1938 values interpolated from a nearby station at 56 47'N 60 38'E, alt = 290m. NB: Temp 1881-1920 reduced to a standard height by assuming a decrease of .45C for every 100m. A2: No details available. A13: Alt: 270m. 1831-1835; 1/2(09 + 21). 1836-1845; 1/3(08 + 14 + 22). 1846-Feb 1849; 1/3(0622 + 1422 + 2222). Mar 1849-1862; 1/3(08 + 14 + 22). 1863-June 1870; 1/3(06 + 14 + 22). July 1870-1882; 1/3(07 + 13 + 21). Corrections are given on pI. A35: No details available. A111: No details available. Reliability: compared with 282250 & 282750 for the years 1883-1980 & 1832-1980.

286980: OHSK USSR 55.0N 73.4E 94m 1885-1980 10 1887
Sources: A1, A51

Notes: A1: 1887-1912; 1/3(07 + 13 + 21) corrected to means of 24 hours. Reduced to a standard height by assuming a decrease of .6C for every 100m. Alt: 81m. 1921-1935; 1/3(07 + 13 + 21) local time corrected to the means of 24 hours. Alt: 108m. 1936-1960; 1/4(01 + 07 + 13 + 19) local time, corrected to the means of 24 hours. Alt: 105m. Alt: 1941-1950 = 88m, 1951-1960 = 94m. In 1935 the station moved from 55 01'N 73 20'E, alt = 105m to 54 56'N 73 24'E, alt = 88m. Temp corrections for 1885-1912 & for an unspecified site change are given on pXIII, vol 79. A51: Alt: 85m. No other details available. Reliability: compared with 282750 & 351210 for the years 1887-1980.

289007: SHAMARA USSR 53.2N 50.1E 60m 1852-1877 13 1852
Sources: A2, A70

Notes: A2: Alt: 60m. No other details available. A70: A combination of; 1/2(09 + 21), 1/3(07 + 14 + 22), 1/3(07 + 15 + 23) & 1/3(08 + 15 + 23). Corrections, but no other details are given on pCIV. Reliability: compared with 351080 for the years 1852-1875.

295740: IRASHOUJABSK USSR 56.0W 92.9E 194m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 56 00'N 92 53' E, alt = 194m. Reliability: compared with 292630 & 298660 for the years 1951-1980.

298380: BARNAUL USSR 53.3N 83.8E 196m 1838-1980 10 1838
Sources: AI, A2, A13, A35, A51, A111

Notes: AI: 1881-1920; 1/3(07 + 13 + 21) corrected to means of 24 hours. Reduced to standard height by assuming .6C decrease for every 100m. 1921-1935; 1/3(07 + 13 + 21) local time corrected to means of 24 hours. Alt; 162m. 1936-1940; 1/4(01 + 07 + 13 + 19) local time. 1941-1960; 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Alt; 1936-1950 = 156m, 1951-1960 = 196m. 1881-1915 corrections on pxiii, vol 79. A2: No details available. A13: 1838-July 1841; 1/3(08 + 14 + 22). Jan 1841-1862; 1/3(XIII + XXI + V). 1863-1869; 1/3(06 + 14 + 22). Jan 1870-1880; 1/3(07 + 13 + 21). Corrections for these formulae are given on pxI of the source. Alt; 150m. A35: No details available. A51: Alt; 170m. No other details available. A111: No details available. Reliability: compared with 294300 & 298660 for the years 1838-1980 & 1886-1980.

298660: MINUSTINSK USSR 53.7N 91.7E 251m 1886-1980 10 1886
Sources: AI, A8, A51

Notes: AI: 1885-1920; 1/3(07 + 13 + 21) corrected to the means of 24 hours by corrections given on pxii, vol 79. Alt; 248m. 1921-1935; 1/3(07 + 13 + 21) local time. Alt; 249m. 1936-1940; 1/4(01 + 07 + 13 + 19) local time. 1941-1960; 1/4(01 + 07 + 13 + 19) local time corrected to the means of 24 hours. Alt; 251m. In 1931 the station moved from 53 43'N 91 41' E to 53 42'N 91 42' E. NB. Corrections for 1885-1920 to reduce temp to means of 24 hours are given on pxii, vol 79. Temp corrections for 1889-1920 & for an unspecified site change are given on pxiii, vol 79. 1885-1920 temp reduced to a standard height by assuming a decrease of .6C for every 100m. A8: No details available. A51: Alt; 240m. No other details available. Reliability: compared with 298380 & 292630 for the years 1886-1980.

300540: VITIM USSR 59.5N 112.6E 193m 1951-1979 12 1951
Sources: AI

Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 59 27'N 112 35' E, alt = 193m. Reliability: compared with 302300 for the years 1951-1960.

302300: KIRENSK USSR 57.8N 108.1E 261m 1892-1980 20 1892
Sources: AI, A8

Notes: AI: 1892-1920; 1/3(07 + 13 + 21) corrected to means of 24 hours, by corrections given on pxii, vol 79. Alt = 257m. 1931-1935; 1/3(07 + 13 + 21) local time, corrected to the means of 24 hours. 1936-1940; 1/4(01 + 07 + 13 + 19) local time. In Sept 1940 station moved from 57 47'N 108 7' E, alt = 256m to 57 47'N 108 0' E, alt = 270m. 1941-1960; 1/4(01 + 07 + 13 + 19) local time corrected to the means of 24 hours. 1951-1960; alt = 261m.

NB. 1892-1920 temp are reduced to a standard alt by assuming a decrease of .6C for every 100m. A8: No details available. Reliability: compared with 307100 for the years 1892-1980. Corrected for a station move in Sept 1940. Correction Factors: Stations used: 307100 & 292630. Calculation dates: 1941-1980. Correction dates: 1892-1939. Factors: -8 -27 -23 -13 -6 -7 -7 -5 -7 -7 -11 -16.

303090: BRATSK USSR 56.1N 101.8E 326m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 56 06'N 101 50' E, alt = 326m. Reliability: compared with 302300 for the years 1951-1980.

303930: CULMAN USSR 56.8N 124.9E 1951-1960 12 1951
Sources: AI

Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 56 50'N 124 52' E, alt = 664m. Reliability: compared with 310040 for the years 1951-1960.

304690: KALAMAN USSR 55.1N 116.8E 607m 1963-1980 12 1963
Sources: AI

Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. No other details available. Reliability: compared with 310040 for the years 1963-1980.

305540: TROICKIJ PRITSK USSR 54.6N 113.1E 1310m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. No other details available. Reliability: compared with 307100 for the years 1951-1980.

306350: USTI-BARUIZIN USSR 53.4N 109.0E 1971-1980 12 1971
Sources: AI

Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. No other details available. Reliability: compared with 307100 for the years 1971-1980.

306360: BARGUZIN USSR 53.6N 109.6E 1963-1973 12 1963
Sources: AI

Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. No other details available. Reliability: compared with 307100 for the years 1963-1973.

310880: OROTSK USSR 59.4N 143.3E 6m 1890-1980 10 1890
Sources: A1

Notes: A1: 1890-1915; 1/3(07 + 13 + 21) corrected to means of 24 hours. Reduced to a standard height, by assuming a decrease of .6C for every 100m. Alt: 6m. 1925-1935; 1/3(07 + 13 + 21) local time, corrected to means of 24 hours. 1936-1940; 1/4(01 + 07 + 13 + 19) local time. 1941-1960; 1/4(01 + 07 + 13 + 19) local time, corrected to the means of 24 hours. Site; 1916-1925; 59 21'N 143 12'E. Reliability: compared with 313290 for the years 1890-1980.

311370: TOKO USSR 56.3N 131.1E 1951-1960 11 1951
Sources: A1

Notes: A1: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 56 17'N 131 08'E, alt = 85m. Reliability: compared with 310040 for the years 1951-1960.

311680: AJAN USSR 56.5M 138.2E 9m 1963-1980 11 1963
Sources: A1

Notes: A1: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. No other details available. Reliability: compared with 310880 for the years 1963-1980.

312530: BOMBAK USSR 54.7N 128.9E 157m 1951-1980 10 1951
Sources: A1

Notes: A1: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 54 43'N 128 56'E, alt = 357m. Reliability: compared with 310040 for the years 1951-1980.

313290: EKIMCHAR USSR 1915-1954 10 1915
Sources: A1

Notes: A1: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. No other details available. Reliability: compared with 310880 & 313690 for the years 1915-1954.

313690: BIKOLAYEV NA AMURE USSR 53.1N 140.7E 47m 1854-1980 10 1854
Sources: A1, A2, A13, A51

Notes: A1: 1881-1915; 1/3(07 + 13 + 21) corrected to means of 24 hours. Reduced to a standard height by assuming a decrease of .6C for every 100m. Alt: 16m. 1925-1935; 1/3(07 + 13 + 21) local time. Alt = 2m. May 1936-1940; 1/4(01 + 07 + 13 + 19) local time. 1941-1960; 1/4(01 + 07 + 13 + 19) local time, corrected to means of 24 hours. 1951-1960; alt = 47m. Site given as 21m up to Feb 1920 when station closed & reopened in 1925 at 42m. Station moved several times & its various heights have not been definitely obtained. A2: No details available. A13: Alt: 20m. 1854-1866; 1/3(06 + 14 + 22). 1867-1870; 1/3(07 + 14 + 21). 1871-1879; 1/3(07 + 13 + 21). Corrections given in the source. A51: Alt: 33m. No other details available. Reliability: compared with 310880, 315630 & 307100 for the

306730: MOCOCA USSR 53.7N 119.8E 619m 1963-1980 12 1963
Sources: A1

Notes: A1: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. No other details available. Reliability: compared with 310040 for the years 1963-1980.

307100: IKKUTSK USSR 52.3N 104.3E 485m 1820-1980 10 1820
Sources: A1, A35, A51, A70

Notes: A1: 1881-1920; 1/3(07 + 13 + 21) corrected to the means of 24 hours, by corrections given on p.111, vol 79. Alt: 467m. 1921-1930; 1/3(07 + 13 + 21). 1931-1935; 1/3(07 + 13 + 21) local time, corrected to the means of 24 hours. 1936-1940; 1/4(01 + 07 + 13 + 19) local time. 1941-1960; 1/4(01 + 07 + 13 + 19) local time, corrected to the means of 24 hours. Alt: 468m. 1951-1960; alt = 485m. 1881-1920 temp reduced to a standard height by assuming a decrease of .6C for every 100m. A35: No details available. A51: Alt: 468m. No other details available. A70: A combination of 1/3(07 + 14 + 21), 1/3(07 + 14 + 22) & 1/3(07 + 13 + 21). Corrections are given on p.CCXX. Reliability: compared with 308790 & 307300 for the years 1820-1950 & 1892-1980.

307580: CITA USSR 52.0N 113.7E 685m 1890-1980 10 1890
Sources: A1

Notes: A1: 1890-1919; Alt = 683m. 1/3(07 + 13 + 21) corrected to means of 24 hours. Corrections given on p.111, vol 79. 1951-1960; alt = 685m. 1920-1935; 1/3(07 + 13 + 21) local time, corrected to the means of 24 hours. 936-1940; 1/4(01 + 07 + 13 + 19) local time. 1941-1960; 1/4(01 + 07 + 13 + 19) local time, corrected to the means of 24 hours. 1890-1919 temp reduced to a standard height, by assuming a decrease of .6C for every 100m. Reliability: compared with 307100 & 308790 for the years 1890-1980 & 1890-1950.

308790: MEREINSKIY ZAVOD USSR 51.3N 119.6E 620m 1839-1978 12 1839
Sources: A1, A2, A13, A35, A111

Notes: A1: 1881-1918; 1/3(07 + 13 + 21) corrected to the means of 24 hours, by correction given on p.111, vol 79. Alt = 620m. 1926-1935; 1/3(07 + 13 + 21) local time, corrected to the means of 24 hours. Alt = 621m. 1936-1940; 1/4(01 + 07 + 13 + 19) local time. Alt = 620m. 1941-1950; 1/4(01 + 07 + 13 + 21) local time, corrected to the means of 24 hours. A13: Alt: 640m. 1839-1862; 1/3(08 + 14 + 22). 1863-1869; 1/3(06 + 14 + 22). 1870-1881; 1/3(07 + 13 + 21). Corrections are given on p.111. A35: No details available. A2: No details available. A11: No details available. Reliability: compared with 307100, 313690 & 315100 for the years 1839-1950, 1854-1950 & 1881-1950.

310340: ALZAN USSR 58.6N 125.4E 682m 1951-1980 10 1951
Sources: A1

Notes: A1: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 58 37'N 125 22'E, alt = 682m. Reliability: compared with 312530 for the years 1951-1980.

Years 1890-1980, 1898-1980 & 1854-1980.

314160: IM. POLINY OSYPIENKO USSR 52.4N 136.5E 65m 1963-1980 11 1963
Sources: AI

Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. No other details available. Reliability: compared with 317350 for the years 1963-1980.

315100: BLAGOVESHENSK USSR 50.3N 127.5E 137m 1881-1980 10 1881
Sources: AI, A8, A51

Notes: AI: 1881-1920; 1/3(07 + 13 + 21) corrected to means of 24 hours. 1921-1930; 1/3(07 + 13 + 21). Alt: 142m. 1931-1935; 1/3(07 + 13 + 21) local time, corrected to means of 24 hours. 1936-1940; 1/4(01 + 07 + 13 + 19) local time. Alt: 143m. 1941-1960; 1/4(01 + 07 + 13 + 19) local time, corrected to the means of 24 hours. Alt: 137m. NB. 1881-1920 temp reduced to a standard height by assuming a decrease of .6C for every 100m. Temp corrections for 1881-1916 & for an unspecified site change are given on pxiil, vol 79. A8: No details available. A51: Alt: 110m. No other details available. Reliability: compared with 313690 for the years 1881-1980.

317350: BARAROVSK USSR 48.5N 135.2E 72m 1909-1980 10 1909
Sources: AI

Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 48 31'N 135 10'E, alt = 72m. Reliability: compared with 313690 & 319600 for the years 1909-1980.

319600: VLADIVOSTOK USSR 43.1N 131.9E 138m 1872-1980 10 1872
Sources: AI, A29, A51

Notes: AI: 1881-1915; 1/3(07 + 13 + 21) corrected to the means of 24 hours. Temp reduced to a standard height, by assuming a decrease of .6C for every 100m. Alt = 29m. 1916-1935; 1/3(07 + 13 + 21) local time, corrected to the means of 24 hours. Alt = 128m. 1936-1940; 1/4(01 + 07 + 13 + 19) local time. 1941-1960; 1/4(01 + 07 + 13 + 19) local time, corrected to the means of 24 hours. 1951-1960; alt = 138m. Temp corrections for 1881-1915 & for an unspecified site change are given on pxiil, vol 79. A29: 1/3(07 + 13 + 21). No other details available. A51: Alt = 17m. No other details available. Reliability: compared with 313690 & 317350 for the years 1872-1980 & 1909-1980.

320610: ALEKSANDROVSK USSR 50.9N 142.2E 1901-1960 10 1901
Sources: AI

Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 50 56'N 142 10'E. Reliability: compared with 317350 & 313690 for the years 1901-1960.

320980: PORONAIK USSR 49.2N 143.1E 4m 1908-1964 10 1908
Sources: AI

Notes: AI: 1908-1939; 1/6(02 + 06 + 10 + 14 + 18 + 22). 1940-1944; 1/3(06 + 14 + 22) 135E meridian time. 49 13'N 143 06'E, alt = 4m. Reliability: compared with 317350 & 319600 for the years 1908-1964.

321500: JUZNO-SARAVINSK USSR 46.9N 142.7E 31m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 46 55'N 142 44'E, alt = 31m. Reliability: compared with 319600 for the years 1951-1980.

321650: KUZNO USSR 44.0N 145.8E 1951-1960 11 1951
Sources: AI

Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 44 01'N 145 49'E, alt = 40m. Reliability: compared with 321500 for the years 1951-1960.

321950: SIMUISR USSR 46.9N 151.9E 26m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 46 51'N 151 52'E, alt = 26m. Reliability: compared with 313690 for the years 1951-1980.

322170: MYS VASILEVA USSR 50.0N 155.4E 1951-1960 11 1951
Sources: AI

Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 50 00'N 155 23'E, alt = 16m. Reliability: compared with 325400 for the years 1951-1980.

32389C: KLJUCI USSR 56.3N 160.8E 1951-1960 11 1951
Sources: AI

Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 56 19'N 160 50'E, alt = 25m. Reliability: compared with 325400 for the years 1951-1980.

324110: ICA USSR 55.7N 155.6E 4m 1963-1980 11 1963
Sources: AI

Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. No other details available. Reliability: compared with 325400 for the years 1963-1980.

- 333930: LYOV USSR 49.8N 24.0E 325m 1824-1980 10 1824
Sources: A1, A35
- Notes: Also known as Leniberg & as Lemberg. Alt: 1876-1920 = 296m, 1921-1930 = 312m, 1931-1950; 33m. 1951-1970 = 325m. 1882-1930; 1/3(07 + 13 + 21). 1931-1970; 1/4(01 + 07 + 13 + 21) local time, corrected to the means of 24 hours. A35: No details available. Reliability: compared with 336580 & 338370 for the years 1880-1978 & 1884-1980.
- 335060: POLTAVA USSR 49.6N 34.6E 140m 1824-1978 83
Sources: A35, A70
- Notes: A35: No details available. A70: 1/4(07 + 14 + 21 + 21). Corrections are given on POLXXX. Alt; 140m. Reliability: compared with 338370 for the years 1824-1865.
- 335420: IRCIS USSR 48.6N 61.3E 110m 1862-1882 13 1863
Sources: A2, A13
- Notes: A2: No details available. A13: 1862-Jan 1863; 1/2(10 + 22). Feb 1863-1869; 1/3(06 + 14 + 22). 1870-1880; 1/3(07 + 13 + 21). Alt; 110m. Corrections are given on XV. Reliability: compared with 351210 for the years 1863-1880.
- 336310: UZGOROD USSR 48.6N 22.3E 118m 1951-1978 10 1951
Sources: A1
- Notes: A1: 1951-1970; 48 38'N 22 16'E, alt = 118m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 337110 & 338370 for the years 1951-1978.
- 336580: CERNOVCI USSR 48.3N 26.0E 240m 1880-1978 10 1880
Sources: A1, A6
- Notes: A1: Means were calculated from the Koppen formula, $m = n - k(n - \min)$, where m = true mean, \min = daily min, c is the mean of 3 daily observations & k is a coefficient. From 1880-1915 the observation times were 07, 14 & 21h & from 1921 they were 08, 14 & 20h. Alt; 1880-1950 = 225m. 1951-1970; alt = 240m. A6: Means of 07, 13 & 21h prior to 1902, then of 08, 14 & 20h. Alt; 243m. Reliability: compared with 338370 for the years 1880-1978.
- 336990: JUZNO BUGSKAJA USSR 48.1N 30.9E 103m 1951-1970 10 1951
Sources: A1
- Notes: A1: 1951-1960; 48 03'N 30 51'E, alt = 103m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 337110 & 338370 for the years 1951-1970.
- 337400: PETROPAVLOVSK USSR 53.0N 158.6E 7m 1870-1980 20 1891
Sources: A1, A8
- Notes: Also known as Kamchatekiy. Alt: 1891-1915; 1/3(07 + 13 + 21) corrected to the means of 24 hours, by corrections given on piiii, vol 79. Reduced to a standard height, by assuming a decrease of .66 for every 100m. Alt; 102m. 1921-1935; 1/3(07 + 13 + 21) local time, corrected to the means of 24 hours. Alt = 87m. 1936-1940; 1/4(01 + 07 + 13 + 19) local time. Alt = 40m. 1941-1950; 1/4(01 + 07 + 13 + 19) local time corrected to the means of 24 hours. 1951-1960; alt = 94m, 1961-1970 = 24m. 1891-1960; 53.0N 158.8E. 1961-1973; alt = 7m. A8: No details available. Reliability: compared with 313690 & 310880 for the years 1891-1980 & 1890-1980. Corrected for a station move 1950/1951. Correction Factors: Stations used: 310880 & 313690. Calculation dates: 1951-1980. Correction dates: 1891-1950. Factors: 16 13 12 11 11 12 16 13 13 15 13 12.
- 3326180: OSTROV BERINGA USSR 55.2N 166.0E 6m 1951-1980 10 1951
Sources: A1
- Notes: A1: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. No other details available. Reliability: compared with 325400 for the years 1951-1980.
- 330080: BREST USSR 52.1N 23.7E 144m 1951-1978 10 1951
Sources: A1
- Notes: A1: 1951-1970; 52 07'N 23 41'E, alt = 144m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 333010 & 333450 for the years 1951-1978.
- 333010: ROVNO USSR 50.6N 26.1E 234m 1951-1978 10 1951
Sources: A1
- Notes: A1: 1951-1970; 50 35'N 26 08'E, alt = 234m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 333080 & 333450 for the years 1951-1978.
- 333450: KIEV USSR 50.5N 30.5E 179m 1812-1980 20 1812
Sources: A1, A2, A13, A35
- Notes: A1: Alt; 1881-1950 = 183m, 1951-1970 = 179m. 1881-1935; means of 1/3(07 + 13 + 21), corrected to means of 24 hours. Reduced to standard height, by assuming a decrease of .45C for every 100m. 1936-1970; 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. A2: No details available. A13: Alt; 180m. 1856-1869; 1/3(07 + 14 + 21). 1870-1880; 1/3(07 + 13 + 21). Corrections given on pXV. A35: No details available. Reliability: compared with 333930, 336580 & 338370 for the years 1824-1980, 1880-1978 & 1821-1980. Corrected for a site change 1950/1951. Correction Factors: Stations used: 333930, 336580 & 338370. Calculation dates: 1951-1970. Correction dates: 1812-1950. Factors: 5 5 10 10 12 14 13 7 4 6 0 6.

- 337110: KIROVOGRAD USSR 48.5W 32.3E 148m 1951-1978 10 1951
Sources: A1
- Notes: A1: 1951-1970; 48 29'N 32 15'E, alt = 148m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 336990 & 338370 for the years 1951-1978.
- 338150: KISHINEV USSR 47.0W 28.9E 90m 1825-1970 22 1825
Sources: A1, A2, A6, A35, A70
- Notes: A2: No details available. A6: Alt; 113m. 1845-1915; 1/3(07 + 13 + 21). 1921-1930; 1/3(08 + 14 + 20). A35: No details available. A70: A combination of; 1/2(06 + 18), 1/3(sunrise + 14 + sunset), 1/4(2(06) + 14 + 18), 1/3(07 + 14 + 21), 1/4(07 + 14 + 21 + 21) & 1/3(07 + 13 + 21). Corrections but no other details are given on p4C. A1: 1951-1970; alt = 95m. No other details available. Reliability: compared with 338370 & 343000 for the years 1825-1980 & 1901-1980. Corrected for a site change after the 1881-1886 data gap. Correction Factors: Stations used: 338370. Calculation dates: 1887-1980. Correction dates: 1825-1880. Factors: -6 -7 -11 -7 -6 -11 -11 -12 -9 -14 -5.
- 338370: ODESSA USSR 46.5W 30.7E 64m 1821-1980 10 1821
Sources: A1, A2, A35, A70
- Notes: A1: 1881-1935; 1/3(07 + 13 + 21) local time, corrected to the means of 24 hours. 1936-1970; 1/4(01 + 07 + 13 + 19) local time, corrected to the means of 24 hours. In 1933 the station moved from 46 29'N 30 44'E, alt = 65m, to 46 26'N 30 46'E, alt = 43m. 1951-1970; alt = 64m. WB. Temp 1881-1920; reduced to a standard height, by assuming a decrease of .45C for every 100m. A2: No details available. A35: No details available. A70: Observations are a combination of 1/3(06 + 16 + 21), 1/3(06 + 15 + 21), 1/2(09 + 21), 1/2(10 + 22), 1/3(06 + 14 + 22) & 1/3(07 + 13 + 21), but no other details are given. Reliability: compared with 343000 & 339460 for the years 1901-1980 & 1821-1980.
- 338460: NIKOLAEV USSR 47.0W 32.0E 20m 1808-1875 13 1808
Sources: A70
- Notes: A70: A combination of; 1/3(07 + 13 + 18), 1/3(0600 + 1300 + 1930), 1/3(0500 + 1300 + 2030), 1/2(10 + 22), 1/3(08 + 14 + 22), 1/3(07 + 14 + 22) & 1/3(07 + 13 + 21). Corrections, but no other details are given on p4CXXIX. Alt; 20m. Reliability: compared with 338370 for the years 1821-1875.
- 339340: DZANKOJ USSR 45.7W 34.4E 1951-1970 10 1951
Sources: A1
- Notes: A1: 1951-1970; 45 43'N 34 24'E, alt = 0m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 339460 for the years 1951-1970.
- 339460: SIMFEROPOL USSR 45.0W 34.0E 205m 1821-1980 12 1821
Sources: A1, A35, A70
- Notes: A1: Alt; 205m. No details, but probably 1/4(01 + 07 + 13 + 19) local time, corrected to the means of 24 hours. A35: No details available. A70: A combination of; 1/4(08 + 12 + 21 + 21), 1/2(09 + 21), 1/3(07 + 14 + 22), 1/3(min + 1300 + 2115). Corrections but no other details are given on p4CXI. Site; 45-0W 34.1E, alt = 260m. Reliability: compared with 338370 & 336580 for the years 1821-1980 & 1880-1980.
- 339467: SEVASTOPOL USSR 44.6W 33.5E 40m 1824-1882 13 1824
Sources: A2, A35, A70
- Notes: A2: Alt; 40m. No other details available. A35: No details available. A70: A combination of; 1/2(10 + 22), 1/3(08 + 14 + 22), 1/3(07 + 14 + 22), 1/3(07 + 13 + 21) & 1/4(07 + 12 + 16 + 20). Corrections, but no other details are given on p4V. Reliability: compared with 339460 for the years 1824-1875.
- 339667: EISSALA USSR 44.9W 34.6E 460m 1833-1872 13 1833
Sources: A70
- Notes: A70: 1/3(06 + 12 + 21). Corrections are given on p4CCLII. Alt = 460m. Reliability: compared with 339460 & 339467 for the years 1833-1872.
- 340090: KURSK USSR 51.7W 36.2E 167m 1833-1970 32
Sources: A1, A35
- Notes: A1: 1951-1970; alt = 167m. No other details available. A35: No details available. Reliability: compared with 341220 for the years 1951-1970.
- 341220: VORONEZ USSR 51.7W 39.2E 164m 1862-1980 10 1951
Sources: A1, A2
- Notes: A1: 1951-1970; alt = 164m. No other details available. A2: Alt; 150m. No other details available. Reliability: compared with 343000 & 337110 for the years 1951-1980 & 1951-1978.
- 341390: KAMENNAYA STEPPE USSR 51.1W 40.7E 194m 1951-1970 10 1951
Sources: A1
- Notes: A1: 1951-1970; 51 03'N 40 42'E, alt = 194m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 341630 for the years 1951-1970.
- 341630: OKTYABRSKII GORODOK USSR 51.6W 45.5E 190m 1881-1970 10 1881
Sources: A1
- Notes: A1: 1881-1935; 1/3(07 + 13 + 21) local time, corrected to the means of 24 hours. Alt; 1881-1935 = 193m, 1936-1940 = 190m, 1941-1950 = 193m, 1951-1960 = 90m. 1936-1960; 1/4(01 + 07 + 13 + 19) local time, corrected to the means of 24 hours. 1961-1970; alt = 190m. Reliability: compared

with 345600 for the years 1881-1970.

341720: SARATOV USSR 51.6N 46.0E 156m 1951-1980 20 1951
Sources: AI

Notes: AI: 1951-1960; 51 34'N 46 02'E, alt = 156m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 341630 for the years 1951-1980. Corrected for a station move 1960/1961. Correction Factors: Stations used: 341630. Calculation dates: 1961-1970. Correction dates: 1951-1960. Factors: 2 -12 -11 -16 -11 -11 -12 -13 -16 -13 -9 -8.

343000: HAR KOV USSR 49.9N 36.3E 152m 1901-1980 10 1901
Sources: AI

Notes: AI: 1951-1960; 49 56'N 36 17'E, alt = 152m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 345600 & 341220 for the years 1901-1970 & 1951-1980.

343360: BOGUCHAR USSR 49.9N 40.6E 1951-1960 10 1951
Sources: AI

Notes: AI: 1951-1960; 49 56'N 40 34'E, alt = 83m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 341390 for the years 1951-1960.

343440: KAZANSEKAJA USSR 49.8N 41.2E 1961-1970 10 1961
Sources: AI

Notes: AI: 1961-1970; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 49 48'N 41 09'E, alt = 72m. Reliability: compared with 345600 for the years 1961-1970.

345600: VOLCOGRAD USSR 48.7N 44.4E 145m 1901-1970 10 1901
Sources: AI

Notes: AI: 1951-1960; 48 41'N 44 21'E, alt = 145m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 347310 for the years 1901-1970.

345607: SSAREPTA USSR 48.5N 44.6E 50m 1838-1855 13 1838
Sources: A70

Notes: A70: 1838-1847; corrections only given. 1848-1855; 1/4(08 + 14 + 22 + 22). Corrections are given on pCIV. Alt: 50m. Reliability: compared with 335060 for the years 1838-1855.

346010: ZAPOROZE USSR 47.8N 35.3E 86m 1951-1970 10 1951
Sources: AI

Notes: AI: 1951-1970; 47 46'N 35 15'E, alt = 86m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 347310 for the years 1951-1970.

347310: ROSTOV-NA-DONU USSR 47.3N 39.8E 77m 1901-1980 10 1901
Sources: AI

Notes: AI: 1951-1970; 47 15'N 39 49'E, alt = 77m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 345600 & 339460 for the years 1901-1970 & 1951-1980.

347590: REMONTHO USSR 46.6N 43.7E 108m 1951-1970 10 1951
Sources: AI

Notes: AI: 1951-1970; 46 34'N 43 40'E, alt = 108m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 370500 for the years 1951-1970.

348660: JASKUL USSR 46.2N 45.4E -7m 1951-1970 10 1951
Sources: AI

Notes: AI: 1951-1960; 46 11'N 45 21'E, alt = -7m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 348800 for the years 1951-1970.

348800: ASTRAHAN USSR 46.4N 48.0E 18m 1837-1980 10 1837
Sources: AI, A2, A13, A35, A70

Notes: AI: 1881-1935; means of 1/3(07 + 13 + 21) reduced to means of 24 hours, using corrections from Wild. These mean temps were reduced to a standard level for the station, by assuming a decrease of -0.45C for each 100m of alt. Alt: -14m. 1936-1940; means of 1/4(01 + 07 + 13 + 19) local time, corrected to the means of 24 hours. Alt: -15m. 1940-1950; same as above. Alt: -14m. 1951-1970; No details given but presumed to be as above. Alt: -18m. A2: No details available. A13: Alt: 20m. 6 different observation times & means were used. Details of these & their corrections are given on pI of the source. A35: No details available. A70: Various means were used; see text for details. Reliability: compared with 380010 & 375490 for the years 1848-1980 & 1844-1980.

349290: KRASHNOYE USSR 45.0N 39.2E 33m 1951-1970 10 1951
Sources: AI

Notes: AI: 1951-1970; 45 02'N 39 09'E, alt = 33m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 370180 & 370310 for the years 1951-1970.

349490: STANROPOL USSR 45.1N 42.0E 550m 1854-1875 33
Sources: A70
Notes: A70: A combination of; 1/4(07 + 13 + 21 + 21) & 1/3(07 + 13 + 19). Corrections, but no other details are given on CVI. Alt: 550m. Reliability: compared with 375490 for the years 1854-1875.

351080: URALSK USSR 51.3N 51.3E 1839-1856 13 1839
Sources: A35
Notes: A35: No details available. Reliability: compared with 351210 for the years 1839-1856.

351210: ORENBURG(TCHALOV) USSR 51.8N 55.1E 109m 1832-1980 10 1832
Sources: A1, A2, A70, A106
Notes: A1: 1886-1935; 1/3(07 + 13 + 21) local time, corrected to means of 24 hours. Alt: 114m. 1936-1950; 1/4(01 + 07 + 13 + 19) local time, corrected to means of 24 hours. Alt: 109m. No later details available. NB. Temp 1886-1920 reduced to a standard height, by assuming a decrease of .45C for every 100m. Corrections for the period 1886-1915 & for an unspecified site change are given on pxiii, vol 79. A2: No details available. A70: A combination of 1/2(08 + 20), 1/2(10 + 22), 1/3(07 + 13 + 21) & 1/2(09 + 21). Corrections, but no other details are given on PXXXXI. A106: Normal values, /CLINO/, only. Temp; 1/4(01 + 07 + 13 + 19). Press; means reduced to sea level. 1931-1935; 1/3(07 + 13 + 21). 1936-1960; 1/4(01 + 07 + 13 + 19). Reliability: compared with 341630 for the years 1881-1970.

351880: CELINGOZAD USSR 51.1N 71.4E 348m 1891-1978 10 1891
Sources: A1, A8
Notes: Also known as Armolinsk. A1: 1891-1915; 1/3(07 + 13 + 21) corrected to means of 24 hours. 1916-1919; 1/3(07 + 13 + 19). 1920-1935; 1/3(07 + 13 + 21) corrected to means of 24 hours. 1936-1940; 1/4(01 + 07 + 13 + 19) local time. 1941-1950; 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. 1891-1915; alt = 347m. 1916-1919; 51 12'N 71 23'E. In 1919 moved to 353m. NB. 1891-1915 temp reduced to a standard height by assuming a decrease of .6C for every 100m. A8: No details available. Reliability: compared with 353580 & 353940 for the years 1901-1980 & 1951-1980.

353580: TURGLI USSR 49.6N 63.5E 123m 1900-1980 10 1901
Sources: A1
Notes: A1: 1900-1921; 1/3(07 + 13 + 21) corrected to means of 24 hours and reduced to a standard height of 124m by assuming a decrease of 0.6C for every 100m. 49 38'N 63 27'E. 1922-1935; 1/3(07 + 13 + 21) local time corrected to means of 24 hours. Alt = 130m. 1936; 1/4(01 + 07 + 13 + 19) local time. 1937; 49 38'N 63 30'E, alt = 121m. 1941-1970; 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Alt = 124m. 1961-1970; alt = 123m. Reliability: compared with 351080, 353940 & 357960 for the years 1901-1980, 1951-1980 & 1951-1980.

353940: KARAGANDA USSR 49.8N 73.1E 555m 1951-1980 10 1951
Sources: A1

Notes: A1: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 49 48'N 73 08'E, alt = 555m. Reliability: compared with 351080, 353580 & 357960 for the years 1951-1980.

357000: GUREV USSR 47.0N 51.9E 23m 1951-1980 10 1951
Sources: A1

Notes: A1: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 47 01'N 51 51'E. Reliability: compared with 348800 & 380010 for the years 1951-1980.

357460: ARALSKOE MORE USSR 46.8N 61.7E 1951-1960 11 1951
Sources: A1

Notes: A1: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 46 47'N 61 40'E, alt = 56m. Reliability: compared with 353580 & 358490 for the years 1951-1960.

357960: BALRAS/BALKHASH USSR 46.9N 75.0E 423m 1951-1980 10 1951
Sources: A1

Notes: A1: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 46 54'N 75 00'E, alt = 423m. Reliability: compared with 353940 & 368700 for the years 1951-1980.

358490: KAZALINSK USSR 45.8N 62.1E 67m 1921-1978 10 1921
Sources: A1

Notes: A1: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. No other details available. Reliability: compared with 353580 for the years 1921-1978.

359250: SAM USSR 45.4N 56.2E 182m 1963-1980 11 1963
Sources: A1

Notes: A1: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. No other details available. Reliability: compared with 358490 & 382620 for the years 1963-1980.

361770: SENIPALATINSK USSR 50.4N 80.3E 206m 1951-1980 10 1951
Sources: A1

Notes: A1: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 50 21'N 80 15'E, alt = 206m. Reliability: compared with 357960 for the years 1951-1980.

368700: ALIJA-ATA USSR 43.3N 76.9E 1879-1980 20 1880
Sources: AI

Notes: Also known as Varniy. AI: 1881-1920; Alt: 825m. 1/3(07 + 13 + 21) corrected to the means of 24 hours. Reduced to a standard height by assuming a decrease of .6C for every 100m. 1921-1935; 1/3(07 + 13 + 21) corrected to the means of 24 hours. Alt: 841m. 1936-1940; 1/4(01 + 07 + 13 + 19) local time. 1941-1950; 1/4(01 + 07 + 13 + 19) local time corrected to the means of 24 hours. Alt: 848m. 1951-1960; alt = 847m. NB. Corrections for the period 1881-1914 & for an unspecified site change are given on pxiix, vol 79. Reliability: compared with 384570 & 369740 for the years 1881-1980 & 1886-1960. Corrected for a station move 1910/1911. Correction Factors: Stations used: 384570 & 369740. Calculation dates: 1911-1960. Correction dates: 1881-1910. Factors: 30 31 24 4 -6 -3 -3 0 7 13 23 27.

369740: MATYN USSR 41.4N 76.0E 2049m 1886-1960 10 1886
Sources: AI

Notes: AI: 1886-1915; means of (hours not given). Alt = 2031m. 1916-1935; 1/3(07 + 13 + 21) local time, corrected to the means of 24 hours. Alt = 2015m. 1936-1960; 1/4(01 + 07 + 13 + 19) local time, corrected to the means of 24 hours. Alt: 1936-1940 = 2020m, 1941-1950 = 2050m, 1951-1960 = 2049m. Reliability: compared with 384570 for the years 1886-1960.

370180: TUPAPE USSR 44.1N 39.1E 95m 1951-1970 10 1951
Sources: AI

Notes: AI: 1951-1970; 44 06'N 39 04'E, alt = 0m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 349290 & 348800 for the years 1951-1970.

370310: ARMAVIE USSR 45.0N 41.1E 208m 1951-1970 10 1951
Sources: AI

Notes: AI: 1951-1970; 44 59'N 41 07'E, alt = 208m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 349290 & 348800 for the years 1951-1970.

370500: PJATIGORSK USSR 44.1N 43.0E 532m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1970; 44 03'N 43 07'E, alt = 0m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 348800 & 370540 for the years 1951-1980.

370540: MINERALNYE VODY USSR 44.2N 43.1E 314m 1951-1970 10 1951
Sources: AI

Notes: AI: 1951-1970; 44 13'N 43 06'E, alt = 314m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 370500 for the years 1951-1970.

370990: SOCHI USSR 43.6N 39.7E 56m 1951-1970 10 1951
Sources: AI

Notes: AI: 1951-1970; 43 35'N 39 43'E, alt = 0m. Probably 1/4(01 + 07 + 13 + 19) local time corrected to means of 24 hours. Reliability: compared with 370180 & 375490 for the years 1951-1970.

375490: IBILISI USSR 41.7N 44.8E 490m 1844-1980 10 1844
Sources: AI, A2, A35, A70, A111

Notes: Also known as Tiflisa. AI: 1881-1935; 1/3(07 + 13 + 21) local time, corrected to the means of 24 hours, 45E meridian time. Alt: 404m. 1936-1970; 1/4(01 + 07 + 13 + 19) local time, corrected to the means of 24 hours. 1951-1970; alt = 490m. NB. Temp 1881-1935 reduced to a standard height by assuming a decrease of .45C for every 100m. A2: No details available. A35: No details available. A70: A combination of 1/2(10 + 22) & 1/3(07 + 13 + 21). Corrections, but no other details are given on pXCV. A111: No details available. Reliability: compared with 348800 & 380010 for the years 1837-1980 & 1848-1980.

379850: LENKORAN USSR 38.7N 48.8E 11m 1847-1970 10 1951
Sources: AI, A2

Notes: AI: Alt; 11m. 1/4(01 + 07 + 13 + 19) local time, corrected to means of 24 hours. A2: Alt; 20m. No other details available. Reliability: compared with 375490 for the years 1951-1970.

379900: BAKU USSR 40.4N 49.8E 0m 1848-1882 33
Sources: A2, A70

Notes: A2: Alt; 0m. No other details available. A70: A combination of; 1/4(07 + 13 + 21 + 21), 1/4(07 + 14 + 21 + 21) & 1/3(07 + 13 + 21). Corrections, but no other details are given on pCVII. Reliability: compared with 375490 for the years 1848-1875.

380010: FORT SRVCHENKO USSR 44.6N 50.3E 3820m 1848-1980 10 1848
Sources: AI, A13, A70

Notes: Also known as Fort Alexandrovsk. AI: 1881-1915; 1/3(07 + 13 + 21) corrected to the means of 24 hours. Alt = 24m. 1921-Feb 1936; 1/3(07 + 13 + 21) local time, corrected to the means of 24 hours. Alt = -23m. Mar 1936-1940; 1/4(01 + 07 + 13 + 19) local time. 1941-1960; 1/4(01 + 07 + 13 + 19) corrected to the means of 24 hours by corrections given on pXVI. 1951-1960; alt = 3820m. NB. Temp 1881-1915 reduced to a standard height by assuming a decrease of .6C for every 100m. A13: Alt; 25m. 1848-Feb 1872; 1/3(06 + 14 + 22). Mar 1872-Dec 1882; 1/3(07 + 13 + 21). Corrections are given on pXVI. A70: No details available. Reliability: compared with 375490 & 348800 for the years 1848-1980.

382620: CIPBAJ/CHIMBAY USSR 43.0N 59.8E 66m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 42 57'N 59 49'E, alt = 66m. Reliability: compared with 358490 for the years 1951-1970.

384130: TAMDY USSR 41.7N 64.6E 212m 1963-1980 11 1963
Sources: AI

Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. No other details available. Reliability: compared with 384570 for the years 1963-1980.

384570: TASHENT USSR 41.3N 69.3E 428m 1870-1980 10 1881
Sources: AI, A2

Notes: AI: 1881-1915; 1/3(07 + 13 + 21) corrected to the means of 24 hours. Temp reduced to a standard height by assuming a decrease of .6C for every 100m. Alt = 478m. 1921-1935; 1/3(07 + 13 + 21) local time corrected to means of 24 hours. 1936-1940; 1/4(01 + 07 + 13 + 19) local time. 1941-1960; 1/4(01 + 07 + 13 + 19) 30E meridian time, corrected to the means of 24 hours. 1941-1950; Alt = 479m. 1951-1960; Alt = 428m. A2: 1870-1873; Alt = 52m. 1874-1882; Alt = 32m. No other details available. Reliability: compared with 369740 & 368700 for the years 1886-1980 & 1881-1980.

385070: KRASNOVODSK USSR 40.0N 53.0E 20m 1883-1980 20 1883
Sources: AI

Notes: AI: 1883-1915; alt = -20m. 1/3(07 + 13 + 21) corrected to means of 24 hours. Reduced to a standard height by assuming a decrease of .6C for every 100m. 1921-1935; 1/3(07 + 13 + 21). Alt; -5m. 1936-1940; 1/4(01 + 07 + 13 + 19) local time. 1941-1960; 1/4(01 + 07 + 13 + 19) local time corrected to the means of 24 hours. Alt; 1936-1940 = -7m, 1941-1950 = -20m, 1951-1960 = 89m. Reliability: compared with 375490 & 380010 for the years 1883-1980. Corrected for a height change 1950-1951 (-20m to 20m). Correction Factors: Stations used: 375490 & 380010. Calculation dates: 1951-1980. Correction dates: 1883-1950. Factors: -16 -15 -17 -13 -17 -8 -15 -16 -17 -22 -23 -25.

386870: CARDZOU USSR 39.1N 63.6E 193m 1963-1980 11 1963
Sources: AI

Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. No other details available. Reliability: compared with 388800 for the years 1963-1980.

388800: ASHABAD USSR 38.0N 58.3E 230m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. 37 58'N 58 20'E, alt = 230m. Reliability: compared with 386870 for the years 1951-1980.

390000: ZAMETCHINO USSR 1901-1954 10 1901
Sources: AI

Notes: AI: 1951-1960; 1/4(01 + 07 + 13 + 19) local time corrected to mean of 24 hours. No other details available. Reliability: compared with 369740 for the years 1901-1954.

400010: KAMISHLI SYRIA 37.1W 41.2E 455m 1952-1980 10 1952
Sources: AI

Notes: AI: 1952-1960; 37 03'N 41 13'E, alt = 451m. Means of either 1/24(00 + 01 + ...23), 1/8(00 + 03 + ...21), 1/4(00 + 06 + 12 + 18) or an empirical formula based on 06, 12 & 18 GMT. 1961-1970; alt = 455m. Reliability: compared with 400450 for the years 1952-1980.

400070: ALEPPO SYRIA 36.2N 37.2E 393m 1951-1980 10 1952
Sources: AI

Notes: AI: 1951-1970; 36 11'N 37 13'E, alt = 392m. Means of either 1/24(00 + 01 + ...23), 1/8(00 + 03 + ...21), 1/4(00 + 06 + 12 + 18) or an unknown empirical formula using 06, 12 & 18 GMT. Reliability: compared with 400610 & 400220 for the years 1955-1980 & 1952-1980.

400220: LATTAKIA SYRIA 35.6N 35.8E 9m 1952-1980 10 1952
Sources: AI

Notes: AI: 1952-Dec 1954 & Mar-Dec 1960; 35 33'N 35 45'E, alt = 8m. Dec 1954-Feb 1960; Jableb, 35 22'N 35 55'E, alt = 14m. Means of either 1/24(00 + 01 + ...23), 1/8(00 + 03 + 06 + ...21), 1/4(00 + 06 + 12 + 18) or an empirical formula based on observations at 06, 12 & 18 GMT. 1969-1970; 35 30'N 35 47'E, alt = 9m. Reliability: compared with 400070 & 400610 for the years 1952-1980 & 1955-1980.

400300: HAMA SYRIA 35.1N 36.4E 1951-1961 61
Sources: AI

Notes: AI: 1951-1960; 35 08'N 36 45'E, alt = 309m. Means of either 1/24(00 + 01 + 02 + ...23), 1/8(00 + 03 + ...21), 1/4(00 + 06 + 12 + 18) or an empirical formula based on observations at 06, 12 & 18 GMT. Reliability: uncheckable.

400390: RAQQA SYRIA 35.9N 39.0E 1957-1964 61
Sources: AI

Notes: AI: 1951-1960; means of either 1/24(00 + 01 + ...23), 1/8(00 + 03 + ...21), 1/4(00 + 06 + 12 + 18) or of empirical formula based on observations taken at 06, 12 & 18h. All times are GMT. No other details available. Reliability: uncheckable.

400450: DEIR EZZOR SYRIA 35.3N 40.2E 212m 1951-1980 10 1952
Sources: AI

Notes: AI: 1951-1970; 35 20'N 40 09'E, alt = 203m. Means of either 1/24(00 + 01 + ...23), 1/8(00 + 03 + ...21), 1/4(00 + 06 + 12 + 18) or an empirical formula based on observations taken at 06, 12 & 18 GMT. 1961-1970; alt = 212m. Reliability: compared with 400010 for the years 1952-1980.

400610: PALMYRA SYRIA 34.6N 38.3E 404m 1955-1980 10 1955
Sources: AI

Notes: AI: 1955-1970; 34 33'N 38 18'E, alt = 404m. Means of either 1/24(00 + 01 + ...23), 1/8(00 + 03 + ...21), 1/4(00 + 06 + 12 + 18) or an empirical formula based on 06, 12 & 18 GMT. Reliability: compared with 400070, 400220 & 401000 for the years 1955-1980. 1955 values are 3C too warm & have been coded as missing.

400800: DAMASCUS/MEZEE SYRIA 33.5N 36.1E 724m 1951-1980 20 1951
Sources: AI

Notes: AI: 1951-1970; 33 29'N 36 14'E, alt = 729m. Means of either 1/24(00 + 01 + ...23), 1/8(00 + 03 + ...21), 1/4(00 + 06 + 12 + 18) or an empirical formula based on observations at 06, 12 & 18 GMT. Reliability: compared with 401000 & 401020 for the years 1951-1980. Corrected for a probable height change 1969/1970. Correction Factors: Stations used: 401000 & 401020. Calculation dates: 1951-1969 & 1970-1980. Correction dates: 1951-1969. Factors: -8 -8 -6 -6 -4 -5 -7 -10 -19 -15 -6.

401000: BEIRUT(BEYROUT) LEBANON 33.9N 35.5E 24m 1842-1980 22 1842
Sources: AI, A10, A35, A40, A63

Notes: AI: 1875-1920; means of 1/3(0830 + 1430 + 2030) 30E meridian time. Alt: 34m. 1921-1950; means as above, but time is Civil Time. 1951-1960; means of 1/2(mean max + mean min). 1875-1940; Bir Hassan, alt = 66m. 1953-Mar 1953; Khaldeh Airport, 33.8N 35.5E, alt = 24m. A10: No details available. A35: No details available. A40: No details available. A63: No details available. Reliability: compared with 401060, 401840 & 401847 for the years 1921-1960, 1882-1980 & 1861-1960. Corrected for a site change. Correction Factors: Stations used: 401060. Calculation dates: 1921-1940 & 1951-1980. Correction dates: 1842-1940. Factors: -9 -11 -9 -10 -19 -24 -28 -27 -19 -14 -6 0.

401020: RAYACK LEBANON 33.9N 36.0E 921m 1951-1980 12 1951
Sources: AI

Notes: AI: 1951-1960; 33 52'N 36 00'E, alt = 921m. 1/2(max + min). Reliability: compared with 401000 for the years 1951-1980.

401030: TRIPOLI LEBANON 34.6N 36.0E 10m 1951-1980 52
Sources: AI

Notes: AI: 1951-1960; Kleiate, 34 35'N 36 00'E, alt = 6m. 1/2(max + min). Reliability: compared with 401000 & 401020 for the years 1951-1980. Record

shows inhomogeneity around 1960 but too many missing observations to correct data.

401060: ESABA OBSY LEBANON 33.8N 35.9E 916m 1921-1960 10 1921
Sources: AI

Notes: AI: 1921-1952; means of 24 hours. 1953-1960; 1/8(03 + 06 + 09 + ...24). 33 50'N 35 53'E, alt = 916m. Reliability: compared with 401000 for the years 1921-1960.

401530: MT. KENA ISRAEL 33.0N 35.5E 1951-1960 61
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 32 59'N 35 30'E, alt = 936m. Reliability: uncheckable.

401540: HAIFA ISRAEL 32.8N 35.0E 1881-1960 61
Sources: AI, A10

Notes: AI: Alt; lhm. Means of 1/2(max + min). A10: Alt; 6m. No other details available. Reliability: uncheckable.

401730: NATANYA ISRAEL 32.3N 34.9E 1951-1960 61
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 32 20'N 34 51'E, alt = 33m. Reliability: uncheckable.

401760: JAFFA ISRAEL 32.1N 34.5E 20m 1880-1913 61
Sources: A29, A43, A77

Notes: A29: No details available. A77: Alt; 20m. No other details available. A43: Means of 1/2(max + min). 1907-1909; 32 27'N 32 03'E of Paris, alt = 30m. 1910-1914; 32 03'N 32 24'E of Paris, alt = 30m. Reliability: uncheckable.

401770: TEL AVIV ISRAEL 32.1N 34.8E 1951-1960 61
Sources: AI

Notes: AI: 1951-1960; Port, 32 06'N 34 47'E, alt = 10m. 1/2(max + min). Reliability: uncheckable.

401800: LOD AIRPORT ISRAEL 32.0N 34.9E 49m 1951-1980 70 1963
Sources: AI

Notes: AI: 1/2(max + min). 1951-1960; 32 00'N 34 54'E, alt = 49m. 1961-1970; 1/24(23 + 24 + 01 + 02 + ...21 + 22) GMT. 32 00'N 34 54'E, alt = 45m. Airport. From 1974 station known as Ben Gurion Airport. Reliability: compared with 401900, 402700 & 401000 for the years 1951-1980. Station may have moved, causing inhomogeneity in 1962.

401807: SARONA ISRAEL 32.1N 34.8E 20m 1880-1889 63
Sources: A77

Notes: A77: Alt; 20m. No other details available. Reliability: uncheckable.

401840: JERUSALEM / 535015 ISRAEL 31.8N 35.2E 809m 1846-1980 50
Sources: A1

Notes: A1: Means of 24 hourly readings for 1921-1929, otherwise 1/2(max + min). 1846-1960; Sites changed many times & were not always the same for temp & rain. For many periods the exact locations are unknown. No details concerning any differences between locations are available (fuller details on p21, vol "1941-1950" & p183, vol 2). 1961-1970; alt = 811m. This station was formerly station 535015, 31 47'N 35 13'E, alt = 809m. See also station 401847, Old City. Reliability: compared with 401847, 401800, 401000 & 402700 for the years 1882-1960, 1951-1980, 1882-1980 & 1923-1980. Shows very large increase in variance & change in mean, 1930-1950, when compared with 401847 & 402700. Also shows cooling trend, 1960-1980, when compared with 401800, 401000 & 402700.

401847: JERUSALEM/OLD CITY ISRAEL 31.8N 35.2E 810m 1846-1960 10 1861
Sources: A1

Notes: A1: Means of 24 hourly readings for 1921-1929, otherwise 1/2(max + min). Sites changed many times & were not always the same for temp & rain. For many periods the exact locations are unknown. No details concerning any differences between locations are available (fuller notes are on p21, vol "1941-1950" & on p183, vol 2). The rain series 1846-1960 is however from this site, Old City, & is a uniform series, having been corrected for different sites & faulty observations. NB. See also station 401840. Reliability: compared with 401840, 401000 & 402700 for the years 1882-1960, 1882-1960 & 1923-1960.

401910: BEERSHEVA JORDON 31.2N 34.8E 1951-1960 61
Sources: A1

Notes: A1: 1951-1960; 1/2(max + min). 31 14'N 34 47'E, alt = 275m. Reliability: uncheckable.

401990: EILAT ISRAEL 29.6N 35.0E 11m 1951-1980 10 1951
Sources: A1

Notes: A1: 1951-1960; 1/2(max + min). 29 33'N 34 57'E, alt = 11m. 1961-1970; 1/2(23 + 24 + 01 + 02 + ...21 + 22) GMT. Alt; 14m. Reliability: compared with 402700 & 401800 for the years 1951-1980.

402007: HEBRON JORDON 31.5N 35.1E 884m 1896-1908 63
Sources: A29

Notes: A29: Alt; 884m. No other details available. Reliability: uncheckable.

402300: IERID JORDON 32.6N 35.9E 585m 1955-1970 61
Sources: A1

Notes: A1: 1961-1970; 1/2(max + min). 32 33'N 35 51'E, alt = 585m. Reliability: uncheckable.

402500: E-4 JORDAN JORDON 32.5N 38.2E 686m 1961-1980 10 1961
Sources: A1

Notes: A1: 1961-1970; 1/2(max + min). 32 30'N 38 12'E, alt = 686m. Reliability: compared with 400610 for the years 1961-1980.

402700: AMMAN AIRPORT JORDON 32.0N 35.9E 771m 1923-1980 10 1923
Sources: A1

Notes: A1: 1/2(max + min). 1923-1950; 31 56'N 35 55'E, alt = 2554ft. 1951-1960; 31 57'N 35 57'E, alt = 766m. 1961-1970; 31 59'N 35 59'E, alt = 766m. Reliability: compared with 401000 for the years 1923-1980.

402900: JERUSALEN ISRAEL 31.9N 35.2E 755m 1951-1967 61
Sources: A1

Notes: A1: 1951-1960; 31 52'N 35 13'E, alt = 755m. 1/2(max + min). Reliability: uncheckable.

403100: MA'AN JORDON 30.2N 35.8E 1069m 1961-1980 10 1961
Sources: A1

Notes: A1: 1961-1970; 1/2(max + min). 30 10'N 35 47'E, alt = 1069m. Reliability: compared with 401990 & 402700 for the years 1961-1980.

403720: KUWAIT INTL AIRPORT KUWAIT 29.4N 48.0E 56m 1956-1981 10 1956
Sources: A1

Notes: A1: 1951-1966; 1/2(max + min). 29 22'N 48 00'E, alt = 15m. Reliability: compared with 404280 for the years 1962-1981.

403750: TABOUK SAUDI ARABIA 28.4N 36.6E 1966-1976 61
Sources: A1

Notes: A1: 1/2(max + min). No other details available. Reliability: uncheckable.

403940: HAIL SAUDI ARABIA 27.5N 41.7E 1966-1976 61
Sources: A1

Notes: A1: 1/2(max + min). No other details available. Reliability: uncheckable.

404000: WEJH SAUDI ARABIA 26.2N 36.5E 1966-1976 61
Sources: AI

Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

404050: KHASSIM SAUDI ARABIA 26.3N 44.0E 1967-1976 61
Sources: AI

Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

404150: DHAHRAN SAUDI ARABIA 26.3N 50.2E 22m 1951-1976 70
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 26 17'N 50 09'E, alt = 22m. Reliability: compared with 404270 & 404380 for the years 1951-1976. Record shows evidence of a jump 1960/1961.

404270: BAHRAIN/MUHARRAQ SAUDI ARABIA 26.2N 50.6E 2m 1902-1982 10 1902
Sources: AI

Notes: AI: 1901-1946; Bahrain Observatory. 1947-1950; Muharrag, 26 14'N 50 35'E, alt = 30ft. 1/2(max + min). 1951-1960; 26 16'N 50 37'E, alt = 2m. Reliability: compared with 404490, 404380 & 404860 for the years 1933-1960, 1941-1976 & 1902-1973.

404280: DOHA I.A. QATAR 25.3N 51.6E 1962-1981 10 1962
Sources: AI

Notes: AI: 1/2(max + min). No other details available. Reliability: compared with 404270 for the years 1962-1980.

404300: MEDINA SAUDI ARABIA 24.7N 39.7E 672m 1956-1976 61
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 24 39'N 39 39'E, alt = 594m. Reliability: uncheckable.

404380: RIYADH SAUDI ARABIA 24.7N 46.7E 609m 1941-1976 12 1942
Sources: AI

Notes: AI: 1/2(max + min). 1941-1945; 24 39'N 46 42'E, alt = 1938ft. 1958-1960; 24 42'N 46 43'E, alt = 594m. Reliability: compared with 404270 for the years 1941-1976.

404390: YENBO SAUDI ARABIA 24.1N 38.1E 1967-1975 61
Sources: AI

Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

404490: SHARJAH/TEUCIAL SAUDI ARABIA 25.3N 55.4E 2m 1933-1960 10 1934
Sources: AI

Notes: AI: Oct 1949-Dec 1950; RAF Station, 25 20'N 55 24'E, alt = 4ft. 1/2(max + min). 1951-1960; 25 21'N 55 23'E, alt = 7m. Reliability: compared with 404270 for the years 1933-1960.

404600: MUSCAT OMAN 23.5N 58.3E 1893-1981 62
Sources: AI

Notes: AI: 1893-1929; alt = 20ft. In Jan 1930 the station moved 5 miles to Beitul-Relaj, alt = 34ft. In July 1935 it returned to the original site. 1941-1950; alt = 34ft, 1951-1960 = 6m. Means of 1/2(max + min). Reliability: uncheckable.

404770: JEDDAH SAUDI ARABIA 21.5N 39.2E 11m 1951-1976 62
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 21 30'N 39 12'E, alt = 11m. Reliability: uncheckable.

404800: ZALF YEMEN 21.5N 40.5E 1966-1976 61
Sources: AI

Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

405690: KHAMIS MUSHAIT SAUDI ARABIA 18.3N 42.8E 1967-1976 61
Sources: AI

Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

405720: CEZAN SAUDI ARABIA 16.9N 42.6E 1967-1976 61
Sources: AI

Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

405750: SALALAH OMAN 17.1N 54.1E 17m 1942-1981 12 1943
Sources: AI

Notes: AI: 1/2(max + min). 1942-1950; 17 03'N 54 06'E, alt = 59ft. 1951-1960; alt = 18m. Reliability: compared with 405860 & 405970 for the years 1942-1960 & 1942-1967.

405860: RIYAN YEMEN 14.7N 49.4E 21m 1942-1960 11 1943
Sources: AI

Notes: AI: 1942-1950; 14 39'N 49 23'E, alt = 82ft. 1/2(max + min). 1951-1960; 14 39'N 49 24'E, alt = 25m. Reliability: compared with 405750 & 405970 for the years 1942-1960.

405970: ADEH/KHORMAKSAR YEMEN 12.8N 45.1E 3m 1881-1967 10 1881
Sources: AI

Notes: AI: 1880-1950; means of 1/2(daily max + daily min). Site changed, but not exposure, in Nov 1936, no corrections considered necessary. In Jan 1940 site moved from 12 49'N 45 02'E to 12 47'N 44 59'E & in May 1947 to Khormaksar at 12 50'N 45 01'E. 1951-1960; Alt = 4m. Means of 1/2(daily max + daily min) read at station some time nearest to 0900 GMT. Reliability: compared with 405860, 404270 & 632600 for the years 1942-1960, 1902-1967 & 1911-1980.

406040: SINJAR IRAQ 36.3N 41.8E 476m 1962-1975 61
Sources: AI

Notes: AI: 1/8(00 + 03 +21) GMT. No other details available. Reliability: uncheckable.

406080: MOSUL IRAQ 36.3N 43.2E 222m 1923-1980 12 1926
Sources: AI

Notes: AI: 1941-1950; 1/2(max + min). 36 19'N 43 09'E, alt = 733ft. 1951-1960; alt = 223m. 1/8(00 + 03 +21) GMT. April 1951-July 1952 21h observations are missing. Reliability: compared with 406210 & 406500 for the years 1939-1980 & 1926-1980.

406110: SALAHADDIN IRAQ 36.4N 44.2E 1970-1975 61
Sources: AI

Notes: AI: 1/8(00 + 03 +21) GMT. No other details available. Reliability: uncheckable.

406210: KIRKUK IRAQ 35.5N 44.4E 331m 1939-1980 12 1939
Sources: AI

Notes: AI: 1951-1960; 1/8(00 + 03 +21) GMT. Jan 1951-Aug 1952 21h observations missing. 35 28'N 44 24'E, alt = 331m. Reliability: compared with 406080 & 406500 for the years 1939-1980.

406290: AHA IRAQ 34.5N 42.0E 1970-1975 61
Sources: AI

Notes: AI: 1/8(00 + 03 +21) GMT. No other details available. Reliability: uncheckable.

406370: KHAQAQIN IRAQ 34.3N 45.4E 201m 1938-1975 22 1938
Sources: AI

Notes: AI: 1941-1950; 1/2(max + min). 34 18'N 45 26'E, alt = 663ft. 1951-1960; means of 8 daily observations except the following observations were missing: 1951-Mar 1957; 00, 09 & 21h GMT & April 1957-1960; 00 + 21h GMT. Alt; 201m. Reliability: compared with 406210 & 406500 for the years 1939-1975 & 1938-1975. Record shows discontinuity around May 1952, whose

value is missing. No other evidence of change but record has been corrected. Correction Factors: Stations used: 406210 & 406500. Calculation dates: 1941-1951 & 1953-1966. Correction dates: 1938-April 1952. Factors: 4 4 3 6 16 14 16 11 11 6 9 4.

406420: BUTHBAH IRAQ 33.0N 40.3E 615m 1929-1980 12 1929
Sources: AI

Notes: AI: 1941-1950; 1/2(max + min). 33 02'N 40 17'E, alt = 2019ft. 1951-1960; alt = 615m. 1/8(00 + 03 +21) GMT. Reliability: compared with 406500 for the years 1929-1980.

406480: HABBANIYA IRAQ 33.4N 43.6E 45m 1937-1969 52
Sources: AI

Notes: AI: 1951-1960; 1/8(00 + 03 +21) GMT. Nov 1954-May 1955; 09, 15 & 21h observations missing, Sept 1955; 00, 09, 15, 18 & 21h missing. 33 22'N 43 34'E, alt = 45m. Reliability: compared with 406500 & 406210 for the years 1937-1969 & 1939-1969. Record shows discontinuities probably due to missing observations i.e. changing observation times. Insufficient data to correct.

406500: BAGHDAD IRAQ 33.3N 44.4E 34m 1888-1980 12 1888
Sources: AI

Notes: AI: 1888-1930; means of 1/2(daily max + daily min). 1937-1940; 1/3(02 + 06 + 13) GMT. 1941-1950; 1/2(max + min). 1931-1937 & 1951-1960; means are based on 8 daily observations. NB. Prior to 1937 observations were taken 3 times daily at Haidra, about 6 miles from the airport (33 20'N 44 22'E). Reliability: compared with 406420, 406460 & 406890 for the years 1929-1980, 1888-1973 & 1920-1980.

406580: MUKHAIB IRAQ 32.0N 42.3E 311m 1963-1975 61
Sources: AI

Notes: AI: 1/8(00 + 03 +21) GMT. No other details available. Reliability: uncheckable.

406650: KUT-EL-HAI IRAQ 32.2N 46.1E 15m 1940-1980 12 1941
Sources: AI

Notes: AI: 1951-1960; 1/8(00 + 03 +21) GMT. Various observations missing at different periods, see p301, vol "1951-1960". 32 10'N 46 03'E, alt = 15m. Reliability: compared with 406720 & 406760 for the years 1940-1966 & 1941-1966.

406700: MAJAF IRAQ 32.0N 44.3E 17m 1963-1975 61
Sources: AI

Notes: AI: 1/8(00 + 03 +21) GMT. No other details available. Reliability: uncheckable.

406720: DINAMIYA IRAQ 32.0N 45.0E 20m 1940-1980 22 1940
Sources: AI uncheckable.

Notes: AI: 1951-1960; 1/8(00 + 03 +21) GMT. 21h observation missing for various periods, see p301, vol "1951-1960". 31 59°N 44 59°E, alt = 20m. Reliability: compared with 406650 & 406760 for the years 1940-1966 & 1941-1980. Corrected for discontinuity 1953/1954, of about 1C. Correction Factors: Stations used: 406650 & 406760. Calculation dates: 1941-1953 & 1954-1966. Correction dates: 1940-1953. Factors: 7 6 9 8 6 5 1 1 6 9 5 6.

406760: BASIRIYA IRAQ 31.0N 46.2E 3m 1941-1980 12 1941
Sources: AI

Notes: AI: 1951-1960; 1/8(00 + 03 +21) GMT. 15 & 21h observations missing for various periods, see p301, vol "1951-1960". 31 01°N 46 14°E, alt = 3m. Reliability: compared with 406690 & 406880 for the years 1941-1980.

406880: SBAINA IRAQ 30.5N 47.8E 19m 1900-1956 52
Sources: AI

Notes: AI: 1951-1960; 1/3(03 + 06 + 12) GMT. 30 25°N 47 39°E, alt = 19m. Reliability: compared with 406890 for the years 1920-1956. 1951-1956 is inhomogeneous with earlier years but contains many missing observations after a long data gap so is uncorrectable.

406890: HASRAN IRAQ 30.4N 47.7E 2m 1920-1980 12 1920
Sources: AI

Notes: AI: 1/2(max + min). 1900-Jan 1922; 30 30°N 47 50°E, alt = 22ft. 1900-1919; several changes in thermometer occurred. Feb 1922 moved from Municipal Health Office to Shabab, 30 28°N 47 41°E, alt = 22ft. 1937-1940; 30 34°N 47 47°E, alt = 14m. 1/3(02 + 06 + 13) GMT. 1941-1960; alt = 45ft. Reliability: compared with 406760, 406880 & 406500 for the years 1941-1980, 1920-1956 & 1920-1980.

407060: YABRIZ IRAN 38.1N 46.3E 1362m 1963-1979 61
Sources: AI

Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

407450: NASHAD IRAN 36.3N 59.6E 1893-1979 10 1906
Sources: AI

Notes: AI: Means of 1/2(max + min). 1892-1940; alt = 3104ft. 1951-1960; alt = 98m. No other details available. Reliability: compared with 416610 & 385070 for the years 1906-1960 & 1906-1979.

407540: TEHRAN NERABAD IRAN 35.7N 51.4E 1151m 1884-1979 62
Sources: AI, A29

Notes: AI: 1893-1950; Alt = 4002ft. 1951-1960; Alt = 1191m. Means of 1/2(mean daily max + mean daily min). A29: No details available. Reliability:

408000: ESPAHAN IRAN 32.7N 51.7E 1893-1979 62
Sources: AI

Notes: AI: Means of 1/2(max + min). Alt; 1893-1930 = 5817ft, 1931-1940; observations taken on College roof, 1951-1960 = 1590m. Reliability: uncheckable.

408310: ABADAN IRAN 30.4N 48.3E 3m 1951-1979 62
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 30 22°N 48 15°E, alt = 3m. Reliability: uncheckable.

408410: KERMAN IRAN 30.3N 57.0E 1749m 1951-1979 62
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). Station moved to Airport Dec 1956, 30 15°N 56 58°E, alt = 1749m. Reliability: uncheckable.

408460: BUSEHER IRAN 29.0N 50.8E 14m 1877-1973 12 1878
Sources: AI

Notes: AI: Means of 1/2(daily max + daily min). Alt; 14m. Reliability: compared with 406500, 406890 & 404270 for the years 1888-1973, 1920-1973 & 1902-1973.

409480: SHIRAZ IRAN 29.6N 52.5E 1491m 1951-1979 62
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 29 36°N 52 32°E, alt = 1539m. Reliability: uncheckable.

409110: MAZARI/SUARIF AFGHANISTAN 36.6N 67.1E 378m 1964-1980 61
Sources: AI

Notes: AI: No details available. Reliability: uncheckable.

409380: HERAT AFGHANISTAN 34.1N 62.2E 964m 1963-1980 61
Sources: AI

Notes: AI: No details available. Reliability: uncheckable.

409480: KABUL ARYT AFGHANISTAN 34.6N 69.2E 1803m 1961-1980 61
Sources: AI

Notes: AI: No details available. Reliability: uncheckable.

409900 : SAMARAS ARTI AFGHANISTAN 31.50 65.5E 1005m 1963-1980 61
 Source: AI

Notes: AI: No details available. Reliability: uncheckable.

413000 : PIRAMUS PAKISTAN 34.00 71.6E 1062-1980 12 1931
 Source: AI

Notes: AI: alt: 1033-1920 = 1113ft, 1921-1930 = 1164ft, 1931-1960 = 137m. Means of 1/2(daily max + daily min). Station moved in Nov 1945, but no corrections were necessary. Reliability: compared with 415730 & 420270 for the years 1947-1971 & 1931-1980.

413600 : PIRAZELIM AFGHANISTAN 33.90 70.1E 172m 1940-1980 62
 Source: AI

Notes: AI: 1951-1960, 1/2(max + min), 33 52'N 70 05'E, alt = 172m. Reliability: uncheckable.

413730 : WIRKZ PAKISTAN 33.90 73.4E 216m 1947-1971 12 1948
 Source: AI

Notes: AI: 1951-1960, 1/2(max + min), 33 54'N 73 28'E, alt = 216m. Reliability: compared with 420270 for the years 1947-1971.

413900 : JIMLIM PAKISTAN 32.90 73.7E 1971-1980 61
 Source: AI

Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

414200 : PIRT SAMIRAN PAKISTAN 31.40 69.5E 1407m 1947-1980 62
 Source: AI

Notes: AI: 1951-1960, 1/2(max + min), 31 21'N 69 27'E, alt = 1406m. Reliability: uncheckable.

416200 : BINA ISMIRI QAZAKH PAKISTAN 31.00 70.9E 174m 1947-1980 62
 Source: AI

Notes: AI: 1951-1960, 1/2(max + min), 31 00'N 70 55'E, alt = 174m. Reliability: uncheckable.

416400 : LAHIRE Q77 PAKISTAN 31.60 74.4E 214m 1981-1980 10 1076
 Source: AI

Notes: AI: Means of 1/2(daily max + daily min), 1031-1930, alt = 702ft, 1931-1960 = 17m. The observation moved & site in Jan 1905, but no corrections were made. The site changed again in Mar 1931 & temp corrections are given on p19, vol 105. Reliability: compared with 420270, 421650 & 420990 for the years 1903-1908, 1908-1909 & 1920-1980.

416600 : QURTA/SAMUNCLI PAKISTAN 30.30 66.9E 1601m 1947-1980 12 1949
 Source: AI

Notes: AI: 1951-1960; 1/2(max + min), 1947-Aug 1948; alt = 1618m, Aug 1948-Oct 1950; alt = 1601m, Oct 1950-1960; 30 15'N 66 53'E, alt = 1507m. Reliability: compared with 416610 & 417120 for the years 1947-1960 & 1947-1980. Suspect values 1948.

416610 : QUETTA CARTONMENT PAKISTAN 30.20 67.0E 1673m 1878-1960 10 1951
 Source: AI

Notes: AI: Means of 1/2(daily max + daily min), alt: 1878-1929 = 5490ft, 1931-1960 = 1673m. The station moved in Oct 1929. Temp, from Oct 1929-Dec 1930, have been reduced to old site by means of corrections, given on p19, vol 105. New alt is 5490ft. Station moved again in Nov 1935 & temp corrections are given on p19, vol 105. Reliability: compared with 421650, 416960 & 416600 for the years 1878-1960, 1931-1960 & 1947-1960. Temp increases by over 1C around 1950, a site change is suspected.

416730 : MELTAN PAKISTAN 30.20 71.4E 123m 1947-1980 62
 Source: AI

Notes: AI: 1951-1960; 1/2(max + min), 30 12'N 71 26'E, alt = 126m. Reliability: uncheckable.

416960 : KALAT PAKISTAN 29.00 66.5E 1082-1979 72
 Source: AI

Notes: AI: 1876-1920; alt = 6630ft, 1921-1930 = 6623ft. There was a change in location of the rain gauge & in rainfall registration in Jan 1893, but no corrections have been applied. Means of 1/2(daily max + daily min), alt: 1931-May 1935 = 6493ft, June 1935-Oct 1935 = 6494ft, Nov 1935-Oct 1936 = 6617ft, Nov 1936-1950 = 6616ft. The site changed in Nov 1935 & in Oct 1936, but no corrections were made, 1951-1960; alt = 2017m. Reliability: compared with 416600, 417120 & 416610 for the years 1947-1978, 1947-1978 & 1931-1960. Record has a possible jump in mid-1930s & suspect values in 1947, not easily checked.

417120 : BALARDIN PAKISTAN 28.90 64.4E 850m 1947-1980 12 1948
 Source: AI

Notes: AI: 1951-1960; 1/2(max + min), 28 53'N 64 24'E, alt = 849m. Reliability: compared with 417390 & 417590 for the years 1947-1980 & 1947-1970.

417390 : JACOBABD PAKISTAN 28.30 68.5E 56m 1947-1980 12 1948
 Source: AI

Notes: AI: 1951-1960; 1/2(max + min), 28 18'N 68 28'E, alt = 56m. Reliability: compared with 417120 & 417820 for the years 1947-1980 & 1947-1971.

417300: (MADRAS) PARISTAR 27.00 64.18 9490 1942-1948 62
 Source: AI

Note: (1) 1954-1960, 1/2(mss + min), 20 30" S 64 00" E, alt = 940m. Reliability: uncheckable.

417400: (MADRAS) PARISTAR 25.18 61.00 1971-1978 61
 Source: AI

Note: (1) 1/2(mss + min). No other details available. Reliability: uncheckable.

417500: (MADRAS) PARISTAR 25.18 63.30 90 1942-1971 62
 Source: AI

Note: (1) 1954-1960, 1/2(mss + min), 25 10" S 63 20" E, alt = 90m. Reliability: uncheckable.

417600: (MADRAS) PARISTAR 25.40 64.40 300 1864-1900 12 1878
 Source: AI

Note: (1) Name of 1/2(daily mss + daily obs). The observatory was moved in June 1867, but no corrections were applied. On April 15 1955 the observatory moved, but conditions of exposure & environment were similar, so data were compared with 417800. Reliability: uncheckable.

417700: (MADRAS) PARISTAR 25.50 64.00 1971-1978 61
 Source: AI

Note: (1) 1/2(mss + min). No other details available. Reliability: uncheckable.

417800: (MADRAS) PARISTAR 22.20 55.40 2200 1932-1970 61
 Source: AI

Note: (1) 1942-1970, 1/2(mss + min), 22 13 0 33 17" E, alt = 2200m. Reliability: uncheckable.

417900: (MADRAS) PARISTAR 24.00 61.20 220 1942-1970 12 1948
 Source: AI

Note: (1) 1954-1960, 1/2(mss + min), 24 55' 0 67 00" E, alt = 220m. Reliability: uncheckable. Compared with 417600 & 417800 for the years 1942-1970 & 1942-1971.

418000: (MADRAS) PARISTAR 24.00 61.00 40 1874-1971 10 1878
 Source: AI

Note: (1) (1) 1874-1878, 1/2(mss + min), 24 00' 0 00" E, alt = 40m. The position of the thermometer was changed in the 1895 & transferred to Madras from July 1900. No corrections were made. Name of 1/2(daily mss + daily obs). Reliability: uncheckable. Compared with 417600 for the years 1874-1971.

418100: (MADRAS) BARCLARESS 24.98 89.40 200 1942-1971 62
 Source: AI

Note: (1) 1951-1960, 1/2(mss + min), 24 51" S 89 20" E, alt = 190m. Reliability: uncheckable.

418200: (MADRAS) BARCLARESS 24.38 91.70 230 1942-1970 62
 Source: AI

Note: (1) 1951-1960, 1/2(mss + min), 24 19" S 91 40" E, alt = 210m. Reliability: uncheckable.

419130: (MADRAS) BARCLARESS 23.20 89.20 120 1942-1971 62
 Source: AI

Note: (1) 1951-1960, 1/2(mss + min). From April 1950 data are from M.R. College, 400 yards from previous site. 23 18" S 89 13" E, alt = 70m. Reliability: uncheckable.

419170: (MADRAS) BARCLARESS 23.00 90.40 1970-1978 61
 Source: AI

Note: (1) 1/2(mss + min). No other details available. Reliability: uncheckable.

419190: (MADRAS) BARCLARESS 23.60 90.30 80 1942-1970 62
 Source: AI

Note: (1) 1951-1960, 1/2(mss + min), 23 37" S 90 30" E, alt = 80m. Reliability: uncheckable.

419400: (MADRAS) CHITTACONG CITY BARCLARESS 22.40 91.00 140 1942-1970 62
 Source: AI

Note: (1) 1951-1960, 1/2(mss + min), 22 21" S 91 30" E, alt = 140m. Reliability: uncheckable.

419500: (MADRAS) COE'S BAZAR BARCLARESS 21.40 92.00 1971-1978 61
 Source: AI

Note: (1) 1/2(mss + min). No other details available. Reliability: uncheckable.

420270: (MADRAS) COE'S BAZAR 24.10 74.00 1000-1978 10 1893
 Source: AI

Note: (1) Name of 1/2(mss + min). No other details available. Reliability: uncheckable. Compared with 418000 & 417600 for the years 1893-1978 & 1893-1900.

420710: AMRITSAR/RAJASANSI INDIA 31.6W 74.9E 234m 1948-1980 10 1949
Sources: AI

Notes: AI: 1947-1960; 1/2(max + min). 31 38'N 74 52'E, alt = 234m. Reliability: compared with 416400 for the years 1948-1980.

420830: FIMLA INDIA 31.1N 77.2E 2202m 1863-1960 10 1891
Sources: AI

Notes: AI: Means of 1/2(daily max + daily min). Alt: 1876-1950 = 7232ft, 1951-1960 = 2202m. The thermometer shed moved in April 1890, the rain gauge several times, between 1876 & 1920, no corrections were made. The station moved in April 1928, from alt of 7232ft to 7224ft. Temp. 1928-1930, is corrected to the old site, see p19, vol 105. Reliability: compared with 420990 & 421470 for the years 1876-1960 & 1897-1960. Station moved in 1890 but overlap is too short to correct data.

420990: LUDHYANA INDIA 30.9N 75.9E 247m 1868-1980 10 1876
Sources: AI

Notes: AI: Alt: 247m. Means of 1/2(daily max + daily min). In 1929 the station moved 2 miles, but comparative observations were considered unnecessary. Reliability: compared with 416400 & 420830 for the years 1876-1980 & 1876-1960.

421470: MUKTESWAR KUMAON INDIA 29.5N 79.7E 2311m 1897-1980 10 1898
Sources: AI

Notes: AI: Alt: 1897-Nov 1906 = 2316m, Nov 1906-April 1908 = 2303m, April 1908-July 1949 = 2314m, July 1949-1960 = 2311m. Means of 1/2(max + min). Reliability: compared with 420990, 420830 & 422610 for the years 1897-1980, 1897-1960 & 1897-1980.

421650: BIKANER INDIA 28.0N 73.3E 224m 1878-1980 20 1878
Sources: AI

Notes: AI: Means of 1/2(mean max + mean min). Alt: 1877-1892 = 234m, 1892-1937 = 237m, 1937-1977 = 224m. In 1937 the station moved about 2.4m. Comparative observations were considered unnecessary. Reliability: compared with 416400 & 423480 for the years 1878-1980 & 1881-1960. Jan 1980 IOC too warm & coded as missing. Record corrected for 1937 site change. Correction factors: Stations used: 416400, 423480 & 424510. Calculation dates: 1900-1937 & 1938-1960. Correction dates: 1878-1937. Factors: -12 -10 -12 -10 -6 1 0 0 -12 -19 -14.

421820: NEW DELHI INDIA 28.7N 77.3E 1875-1980 10 1931
Sources: AI

Notes: Also known as Safdarjung. AI: Alt: 1875-1930 = 718ft, 1931-1940 = 714ft, 1941-1950 = 710 ft, 1951-1960 = 216m. Means of 1/2(daily max + daily min). Site changed in 1930, 1932 & 1938, no corrections were made. Reliability: compared with 422610, 420830 & 421470 for the years 1931-1980, 1931-1960 & 1931-1980.

422610: AGRA INDIA 27.2N 78.0E 169m 1862-1980 20 1876
Sources: AI

Notes: AI: The site & exposure changed in 1924 & 1941. Corrections were found significant only for temp, these are given on p97, vol 4. 1876-1977; means of 1/2(daily max + daily min). Reliability: compared with 423480, 424510 & 421470 for the years 1881-1960, 1898-1979 & 1897-1980. Record has been corrected for moves in 1923/1924 & May/June 1941. Correction Factors: Stations used: 423480, 424510 & 421470. Calculation dates: 1898-1923 & 1942-1960, 1924-1940 & 1942-1960. Correction dates: 1876-1923 & 1924-May 1941. Factors: i) -6 -10 -7 -6 -4 2 -4 -6 -7 -8 -11 -10. ii) 4 3 7 7 5 5 0 0 3 5 6 3.

422950: DARJEELING INDIA 27.1N 88.3E 2128m 1848-1978 22 1848
Sources: AI, 335

Notes: AI: means of 1/2(daily max + daily min). 9 changes in alt occurred between 1867 & 1960. 3 changes in site occurred. In 1897 no comparative observations are given. In Nov 1930 comparative observations were taken, but corrections applied to rainfall only. In 1953 the station moved 4 miles & corrections are given on p102, vol 4. A35: No details available. Reliability: compared with 423910 & 424040 for the years 1876-1978 & 1881-1978. Record has been corrected for site changes after 1897 & after 1952. Correction Factors: Stations used: 423910 & 424040. Calculation dates: 1881-1897 & 1953-1970, 1903-1952 & 1953-1970. Correction dates: 1848-1897 & 1903-1952. Factors: i) 19 18 12 11 10 8 7 7 18 19 18. ii) 8 7 6 5 4 1 2 3 9 10 7.

423140: DIBRUGARH INDIA 27.5N 94.8E 106m 1901-1980 10 1902
Sources: AI

Notes: AI: 1/2(max + min). 1901-Feb 1928; 27 28'N 94 55'E, alt = 106m. Feb 1928-July 1929; 105m. July 1929 station moved to a new site, alt = 106m. Comparative observations were taken for 6 months but no corrections were considered necessary. Reliability: compared with 424100 for the years 1902-1980.

423390: JODHPUR INDIA 26.3N 73.0E 224m 1897-1980 80
Sources: AI

Notes: AI: Means of 1/2(max + min). Jawahar College; 1897-Sept 1940; alt = 238m. Aerodrome: Oct 1940-Sept 1941; alt = 219m, Sept 1941-1960 = 228m. The aerodrome is 4.8m from the College site. Comparative observations of temp & prec were taken for the changes in site. Corrections were only significant for temp & are given on p106, vol 4. Reliability: compared with 423480, 424510 & 421650 for the years 1897-1960, 1898-1979 & 1897-1980. Record shows large trends (>1.5C) 1910-1935 & 1940-1960, & an increase of >1C in 1940 caused by a site change.

423480: JAIPUR INDIA 26.9N 75.9E 390m 1868-1960 10 1881
Sources: AI

Notes: Also known as Sanganer. AI: Means of 1/2(daily max + daily min). Alt: 1881-1950 = 1431ft, 1951-1960 = 390m. In Aug 1933 a site change occurred,

temp corrections are given on p19, vol 105. From 1959 the observatory is sited at the airport, 10 miles from the previous site. Temp corrections are given on p16, vol 4. Reliability: compared with 424510, 421650 & 422610 for the years 1898-1960, 1881-1960 & 1881-1960.

423910: DARBHANGA INDIA 26.2W 85.9E 49m 1875-1980 10 1876
Sources: AI

Notes: AI: Means of 1/2(daily max + daily min). The site moved by 4 miles in 1904 & again in 1938. At the latter date comparative observations were taken. The corrections to be applied to the earlier data to reduce these to the latter exposure are given on p101, vol 4. Alt: 49m. Reliability: compared with 424750, 425870 & 425990 for the years 1876-1980, 1893-1980 & 1893-1980.

424040: DHUBRI INDIA 26.0N 90.0E 35m 1881-1980 10 1882
Sources: AI

Notes: AI: means of 1/2(mean daily max + mean daily min). Alt changed in Mar 1882 from 36 to 35m. Reliability: compared with 424100, 425150 & 423910 for the years 1902-1980, 1903-1980 & 1881-1980.

424100: GAUHATI INDIA 26.1N 91.7E 55m 1902-1980 10 1903
Sources: AI

Notes: AI: Means of 1/2(daily max + daily min). There was a change in the location of the rain gauge & in control of rainfall registration in July 1902, but no correction was applied. Alt: 1849-1930 = 196ft, 1931-1950 = 182ft, 1951-1960 = 55m. 1962-1977; 26.1N 91.6E, alt = 54m. Reliability: compared with 424040 & 425150 for the years 1902-1980 & 1903-1980.

424510: KOTA INDIA 25.2N 75.9E 1898-1979 10 1898
Sources: AI

Notes: AI: Means of 1/2(max + min). Alt; 257m. Reliability: compared with 426710, 427540 & 429330 for the years 1898-1979.

424750: ALLAHABAD/BAMBRAULI INDIA 25.5W 81.9E 96m 1861-1980 10 1876
Sources: AI

Notes: AI: Temp; means of 1/2(daily max + daily min). Thermometer shed moved in 1886, but no corrections were made. Site changed in Oct 1939. Exposure was changed, corrections given for Oct 1939-1940 on p20, vol "1941-1950". Reliability: compared with 423910, 425870 & 425990 for the years 1876-1980, 1893-1980 & 1893-1980.

424910: PATNA INDIA 25.7N 85.3E 1868-1960 71
Sources: AI

Notes: AI: Means of 1/2(max + min). Alt; 1843-1920 = 183ft, 1921-1950 = 173ft, 1951-1960 = 53m. Reliability: compared with 423910 & 424750 for the years 1941-1960.

425150: CHERRAPUNJI INDIA 25.3N 91.8E 1872-1980 12 1903
Sources: AI

Notes: AI: Means of 1/2(daily max + daily min). There was a change in the location of the rain gauge & rainfall registration in June 1902, but no corrections have been made. Alt; 1313m. Reliability: compared with 424100, 425160 & 426190 for the years 1903-1980, 1903-1960 & 1903-1974.

425160: SBILLONG INDIA 25.6W 91.9E 1867-1960 10 1903
Sources: AI

Notes: AI: Means of 1/2(daily max + daily min). Alt; 1866-1950 = 4920ft, 1951-1960 = 1500m. There was a change in the location of the rain gauge & registration in June 1902, no corrections were made. Reliability: compared with 425150 & 424100 for the years 1903-1960.

425870: DALTOINGANJ INDIA 24.1N 84.1E 149m 1893-1980 10 1893
Sources: AI

Notes: AI: Means of 1/2(max + min). 1893-Sept 1923; alt = 223m, Sept 1923-1960 = 221m. Reliability: compared with 423910, 424750 & 429700 for the years 1893-1980, 1893-1980 & 1893-1973.

425990: DUMKA INDIA 24.3N 87.3E 149m 1880-1980 10 1893
Sources: AI

Notes: AI: Means of 1/2(daily max + daily min). Alt; 149m. No other details available. Reliability: compared with 423910 & 425870 for the years 1893-1980.

426190: SILLCHAR INDIA 24.8N 92.8E 29m 1869-1974 22 1870
Sources: AI

Notes: AI: Means of 1/2(max + min). Alt; 1875-June 1880 = 27m, July 1880-1960 = 29m. Reliability: compared with 424100, 425160, 480620 & 425990 for the years 1902-1974, 1903-1960, 1878-1974 & 1893-1974. Corrected for a discontinuity around 1956/1957 probably due to instrument or recording time change. Correction Factors: Stations used: 425990 & 424100. Calculation dates: 1902-1956 & 1957-1974. Correction dates: 1870-1956. Factors: -12 -12 -6 -8 -9 -10 -10 -7 -7 -8 -12 -16.

426470: AHMADABAD INDIA 23.0N 72.6E 1869-1980 20 1941
Sources: AI

Notes: AI: 1862-1950; Alt = 163ft. In Feb 1893 there was a change in rain gauge location & in control of rain registration, but no corrections applied. Temp; means of 1/2(max + min). Site changed in Oct 1950, new alt = 181ft. Temp corrections given on p20, vol "1941-1950". Reliability: compared with 427310, 429090 & 427540 for the years 1941-1978, 1941-1980 & 1941-1980. Corrected for a site change Oct 1950. Correction Factors: Stations used: 427310, 427540 & 429090. Calculation dates: 1941-1949 & 1951-1978. Correction dates: 1941-Sept 1950. Factors: -20 -20 -13 0 7 1 1 -2 -2 -21 -21.

- 426710: SAGAR INDIA 23.9N 78.8E 551m 1870-1980 10 1875
Sources: AI
- Notes: AI: Means of 1/2(daily max + daily min). Alt: 1880-Feb 1888 = 539m, Mar 1888-May 1896 = 537m, June 1896-1960 = 551m. In Jan 1954 the station moved 0.8 km, comparative observations were taken & temp corrections are given on p110, vol 4. Reliability: compared with 424510, 427540 & 429330 for the years 1898-1979, 1878-1980 & 1875-1980.
- 427310: DWARKA INDIA 22.4N 69.1E 11m 1901-1978 10 1901
Sources: AI
- Notes: AI: 1901-1960; 1/2(max + min). 22 22'N 69 05'E, alt = 11m. Reliability: compared with 429090 & 430570 for the years 1901-1978.
- 427340: INDORE INDIA 22.7N 75.8E 567m 1877-1980 70 1896
Sources: AI
- Notes: AI: Means of 1/2(daily max + daily min). The station moved to the Aerodrome in Aug 1949, 6 miles from the former site. Comparative observations were taken & the corrections are given on p105, vol 4. The station moved again in 1952, but conditions were identical so no corrections were made. Alt: 1877-Feb 1880 = 555m, Feb 1880-Nov 1928 = 556m, Nov 1928-Aug 1949 = 550m, Aug 1949-Dec 1951 = 561m & Jan 1952-1960 = 567m. Reliability: compared with 424510, 426710 & 429330 for the years 1896-1979, 1878-1980 & 1878-1980. Two jumps occur prior to 1896 but record is uncorrectable.
- 428070: CALCUTTA/ALIPORE INDIA 22.5N 88.4E 6m 1816-1980 10 1876
Sources: AI, A35
- Notes: AI: Alt; 6m. Means of 1/2(daily max + daily min). There was a change in the location of the rain gauge & in control of rainfall registration in April 1877, but no correction has been applied to the older readings. The station moved in Jan 1938 & temp corrections, based on comparative observations are on p19, vol 105. A35: No details available. Reliability: compared with 424750, 425870, 425990 & 429700 for the years 1876-1980, 1893-1980, 1893-1980 & 1878-1973.
- 428090: CALCUTTA/DUM DUM INDIA 22.7N 88.5E 6m 1947-1960 61
Sources: AI
- Notes: AI: Means of 1/2(daily max + daily min). Alt; 6m. Reliability: uncheckable.
- 428670: BAGPUR/SOMEGAON INDIA 21.2N 79.2E 310m 1855-1980 20 1875
Sources: AI
- Notes: AI: Means of 1/2(daily max + daily min). 1875-1940; alt = 1017ft. The station moved in July 1940 to 1022ft. Temp corrections are given on p19, vol 105. It moved again in Jan 1948, corrections are on p20, vol "1941-1950". 1951-1960; alt = 310m. Site changes occurred again in 1951, 1953 & 1954, but no corrections were considered necessary. Reliability: compared with 429330 & 431280 for the years 1875-1980 & 1893-1980.
- Corrected for a jump 1903/1904. Correction Factors: Stations used: 429330.
Calculation dates: 1875-1903 & 1904-1980. Correction dates: 1875-1903.
Factors: -9 -11 -9 -8 -2 -3 -3 -2 -5 -9 -10.
- 429090: VERAVAL INDIA 20.9N 70.4E 8m 1890-1980 10 1893
Sources: AI
- Notes: AI: Means of 1/2(max + min). 1890-Oct 1941; alt = 6m, Oct 1941-1960 = 8m. Reliability: compared with 427310 & 430570 for the years 1901-1978 & 1890-1980.
- 429330: AKOLA INDIA 20.7N 77.0E 282m 1870-1980 10 1875
Sources: AI
- Notes: AI: Means of 1/2(max + min). 1870-April 1912; alt = 283m, April 1912-1960 = 282m. Reliability: compared with 428670, 426710 & 427540 for the years 1875-1980, 1875-1980 & 1878-1980.
- 429700: CUTTACK INDIA 20.5N 85.9E 27m 1867-1973 10 1879
Sources: AI
- Notes: AI: means of 1/2(mean daily max + mean daily min). Alt; 27m. No other details available. Reliability: compared with 431490 & 428070 for the years 1869-1973 & 1879-1973.
- 430030: BOMBAY/SANTACRUZ INDIA 19.1N 72.9E 14m 1949-1960 51
Sources: AI
- Notes: AI: 1951-1960; 1/2(max + min). Station moved about 1 mile Mar 1958, from 19 05'N 72 53'E, alt = 8m, to 19 07'N 72 51'E, alt = 15m. Sites had identical exposure so comparative observations & corrections were not considered necessary. Reliability: uncheckable.
- 430410: JAGDALPUR INDIA 19.1N 82.0E 553m 1909-1980 10 1909
Sources: AI
- Notes: AI: 1/2(max + min). 1909-July 1941; State Dispensary, 19 05'N 82 02'E, alt = 553m. Station moved to Maharani Hospital July 1941, 0.5 miles away. Comparative observations were taken & corrections to reduce earlier data to the later exposure are given on p105, vol "1951-1960". Reliability: compared with 429330 & 431490 for the years 1909-1980.
- 430570: BOMBAY/COLABA INDIA 18.9N 72.9E 6m 1817-1980 10 1893
Sources: AI, A35
- Notes: AI: 1878-1960; means of 1/2(daily max + daily min). In 1931 station moved from 18 55'N 72 54'E to 18 54'N 72 49'E. From 1931 data are reduced to the old exposure by corrections given on p19, vol 105. A move may also have occurred in Feb 1928. A35: No details available. Reliability: compared with 427310 & 429090 for the years 1901-1978 & 1890-1980. Sept 1842 values are wrong & have been coded as missing.

- 430630: POONA INDIA 18.5N 73.9E 559m 1826-1980 20 1876
Sources: AI, A117
Notes: AI: Means of 1/2(daily max + daily min). Alt: 1875-June 1879; 607m, July 1879-Sept 1905; 561m, Oct 1905-Oct 1930; 563m, Nov 1930-1960; 559m. The site moved about 10 miles in Sept 1905, but no corrections were made. Another move occurred in Nov 1930, of about 9 miles, comparative observations were taken & temp corrections are given on p109, vol 4. A117: Alt: 1823ft. No other details available. Reliability: compared with 430570 for the years 1876-1980. Corrected for a site change Sept/Oct 1905. Correction Factors: Stations used: 430570. Calculation dates: 1880-1904 & 1906-1980. Correction dates: 1876-Sept 1905. Factors: -6 -11 -12 -10 -5 -3 -2 -2 -4 -6 -4.
- 431280: BEGAMPET INDIA 17.5N 78.5E 545m 1893-1980 20 1893
Sources: AI
Notes: Also known as Hyderabad. AI: 1891-May 1936; Engineer's Office; Alt: 1891-Sept 1913 = 515m, Oct 1913-June 1916 = 530m, June 1916-May 1938 = 521m. June 1938-1950; Mizamshah Observatory; alt = 542m. 1951-1960; Aerodrome, alt = 545m. Comparative observations were taken when the station moved 4.8km from the Engineer's Office to the Observatory. Corrections for the change in exposure have been applied to rain only. Temp corrections, to reduce all observations to Begampet Aerodrome, are given on p104, vol 4. Reliability: compared with 429330, 430410 & 431490 for the years 1893-1980, 1909-1980 & 1893-1980. Corrected for move to airport 1950/1951. Correction Factors: Stations used: 429330, 430410 & 431490. Calculation dates: 1909-1950 & 1951-1980. Correction dates: 1893-1950. Factors: -10 -13 -16 -14 -15 -11 -6 -8 -7 -10 -12 -9.
- 431490: VISAKHAPATNAM INDIA 17.7N 83.3E 3m 1866-1980 10 1889
Sources: AI, A78
Notes: AI: Means of 1/2(daily max + daily min). July 1899-Aug 1918; data are from Waltair, 4 miles away, no corrections made. Alt: 1888-1950 = 38ft, 1951-1960 = 3m. A78: Alt: 10m. No other details available. Reliability: compared with 430410 & 429700 for the years 1909-1980 & 1889-1973.
- 431850: MASULIPATAM INDIA 16.2N 81.2E 1863-1980 30
Sources: AI
Notes: AI: Alt: 1863-1920 = 15ft, 1921-1950 = 10ft, 1951-1960 = 3m. Means of 1/2(max + min). Reliability: compared with 432790 & 431490 for the years 1941-1980. Record has several jumps & a trend of over 2.5C.
- 431920: GOA/PANJIM INDIA 15.5N 73.8E 57m 1964-1980 61
Sources: AI
Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.
- 431970: BELGAUM INDIA 15.9N 74.7E 1856-1975 62
Sources: AI
Notes: AI: 1856-1950; alt = 2562ft, 1951-1960 = 753m. Temp: means of 1/2(max + min). In Feb 1955 the observatory was transferred to a new site 2.4km from the previous location. Comparative observations were taken. The corrections to be applied to earlier data are given on page 99 of the source. Reliability: uncheckable.
- 432790: MADRAS/MINAMBAKKAM INDIA 13.1N 80.3E 16m 1796-1980 10 1875
Sources: AI, A35
Notes: AI: Means of 1/2(daily max + daily min). Alt: 1875-1950 = 22ft, 1951-1960 = 16m. The station moved in April 1932, temp corrections are given on p19, vol 105. It moved again in Sept 1963, to the aerodrome. Temp corrections for after this date are given on p19, vol "1941-1950". All data prior to Sept 1943 are corrected using previous corrections, vol 105. A35: No details available. Reliability: compared with 432950 & 433630 for the years 1875-1980 & 1891-1980. April 1807 & May 1856 values are much too cold & have been coded as missing.
- 432830: MANGALORE INDIA 12.9N 74.9E 1853-1980 10 1941
Sources: AI
Notes: AI: Alt: 1853-1950 = 72ft, 1951-1960 = 22m. Means of 1/2(max + min). Reliability: compared with 433110, 433510 & 433690 for the years 1941-1960, 1941-1975 & 1941-1980.
- 432950: BANGALORE INDIA 13.0N 77.6E 921m 1837-1580 10 1875
Sources: AI
Notes: AI: Site moved in Jan 1894, alt changed from 3019ft to 3021ft, but no other details are given, nor any corrections made. Temp: means of 1/2(daily max + daily min). In Dec 1960 alt changed to 921m. Site changed in July 1936, temp corrections are given on p19, vol 105. Reliability: compared with 432790 & 433630 for the years 1875-1980 & 1891-1980.
- 433110: AMINI INDIA 11.1N 72.8E 4m 1892-1960 20 1892
Sources: AI
Notes: AI: Means of 1/2(daily max + daily min). 1892-1950; alt = 13ft. 1951-1970; Government Dispensary, 11 07' N 72 44' E, alt = 4m. Reliability: compared with 432830, 433510 & 433690 for the years 1941-1960, 1892-1960 & 1931-1960. Corrected for a jump 1945/1946. Correction Factors: Stations used: 433510. Calculation dates: 1890-1945 & 1946-1960. Correction dates: 1892-1945. Factors: 17 23 22 19 12 12 11 16 17 20 17.
- 433330: FORT BLAIR INDIA 11.7N 92.8E 79m 1868-1980 10 1876
Sources: AI
Notes: AI: Means of 1/2(daily max + daily min). In Jan 1939 the station moved from 11 41' N 92 45' E, alt = 59ft, to 11 40' N 92 43' E, alt = 261ft. Rainfall data from 1939 on refer to the old site & temp corrections are

- given on p19, vol 105. There was a change in the site of the rain gauge in Jan 1939 & corrections are given on p41, vol "1941-1950". 1931-1960; 11 40°N 92 43°E, alt = 79m. Reliability: compared with 480620 & 480970 for the years 1878-1980 & 1876-1980.
- 433390: KODAKIMAL INDIA 10.2N 77.5E 2343m 1900-1960 70 1908**
Sources: A1
- Notes: A1: 1/2(max + min). 1899-1931; 10 13'N 77 32'E, alt = 7688ft. 1932-1950; 10 14'N 77 28'E, alt = 7688ft. Corrections to reduce temp to old site are given on p19, vol 105, 1951-1960; Astrophysical Observatory, 10 14'N 77 28'E, alt = 2343m. Reliability: compared with 433510, 433630 & 433710 for the years 1900-1960. Pre-1908 record is too cold.
- 433510: FORT COCHIN INDIA 10.0N 76.3E 3m 1842-1973 10 1891**
Sources: A1, A17
- Notes: A1: 11075-1920; alt = 9ft. 9 58'N 76 17'E. Means of (hour not given). 1921-1960; means of 1/2(daily max + daily min). 1931-1940; site = 9 58'N 76 14'E. 1951-1960; alt = 3m. A17: 20ft. No other details available. Reliability: compared with 433630 for the years 1891-1973.
- 433630: PANBAN INDIA 9.3N 79.3E 11m 1891-1980 10 1892**
Sources: A1
- Notes: A1: Means of 1/2(max + min). Alt; 11m. Reliability: compared with 433710, 434660 & 434730 for the years 1891-1980, 1891-1980 & 1891-1960. Value in 1956 & 1957 are rather cold but have not been changed.
- 433690: MINICOT INDIA 8.3N 72.8E 1891-1980 20 1931**
Sources: A1
- Notes: A1: 1891-1950; alt = 9ft. 1931-1950; 1/2(daily max + daily min). Site changed in Jan 1941, corrections to reduce temp to old site are given on p41, vol "1941-1950". 1951-1960; 81 08'N 73 00'E, alt = 2m. 1961-1970; alt = 1m. Reliability: compared with 433510, 433110, 432830 & 433710 for the years 1931-1973, 1931-1960, 1941-1980 & 1931-1980. Corrected for a jump 1950/1951. Correction Factors: Stations used: 433510 & 433710. Calculation dates: 1931-1950 & 1951-1973. Correction dates: 1931-1950. Factors: -9 -8 -6 -8 -3 -2 -3 -2 -4 -4 -8 -6.
- 433710: TRIVANDRUM INDIA 8.5N 77.0E 64m 1837-1980 20 1837**
Sources: A1, A35, A117
- Notes: A1: Means of 1/2(daily max + daily min). Alt; 1853-Sept 1931 = 60m, Sept 1931-1960 = 64m. A35: No details available. A117: Alt; 130ft. No other details available. Reliability: compared with 434660, 433510 & 433630 for the years 1853-1980, 1875-1973 & 1891-1980. 1890/1891 value too cold & have been coded as missing. Corrected for a site move Sept 1931. Correction Factors: Stations used: 434660, 433510 & 433630. Calculation dates: 1910-1910 & 1932-1973. Correction dates: 1837-Aug 1931. Factors: 9 8 5 4 3 5 7 6 10 11.
- 434130: HAMBAR SRI LANKA 9.0N 79.9E 3m 1951-1980 12 1966**
Sources: A1
- Notes: A1: 1951-1960; 1/2(max + min). 8 59'N 79 55'E, alt = 4m. Reliability: compared with 434180 & 434660 for the years 1951-1980. Record shows probable site move after 1960 but is too short to correct.
- 434180: TRINCOMALEE SRI LANKA 8.6N 81.2E 7m 1865-1980 70 1920**
Sources: A1, A7
- Notes: A1: Means of 1/2(daily max + daily min). Alt; 1869-1940 = 99ft, 1941-1950 = 24ft, 1951-1960 = 7m. In 1928 thermometer screens replaced the open sheds, data for 1921-1927 are corrected to screen levels by 1.9 to 0.7F. A7: Temp; means of 1/2(max + min). Observations were also taken at same time as Press; 1/2(09 + 15), corrected for index error & reduced to 32F, but not to mean sea level. No corrections for gravity have been made. Alt; 8m. Reliability: compared with 434660 & 434730 for the years 1865-1980 & 1866-1960.
- 434660: COLOMBO SRI LANKA 6.9N 79.9E 6m 1853-1980 20 1853**
Sources: A1, A7
- Notes: A1: Means of 1/2(daily max + daily min). Prior to 1910 the station was 3 miles from the present site, no details of any corrections are given. Temp from 1921-1927 have been corrected to equivalent screen values, by means of tables compiled from direct simultaneous comparisons between shed & screen readings. In 1928, large Stevenson screens replaced original open sheds giving systematically lower values. Alt; 6m. A7: Temp; 1/2(max + min). Press; 1/2(0930 + 1530), corrected for index error & reduced to 32F, but not to mean sea level. No correction for gravity. 0930 & 1530 temp also available. Reliability: compared with 434730 & 433710 for the years 1866-1960 & 1853-1980. Corrected for site change 1909/1910. Correction Factors: Stations used: 434730 & 433710. Calculation dates: 1895-1909 & 1910-1930. Correction dates: 1853-1909. Factors: -8 -9 -9 -6 -7 -5 -6 -8 -7 -5 -9 -6.
- 434730: NUWARA ELIYA SRI LANKA 7.0N 80.8E 1880m 1866-1960 20 1866**
Sources: A1, A7
- Notes: A1: Means of 1/2(daily max + daily min). Alt; 1869-1920 = 6188ft, 1921-1950 = 6170ft, 1951-1960 = 1895m. Temp values, 1921-1928, have been corrected to equivalent screen values, by means of tables based on comparisons between shed & screen readings (the latter give lower readings than the former sheds). A7: Temp; 1/2(max + min). Observations were also taken at same time as Press; 1/2(09 + 15) corrected for index error & reduced to 32F but not to MSL. No correction for gravity is applied. Alt; 1890m. Reliability: compared with 434660, 433630, 434180 & 434970 for the years 1866-1960, 1891-1950, 1866-1960 & 1921-1960. Corrected for a possible station move Aug 1952. Correction Factors: Stations used: 434660, 434180 & 434970. Calculation dates: 1921-1951 & 1953-1960. Correction dates: 1866-July 1952. Factors: 4 9 2 3 2 2 6 2 4 5 3 3.

434970: BANBANTOTA SRI LANKA 6.1N 81.1E 20m 1921-1980 10 1921
Sources: A1

Notes: A1: 1951-1960; 1/2(max + min). 6 07'N 81 08'E, alt = 19m. Reliability: compared with 434660 & 434180 for the years 1921-1980.

435440: LIIH KASHMIR INDIA 34.2N 77.7E 3514m 1876-1968 10 1882
Sources: A1

Notes: A1: Alt: 1875-1950 = 11,529ft, 1951-1960 = 3514m. Means of 1/2(daily max + daily min). The site changed in Jan 1951, no corrections were made. Reliability: compared with 428270 & 420990 for the years 1893-1968 & 1882-1968.

442920: URGA USSR 47.9N 106.9E 1325m 1869-1909 60
Sources: A48

Notes: A48: Alt: 1325m. No other details available. Reliability: uncheckable.

444540: KATHMANDU NEPAL 27.7N 85.2E 1324m 1951-1977 62
Sources: A1

Notes: A1: 1951-1960; 1/2(max + min). 1951-1957: 27 47'N 85 21'E, alt = 1337m. 1958-1960; 27 42'N 85 20'E, alt = 1324m. Comparative observations not taken as station only moved a few hundred yards. Reliability: uncheckable.

450050: HONG KONG/ROYAL OBS. HONG KONG 22.3N 114.2E 33m 1853-1980 20 1853
Sources: A1, A3, A7, A93

Notes: A1: 1884-1920; means of (hours not given). Alt: 33m. 1921-1960; means of 24 hours. A3: Alt: 32m. No other details available. A7: Means of 1/2(max + min). Press: 1853-1862, 1/2(0930 + 1530). 1865-1882, 1/2(09 + 15). Corrected for index error & reduced to 327, but not to mean sea level. No correction for gravity is made. Temp is also read at same time as press. A93: No details available. Reliability: compared with 450110, 593160, 593457 & 594310 for the years 1931-1980, 1924-1980, 1897-1944 & 1922-1980. Corrected for discontinuity 1961/1962; one months missing data is only evidence of a site change. Correction Factors: Stations used: 450110. Calculation dates: 1949-1961 & 1962-1980. Correction dates: 1853-1961. Factors: 8 7 5 7 5 7 7 10 5.

450110: MACAO MACAO 22.2N 113.6E 59m 1910-1980 12 1931
Sources: A1

Notes: A1: 1951-1960; 1/2(max + min). 22 12'N 113 33'E, alt = 66m. Reliability: compared with 450050, 593160, 593457 & 594310 for the years 1931-1980, 1931-1980, 1931-1944 & 1931-1980. 1941-1948 too cold, by about 1C, has been coded as missing.

464710: TAINAN TAIWAN 23.0N 120.2E 14m 1897-1960 10 1898
Sources: A1, A4

Notes: A1: Alt: 14m. 1945-1947; 1/3(06 + 14 + 22) 120E meridian time. 1948-1950; Means of 24 hours. 1951-1960; 1/3(06 + 14 + 21). A4: Alt: 13m. 1897-1940; 1/6(02 + 06 + 10 + 14 + 18 + 22)JST. 1941-1952; 1/3 (06 + 14 + 22)JST. Reliability: compared with 466920 & 467490 for the years 1897-1960.

466920: TAIPEI TAIWAN 25.0N 121.5E 9m 1897-1972 10 1897
Sources: A1

Notes: Also known as Taibohu. A1: 1897-1920; means of (hours not given). 1921-1945; means of 24 hourly observations, 120E meridian time. 1946-1950; 1/3(06 + 14 + 22). 1951-1960; 1/3(06 + 14 + 21) 120E meridian time. Alt: 9m. Reliability: compared with 464710, 467490 & 479180 for the years 1897-1960, 1897-1960 & 1897-1972.

466990: HUALIEN FORMOSA 24.0N 121.6E 19m 1951-1963 61
Sources: A1

Notes: A1: 1951-1960; means of observations taken at 06, 14 & 21h 120E meridian time. 23 58'N 121 37'E, alt = 19m. Reliability: uncheckable.

467330: AMOY CHINA 24.4N 118.1E 5m 1912-1942 10 1915
Sources: A1

Notes: A1: 1951-1960; 24 26'N 118 04'E, alt = 5m. No other details available. Reliability: compared with 464710 & 466920 for the years 1915-1942.

467350: PENGHU FORMOSA 23.5N 119.6E 11m 1951-1966 61
Sources: A1

Notes: A1: 1951-1960; means of observations taken at 06, 14 & 21h 120E meridian time. 23 32'N 119 33'E, alt = 11m. Reliability: uncheckable.

467490: TAIPEI TAIWAN 24.2N 120.7E 85m 1897-1960 12 1897
Sources: A1, A4

Notes: A1: Alt: 85m. Means of 1/3(06 + 14 + 21) 120E meridian time. A4: Alt: 77m. 1897-1939; 1/6(02 + 06 + 10 + 14 + 18 + 22)JST. 1940-1952; 1/3(06 + 14 + 22)JST. Reliability: compared with 464710 & 466920 for the years 1897-1960.

467590: NINGCHUN FORMOSA 22.0N 120.8E 24m 1951-1964 61
Sources: A1

Notes: A1: 1951-1960; means of observations taken at 06, 14 & 21h 120E meridian time. 22 00'N 120 45'E, alt = 24m. Reliability: uncheckable.

470580: PYONGYANG KOREA 39.0N 125.8E 29m 1907-1944 10 1907
Sources: AI

Notes: AI: 1907-1915; 1/3(06 + 14 + 22). 1916-1939; 1/6(02 + 06 + 10 + 14 + 18 + 22). 1940-1944; 1/3(06 + 14 + 22) 135E meridian time. 39 01'N 125 49' E. 1907-May 1911; alt - 30m, June 1911-1925; 48m, 1926-1942; 57m, 1943-1944; 29m. Reliability: compared with 471120 for the years 1907-1944.

471050: KANGRUING KOREA 37.8N 128.9E 27m 1951-1980 10 1952
Sources: AI

Notes: AI: 1951-1960; 1/3(06 + 14 + 22) GMT. 37 45'N 128 54'E, alt = 27m. Reliability: compared with 471100 & 471120 for the years 1954-1980 & 1951-1980. Feb 1974 value changed to -03.

471100: SEOUL CITY/AP KOREA 37.6N 126.8E 18m 1954-1980 10 1954
Sources: AI

Notes: AI: 1/3(06 + 14 + 22) GMT. No other details available. Reliability: compared with 471050 & 471120 for the years 1954-1980.

471120: INCHON KOREA 37.5N 126.6E 70m 1887-1980 10 1905
Sources: AI, A93

Notes: AI: Also known as Chemulpo. 1905-1940; alt = 68m. 1921-1940; 1/6(02 + 06 + 10 + 14 + 18 + 22) 135E meridian time. 1941-1950; 1/3(06 + 14 + 22) 135E meridian time. Alt; 70m. 1951-1960; 1/3(06 + 14 + 22) GMT. Alt; 70m. A93: Alt; 1887-1899 = 14m, 1900-1923 = 2m. No other details available. Reliability: compared with 470580 & 471050 for the years 1907-1944 & 1905-1980. Feb 1974 value has been changed to -22 & Jan 1972 to 03.

471150: ULLUNGDO KOREA 37.5N 130.9E 223m 1941-1960 11 1941
Sources: AI

Notes: AI: 1941-1950; 37 29'N 130 54'E, alt = 229m. 1/3(06 + 14 + 22) 135E meridian time. 1951-1960; 1/3(06 + 14 + 22) GMT. Alt = 223m. Reliability: compared with 471430 for the years 1941-1960.

471430: TAEGU ARTCC (RIST) KOREA 35.9N 128.6E 61m 1907-1960 70 1916
Sources: AI

Notes: AI: 1907-1915; 1/3(06 + 14 + 22). 1916-1939; 1/6(02 + 06 + ...22). 1940-1944; 1/3(06 + 14 + 22) 135E meridian time. 1907-Sept 1914; alt = 39m, Oct 1914-1915; 42m. 1916-1928; 52m. 1929-1936; 53m. 1937-1950; 55 53'N 128 37'E, alt = 61m. 1951-1960; 1/3(06 + 14 + 22) GMT. Reliability: compared with 471050 & 478000 for the years 1907-1960. A possible jump occurs 1915/1916 but is uncorrectable.

471590: PUSAN KOREA 35.1N 129.0E 71m 1966-1980 62
Sources: AI

Notes: AI: 1/3(06 + 14 + 22) GMT. No other details available. Reliability: uncheckable.

471650: MOKPO KOREA 34.8N 126.4E 56m 1905-1980 10 1905
Sources: AI

Notes: AI: 1904-April 1906; alt = 8m. May-Aug 1906; 14m. Sept 1906-1928; 28m. 1929-1950; 34 47'N 126 23'E, alt = 33m. 1904-Mar 1908; 1/6(02 + 06 + ...22). April 1908-1915; 1/3(06 + 14 + 22). 1916-1939; 1/6(02 + 06 + ...22). 1940-1950; 1/3(06 + 14 + 22) 135E meridian time. 1951-1960; alt = 31m. Reliability: compared with 478000 for the years 1905-1980.

474010: WAKKANAI JAPAN 45.4N 141.7E 3m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1960; 45 25'N 141 41'E, alt = 3m. 1951-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + ...21) 135E meridian time. Reliability: compared with 474070 for the years 1951-1980. Feb 1980 replaced with -71.

474040: HABORO JAPAN 44.4N 141.7E 1951-1960 61
Sources: AI

Notes: AI: 1951-1960; 44 22'N 141 42'E, alt = 9m. 1951-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + ...21) 135E meridian time. Reliability: uncheckable.

474070: ASAHIRAWA JAPAN 43.8N 142.4E 116m 1889-1980 80
Sources: AI, A4

Notes: AI: 1951-1960; alt = 113m. 1951-1952; means of 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) 135E meridian time. A4: 1888-1940; means of 1/6(02 + 06 + 10 + 14 + 18 + 22) JST. 1940-1952; 1/3(06 + 14 + 22) JST. Alt = 113m. Reliability: compared with 474090, 474120 & 474200 for the years 1890-1980, 1889-1980 & 1889-1980. Warning trend of about 1C over the whole record length, possibly urban warming. Could also be due to several height & observing time changes.

474090: ABASHIRI JAPAN 44.0N 144.3E 39m 1890-1980 10 1890
Sources: AI, A4

Notes: AI: Temp; 1951-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) 135E meridian time. Alt; 1951-July 1953 = 39m, Aug 1953-Dec 1953 = 38m, Jan 1954-Dec 1960 = 39m. A4: Temp; 1890-Dec 1939; 1/6(02 + 06 + 10 + 14 + 18 + 22) JST, Jan 1940-1952; 1/3(06 + 14 + 22) JST. Alt; 38m. Reliability: compared with 474070 & 474200 for the years 1890-1980.

- 474120: SAPPORO JAPAN 43.1W 141.4E 18m 1889-1980 20 1889
Sources: AI
- Notes: AI: 1889-July 1890; means of 24 hours. Aug 1890-June 1939; 1/6(02 + 06 + 10 + 14 + 18 + 22). July 1939-1950; means of 24 hours, 135E meridian time. Site; 1889-July 1890; 43 04'N 141 23'E, alt = 18m. Aug 1890-June 1939; 43 04'N 141 22'E, alt = 17m. July 1939-1960; 43 03'N 141 20'E, alt = 18m. 1951-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) 135E meridian time. Reliability: compared with 474070, 474090 & 474200 for the years 1889-1980, 1890-1980 & 1889-1980. Corrected for a site change around June 1939. Correction Factors: Stations used: 474090, 474200 & 475820. Calculation dates: 1900-1938 & 1940-1970. Correction dates: 1889-June 1939. Factors: 6 7 5 5 6 7 8 6 4 4 4 6.
- 474200: MEMURO JAPAN 43.3N 145.6E 26m 1880-1980 10 1880
Sources: AI, A4
- Notes: AI: 1884-1922; means of 24 hours. Alt = 27m. 1923-1949; 1/6(02 + 06 + 10 + 14 + 18 + 22) 135E meridian time. 1950-1952; 1/3(06 + 14 + 22) 135E meridian time. 1951-1960; Alt = 26m. 1953-1960; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) 135E meridian time. A4: Alt; 26m. No other details available. Reliability: compared with 474090 for the years 1890-1980.
- 474260: URAKAWA JAPAN 42.2N 142.8E 34m 1951-1980 10 1951
Sources: AI
- Notes: AI: 1951-Nov 1954; 42 10'N 142 47'E, alt = 35m. Dec 1954-1960; alt = 34m. 1951-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + ...21) 135E meridian time. Reliability: compared with 474120 for the years 1951-1980.
- 474300: HAKODATE JAPAN 41.8N 140.8E 36m 1875-1960 20 1875
Sources: AI, A4
- Notes: AI: Alt; 36m. 1951-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) 135E meridian time. A4: Alt; 33m. 1875-May 1878; 1/3(09 + 15 + 21) local time. June 1878-1882; 1/3(07 + 14 + 21) local time. 1883-1885; 1/3(06 + 14 + 21) Kyoto Time. 1886-1887; 1/6(02 + 06 + 10 + 14 + 18 + 22) Kyoto time. 1888; 1/6(02 + 06 + 10 + 14 + 18 + 22) JST. 1889-1934; 1/24(01 + 02 + ... 24) JST. 1935-1937; 1/6(02 + 06 + 10 + 14 + 18 + 22) JST. 1938-1952; 1/3(06 + 14 + 22) JST. Reliability: compared with 475820 & 475850 for the years 1886-1960 & 1883-1960. Corrected for a jump 1940/1941. Correction Factors: Stations used: 475820, 475850 & 474090. Calculation dates: 1890-1940 & 1941-1960. Correction dates: 1875-1940. Factors: -17 -18 -12 -5 0 2 2 -8 -9 -10 -13.
- 475750: AOHORI JAPAN 40.9N 140.7E 3m 1886-1960 20 1886
Sources: AI, A4
- Notes: AI: 1951-1952; means of 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) 135E meridian time. Between June 1939 & 1955 the station moved from 40 49'N 140 47'E, alt 5m, to 40 51'N
- 140 42'E, alt = 4m. A4: Alt; 3m. 1886-1939; 1/6(02 + 06 + 10 + 14 + 18 + 22) JST. 1939-1951; 1/3(06 + 14 + 22) JST. Reliability: compared with 475820 & 475850 for the years 1886-1960. Corrected for a discontinuity 1927/1928. Correction Factors: Stations used: 475820 & 475850. Calculation dates: 1886-1927 & 1928-1960. Correction dates: 1886-1927. Factors: -5 -5 -4 -2 -1 -4 -4 -6 -5 -6 -4 -1.
- 475820: AKITA JAPAN 39.7N 140.1E 10m 1886-1980 10 1886
Sources: AI
- Notes: AI: 1886-Nov 1896; 39 42'N 140 07'E, Dec 1896-Oct 1926; 39 41'N 140 06'E. 1886-May 1939; 1/6(02 + 06 + 10 + 14 + 18 + 22). June 1939-1952; 1/3(06 + 14 + 22), 1953-1960; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21). AI observations taken at 135E meridian time. Reliability: compared with 475850 & 475920 for the years 1886-1980 & 1888-1960.
- 475850: MIYAKO JAPAN 39.6N 142.0E 47m 1883-1980 10 1886
Sources: AI
- Notes: AI: 1884-1920; means of (hours not given). Alt; 30m. 1921-1938; 1/6(02 + 06 + 10 + 14 + 18 + 22) 135E meridian time. 1939-1952; 1/3(06 + 14 + 22) 135E meridian time. Alt; 47m. 1953-1960; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) 135E meridian time. Reliability: compared with 475820 & 475920 for the years 1886-1980 & 1888-1960.
- 475900: SENDAI JAPAN 38.3N 140.9E 40m 1951-1980 10 1951
Sources: AI
- Notes: AI: 1951-1960; 38 16'N 140 54'E, alt = 40m. 1951-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + ...21) 135E meridian time. Reliability: compared with 475820 & 475850 for the years 1951-1980.
- 475920: ISHINOMAKI JAPAN 38.4N 141.3E 45m 1888-1960 10 1888
Sources: AI, A4
- Notes: AI: Alt; 45m. 1951-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) 135E meridian time. A4: Alt; 43m. 1888-1936; 1/6(02 + 06 + 10 + 14 + 18 + 22) JST. 1937-1952; 1/3(06 + 14 + 22) JST. Reliability: compared with 475820 & 475850 for the years 1888-1960.
- 476000: WAJIMA JAPAN 37.4N 136.9E 6m 1930-1980 70
Sources: AI
- Notes: AI: 1930-1939; means of 24 hours. 1940-1950; 1/3(06 + 14 + 22) 135E meridian time. 37 23'N 136 54'E, alt = 7m. 1953-1960; 1/8(00 + 03 + ...21) 135E meridian time. Reliability: compared with 476180 & 476050 for the years 1930-1980 & 1951-1980. A change in observation time causes a jump of about 0.25C 1939/1940.

476040: NIIGATA JAPAN 37.9N 139.1E 7m 1886-1980 20 1886
Sources: AI, A4

Notes: AI: Alt.; 4m. 1951-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) 135E meridian time. 1953-1960; 1886-1887; 1/6(02 + 06 + 10 + 14 + 18 + 22) Kyoto Time. 1888-1914; as above, but time is JST. 1915-1924; 1/24(01 + 02 + ... 24) JST. 1925-1940; 1/6(02 + 06 + 10 + 14 + 18 + 22) JST. 1941-1952; 1/3(06 + 14 + 22) JST. Alt.; 2m. Reliability: compared with 475820, 475920, 476180 & 476240 for the years 1886-1980, 1888-1960, 1889-1980 & 1897-1980. Correction Factors: Stations used: 475820, 475920, 476180 & 476240. Calculation Dates: 1900-1938 & 1939-1940. Correction Dates: 1886-1938. Factors: -5 -4 -3 -1 0
1 -1 -4 -3 -1 -1.

476050: KANAZAWA JAPAN 36.6N 136.7E 28m 1886-1980 10 1951
Sources: AI, A4

Notes: AI: Alt.; 29m. 1951-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) 135E meridian time. 1953-1960; 27m. No other details available. Reliability: compared with 476180 & 476000 for the years 1951-1980.

476180: MATSUMOTO JAPAN 36.2N 138.0E 61m 1898-1980 10 1898
Sources: AI

Notes: AI: 1898-1934; 36 14'N 137 59'E, alt = 562m. 1898-1938; 1/6(02 + 06 + 10 + 14 + 18 + 22). 1935-1960; alt = 611m. 1939-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) 135E meridian time. Reliability: compared with 476240 for the years 1898-1980.

476240: MAEBASHI JAPAN 36.4N 139.1E 113m 1897-1980 10 1897
Sources: AI, A4

Notes: AI: Alt.; 113m. 1951-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) 135E meridian time. A4: Alt.; 112m. 1899-1911; 1/6(02 + 06 + 10 + 14 + 18 + 22) JST. 1921-1925; 1/24(01 + 02 + ... 24) JST. 1926-1939; 1/6(02 + 06 + 10 + 14 + 18 + 22) JST. 1940-1952; 1/3(06 + 14 + 22) JST. Reliability: compared with 476180 & 476480 for the years 1898-1980 & 1897-1980.

476360: HAGOYA JAPAN 35.2N 137.0E 56m 1891-1980 20 1891
Sources: AI, A4

Notes: AI: Alt.; 56m. 1951-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) 135E meridian time. A4: Alt.; 52m. No other details available. Reliability: compared with 476540 & 477590 for the years 1891-1960. Correction Factors: compared with 476540 & 477590 for the years 1891-1960. Correction Factors: Stations used: 476540 & 477590. Calculation Dates: 1891-1922 & 1923-1960. Correction Dates: 1891-1922. Factors: -6 -6 -5 -4 -5 -4 -6 -4 -6 -6 -6 -7.

476480: CHOSHI JAPAN 35.7N 140.8E 28m 1887-1980 10 1897
Sources: AI, A4

Notes: AI: Alt.; 28m. 1951-1952; 1/3(06 + 14 + 22), 135E meridian time. 1953-1960; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21), 135E meridian time. A4: Alt.; 27m. 1887; 1/6(02 + 06 + 10 + 14 + 18 + 22), Kyoto Time. 1888-Dec 1911; Means as above, but time is JST. 1912-Dec 1930; 1/24(01 + 02 + ... 24), JST. Jan 1931-1952; 1/3(06 + 14 + 22), JST. Reliability: compared with 476240 for the years 1897-1980.

476540: HAMAMATSU JAPAN 34.7N 137.7E 32m 1882-1960 10 1891
Sources: AI, A4

Notes: AI: Alt.; 33m. 1951-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) 135E meridian time. A4: Alt.; 32m. 1882-June 1884; 1/3(06 + 14 + 22) local time. July 1884-1885; 1/3(06 + 14 + 21) local time. 1886-1930; 1/6(02 + 06 + 10 + 14 + 18 + 21) JST. 1931-1952; 1/3(06 + 14 + 22) JST. Reliability: compared with 476360 & 477780 for the years 1891-1960 & 1913-1960. 1950 values wrong & have been coded as missing.

476550: ONAEZAKI JAPAN 34.6N 138.2E 47m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1960; 34 36'N 138 13'E, alt = 47m. 1951-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + ... 21) 135E meridian time. Reliability: compared with 476780 & 477780 for the years 1951-1980.

476720: TOKYO JAPAN 35.8N 139.8E 36m 1876-1980 20 1887
Sources: AI

Notes: AI: 1876; 1/4(0930 + 2130 + max + min), Alt = 21m. 1877-1885; 1/8(03 + 06 + 09 + 12 + 15 + 18 + 21 + 24). 1886-1949; means of 24 hourly observations, 135E meridian time. Alt = 6m. 1950-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) 135E meridian time. Reliability: compared with 476240 & 476480 for the years 1897-1980 & 1887-1980. Corrected for discontinuities 1925/1926 & 1965/1966, probably associated with site changes. Correction Factors: Stations used: 476240 & 476480. Calculation Dates: 1897-1925 & 1966-1980, 1926-1965 & 1966-1980. Correction Dates: 1867-1925, 1926-1965. Factors: i) 17 12 13 9 6 7 10 8 11 15 17. ii) 10 8 7 4 3 2 1 2 2 6 11 13.

476700: YOKOHAMA JAPAN 35.4N 139.3E 2m 1863-1869 60
Sources: AJ1

Notes: AJ1: 1/2(max + min). 35 26'N 139 39'E. Alt varied from 2-10'. No other details available. Reliability: uncheckable.

476780: BACHIJUJIMA JAPAN 33.1N 139.8E 01m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1960; 33 06'N 139 47'E, alt = 81m. 1951-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + ... 21) 135E meridian time.

- Reliability: compared with 476550 & 477780 for the years 1951-1980.
- 477410:** MATSUE JAPAN 35.5N 133.1E 1951-1960 61
Sources: A1
- Notes: A1: 1951-1960; 35 27'N 133 04'E, alt = 19m. 1951-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + ...21) 135E meridian time. Reliability: uncheckable.
- 477440:** YONAGO JAPAN 35.4N 133.4E 8m 1940-1980 10 1940
Sources: A1
- Notes: A1: 1940-1949; means of 24 hours. 1950; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + ...21) 135E meridian time. A4: Alt; 19m. 1893-1938; 1/6(02 + 06 + 10 + 14 + 18 + 22) JST. 1939-1952; 1/3(06 + 14 + 22) JST. Reliability: compared with 477650 for the years 1940-1980.
- 477550:** HAMADA JAPAN 34.9N 132.1E 20m 1893-1960 10 1893
Sources: A1, A4
- Notes: A1: Alt; 20m. 1951-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + ...21) 135E meridian time. A4: Alt; 19m. 1893-1938; 1/6(02 + 06 + 10 + 14 + 18 + 22) JST. 1939-1952; 1/3(06 + 14 + 22) JST. Reliability: compared with 477650 for the years 1893-1960.
- 477590:** KYOTO JAPAN 35.0N 135.7E 43m 1881-1960 10 1890
Sources: A1
- Notes: A1: Alt; 43m. 1881-1939; 1/6(02 + 06 + 10 + 14 + 18 + 22). 1940-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + ...21) 135E meridian time. Reliability: compared with 477780. 477720 & 476360 for the years 1913-1960, 1883-1960 & 1891-1960. 1950 values are wrong, & 1951 & 1952 values suspect, so have all been coded as missing.
- 477620:** SHIMONESEKI JAPAN 34.0N 130.9E 48m 1886-1960 10 1887
Sources: A1, A4
- Notes: A1: Alt; 48m. 1951-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + ...21) 135E meridian time. A4: 1886; 1/6(02 + 06 + 10 + 14 + 18 + 22) Kyoto Time. 1887-1907; as above, but time is JST. 1908-1939; 1/24(01 + 02 + ... 24) JST. 1940-1952; 1/3(06 + 14 + 22) JST. Alt; 46m. Reliability: compared with 478070 & 478000 for the years 1890-1960 & 1887-1960.
- 477650:** BIROSHIMA JAPAN 34.4N 132.4E 30m 1879-1980 20 1879
Sources: A1, A4
- Notes: A1: Alt; 30m. 1951-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + ...21) 135E meridian time. A4: Alt; 29m. 1879-1883; 1/4(0930 + 2130 + max + min) local time. 1884-1885; 1/3(06 + 14 + 22) Kyoto Time. 1886-June 1888; 1/6(02 + 06 + 10 + 14 + 18 + 22) Kyoto Time. July 1888-1938; 1/24(01 + 02 + ... 24) JST. 1939-1943; 1/3(06 + 14 + 22) JST. Reliability: compared with 477550, 478150 & 478930 for the years 1893-1960, 1887-1980 & 1883-1980. Correction factors: 477550, 478150 & 478930. Calculation dates: 1893-1934 & 1935-1960. Correction dates: 1879-1934. Factors: 1 -2 -2 -5 -6 -4 -4 -6 -3 -1 0.
- 477720:** OSAKA JAPAN 34.7N 135.5E 50m 1883-1980 10 1890
Sources: A1, A4
- Notes: A1: 1951-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) 135E meridian time. Alt; 50m. A4: Alt; 7m. No other details available. Reliability: compared with 477780, 477590 & 476360 for the years 1913-1980, 1883-1960 & 1891-1980.
- 477780:** SHIONONISAKI JAPAN 33.5N 135.8E 75m 1913-1980 20 1913
Sources: A1
- Notes: A1: 1951-1960; 33 27'N 135 46'E, alt = 75m. 1951-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + ...21) 135E meridian time. Reliability: compared with 476360, 477590 & 477720 for the years 1913-1980, 1913-1960 & 1913-1980. Correction factors: Stations used: 476360 & 477720. Calculation dates: 1923-1960 & 1961-1980. Correction dates: 1913-1960. Factors: -7 -5 -5 -7 -6 -4 -3 -2 -3 -3 -6 -8.
- 478000:** IZUBARA JAPAN 34.2N 129.3E 22m 1886-1980 10 1887
Sources: A1, A4
- Notes: A1: Alt; 22m. 1951-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) 135E meridian time. A4: Alt; 21m. 1886-1887; 1/6(02 + 06 + 10 + 14 + 18 + 22) Kyoto Time. 1888-1938; 1/6(02 + 06 + 10 + 14 + 18 + 22) JST. 1939-1952; 1/3(06 + 14 + 22) JST. Reliability: compared with 471650 & 477620 for the years 1905-1980 & 1887-1960.
- 478070:** FUKUOKA JAPAN 33.6N 130.4E 14m 1890-1980 20 1890
Sources: A1
- Notes: A1: 1890-April 1896; 1/6(02 + 06 + 10 + 14 + 18 + 22). May 1896-Dec 1949; means of 24 hourly observations. 1950-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) 135E meridian time. Site; 1890-Jan 1909 & 1939-1960; 33 35'N 130 23'E, alt = 4m. Feb 1909-1938; 33 35'N 130 25'E, alt = 6m. Reliability: compared with 478000 for the years 1890-1980. Corrected for a discontinuity 1960/1961. Correction factors: Stations used: 478000. Calculation dates: 1890-1960 & 1961-1980. Correction dates: 1890-1960. Factors: 6 7 11 10 7 8 9 11 11 8.
- 478150:** OITA JAPAN 33.2N 131.6E 6m 1887-1980 10 1887
Sources: A1, A4
- Notes: A1: Alt; 6m. 1951-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + 06 + 09 + 12 + 14 + 18 + 21) 135E meridian time. A4: 1887-Dec

1938; 1/6(02 + 06 + 10 + 14 + 18 + 22) JST. 1939-1952; 1/3(06 + 14 + 22) JST. Alt; 5m. Reliability: compared with 478930 for the years 1887-1980.

478170: NAGASAKI JAPAN 32.7N 129.9E 27m 1845-1980 22 1845
Sources: AI, A35

Notes: AI: 1845-1920; means of (hours not given). Alt: 133m. 1921-1939; means of 24 hourly observations. 1940-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) 135E meridian time. 1951-1960; alt = 27m. A35; No details available. Reliability: compared with 478270 & 478300 for the years 1883-1980 & 1886-1980. Corrected for a discontinuity 1950/1951 caused by a height change. Correction Factors: Stations used: 478270 & 478300. Calculation dates: 1898-1950 & 1951-1980. Correction dates: 1845-1950. Factors: 8 7 4 4 5 5 6 7 6 8.

478270: KAGOSHIMA JAPAN 31.6N 130.6E 5m 1883-1980 20 1883
Sources: AI

Notes: AI: 1883-1885; 1/3(06 + 14 + 22). 1886-1910; 1/6(02 + 06 + 10 + 14 + 18 + 22). 1911-July 1915; means of 24 hours. Aug 1915-1922; 1/6(02 + 06 + 10 + 14 + 18 + 22). 1923-1938; means of 24 hours. 1939; 1/3(06 + 14 + 22). 1940-1950; means of 24 hours, 135E meridian time. 1951-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) 135E meridian time. Site; 1883-Sept 1897; 31 35'N 130 33'E, alt = 4m. Oct 1897-July 1915; 31 36'N 130 33'E, alt = 120m. Aug 1915-1960; 31 34'N 130 33'E, alt = 5m. Reliability: compared with 478170 for the years 1883-1980. Corrected for height change Sept/Oct 1897. Correction Factors: Stations used: 478170. Calculation dates: 1883-1896 & 1898-1915. Correction dates: 1883-Sept 1897. Factors: 3 2 3 4 3 3 4 3 3 6.

478300: HIYAZAKI JAPAN 31.9N 131.4E 7m 1886-1980 10 1886
Sources: AI, A4

Notes: AI: Alt; 8m. 1951-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) 135E meridian time. A4; Alt; 7m. No other details available. Reliability: compared with 478170 & 478270 for the years 1886-1980.

478360: YAKUSHIMA JAPAN 30.5N 130.5E 1951-1960 61
Sources: AI

Notes: AI: 1951-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + ...21) 135E meridian time. No other details available. Reliability: uncheckable.

478910: TAKAMATSU JAPAN 34.3N 134.1E 1951-1960 61
Sources: AI

Notes: AI: 1951-1960; 34 19'N 134 03'E, alt = 10m. 1951-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + ...21) 135E meridian time. Reliability: uncheckable.

478930: KOCHI JAPAN 33.6N 133.6E 2m 1886-1980 10 1887
Sources: AI, A4

Notes: AI: Alt; 2m. 1951-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) 135E meridian time. A4; Alt; 0.1m. 1886-1958; 1/6(02 + 06 + 10 + 14 + 18 + 22) JST. 1959-1952; 1/3(06 + 14 + 22) JST. Reliability: compared with 478150 for the years 1887-1980.

478980: SHIMIZU/ASHIZURI JAPAN 32.7N 133.0E 32m 1922-1980 12 1922
Sources: AI

Notes: AI: 1922-July 1930; 32 44'N 133 01'E, alt = 65m. April 1940-1950; 32 43'N 133 01'E, alt = 32m. 1/3(06 + 14 + 22) 135E meridian time. Reliability: compared with 478150 & 478930 for the years 1922-1980.

479090: NAZE JAPAN 28.4N 129.5E 7m 1897-1980 10 1897
Sources: AI, A4

Notes: AI: Alt; 7m. 1951-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1970; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) 135E meridian time. 1951-1960; 28 23'N 129 30'E, alt = 4m, 1961-1970; alt = 3m. A4; Alt; 3m. 1897-Sept 1935; 1/6(02 + 06 + 10 + 14 + 18 + 22) JST. Oct 1935-1950; 1/3(06 + 14 + 22) JST. Reliability: compared with 478270 & 479360 for the years 1897-1980.

479180: IBERGAKIJIMA JAPAN 24.3N 124.2E 7m 1897-1980 20 1897
Sources: AI

Notes: AI: 1897-June 1900; 1/6(02 + 06 + 10 + 14 + 18 + 22). July 1900-April 1910; means of 24 hours. May 1910-1939; 1/6(02 + 06 + 10 + 14 + 18 + 22). 1940-1952; 1/3(06 + 14 + 22) 135E meridian time. 1953-1960; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) 135E meridian time. Alt; 7m. 1961-1970; 24 20'N 124 10'E, alt = 6m. Reliability: compared with 46820 for the years 1897-1972.

479270: MIYAKOJIMA JAPAN 24.8N 125.3E 40m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-June 1953; 24 47'N 125 17'E, alt = 42m. July 1953-1956; alt = 41m. 1957-1960; alt = 40m. 1961-1970; alt = 39m. 1951-1952; 1/3(06 + 15 + 22) 135E meridian time. 1953-1970; 1/8(00 + 03 + ...21) 135E meridian time. Reliability: compared with 46820, 479180 & 479360 for the years 1951-1972, 1951-1980 & 1951-1980. March 1971 value is wrong & has been replaced with 174.

479360: HABA JAPAN 26.2N 127.7E 36m 1891-1980 12 1897
Sources: AI

Notes: AI: 1891-1920; means of (hours not given). Alt; 11m. 1921-1950; means of 24 hourly observations, 135E meridian time. 1951-1952; alt = 30m. 1951-1952; 1/3(06 + 15 + 22) 135E meridian time. 1953-1970; 1/6(02 + 06 + 10 + 14 + 18 + 22) 135E meridian time. Site; Prior to 1945; 26 17'N 127 39'E, alt = 30m, Jan-Mar 1951; 26 13'N 127 40'E, Mar 1951-July 1953; 26

479450: 17°N 127 41'E, alt = 31m, Aug 1953-1960; 26 16'N 127 41'E, alt = 37m, 1961-1970; alt = 35m. Reliability: compared with 466920 & 479090 for the years 1897-1972 & 1897-1980.

479450: NIBARIMAITOJIMA JAPAN 25.00 131.28 16m 1951-1980 10 1951
 Sources: AI

Notes: AI: 1951-1952: 1/3(06 + 15 + 22) 1358 meridian time. 1953-1970: 1/8(00 + 03 + ...21) 1358 meridian time. 25 30'N 131 16'E, alt = 16m. 1961-1970: alt = 15m. Reliability: compared with 479270 & 479360 for the years 1951-1980.

479430: TORISIMA JAPAN 30.50 140.38 83m 1951-1965 61
 Sources: AI

Notes: AI: 1951-1952: 1/3(06 + 14 + 21) 1358 meridian time. 1953-1970: 1/8(00 + 03 + ...21) 1358 meridian time. 1951-1954: 30 20'N 140 18'E, alt = 83m. 1955-1970: alt = 83m. Reliability: uncheckable.

480080: NITIKYIMA BURMA 25.40 97.42 142m 1943-1980 61
 Sources: AI

Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

480420: NARIBALLAY BURMA 21.00 96.12 180m-1980 72 1950
 Sources: AI

Notes: AI: alt. 1800-1930 = 250ft., 1931-1930 = 252ft., 1931-1960 = 76m. Means of 1/2(daily max + daily min). The station moved in June 1934, temp & rain corrections are given on p.7, vol 105. Reliability: compared with 420190 & 480430 for the years 1931-1976 & 1931-1980.

480420: AITIAS BURMA 20.10 93.02 7m 1961-1980 12 1970
 Sources: AI

Notes: AI: Temp. means of 1/2(daily max + daily min). 1970-1980, alt = 20ft., 20 07'N 93 57'E, 1940-1960, alt = 7m, 20 07'N 93 57'E. Reliability: compared with 480760 & 479090 for the years 1970-1980 & 1893-1980. Jan 1967 value is suspect & has been coded as missing.

480770: BANGKONG BURMA 16.00 96.22 27m 1970-1980 12 1970
 Sources: AI

Notes: AI: Means of 1/2(daily max + daily min). AI: 1870-1960 = 18ft., 1960-1980 = 27m. Reliability: compared with 480200 & 480320 for the years 1870-1980 & 1870-1980.

480330: MOULIKHIA BURMA 16.50 97.62 183m-1960 61
 Sources: AI, A117

Notes: AI: alt: 1850-1927 = 77ft, 1933-1960 = 22m. Means of 1/2(max + min). A117: No details available. Reliability: uncheckable.

480100: MENCODI BURMA 12.50 98.62 1060-1960 12 1931
 Sources: AI

Notes: AI: alt: 1850-1950 = 64ft, 1951-1960 = 37m. Means of 1/2(daily max + daily min). Reliability: compared with 480530 for the years 1931-1960.

480120: VICTORIA POINT BURMA 10.00 98.62 47m 1951-1980 72
 Sources: AI

Notes: AI: 1931-1960: 1/2(max + min). 9 50'N 98 35'E, alt = 47m. Reliability: compared with 480530, 480600 & 480170 for the years 1941-1979. Record above probable site-change in mid-1960s.

480270: CHIAICHA1 TRAILAND 18.00 99.02 17m 1929-1980 12 1930
 Sources: AI, A134, A136, A137

Notes: A134: No details available. A136: 1/2(max + min). 18 49'N 99 0'E, alt = 30m. A137: 18 47'N 98 20'E, alt = 31m. No other details available. AI: 1951-1960: 1/2(max + min). Alt = 31m. Reliability: compared with 480780, 480400 & 480770 for the years 1937-1980, 1939-1980 & 1929-1980.

480540: WYON TRAMP TRAILAND 17.40 102.02 17m 1937-1980 12
 Sources: AI, A137

Notes: AI: 1951-1960, 1/2(max + min). 17 20'N 102 40'E, alt = 17m. A137: 17 20'N 102 40'E, alt = 17m. No other details available. Reliability: compared with 480400 & 480300 for the years 1941-1978 & 1931-1977. 1950 has been coded as missing. Record is suspect after 1940, being too cold.

480780: POKIYAPUKO TRAILAND 15.00 100.38 17m 1937-1980 12 1930
 Sources: AI, A137

Notes: AI: 1951-1960, 1/2(max + min). Alt = 50m. A137: 16 40'N 100 10'E, alt = 50m. No other details available. Reliability: compared with 480270 & 480600 for the years 1937-1980 & 1939-1980.

480800: SAKKON SAKON TRAILAND 15.00 100.22 15m 1939-1980 12 1940
 Sources: AI, A137

Notes: AI: 1951-1960: 1/2(max + min). Alt = 20m. A137: No details available. Reliability: compared with 480270 & 480780 for the years 1939-1980.

489380: SAVABOURY LAOS 19.2N 101.7E 1969-1978 61
Sources: AI
Notes: AI: 1/12(02 + 04 + ...24). No other details available. Reliability: uncheckable.

489400: VIENTIANE LAOS 18.0N 102.6E 170m 1941-1978 62
Sources: AI, A43
Notes: A43: Means of 1/2(max + min). 17 56°N 100 10°E, alt = 284m. AI: Means of 1/2(02 + 04 + 06 + ...24) 105E meridian time. Alt = 170m. Reliability: uncheckable.

489470: SAVANNAKHET LAOS 16.6N 104.8E 1970-1978 61
Sources: AI
Notes: AI: 1/12(02 + 04 + ...24). No other details available. Reliability: uncheckable.

489480: SENO LAOS 16.7N 105.0E 184m 1951-1978 62
Sources: AI
Notes: AI: 1951-1960; 1/12(02 + 04 + ...24). 16 40°N 105 00°E, alt = 184m. Reliability: uncheckable.

489550: PAKSE LAOS 15.1N 105.8E 1968-1978 61
Sources: AI
Notes: AI: 1/12(02 + 04 + ...24). No other details available. Reliability: uncheckable.

489660: SIEMREAP KAMPUCHEA 13.4N 103.9E 15m 1951-1970 61
Sources: AI
Notes: AI: 1951-1960; 1/8(18 + 21 + 24 + 03 + 06 + 09 + 12 + 15) GMT. 13 22°N 103 51°E, alt = 15m. Reliability: uncheckable.

489720: STUNG TRENG KAMPUCHEA 13.5N 106.0E 54m 1951-1970 62
Sources: AI
Notes: AI: 1951-1960; 1/8(18 + 21 + 24 + 03 + 06 + 09 + 12 + 15) GMT. 13 31°N 105 58°E, alt = 54m. Reliability: uncheckable.

489850: KAMPOT KAMPUCHEA 10.6N 104.2E 5m 1951-1970 61
Sources: AI
Notes: AI: 1951-1960; 1/8(18 + 21 + 24 + 03 + 06 + 09 + 12 + 15) GMT. 10 37°N 104 13°E, alt = 1m. Reliability: uncheckable.

489910: PHNOM-PENH KAMPUCHEA 11.6N 104.9E 10m 1906-1970 12 1941
Sources: AI
Notes: AI: 1906-1970; 11 30°N 105 00°E, alt = about 13m. 1921-1930; 11 35°N 104 56°E, alt = 10m. 1931-1946; 11 33°N 104 55°E, alt = 2m. 1947-1960; 11 33°N 104 51°E, alt = 11m. 1/12(02 + 04 + ...24) 105E meridian time. 1961-1970; 1/8(18 + 21 + 24 + 03 + 06 + 09 + 12 + 15) GMT. Alt = 10m. Reliability: compared with 489000 for the years 1941-1970.

489950: KOMPONG CHAH KAMPUCHEA 12.0N 105.5E 1951-1960 61
Sources: AI

Notes: AI: 1951-1960; 1/8(18 + 21 + 24 + 03 + 06 + 09 + 12 + 15) GMT. 12 00°N 105 27°E, alt = 16m. Reliability: uncheckable.

503500: CHINA (NO NAME) CHINA 51.7N 126.6E 1961-1970 60
Sources: AI

Notes: AI: No details available. Reliability: uncheckable.

505140: MAN-CHOU-LI/LU-PIN CHINA 49.6N 117.4E 646m 1909-1942 60
Sources: AI

Notes: AI: 1909-1940; 49 35°N 117 26°E, alt = 646m. No other details available. Reliability: uncheckable.

505270: HAILAR CHINA 49.0N 119.5E 614m 1909-1941 60
Sources: AI, A92

Notes: A92: Alt: 610m. "Mean daily max" & "mean daily min" are given, but "mean daily temp" does not appear to be 1/2(max + min). However some correction may have been made. AI: 1909-1934; 1/3(07 + 13 + 21) 126.5E meridian time. 1935-1943; 1/6(02 + 06 + 10 + 14 + 18 + 22) 135E meridian time. 1909-1943; alt = 614m. Reliability: uncheckable.

505277: BUTHA QI CHINA 48.0N 122.7E 316m 1909-1940 60
Sources: A92

Notes: Station was also known as Fu-t'e-ha-ch'i. A92: Alt: 316m. "Mean daily max" & "mean daily min" are given, but the "mean daily temp" does not appear to be 1/2(max + min). However some correction may have been made. Reliability: uncheckable.

505640: SUMNUI CHINA 49.4N 127.3E 1961-1970 60
Sources: AI

Notes: AI: No details available. Reliability: uncheckable.

506370: BUCI CHINA 48.7M 121.9E 1961-1970 60
Sources: A1
Notes: A1: No details available. Reliability: uncheckable.

507450: QIQIHAR CHINA 47.3M 123.9E 146m 1909-1981 60
Sources: A92
Notes: A92: Alt; 149m. "Mean daily max" & "mean daily min" are given, but "mean daily temp" does not appear to be 1/2(max + min). However some correction may have been applied. Reliability: uncheckable.

507550: HAILUN CHINA 47.4N 126.9E 1961-1970 60
Sources: A1
Notes: A1: No details available. Reliability: uncheckable.

507880: FUJIN CHINA 47.2N 131.9E 1961-1970 60
Sources: A1
Notes: A1: No details available. Reliability: uncheckable.

509150: DONG UJIMQI CHINA 45.5N 116.9E 1961-1970 60
Sources: A1
Notes: A1: No details available. Reliability: uncheckable.

509330: HARBIN CHINA 45.8N 126.6E 141m 1909-1942 60
Sources: A1, A92, A93
Notes: A92: Alt; 147m. "Mean daily max" & "mean daily min" are given, but "mean daily temp" does not appear to be 1/2(max + min). However some correction may have been made. After 1909 the site is 45.8N 126.6E. Temp alt = 142m. Rain alt = 151m. A93: No details available. A1: 1909-1930; 1/3(07 + 13 + 21). 1931-1935; 1/3(05 + 13 + 21). 1936-1943; 1/6(02 + 06 + 10 + 14 + 18 + 22) 135E meridian time. 1909-1943; alt = 142m. Reliability: uncheckable.

509530: HARBIN CHINA 45.8N 126.8E 142m 1898-1981 60
Sources: A92, A93
Notes: A92: Alt; 147m. "Mean daily max" & "mean daily min" are given, but "mean daily temp" does not appear to be 1/2(max + min). However some correction may have been applied. A93: No details available. RB. Post 1900 site is 45.8N 126.6E. Temp alt = 142m, Prec alt = 151m. Reliability: uncheckable.

509630: TONGHE CHINA 45.9N 128.7E 1961-1970 60
Sources: A1
Notes: A1: No details available. Reliability: uncheckable.

510760: ALTAY CHINA 47.7N 86.0E 735m 1954-1981 60
Sources: A1
Notes: A1: No details available. Reliability: uncheckable.

511560: BOBOKSAR CHINA 46.7N 85.7E 1961-1970 60
Sources: A1
Notes: A1: No details available. Reliability: uncheckable.

514310: YIMING CHINA 43.9N 81.7E 661m 1951-1981 60
Sources: A1
Notes: A1: No details available. Reliability: uncheckable.

514630: UBUMQI CHINA 43.6N 87.4E 654m 1951-1981 60
Sources: A1
Notes: A1: No details available. Reliability: uncheckable.

516440: KDOQA CHINA 41.7N 82.9E 1099m 1961-1978 60
Sources: A1
Notes: A1: No details available. Reliability: uncheckable.

517090: KASHI CHINA 39.4N 75.9E 1246m 1951-1981 60
Sources: A1
Notes: A1: No details available. Reliability: uncheckable.

517770: SUOQIANG CHINA 39.0N 88.1E 811m 1953-1981 60
Sources: A1
Notes: A1: No details available. Reliability: uncheckable.

518280: ROTIAN CHINA 37.1N 79.9E 1375m 1953-1981 60
Sources: A1
Notes: A1: No details available. Reliability: uncheckable.

518550: QIEMO CHINA 38.1N 85.5E 1961-1970 60
Sources: A1
Notes: A1: No details available. Reliability: uncheckable.

522030: HAMI CHINA 42.8N 93.5E 714m 1951-1981 60
Sources: A1
Notes: A1: No details available. Reliability: uncheckable.

524180: TUNG HUANG/TUNHWANG CHINA 40.1N 94.8E 1139m 1937-1970 60
 Sources: AI
 Notes: AI: 1937-1950; 40 08'N 94 47'E, alt = 1100m. No other details available.
 Reliability: uncheckable.

524240: AN HSI CHINA 40.7N 96.0E 1940-1948 60
 Sources: AI
 Notes: AI: 1940-1948; 40 43'N 95 57'E, alt = 1102m. No other details available.
 Reliability: uncheckable.

524950: BAYAN MOD CHINA 40.7N 104.5E 1961-1970 60
 Sources: AI
 Notes: AI: No details available. Reliability: uncheckable.

525330: CHIU CHUAN CHINA 39.8N 98.6E 1543m 1934-1981 60
 Sources: AI
 Notes: AI: 1934-1950; 39 45'N 98 33'E, alt = 1470m. No other details available.
 Reliability: uncheckable.

526810: MIMQIN CHINA 38.7N 103.0E 1367m 1939-1970 60
 Sources: AI, A92
 Notes: AI: No details available. A92: Possibly 1/2(max + min). No other details available.
 Reliability: uncheckable.

528180: GOLMUD CHINA 36.1N 94.6E 1961-1970 60
 Sources: AI
 Notes: AI: No details available. Reliability: uncheckable.

528360: DULAN CHINA 36.3N 98.0E 3191m 1940-1981 60
 Sources: AI, A92
 Notes: AI: No details available. A92: Possibly 1/2(max + min). No other details available.
 Reliability: uncheckable.

528660: HSI NING/SINING CHINA 36.6N 109.8E 2295m 1936-1948 60
 Sources: AI
 Notes: AI: 1936-1948; 36 37'N 109 49'E, alt = 2275m. No other details available.
 Reliability: uncheckable.

528890: LANCHOW CHINA 36.1N 103.9E 1520m 1932-1981 60
 Sources: AI
 Notes: AI: 1932-1950; 36 03'N 103 51'E, alt = 1506m. No other details available.
 Reliability: uncheckable.

529570: TONGTA CHINA 35.1N 100.3E 1961-1970 60
 Sources: AI
 Notes: AI: No details available. Reliability: uncheckable.

530680: KEMPHOT CHINA 43.6N 112.0E 965m 1955-1981 60
 Sources: AI
 Notes: AI: No details available. Reliability: uncheckable.

532760: SON'ND YOU'QI CHINA 42.3N 112.8E 1961-1970 60
 Sources: AI
 Notes: AI: No details available. Reliability: uncheckable.

533360: BALIUT CHINA 41.6N 108.7E 1961-1970 60
 Sources: AI
 Notes: AI: No details available. Reliability: uncheckable.

534630: HCHROT CHINA 40.8N 111.6E 1961-1970 60
 Sources: AI
 Notes: AI: No details available. Reliability: uncheckable.

536140: YINCHUAN CHINA 38.4N 106.2E 1112m 1936-1981 60
 Sources: AI, A92
 Notes: AI: No details available. A92: Possibly 1/2(max + min). No other details available.
 Reliability: uncheckable.

536460: YU LIN/YULING CHINA 38.3N 109.8E 1084m 1933-1970 60
 Sources: AI
 Notes: AI: 1933-1950; 38 17'N 109 45'E, alt = 1121m. No other details available.
 Reliability: uncheckable.

536980: SHI'JIAZHUANG CHINA 38.0N 114.4E 1961-1970 60
 Sources: AI
 Notes: AI: No details available. Reliability: uncheckable.

537720: TAIYUAN CHINA 37.7N 112.5E 778m 1916-1981 60
 Sources: A1, A92
 Notes: A1: No details available. A92: Possibly 1/2(max + min). No other details available. Reliability: uncheckable.

538450: YANAN CHINA 36.5N 109.5E 1961-1970 60
 Sources: A1
 Notes: A1: No details available. Reliability: uncheckable.

539150: PINGLIANG CHINA 35.0N 111.0E 1961-1970 60
 Sources: A1
 Notes: A1: No details available. Reliability: uncheckable.

539590: YUNCHING CHINA 35.4N 106.6E 1961-1970 60
 Sources: A1
 Notes: A1: No details available. Reliability: uncheckable.

540270: LINDONG CHINA 43.9N 119.3E 1961-1970 60
 Sources: A1
 Notes: A1: No details available. Reliability: uncheckable.

540960: SUIFENIE CHINA 44.3N 131.1E 1961-1970 60
 Sources: A1
 Notes: A1: No details available. Reliability: uncheckable.

541020: ABAGNAR QI CHINA 43.9N 116.0E 1961-1970 60
 Sources: A1
 Notes: A1: No details available. Reliability: uncheckable.

541350: TONGLIO CHINA 43.5N 122.2E 1961-1970 60
 Sources: A1
 Notes: A1: No details available. Reliability: uncheckable.

541610: CHANGCHUN CHINA 43.9N 125.3E 214m 1909-1970 60
 Sources: A1, A92
 Notes: A92: Alt; 216m. "Mean daily max" & "mean daily min" are given, but the "mean daily temp" does not appear to be 1/2(max + min). However some correction may have been made. A1: Means of 1/6(02 + 06 + 10 + 14 + 18 + 22) 135E meridian time. Alt = 214m. Reliability: uncheckable.

542080: DUOLUN CHINA 42.1N 116.4E 1961-1970 60
 Sources: A1
 Notes: A1: No details available. Reliability: uncheckable.

542920: YANJI CHINA 42.8N 129.4E 177m 1914-1981 60
 Sources: A1, A92
 Notes: A1: No details available. A92: Possibly 1/2(max + min). No other details available. Reliability: uncheckable.

543240: CHAOYANG CHINA 41.5N 120.4E 1961-1970 60
 Sources: A1
 Notes: A1: No details available. Reliability: uncheckable.

543420: SHENYANG CHINA 41.7N 123.4E 42m 1905-1981 60
 Sources: A1, A92, A93
 Notes: Station was also known as Mukden. A92: Alt; 44m. "Mean daily max" & "mean daily min" are given, but "mean daily temp" does not appear to be 1/2(max + min). However some correction may have been applied. A93: No details available. A1: Alt = 44m. 1906-1938: 1/6(04 + 06 + 10 + 14 + 18 + 22). 1938-1943; 1/6(02 + 06 + 10 + 14 + 18 + 22) 135E meridian time. Reliability: uncheckable.

543740: LIJIANG CHINA 41.7N 126.9E 1961-1970 60
 Sources: A1
 Notes: A1: No details available. Reliability: uncheckable.

544230: CHENGDE CHINA 40.9N 117.8E 375m 1961-1979 60
 Sources: A1
 Notes: A1: No details available. Reliability: uncheckable.

545007: CHIM-CHOU CHINA 40.7N 122.2E 3m 1905-1950 60
 Sources: A92
 Notes: A92: Alt; 3m. "Mean daily max" & "mean daily min" are given, but the "mean daily temp" does not appear to be 1/2(max + min). However some correction may have been made. Reliability: uncheckable.

545110: BEIHONG CHINA 40.0N 116.5E 40m 1841-1981 60
 Sources: A3, A35, A92, A93
 Notes: A3: Alt; 43m. No other details available. A35: No details available. A92: Alt; 51m. No other details available. A93: No details available. NB. Following information available from elsewhere; 1841-1849; 1/3(07 + 13 + 21). 1850-1855; mean of 24 hourly observations. 1859-1861; 1/3(07 + 13 + 21). 1868-1869; 1/3(06 + 15 + 21). 1870-1875; 1/3(07 + 13 + 21).

1910-1914; 1/3(07 + 13 + 21). 1915-1924; means of 24 hourly observations 120E meridian time. Jan-Feb 1925; 1/2(max + min). 1925-1928; means of 24 hourly observations, 120E meridian time. July 1929; 1/3(06 + 15 + 21). 1930-1932; 1/8(03 + 06 + 09 + 12 + 15 + 18 + 21 + 24). 1933-1935; means of 24 hourly observations, 120E meridian time. Reliability: uncheckable.

545270: TIANJIH CHINA 39.1N 117.2E 19m 1891-1979 60
Sources: AI, A92, A93

Notes: Station was also known as Tsientain & as Tien-Ching. A92: Alt; 19m. "Mean daily max" & "mean daily min" are given, but "mean daily temp" does not appear to be 1/2(max + min). However some correction may have been applied. A93: No details available. AI: 1905-1920; means of (hours not given). 39 10'N 117 10'E, alt = 5m. 1921-1930; means of 8 observations, probably 03, 06, 09,24h 120E meridian time. 1931-1935; 1/3(06 + 14 + 22). Alt = 4m. 1946; 39 09'N 117 09'E. Dec 1939-Nov 1948; alt = 5m. 1928-Nov 1939; 6m. 1935-1944; 1/3(06 + 14 + 22) 120E meridian time. 1946-1948; 1/8(03 + 06 + 09 +24) 120E meridian time. Reliability: uncheckable.

546620: TA LIEN/TALIEN CHINA 38.9N 121.6E 95m 1905-1970 60
Sources: AI, A92

Notes: AI: No details available. A92: Possibly 1/2(max + min). No other details available. Reliability: uncheckable.

546621: LUSHUN CHINA 38.9N 121.6E 97m 1905-1950 60
Sources: AI, A92

Notes: Station was also known as Port Arthur & as Darien. A92: Alt; 97m. "Mean daily max" & "mean daily min" are given, but "mean daily temp" does not appear to be 1/2(max + min). However some correction may have been applied. AI: 1906-1936; 1/3(06 + 14 + 22) 135E meridian time. 1937-1939; 1/6(02 + 06 + 10 + 14 + 18 + 22) 135E meridian time. 1940-1944; 1/3(06 + 14 + 22) 135E meridian time. Alt; 1906-1909 = 16m. 1910-1936 = 20m. 1937-1944 = 16m. Reliability: uncheckable.

548230: TSINAN/CBI NAN CHINA 36.7N 117.0E 54m 1916-1970 60
Sources: AI

Notes: AI: 1916-1950; 36 40'N 117 02'E, alt = 54m. No other details available. Reliability: uncheckable.

548A30: WEIFANG CHINA 36.6N 119.1E 1961-1970 60
Sources: AI

Notes: AI: No details available. Reliability: uncheckable.

548570: QIMCDAO CHINA 36.1N 120.3E 79m 1886-1981 60
Sources: AI, A92, A93

Notes: Station was also known as Ch'ing Tao, Tsing' Tao & as Tsingtao. A92: Alt; 79m. "Mean daily max" & "mean daily min" are given, but "mean daily temp" does not appear to be 1/2(max + min). However some correction may have been applied. A93: No details available. AI: 1916-1921; 1/6(02 + 06 + 10 + 14 + 18 + 22) 135E meridian time. 1922-April 1938; 1/6(01 + 05 + 09 + 13 + 17 + 21) 120E meridian time. May 1938-1939; 1/6(02 + 06 + 10 + 14 + 18 + 22) 135E meridian time. 1940-1944; 1/3(06 + 14 + 22) 135E meridian time. 1916-1944; alt = 79m, 1945-1950 = 76m. Reliability: uncheckable.

549060: HEZE CHINA 35.2N 115.4E 50m 1937-1979 60
Sources: AI, A92

Notes: AI: No details available. A92: Possibly 1/2(max + min). No other details available. Reliability: uncheckable.

555910: LHASA CHINA 29.7N 91.1E 3685m 1935-1981 60
Sources: AI

Notes: AI: 1941-1948; 29 40'N 91 07'E, alt = 12090ft. 1/2(max + min). 1951-1960; alt = 3685m. Reliability: uncheckable.

557730: YADON CHINA 27.7N 89.0E 1961-1970 60
Sources: AI

Notes: AI: No details available. Reliability: uncheckable.

560290: YURHU CHINA 33.0N 96.7E 1961-1970 60
Sources: AI

Notes: AI: No details available. Reliability: uncheckable.

560960: WUDU CHINA 33.3N 104.6E 1961-1970 60
Sources: AI

Notes: AI: No details available. Reliability: uncheckable.

561370: QANDU CHINA 31.1N 96.9E 3241m 1951-1981 60
Sources: AI

Notes: AI: No details available. Reliability: uncheckable.

561460: GARZE CHINA 31.6N 99.9E 1961-1970 60
Sources: AI

Notes: AI: No details available. Reliability: uncheckable.

561820: SUNG PAN/SUN PAN CHINA 32.7N 103.6E 2882m 1937-1950 60
Sources: A1
Notes: A1: 1937-1950; 32 39'N 103 34'E, alt = 2883m. No other details available.
Reliability: uncheckable.

562870: YA AN/YEAM CHINA 30.0N 103.1E 637m 1937-1950 60
Sources: A1
Notes: A1: 1937-1950; 30 00'N 103 03'E, alt = 650m. No other details available.
Reliability: uncheckable.

562940: CHENGTU CHINA 30.7N 104.1E 498m 1907-1981 60
Sources: A1, A92
Notes: A1: No details available. A92: Possibly 1/2(max + min). No other details available. Reliability: uncheckable.

564440: DEQEN CHINA 28.6N 99.1E 1961-1970 60
Sources: A1
Notes: A1: No details available. Reliability: uncheckable.

564920: YIBIN CHINA 28.8N 104.5E 341m 1961-1978 60
Sources: A1
Notes: A1: No details available. Reliability: uncheckable.

565710: XICHAANG CHINA 27.8N 102.2E 1591m 1924-1981 60
Sources: A1, A92
Notes: A1: No details available. A92: Possibly 1/2(max + min). No other details available. Reliability: uncheckable.

567390: TENGCHONG CHINA 25.1N 98.4E 1648m 1911-1981 60
Sources: A92
Notes: A92: Alt; 1634m. "Mean daily max" & "mean daily min" are given, but "mean daily temp" does not appear to be 1/2(max + min). However some correction may have been applied. Reliability: uncheckable.

567780: KUNMING-YOHANFU CHINA 25.0N 102.6E 1893m 1901-1981 60
Sources: A1, A43, A92, A93
Notes: A92: Alt; 1893m. "Mean daily max" & "mean daily min" are given, but "mean daily temp" does not appear to be 1/2(max + min). However some correction may have been applied. A93: No details available. A43: Means of 1/2(max + min). 1902-1908; 25 06'N 100 32'E of Paris, alt = 1980m. 1909; alt = 1942m. 1910-1913; 26 07'N 100 34'E of Paris, alt = 1942m. A1: Means of 1/2(max + min). 1931-1940; alt = 1893m. Station moved in Dec 1946, from 24 53'N 102 37'E, alt = 2280m to 25 05'N 102 42'E, alt = 1891m. 1941-1950;

means of 24 hours 105E meridian time. Reliability: uncheckable.

569640: SIMAO CHINA 22.6N 101.3E 1961-1970 60
Sources: A1

Notes: A1: No details available. Reliability: uncheckable.

569850: MENGZI CHINA 23.3N 103.3E 1301m 1961-1980 60
Sources: A1

Notes: A1: No details available. Reliability: uncheckable.

570060: TIEN SHUI CHINA 34.6N 105.6E 1202m 1935-1950 60
Sources: A1

Notes: A1: 1935-1950; 34 36'N 105 34'E, alt = 1174m. No other details available. Reliability: uncheckable.

570360: HSI AN/SIAN CHINA 34.3N 108.9E 460m 1932-1981 60
Sources: A1, A92

Notes: A92: Alt; 365m. "Mean daily max" & "mean daily min" are given, but "mean daily temp" does not appear to be 1/2(max + min). However some correction may have been made. A1: 1922-1950; alt = 395m. No other details available. Reliability: uncheckable.

570830: ZHENGZHOU CHINA 34.7N 113.6E 110m 1930-1981 60
Sources: A1, A92

Notes: A1: No details available. A92: Possibly 1/2(max + min). No other details available. Reliability: uncheckable.

571270: HANZHONG CHINA 33.0N 107.0E 1961-1970 60
Sources: A1

Notes: A1: No details available. Reliability: uncheckable.

572370: WANYUAN CHINA 32.0N 108.0E 1961-1970 60
Sources: A1

Notes: A1: No details available. Reliability: uncheckable.

572900: ZHUMADIAN CHINA 32.9N 114.0E 1961-1970 60
Sources: A1

Notes: A1: No details available. Reliability: uncheckable.

574110: HANCHONG CHINA 30.7N 106.0E 1961-1970 60
 Sources: A1
 Notes: A1: No details available. Reliability: uncheckable.

574476: HESHI CHINA 30.2N 109.3E 1961-1970 60
 Sources: A1
 Notes: A1: No details available. Reliability: uncheckable.

574610: YICHANG CHINA 30.7N 111.2E 1882-1922 40
 Sources: A1, A92, A93
 Notes: A1: Alt; 57m. No other details available. A92: Alt; 57m. No other details available. A93: Alt; 57m. No other details available. Reliability: uncheckable.

574940: HANKOU CHINA 30.6N 114.3E 1880-1979 60
 Sources: A1, A3, A92
 Notes: Also known as Hupoh. A1: 1906-1920; means of (hours not given). Alt = 37m. 1931-1938 = 26m. 1921-1930; 1/2(daily max + daily min). 1931-1933; 1/8(03 + 06 + 09 + 12 + 15 + 18 + 21 + 24; 120E meridian time. 1934-1936; 1/3(06 + 15 + 21) 120E meridian time. Mar 1934-April 1936; 1/3(06 + 14 + 21) 120E meridian time. No later details available. A3: Alt; 26m. No other details available. A92: Alt; 26m. No other details available. Reliability: uncheckable.

575150: CHONGQING CHINA 29.6N 106.6E 230m 1891-1949 60
 Sources: A3, A92
 Notes: Station was also known as Chungking. A3: Alt; 230m. No other details available. A92: Alt; 230m. "Mean daily max" & "mean daily min" are given, but "mean daily temp" does not appear to be 1/2(max + min). However some correction may have been applied. Reliability: uncheckable.

576790: CHANGSHA CHINA 28.1N 113.0E 1961-1970 60
 Sources: A1
 Notes: A1: No details available. Reliability: uncheckable.

577130: ZHUYI CHINA 27.6N 106.8E 1961-1970 60
 Sources: A1
 Notes: A1: No details available. Reliability: uncheckable.

577450: ZHANJIANG CHINA 27.4N 109.6E 267m 1938-1981 60
 Sources: A1, A92
 Notes: A1: No details available. A92: Possibly 1/2(max + min). No other details available. Reliability: uncheckable.

578160: FUXI YANG/KUEIYANG CHINA 26.6N 106.7E 1071m 1920-1979 60
 Sources: A1
 Notes: A1: 1921-1950; 26 35'N 106 43'E, alt = 1057m. No other details available. Reliability: uncheckable.

578660: LINGLING CHINA 26.2N 111.5E 1961-1970 60
 Sources: A1
 Notes: A1: No details available. Reliability: uncheckable.

579020: XINGREN CHINA 25.4N 105.1E 1961-1970 60
 Sources: A1
 Notes: A1: No details available. Reliability: uncheckable.

579570: CUILIN CHINA 25.3N 110.2E 1961-1970 60
 Sources: A1
 Notes: A1: No details available. Reliability: uncheckable.

579930: GAOZHOU CHINA 25.8N 114.8E 124m 1961-1980 60
 Sources: A1
 Notes: A1: No details available. Reliability: uncheckable.

580400: GANYU CHINA 34.8N 119.1E 1961-1970 60
 Sources: A1
 Notes: A1: No details available. Reliability: uncheckable.

582210: BEIGUO CHINA 32.9N 117.3E 1961-1970 60
 Sources: A1
 Notes: A1: No details available. Reliability: uncheckable.

582380: HANJIANG CHINA 32.1N 118.8E 68m 1886-1979 60
 Sources: A1, A92
 Notes: A92: Alt; 68m. "Mean daily max" & "mean daily min" are given, but "mean daily temp" does not appear to be 1/2(max + min). However some correction may have been applied. A1: 1921-1923; 1/2(max + min). 1924-1927; 1/2(09 + 21). 1928-1937; means of 24 hours. 1921-1937; alt = 68m. 1946-1948; Alt = 72m. Means of 24 hours 120E meridian time. 1951-1960; alt = 68m. Reliability: uncheckable.

582510: DONGTAI CHINA 32.8N 120.2E 1961-1970 60
 Sources: A1
 Notes: A1: No details available. Reliability: uncheckable.

583670: SHANGHAI CHINA 31.2N 121.4E 7m 1847-1981 60
Sources: A1, A29, A30
Notes: A1: 1873-1920; Zi-Ka-Wei, 31 11'N 121 25'E, alt = 7m. After 1879; means of 74 hours. 1920-1940; alt = 12m. The station moved in 1946 from 31 11'N 121 26'E to 31 17'N 121 28'E, alt = 3m. 1941-1950; 1/3(06 + 14 + 22) 135h meridian time. 1951-1960; site is 31 12'N 121 26'E, alt = 7m. A29: Means of 1/2(max + min). Alt; 7m. A30: Means of 1/2(max + min). Alt; 7m. Reliability: uncheckable.

583671: SHANGHAI CHINA 31.2N 121.4E 5m 1886-1970 60
Sources: A92, A93
Notes: Also known as Shaveishan & as Cha-Wei-Chan. A92: Alt; 5m. No other details available. A93: No details available. Reliability: uncheckable.

584240: ANQING CHINA 30.5N 117.0E 1961-1970 60
Sources: A1
Notes: A1: No details available. Reliability: uncheckable.

584570: HANGZHOU CHINA 30.3N 120.2E 10m 1907-1970 60
Sources: A92
Notes: A92: Alt; 10m. "Mean daily max" & "mean daily min" are given, but "mean daily temp" does not appear to be 1/2(max + min). However some correction may have been applied. Reliability: uncheckable.

586060: WANCHANG CHINA 28.6N 115.9E 47m 1929-1981 60
Sources: A1, A92
Notes: A1: No details available. A92: Possibly 1/2(max + min). No other details available. Reliability: uncheckable.

586330: QU XIAN CHINA 28.9N 118.8E 1961-1970 60
Sources: A1
Notes: A1: No details available. Reliability: uncheckable.

586590: WENZHOU CHINA 28.0N 120.6E 1883-1979 60
Sources: A3, A92, A93
Notes: Station was also known as Wenchow, Chekiang & as Yungkia. A3: Alt; 4m. No other details available. A92: Alt; 4m. No other details available. A93: No details available. Reliability: uncheckable.

588470: FUZHOU CHINA 26.0N 119.5E 1880-1979 60
Sources: A1, A92, A93
Notes: A1: Alt; 20m, present alt = 88m. No other details available. A92: Alt; 20m. No other details available. A93: No details available. Reliability:

uncheckable.

589210: TONGAN CHINA 25.9N 117.3E 1961-1970 60
Sources: A1
Notes: A1: No details available. Reliability: uncheckable.

589550: TAOTUAN CHINA 25.0N 121.2E 1961-1970 60
Sources: A1
Notes: A1: No details available. Reliability: uncheckable.

590820: SHAOQUAN CHINA 24.7N 113.5E 69m 1961-1979 60
Sources: A1
Notes: A1: No details available. Reliability: uncheckable.

591340: XIAMEN CHINA 24.4N 118.0E 1886-1970 60
Sources: A92, A93
Notes: Station was also known as Amoy. A92: Alt; 5m. No other details available. A93: Alt; 43m. No other details available. Reliability: uncheckable.

592110: BOSE CHINA 23.9N 106.5E 1961-1970 60
Sources: A1
Notes: A1: No details available. Reliability: uncheckable.

592870: GUANGZHOU CHINA 23.1N 113.3E 6m 1961-1980 60
Sources: A1
Notes: A1: No details available. Reliability: uncheckable.

593160: SHANTOU CHINA 23.3N 116.6E 1m 1880-1981 60
Sources: A1, A3, A92
Notes: Station was also known as Suetow & as Kwangtung. A1: No details available. A3: Alt; 3m. No other details available. A92: Alt; 3m. No other details available. Reliability: uncheckable.

593457: PESCADORES CHINA 23.5N 119.6E 9m 1897-1944 60
Sources: A1, A4
Notes: A1: No details available. A4: Alt; 9m. 1897-1939; 1/6(02 + 06 + 10 + 14 + 18 + 22) JST. 1940-1944; 1/3(06 + 14 + 22) JST. Reliability: uncheckable.

594310: HANNING CHINA 22.8N 108.3E 72m 1907-1981 60
 Sources: AI, A92

Notes: AI: No details available. A92: Possibly 1/2(max + min). No other details available. Reliability: uncheckable.

596630: YANGJIANG CHINA 21.8N 111.9E 1961-1970 60
 Sources: AI

Notes: AI: No details available. Reliability: uncheckable.

597580: BAIKOU CHINA 20.0N 111.3E 14m 1961-1980 60
 Sources: AI

Notes: AI: No details available. Reliability: uncheckable.

600007: MAOS CAMARY IS. 27.7N 18.0W 14m 1881-1888 63
 Sources: A43

Notes: A43: Temp; 1/2(max + min). Observations also taken at same time as Press; 1881-1885; 1/3(06 + 13 + 21), 1886-1888; 1/3(07 + 11 + 19). Alt; 14m. Reliability: uncheckable.

600100: IZAMA CAMARY IS. 28.3N 16.5W 2367m 1951-1970 10 1951
 Sources: AI

Notes: AI: 1/2(max + min). 1951-1960; 28 18'N 16 30'W, alt = 2367m. 1961-1970; alt = 2368m. Reliability: compared with 600150, 600200 & 600300 for the years 1951-1970.

600150: THERIFE/LOS ROBOES CAMARY IS. 28.5N 16.3W 641m 1885-1976 20 1885
 Sources: AI, A43, A130

Notes: AI: 1885-1900; alt = 506m. 1911-1950; alt = 547m. 1885-1930; Means of 1/2(daily max + daily min). From Sept 1915 a standard Madrid type screen was used. 1931-1950; 1/3(07 + 13 + 18) GMT. In 1940 the station was moved from 28 28'N 16 21'W to 28 30'N 16 19'W. 1951-1960; alt = 641m. Means of 1/2(mean max + mean min). 1961-1970; 28 29'N 16 20'W, alt = 641m. Means of details available. A43: Means of 1/2(max + min). 28 29'N 16 35'W of Paris, alt = 24m. Reliability: compared with 600200 & 600300 for the years 1920-1976 & 1885-1976. Corrected for a temp 1950/1951. Correction Factors: Stations used: 600200 & 600300. Calculation dates: 1940-1950. Correction dates: 1951-1970. Factors: -2 -6 -8 -12 -11 -18 -19 -18 -11 -5 -8 0.

600200: SANTE CRUZ/THERIFE CAMARY IS. 28.5N 16.2W 46m 1880-1980 10 1921
 Sources: AI, A43, A130

Notes: AI: Means of 1/2(mean max + mean min). 1951-1960; 28 27'N 16 15'W, alt; 46m. 1961-1970; 28 28'N 16 15'W, alt = 36m. A43: 1880-1882; 1/4(1138 + 1738 + 1938 + 2338), 1883-1892; 1/2(1103 + 1703), 1893-1910; 1/2(09 + 17). Site: 28.1W 16.1V. Alt; 1880-1895 = 36m, 1896-1905 = 17m, 1906-1910 = 25m. A130: No details available. Reliability: compared with 600300 for the

years 1920-1980.

600300: LAS PALAMAS (GANDO) CANARY IS. 27.9N 15.3W 25m 1879-1980 12 1879
 Sources: AI, A43, A130

Notes: AI: 1951-1960; alt = 22m. Means of 1/2(mean max + mean min). 1961-1970; 27 56'N 15 23'W, alt = 24m. A43: Temp; 1/2(max + min). Observations were also made at same time as Press; 1880-1882; 1/2(1136 + 1736), 1886-1888; 1/2(01 + 18), 1889-1900; 1/2(13 + 18), 1901; 1/3(09 + 15 + 19), 1902-1909; 1/3(09 + 15 + 18), 1910; 1/2(09 + 15). Alt; 1886-1892 = 9m, 1893-1914 = 7m. 1911-1914; 28 07'N 17 46'W of Paris. A130: 1941-1942; Gando, airport, 1930-1940 & 1943-1948; La Luz, airport. No other details available. Reliability: compared with 600200 for the years 1920-1980.

600350: FUENTEVENTURA CANARY IS. 28.5N 13.9W 1952-1960 61
 Sources: AI

Notes: AI: 1/2(max + min). 1952-1960; 28 31'N 13 53'W, alt = 228m. Reliability: uncheckable.

600600: SIDI IFNI CAMARY IS. 29.4N 10.2W 45m 1951-1968 62
 Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 29 22'N 10 11'W, alt = 66m. Reliability: uncheckable.

600960: VILLA CISNEROS CANARY IS. 23.7N 15.9W 10m 1951-1975 62
 Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 23 42'N 15 52'W, alt = 10m. Reliability: uncheckable.

601010: TANGER MOROCCO 35.5N 5.6W 60m 1880-1945 62
 Sources: A29, A43, A130, A167

Notes: A29: No details available. A43: Means of 1/2(max + min). Observations were also taken at 07, 14 & 21h. Alt; 1898-1909 = 75m. 1910-1911, 35 47'N 8 09'W of Paris, alt = 60m. A130: No details available. A167: Means of 1/2(max + min). Alt = 73m. No other details available. Reliability: uncheckable.

601190: KENITRA MOROCCO 34.3N 6.6W 1923-1960 60
 Sources: AI, A167

Notes: A167: 1/2(max + min). 34 16'N 6 34'W, alt = 25m. AI: 1951-1960; 1/2(max + min). Alt = 12m. Reliability: uncheckable.

601400: FES MOROCCO 34.0N 5.0W 1923-1961 60
 Sources: A1, A167
 Notes: A167: 1/2(max + min). 34 02'N 5 00'W, alt = 416m. Site changes occurred in 1938/1939, 1945/1946 and 1947/1948. No other details available. A1: 1951-1960; 1/2(max + min). 1951-1952; alt = 416m, 1953-1960 = 416m. Reliability: uncheckable.

601500: MEINES MOROCCO 33.0N 5.5W 549m 1923-1980 60
 Sources: A167
 Notes: A167: 1/2(max + min). Alt: 532m. In 1928 site moved from Meknes Aviation, 550m, to Jardin d'Essais and back again. 1937-1943 & 1946-1947; observations are from the Horticultural station. Reliability: uncheckable.

601550: CASABLANCA MOROCCO 33.0N 7.8W 56m 1902-1980 10 1924
 Sources: A1
 Notes: A1: 1931-1960; 1/2(max + min). 1951-Sept 1956; Camp Cases, 33 34'N 7 36'W, alt = 55m. Sept 1956-1960; alt = 50m. Reliability: compared with 602300 for the years 1924-1980.

601900: KASBA-ADLA MOROCCO 32.6N 6.3W 507m 1928-1972 60
 Sources: A167
 Notes: A167: 1/2(max + min). Alt: 1928-1935 = 505m, 1936-1948 = 500m. No other details available. Reliability: uncheckable.

602300: MARRAKECH MOROCCO 31.6N 8.0W 1900-1980 10 1901
 Sources: A1, A43
 Notes: A43: Means of 1/2(max + min). 1901-1910; 31 35'N 9 57'W of Paris, alt = 442m. 1911-1914; 31 27'N 10 20'W of Paris, alt = 500m. A1: Means of 1/2(max + min). 1924-1950; alt = 1519ft. 1951-1952 = 463m. 1953-1960 = 466m. Reliability: compared with 601550 for the years 1924-1980.

602500: AGADIR MOROCCO 30.3N 9.7W 19m 1923-1980 60
 Sources: A167
 Notes: A167: 1/2(max + min). 30 27'N 9 33'W. Various changes in alt were made, varied between 11 and 32m. No other details available. Reliability: uncheckable.

602850: OUAZAZATE MOROCCO 30.9N 6.9W 1136m 1931-1980 60
 Sources: A167
 Notes: A167: 1/2(max + min). 30 56'N 6 54'W, alt = 1162m. Reliability: uncheckable.

603550: SKIKDA ALGERIA 36.5N 6.5E 1854-1974 62
 Sources: A5, A43, A121
 Notes: Also known as Philippeville. A5: No details available. A43: Means of 1/2(max + min). No other details available. A121: Means of 1/2(max + min). Alt: 1931-July 1934 = 71m, Aug 1934-May 1935 = 42m, June 1935-1937 = 47m, 1938-1941 = 42m. Reliability: uncheckable.

603600: ANMADA ALGERIA 36.8N 7.8E 4m 1963-1974 61
 Sources: A1
 Notes: A1: 1/2(max + min). No other details available. Reliability: uncheckable.

603900: ALGER/DAR EL BEIDA ALGERIA 36.7N 3.3E 25m 1838-1980 10 1856
 Sources: A1, A5, A35, A43, A84, A121

Notes: A1: 1951-1960; alt = 28m, 1961-1974 = 25m. Temp; means of 1/2 (max + min). A5: Alt: 13m. No other details available. A35: Anomalies from mean (no years given). A43: Probably means of 1/2(max + min). Data come from 3 sites, but no details are given; 1888-1900 from Hotel du Ville, 1884-1888 from Fort L'Empereur & 1878-1885 from Hotel du Dey. A84: Observations are from Jardin d'Essais du Hems, alt = 10m. No other details available. A121: Means of 1/2(max + min). Alt: 59m. Reliability: compared with 604900 & 605900 for the years 1956-1974 & 1892-1974.

604000: CAP CARBON ALGERIA 36.8N 5.1E 1951-1960 61
 Sources: A1
 Notes: A1: 1/2(max + min). 1951-1960; 36 45'N 5 06'E, alt = 230m. Reliability: uncheckable.

604020: BEJAIA ALGERIA 36.8N 5.0E 1969-1974 61
 Sources: A1
 Notes: A1: 1/2(max + min). No other details available. Reliability: uncheckable.

604190: CONSTANTINE ALGERIA 36.4N 6.6E 660m 1837-1980 62
 Sources: A1, A5, A43, A121

Notes: A1: Alt; 660m. No other details available. A5: No details available. A121: Means of 1/2(max + min). Alt: 1938-Mar 1939 = 660m, Apr 1939-Apr 1942 = 624m, May 1942-1951 = 660m. A43: 36 22'N 4 17'E of Paris. Alt: 1901-1910 = 625m, 1911-1912 = 660m, 1913-1914 = 625m, Military Hospital. Means of 1/2(max + min). Reliability: uncheckable.

604300: MILIANA ALGERIA 36.3N 2.2E 722m 1951-1972 62
 Sources: A1
 Notes: A1: 1/2(max + min). 1951-1960; 36 20'N 2 14'E, alt = 722m. Reliability: uncheckable.

604430: SETIF ALGERIA 36.2W 5.4E 100m 1878-1951 62
 Sources: A40, A43, A121
 Notes: A40: Alt: 100m. Means of 1/2(max + min). A121: Means of 1/2(max + min).
 Alt: 1931-Apr 1938 = 107m, May 1938-1944 = 108m. A43: 1909: 36 44' N 3
 25' E of Paris, alt = 8m. 1910-1914; 36 11' N 3 04' E of Paris, alt = 1000m.
 Means of 1/2(max + min). Reliability: uncheckable.

605321: MUSTAJABEN ALGERIA 35.91 .1E 100m 1852-1862 63
 Sources: A40
 Notes: A40: Alt: 100m. Temp. 1/2(max + min). Press: means of observations taken
 at 16h. Reliability: uncheckable.

604480: BATHA ALGERIA 35.6N 6.2E 100m 1855-1951 62
 Sources: A5, A41, A121
 Notes: A5: Alt: 103m. No other details available. A43: Means of 1/2(max + min).
 Alt: 1850m. 1902-1914; 35 33' N 3 51' E of Paris. Alt = 1050m. A121: 1/2(max
 + min). 1931-1939; alt = 1040m, 1940-1951 = 1031m. Reliability: uncheckable.

604730: TESSA ALGERIA 35.4N 8.1E 816m 1951-1962 61
 Sources: A1
 Notes: A1: 1/2(max + min). 1951-1960; 35 28' N 8 08' E, alt = 816m. Reliability:
 uncheckable.

604900: GRAD/ES SOBIA ALGERIA 35.6N .6W 90m 1841-1974 NO 1852
 Sources: A1, A5, A40, A43, A121
 Notes: A1: Means of 1/2(max + min). Alt: 1929-1940 = 209ft. 1951-1960 = 99m. A5:
 No details available. A40: Alt: 50m. Temp. 1/2(max + min). Press: means of
 observations taken at 16h. A121: Means of 1/2(max + min). Alt: 1931-Jan
 1933 = 1m, Feb 1933-Aug 1948 = 11m, Sept 1948-1951 = 33m. A43: 35 47' N 2
 59' W of Paris. Alt: 1901-1908 = 60m, 1909-1912 = 53m, 1913-1914 = 52m,
 Military Hospital. Means of 1/2(max + min). Reliability: compared with
 603900 & 603900 for the years 1856-1974 & 1892-1974.

603790: BISSA ALGERIA 34.8N 5.7E 81m 1932-1974 67
 Sources: A1
 Notes: A1: 1932-1950, 1/2(max + min). 34 48' N 5 44' E, alt = 266ft. 1951-1960, alt
 = 81m. Reliability: uncheckable.

605309: TLEMCEM ALGERIA 34.8N 1.3W 1853-1971 62
 Sources: A5, A43, A121
 Notes: A5: Alt: 806m. No other details available. A43: Alt: 872m. Means of
 1/2(max + min). A121: Means of 1/2(max + min). Alt: 1931-Apr 1938 = 806m,
 May 1938-1951 = 810m. Reliability: uncheckable.

603350: DJELZA ALGERIA 34.7N 3.2E 1875-1979 61
 Sources: A1

Notes: A1: No details available. Reliability: uncheckable.

605450: LACROUAT ALGERIA 33.8N 2.9E 767m 1878-1971 10 1938
 Sources: A1, A43, A121
 Notes: A1: Alt: 767m. Means of 1/2(max + min). A43: Alt: 770m. Means of 1/2(max +
 min). 1901-1914; 33 48' N 0 33' E of Paris, alt: 752m. 1907-1914; alt = 780m.
 A121: 1/2(max + min). Alt: Jan-Mar 1938 = 767m, Apr 1938-1951 = 765m.
 Reliability: compared with 605490 & 605500 for the years 1882-1950 &
 1878-1957.

605490: MECHEBIA ALGERIA 33.6N .3W 176m 1882-1950 10 1882
 Sources: A43, A121

Notes: A43: Means of 1/2(max + min). Alt: 1882-1885 = 1140m, 1886-1890 = 176m.
 A121: Means of 1/2(max + min). Alt: 1931-Aug 1943 = 1167m, Sept 1943-1950
 = 1157m. Reliability: compared with 605450 & 605500 for the years
 1882-1950.

605500: GERVILLE ALGERIA 33.8N 1.0E 1306m 1878-1951 10 1878
 Sources: A43, A121

Notes: A121: Means of 1/2(max + min). Alt: 1931-Oct 1938 = 1320m, Nov 1938-1951 =
 1305m. A43: Means of 1/2(max + min). Alt: 1306m, 1901-1914; 33 41' N 1 20' W
 of Paris. Alt: 1901-1912 = 1305m, 1913-1914 = 1310m. Reliability: compared
 with 605450 & 605490 for the years 1878-1951 & 1882-1950.

605510: AYATA ALGERIA 33.5N 3.7E 41m 1889-1907 63
 Sources: A29

Notes: A29: Means of 1/2(max + min). Alt: 41m. Reliability: uncheckable.

605460: CHARBIA ALGERIA 32.4N 3.8E 520m 1888-1900 62
 Sources: A1, A5

Notes: A1: Known as Roumrate. A1: Means of 1/2(max + min). No other details
 available. A43: Alt: 520m. Means of 1/2(max + min). 1912-1913; 32 20' N 10
 20' E of Paris. Alt: 1912 = 530m, 1913 = 530m. Reliability: uncheckable.

1880-1882, 1/1/87 - 1/1 - 29 - 0.31 29 - 0.0411, 1880-09-28, 1/1/87 - 1/1 - 29
 1880-1882, 1/1/87 - 1/1 - 29 - 0.31 29 - 0.0411, 1880-09-28, 1/1/87 - 1/1 - 29
 1880-1882, 1/1/87 - 1/1 - 29 - 0.31 29 - 0.0411, 1880-09-28, 1/1/87 - 1/1 - 29
 1880-1882, 1/1/87 - 1/1 - 29 - 0.31 29 - 0.0411, 1880-09-28, 1/1/87 - 1/1 - 29
 1880-1882, 1/1/87 - 1/1 - 29 - 0.31 29 - 0.0411, 1880-09-28, 1/1/87 - 1/1 - 29

1880-1882, 1/1/87 - 1/1 - 29 - 0.31 29 - 0.0411, 1880-09-28, 1/1/87 - 1/1 - 29
 1880-1882, 1/1/87 - 1/1 - 29 - 0.31 29 - 0.0411, 1880-09-28, 1/1/87 - 1/1 - 29
 1880-1882, 1/1/87 - 1/1 - 29 - 0.31 29 - 0.0411, 1880-09-28, 1/1/87 - 1/1 - 29
 1880-1882, 1/1/87 - 1/1 - 29 - 0.31 29 - 0.0411, 1880-09-28, 1/1/87 - 1/1 - 29
 1880-1882, 1/1/87 - 1/1 - 29 - 0.31 29 - 0.0411, 1880-09-28, 1/1/87 - 1/1 - 29

1880-1882, 1/1/87 - 1/1 - 29 - 0.31 29 - 0.0411, 1880-09-28, 1/1/87 - 1/1 - 29
 1880-1882, 1/1/87 - 1/1 - 29 - 0.31 29 - 0.0411, 1880-09-28, 1/1/87 - 1/1 - 29
 1880-1882, 1/1/87 - 1/1 - 29 - 0.31 29 - 0.0411, 1880-09-28, 1/1/87 - 1/1 - 29
 1880-1882, 1/1/87 - 1/1 - 29 - 0.31 29 - 0.0411, 1880-09-28, 1/1/87 - 1/1 - 29
 1880-1882, 1/1/87 - 1/1 - 29 - 0.31 29 - 0.0411, 1880-09-28, 1/1/87 - 1/1 - 29

614890: ROSSO SENEGAL 16.5N 15.8W 6m 1951-1980 62
Sources: AI
Notes: AI: 1951-1960; 1/2(max + min). 16 30'N 15 49'W, alt = 6m. Reliability: uncheckable.

614970: MEMA SENEGAL 16.6N 7.2W 1922-1980 82
Sources: AI
Notes: AI: 1941-1960; 1/2(max + min). 16 36'N 7 16'W, alt = 269m. Reliability: compared with 612570 for the years 1941-1980. Record shows a jump 1954/1955 but data are largely missing after 1959 so has not been corrected.

614980: KIFFA SENEGAL 16.6N 11.4W 1922-1980 61
Sources: AI
Notes: AI: 1951-1960; 1/2(max + min). 16 38'N 11 24'W, alt = 115m. Reliability: uncheckable.

614990: AIOUN EL ATROUSS SENEGAL 16.7N 9.6W 223m 1961-1980 61
Sources: AI
Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

615997: COREE SENEGAL 14.4N 19.5W 6m 1854-1866 63
Sources: A5, A9, A40, A85
Notes: A5: No details available. A9: No details available. A40: Press; Reduced to sea level. Temp; 1/2(max + min). Alt; 6m. A85: No details available. Reliability: uncheckable.

616000: SAINT LOUIS SENEGAL 16.1N 16.5W 4m 1848-1980 60
Sources: AI, A5, A9, A40, A43, A58, A85, A158
Notes: AI: Means of 1/2(daily max + daily min). Alt; 4m. A5: No details available. A9: No details available. A40: Temp; 1/2(max + min). Press; No details available. A43: Temp is 1/2(max + min). Observations are also available for same time as Press; 1873-1878; no details. 1892-1893; 1/2(1054 + 1854), 1894-1904; no details, 1905-1906; 1/3(09 + 15 + 21), 1907-1910; 1/3(07 + 14 + 21). Alt; 1892-1904 = 5m, 1905-1910 = 2m. 1911-1913; 16 01'N 18 51'W of Paris, alt = 2m. 1913-1914; alt = 5m. A58: No details available. A85: No details available. AI58: 1/2(max + min). No other details available. Reliability: compared with 616410 for the years 1898-1980. Record shows a jump 1959/1960 but has not been corrected as many observations are missing.

616120: PODOR SENEGAL 16.6N 14.9W 1918-1980 60
Sources: AI
Notes: AI: 1951-1960; 1/2(max + min). 16 38'N 14 56'W, alt = 7m. Reliability: uncheckable.

616270: LINGUERE SENEGAL 15.3N 15.1W 1933-1980 10 1951
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 15 23'N 15 07'W, alt = 21m. Reliability: compared with 612570, 616300 & 616870 for the years 1951-1980.

616300: MATAM SENEGAL 15.6N 13.2W 1918-1980 10 1951
Sources: AI

Notes: AI: 1951-1960; 15 38'N 13 15'W, alt = 17m. Reliability: compared with 612570, 616270 & 616870 for the years 1951-1980. Last few years contain some suspect values.

616410: DAKAR SENEGAL 14.7N 17.5W 24m 1897-1980 60
Sources: AI, A43, A58, A158

Notes: AI: Means of 1/2(daily max + daily min). 1951-1977, alt = 24m. A43: Means of 1/2(max + min). Alt; 30m. 14 0'N 19 46'W of Paris. A58: No details available. AI58: 1/2(max + min). No other details available. Reliability: uncheckable.

616540: THIES SENEGAL 14.8N 17.0W 1918-1973 61
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 14 48'N 16 57'W, alt = 76m. Reliability: uncheckable.

616660: DIOURBEL SENEGAL 14.8N 16.2W 1919-1980 60
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 14 50'N 16 15'W, alt = 9m. Reliability: uncheckable.

616790: KAOLACK SENEGAL 14.1N 16.1W 7m 1931-1980 60
Sources: AI, A158

Notes: AI58: 1/2(max + min). No other details available. AI: 1951-1960; 1/2(max + min). Alt = 7m. Reliability: uncheckable.

616870: YAMBACOUNDA SENEGAL 13.9N 13.6W 1920-1980 10 1923
Sources: AI, A158

Notes: AI58: 1923-1931; means of 3 daily observations. 1932-1933 & 1937-1939; 1/2(max + min). 1934-1936; 1/4(08 + 20 + max + min). No other details available. AI: Means of 1/2(max + min). 1941-1950; alt = 44m. 1951-1960 = 46m. Reliability: compared with 612570, 616270 & 616300 for the years 1941-1980, 1951-1980 & 1951-1980. 1962 contains some high values.

616950: ZIGUINCHOR SENEGAL 12.6N 16.3W 23m 1923-1980 10 1923
Sources: AI, AI58

Notes: AI58: 1923-1930; means of 3 daily observations. 1931-1960; 1/2(max + min).
No other details available. AI: 1951-1960; 1/2(max + min). Alt = 23m.
Reliability: compared with 616980 & 617010 for the years 1951-1980.

616980: KOLDA SENEGAL 12.9N 14.9W 22m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 12 55'N 14 55'W, alt = 22m. Reliability:
compared with 616950 & 617010 for the years 1951-1980.

616990: KEDOU SENEGAL 12.5N 12.1W 1918-1980 61
Sources: AI

Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

617010: BATHURST GAMBIA 13.4N 16.6W 25m 1884-1980 60
Sources: AI, A98

Notes: Also known as Banjuil, Yundum & Cape Saint Mary. AI: 1884-1926; alt =
2m. In Jan 1926 the station moved to Cape Saint Mary at 13.5N 16.7W. No
information is available as to the relative rainfall at the two sites, so
that for the latter is not included until 1931. 1931-1936; Means of
1/2(max + min). Alt; 52ft. Yundum station opened in July 1945 at 13.4N
16.7W. Alt; 90ft. Means of 1/2(max + min). 1951-1960; means of 1/2(daily
max + daily min), read at station zone time nearest to 09 GMT, as is rain.
A98: Means of 1/2(max + min). 1910-1911; 13 24'N 16 36'W, 2m, 1912; 5m,
1913-1918; 2m, 1919-1921; 13 27'N 16 36'W, 2m, 1922-1925; 13 27'N 16 34'W,
2m, 1926-1930; Cape St. Mary, 13 29'N 16 40'W, 16m. Reliability:
uncheckable.

617660: BISSAU AIRPORT GUINEA 11.9N 15.6W 40m 1941-1974 60
Sources: AI

Notes: AI: 1941-1960; 1/2(max + min). 11 51'N 15 36'W, alt = 22m. Reliability:
uncheckable.

617690: BOLAMA GUINEA 11.5N 15.4W 1924-1980 61
Sources: AI

Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

618090: LABE AERO GUINEA 11.4N 12.3W 1923-1980 61
Sources: AI

Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

618110: SIGUIRI GUINEA 11.4N 9.1W 1922-1979 62
Sources: AI

Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

618160: BOKE GUINEA 10.9N 14.3W 1922-1980 62
Sources: AI58

Notes: AI58: 1923-1931; means of 3 daily observations. 1932-1939; 1/2(max + min).
No other details available. Reliability: uncheckable.

618180: KINDIA GUINEA 10.0N 12.8W 1922-1980 61
Sources: AI

Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

618290: MAMOU GUINEA 10.3N 12.0W 1922-1980 60
Sources: AI, AI58

Notes: AI58: 1923-1931; means of 3 daily observations. 1932-1939; 1/2(max + min).
No other details available. AI: Means of 1/2(max + min). 1951-1960; alt =
785m. 1951-1960 = 782m. Reliability: uncheckable.

618290: KANKAN GUINEA 10.3N 9.3W 1921-1980 61
Sources: AI

Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

618320: CONAKRY GUINEA 9.5N 13.9W 1905-1980 62
Sources: AI, A43, A98, AI58

Notes: AI: 1951-1960; Aerodrome, 9 34'N 13 37'W, alt = 46m. Means of 1/2(max +
min). A98: Means of 1/2(max + min). 1910-1914; 9 31'N 13 43'W, alt = 16m,
1915; 9 40'N 13 42'W, 1916-1920; 9 40'N 13 43'W, 1921-1922; 9 40'N 13
42'W, 1923; 9 40'N 13 40'W, 1923-1925; 9 40'N 13 43'W, 1926-1934; 9 31'N
13 43'W, 1932-1934; alt = 13m. AI58: 1/2(max + min). 1935-1948; 9 30'N 13
43'W, alt = 5m. 1949-1950; 9 34'N 13 37'W, alt = 46m. A43: 1/2(max + min).
1905-1909; 9 04'N 16 02'W of Paris, alt = 16m. 1910-1914; 9 31'N 16 03'W
of Paris, alt = 16m. Reliability: uncheckable.

618340: KISSIDOUGOU GUINEA 9.1N 10.1W 1921-1980 61
Sources: AI

Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

618470: MACENTA GUINEA 8.5N 9.5W 540m 1964-1980 61
Sources: AI

Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

618490: W ZEREKONE 7.7M 8.0M 470m 1964-1980 61
Sources: AI
Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

618560: LUNGI 8.5M 13.2M 27m 1849-1980 10 1891
Sources: AI, A7
Notes: AI: Means of 1/2(daily max + daily min). Many early months are unreliable & have been corrected by applying 4 corrections. Given on p15, vol 79. After 1925 the thermometer was exposed. In June 1929 the mean was computed from 1/2(max + 09), by applying a correction of -4.25F. There were a variety of minor site changes throughout the period, some details of which are given in the text. No corrections are made. Alt: 27m. Sites: 1931-April 1935: Tower Hill, 8 29'N 13 14'W, alt = 214ft, May 1935-June 1939: alt = 171ft, July 1939-Aug 1947: Falconbridge Point, 8 30'N 13 14'W, alt = 37ft, Sept 1947-1960: 8 37'N 13 12'W, alt = 87ft, 1951-1960: alt = 25m. A7: Means of 1/2(max + min). Alt = 120m. Reliability: compared with 618910 & 618860 for the years 1951-1980 & 1955-1980.

618660: BOWTHE 7.5M 12.5M 8m 1951-1980 10 1955
Sources: AI
Notes: AI: 1951-1960; 1/2(max + min). 7 32'N 12 30'W, alt = 3m. Reliability: compared with 618860 for the years 1955-1980.

618810: BO 8.0M 11.8M 93m 1968-1980 61
Sources: AI
Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

618860: KABALA 9.6M 11.6M 464m 1955-1980 10 1955
Sources: AI
Notes: AI: 1951-1960; 1/2(max + min). 9 35'N 11 33'W, alt = 464m. Reliability: compared with 618560 & 618860 for the years 1955-1980.

618910: DARU 8.0M 10.9M 186m 1951-1980 10 1951
Sources: AI
Notes: AI: 1951-1960; 1/2(max + min). 7 59'N 10 52'W, alt = 90m. Reliability: compared with 618560 for the years 1951-1980.

619310: SAO TOME 6.7E 15m 1874-1975 12 1874
Sources: AI, A52
Notes: AI: Means of 1/2(max + min). 1951-1960; 0 23'N 6 43'E, alt = 13m. 1961-1970; alt = 8m. A52: Alt = 5m. No other details available. Reliability: compared with 645000 for the years 1896-1975. Largely missing data prior to 1941.

619340: SAO TOME PRINCIPE 1.7M 7.4E 1961-1970 61
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 1 39'N 7 25'E, alt = 3m. Reliability: uncheckable.

620020: MALUT 31.8N 11.0E 1925-1960 61
Sources: AI
Notes: AI: 1951-1960; 31 52'N 10 59'E, alt = 620m. Reliability: uncheckable.

620037: BENI ULAD 31.8N 14.0E 1951-1960 61
Sources: AI
Notes: AI: 1951-1960; 1/2(max + min). 31 45'N 14 00'E. Reliability: uncheckable.

620057: HIZDA 31.5N 13.0E 1951-1960 61
Sources: AI
Notes: AI: 1951-1960; 1/2(max + min). 31 27'N 13 00'E. Reliability: uncheckable.

620070: ZUARA 32.9N 12.1E 3m 1951-1975 10 1954
Sources: AI
Notes: AI: 1951-1960; 1/2(max + min). 32 55'N 12 05'E, alt = 3m. Reliability: compared with 607650 for the years 1954-1974.

620087: GARLAN 32.2M 13.0E 1951-1960 61
Sources: AI
Notes: AI: 1/2(max + min). 32 10'N 13 01'E. No other details available. Reliability: uncheckable.

620097: BONS/LA VALDAGNO 32.6N 14.2E 1951-1960 61
Sources: AI
Notes: AI: 1951-1960; 32 36'N 14 12'E. 1/2(max + min). Reliability: uncheckable.

620100: TRIPOLI 32.9N 13.2E 8 1/2m 1879-1980 62
Sources: AI, A61, A84
Notes: AI: Means of 1/2(daily max + daily min). 1944-1960; 33.0N 13.2E. 1961 on; Airport, 32.7N 13.2E, alt = 84m. A61: No details available. A84: No details available. Reliability: uncheckable.

620160: MISURATA 32.3N 15.0E 6m 1925-1975 60
Sources: AI
Notes: AI: 1951-1960; 1/2(max + min). 32 25'N 15 06'E, alt = 6m. Reliability: uncheckable.

620177: TURMINA LIBYA 32.2N 15.1E 1951-1960 61
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 32 09'N 15 04'E. Reliability: uncheckable.

620190: SIRTE LIBYA 31.2N 16.4E 1925-1973 62
Sources: AI

Notes: AI: 1946-1960; 1/2(max + min). 31 12'N 16 35'E, alt = 22m. Reliability: uncheckable.

620530: BENINA LIBYA 32.1N 20.3E 132m 1945-1980 62
Sources: AI

Notes: AI: 1/2(max + min). 1945-1950; 32 05'N 20 16'E, alt = 411ft. 1951-1960; 32 06'N 20 16'E, alt = 125m. Reliability: uncheckable.

620537: BENGHAZI LIBYA 32.1N 20.0E 10m 1886-1921 63
Sources: A29, A43, A84

Notes: A29: Means of 1/2(max + min). A43: Means of 1/2(max + min). Alt: 1891-1896 = 8m, 1897-1905 = 10m. A84: No details available. Reliability: uncheckable.

620550: ACEBABA LIBYA 30.7N 20.2E 1954-1960 61
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 30 43'N 20 10'E, alt = 5m. Reliability: uncheckable.

620560: SHAHAT LIBYA 32.8N 21.9E 625m 1945-1960 61
Sources: AI

Notes: AI: 1/2(max + min). 1945-1950; 32 49'N 21 51'E, alt = 2049ft. 1951-1960; alt = 625m. Reliability: uncheckable.

620590: DERRA LIBYA 32.7N 22.6E 1913-1960 61
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 32 44'N 22 38'E, alt = 9m. Reliability: uncheckable.

620620: TOBRUQ LIBYA 32.0N 23.9E 1914-1973 61
Sources: AI

Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

620630: EL ADEN LIBYA 31.9N 23.9E 155m 1945-1975 10 1945
Sources: AI

Notes: AI: 1945-1950; 1/2(max + min). 31 51'N 23 55'E, alt = 515ft. 1951-1960; alt = 157m. Reliability: compared with 623060 for the years 1951-1975.

621240: SEBHA LIBYA 27.0N 14.4E 1930-1977 62
Sources: AI

Notes: AI: 1945-1950; 1/2(max + min). 27 01'N 14 26'E, alt = 1457ft. 1951-1960; alt = 444m. Reliability: uncheckable.

621310: BOM LIBYA 29.1N 16.0E 261m 1954-1975 60
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 29 08'N 15 57'E, alt = 261m. Reliability: uncheckable.

621610: GIALO LIBYA 29.0N 21.6E 62m 1964-1980 61
Sources: AI

Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

622710: KUFRA LIBYA 24.2N 23.3E 1933-1980 62
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 24 13'N 23 20'E, alt = 382m. Reliability: uncheckable.

623000: SALLUM EGYPT 31.5N 25.2E 6m 1951-1975 62
Sources: AI

Notes: AI: 1951-1960; 31 32'N 25 11'E, alt = 4m. 1951-Sept 1954; 1/4(06 + 12 + 18 + min). Oct 1954-1960; means of 24 hours. Reliability: uncheckable.

623030: SIDI BARRINI EGYPT 31.6N 25.9E 1909-1970 62
Sources: AI

Notes: AI: 1951-1960; 31 38'N 25 58'E, alt = 21m. 1951; 1/2(max + min). 1952-1960; means of 24 hours. Reliability: uncheckable.

623060: MATRUH EGYPT 31.3N 27.2E 1905-1978 10 1951
Sources: AI

Notes: AI: 1951-1960; 31 20'N 27 13'E, alt = 31m. 1956-1960; means of 24 hours. Reliability: compared with 624200 & 624170 for the years 1951-1975.

623180: ALEXANDRIA EGYPT 31.2N 29.8E 1901-1975 10 1945
Sources: AI

Notes: AI: 1951-1960; 31 12'N 29 57'E, alt = 7m. 1956-1960; means of 24 hours. Reliability: compared with 623197 & 623060 for the years 1945-1957 & 1951-1975.

623197: KOM EL MADURA EGYPT 31.2N 29.9E 32m 1868-1957 10 1870
Sources: AI

Notes: AI: 1870-1888; observations taken at Piroua. Means of 1/4(09 + 21 + max + min), reduced to Kom el Madura true means by corrections based on comparative observations for 1889-1896. 1889-1896; means between Piroua's corrected results & those of Kom el Madura. 2 series are in good agreement; average difference is +/- 0.12C. 1897-1920; 1/4(08 + 14 + 20 + min) reduced to true means by corrections from 5 years thermograph charts. 1921-1940; means as above but corrections from 6 years thermograph charts. are on p3, vol 90. Alt: 32m. 1941-1960; means as above, GMT. Corrections are on p7. Reliability: compared with 623330 & 624410 for the years 1886-1957 & 1880-1956.

623330: FORT SAID EGYPT 31.3N 32.3E 1m 1886-1975 12 1886
Sources: AI, A10, A43

Notes: Also known as El Gamil. AI: 1/8(03 + 06 + 09 + 12 + 15 + 18 + 21 + 24) GMT. Alt: 1945-1950 = 6m, 1951-1960 = 1m. A10: No details available. A43: Temp; 1/2(max + min). Observations also taken at same time as Piroua; 1886-1887; 1/3(0700 + 1417 + 1700), 1888-1893; 1/4(0700 + 1100 + 1417 + 1700), 1894-1895; 1/4(0730 + 1100 + 1400 + 1700), 1896; 1/3(0730 + 1400 + 1700), 1897-1900; 1/3(07 + 14 + 17), 1901; 1/3(0730 + 1400 + 1700), 1902-1910; 1/3(07 + 14 + 17). 1886-1900; alt = 6m. 1901-1910; alt = 4m. 1911-1914; 31 66'N 29 59'E of Piroua, alt = 3m. Reliability: compared with 623197 & 624410 for the years 1886-1957 & 1886-1956. Large data gap, 1911-1951.

623380: GHAZZA EGYPT 31.5N 34.5E 16m 1953-1967 61
Sources: AI

Notes: AI: 1951-1960; 31 30'N 34 27'E, alt = 10m. July 1953-Sept 1956; 1/8(00 + 03 + ...21). May 1959-1960; means of 24 hours. Reliability: uncheckable.

623660: CAIRO EGYPT 30.0N 31.2E 1903-1978 12 1951
Sources: AI

Notes: AI: 1951-1960; 30 08'N 31 34'E, alt = 95m. 1956-1960; means of 24 hours. Reliability: compared with 623780 for the years 1951-1978.

623710: ABTAISSIA/CAIRO HQ EGYPT 30.1N 31.3E 33m 1869-1960 82
Sources: AI

Notes: AI: Station was closed at end of 1922 & reopened again in Oct 1955. 1869-1899; means of 3-hourly observations. 1900-1903; means of hourly observations. 1904-1922; 1/4(08 + 14 + 20 + min), reduced to true 24 hour

means by corrections, given in the source. Exposure changed in 1890 & in 1897. Mean temps for 1897, 1898 & 1899 may be too low. Exposure not uniform since 1900, because of trees. 1955-1960; 24 hour means. Reliability: compared with 623780 & 624410 for the years 1904-1960 & 1880-1956. Missing observations 1923-1957 are associated with jumps in the record.

623780: HELWAN EGYPT 29.9N 31.3E 141m 1904-1978 10 1904
Sources: AI

Notes: AI: 1904-1905 & 1921-1922; 1/4(08 + 14 + 20 + min) reduced to means of 24 hours by corrections given on p17, vol 79. 1906-1920; means of 24 hours from a thermograph, controlled by eye observations taken at 08, 14 & 20h. 29 52'N 31 20'E, alt = 116m. 1921-1940; 1/4(08 + 14 + 20 + min) corrected to means of 24 hours by corrections given on p9, vol XC. 1931-1940; means as above, time is 30E meridian time. 1941-1960; 1/4(06 + 12 + 18 + min) GMT corrected to means of 24 hours by corrections given on p7, vol "1941-1950". Reliability: compared with 623660 & 623710 for the years 1951-1978 & 1904-1960.

623870: EL MINYA EGYPT 28.1N 30.7E 1934-1975 10 1945
Sources: AI

Notes: AI: 1945-1950; 28 05'N 30 44'E, alt = 40m. 1/8(03 + 06 + 09 + ...24) GMT. 1951-1960; alt = 39m. 1956-1960; means of 24 hours. Reliability: compared with 623930 & 624200 for the years 1951-1975.

623930: MAHQABAD/ASYUT EGYPT 27.2N 31.1E 70m 1951-1975 20 1951
Sources: AI

Notes: AI: 1951-1960; 27 11'N 31 06'E, alt = 71m. 1956-1960; means of 24 hours. Reliability: compared with 624200 & 623870 for the years 1951-1975. Corrected for a jump 1967/1968. Correction Factors: Stations used: 624200 & 623870. Calculation dates: 1951-1967. Correction dates: 1968-1975. Factors: -8 -4 -7 -7 -7 -5 -6 -8 1 0 -8.

624020: QENA EGYPT 26.1N 32.5E 1935-1963 61
Sources: AI

Notes: AI: 1951-1960; 26 10'N 32 43'E, alt = 73m. 1951-Sept 1955; 1/4(06 + 12 + 18 + min). Reliability: uncheckable.

624050: LUKOR EGYPT 25.7N 32.7E 88m 1941-1975 10 1941
Sources: AI

Notes: AI: City; 25 39'N 32 39'E, alt = 78m. Airport; 25 40'N 32 42'E, alt = 82m. 1949-1950; Airport. 1/4(06 + 12 + 18 + min) GMT adjusted to old city site & to 1/4(08 + 14 + 20 + min) GMT by applying corrections given on p8, vol "1941-1950" & based on 2 years overlapping data. Prec data are in good agreement. 1951-1960; alt = 95m. 1952-1960; means of 24 hours. Reliability: compared with 624320 & 624350 for the years 1951-1975.

624140: ASWAM EGYPT 24.0N 32.8E 1935-1978 20 1951
Sources: AI, A159

Notes: A159: Means of $1/2(\max + \min)$. 24 02'N 32 53'E, alt = 111m. A1: 1951-Sept 1955; 1/4(06 + 12 + 18 + min). Dec 1955-Nov 1959; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21). 1951-1960; alt = 196m. Reliability: compared with 624050 & 624620 for the years 1951-1975. Corrected for a jump 1959/1960. Correction Factors: Stations used: 624050 & 624620. Calculation dates: 1951-1959. Correction dates: 1960-1975. Factors: -7 -11 -8 -8 -10 -2 -4 -7 -9 -11 -18 -6.

624170: SIWA EGYPT 29.2N 25.4E 1920-1975 80
Sources: AI, A159

Notes: A159: Means of $1/2(\max + \min)$. 29 12'N 25 29'E, alt = -15m. A1: 1951; 1/4(06 + 12 + 18 + min). 1952-1955; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21). 1951-1960; alt = -15m. Reliability: compared with 624200 & 623060 for the years 1951-1975. Record shows some very odd values & a jump 1963/1964.

624200: BAHARIA EGYPT 28.3N 28.9E 130m 1951-1975 20 1951
Sources: AI

Notes: A1: 1951-1960; 28 20'N 28 34'E, alt = 126m. 1951-May 1957; 1/4(06 + 12 + 18 + min). June 1957-1960; means of 24 hours. Reliability: compared with 623060 & 624170 for the years 1951-1975. Corrected for a jump 1956/1957. Correction Factors: Stations used: 623060 & 624170. Calculation dates: 1951-1956. Correction dates: 1957-1975. Factors: 7 8 1 9 7 12 11 8 12 11 4

624320: DMKLA EGYPT 25.5N 29.0E 1932-1978 10 1951
Sources: AI

Notes: A1: 1951-1960; 25 29'N 29 00'E, alt = 110m. 1951-1956; 1/4(06 + 12 + min). 1957-1958; 1/8(00 + 03 +21). 1958-1960; means of 24 hours. Reliability: compared with 624050 & 624350 for the years 1951-1975.

624350: KHARGA EGYPT 25.4N 30.5E 1926-1975 10 1951
Sources: AI

Notes: A1: 1951-1960; 25 26'N 30 34'E, alt = 72m. 1951-Sept 1954; 1/4(06 + 12 + 18 + min). Oct 1954-1960; means of 24 hours. Reliability: compared with 624050 & 624320 for the years 1951-1975.

624410: ISMAILIA EGYPT 30.6N 32.3E 12m 1880-1956 12 1880
Sources: AI, A43

Notes: A1: Alt; 12m. Means of $1/4(06 + 12 + 18 + \min)$. A43: Temp; $1/2(\max + \min)$. Press; no details. 1910-1914; 30 36'N 29 56'E of Paris, alt = 9m. Reliability: compared with 623197 & 623350 for the years 1880-1956 & 1886-1956. Large data gap 1911-1951.

624557: SUEZ EGYPT 30.0N 32.6E 3m 1880-1937 63
Sources: A10, A43

Notes: A10: No details available. A43: Temp; $1/2(\max + \min)$. Observations were also taken at same time as Press; 1881-1882; 1/7(0700 + 0800 + 0853 + 1100 + 1400 + 1417 + 1700). 1883-1884; 1/3(0700 + 1417 + 1700). Alt = 7m. 1888-1893; 1/4(0700 + 1100 + 1417 + 1700). Alt = 3m. 1894-1895; 1/4(07 + 11 + 14 + 17). 1896; 1/4(0730 + 1100 + 1400 + 1700). 1897-1900; 1/4(07 + 11 + 14 + 17). 1901-1908; 1/3(0730 + 1400 + 1700). 1909; 1/3(07 + 14 + 17). 1910; 1/3(0730 + 1400 + 1700). 1911-1912; 29 56'N 30 13'E of Paris, alt = 3m. 1913-1914; 29 59'N 30 11'E of Paris. Reliability: compared with 623710 for the years 1880-1910 but considered uncheckable.

624620: BURGHADA EGYPT 27.3N 33.8E 3m 1951-1975 10 1951
Sources: AI

Notes: A1: 1951-1960; 27 17'N 33 46'E, alt = 1m. 1956-1960; means of 24 hours. Reliability: compared with 624050 & 624140 for the years 1951-1975.

626000: WADI HALFA SUDAN 21.9N 31.3E 1937-1973 60
Sources: AI

Notes: A1: 1941-Aug 1948; 21 55'N 31 20'E, alt = 126m. Sept 1948-1950; 21 50'N 31 16'E, alt = 160m. 1/4(08 + 14 + 20 + min) 30E meridian time corrected to means of 24 hours. 1951-1960; 1/4(06 + 12 + 18 + min) GMT. Reliability: uncheckable.

626400: ABU RAMED SUDAN 15.9N 33.8E 1909-1975 10 1951
Sources: AI

Notes: A1: 1951-1960; 1/4(06 + 12 + 18 + min). No other details available. Reliability: compared with 626600 & 626610 for the years 1951-1975.

626410: PORT SUDAN SUDAN 19.6N 37.2E 1906-1980 10 1943
Sources: AI

Notes: A1: 1943-1950; 19 35'N 37 13'E, alt = 3m. 1/4(08 + 14 + 20 + min) 30E meridian time corrected to means of 24 hours. 1951-1960; 1/4(06 + 12 + 18 + min) GMT. Reliability: compared with 626610 for the years 1951-1975.

626500: DONGOLA SUDAN 19.1N 30.4E 1945-1980 61
Sources: AI

Notes: A1: 1/4(06 + 12 + 18 + min) GMT. No other details available. Reliability: uncheckable.

626600: KARIMA SUDAN 18.6N 31.9E 249m 1951-1975 10 1951
Sources: AI

Notes: A1: 1951-1960; 1/4(06 + 12 + 18 + min). 18 33'N 31 51'E, alt = 250m. Reliability: compared with 626400 & 626610 for the years 1951-1975.

626610: GEBEIT SUDAN 19.0N 36.9E 796m 1951-1975 10 1951
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 18 57'N 36 51'E, alt = 797m. Reliability: compared with 626410 for the years 1951-1975. Dec 1966 value has been coded as missing.

626710: TOKAR SUDAN 18.4N 37.7E 1913-1975 62
Sources: AI

Notes: AI: 1951-1960; 1/4(06 + 12 + 18 + min). 18 26'N 37 44'E, alt = 20m. Reliability: uncheckable.

626800: ATBARA SUDAN 17.6N 33.9E 1907-1975 10 1943
Sources: AI

Notes: AI: 1941-1950; 17 42'N 33 58'E, alt = 348m. 1/4(08 + 14 + 20 + min) 30E meridian time corrected to means of 24 hours. 1951-1960; 1/4(06 + 12 + 18 + min) GMT. Reliability: compared with 627300, 627510 & 627720 for the years 1943-1975, 1951-1975 & 1943-1975.

627000: SHEWDI SUDAN 16.7N 33.4E 360m 1951-1975 72
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 16 42'N 33 26'E, alt = 361m. Reliability: compared with 626800 & 627210 for the years 1951-1975.

627210: KHARTOUM SUDAN 15.6N 32.6E 1899-1980 10 1901
Sources: AI

Notes: AI: 1901-1910; Military Hospital, 1911-1922; Gordon College. 1901-1907; corrected to Gordon College by means of 3 years of overlap (1908-1910). 1/4(08 + 14 + 20 + min) corrected to means of 24 hours by corrections based on 5 years thermograph records at Gordon College & given on p19, vol 79 & on p10, vol IC. 1921-1941; alt = 390m. In Jan 1933 station moved to Stack Laboratory, corrections are given on p4, vol 105. Alt = 390m. 1941-1950; 1/4(08 + 14 + 20 + min) 30E meridian time. Site; Jan-May 1941; 15 36'N 32 32'E. June 1941-June 1944; 15 33'N 32 29'E, alt = 383m. 1951-1960; 1/4(06 + 12 + 18 + min) GMT. Alt; 389m. Reliability: compared with 627500, 627510, 627710 & 627720 for the years 1951-1975, 1951-1975, 1910-1980 & 1943-1975.

627300: KASSALA SUDAN 15.5N 36.4E 500m 1901-1975 20 1941
Sources: AI

Notes: AI: 1941-1950; 15 28'N 36 24'E, alt = 501m. 1/4(08 + 14 + 20 + min) 30E meridian time corrected to means of 24 hours. 1951-1960; 1/4(06 + 12 + 18 + min) GMT. Reliability: compared with 626800 & 627720 for the years 1943-1975. Corrected for a jump 1949/1950. Correction Factors: Stations used: 626800 & 627720. Calculation dates: 1943-1949. Correction dates: 1950-1975. Factors: -1 -3 -6 0 3 -1 2 0 -2 1 -2 3.

627500: ED DUBEIM SUDAN 14.0N 32.3E 378m 1951-1975 12 1951
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 13 59'N 32 20'E, alt = 379m. Reliability: compared with 627210 for the years 1951-1975.

627510: WAD MEDANI SUDAN 14.4N 33.5E 408m 1951-1975 20 1951
Sources: AI

Notes: AI: 1951-1960; 1/4(06 + 12 + 18 + min). 14 23'N 33 29'E, alt = 408m. Reliability: compared with 627210, 626800 & 627720 for the years 1951-1975. Corrected for a jump 1968/1969. Correction Factors: Stations used: 626800 & 627720. Calculation dates: 1951-1968. Correction dates: 1969-1975. Factors: 7 6 4 3 1 6 6 1 2 9 11.

627520: GEDAREF SUDAN 14.0N 35.4E 1966-1975 61
Sources: AI

Notes: AI: 1/4(06 + 12 + 18 + min) GMT. No other details available. Reliability: uncheckable.

627600: EL FASHER SUDAN 13.6N 25.4E 730m 1918-1980 20 1941
Sources: AI

Notes: AI: 1941-Sept 1942; 13 37'N 25 20'E. Oct 1942-1950; 13 38'N 25 20'E, alt = 730m. 1/4(08 + 14 + 20 + min) 30E meridian time corrected to means of 24 hours. 1951-1960; 1/4(06 + 12 + 18 + min) GMT. Reliability: compared with 627710 & 627810 for the years 1941-1980 & 1951-1975. Corrected for a jump 1970/1971. Correction Factors: Stations used: 627710 & 627810. Calculation dates: 1951-1970. Correction dates: 1971-1975. Factors: 7 11 6 2 3 5 4 6 8 3 5 5.

627700: GEHEINA SUDAN 13.4N 22.3E 1929-1975 10 1951
Sources: AI

Notes: AI: 1951-1960; 1/4(06 + 12 + 18 + min). 13 29'N 22 27'E, alt = 805m. Reliability: compared with 627800, 646580, 647540 & 647560 for the years 1951-1975, 1951-1975, 1952-1975 & 1951-1975.

627710: EL OBEID SUDAN 13.1N 30.2E 74m 1902-1980 20 1910
Sources: AI, 498

Notes: AI: 1941-1950; 1/4(08 + 14 + 20 + min) 30E meridian time, corrected to means of 24 hours. 1951-1960; 1/4(06 + 12 + 18 + min) GMT. 1941-1960; alt = 575m. A98: Means of 1/2(max + min). 1910-1914; 13 11'N 30 14'E, alt = 585m. 1915-1924; alt = 569m. 1925-1933; 563m. 1934; 568m. Reliability: compared with 627720 & 627210 for the years 1943-1975 & 1910-1980. Corrected for a jump 1950/1951. Correction Factors: Stations used: 62720 & 627210. Calculation dates: 1943-1950. Correction dates: 1951-1975. Factors: -4 2 -5 -6 -2 0 -2 -1 3 -1 -2 -3.

62720: KOSTI SUDAN 13.2N 32.7E 381m 1909-1975 20 1943
Sources: AI

Notes: AI: 1943-1950; 13 10'N 32 40'E, alt = 382m. 1/4(08 + 14 + 20 + min) 30E meridian time corrected to means of 24 hours. 1951-1960; 1/4(06 + 12 + 18 + min) GMT. Reliability: compared with 627210, 627300 & 627510 for the years 1943-1975, 1943-1975 & 1951-1975. Corrected for a jump 1957/1958. Correction Factors: Stations used: 627210 & 627300. Calculation dates: 1943-1957. Correction dates: 1958-1975. Factors: -5 -6 -4 -7 -2 -2 -3 -5 -4 -5 -5.

62780: ZALINGEI SUDAN 12.9N 23.4E 1929-1975 82
Sources: AI

Notes: AI: 1/4(06 + 12 + 18 + min). 1951-1960; 12 34'N 23 19'E, alt = 905m. Reliability: compared with 627700 for the years 1951-1975. Record shows, uncorrectable, jump 1956/1957.

627810: EN MARUD SUDAN 12.7N 28.4E 1912-1975 20 1951
Sources: AI

Notes: AI: 1/4(06 + 12 + 18 + min), 12 42'N 28 26'E, alt = 565m. Reliability: compared with 627600 & 627710 for the years 1951-1975. Corrected for a jump 1956/1957. Correction Factors: Stations used: 627600 & 627710. Calculation dates: 1951-1956. Correction dates: 1957-1965. Factors: -21 -20 -13 -11 -7 -13 -12 -17 -20 -16 -18 -17.

627950: YUZI/ABU MAAMA SUDAN 12.5N 34.0E 450m 1952-1975 62
Sources: AI

Notes: AI: 1951-1960; 1/4(06 + 12 + 18 + min). 12 30'N 34 00'E, alt = 453m. Reliability: uncheckable.

627957: ABU MAAMA SUDAN 12.7N 34.1E 1963-1970 61
Sources: AI

Notes: AI: 1/4(06 + 12 + 18 + min) GMT. No other details available. Reliability: uncheckable.

628050: DAMAZINE SUDAN 11.8N 34.4E 470m 1962-1980 61
Sources: AI

Notes: AI: 1/4(06 + 12 + 18 + min) GMT. No other details available. Reliability: uncheckable.

628400: MILAKAL SUDAN 9.6N 31.6E 388m 1909-1980 60
Sources: AI

Notes: AI: 1941-1950; 9 33'N 31 39'E, alt = 389m. 1/4(08 + 14 + 20 + min) 30E meridian time corrected to means of 24 hours. 1951-1960; 1/4(06 + 12 + 18 + min) GMT. Reliability: uncheckable.

628800: WAD SUDAN 7.7N 28.0E 439m 1904-1980 10 1942
Sources: AI, A98

Notes: AI: 1941-1950; 1/4(08 + 14 + 20 + min) 30E meridian time, corrected to means of 24 hours. 1951-1960; 1/4(06 + 12 + 18 + min). A98: Means of 1/2(max + min). 1910-1933; 7 42'N 28 03'E, alt = 440m. 1934; alt = 436m. Reliability: compared with 627810 & 629410 for the years 1951-1975 & 1941-1980.

629410: JURA SUDAN 4.9N 31.7E 457m 1901-1980 20 1941
Sources: AI

Notes: AI: 1941-Nov 1948; 4 51'N 31 37'E, alt = 461m. Dec 1948-1950; 4 52'N 31 36'E, alt = 458m. 1/4(08 + 14 + 20 + min) 30E meridian time corrected to means of 24 hours. 1951-1960; 1/4(06 + 12 + 18 + min) GMT. Reliability: compared with 636300 & 637050 for the years 1951-1975 & 1941-1977. Corrected for a jump 1971/1972. Correction Factors: Stations used: 636300 & 637050. Calculation dates: 1951-1971. Correction dates: 1972-1975. Factors: 14 18 12 7 11 6 5 -1 6 10 11.

630210: ASHARA ETHIOPIA 15.3N 38.9E 1903-1980 61
Sources: AI

Notes: AI: No details available. Reliability: uncheckable.

630230: MASSAWA ETHIOPIA 15.6N 39.5E 1885-1974 62
Sources: AI, A103

Notes: AI: No details available. A103: Means of 1/2 (max + min). No other details available. Reliability: uncheckable.

630430: ASSAB ETHIOPIA 13.1N 42.7E 14m 1963-1974 61
Sources: AI

Notes: AI: No details available. Reliability: uncheckable.

631250: DJIBOUTI SOMALIA 11.5N 43.0E 1901-1978 60
Sources: AI

Notes: AI: 1/2(max + min). 1951-1960; 11 36'N 43 09'E, alt = 7m. Reliability: uncheckable.

632100: BOSASO SOMALIA 11.3N 49.2E 2m 1934-1960 62
Sources: AI

Notes: AI: 1934-1960; 11 17'N 49 11'E, alt = 2m. Site changes may have occurred in July 1956 &/or Oct 1938. No other details available. Reliability: uncheckable.

632250: GABDO SOMALIA 9.5W 49.1E 81.2m 1954-1978 61
 Sources: AI
 Notes: AI: No details available. Reliability: uncheckable.

632300: CALCAIO SOMALIA 6.9W 47.3E 302m 1933-1960 62
 Sources: AI
 Notes: AI: 1933-1960; 6 51'N 47 16"E, alt = 302m. Site changes may have occurred in Jan 1955, Jan 1957 &/or Jan 1959. No other details available. Reliability: uncheckable.

632600: MOGADISCIO SOMALIA 2.0W 45.4E 10m 1911-1981 60
 Sources: AI
 Notes: AI: 1931-1960; 2 02'N 45 21'E, alt = 10m. No other details available. Reliability: uncheckable.

632700: CHRISHAIO SOMALIA .3W 42.5E 1094-1960 10 1933
 Sources: AI
 Notes: AI: Alt; 10m. No other details available. Reliability: compared with 632600 for the years 1929-1960.

63310: GONDAR ETHIOPIA 12.6W 37.5E 2037m 1952-1980 62
 Sources: AI
 Notes: AI: 1951-1960; 12 35'N 37 28"E, alt = 2121m. No other details available. Reliability: uncheckable.

633320: BAHAR DAR ETHIOPIA 11.6W 37.4E 1967-1974 61
 Sources: AI
 Notes: AI: No details available. Reliability: uncheckable.

633330: COMBOLCHA/DESSIE ETHIOPIA 11.1W 40.0E 1903m 1952-1980 62
 Sources: AI
 Notes: AI: 1951-1960; 11 04'N 39 58"E, alt = 1903m. No other details available. Reliability: uncheckable.

633340: DEBRE MARCOS ETHIOPIA 10.4W 37.7E 2480m 1964-1979 61
 Sources: AI
 Notes: AI: No details available. Reliability: uncheckable.

634020: JIMMA ETHIOPIA 7.7W 36.8E 1677m 1964-1980 62
 Sources: AI
 Notes: AI: No details available. Reliability: uncheckable.

634030: GORE ETHIOPIA 8.1W 35.6E 1914-1980 62
 Sources: AI
 Notes: AI: No details available. Reliability: uncheckable.

634500: ADDIS ABABA ETHIOPIA 9.0W 38.8E 2360m 1898-1980 62
 Sources: AI, AZ9
 Notes: AI: 1946-1950; alt = 7753ft. 1951-1960 = 2408m. Rainfall data prior to 1910 are suspect. No other details available. AZ9: 1898-1900; 1/2(max + min) corrected from 3 years of data. 1901-1907; 1/3(07 + 13 + 21). 1908-1912; 1/4(09 + 21 + max + min), corrections are given but seem too small. Reliability: uncheckable.

634530: AWASH ETHIOPIA 9.0W 40.2E 1067m 1952-1974 62
 Sources: AI
 Notes: AI: 1951-1960; 8 59'N 40 10"E, alt = 916m. No other details available. Reliability: uncheckable.

634710: DIRE DAWA ETHIOPIA 9.6W 41.9E 1162m 1964-1980 61
 Sources: AI
 Notes: AI: No details available. Reliability: uncheckable.

634740: COMA ETHIOPIA 7.0W 40.0E 1967-1974 61
 Sources: AI
 Notes: AI: No details available. Reliability: uncheckable.

634780: CODE ETHIOPIA 5.1W 44.6E 1971-1979 61
 Sources: AI
 Notes: AI: No details available. Reliability: uncheckable.

635330: BECHELLI ETHIOPIA 5.3W 39.8E 1975-1980 61
 Sources: AI
 Notes: AI: No details available. Reliability: uncheckable.

636120: LOUWAR KENYA 3.1W 35.6E 1920-1975 10 1951
 Sources: AI
 Notes: AI: 1951-1960; 3 07'N 35 37"E, alt = 506m. No other details available. Reliability: compared with 636300 & 672170 for the years 1951-1975 & 1954-1975.

636240: MANDERA KENYA 4.0N 41.9E 231m 1951-1975 10 1951
Sources: AI
Notes: AI: 1951-1960; 3 57'N 41 52'E, alt = 331m. No other details available. Reliability: compared with 632600 & 637230 for the years 1951-1975.

636300: GULU UGANDA 2.7N 32.3E 1911-1977 10 1951
Sources: AI
Notes: AI: 1951-1960; 2 45'N 32 20'E, alt = 1109m. Site may have changed June 1957. No other details available. Reliability: compared with 629410 & 637050 for the years 1951-1975 & 1951-1977.

636710: WAJIR KENYA 1.0N 40.0E 1918-1975 82
Sources: AI, A160
Notes: A160: Means of $1/2(\max + \min)$. 1 45'N 40 04'E. Alt: 1938-1941 = 879ft, 1942-1944 = 850ft, 1945 = 908ft, 1946-1948 = 800ft. AI: 1951-1960; alt = 244m. No other details available. Reliability: compared with 632600 & 637230 for the years 1938-1975 & 1940-1975. Record has many missing observations & a jump.

637050: ENTEBBE UGANDA .1N 32.5E 1896-1977 80 1931
Sources: AI

Notes: AI: 1901-1930; $1/4(07 + 14 + 21 + 21)$. Alt: 1904-June 1913 = 3863ft, June 1913-1924 = 3842ft. In 1923 changed from a Stevenson to a Soudan pattern screen. 1931-1960; $1/2(\max + \min)$. Differences between this & earlier methods are given on p12, vol 105 for 1925-1930. Alt: 3878ft. New airport site is about 3 miles west of the old site (00 4'N 32 29'E). Temp taken at old site up to Jan 1947 as $1/2(\max + \min)$ & then at the airport as the means of 24 hours. New alt = 3761ft. 1951-1960; alt = 1146m. Reliability: compared with 637067, 629410 & 636300 for the years 1931-1954, 1941-1977 & 1951-1977. Record shows uncorrected jumps 1950/1951 & 1960/1961.

637067: KAMPALA UGANDA .3N 32.6E 1312m 1931-1954 10 1931
Sources: AI

Notes: AI: Means of 24 hours. 1931-1950; 0 20'N 32 36'E, alt = 4304ft, Koololo Hill. 1951-1954; alt = 1312m. Reliability: compared with 637050 for the years 1931-1954.

637230: GARISSA KENYA .6N 39.5E 1931-1980 20 1940
Sources: AI, A160

Notes: A160: Means of $1/2(\max + \min)$. 0 39'N 39 35'E, alt = 600ft. AI: 1951-1960; alt = 128m. No other details available. Reliability: compared with 636710 & 636240 for the years 1940-1980, 1940-1975 & 1951-1975. Corrected for a jump 1960/1961. Correction Factors: Stations used: 632600 & 636710. Calculation dates: 1940-1960. Correction dates: 1961-1975. Factors: 3 5 7 5 10 3 4 5 5 6 7 4.

637390: NAIROBI/KABETE KENYA 1.3S 36.8E 1820m 1929-1963 60
Sources: AI
Notes: AI: Means of 24 hours. 1931-1940; 1 16'S 36 48'E, alt = 5971ft. 1941-1950; 1 16'S 36 45'E, alt = 5971ft. 1951-1955; alt = 1820m. Reliability: uncheckable.

637400: NAIROBI/AIRPORT KENYA 1.3S 36.9E 1624m 1951-1981 60
Sources: AI
Notes: AI: 1951-1957; Eastleigh, 1 17'S 36 50'E, alt = 1634m. 1958-1960; Airport, 1 19'S 36 55'E, alt = 1624m. No other details available. Reliability: uncheckable.

637410: NAIROBI/DAGORETTI KENYA 1.3S 36.8E 1796m 1955-1975 60
Sources: AI
Notes: AI: 1951-1960; 1 18'S 36 45'E, alt = 1798m. No other details available. Reliability: uncheckable.

640050: NDAINDAKA ZAIRE .1N 18.3E 317m 1951-1971 62
Sources: AI

Notes: AI: Means of an empirically established formula. 1951-1960; 0 03'N 18 16'E, alt = 345m. Also known as Coquilhatville. Reliability: uncheckable.

640140: LISALA ZAIRE 2.3N 21.6E 460m 1952-1971 62
Sources: AI

Notes: AI: Means of an empirically established formula. 1952-1960; 2 19'N 21 34'E, alt = 460m. A site change may have occurred in Mar 1956, but no details are given. Reliability: uncheckable.

640150: LIBENGE ZAIRE 3.6N 18.6E 367m 1951-1971 62
Sources: AI

Notes: AI: Means of an empirically established formula. 1951-1960; 3 38'N 18 38'E, alt = 365m. Site change may have occurred April 1959 but no details are given. Reliability: uncheckable.

640160: BUNDA ZAIRE 4.2N 22.6E 1952-1960 62
Sources: AI

Notes: AI: Means of an empirically established formula. 1952-1960; 2 11'N 22 33'E, alt = 383m. Reliability: uncheckable.

640180: BASOKO ZAIRE 1.3N 23.6E 1951-1960 61
Sources: AI

Notes: AI: Means of an empirically established formula. 1951-1960; 1 15'N 23 36'E, alt = 385m. Reliability: uncheckable.

640340: BUTA ZAIRE 2.8M 24.6E 430M 1951-1969 61
Sources: A1
Notes: A1: Means of an empirically established formula. 1951-1960; 2 47'W 24 47'E, alt = 430m. Reliability: uncheckable.

640400: KISANGANI ZAIRE .5M 25.2E 396M 1951-1971 61
Sources: A1
Notes: A1: Means of an empirically established formula. 1951-1960; 0 31'W 25 11'E, alt = 415m. Reliability: uncheckable.

640620: ISIRO ZAIRE 2.8M 27.7E 800M 1951-1971 62
Sources: A1
Notes: A1: Means of an empirically established formula. 1951-1960; 2 46'W 27 39'E, alt = 800m. Also known as Paulia. Reliability: uncheckable.

640720: BUTEMBO ZAIRE .1M 29.3E 1952-1960 61
Sources: A1
Notes: A1: Means of an empirically established formula. 1952-1960; 0 08'W 29 16'E, alt = 1730m. Site changes may have occurred in Nov 1952, April 1957, May 1958 and April 1960, but no details are given. Reliability: uncheckable.

640740: WATSA ZAIRE 3.1M 29.5E 1951-1960 61
Sources: A1
Notes: A1: Means of an empirically established formula. 1951-1960; 3 04'W 29 30'E, alt = 1030m. Reliability: uncheckable.

640750: IRUMU ZAIRE 1.4M 25.8E 1928-1956 61
Sources: A1
Notes: A1: Means of an empirically established formula. 1951-1956; 1 27'W 25 52'E, alt = 920m. Reliability: uncheckable.

640760: BUNIA ZAIRE 1.5M 30.2E 1961-1971 61
Sources: A1
Notes: A1: No details available. Reliability: uncheckable.

641080: BANHINGVILLE ZAIRE 1.3M 23.6E 1963-1969 61
Sources: A1
Notes: A1: No details available. Reliability: uncheckable.

641260: BOMBE ZAIRE .2M 20.8E 1930-1971 61
Sources: A1
Notes: A1: Means of an empirically established formula. 1954-1960; 0 13'8 20 51'E, alt = 370m. Reliability: uncheckable.

644580: OUESSO CONGO 1.6M 16.1E 352M 1951-1979 10 1951
Sources: A1
Notes: A1: 1/2(max + min). 1951-1960; 1 37'W 16 03'E, alt = 351m. Reliability: compared with 644560 & 644590 for the years 1956-1979 & 1951-1979.

644590: IMPFENDO CONGO 1.6M 18.0E 1932-1980 20 1941
Sources: A1
Notes: A1: 1/2(max + min). 1941-1950; 1 36'W 18 04'E, alt = 335m. 1951-1960; 1 37'W 18 04'E, alt = 326m. Reliability: compared with 644560 & 644580 for the years 1956-1980 & 1951-1979. Corrected for a jump 1960/1961. Correction Factors: Stations used: 644560 & 644580. Calculation dates: 1956-1960. Correction dates: 1961-1979. Factors: 6 3 6 6 5 3 3 5 3 2.

644600: SOUMBEK CONGO 2.1M 14.0E 547M 1951-1977 10 1951
Sources: A1
Notes: A1: 1/2(max + min). 1951-1960; 2 04'W 14 02'E, alt = 549m. Reliability: compared with 645100, 64520 & 645560 for the years 1954-1977, 1951-1977 & 1953-1977.

645000: LIBREVILLE GABON .7M 10.2E 10M 1895-1979 12 1896
Sources: A1, A43, A58
Notes: A1: Alt; 10m. Means of 1/2(mean max + mean min). A43: Means of 1/2(max + min). Observations were also made at the following times; 1896-1897; 0830h, 1898-1904; 08h, 1905-1910; 08 & 16h. Alt: 1896-1897 = 62m. 1898-1900 = 26m, 1901-1904 = 31m, 1905-1910 = 35m. 1911-1914; 23'W 7 06'E of Paris, alt = 35m. A58: No details available. Reliability: compared with 619310 for the years 1896-1975. Large data gap 1915-1951.

645010: PORT GENTIL GABON .7M 8.7E 1937-1980 10 1941
Sources: A1
Notes: A1: 1/2(max + min). 1941-1950; 0 43'8 8 45'E, alt = 3m. 1951-1960; 0 42'8 8 45'E, alt = 4m. Reliability: compared with 645510 & 644600 for the years 1951-1980.

645040: COCORAECHE GABON 1.0M 9.6E 13M 1951-1980 10 1951
Sources: A1
Notes: A1: 1/2(max + min). 1951-1960; 1 00'W 9 36'E, alt = 16m. Reliability: compared with 645510 for the years 1951-1980.

645100: BITAM GABON 2.1M 11.5E 599m 1951-1979 10 1954
Sources: AI

Notes: AI: $1/2(\max + \min)$. 1951-1960; 2 05'W 11 29'E, alt = 599m. Reliability:
compared with 645520 & 645560 for the years 1954-1979.

645450: MEZAMBO GABON 1.0M 13.9E 501m 1951-1979 62
Sources: AI

Notes: AI: $1/2(\max + \min)$. 1951-1960; 1 01'W 13 56'E, alt = 501m. Reliability:
uncheckable.

645500: MOUTLA GABON 1.98 11.0E 89m 1951-1980 10 1951
Sources: AI

Notes: AI: $1/2(\max + \min)$. 1951-1960; 1 52'W 11 01'E, alt = 89m. Reliability:
compared with 645100 & 645560 for the years 1954-1979 & 1953-1980.

645510: LAMBARENE GABON .78 10.2E 26m 1951-1980 10 1951
Sources: AI

Notes: AI: $1/2(\max + \min)$. 1951-1958; 00 43'S 10 13'E, alt = 82m. 1959-1960; 0
43'S 10 14'E, alt = 26m. Reliability: compared with 645000, 645010 &
645040 for the years 1951-1979, 1951-1980 & 1951-1980. Record shows small
uncorrected jump 1955/1956.

645520: MITZIC GABON .8M 11.5E 583m 1951-1980 20 1951
Sources: AI

Notes: AI: 1951-1960; $1/2(\max + \min)$. 0 47'W 11 32'E, alt = 583m. Reliability:
compared with 644600 & 645560 for the years 1951-1977 & 1953-1980.
Corrected for a jump 1959/1960. Correction Factors: Stations used: 644600 &
645560. Calculation dates: 1953-1959. Correction dates: 1960-1977.
Factors: -7 -8 -7 -11 -8 -3 -6 -8 -4 -4 -5.

645530: FRANCEVILLE GABON 1.68 13.5E 1936-1972 10 1946
Sources: AI

Notes: AI: $1/2(\max + \min)$. 1941-1950; 1 37'S 13 34'E, alt = 438m. 1951-1960; 1
38'S 13 34'E, alt = 426m. Reliability: compared with 645520 for the years
1951-1970.

645560: MAKOKOU GABON .6M 12.9E 515m 1951-1980 60
Sources: AI

Notes: AI: $1/2(\max + \min)$. 1951-1960; 0 34'W 12 52'E, alt = 516m. Reliability:
compared with 645100 & 645520 for the years 1954-1979 & 1953-1980.

645600: LASTOURSVILLE GABON .88 12.7E 485m 1951-1980 62
Sources: AI

Notes: AI: $1/2(\max + \min)$. 1951-1960; 0 50'S 12 43'E, alt = 483m. Reliability:
uncheckable.

646000: BERBERATI C. AFR. REP. 4.2M 15.7E 1946-1980 62
Sources: AI

Notes: AI: $1/2(\max + \min)$. 1951-1960; 4 13'W 15 47'E, alt = 583m. Reliability:
uncheckable.

646010: BOUAR C. AFR. REP. 5.9M 15.6E 1020m 1951-1980 62
Sources: AI

Notes: AI: $1/2(\max + \min)$. 1951-1960; 5 56'W 15 35'E, alt = 1019m. Reliability:
uncheckable.

646030: BOUCA C. AFR. REP. 6.5M 18.3E 458m 1951-1967 61
Sources: AI

Notes: AI: $1/2(\max + \min)$. 1951-1960; 6 30'W 18 16'E, alt = 458m. Reliability:
uncheckable.

646050: BOSSENKLE C. AFR. REP. 5.3M 17.6E 674m 1951-1980 61
Sources: AI

Notes: AI: 1951-1960; 5 16'W 17 38'E, alt = 674m. $1/2(\max + \min)$. Reliability:
uncheckable.

646100: BOSSANGOA C. AFR. REP. 6.4M 17.4E 1928-1979 62
Sources: AI

Notes: AI: $1/2(\max + \min)$. 1951-1960; 6 29'W 17 26'E, alt = 465m. Reliability:
uncheckable.

646500: BAMGDI C. AFR. REP. 4.3M 18.6E 1908-1980 60
Sources: AI

Notes: AI: 1941-1950; $1/2(\max + \min)$. 4 22'W 18 55'E, alt = 388m. 1951-1960; 4
23'W 18 34'E, alt = 381m. Reliability: uncheckable.

646540: HDKLE C. AFR. REP. 8.4M 20.6E 1928-1980 10 1951
Sources: AI

Notes: AI: $1/2(\max + \min)$. 1951-1960; 8 24'W 20 39'E, alt = 510m. Reliability:
compared with 646550 & 646610 for the years 1951-1980 & 1953-1980.

646550: BRIA C. AFR. REP. 6.5N 22.0E 584m 1941-1980 12 1951
Sources: AI

Notes: AI: 1941-1950; 6 32'N 21 58'E, alt = 650m. 1951-1960; 1/2(max + min). 6 32'N 21 59'E, alt = 584m. Reliability: compared with 646610 & 646540 for the years 1953-1980 & 1951-1980.

646560: BACASSOU C. AFR. REP. 4.8N 22.8E 500m 1941-1980 62
Sources: AI

Notes: AI: 1941-1950; 1/2(max + min). 4 45'N 22 50'E, alt = 494m. 1953-1960; 4 44'N 22 50'E, alt = 500m. Reliability: uncheckable.

646580: BIRAO C. AFR. REP. 10.2N 22.7E 1939-1980 12 1951
Sources: AI

Notes: AI: 1/2(max + min). 1951-1960; 10 17'N 22 47'E, alt = 465m. Reliability: compared with 62700, 647540 & 647560 for the years 1951-1975, 1952-1978 & 1951-1978.

646590: OBO C. AFR. REP. 5.4N 26.5E 651m 1951-1979 62
Sources: AI

Notes: AI: 1/2(max + min). 1951-1960; 5 24'N 26 30'E, alt = 651m. A site change may have occurred in Feb 1955, but no details are available. Reliability: uncheckable.

646600: BAMBARI C. AFR. REP. 5.7N 20.8E 1931-1979 62
Sources: AI

Notes: AI: 1/2(max + min). 1951-1960; 5 46'N 20 40'E, alt = 448m. Reliability: uncheckable.

646610: YALINGA C. AFR. REP. 6.5N 23.3E 602m 1951-1980 12 1953
Sources: AI

Notes: AI: 1/2(max + min). 1951-1960; 6 30'N 23 16'E, alt = 602m. Reliability: compared with 646540 & 646550 for the years 1953-1980. Record shows jump 1957/1958.

646620: ALINDAO C. AFR. REP. 5.0N 21.2E 449m 1951-1980 62
Sources: AI

Notes: AI: 1951-1960; 5 01'N 21 12'E, alt = 449m. 1/2(max + min). Reliability: uncheckable.

647000: FORT LAMY CHAD 12.1N 15.0E 1907-1978 20 1951
Sources: AI

Notes: AI: 1/2(max + min). 1951-1960; 12 08'N 15 02'E, alt = 300m. Reliability: compared with 647510 & 647560 for the years 1951-1978. Corrected for a

Jump 1960/1961. Correction Factors: Stations used: 647510 & 647580.
Calculation dates: 1951-1960. Correction dates: 1961-1978. Factors: 1 6 3
-1 -1 3 3 -1 -1 0 -3 0.

647010: MAO CHAD 14.1N 15.3E 1940-1978 60
Sources: AI

Notes: AI: 1/2(max + min). 1951-1960; 14 07'N 15 19'E, alt = 356m. Reliability: uncheckable.

647020: BOL CHAD 13.4N 14.7E 1908-1978 61
Sources: AI

Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

647050: BOUSSO CHAD 10.4N 16.7E 1943-1978 10 1953
Sources: AI

Notes: AI: 1/2(max + min). 1951-1960; 10 29'N 16 43'E, alt = 336m. Reliability: compared with 647060 & 647090 for the years 1953-1978.

647060: MOUNDOU CHAD 8.5N 16.0E 1931-1978 20 19.1
Sources: AI

Notes: AI: 1941-1950; 8 34'N 16 05'E, alt = 400m. 1951-1960; 1/2(max + min). 1956-1960; 8 37'N 16 04'E, alt = 422m. Reliability: compared with 647050, 647090 & 647500 for the years 1953-1978, 1953-1978 & 1951-1972. Corrected for a jump 1969/1970. Correction Factors: Stations used: 647050 & 647090. Calculation dates: 1953-1989. Correction dates: 1970-1978. Factors: -4 -2
-1 -1 -4 -8 -4 0 -2 -7 -8.

647080: BOKORO CHAD 12.3N 17.0E 1946-1978 61
Sources: AI

Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

647090: PALA CHAD 9.3N 15.9E 1946-1978 10 1953
Sources: AI

Notes: AI: 1/2(max + min). 1951-1960; 9 22'N 15 55'E, alt = 464m. A site change may have occurred in Oct 1956, but no details are given. Reliability: compared with 647060 & 647500 for the years 1953-1978.

647200: BARDI CHAD 21.3N 17.0E 1961-1966 61
Sources: AI

Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

647500: SARB CHAD 9.1N 18.3E 1931-1978 10 1941
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 9 08'N 18 23'E, alt = 365m. Also known as Fort Archambault. Reliability: compared with 647050 & 647060 for the years 1953-1978 & 1951-1978.

647510: ATI CHAD 13.2N 18.3E 1936-1978 10 1951
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 13 13'N 18 19'E, alt = 334m. A site change may have occurred April 1959, but no details are given. Reliability: compared with 647000 & 647580 for the years 1951-1978.

647530: FAYALANCEAU CHAD 18.0N 19.1E 1933-1977 62
Sources: AI
Notes: AI: 1/2(max + min). 1942-1950; 18 00'N 19 10'E, alt = 245m. 1952-1960; alt = 234m. Reliability: uncheckable.

647540: AH TIMAN CHAD 11.0N 20.2E 1946-1978 82
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 11 02'N 20 17'E, alt = 436m. Reliability: compared with 627700 & 646580 for the years 1951-1975 & 1952-1978. Record shows jumps associated with data gaps.

647560: ABECHE CHAD 13.8N 15.0E 1932-1978 82
Sources: AI
Notes: AI: 1941-1950; 1/2(max + min). No other details available. Reliability: compared with 627700 & 646580 for the years 1951-1975 & 1951-1978. Record shows jumps associated with data gaps.

647570: FADA CHAD 17.1N 21.5E 1934-1972 61
Sources: AI
Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

647580: HONGO CHAD 12.1N 18.6E 1949-1978 10 1951
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 12 12'N 18 47'E, alt = 430m. Reliability: compared with 647000 & 647510 for the years 1951-1978.

648510: MAROUA-SALAK CAMEROON 10.5N 14.3E 422m 1954-1980 62
Sources: AI
Notes: AI: 1/2(max + min). 1954-1960; 10 28'N 14 16'E, alt = 421m. Reliability: uncheckable.

648530: KAKLE CAMEROON 10.1N 14.5E 1951-1960 61
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 10 05'N 14 27'E, alt = 386m. Reliability: uncheckable.

648600: GARODA CAMEROON 9.3N 13.3E 1906-1980 62
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 9 20'N 13 23'E, alt = 247m. Reliability: uncheckable.

648610: FOLI CAMEROON 8.5N 13.3E 1951-1960 61
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 8 29'N 13 15'E, alt = 437m. Reliability: uncheckable.

648700: NGJOURIENE CAMEROON 7.2N 13.3E 1928-1980 62
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 7 17'N 13 19'E, alt = 1119m. Reliability: uncheckable.

648800: BANYO CAMEROON 6.7N 11.8E 1909-1973 61
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 6 47'N 11 49'E, alt = 1110m. Reliability: uncheckable.

648810: TIRATI CAMEROON 6.5N 12.6E 1951-1960 61
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 6 29'N 12 36'E, alt = 874m. Reliability: uncheckable.

648820: NIGANGA CAMEROON 6.5N 14.4E 1951-1960 61
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 6 32'N 14 22'E, alt = 1027m. Reliability: uncheckable.

648930: KOUNDJA CAMEROON 5.6N 10.8E 1210m 1951-1979 62
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 5 37'N 10 45'E, alt = 1217m. Reliability: uncheckable.

649000: YOKO CAMEROON 5.5N 12.3E 1932-1976 62
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 5 33'N 12 22'E, alt = 1031m. Reliability: unchecked.

649100: BETARE-OYA CAMEROON 5.6N 14.1E 1951-1960 61
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 5 36'N 14 04'E, alt = 804m. Reliability: unchecked.

649100: DOUALA CAMEROON 4.0N 9.7E 13m 1885-1979 60
Sources: AI, A58, A96
Notes: AI: Alt; 13m. Means of 1/2(daily max + daily min). A58: No details available. A96: Means of 1/3(07 + 14 + 21). Reliability: unchecked.

649110: BEONGSANDA CAMEROON 5.0N 9.9E 821m 1951-1970 10 1951
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 4 57'N 9 56'E, alt = 877m. Reliability: compared with 649100 for the years 1951-1970.

649130: NGARBE CAMEROON 4.3N 10.6E 1951-1960 61
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 4 16'N 10 36'E, alt = 610m. Reliability: unchecked.

649200: BAFIA CAMEROON 4.7N 11.3E 1951-1960 61
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 4 44'N 11 15'E, alt = 501m. Reliability: unchecked.

649220: WANGA-EROKO CAMEROON 4.7N 12.4E 1951-1960 61
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 4 39'N 12 24'E, alt = 623m. Reliability: unchecked.

649300: BERTOUA CAMEROON 4.6N 13.7E 1932-1973 61
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 4 36'N 13 44'E, alt = 670m. Reliability: unchecked.

649310: BATOURI CAMEROON 4.4N 14.4E 656m 1951-1979 62
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 4 25'N 14 24'E, alt = 655m. Reliability: unchecked.

649410: EDEA CAMEROON 3.8N 10.1E 1951-1960 61
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 3 46'N 10 04'E, alt = 31m. Reliability: unchecked.

649420: ESEKA CAMEROON 3.6N 10.7E 1951-1960 61
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 3 37'N 10 44'E, alt = 399m. Reliability: unchecked.

649500: YAOUNDE CAMEROON 3.9N 11.5E 70m 1889-1979 60
Sources: AI, A96
Notes: AI: Alt; 760m. Means of 1/2(daily max + daily min). A96: No details available. Reliability: unchecked.

649600: ABONG-MBANG CAMEROON 4.0N 13.2E 1951-1960 61
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 3 58'N 13 12'E, alt = 694m. Reliability: unchecked.

649610: LOMBE CAMEROON 3.2N 13.6E 1951-1960 61
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 3 09'N 13 37'E, alt = 627m. Reliability: unchecked.

649620: YOKADOUNA CAMEROON 3.5N 15.1E 1951-1960 61
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 3 31'N 15 06'E, alt = 534m. Reliability: unchecked.

649710: KRIBI CAMEROON 3.0N 9.9E 16m 1951-1979 62
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 2 57'N 9 54'E, alt = 17m. Reliability: unchecked.

649720: EBOWA CAMEROON 2.9N 11.2E 1951-1960 61
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 2 51'N 11 11'E, alt = 603m. Reliability: uncheckable.

649740: SANGHELINA CAMEROON 2.9N 11.9E 1934-1973 61
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 2 56'N 11 57'E, alt = 713m. Reliability: uncheckable.

650100: SOKOTO NIGERIA 13.0N 5.2E 1907-1973 60
Sources: AI
Notes: AI: 1916-1950; 1/2(max + min). Thermometer screens were changed in 1936 & 1939. 1916-July 1947; 13 02'N 5 15'E, alt = 1000ft. July 1947-1948; 13 01'N 5 16'E, alt = 1150ft. 1951-Sept 1953; alt = 351m. Oct 1953-1960; 13 01'N 5 15'E, alt = 287m. Reliability: uncheckable.

650460: KANO NIGERIA 12.0N 8.5E 476m 1905-1977 10 1905
Sources: AI
Notes: AI: 1/2(max + min). 1905-1950; 12 02'N 8 32'E, alt = 1561ft. Town. The site changed in Aug 1936 but no details are given. 1951-1960; Airport, 12 05'N 8 32'E, alt = 476m. Reliability: compared with 652710 & 610900 for the years 1951-1977 & 1941-1977.

650820: MAIDUGURI NIGERIA 10.7N 13.1E 1909-1977 60
Sources: AI
Notes: AI: 1916-1940; 11 51'N 13 05'E, alt = 1162ft. Thermometer screens were replaced in 1936 & 1939. 1930-1935 data suspect because of damage to min thermometer, so data estimated from 09h readings. 1951-1960; 1/2(max + min). Alt = 355m. April 1953-1958; 344m. 1959-1960; 354m. Reliability: uncheckable.

651010: ILORIN NIGERIA 8.5N 4.5E 1906-1977 10 1951
Sources: AI
Notes: AI: 1951-1960; 1/2(max + min). 8 29'N 4 35'E, alt = 287m. Reliability: compared with 653350, 653380 & 653380 for the years 1951-1965, 1951-1977 & 1951-1977.

651230: MINNA NIGERIA 9.6N 6.5E 1916-1976 10 1951
Sources: AI
Notes: AI: 1951-1960; 1/2(max + min). 9 37'N 6 32'E, alt = 260m. Reliability: compared with 652710 for the years 1951-1976.

651340: JOS NIGERIA 9.9N 8.8E 1922-1977 60
Sources: AI
Notes: AI: 1951-1960; 1/2(max + min). 9 52'N 8 54'E. 1951-Sept 1955; alt = 1290m. Oct 1955-1960; alt = 1285m. Reliability: uncheckable.

651670: YOLA NIGERIA 9.2N 12.4E 174m 1906-1976 62
Sources: AI, A98
Notes: AI: Means of 1/2(max + min). Jan-Aug 1951; alt = 174m, Sept 1951-Aug 1958; alt = 186m, Sept 1958-1960; alt = 174m. A98: Means of 1/2(max + min). 9 12'N 12 30'E, alt = 259m. Reliability: uncheckable.

652010: LAGOS/IKERJA NIGERIA 6.5N 3.4E 38m 1892-1977 10 1892
Sources: AI
Notes: AI: 1892-1920; 1/2(max + min). 1891-Nov 1896; alt = 25ft, Dec 1896-1930 = 22ft. There were small site changes in 1926 & 1929; no corrections were made. 1931-1945; alt = 9ft. In Mar 1945 station moved to aerodrome. 1940-1950; alt = 40m, 1951-1960 = 38m. Reliability: compared with 652360, 653380 & 653440 for the years 1909-1960, 1951-1977 & 1951-1977.

652660: WARRI NIGERIA 5.5N 5.7E 1907-1973 20 1909
Sources: AI
Notes: AI: 1909-1950; 1/2(max + min). 5 31'N 5 44'E, alt = 20ft. 1/2(max + min). 1951-1960; Alt = 6m. Some site changes are known to have occurred but no details are given. Reliability: compared with 652640 & 652010 for the years 1909-1960. Corrected for jump 1940/1941. Correction Factors: Stations used: 652640 & 652010. Calculation dates: 1909-1940. Correction dates: 1941-1960. Factors: 11 11 12 15 10 9 14 17 14 14 12 11.

652900: FORT HARCOURT NIGERIA 4.7N 7.0E 1948-1977 10 1951
Sources: AI
Notes: AI: 1951-1960; 1/2(max + min). 4 51'N 7 01'E. 1951-6-Sept 1957; alt = 20m. Oct 1957-1960; alt = 18m. Reliability: compared with 652570 & 652710 for the years 1951-1970 & 1951-1977.

652570: ENUGU NIGERIA 6.3N 7.4E 1916-1977 10 1951
Sources: AI
Notes: AI: 1951-1960; 1/2(max + min). 6 28'N 7 33'E. 1951-Mar 1953; alt = 233m. April 1953-1960; alt = 142m. Reliability: compared with 652500 & 652710 for the years 1951-1970 & 1951-1977.

652640: CALABAR NIGERIA 5.0N 8.3E 1895-1973 60
Sources: AI
Notes: AI: 1895-1920; Alt = 4439ft, 1921-1930 = 40ft. 1931; means of 07h GMT. Alt = 170ft. In Aug 1938 station moved, to Government Hill. After Sept 1948 station moved to the airport. Means of 1/2(max + min). 1951-1960; alt =

63m. Reliability: compared with 652360 for the years 1909-1960.

652710: MAKURDI NIGERIA 7.7N 8.5E 1943-1977 10 1951
Sources: AI

Notes: AI: 1951-1960; $1/2(\max + \min)$. 7 41'W 8 37'E, alt = 97m. Reliability: compared with 652500 & 652570 for the years 1951-1977.

653060: KANDI BENIN 11.1N 2.9E 1921-1980 10 1941
Sources: AI

Notes: AI: 1941-1960; $1/2(\max + \min)$. 11 08'W 2 56'E, alt = 292m. Reliability: compared with 653190, 653330 & 653350 for the years 1941-1980, 1941-1965 & 1951-1980.

653190: MATITINGUE BENIN 10.3N 1.3E 1921-1980 10 1923
Sources: AI, A158

Notes: AI58: 1923-1931; means of 3 daily observations. 1932-1936; $1/2(\max + \min)$. No other details available. AI: 1951-1960; $1/2(\max + \min)$. Alt = 461m. Reliability: compared with 653060, 653330 & 653350 for the years 1941-1980, 1941-1965 & 1951-1980.

653300: PARAKOU BENIN 9.3N 2.6E 1921-1980 10 1965
Sources: AI

Notes: AI: No details available. Reliability: compared with 653350 & 653380 for the years 1965-1980.

653330: TCHALOURCOU BENIN 8.9N 2.6E 325m 1941-1965 10 1941
Sources: AI

Notes: AI: 1941-1960; $1/2(\max + \min)$. 8 52'W 2 36'E, alt = 327m. Reliability: compared with 651010, 653350 & 653060 for the years 1951-1965, 1951-1965 & 1941-1965.

653350: SAVE BENIN 8.0N 2.4E 1921-1980 10 1951
Sources: AI

Notes: AI: $1/2(\max + \min)$. 1951-1960; 7 59'W 2 26'E, alt = 200m. Reliability: compared with 651010, 653300 & 653380 for the years 1951-1977, 1965-1980 & 1951-1980.

653380: DOMICOU BENIN 7.2N 2.1E 167m 1951-1980 10 1951
Sources: AI

Notes: AI: $1/2(\max + \min)$. 1951-1960; 7 10'W 2 04'E, alt = 167m. Reliability: compared with 652010, 653440 & 651010 for the years 1951-1977, 1951-1980 & 1951-1977.

653440: COTONOU BENIN 6.3N 2.4E 1910-1980 20 1951
Sources: AI

Notes: AI: $1/2(\max + \min)$. 1951-1960; 6 21'W 2 23'E, alt = 13m. Reliability: compared with 652010 & 653380 for the years 1951-1977 & 1951-1980. Corrected for a jump 1969/1970. Correction Factors: Stations used: 652010 & 653380. Calculation dates: 1951-1969. Correction dates: 1970-1977. Factors: 1 4 5 4 3 4 4 -2 -1 2 2 2.

653520: MAMCO TOGO 10.3N .5E 1905-1976 20 1951
Sources: AI

Notes: AI: 1951-1960; $1/2(\max + \min)$. 10 22'W 0 28'E, alt = 146m. Reliability: compared with 653060 & 653190 for the years 1951-1976. Corrected for a jump 1959/1960. Correction Factors: Stations used: 653060 & 653190. Calculation dates: 1951-1959. Correction dates: 1960-1976. Factors: -3 -4 -4 -7 -7 -6 -6 -8 -5 -1 -3 -2.

653610: SOKODE TOGO 8.9N 1.1E 1901-1976 20 1951
Sources: AI, A96

Notes: AI: 1951-1960; $1/2(\max + \min)$. Alt = 403m. A96: No details available. Reliability: compared with 653520 & 653760 for the years 1951-1976. Corrected for a jump 1963/1964. Correction Factors: Stations used: 653520 & 653760. Calculation dates: 1951-1963. Correction dates: 1964-1976. Factors: 3 -2 0 -2 -1 0 1 1 -2 -3 2.

653760: ATAKPAME TOGO 7.5N 1.1E 1899-1976 20 1951
Sources: AI, A58, A96

Notes: AI: 1951-1976; means of $1/2(\max + \min)$. Alt: 402m. A58: No details available. A96: No details available. Reliability: compared with 653520 & 653610 for the years 1951-1976. Corrected for a jump 1956/1957. Correction Factors: Stations used: 653520 & 653610. Calculation dates: 1951-1956. Correction dates: 1957-1976. Factors: 3 0 1 -3 -4 -10 -7 -4 -10 -6 0 -1.

653800: TABLIGBO TOGO 6.6N 1.5E 52m 1961-1976 10 1961
Sources: AI

Notes: AI: $1/2(\max + \min)$. No other details available. Reliability: compared with 653440 for the years 1961-1976.

653870: LOME TOGO 6.1N 1.2E 1892-1976 10 1951
Sources: AI, A96, A158

Notes: AI: Alt: 20m. Means of $1/2(\max + \min)$. A96: No details available. A158: Means of 3 daily observations. No other details available. Reliability: compared with 654420 for the years 1941-1976.

654180: TAMALE Sources: AI GRAMA 9.4M .8E 1907-1975 10 1945
 Notes: AI: 1951-1960; 1/8(03 + 06 + 09 + ...24). 9 25'N 0 53'W, alt = 104m. Reliability: compared with 654670 & 654720 for the years 1945-1975 & 1944-1975. Comparison shows a jump associated with 1960-1963 data gap.

654420: KUMASI Sources: AI GRAMA 6.6M 1.6W 1921-1980 82
 Notes: AI: 1951-1960; 1/8(03 + 06 + 09 + ...24). 6 43'N 1 36'W, alt = 293m. Station may have moved in Dec 1946, but no details are given. Reliability: compared with 654670 & 653870 for the years 1941-1975 & 1941-1976. Comparison shows jump 1960, associated with data gaps.

654670: TAKORADI Sources: AI GRAMA 4.8M 1.7W 1939-1975 20 1941
 Notes: AI: 1951-1960; 1/8(03 + 06 + 09 + ...24). 4 53'N 1 46'W, alt = 9m. Reliability: compared with 654420 & 654720 for the years 1941-1975. Corrected for a jump 1952/1953. Correction Factors: Stations used: 654420 & 654720. Calculation dates: 1941-1952. Correction dates: 1953-1975. Factors: -4 -4 -2 0 0 -2 -1 0 -4 -3 -2.

654720: ACCRA (WAS 654490) Sources: AI GRAMA 5.6M .2W 65m 1888-1975 10 1911
 Notes: AI: 1888-1926; Alt = 60ft, Apr 1926-1933 = 45ft. Means of 1/2(daily max + daily min). Figures were often unreliable or missing & many values have been computed from readings at 09h & 17h by means of corrections, obtained from several of the most reliable records (see vol 79). 1931-1960; as above. Alt from 1934 = 88ft. Site changes: Jan 1937-June 1938 = 5 32'N 0 12'W, alt = 87ft, July 1938-Dec 1950 = 5 36'N 0 10'W, alt = 191ft. Since July 1938 instruments have been held at 3 sites, within 500 yards of each other & within 300 yards of the present, 1953, site. Moves occurred in July 1947 & Sept 1949, 1951-1960; 1/8(03 + 06 + 09 + 12 + 15 + 18 + 21 + 24). Alt = 65m. Reliability: compared with 654670 & 655850 for the years 1941-1975 & 1951-1975.

655010: DORI Sources: AI, A158 UPPER VOLTA 14.0M 1920-1979 10 1951
 Notes: AI58: 1923-1931; means of 3 daily observations. 1932-1936; 1/2(max + min). No other details available. AI: 1951-1960; 1/2(max + min). Reliability: compared with 612260 & 655030 for the years 1923-1979 & 1924-1979.

655020: OUGHIHOUA Sources: AI UPPER VOLTA 13.9M 2.4W 1920-1979 61
 Notes: AI: 1951-1960; 1/2(max + min). 13 35'N 2 26'W, alt = 324m. Reliability: uncheckable.

655030: OUAGADOUGOU Sources: AI, A58, A158 UPPER VOLTA 12.3N 1.5W 1902-1979 10 1924
 Notes: AI: Means of 1/2(max + min). Alt: 1941-1950 = 309m, 1951-1960 = 304m. A58: No details available. AI58: 1924-1931; means of 3 daily observations. 1932-1939; 1/2(max + min). No other details available. Reliability: compared with 612260 & 655010 for the years 1924-1979. Comparison shows a jump in early years associated with data gaps.

655070: FADA NGOUR Sources: AI UPPER VOLTA 12.2N .4E 1920-1979 20 1951
 Notes: AI: 1951-1960; 1/2(max + min). 12 04'N 0 21'W, alt = 309m. Site may have changed June 1959, but no details are given. Reliability: compared with 653060 & 653190 for the years 1951-1979. Corrected for a jump 1958/1959. Correction Factors: Stations used: 653060 & 653190. Calculation dates: 1951-1958. Correction dates: 1959-1979. Factors: -3 -5 -5 -4 -6 -9 -11 -5 -5 -6 -7 -2.

655100: BOMO DILOULASSO Sources: AI, A158 UPPER VOLTA 11.0N 3.8W 1907-1979 10 1941
 Notes: AI58: 1923-1931; means of 3 daily observations. 1932-1936; 1/2(max + min). No other details available. AI: Means of 1/2(max + min). 1941-1950; alt = 30m. 1951-1960 = 467m. Reliability: compared with 612960 & 612970 for the years 1951-1979.

655160: BOKOMO Sources: AI UPPER VOLTA 11.6N 2.9W 1922-1979 80
 Notes: AI: 1951-1960; 1/2(max + min). 11 40'N 2 55'W, alt = 271m. Site may have changed in July 1954 but no details are given. Reliability: compared with 655100 & 655220 for the years 1951-1979. Record shows jump 1960/1963 associated with data gaps.

655220: GAOUA Sources: AI UPPER VOLTA 10.3N 3.1W 1908-1979 20 1951
 Notes: AI: 1951-1960; 1/2(max + min). 10 20'N 3 11'W, alt = 333m. Reliability: compared with 655100 & 655160 for the years 1951-1979. Corrected for a jump 1970/1971. Correction Factors: Stations used: 655100 & 655160. Calculation dates: 1951-1970. Correction dates: 1971-1979. Factors: -3 -3 -5 -4 -4 -5 -5 -3 -3 -5 -3 -3.

655280: ODIENNE Sources: AI IVORY COAST 9.5N 7.5W 1921-1980 10 1951
 Notes: AI: 1/2(max + min). 1941-1950; 9 30'N 7 34'W, alt = 413m. 1951-1960; alt = 432m. Reliability: compared with 655480 for the years 1951-1980. Record shows uncorrected jump 1962/1963.

655360: KOMBONGO IVORY COAST 9.4N 5.6W 1905-1980 61
Sources: AI

Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

655390: FERKESSEDODGOU IVORY COAST 9.5N 5.2W 1927-1973 82
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 9 35'N 5 12'W, alt = 323m. Reliability: compared with 655160 & 655230 for the years 1951-1971. Record shows jump 1959/1961 associated with data gaps.

655450: BONDOKOU IVORY COAST 8.0N 2.2W 1919-1980 61
Sources: AI

Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

655480: MAN IVORY COAST 7.4N 7.5W 1922-1980 10 1951
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 7 23'N 7 32'W, alt = 339m. Station may have moved Feb 1955. Reliability: compared with 655280 for the years 1951-1980.

655550: BOUAKE IVORY COAST 7.6N 5.0W 1908-1980 20 1951
Sources: AI

Notes: AI: 1951-1960; 7 41'N 5 02'W, alt = 376m. Station may have moved Dec 1954/Jan 1955 but no details are given. 1/2(max + min). Reliability: compared with 655570, 655620 & 655780 for the years 1951-1980. Corrected for a jump 1954/1955. Correction Factors: Stations used: 655570, 655620 & 655780. Calculation dates: 1951-1954. Correction dates: 1955-1980. Factors: -6 -1 -8 -13 -10 -12 -9 -7 -9 -12 -9 -8.

655570: GAGROA IVORY COAST 6.0N 5.9W 1923-1980 20 1951
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 6 08'N 5 57'W, alt = 205m. Reliability: compared with 655780 & 655620 for the years 1951-1980. Corrected for a jump 1970/1971. Correction Factors: Stations used: 655780 & 655620. Calculation dates: 1951-1970. Correction dates: 1971-1980. Factors: -1 -3 -5 -4 -6 -5 -3 -3 1 -6 -7 -3.

655620: DIMBROKO IVORY COAST 6.6N 4.7W 1922-1980 20 1951
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 6 39'N 4 42'W, alt = 110m. Reliability: compared with 655550 & 655780 for the years 1951-1980. Corrected for a jump 1962/1963. Correction Factors: Stations used: 655550 & 655780. Calculation dates: 1951-1962. Correction dates: 1963-1980. Factors: -10 -7 -5 -5 -2 -1 1 -3 -3 -7 -9.

655780: ABIDJAN VI IVORY COAST 5.3N 4.0W 1923-1980 10 1923
Sources: AI, A158

Notes: A158: 5 12'N 3 44'W, alt = 5m. 1923-1931; means of 3 daily observations, then 1/2(max + min). AI: Means of 1/2(max + min). 1941-1950; alt = 6m. 1951-1960 = 46m. From Nov 1945 observations taken at the airport. Reliability: compared with 655550 & 655620 for the years 1951-1980.

655850: ADIAKE IVORY COAST 5.3N 3.3W 40m 1951-1980 82
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 5 17'N 3 18'W, alt = 38m. Reliability: compared with 654720 & 654670 for the years 1951-1975. Record shows jumps in the 1960s associated with data gaps.

655920: TABOU IVORY COAST 4.4N 7.3W 1919-1980 10 1941
Sources: AI

Notes: AI: 1/2(max + min). 1941-1950; 4 25'N 7 22'W, alt = 4m. 1951-1960; 4 55'N 7 22'W, alt = 4m. Reliability: compared with 618660 & 656507 for the years 1951-1980 & 1941-1960.

655990: SABBANDRA IVORY COAST 4.9N 6.0W 1922-1980 20 1951
Sources: AI

Notes: AI: 1951-1960; 4 57'N 6 05'W, alt = 50m. Station may have moved May 1952. 1/2(max + min). Reliability: compared with 655780, 655850 & 655920 for the years 1951-1980. Corrected for a jump 1954/1955. Correction Factors: Stations used: 655780, 655880 & 655920. Calculation dates: 1951-1954. Correction dates: 1955-1980. Factors: 2 4 6 5 2 1 4 2 2 1 0.

656507: BARBEL LIBERIA 6.4N 10.4W 10m 1932-1973 10 1932
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). Prior to 1936; 6 18'N 10 26'W, alt = 30m. 1936-1960; 6 23'N 10 25'W, alt = 30m. Reliability: compared with 655920 for the years 1941-1960.

656600: ROBERTS FIELD LIBERIA 6.2N 10.3W 15m 1951-1980 62
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 6 11'N 10 18'W, alt = 16m. Reliability: uncheckable.

700260: BARROW USA 71.3N 156.8W 9m 1920-1981 10 1921
Sources:

Notes: Reliability: Compared with 700860, 701330 & 701780 for the years 1947-1981, 1928-1980 & 1920-1981.

70080: BARTER ISLAND USA 70.1N 143.6W 12m 1947-1981 10 1948
Sources:
Notes: Reliability: Compared with 700260 for the years 1947-1981.

701330: KOTZEBUE USA 66.9N 162.6W 3m 1928-1980 10 1929
Sources:
Notes: Reliability: Compared with 700260 & 702000 for the years 1928-1980. Poor data for Jan-Sept 1928 replaced with -999.

701737: ALLAKAKEE USA 66.6N 152.7W 183m 1909-1981 22 1909
Sources:
Notes: Reliability: Compared with 701740, 701780 & 701928 for the years 1944-1981, 1909-1981 & 1922-1981. Many missing values 1962-1968, then a jump occurs. Probably due to a site change but no site details are available. Record has been corrected as it is close to a good record at 701740. Correction Factors: Stations used: 701740. Calculation dates: 1944-1968 & 1969-1981. Correction dates: 1909-1968. Factors: -33 -39 -18 -15 -17 -12 -13 -18 -11 -7 -14 -35.

701740: BOTTLES USA 66.9N 151.5W 196m 1944-1981 10 1945
Sources:
Notes: Reliability: Compared with 701737, 701780, 701928 & 702617 for the years 1944-1981.

701780: YAMANA USA 65.2N 152.1W 71m 1903-1981 10 1904
Sources:
Notes: Reliability: Compared with 701928 & 702617 for the years 1922-1981 & 1904-1981.

701928: UNIVERSITY EXP STA USA 64.9N 147.9W 145m 1922-1981 10 1922
Sources:
Notes: Reliability: Compared with 701780 & 702617 for the years 1922-1981. Much too warm Oct-Dec 1936 so replaced with -999.

701940: FORT YUKON USA 66.6N 145.3W 127m 1917-1970 10 1917
Sources:
Notes: Reliability: Compared with 701928 & 702820 for the years 1922-1969 & 1917-1969.

702000: HOME USA 64.5N 165.4W 4m 1906-1981 10 1906
Sources:
Notes: Reliability: Compared with 701330, 702070 & 703500 for the years 1928-1980, 1941-1981 & 1906-1981. Unchecked prior to 1928 but may be OK.

702070: UNALAKLEET USA 63.9N 160.8W 5m 1941-1981 10 1942
Sources:
Notes: Reliability: Compared with 702000 & 702190 for the years 1941-1981.

702190: BETHEL USA 60.8N 161.8W 38m 1923-1981 10 1924
Sources:
Notes: Reliability: Compared with 702070 & 702337 for the years 1941-1981 & 1923-1969.

702310: MCGRATH USA 63.0N 155.6W 105m 1941-1980 10 1942
Sources:
Notes: Reliability: Compared with 702480, 702490 & 702337 for the years 1944-1971, 1942-1980 & 1942-1969.

702337: HOLY CROSS USA 62.2N 159.8W 46m 1893-1970 12 1906
Sources:
Notes: Reliability: Compared with 702190, 702310 & 703500 for the years 1923-1969, 1942-1969 & 1899-1969.

702480: FAREWELL USA 62.5N 153.9W 457m 1944-1971 10 1945
Sources:
Notes: Reliability: Compared with 702310 & 702490 for the years 1944-1971.

702490: PUNTILLA USA 62.1N 152.8W 559m 1942-1981 10 1942
Sources:
Notes: Reliability: Compared with 702480 & 702510 for the years 1944-1971 & 1942-1981.

702510: TALKKEENA USA 62.3N 150.1W 105m 1918-1981 10 1920
Sources:
Notes: Reliability: Compared with 702490, 702649 & 702747 for the years 1942-1981, 1923-1981 & 1918-1969.

702617: FAIRBANKS/EXP STAT. USA 64.8N 147.9W 133m 1904-1981 10 1915
Sources:
Notes: Reliability: Compared with 701928 & 701780 for the years 1922-1981 & 1904-1981.

702549: MCKINLEY PARK USA 63.7W 149.0W 631m 1923-1981 10 1923
Sources:
Notes: Reliability: Compared with 702510 & 702490 for the years 1923-1981 & 1942-1981.

702670: BIG DELTA USA 64.0N 145.7W 387m 1942-1981 20 1942
Sources:
Notes: Reliability: Compared with 702649, 702617 & 702820 for the years 1942-1981. A jump in the record occurs, but no site details are available. Correction Factors: Stations used: 702649, 702617 & 702820. Calculation dates: 1944-1975 & 1976-1981. Correction dates: 1942-1975. Factors: 0 14 18 14 11 8 10 6 9 8 9 -9.

702710: GULKANA USA 62.2N 145.5W 479m 1942-1981 10 1943
Sources:
Notes: Reliability: Compared with 702910 for the years 1942-1981.

702730: ANCHORAGE USA 61.2N 150.0W 35m 1916-1981 10 1916
Sources:
Notes: Reliability: Compared with 702747, 703410 & 703500 for the years 1917-1969, 1932-1981 & 1916-1981.

702747: MATANUSKA/EXP STAT. USA 61.6N 149.3W 46m 1917-1970 10 1918
Sources:
Notes: Reliability: Compared with 702730 & 703500 for the years 1917-1969. Feb 1917 is suspect so 1918 is first reliable year.

702750: VALDEZ USA 61.1N 146.3W 5m 1910-1969 20 1917
Sources:
Notes: Reliability: Compared with 702710, 703600 & 702747 for the years 1942-1968, 1936-1968 & 1917-1968. Site change, from Court Street to Gibson Building, causes a jump. Correction Factors: Stations used: 702710, 702747 & 703600. Calculation dates: 1942-1956 & 1957-1968. Correction dates: 1910-1956. Factors: 7 8 13 11 15 9 7 5 1 11 11 8.

702820: EAGLE USA 64.8N 141.2W 259m 1899-1981 12 1899
Sources:
Notes: Reliability: Compared with 702617 & 701940 for the years 1904-1981 & 1917-1969.

702910: NORTHWAY APRT USA 63.0N 142.0W 572m 1942-1981 10 1942
Sources:
Notes: Reliability: Compared with 702820 & 702710 for the years 1942-1981.

702960: CORDOVA USA 60.5N 145.5W 13m 1917-1981 20 1917
Sources:
Notes: Reliability: Compared with 702747 & 702750 for the years 1917-1969 & 1917-1968. Jump, probably due to a site change occurs. No site details available. Correction Factors: Stations used: 702747 & 703610. Calculation dates: 1917-1942 & 1943-1969. Correction dates: 1917-1942. Factors: -6 -10 -9 -4 -6 -7 -10 -8 -10 -5 -10 -9.

703080: ST. PAUL USA 57.1N 170.3W 9m 1915-1980 10 1916
Sources:
Notes: Reliability: Compared with 703260 & 704890 for the years 1918-1979 & 1916-1953.

703160: COLD BAY USA 55.2N 162.7W 31m 1942-1980 10 1942
Sources:
Notes: Reliability: Compared with 703260 & 704140 for the years 1942-1979 & 1943-1972.

703260: KING SALMON USA 58.7N 156.7W 15m 1918-1981 12 1919
Sources:
Notes: Reliability: Compared with 703500, 703410 & 703080 for the years 1918-1981, 1932-1981 & 1918-1979.

703400: ILIAMNA USA 59.8N 154.9W 57m 1941-1981 10 1941
Sources:
Notes: Reliability: Compared with 703260 & 703410 for the years 1941-1981.

703410: HOMER USA 59.6N 151.5W 19m 1932-1981 10 1933
Sources:
Notes: Reliability: Compared with 703260 & 702730 for the years 1932-1981.

703500: KODIAK USA 57.8N 152.5W 4m 1899-1981 10 1899
Sources:
Notes: Reliability: Compared with 703260, 703410, 702730 & 702000 for the years 1918-1981, 1932-1981, 1916-1981 & 1906-1981.

703600: CAPE ST. ELIAS USA 59.8M 144.6W 18m 1936-1970 10 1936
Sources:
Notes: Reliability: Compared with 702747, 703610 & 703622 for the years 1936-1969.

703610: YAKUTAI USA 59.5W 139.7W 9m 1917-1981 80
Sources:
Notes: Reliability: Compared with 703710 & 703622 for the years 1917-1981 & lower temperatures. A change in thermometer height from 4 to 2m in 1964 caused trend (1964-1981), closely followed by a steep & uncorrectable warming (1964-1981).

703622: HAINES USA 59.3M 135.5W 53m 1925-1981 40
Sources:
Notes: Reliability: Compared with 703810 & 703710 for the years 1925-1981.

703710: SITKA MAGNETIC OBS. USA 57.1M 135.3W 20m 1832-1981 10 1832
Sources:
Notes: Reliability: Compared with 703622, 703810 & 703870 for the years 1925-1981, 1899-1981 & 1917-1981. Station moved in Mar 1941 & in April 1942. Jumps occur in the record, but are uncorrectable due to the simultaneous movement of nearby stations.

703810: JUNEAU (CITY) USA 58.3M 134.4W 8m 1899-1981 80
Sources:
Notes: Reliability: Compared with 703710, 703622 & 703870 for the years 1899-1981, 1925-1981 & 1917-1981. Station moved to the airport in 1950. Suspect values occur in the early 1970s. Uncorrectable due to the simultaneous movement of nearby stations.

703870: WRANGELL USA 56.5W 132.4W 11m 1917-1981 10 1917
Sources:
Notes: Reliability: Compared with 703622, 703710 & 703810 for the years 1925-1981, 1917-1981 & 1917-1981. Station probably moved in the 1950s but no site details are available. Uncorrectable due to the simultaneous movement of nearby stations.

703980: ANNETTE ISLAND USA 55.0M 131.6W 34m 1941-1980 10 1941
Sources:
Notes: Reliability: Compared with 711010 & 718990 for the years 1948-1979 & 1941-1969.

704140: SHERITA USA 52.7M 174.0W 31m 1943-1973 10 1944
Sources:
Notes: Reliability: Compared with 704540 & 703080 for the years 1943-1969 & 1943-1972.

704540: ADAK USA 51.9M 176.7W 4m 1942-1970 10 1943
Sources:
Notes: Reliability: Compared with 703080 & 704140 for the years 1942-1969 & 1943-1969.

704890: DUTCH HARBOR USA 53.9M 166.5W 5m 1905-1954 12 1906
Sources:
Notes: Reliability: Compared with 703080 & 703260 for the years 1916-1953 & 1918-1953.

710430: NORMAN WELLS CANADA 65.3M 126.8W 73m 1943-1980 10 1944
Sources:
Notes: Reliability: Compared with 719461 & 710435 for the years 1943-1980 & 1943-1979.

710431: FORT NORMAN CANADA 64.9M 125.6W 74m 1903-1975 12 1909
Sources:
Notes: Reliability: Compared with 710435 & 719461 for the years 1908-1975 & 1943-1975.

710435: FORT GOOD HOPE CANADA 66.3M 128.6W 53m 1897-1979 10 1908
Sources:
Notes: Reliability: Compared with 710431 & 710430 for the years 1908-1975 & 1943-1979.

710500: TREBLIN A CANADA 60.2M 132.8W 705m 1943-1980 10 1944
Sources:
Notes: Reliability: Compared with 719640 & 719641 for the years 1943-1980.

710503: FORT ST JAMES CANADA 54.5M 124.3W 686m 1895-1980 10 1895
Sources:
Notes: Reliability: Compared with 719410, 718967 & 718960 for the years 1951-1980, 1895-1969 & 1912-1980.

710510: SACHS HARBOUR CANADA 72.0N 125.3W 86m 1955-1980 10 1956
Sources: 710740: TSACHSEN CANADA 78.8N 103.5W 25m 1948-1978 10 1949
Notes: Reliability: Compared with 710530 & 710720 for the years 1957-1980 & 1948-1980.
Sources: 710810: HALL BEACH CANADA 68.7N 81.3W 8m 1957-1980 10 1959
Notes: Reliability: Compared with 710510 & 710720 for the years 1957-1980.
Sources: 710820: ALBERT CANADA 82.5N 62.3W 62m 1950-1980 10 1951
Notes: Reliability: Compared with 710510 & 710720 for the years 1955-1969 & 1948-1969. Not checked prior to 1948.
Sources: 710900: CLYDE CANADA 70.5N 68.6W 25m 1943-1980 10 1947
Notes: Reliability: Compared with 710510 & 710431 for the years 1937-1974.
Sources: 710921: LAKE HARBOUR CANADA 62.8N 69.9W 1913-1946 62
Notes: Reliability: Compared with 710691 & 711231 for the years 1926-1977 & 1922-1980.
Sources: 710941: PANGHEITUNG CANADA 66.1N 65.7W 1925-1940 62
Notes: Reliability: Compared with 710690 & 711231 for the years 1926-1977.
Sources: 710950: POND IMLET CANADA 72.7N 78.0W 54m 1922-1980 62
Notes: Reliability: Compared with 710510, 710530 & 710531 for the years 1955-1980, 1957-1980 & 1948-1969.
Sources: 710730: FORT RELIANCE CANADA 62.7N 109.2W 164m 1948-1980 10 1949
Notes: Reliability: Compared with 710510 & 710530 & 710531 for the years 1955-1980, 1957-1980 & 1948-1969.
Sources: 710731: FORT RESOLUTION CANADA 61.2N 113.7W 1911-1936 73
Notes: Reliability: Compared with 710510 & 710530 & 710531 for the years 1955-1980, 1957-1980 & 1948-1969.
Sources: 710990: FORT HARDY CANADA 50.7N 127.4W 21m 1944-1980 10 1944
Notes: Reliability: Compared with 710510 & 710530 & 710531 for the years 1955-1980, 1957-1980 & 1948-1969.
Sources: 711010: SANDSPIT CANADA 53.3N 131.8W 1948-1980 10 1949
Notes: Reliability: Compared with 703980 & 718997 for the years 1948-1979 & 1948-1967. Jan-June 1948 values too cold so replaced with -999.
Sources: 711090: FORT HARDY CANADA 50.7N 127.4W 21m 1944-1980 10 1944
Notes: Reliability: Compared with 711010 & 718960 for the years 1948-1979 & 1944-1979.

711200: COLD LAKE A CANADA 54.4N 110.3W 541m 1952-1980 10 1953
 Sources:
 Notes: Reliability: Compared with 718712 & 718760 for the years 1952-1980.

711220: BAMPY CANADA 51.2N 115.6W 1397m 1887-1980 10 1850
 Sources:
 Notes: Reliability: Compared with 718770 & 718802 for the period 1888-1980.

711231: SION CANADA 53.9N 114.1W 701m 1911-1980 22 1911
 Sources:
 Notes: Reliability: Compared with 710690, 710691, 718762 & 718770 for the years 1922-1980, 1926-1977, 1917-1980 & 1911-1980. No mention of a site change is made in station history at time of inhomogeneity, but many observations are missing between 1942 & 1950. Correction Factors: Stations used: 710690, 718762 & 718770. Calculation dates: 1923-1945 & 1950-1980. Correction dates: 1911-1945. Factors: 19 18 0 2 1 4 8 1 13 11 22.

711277: VANLESS CANADA 54.2N 101.4W 273m 1935-1980 12 1955
 Sources:
 Notes: Reliability: Compared with 718670 for the years 1935-1980.

711282: CHAPLIN CANADA 50.5N 106.7W 671m 1883-1980 20 1893
 Sources:
 Notes: Reliability: Compared with 718631 & 718640 for the years 1893-1980 & 1894-1980. Too warm prior to 1905. Corrected for site change from 50 27'N 106 40'W, alt = 671m to 50 28'N 106 39'W, alt = 673m. Correction Factors: Stations used: 718631. Calculation dates: 1893-1904 & 1905-1980. Correction dates: 1893-1904. Factors: 6 11 -11 -15 -4 -8 -10 -3 5 -4 -5 -1.

711382: GREENFELL CANADA 50.4N 102.9W 596m 1883-1980 10 1890
 Sources:
 Notes: Reliability: Compared with 718631 & 718630 for the years 1889-1980.

711400: BRANDON CANADA 49.9N 100.0W 366m 1856-1980 12 1890
 Sources:
 Notes: Reliability: Compared with 718532 & 718533 for the years 1885-1980 & 1881-1980.

711402: HILLVIEW CANADA 49.9N 100.6W 427m 1885-1920 10 1895
 Sources:
 Notes: Reliability: Compared with 711400 & 718533 for the years 1894-1920.

711410: NORWAY HOUSE CANADA 54.0N 97.8W 217m 1896-1968 10 1910
 Sources:

Notes: Reliability: Compared with 718670 for the years 1910-1946. Uncheckable prior to 1910.

711413: CHANNEL ISLAND CANADA 52.3N 97.4W 216m 1886-1904 61
 Sources:

Notes: Reliability: Record too short and also antique, no is uncheckable.

711482: TREHEARNE CANADA 49.6N 98.7W 373m 1885-1978 20 1904
 Sources:

Notes: Reliability: Compared with 718517 for the years 1904-1938. Inhomogeneity is due to site change from 49 37'N 98 44'W, alt = 369m to 49 36'N 98 40'W. Correction Factors: Stations used: 718517. Calculation dates: 1904-1910 & 1911-1938. Correction dates: 1895-1910. Factors: 27 29 21 18 15 15 11 10 7 3 9 20.

711422: WELAND CANADA 43.0N 79.3W 175m 1872-1980 10 1874
 Sources:

Notes: Reliability: Compared with 714323 & 715270 for the years 1872-1980 & 1875-1980.

714323: WOODSTOCK CANADA 43.1N 80.8W 282m 1870-1980 10 1872
 Sources:

Notes: Reliability: Compared with 714322 & 715270 for the years 1872-1980 & 1875-1980.

715270: PORT DOVER CANADA 42.8N 80.2W 186m 1874-1980 10 1876
 Sources:

Notes: Reliability: Compared with 714322 & 714323 for the years 1875-1980.

715271: CAMBRIDGE GALT MOZ CANADA 43.3N 80.3W 268m 1879-1980 12 1881
 Sources:

Notes: Reliability: Compared with 715274 & 715300 for the years 1885-1980 & 1879-1980.

715272: PORT STANLEY CANADA 42.7N 81.2W 180m 1872-1980 72
 Sources:

Notes: Reliability: Compared with 715271, 715274 & 715380 for the years 1879-1980, 1885-1980 & 1874-1980. Too warm prior to 1900.

715274: RIDGETOWN CANADA 42.5N 81.9W 206m 1883-1980 12 1886
Sources:
Notes: Reliability: Compared with 715271, 715380 & 715382 for the years 1885-1980, 1885-1980 & 1889-1980.

715380: WINDSOR A CANADA 42.3N 83.0W 190m 1866-1980 12 1874
Sources:
Notes: Reliability: Compared with 715271, 715272 & 715274 for the years 1879-1980, 1874-1980 & 1885-1980.

715382: PELEE ISLAND CANADA 41.8N 82.7W 175m 1888-1980 72 1920
Sources:
Notes: Reliability: Compared with 715271, 715274 & 715380 for the years 1889-1980.

716000: SABLE ISLAND CANADA 44.0N 60.1W 1891-1980 10 1898
Sources:
Notes: Reliability: Compared with 716010, 717070, 717170 & 718010 for the years 1945-1980, 1940-1980, 1943-1980 & 1898-1970.

716010: SHEARWATER CANADA 44.6N 63.5W 41m 1852-1980 12 1945
Sources:
Notes: Reliability: Compared with 716000 & 717170 for the years 1945-1980.

716200: KINGSTON QUEENS CANADA 44.3N 76.5W 104m 1853-1957 72 1890
Sources:
Notes: Reliability: Compared with 716247 & 716215 for the years 1853-1957 & 1866-1957. Suspect trend 1870-1890, otherwise OK.

716204: BROCKVILLE CANADA 44.6N 75.7W 91m 1871-1980 22 1916
Sources:
Notes: Reliability: Compared with 716280 & 716285 for the years 1872-1980 & 1958-1980. Inhomogeneity due to site change at the end of 1961, from 44 33'N 75 40'W, alt = 85m to 44 36'N 75 42'W, alt = 91m. First reliable year is 1916 because 1872-1878 is uncheckable & 1878-1915 is missing. Correction Factors: Stations used: 716280. Calculation dates: 1935-1961 & 1962-1980. Correction dates: 1872-1961. Factors: -10 -12 -9 -8 -9 -10 -9 -8 -8 -8 -5 -5.

716213: BELLEVILLE CANADA 44.2N 77.4W 76m 1866-1980 12 1921
Sources:
Notes: Reliability: Compared with 716255 & 716215 for the years 1866-1969 & 1866-1970. Too many missing observations to check prior to 1921.

716215: PETERSBOROUGH CANADA 44.3N 78.3W 194m 1866-1970 72 1964
Sources:
Notes: Reliability: Compared with 716254 & 716213 for the years 1889-1957 & 1866-1970. Site moved in 1942/1943 from 44 17'N 78 19'W, alt = 198m to 44 20'N 78 19'W. Changed again in 1963 to 44 17'N 78 19'W, alt; 194m. The first change has been corrected but the second uncorrected change still leaves the record inhomogeneous. Correction Factors: Stations used: 716254. Calculation dates: 1916-1942 & 1943-1950. Correction dates: 1866-1942. Factors: -8 -10 -8 -9 -11 -17 -5 -14 -16 -13 -13.

716230: LONDON A CANADA 43.0N 81.2W 278m 1878-1980 72
Sources:
Notes: Reliability: Compared with 716237, 716236 & 716336 for the years 1878-1980, 1897-1970 & 1878-1980. Several apparent jumps occur in the data set.

716234: BRANTFORD CANADA 43.1N 80.3W 206m 1876-1963 72
Sources:
Notes: Reliability: Compared with 716230 & 716336 for the years 1878-1962 & 1876-1962. Several apparent jumps occur in the data set.

716236: GODERICH TOWNSHIP CANADA 43.7N 81.7W 221m 1866-1970 72
Sources:
Notes: Reliability: Compared with 716237 & 716336 for the years 1866-1970 & 1873-1970. Several apparent jumps occur in the data set.

716237: STRATFORD HOE CANADA 43.4N 81.0W 154m 1865-1980 72
Sources:
Notes: Reliability: Compared with 714322, 716247 & 716234 for the years 1872-1980, 1865-1980 & 1876-1962. A move or change is suspected at about 1945 but no details are given in the station history.

716243: BARRIE CANADA 44.4N 79.7W 729m 1866-1958 62
Sources:
Notes: Reliability: Very many missing observations so is uncheckable.

716244: BRAMPTON CANADA 43.7N 79.8W 221m 1871-1964 62
Sources:
Notes: Reliability: Very many missing observations so is uncheckable.

716245: PARIS CANADA 43.2N 80.5W 267m 1884-1945 70
Sources:

Notes: Reliability: Compared with 716323, 716334 & 716336 for the years 1890-1945. Record seems too cold 1900-1910, but no details of any change are given in the station history.

716246: HAMILTON CANADA 43.3N 79.9W 92m 1866-1958 62
Sources:

Notes: Reliability: Very many missing observations so is uncheckable.

716247: TORONTO CANADA 43.7N 79.4W 111m 1840-1980 40
Sources:

Notes: Reliability: Compared with 714322, 716237 & 716334 for the years 1872-1980, 1865-1980 & 1878-1980. An urban warming trend of about 1C occurs from 1910-1980.

716253: BANCROFT CANADA 45.1N 77.9W 327m 1882-1980 62
Sources:

Notes: Reliability: Very many missing observations so is uncheckable.

716254: CLOWTARY CANADA 45.4N 77.2W 245m 1882-1957 22 1889
Sources:

Notes: Reliability: Compared with 716200 for the years 1888-1957. No record of a site change is made but 1909-1915 is missing. Inhomogeneity is probably due to new instrumentations. Correction Factors: Stations used: 716200. Calculation dates: 1889-1908 & 1916-1938. Correction dates: 1888-1980. Factors: -5 -11 -6 -11 -5 -8 -11 -8 -12 -8 -9 -7.

716255: PEMBROKE EDDY HATCH CANADA 45.8N 77.2W 125m 1866-1969 52
Sources:

Notes: Reliability: Compared with 716213 for the years 1866-1969. Site changes occur in 1958 & 1963 but record is incomplete after 1963 so corrector is impossible.

716270: MONTREAL CANADA 45.5N 73.6W 57m 1856-1980 63
Sources:

Notes: Reliability: Very short record so is uncheckable.

716280: OTTAWA CANADA 45.4N 75.7W 79m 1872-1980 22 1889
Sources:

Notes: Reliability: Compared with 716200 & 716254 for the years 1872-1957 & 1888-1957. Site change occurs in 1934/1935 probably from 45 24'N 75 43'W, alt = 72m to 45 23'N 75 43'W, alt = 79m, Ottawa Experimental Farm.

Correction Factors: Stations used: 716254. Calculation dates: 1916-1934 & 1935-1947. Correction dates: 1872-1934. Factors: -12 -16 -15 -10 -12 -14 -14 -17 -14 -13 -10 -15.

716281: RENFREW SAND POINT CANADA 45.5N 76.4W 177m 1882-1959 22 1887
Sources:

Notes: Reliability: Compared with 716200, 716215 & 716254 for the years 1885-1957, 1885-1959 & 1888-1957. Site changed in 1929 from 45 26'N 76 39'W, alt = 127m to 45 29'N 76 26'W. An instrument change probably occurred in July 1947. Correction Factors: Stations used: 716254. Calculation dates: 1916-1928 & 1942-1950. 1930-1940 & 1942-1950. Correction dates: 1885-1928 & 1930-1940. Factors: i) 1885-1928, -1 -7 -5 -2 -5 -7 -3 0 -1 -4 -1 -5. ii) 1930-1940, 20 19 17 17 12 13 16 14 13 13 19 17.

716285: CORNWALL CANADA 45.0N 74.8W 64m 1867-1980 62 1959
Sources:

Notes: Reliability: Compared with 716280 for the years 1872-1980. 1880-1958 is missing & the earlier part of the record is uncheckable.

716286: HIGH FALLS CANADA 45.9N 75.7W 186m 1933-1972 70 1960
Sources:

Notes: Reliability: Compared with 717200 & 718288 for the years 1933-1972 & 1939-1972. A possible discontinuity occurs around 1960 but no station history is available.

716302: CULMATER CANADA 44.7N 79.7W 183m 1883-1954 12 1888
Sources:

Notes: Reliability: Compared with 716303, 716304 & 716305 for the years 1885-1921, 1885-1948 & 1885-1954.

716303: GRAVENHURST CANADA 44.9N 79.4W 248m 1870-1949 10 1878
Sources:

Notes: Reliability: Compared with 716302 & 716305 for the years 1885-1921 & 1878-1921.

716304: LAKEFIELD CANADA 44.4N 78.3W 235m 1874-1949 10 1887
Sources:

Notes: Reliability: Compared with 716302, 716305 & 716306 for the years 1885-1948, 1883-1948 & 1892-1948.

716305: BEATRICE CANADA 45.1N 79.4W 290m 1876-1979 10 1878
Sources:

Notes: Reliability: Compared with 716304, 716306 & 716303 for the years 1883-1948, 1892-1974 & 1878-1921.

716306: COLLINGWOOD CANADA 44.5N 80.2W 183m 1892-1974 12 1892
Sources: Reliability: Compared with 716304 & 716305 for the years 1892-1948 & 1892-1974.

716307: LINDSAY CANADA 44.4N 78.8W 261m 1880-1971 10 1881
Sources: Reliability: Compared with 713313 & 716315 for the years 1882-1971 & 1881-1971.

716313: DURHAM CANADA 44.2N 80.8W 381m 1882-1980 12 1883
Sources: Reliability: Compared with 716307 & 716315 for the years 1882-1971 & 1882-1973.

716314: ALTON CANADA 43.9N 80.1W 401m 1887-1964 22 1887
Sources: Reliability: Compared with 716307 & 716315 for the years 1887-1964. Inhomogeneity is probably due to a site change in 1913/1914. Correction Factors: Stations used: 716307 & 716315. Calculation dates: 1887-1913 & 1914-1964. Correction dates: 1887-1913. Factors: 6 7 5 7 4 9 9 7 19 5 7.

716315: GUELPH OAC CANADA 43.5N 80.2W 334m 1881-1973 12 1882
Sources: Reliability: Compared with 716307 & 716313 for the years 1881-1971 & 1882-1973.

716323: PARRY SOUND CANADA 45.3N 80.0W 194m 1874-1976 10 1876
Sources: Reliability: Compared with 716334 & 716336 for the years 1878-1976 & 1875-1976.

716333: LUCKNOW CANADA 44.0N 81.5W 290m 1885-1960 70
Sources: Reliability: Compared with 716336, 716334 & 716247 for the years 1886-1980. Many decadal time scale trends are apparent when compared with the above stations.

716334: OWEN SOUND MOZ CANADA 44.6N 80.9W 179m 1878-1980 10 1890
Sources: Reliability: Compared with 716323 & 716336 for the years 1878-1976 & 1878-1980. Data prior to 1890 are suspect.

716336: SOUTHAMPTON CANADA 44.5N 81.4W 186m 1872-1980 20 1874
Sources: Reliability: Compared with 716323 & 716334 for the years 1875-1976 & 1878-1980. Inhomogeneity due to a site change in 1952/1953 from 44 30'N 81 21'W, alt = 200m to 44 30'N 81 22'W, alt = 186m. Correction Factors: Stations used: 716323 & 716334. Calculation dates: 1878-1952 & 1953-1980. Correction dates: 1878-1952. Factors: -1 -3 1 6 14 16 16 12 12 4 0 -1.

717070: SYDNEY CANADA 46.2N 60.1W 60m 1940-1980 10 1940
Sources: Reliability: Compared with 716010 & 717170 for the years 1940-1980 & 1943-1980.

717090: GRINDST #E 18 CANADA 47.4N 61.9W 60m 1941-1970 10 1941
Sources: Reliability: Compared with 716000 & 717170 for the years 1941-1970 & 1943-1970.

717140: QUEBEC CANADA 46.8N 71.3W 75m 1854-1870 63
Sources: Reliability: Very short record with many missing observations so is uncheckable.

717170: CHATHAM CANADA 47.0N 65.5W 34m 1943-1980 10 1943
Sources: Reliability: Compared with 716000 & 716010 for the years 1943-1980.

717187: FATHER POINT CANADA 48.5N 68.5W 1877-1970 10 1882
Sources: Reliability: Compared with 718117 for the years 1882-1954.

717220: MAMIWAKI CANADA 46.4N 76.0W 170m 1953-1980 10 1953
Sources: Reliability: Compared with 717310 & 718288 for the years 1953-1980.

717270: BAGOTVILLE CANADA 48.3N 71.0W 163m 1942-1980 10 1942
Sources: Reliability: Compared with 717277 for the years 1942-1970.

71727: CHICOUTIMI CANADA 48.4N 71.1W 46m 1885-1970 10 1942
 Sources:
 Notes: Reliability: Compared with 717270 for the years 1942-1970.

717310: NORTH BAY CANADA 46.3N 79.5W 201m 1887-1980 12 1925
 Sources:
 Notes: Reliability: Compared with 718288 & 716286 for the years 1939-1980 & 1933-1972. Very many missing observations prior to 1925.

717380: WHITE RIVER CANADA 48.6N 85.3W 379m 1889-1976 10 1869
 Sources:
 Notes: Reliability: Compared with 717381 & 718360 for the years 1914-1972 & 1889-1976.

717381: BISCOTASING CANADA 47.3N 82.1W 407m 1914-1980 20 1914
 Sources:
 Notes: Reliability: Compared with 717380 & 718360 for the years 1914-1972. No evidence of a site change is available but there is a data gap in 1926. Jump is probably due to instrument or recording time change. Correction Factors: Stations used: 717380 & 718360. Calculation dates: 1914-1925 & 1926-1972. Correction dates: 1914-1925. Factors: 14 17 13 16 15 7 12 10 3 14 11.

717491: PORT ARTHUR CANADA 48.4N 89.2W 247m 1877-1941 10 1877
 Sources:
 Notes: Reliability: Compared with 727430 for the years 1877-1941.

718000: TREPASSEY CANADA 46.5N 53.1W 126m 1921-1969 10 1934
 Sources:
 Notes: Reliability: Compared with 718010 for the years 1921-1969.

718010: ST JOHNS/TORBAY CANADA 47.6N 52.7W 144m 1834-1970 10 1898
 Sources:
 Notes: Reliability: Compared with 716000 & 718130 for the years 1898-1970 & 1914-1970. Many missing observations prior to 1872.

718030: GANDER CANADA 49.0N 54.6W 147m 1937-1980 10 1937
 Sources:
 Notes: Reliability: Compared with 718090 & 718150 for the years 1937-1968 & 1942-1980.

718050: ST. PIERRE CANADA 46.8N 56.2W 5m 1961-1980 62
 Sources:
 Notes: Reliability: Short record with many missing observations so is uncheckable. July 1961 value changed to 113 & April 1965 value changed to 09.

718070: ARGENTIA CANADA 47.3N 54.0W 14m 1961-1980 62
 Sources:
 Notes: Reliability: Short record with many missing observations so is uncheckable.

718090: BELLE ISLE CANADA 51.9N 55.4W 130m 1912-1969 72 1920
 Sources:
 Notes: Reliability: Compared with 718010 & 718130 for the years 1912-1968 & 1914-1968. Record prior to 1920 is suspect.

718110: SEPT-ILES CANADA 50.2N 66.3W 58m 1944-1980 10 1945
 Sources:
 Notes: Reliability: Compared with 718010 & 718090 for the years 1944-1970 & 1944-1968. 1944 Jan-April is wrong & replaced by -999.

718117: ANTICOSTI CANADA 49.4N 63.7W 1882-1954 10 1882
 Sources:
 Notes: Reliability: Compared with 717187 & 718130 for the years 1882-1954 & 1914-1954.

718130: MATASHEWAN CANADA 50.2N 61.8W 5m 1914-1980 10 1915
 Sources:
 Notes: Reliability: Compared with 716000 & 718117 for the years 1914-1980 & 1914-1954.

718150: STEPHERVILLE CANADA 48.5N 58.6W 26m 1942-1980 10 1942
 Sources:
 Notes: Reliability: Compared with 718030 for the years 1942-1980.

718160: GOOSE CANADA 53.3N 60.4W 49m 1941-1980 10 1942
 Sources:
 Notes: Reliability: Compared with 718180 for the years 1941-1980.

718180: CARTWRIGHT CANADA 53.7N 57.0W 14m 1934-1980 10 1941
Sources:
Notes: Reliability: Compared with 719000 & 718160 for the years 1942-1980 & 1941-1980.

718227: MISTASSINI POST CANADA 50.3N 73.9W 383m 1921-1970 62
Sources:
Notes: Reliability: Too few complete years to check.

718260: MITCHEQUON CANADA 53.2N 70.9W 537m 1942-1980 10 1943
Sources:
Notes: Reliability: Compared with 718110 & 719050 for the years 1944-1979 & 1942-1980.

718279: FORT GEORGE CANADA 53.8N 79.0W 7m 1915-1969 62
Sources:
Notes: Reliability: Compared with 718360 & 719050 for the years 1915-1969 & 1925-1969, but too many missing observations to check.

718280: SCHEFFERVILLE CANADA 54.8N 66.7W 512m 1949-1970 10 1949
Sources:
Notes: Reliability: Compared with 718160 for the years 1949-1969.

718288: GRAND LAKE VICTORIA CANADA 47.8N 77.4W 1080m 1927-1980 10 1946
Sources:
Notes: Reliability: Compared with 716286 & 717200 for the years 1939-1972 & 1953-1980.

718310: KAPUSKASING CANADA 49.4N 82.5W 229m 1938-1980 10 1938
Sources:
Notes: Reliability: Compared with 717380 & 718360 for the years 1938-1976 & 1938-1980.

718360: MOOSENEE CANADA 51.3N 80.7W 10m 1877-1980 10 1889
Sources:
Notes: Reliability: Compared with 717380, 718310 & 719050 for the years 1889-1976, 1938-1980 & 1925-1980.

718399: YORK FACTORY CANADA 57.0N 92.5W 17m 1874-1914 62
Sources:

Notes: Reliability: Antique record with many missing observations so is uncheckable.

718410: ARMSTRONG CANADA 50.3N 88.9W 320m 1938-1980 10 1939
Sources:

Notes: Reliability: Compared with 718420 & 718450 for the years 1938-1980. 1938 is suspect when compared with 718420.

718420: SIOUX LOCKOUT A CANADA 50.1N 91.9W 390m 1914-1980 10 1915
Sources:

Notes: Reliability: Compared with 718410, 717491 & 718520 for the years 1938-1980, 1914-1941 & 1914-1979.

718450: PICKLE LAKE CANADA 51.5N 90.2W 369m 1930-1980 12 1940
Sources:

Notes: Reliability: Compared with 718460, 718410 & 718480 for the years 1941-1980, 1938-1980 & 1939-1980.

718460: LANSDOWNE HOUSE CANADA 52.2N 87.9W 256m 1941-1980 10 1942
Sources:

Notes: Reliability: Compared with 718450 & 718480 for the years 1941-1980.

718467: FORT HOPE CANADA 51.5N 87.8W 1901-1920 62
Sources:

Notes: Reliability: Many missing observations so is uncheckable.

718480: TROUT LAKE CANADA 53.8N 89.9W 219m 1939-1980 10 1919
Sources:

Notes: Reliability: Compared with 718450 & 718460 for the years 1939-1980 & 1941-1980.

718501: EAR FALLS CANADA 50.6N 93.2W 361m 1928-1980 22 1928
Sources:

Notes: Reliability: Compared with 718420 for the years 1928-1980. A break in the record occurs, 1940-1949. Restarts with no recorded change in site so inhomogeneity may be due to a change in instrumentation or observation time. Correction Factors: Stations used: 718420. Calculation dates: 1928-1941 & 1950-1980. Correction dates: 1928-1941. Factors: 5 12 9 7 4 3 5 6 10 10 15 22.

718510: PORTAGE LA PRAIRIE CANADA 50.0N 98.3W 261m 1883-1971 22 1886
Sources:

Notes: Reliability: Compared with 718520 for the years 1886-1971. No mention of a site change is made in the station history but record is too warm prior to 1902 or thereabouts. Correction Factors: Stations used: 718520. Calculation dates: 1886-1901 & 1902-1971. Correction dates: 1886-1901. Factors: -8 -25 -19 -11 0 5 6 -4 -7 -6 -7 -16.

718517: MORDEN CANADA 49.2N 98.1W 297m 1885-1980 10 1905
Sources:

Notes: Reliability: Compared with 718510 for the years 1904-1971.

718520: WINNIPEG (COMBINED) CANADA 49.9N 97.1W 240m 1872-1980 10 1878
Sources:

Notes: Reliability: Compared with 718510 & 718563 for the years 1886-1971 & 1878-1919.

718521: OAKBANK CANADA 50.0N 96.8W 244m 1885-1931 10 1890
Sources:

Notes: Reliability: Compared with 718520 & 718563 for the years 1890-1931 & 1890-1919.

718523: EMERSON CANADA 49.0N 97.2W 236m 1893-1980 12 1943
Sources:

Notes: Reliability: Compared with 718517 for the years 1920-1980.

718532: ST ALBANS CANADA 49.7N 99.6W 360m 1885-1960 10 1886
Sources:

Notes: Reliability: Compared with 711400 & 718533 for the years 1885-1960 & 1893-1960.

718533: MINNEBOSA CANADA 50.3N 99.8W 567m 1881-1980 22 1882
Sources:

Notes: Reliability: Compared with 711400 & 718532 for the years 1881-1980 & 1885-1960. Too cool prior to 1964. Site changed from 50 15' N 99 50' W, alt = 567m to 50 16' N 99 50' W, alt = 518m. Correction Factors: Stations used: 711400. Calculation dates: 1890-1962 & 1964-1980. Correction dates: 1881-1962. Factors: -12 -12 1 -13 -9 -10 -10 -9 -7 -14 -11 -16.

718540: RED LAKE A CANADA 51.1N 93.8W 375m 1930-1980 62 1964
Sources:

Notes: Reliability: Compared with 718420 for the years 1930-1980. Many missing observations prior to 1964.

718563: STONY MOUNTAIN CANADA 50.1N 97.2W 245m 1878-1919 10 1879
Sources:

Notes: Reliability: Compared with 718520 for the years 1878-1919.

718588: WABOWDEN CANADA 54.9N 98.6W 233m 1943-1971 10 1944
Sources:

Notes: Reliability: Compared with 711400 & 718532 for the years 1943-1971 & 1943-1960.

718612: RUSSELL CANADA 50.8N 101.3W 564m 1883-1980 22 1884
Sources:

Notes: Reliability: Compared with 711400 & 718533 for the years 1883-1980. Site changed in July/Aug 1971 from 50 47' N 101 16' W, alt = 560m to 50 46' N 101 17' W, alt = 564m. Correction Factors: Stations used: 711400. Calculation dates: 1914-1970 & 1972-1980. Correction dates: 1883-July 1907. Factors: 12 11 13 4 0 0 2 0 1 -1 -3 5.

718630: REGINA A CANADA 50.4N 104.7W 577m 1883-1980 12 1884
Sources:

Notes: Reliability: Compared with 718631 & 711382 for the years 1889-1980.

718631: INDIAN HEAD CANADA 50.5N 103.7W 586m 1885-1980 10 1891
Sources:

Notes: Reliability: Compared with 718630 & 711382 for the years 1889-1980.

718640: MOORE JAW (CRAB/AF) CANADA 50.3N 105.6W 577m 1894-1980 20 1895
Sources:

Notes: Reliability: Compared with 711382 & 718631 for the years 1894-1980. Too cold prior to July 1908 when site changed from 50 23' N 105 34' W, alt = 561m to 50 21' N 105 35' W, alt = 547m. Correction Factors: Stations used: 718631. Calculation dates: 1894-1907 & 1909-1980. Correction dates: 1894-April 1908. Factors: 15 17 16 13 15 11 11 11 12 9 13 12.

718660: SASKATOON CANADA 52.1N 106.7W 503m 1892-1942 12 1902
Sources:

Notes: Reliability: Compared with 718663 & 718690 for the years 1911-1942 & 1892-1942.

718663: PILGER CANADA 52.4N 105.2W 552m 1911-1980 72 1918
Sources:

Notes: Reliability: Compared with 718660 & 718690 for the years 1911-1942 & 1911-1980.

718670: THE PAS CANADA 54.0N 101.1W 271m 1910-1980 10 1930
Sources:

Notes: Reliability: Compared with 719222 for the years 1929-1980. Not checked prior to 1930.

718680: HUDSON BAY A CANADA 52.8N 102.3W 358m 1943-1980 10 1944
Sources:

Notes: Reliability: Compared with 718663 & 718690 for the years 1943-1980.

718690: PRINCE ALBERT A CANADA 53.2N 105.7W 428m 1884-1980 20 1890
Sources:

Notes: Reliability: Compared with 718663 & 718660 for the years 1911-1980 & 1892-1942. Site changed from 53 10' N 105 45' W, alt = 436m to the airport, 53 13' N 105 41' W, alt = 426m. Correction Factors: Stations used: 718663. Calculation dates: 1918-1942 & 1943-1980. Correction dates: 1884-1942. Factors: -18 -17 -13 -5 -12 -9 -11 -9 -8 -10 -10 -14.

718700: SWIFT CURRENT A CANADA 50.3N 107.7W 817m 1885-1980 20 1885
Sources:

Notes: Reliability: Compared with 718640, 718631 & 711282 for the years 1894-1980, 1889-1980 & 1893-1980. In July 1938 site moved to the airport, from 50 20' N 107 45' W, alt = 744m to 50 17' N 107 41' W, alt = 817m. Correction Factors: Stations used: 718640, 718631 & 711282. Calculation dates: 1909-1937 & 1939-1980. Correction dates: 1885-June 1938. Factors: -12 -5 -10 -13 -12 -11 -9 -10 -9 -11 -12 -8.

718712: WASECA CANADA 53.1N 109.4W 646m 1907-1980 20 1908
Sources:

Notes: Reliability: Compared with 718762 & 718760 for the years 1917-1980 & 1907-1980. Site changed from 53 06' N 109 30' W, alt = 646m to 53 06' N 109 31' W. Correction Factors: Stations used: 718762. Calculation dates: 1917-1942 & 1943-1980. Correction dates: 1917-1942. Factors: 2 10 14 9 6 3 6 2 7 1 10 6.

718720: MEDICINE HAT A CANADA 50.0N 110.7W 717m 1883-1980 20 1895
Sources:

Notes: Reliability: Compared with 718741 & 718802 for the years 1921-1967 & 1895-1980. Station moved to the airport but no site details are given. Correction Factors: Stations used: 719741. Calculation dates: 1921-1930 & 1931-1967. Correction dates: 1883-1930. Factors: -5 -6 -7 -3 -7 -10 -6 -5 3 -2 5 9.

718740: LETHBRIDGE CANADA 49.6N 112.8W 920m 1936-1980 10 1937
Sources:

Notes: Reliability: Compared with 718741 & 718700 for the years 1936-1967 & 1936-1979. Jan-Mar 1936 is wrong & value replaced by -999.

718741: MAPLE CREEK CANADA 49.9N 109.5W 764m 1884-1980 10 1922
Sources:

Notes: Reliability: Compared with 718700 & 718720 for the years 1921-1967.

718760: NORTH BATTLEFORD A CANADA 52.8N 108.2W 546m 1891-1980 50
Sources:

Notes: Reliability: Compared with 718762 & 718712 for the years 1917-1980 & 1907-1980. Record is too cold prior to about 1927 and too warm compared with 718762 during the 1930s. No station history available prior to 1942, when the station may have moved to the airport.

718762: BIGGAR CANADA 52.1N 108.0W 671m 1917-1980 10 1917
Sources:

Notes: Reliability: Compared with 718712 for the years 1917-1980.

718770: CALGARY INT'L A CANADA 51.1N 114.1W 1067m 1881-1980 10 1885
Sources:

Notes: Reliability: Compared with 711220 & 718740 for the years 1888-1980 & 1936-1979.

718790: EDMONTON CANADA 53.6N 113.5W 676m 1880-1980 40
Sources:

Notes: Reliability: Compared with 718762 for the years 1917-1980. A warming trend of about 2C occurs from 1930 to 1980.

718802: FORT MACLEOD CANADA 49.7N 113.4W 950m 1895-1980 70
Sources:

Notes: Reliability: Compared with 711220, 718770 & 718720 for the years 1895-1980. A warming trend of 3C, 1910-1940, was followed by a cooling trend.

718811: ENTRANCE CANADA 53.4N 117.7W 1006m 1917-1980 10 1918
Sources:

Notes: Reliability: Compared with 710503 & 718967 for the years 1917-1980 & 1917-1969.

718870: KAMLOOPS CANADA 50.7N 120.5W 345m 1891-1970 10 1898
Sources:
Notes: Reliability: Compared with 718977 & 711090 for the years 1898-1959 & 1944-1969.

718950: PRINCE GEORGE CANADA 53.9N 122.7W 676m 1912-1980 20 1913
Sources:
Notes: Reliability: Compared with 710503 & 718967 for the years 1912-1980 & 1912-1969. Record is too warm prior to 1945 when the station moved to the airport, from 53 50'N 122 48'W, alt = 570m to 53 53'N 122 40'W, alt = 676m. Correction Factors: Stations used: 710503. Calculation dates: 1912-1945 & 1946-1980. Correction dates: 1912-1945. Factors: -6 -8 -13 -6 -9 -11 -11 -9 -8 -9 -9 0. Jan-July 1912 observations replaced with -999.

718961: MCBRIDE 4SE CANADA 53.3N 120.2W 722m 1922-1980 70
Sources:
Notes: Reliability: Compared with 710503 & 718967 for the years 1922-1980 & 1922-1969. Record about 3C too warm 1928-1931. No evidence of any move or change.

718967: BARKENVILLE CANADA 53.0N 121.6W 1274m 1888-1970 20 1888
Sources:
Notes: Reliability: Compared with 710503, 711220 & 718977 for the years 1895-1969, 1888-1969 & 1898-1959. No record of any change occurs in the station history, but there are missing observations in 1907 and discontinuity compared with the above stations. Correction Factors: Stations used: 710503. Calculation Dates: 1896-1906 & 1907-1969. Correction dates: 1888-1906. Factors: 1 -16 -29 -21 -24 -24 -18 -29 -25 -14 -3 -13.

718977: BELLA COOLA CANADA 52.7N 126.9W 18m 1898-1960 10 1898
Sources:
Notes: Reliability: Compared with 718870 for the years 1898-1959.

718980: PRINCE RUPERT CANADA 54.3N 130.3W 34m 1911-1970 20 1911
Sources:
Notes: Reliability: Compared with 718997 & 719511 for the years 1911-1967 & 1914-1969. Too cold after 1961 when station moved to the airport, from 54 17'N 130 23'W, alt = 52m to 54 18'N 130 28'W, alt = 34m. Correction Factors: Stations used: 718997 & 719511. Calculation dates: 1914-1961 & 1962-1967. Correction dates: 1911-1961. Factors: -13 -15 -10 -11 -16 -13 -16 -14 -11 -6 -12 -13.

718990: LANGARA CANADA 54.3N 133.1W 41m 1937-1970 10 1937
Sources:
Notes: Reliability: Compared with 718997 & 703980 for the years 1937-1967 & 1941-1967.

718997: MASSET CANADA 54.0N 132.2W 3m 1898-1968 10 1911
Sources:
Notes: Reliability: Compared with 719511 & 718980 for the years 1914-1967 & 1911-1967. Not checked prior to 1911.

719000: ROYDALE CANADA 55.5N 60.2W 12m 1942-1980 10 1942
Sources:
Notes: Reliability: Compared with 718180 for the years 1942-1980.

719001: HEDRON CANADA 58.2N 62.4W 1882-1918 10 1883
Sources:
Notes: Reliability: Compared with 719002 for the years 1882-1913.

719002: MAIN CANADA 56.6N 61.7W 1882-1913 10 1883
Sources:
Notes: Reliability: Compared with 719001 for the years 1882-1913.

719011: INDIAN HOUSE LAKE CANADA 56.2N 64.7W 306m 1944-1964 61
Sources:
Notes: Reliability: Record too short to check.

719030: RESOLUTION IS CANADA 61.3N 64.9W 39m 1929-1970 12 1930
Sources:
Notes: Reliability: Compared with 719090 & 719080 for the years 1946-1961 & 1929-1961.

719050: POSTE DE LA BALKEINE CANADA 55.3N 77.8W 26m 1925-1980 12 1926
Sources:
Notes: Reliability: Compared with 718260 & 718360 for the years 1942-1980 & 1925-1980.

719060: FORT CHIMO CANADA 58.1N 68.4W 35m 1941-1980 10 1942
Sources:
Notes: Reliability: Compared with 719070 for the years 1941-1980.

719070: NOUICOUAC CANADA 58.5N 78.1W 51m 1921-1980 12 1942
Sources:
Notes: Reliability: Compared with 719060 for the years 1941-1980.

719080: NOTTINGHAM ISLAND CANADA 63.1N 77.9W 16m 1927-1970 10 1930
Sources:
Notes: Reliability: Compared with 719030 & 719090 for the years 1929-1961 & 1946-1970.

719090: FROMISHER BAY CANADA 63.8N 68.6W 34m 1942-1980 10 1947
Sources:
Notes: Reliability: Compared with 719080 & 719150 for the years 1946-1970 & 1946-1980.

719110: SHEPHERD BAY A CANADA 68.8N 93.4W 51m 1937-1980 62
Sources:
Notes: Reliability: Many missing observations so is uncheckable.

719130: FORT CHURCHILL CANADA 58.8N 94.1W 29m 1884-1980 12 1932
Sources:
Notes: Reliability: Compared with 719150 & 719160 for the years 1933-1980 & 1921-1980.

719150: CORAL HARBOUR CANADA 64.2N 83.4W 64m 1933-1980 12 1946
Sources:
Notes: Reliability: Compared with 719130, 719160 & 719260 for the years 1933-1980, 1933-1980 & 1946-1980.

719160: CHESTERFIELD CANADA 63.3N 90.7W 6m 1921-1980 10 1924
Sources:
Notes: Reliability: Compared with 719130 & 719150 for the years 1921-1980 & 1933-1980.

719170: EUREKA CANADA 80.0N 85.9W 10m 1947-1980 10 1948
Sources:
Notes: Reliability: Compared with 710820 & 710900 for the years 1950-1980 & 1947-1980.

719180: ARCTIC BAY CANADA 73.0N 85.2W 11m 1937-1976 62
Sources:
Notes: Reliability: Many missing observations so is uncheckable.

719191: SPENCE BAY CANADA 69.5N 93.5W 12m 1951-1976 62
Sources:
Notes: Reliability: Many missing observations so is uncheckable.

719210: BROCHET A CANADA 57.9N 101.7W 343m 1948-1980 12 1949
Sources:
Notes: Reliability: Compared with 719130 & 719230 for the years 1948-1980 & 1949-1979.

719222: ISLAND FALLS CANADA 55.5N 102.4W 299m 1929-1980 10 1930
Sources:
Notes: Reliability: Compared with 718760 for the years 1929-1980.

719230: ENMADAI LAKE CANADA 61.1N 100.9W 325m 1949-1979 10 1950
Sources:
Notes: Reliability: Compared with 719130, 719150 & 719160 for the years 1949-1979.

719240: RESOLUTE CANADA 74.7N 95.0W 67m 1947-1980 10 1948
Sources:
Notes: Reliability: Compared with 710740 & 719180 for the years 1948-1978 & 1947-1976.

719250: CAMBRIDGE BAY CANADA 69.1N 105.1W 27m 1929-1980 12 1929
Sources:
Notes: Reliability: Compared with 719090 for the years 1946-1980.

719260: BAKER LAKE CANADA 64.3N 96.0W 12m 1946-1980 10 1950
Sources:
Notes: Reliability: Compared with 719130, 719150 & 719160 for the years 1946-1980.

719290: BYRON BAY A CANADA 68.8N 109.1W 112m 1957-1980 10 1961
Sources:
Notes: Reliability: Compared with 719250 & 719380 for the years 1957-1980.

719320: FORT MCHURRAY CANADA 56.7N 111.4W 369m 1931-1980 10 1931
Sources:
Notes: Reliability: Compared with 719333 & 719330 for the years 1931-1980.

719330: FORT CHIPWEYAN A CANADA 58.8N 111.1W 232m 1883-1980 22 1917
Sources:
Notes: Reliability: Compared with 719340 for the years 1914-1980. Station moved to the airport, from 58 43'N 111 09'W, alt = 219m to 58 46'N 111 07'W, alt = 232m. Correction Factors: Stations used: 719340. Calculation dates: 1914-1967 & 1968-1980. Correction dates: 1883-1967. Factors: -10 -14 3 -7 -4 -4 -6 -5 -7 -12 -10.

719333: FORT VERMILION CANADA 58.4N 116.0W 279m 1905-1980 10 1905
Sources:
Notes: Reliability: Compared with 719320 & 719340 for the years 1931-1980 & 1914-1980.

719340: FORT SMITH CANADA 60.0N 112.0W 203m 1914-1980 10 1915
Sources:
Notes: Reliability: Compared with 719350 & 719333 for the years 1914-1980.

719350: HAY RIVER CANADA 60.8N 115.8W 166m 1893-1980 10 1900
Sources:
Notes: Reliability: Compared with 719340 & 719333 for the years 1914-1980 & 1905-1980.

719351: FORT PROVIDENCE CANADA 61.3N 117.7W 159m 1943-1980 12 1945
Sources:
Notes: Reliability: Compared with 719350 for the years 1943-1980.

719360: YELLOWKNIFE CANADA 62.5N 114.5W 205m 1942-1980 10 1948
Sources:
Notes: Reliability: Compared with 710730 & 719361 for the years 1948-1980 & 1948-1975. Not checked prior to 1948.

719361: SNARE RAPIDS CANADA 63.5N 112.0W 216m 1947-1975 12 1950
Sources:
Notes: Reliability: Compared with 710730 & 719360 for the years 1948-1975.

719380: COPPERMINE CANADA 67.8N 115.2W 24m 1930-1980 10 1933
Sources:
Notes: Reliability: Compared with 719250 & 710610 for the years 1930-1980 & 1937-1974.

719400: GRANDE PRAIRE CANADA 55.2N 118.9W 669m 1922-1980 12 1945
Sources:
Notes: Reliability: Compared with 710503 & 719430 for the years 1922-1980 & 1931-1980. Many missing values prior to 1945.

719401: FAIRVIEW CANADA 56.1N 118.4W 670m 1931-1980 20 1931
Sources:
Notes: Reliability: Compared with 719430, 719442 & 719400 for the years 1931-1980. A jump occurs with all 3 stations but no record of any change appears in the station history. Correction Factors: Stations used: 719430 & 719442. Calculation dates: 1931-1950 & 1951-1980. Correction dates: 1931-1950. Factors: 2 12 -3 6 8 4 4 5 7.

719410: CERMENSEN LANDING CANADA 55.8N 124.7W 747m 1951-1980 10 1951
Sources:
Notes: Reliability: Compared with 710503 & 719430 for the years 1951-1980.

719430: FORT ST JOHN CANADA 56.2N 120.7W 695m 1931-1980 10 1942
Sources:
Notes: Reliability: Compared with 719442, 719431 & 710503 for the years 1931-1980. Missing months prior to 1942.

719431: BALDORNEIL CANADA 56.2N 120.7W 686m 1927-1980 20 1927
Sources:
Notes: Reliability: Compared with 719442 & 719430 for the years 1927-1980 & 1931-1980. A jump of about 1C occurs but no station history is available. Correction Factors: Stations used: 719442. Calculation dates: 1927-1935 & 1936-1980. Correction dates: 1927-1935. Factors: -5 -14 -14 -10 -7 -5 -12 -11 -7 -7 -6 -2.

719442: BEAVERLODGE CANADA 55.2N 119.4W 732m 1913-1980 10 1913
Sources:
Notes: Reliability: Compared with 719430 & 719400 for the years 1931-1980 & 1922-1980. Not checked prior to 1922.

719450: FORT NELSON CANADA 58.8N 122.6W 362m 1937-1980 10 1939
 Sources:
 Notes: Reliability: Compared with 719351 & 719450 for the years 1943-1980 & 1937-1980.

719460: FORT SIMPSON CANADA 61.8N 121.2W 169m 1895-1980 72 1910
 Sources:
 Notes: Reliability: Compared with 719350 & 719461 for the years 1895-1980 & 1943-1980.

719461: WRIGLEY CANADA 63.2N 123.4W 156m 1943-1980 10 1951
 Sources:
 Notes: Reliability: Compared with 719460 for the years 1943-1980.

719491: FORT SELKIRK CANADA 62.8N 137.4W 454m 1952-1980 10 1957
 Sources:
 Notes: Reliability: Compared with 719650 & 719660 for the years 1952-1980.

719500: SMITHERS CANADA 54.8N 127.2W 523m 1942-1980 10 1943
 Sources:
 Notes: Reliability: Compared with 719511 & 719550 for the years 1942-1976 & 1942-1980.

719510: TERRACE CANADA 54.5N 128.6W 217m 1912-1980 20 1912
 Sources:
 Notes: Reliability: Compared with 719511 & 719550 for the years 1914-1976 & 1912-1980. Station moved to the airport from 54 31'N 128 35'W to 54 28'N 128 35'W. Correction Factors: Stations used: 719511. Calculation dates: 1914-1953 & 1955-1976. Correction dates: 1912-1953. Factors: -10 -7 -11 -10 -11 -12 -12 -12 -7 -11 -10 -13.

719511: NEW HAZELTON CANADA 55.2N 127.6W 351m 1914-1976 10 1915
 Sources:
 Notes: Reliability: Compared with 718997 & 718980 for the years 1914-1967 & 1914-1969.

719530: WATSON LAKE CANADA 60.1N 128.8W 689m 1938-1980 10 1944
 Sources:
 Notes: Reliability: Compared with 719580 for the years 1944-1980. Not checked prior to 1944.

719550: STEWART CANADA 55.9N 130.0W 7m 1910-1980 12 1914
 Sources:
 Notes: Reliability: Compared with 719511 for the years 1914-1976.

719570: INUVIK CANADA 68.3N 133.5W 68m 1957-1980 11 1960
 Sources:
 Notes: Reliability: Compared with 719590 for the years 1957-1980.

719580: DEASE LAKE CANADA 58.4N 130.0W 816m 1944-1980 10 1947
 Sources:
 Notes: Reliability: Compared with 719530 for the years 1944-1980.

719581: TELEGRAPH CREEK CANADA 57.9N 131.2W 183m 1942-1979 62
 Sources:
 Notes: Reliability: Many missing observations so is uncheckable.

719590: TUKTOYAKTUK CANADA 69.5N 133.0W 18m 1948-1980 12 1950
 Sources:
 Notes: Reliability: Compared with 719570 & 719930 for the years 1957-1980 & 1948-1977.

719640: WHITEHORSE CANADA 60.7N 135.1W 703m 1942-1980 10 1943
 Sources:
 Notes: Reliability: Compared with 710450 & 719641 for the years 1943-1980 & 1942-1980.

719641: ATLIN CANADA 59.6N 133.7W 674m 1905-1980 12 1907
 Sources:
 Notes: Reliability: Compared with 710450, 719640 & 719671 for the years 1943-1980, 1942-1980 & 1907-1979.

719650: MAYO CANADA 63.6N 135.9W 504m 1925-1980 10 1929
 Sources:
 Notes: Reliability: Compared with 719660 for the years 1925-1980.

719660: DAWSON CANADA 64.1N 139.1W 369m 1900-1980 10 1901
 Sources:
 Notes: Reliability: Compared with 719650 & 702820 for the years 1925-1980 & 1900-1980.

72220: PENNSACOLA USA 30.5M 87.7M 34m 1879-1980 20 1879
Sources:

Notes: Reliability: compared with 722310 & 722340 for the years 1879-1980 & 1889-1980. Corrected for a change in thermometer height 1915/1916 & for discontinuity 1939/1940. Correction Factors: Stations used: 722310 & 722340. Calculation dates: 1889-1915 & 1940-1980, 1916-1939 & 1940-1980. Correction dates: 1879-1915 & 1916-1939. Factors: 1) 1879-1915: 2 -3 1 -2 -4 -1 -2 -3 -4 -3 -1 1 1916-1939: 3 -4 6 2 5 6 5 5 0 0 2.

72230: MOBILE USA 30.7M 88.3M 23m 1887-1970 20 1873
Sources:

Notes: Reliability: compared with 722220 & 722340 for the years 1873-1970 & 1889-1970. Corrected for two discontinuities: 1905/1906 change in thermometer height. Dec 1961 missing data associated with jump. Correction Factors: Stations used: 722340. Calculation dates: 1889-1905 & 1962-1970. 1906-1961 & 1972-1970. Correction dates: 1873-1905 & 1906-1980. Factors: 1) 1873-1905: 3 6 2 3 12 11 10 11 6 13 7 11. 2) 1906-1961: 5 4 7 9 10 3 10 10 13 5 3.

72240: WILMINGTON USA 31.6M 86.9M 33.5m 1850-1970 21
Sources:

Notes: Reliability: compared with 722220 for the years 1951-1970. Possible station move at mid-1950s, record too short to correct.

72250: WYOMING USA 31.0M 90.1M 33m 1839-1980 20 1874
Sources:

Notes: Reliability: compared with 722340, 722350 & 72240. For the years 1890-1930 & 1897-1980. Corrected for a clear discontinuity. Correction Factors: Stations used: 72240, 722340 & 72240. Calculation dates: 1890-1933 & 1934-1980. Correction dates: 1874-1933. Factors: 1) 1890-1933: 5 4 4 -1 5 4 1 1 3 3 -4.

72260: WYOMING USA 31.0M 88.8M 28m 1848-1980 10 1889
Sources:

Notes: Reliability: compared with 722310 & 722360 for the years 1889-1980.

72270: WYOMING USA 31.4M 90.9M 28m 1840-1980 10 1872
Sources:

Notes: Reliability: compared with 722480 for the years 1872-1980.

72280: WYOMING USA 31.1M 91.5M 27m 1887-1980 20
Sources:

Notes: Reliability: compared with 722360, 722480 & 722401 for the years 1887-1980. Record shows many inhomogeneities.

72241: JENNINGS USA 30.2M 92.7M 24m 1869-1980 10 1897
Sources:

Notes: Reliability: compared with 722310, 722420 & 722480 for the years 1897-1980, 1897-1977 & 1897-1980.

722420: CALVERTON USA 29.1M 94.9M 24m 1871-1977 10 1873
Sources:

Notes: Reliability: compared with 722510 & 722530 for the years 1887-1950 & 1887-1977.

722480: SHELVESPORT USA 32.5M 93.8M 27m 1872-1980 10 1872
Sources:

Notes: Reliability: compared with 722360 for the years 1872-1980.

722497: CALBOURN USA 32.5M 92.3M 27m 1923-1973 20
Sources:

Notes: Reliability: compared with 722360 & 722480 for the years 1923-1973.

722500: BROWNSVILLE USA 25.9M 97.4M 25m 1931-1980 10 1951
Sources:

Notes: Reliability: compared with 722530 for the years 1951-1980.

722510: CORPUS CHRISTI USA 27.8M 97.2M 25m 1887-1950 20 1887
Sources:

Notes: Reliability: compared with 722420 & 722510 for the years 1887-1950. Corrected for move, probably to airport, 1940/1941. Correction Factors: Stations used: 722420 & 722530. Calculation dates: 1887-1940 & 1941-1950. Correction dates: 1887-1940. Factors: 1) 1887-1940: 12 13 12 19 10 10 11 12 12 12 13.

722530: SAN ANTONIO USA 29.5M 98.5M 24m 1871-1980 10 1836
Sources:

Notes: Reliability: compared with 722420 & 722510 for the years 1885-1977 & 1887-1950.

722556: BRYVILLE USA 28.5M 97.7M 28m 1922-1970 20 1922
Sources:

Notes: Reliability: compared with 722420 & 722530 for the years 1922-1970. Corrected for height change Mar 1955 & discontinuous jump 1936/1937. Correction Factors: Stations used: 722420 & 722530. Calculation dates: 1922-1936 & 1956-1970, 1937-1954 & 1956-1970. Correction dates: 1922-1936 & 1937-Feb 1955. Factors: 1) 1922-1936: -2 -1 -7 -1 -6 -1 1 4 2 2 0. 2) 1937-1955: -14 -4 -16 -9 -7 -4 -8 -5 -6 -7 -7 -10.

722650: MIDLAND/AIR TERM USA 31.9N 102.7W 872m 1951-1970 80
 Sources: Notes: Reliability: compared with 722660 & 722689 for the years 1951-1970.

722660: ABILENE USA 32.4N 99.7W 534m 1886-1980 20 1886
 Sources: Notes: Reliability: compared with 722480 & 722530 for the years 1886-1980. Correction Factors: Stations used: 722480 & 722530. Calculation dates: 1886-1942 & 1943-1980. Correction dates: 1886-1942. Factors: 6 11 4 4 3 6 5

722680: ROSWELL USA 33.3N 104.5W 1112m 1878-1980 10 1893
 Sources: Notes: Reliability: compared with 722694 for the years 1916-1980.

722682: CARLSEAD USA 32.4N 104.2W 951m 1894-1980 20 1894
 Sources: Notes: Reliability: compared with 722689 & 722694 for the years 1913-1980 & 1915-1980. Correction Factors: Stations used: 722689 & 722694. Calculation dates: 1916-1950 & 1951-1980. Correction dates: 1894-1950. Factors: -11 -17 -14 -13 -10 -11 -7 -10 -13 -18 -15 -14.

722683: CARRIZO USA 33.7N 105.9W 1657m 1908-1980 80
 Sources: Notes: Reliability: compared with 722684 & 722701 for the years 1908-1970 & 1908-1979.

722684: CLOUDCROFT USA 33.0N 105.8W 2691m 1901-1979 10 1901
 Sources: Notes: Reliability: compared with 722688 & 722701 for the years 1901-1970 & 1908-1970.

722685: CLOVIS USA 34.4N 103.2W 1304m 1911-1980 20 1911
 Sources: Notes: Reliability: compared with 723603 & 723609 for the years 1911-1980. 1943 & 1944 data too warm & have been coded as missing. Corrected for a discontinuity 1942/1945. Correction Factors: Stations used: 723603 & 723609. Calculation dates: 1911-1942 & 1945-1980. Correction dates: 1911-1942. Factors: -9 -8 -8 -10 -14 -15 -13 -13 -5 -7 -5.

722686: ELEPHANT BUTTE USA 33.1N 107.2W 1395m 1907-1980 80
 Sources: Notes: Reliability: compared with 722697 for the years 1908-1980.

722687: MESCALERO USA 33.2N 105.8W 2068m 1911-1978 10 1911
 Sources: Notes: Reliability: compared with 722694 for the years 1916-1978.

722688: FORT STANTON USA 33.5N 105.5W 1896m 1900-1970 10 1901
 Sources: Notes: Reliability: compared with 722684 & 722701 for the years 1901-1970 & 1908-1970.

722689: HOBBS USA 32.7N 103.1W 1102m 1913-1980 10 1913
 Sources: Notes: Reliability: compared with 722682, 722694 & 722680 for the years 1913-1980, 1916-1980 & 1913-1980.

722691: ALAMOGORDO USA 32.9N 106.0W 1326m 1901-1980 80
 Sources: Notes: Reliability: compared with 722693, 722696 & 722700 for the years 1915-1980, 1920-1980 & 1915-1980.

722692: DENING USA 32.3N 107.8W 1370m 1904-1970 80
 Sources: Notes: Reliability: compared with 722698 & 722695 for the years 1906-1970 & 1904-1970. Very large variance up to about 1945, then suddenly reduced.

722693: JORNADA USA 32.6N 106.7W 1303m 1914-1980 10 1914
 Sources: Notes: Reliability: compared with 722695 & 722698 for the years 1914-1980 & 1914-1979.

722694: PEARL USA 32.7N 103.4W 1158m 1915-1980 10 1916
 Sources: Notes: Reliability: compared with 722680, 722682 & 722689 for the years 1916-1980.

722695: STATE UNIV. USA 32.3N 106.8W 1181m 1892-1980 20 1892
 Sources: Notes: Reliability: compared with 722698 & 722693 for the years 1906-1979 & 1914-1980. Corrected for discontinuity 1958/1959. Correction Factors: Stations used: 722696 & 722693. Calculation dates: 1914-1958 & 1959-1973. Correction dates: 1892-1958. Factors: 12 15 12 10 13 11 7 9 8 12 11.

722696: ONOGRANDE USA 32.4N 106.1W 1280m 1909-1980 80
Sources:

Notes: Reliability: compared with 722700, 722698, 722693 & 722687 for the years 1920-1980, 1920-1980 & 1920-1978. Record has two uncorrected discontinuities.

722697: FORT BAYARD USA 32.8N 108.1W 1872m 1867-1980 20 1891
Sources:

Notes: Reliability: compared with 723665 & 722699 for the years 1906-1980 & 1903-1980. Corrected for discontinuity 1939/1940. Correction Factors: Stations used: 723665 & 722699. Calculation dates: 1906-1939 & 1940-1980. Correction dates: 1891-1939. Factors: -15 -8 -10 -7 -6 -1 -1 -4 -9 -11 -9 -14.

722698: GAGE USA 32.2N 108.0W 1344m 1899-1979 10 1906
Sources:

Notes: Reliability: compared with 722693 & 722695 for the years 1914-1979 & 1906-1979.

722699: LUNA R 8 USA 33.8N 108.9W 2149m 1900-1980 10 1906
Sources:

Notes: Reliability: compared with 723665 for the years 1906-1980. 1971 SC too warm & has been coded as missing data.

722700: EL PASO USA 31.8N 106.5W 1194m 1879-1980 10 1879
Sources:

Notes: Reliability: compared with 722698 & 722696 for the years 1906-1979 & 1920-1980.

722701: TULAROSA USA 33.1N 106.0W 1388m 1908-1980 10 1908
Sources:

Notes: Reliability: compared with 722684 & 722688 for the years 1908-1970.

722731: BISBEE USA 31.5N 109.9W 1631m 1869-1961 20 1904
Sources:

Notes: Reliability: compared with 722740, 722742 & 722746 for the years 1904-1961. Corrected for discontinuity 1914/1915. Correction Factors: Stations used: 722742 & 722744. Calculation dates: 1904-1914 & 1951-1961. Correction dates: 1904-1914. Factors: 8 12 12 13 12 14 10 14 10 7 7.

722732: CAMELO USA 31.5N 110.5W 1519m 1910-1980 20 1920
Sources:

Notes: Reliability: compared with 722740, 722742 & 722744 for the years 1920-1980, 1920-1980 & 1920-1974. Corrected for two discontinuities. Correction Factors: Stations used: 722742 & 722744. Calculation dates: 1920-1946 & 1947-1956. Factors: i) 1920-1946: 1 0 -2 2 5 4 5 -1 -1 2 2 2. ii) 1947-1956: 5 5 7 9 9 6 8 9 10 10.

722734: NOGALES USA 31.4N 110.9W 1158m 1914-1980 20 1914
Sources:

Notes: Reliability: compared with 722731, 722740, 722742 & 722744 for the years 1914-1981, 1914-1980, 1914-1974. Corrected for two discontinuities. Correction Factors: Stations used: 722731 & 722742. Calculation dates: 1915-1925 & 1945-1961, 1926-1944 & 1945-1961. Correction dates: 1914-1925 & 1926-1944. Factors: i) 1914-1925: 1 -1 0 -6 -10 -11 -2 -5 -6 -5 -7 -6. ii) 1926-1944: -17 -22 -21 -25 -29 -27 -19 -19 -26 -24 -25 -22.

722740: TUCSON UNIV. USA 32.3N 110.6W 770m 1867-1980 40
Sources:

Notes: Reliability: compared with 722742 & 722744 for the years 1904-1980 & 1903-1974. Record shows urban warming of 2-3C.

722741: AJO USA 32.4N 112.9W 537m 1913-1980 10 1915
Sources:

Notes: Reliability: compared with 722742, 723811 & 723707 for the years 1915-1980.

722742: TOMBSTONE USA 31.7N 110.1W 1405m 1897-1980 10 1904
Sources:

Notes: Reliability: compared with 722740 & 722744 for the years 1904-1980 & 1904-1974.

722744: BENSON USA 32.0N 110.3W 1097m 1881-1974 10 1903
Sources:

Notes: Reliability: compared with 722740 & 722742 for the years 1903-1974 & 1904-1974.

722745: GLOBE USA 33.4N 110.8W 1082m 1905-1980 20 1907
Sources:

Notes: Reliability: compared with 722863, 723704 & 723744 for the years 1907-1970, 1914-1970 & 1910-1975. Corrected for a jump in record 1929/1930. Correction Factors: Stations used: 722863, 723704 & 723744. Calculation dates: 1914-1929 & 1930-1970. Correction dates: 1907-1929. Factors: -10 -9 -10 -7 -8 -12 -5 -7 -12 -15 -11 -9.

722780: PHOENIX USA 33.5N 112.0W 337m 1877-1980 80
Sources:
Notes: Reliability: compared with 722781, 723707 & 723811 for the years 1911-1980, 1898-1980 & 1908-1980. Several moves evident in record.

722781: BUCKEYE USA 33.4N 112.6W 270m 1889-1980 20 1911
Sources:
Notes: Reliability: compared with 723707 & 723811 for the years 1911-1980. Corrected for a jump 1966/1967. Correction Factors: Stations used: 723707 & 723811. Calculation dates: 1911-1966 & 1967-1980. Correction dates: 1911-1966. Factors: 7 8 12 11 10 11 11 7 5 6 7.

722788: MESA USA 33.4N 111.9W 374m 1896-1980 80
Sources:
Notes: Reliability: compared with 722863, 723704 & 723744 for the years 1905-1970, 1914-1970 & 1910-1980. Record shows warming trend which may be due to several station moves.

722789: MIAMI USA 33.4N 110.9W 1085m 1914-1980 20 1914
Sources:
Notes: Reliability: compared with 722863, 723707 & 723811 for the years 1914-1970, 1914-1980 & 1914-1980. Corrected for a jump 1952/1953. Correction Factors: Stations used: 722863, 723707 & 723811. Calculation dates: 1914-1952 & 1953-1970. Correction dates: 1914-1952. Factors: -8 -8 -9 -7 -8 -7 -4 -8 -8 -9 -4 -7.

722800: YUMA USA 32.5N 114.6W 63m 1870-1977 80
Sources:
Notes: Reliability: compared with 722741, 722903 & 722975 for the years 1915-1977, 1899-1977 & 1880-1977. Several inhomogeneities evident in record.

722861: AVALON PLEASURE PIER USA 33.4N 116.3W 1910-1980 80
Sources:
Notes: Reliability: compared with 722867 & 722865 for the years 1914-1980 & 1910-1979. Record too warm early 20s & late 70s.

722862: BEAUMONT USA 33.9N 117.0W 792m 1888-1980 80
Sources:
Notes: Reliability: compared with 722867 & 722900 for the years 1914-1980 & 1888-1980. Station moved late 1940s & late 1950s.

722863: ROOSEVELT USA 33.7N 111.1W 672m 1905-1980 10 1910
Sources:
Notes: Reliability: compared with 723704 & 723744 for the years 1914-1970 & 1910-1970.

722864: SAN JACINTO USA 33.8N 117.0W 475m 1892-1980 80
Sources:
Notes: Reliability: compared with 722865, 722869 & 722950 for the years 1904-1979, 1914-1980 & 1904-1980.

722865: ESCONDIDO USA 33.1N 117.1W 200m 1894-1980 10 1895
Sources:
Notes: Reliability: compared with 722867, 722950 & 723822 for the years 1914-1979, 1895-1979 & 1895-1979.

722866: BLYTHE USA 33.6N 114.6W 81m 1909-1980 20 1909
Sources:
Notes: Reliability: compared with 723811, 722903 & 722975 for the years 1909-1980. Corrected for jumps 1918/1919, 1942/1943 & 1959/1960. Correction Factors: Stations used: 723811, 722903 & 722975. Calculation dates: 1909-1918 & 1960-1980, 1919-1942 & 1960-1980, 1943-1959 & 1960-1980. Correction dates: 1909-1918, 1919-1942 & 1943-1959. Factors: 1) 3 0 1 3 5 1. iii) 1943-1959: -10 -9 -12 -11 -7 -6 -5 -8 -9 -11 -10 -10.

722867: TORBA LINDA USA 33.9N 117.8W 117m 1912-1980 10 1914
Sources:
Notes: Reliability: compared with 722900, 722955 & 722975 for the years 1914-1980, 1914-1977 & 1914-1980.

722897: SAN LUIS OBISPO USA 35.3N 120.7W 19m 1870-1930 60
Sources:
Notes: Reliability: uncheckable.

722900: SAN DIEGO USA 32.7N 117.2W 9m 1850-1980 10 1851
Sources:
Notes: Reliability: compared with 722867, 722955 & 722975 for the years 1914-1980, 1909-1977 & 1880-1980. Station moved after 1975, too short to correct so 1976-1980 has been coded as missing.

722903: CUYAMACA USA 33.0N 116.6W 1423m 1887-1980 20 1899
Sources: Notes: Reliability: compared with 722800 & 722975 for the years 1899-1977 & 1899-1980. Corrected for discontinuity 1908/1909. Correction Factors: Stations used: 722975. Calculation dates: 1899-1908 & 1909-1980. Correction dates: 1899-1908. Factors: 13 21 21 24 24 21 18 23 22 12 15 15.

722950: LOS ANGELES USA 34.1N 118.2W 95m 1894-1980 10 1894
Sources: Notes: Reliability: compared with 723821, 722970 & 722867 for the years 1894-1980, 1894-1977 & 1914-1980.

722955: WARNER SPRINGS USA 33.3N 116.6W 969m 1906-1977 20 1909
Sources: Notes: Reliability: compared with 722867 & 722900 for the years 1914-1977 & 1909-1977. Corrected for station move 1928/1929. Correction Factors: Stations used: 722867 & 722900. Calculation dates: 1914-1928 & 1929-1975. Correction dates: 1909-1928. Factors: -22 -22 -20 -18 -13 -21 -21 -21 -23 -25 -22 -17.

722970: LONG BEACH/CA USA 33.7N 118.5W 12m 1877-1977 80
Sources: Notes: Reliability: compared with 723911 & 722950 for the years 1909-1977 & 1894-1977. Record too cold early 1960s.

722975: INDIANO USA 33.7N 116.3W 3m 1877-1980 10 1880
Sources: Notes: Reliability: compared with 722800 & 722903 for the years 1880-1977 & 1899-1980.

723040: CAPE HATTERAS USA 35.3N 75.7W 3m 1875-1980 10 1875
Sources: Notes: Reliability: compared with 723060 & 723092 for the years 1887-1980 & 1875-1980.

723060: BAILEICH USA 35.9N 78.8W 122m 1866-1980 20 1887
Sources: Notes: Reliability: compared with 723092 & 723040 for the years 1887-1980. Corrected for station move Mar 1965. Correction Factors: Stations used: 723092 & 723040. Calculation dates: 1910-1964 & 1965-1980. Correction dates: 1887-Mar 1965. Factors: -9 -6 -5 -4 -10 -9 -5 -3 -4 -9 0 -6.

723082: WELDON USA 36.4N 77.6W 25m 1872-1971 80
Sources: Notes: Reliability: compared with 723091 & 723060 for the years 1882-1971 & 1887-1971.

723091: FLORENCE USA 34.2N 79.7W 45m 1882-1980 10 1887
Sources: Notes: Reliability: compared with 723060 for the years 1887-1980.

723092: WILMINGTON USA 34.3N 77.9W 9m 1871-1980 10 1871
Sources: Notes: Reliability: compared with 723040 & 723060 for the years 1875-1980 & 1887-1980.

723100: COLUMBIA USA 34.0N 81.1W 74m 1836-1980 52
Sources: Notes: Reliability: compared with 723120, 723140 & 723150 for the years 1884-1980, 1878-1980 & 1903-1980. Several site changes after 1950 produce progressively warmer temp.

723120: GREENVILLE USA 34.9N 82.2W 292m 1884-1980 70 1908
Sources: Notes: Reliability: compared with 723140, 723150 & 723100 for the years 1884-1980, 1903-1980 & 1884-1980. 1907/1908 discontinuity is not correctable.

723140: CHARLOTTE USA 35.2N 80.7W 224m 1878-1980 10 1879
Sources: Notes: Reliability: compared with 723120, 723150 & 723100 for the years 1884-1980, 1903-1980 & 1879-1980.

723150: ASHEVILLE USA 35.6N 82.5W 661m 1903-1980 20 1903
Sources: Notes: Reliability: compared with 723120 & 723140 for the years 1903-1980. Corrected for site change 1910/1931 & height change 1967/1968. Correction Factors: Stations used: 723120 & 723140. Calculation dates: 1908-1930 & 1968-1980, 1931-1967 & 1968-1980. Correction dates: 1903-1930 & 1931-1967. Factors: i) 1903-1930: 2 8 8 6 9 7 5 7 9 8 7. ii) 1931-1967: 2 6 8 4 6 6 2 2 5 7 8 5.

723231: FLORENCE/ALI USA 34.8N 87.7W 176m 1864-1977 82
Sources: Notes: Reliability: compared with 723240 for the years 1890-1977.

723240: CHATTANOOGA USA 35.0N 85.2W 203m 1879-1980 10 1879
Sources: Reliability: compared with 723270 & 723287 for the years 1879-1980 & 1939-1970.

723270: WASHVILLE USA 36.1N 86.7W 180m 1871-1980 20 1872
Sources: Reliability: compared with 723240 & 723287 for the years 1879-1980 & 1939-1970. Corrected for move to airport Aug 1964. Correction Factors: Stations used: 723240 & 723287. Calculation dates: 1939-1963 & 1965-1970. Correction dates: 1872-Aug 1964. Factors: 9 8 8 3 6 4 3 4 3 4 5 6 4.

723287: LEWISBURG USA 35.5N 86.8W 240m 1939-1970 10 1939
Sources: Reliability: compared with 723240 & 723270 for the years 1939-1970.

723340: MEMPHIS USA 35.1N 90.0W 79m 1871-1980 20 1871
Sources: Reliability: compared with 723346, 723380 & 723400 for the years 1871-1980, 1871-1980 & 1880-1980. Corrected for move to Municipal Airport April 1941 from 35 09'N 90 03'W to 35 03'N 89 59'W & move to International Airport April 1973 from 35 03'N 89 59'W, to 35 03'N 90 07'W. Correction Factors: Stations used: 723380, 722480 & 723440. Calculation dates: 1900-1940 & 1974-1980, 1942-1972 & 1974-1980. Correction dates: 1871-Mar 1941 & April 1941-April 1973. Factors: i) 1871-Mar 1941: 10 8 11 9 8 9 12 13 8 5 8 10. ii) April 1941-April 1973: 12 10 12 10 8 8 11 13 12 11 12 13.

723346: KNOXVILLE USA 35.8N 89.8W 299m 1854-1980 20 1871
Sources: Reliability: compared with 723340, 723380 & 723400 for the years 1871-1980, 1871-1980 & 1880-1980. Corrected for move 1885/1886. Move to Municipal Airport 1941/1942 small & not worth correcting. Correction Factors: Stations used: 723380, 722480 & 723440. Calculation dates: 1871-1885 & 1886-1980. Correction dates: 1871-1885. Factors: 6 14 10 7 8 8 11 8 5 7.

723380: CAIRO USA 37.0N 89.2W 96m 1871-1980 10 1871
Sources: Reliability: compared with 723400 & 723346 for the years 1880-1980 & 1871-1980.

723400: LITTLE ROCK USA 34.8N 92.3W 1880-1980 80
Sources: Reliability: compared with 722480, 723530 & 723440 for the years 1880-1980, 1890-1980 & 1882-1980.

723440: FORT SMITH USA 35.3N 94.4W 136m 1878-1980 10 1882
Sources: Reliability: compared with 722480 & 723530 for the years 1882-1980 & 1890-1980.

723445: FAYETTEVILLE/DRAKE USA 36.1N 94.2W 387m 1945-1970 10 1945
Sources: Reliability: compared with 723530 for the years 1945-1970.

723493: WOODWARD USA 36.4N 99.4W 579m 1888-1980 72 1920
Sources: Reliability: compared with 723521 & 723530 for the years 1895-1977.

723521: MANGUM USA 34.8N 99.4W 463m 1892-1980 12 1893
Sources: Reliability: compared with 723494 & 723530 for the years 1895-1977 & 1895-1980.

723530: OKLAHOMA CITY USA 35.4N 97.6W 392m 1890-1980 40
Sources: Reliability: compared with 723521, 723493 & 722480 for the years 1895-1980, 1895-1977 & 1890-1980. Record shows urban warming of about 2C.

723600: CLAYTON USA 36.5N 103.1W 1515m 1909-1980 20 1909
Sources: Reliability: compared with 723647 & 723609 for the years 1910-1970 & 1909-1980. Corrected for jump 1934/1935. Correction Factors: Stations used: 723647 & 723609. Calculation dates: 1910-1934 & 1935-1970. Correction dates: 1909-1934. Factors: 9 -12 -12 -11 -10 -7 -6 -4 -5 -5 -8 -6.

723601: AZTEC USA 36.8N 108.0W 1719m 1910-1980 20 1919
Sources: Reliability: compared with 723655 & 723602 for the years 1919-1980. Corrected for a jump 1971/1972. Correction Factors: Stations used: 723655 & 723602. Calculation dates: 1919-1971 & 1972-1980. Correction dates: 1919-1971. Factors: -11 -11 -6 -7 -10 -8 -2 -4 -7 -11 -11 -17.

723602: BLOOMFIELD USA 36.7N 108.0W 1757m 1904-1980 10 1904
Sources: Reliability: compared with 723601 & 723654 for the years 1919-1980 & 1904-1966.

723603: PORTALES USA 34.2M 103.4W 1222m 1909-1980 10 1911
Sources:
Notes: Reliability: compared with 722685 & 723609 for the years 1911-1980.

723604: TRES PIEDRAS USA 36.7M 106.0W 2475m 1905-1980 10 1905
Sources:
Notes: Reliability: compared with 723606 & 723607 for the years 1905-1979 & 1912-1979.

723605: RED RIVER USA 36.7M 105.4W 2645m 1906-1980 80
Sources:
Notes: Reliability: compared with 723608 & 723652 for the years 1909-1980.

723606: TAOS USA 36.4M 105.6W 2117m 1901-1980 10 1901
Sources:
Notes: Reliability: compared with 723604 & 723607 for the years 1905-1979 & 1912-1980.

723607: WOLF CANYON USA 36.0M 106.8W 2484m 1912-1980 20 1912
Sources:
Notes: Reliability: compared with 723604 & 723606 for the years 1912-1979 & 1912-1980. Corrected for jump 1950/1951. Correction Factors: Stations used: 723604 & 723606. Calculation dates: 1912-1950 & 1951-1970. Correction dates: 1912-1950. Factors: 13 12 9 4 3 3 -2 0 4 5 12 10.

723608: SPRINGER USA 36.4M 104.6W 1785m 1887-1980 10 1904
Sources:
Notes: Reliability: compared with 723609 & 723652 for the years 1907-1980 & 1904-1980.

723609: SAN JON USA 35.1M 103.3W 1289m 1907-1980 10 1908
Sources:
Notes: Reliability: compared with 723603, 723653 & 723608 for the years 1911-1980, 1908-1980 & 1907-1980.

723630: AMARILLO USA 35.2M 101.7W 1115m 1892-1977 80
Sources:
Notes: Reliability: compared with 723600 & 723609 for the years 1909-1977 & 1907-1977.

723631: SANTA ROSA USA 35.0M 104.7W 1408m 1874-1980 82
Sources:
Notes: Reliability: compared with 723653 & 723659 for the years 1908-1980 & 1892-1980.

723647: GOODWELL USA 36.6M 101.7W 1005m 1910-1970 10 1910
Sources:
Notes: Reliability: compared with 724510 & 723600 for the years 1910-1970.

723650: ALBUQUERQUE USA 35.1M 106.6W 1619m 1850-1980 40
Sources:
Notes: Reliability: compared with 723662 & 723666 for the years 1893-1970 & 1902-1980.

723651: SILVERTON USA 37.8M 107.7W 2842m 1904-1980 80
Sources:
Notes: Reliability: compared with 724622, 724701, 724760 & 724763 for the years 1904-1980, 1915-1980, 1904-1980 & 1907-1970. Jump, 1933, not corrected.

723652: BELL USA 35.5M 104.1W 1371m 1899-1980 10 1904
Sources:
Notes: Reliability: compared with 723608 & 723609 for the years 1904-1980 & 1907-1980.

723653: FORT SUMNER USA 34.5M 104.3W 1228m 1908-1980 20 1908
Sources:
Notes: Reliability: compared with 723603 & 723609 for the years 1911-1980 & 1908-1980. Correction Factors: Stations used: 723603 & 723609. Calculation dates: 1911-1958 & 1959-1980. Correction dates: 1908-1958. Factors: -7 -9 -10 -7 -11 -13 -11 -13 -15 -9 -7 -9.

723654: FORT WINGATE USA 35.5M 108.5W 2134m 1864-1966 20 1904
Sources:
Notes: Reliability: compared with 723602 & 723601 for the years 1904-1966 & 1919-1966. Corrected for a jump 1950/1951. Correction Factors: Stations used: 723602 & 723601. Calculation dates: 1919-1950 & 1951-1966. Factors: -7 -11 -5 -4 -4 -4 -2 -4 -7 -5 -9 -5.

723655: ST. JOHNS USA 34.5M 109.4W 1746m 1909-1980 10 1909
Sources:
Notes: Reliability: compared with 723665 & 722699 for the years 1909-1980.

723656: CHAMA USA 36.9N 106.6W 2393m 1905-1980 80
 Sources:
 Notes: Reliability: compared with 723604 & 723606 for the years 1905-1979 & 1905-1980.

723657: CORONA USA 34.3N 105.6W 2031m 1909-1980 20 1912
 Sources:
 Notes: Reliability: compared with 723662 & 723666 for the years 1912-1970 & 1912-1980. Corrected for discontinuity 1954/1955. Correction Factors: Stations used: 723662 & 723666. Calculation dates: 1912-1954 & 1955-1980. Correction dates: 1912-1954. Factors: -16 -7 5 16 25 36 44 37 26 12 -11

723658: JEREZ SPRINGS USA 35.8N 106.7W 1905m 1910-1980 80
 Sources:
 Notes: Reliability: compared with 723602 & 723654 for the years 1910-1980 & 1910-1986. Station moved 1921 & mid-1930, not corrected.

723659: LAS VEGAS USA 35.6N 105.2W 1972m 1887-1980 10 1892
 Sources:
 Notes: Reliability: compared with 723631 & 723653 for the years 1892-1980 & 1908-1980.

723660: SANTE FE USA 35.7N 105.9W 2195m 1849-1980 10 1849
 Sources:
 Notes: Reliability: compared with 723604, 723606 & 723662 for the years 1905-1977, 1901-1977 & 1889-1970. Many years data identical to 723667.

723661: MT. PARK USA 35.5N 105.8W 2067m 1912-1980 80
 Sources:
 Notes: Reliability: compared with 723662 for the years 1915-1970.

723662: LOS LUNAS USA 34.8N 106.7W 1489m 1889-1980 10 1890
 Sources:
 Notes: Reliability: compared with 723666 & 723664 for the years 1902-1970 & 1919-1970.

723663: LOGAN USA 35.4N 107.4W 1167m 1906-1960 80
 Sources:
 Notes: Reliability: compared with 723600 for the years 1909-1960.

723664: LOS ALAMOS USA 35.9N 106.3W 2299m 1919-1980 80
 Sources:
 Notes: Reliability: compared with 723662 & 723666 for the years 1919-1970 & 1919-1980.

723665: MAGDELENA USA 34.1N 107.2W 1943m 1905-1980 10 1906
 Sources:
 Notes: Reliability: compared with 722899 & 722897 for the years 1906-1980.

723666: MOUNTAIN AIR USA 34.5N 106.3W 1440m 1902-1980 10 1902
 Sources:
 Notes: Reliability: compared with 723662 & 723664 for the years 1902-1970 & 1919-1980.

723667: SANTA FE USA 35.7N 106.0W 1703m 1850-1980 80
 Sources:
 Notes: Reliability: compared with 723604, 723606 & 723662 for the years 1905-1979, 1901-1980 & 1889-1970. Many years data identical to 723660.

723701: ASHFORK USA 35.2N 111.5W 1788m 1909-1980 10 1918
 Sources:
 Notes: Reliability: compared with 723705 & 723780 for the years 1916-1980.

723702: FORT VALLEY USA 35.3N 111.7W 2144m 1909-1980 10 1909
 Sources:
 Notes: Reliability: compared with 723741 & 723740 for the years 1909-1980. Feb & Mar 1979 data wrong & have been coded as missing.

723703: PAYSON R. S. USA 34.2N 111.3W 1408m 1909-1980 80
 Sources:
 Notes: Reliability: compared with 723704 & 723713 for the years 1914-1970 & 1909-1980.

723704: NATURAL BRIDGE USA 34.3N 111.5W 1404m 1890-1970 10 1914
 Sources:
 Notes: Reliability: compared with 723713 & 723744 for the years 1914-1970.

723705: SELIGMAN USA 35.3N 112.9W 1640m 1904-1980 10 1904
 Sources:
 Notes: Reliability: compared with 723707, 723701 & 723780 for the years 1904-1980, 1916-1980 & 1904-1980.

723706: WILLIAMS USA 35.3N 112.2W 2057m 1902-1980 10 1947
Sources: GRAND CANYON USA 36.1N 112.1W 2115m 1903-1980 10 1903
Notes: Reliability: compared with 723702, 723741 & 723701 for the years 1909-1980, 1904-1980 & 1916-1980.
Reliability: compared with 723701 & 723705 for the years 1916-1980 & 1904-1980.

723707: PRESCOTT USA 34.6N 112.6W 1679m 1866-1980 10 1898
Sources: WICKENBURG USA 34.0N 112.7W 1735m 1908-1980 10 1908
Notes: Reliability: compared with 723811 & 723705 for the years 1908-1980 & 1904-1980.
Reliability: compared with 723707 & 723705 for the years 1908-1980.

723713: FLAGSTAFF USA 35.1N 111.7W 2135m 1888-1980 10 1891
Sources: SAM BERNARDINO USA 34.1N 117.3W 1777m 1870-1980 10 1891
Notes: Reliability: compared with 723704 & 723744 for the years 1914-1970 & 1910-1980.

723740: WINSLOW USA 35.0N 110.7W 1492m 1909-1980 10 1909
Sources: REDLANDS USA 34.1N 117.2W 1725m 1899-1980 10 1893
Notes: Reliability: compared with 723741 & 723702 for the years 1909-1980. 1936
Reliability: compared with 723741 & 723702 for the years 1895-1979 & appears wrong & has been coded as missing.
Reliability: compared with 722865 & 723821 for the years 1895-1970 & 1895-1980. Corrected for a discontinuity about 1916/1917. Correction Factors: Stations used: 722865 & 723821. Calculation dates: 1895-1916 & 1917-1980. Correction dates: 1893-1916. Factors: -7 -1 -4 -4 2 -1 0 -2 -4 -4 -6 -6.

723741: HOLBROOK USA 34.5N 110.2W 1545m 1890-1980 10 1909
Sources: LAS VEGAS USA 36.1N 115.2W 1640m 1937-1980 10 1937
Notes: Reliability: compared with 723702 & 723740 for the years 1909-1980.

723742: PARKER USA 34.2N 114.3W 129m 1893-1980 80
Sources: SEARCHLIGHT USA 35.5N 114.9W 1039m 1913-1980 12 1913
Notes: Reliability: compared with 722866 & 723861 for the years 1914-1980.

723744: SNOWFLAKE USA 34.5N 110.1W 1720m 1910-1980 10 1910
Sources: BEATTY USA 36.9N 116.8W 1066m 1913-1970 12 1913
Notes: Reliability: compared with 723704 & 723713 for the years 1914-1970 & 1910-1980.

723745: SPRINGERVILLE USA 34.1N 109.3W 2152m 1911-1980 20 1911
Sources: PRESNO USA 36.8N 119.7W 1700m 1875-1980 10 1887
Notes: Reliability: compared with 723655 & 723744 for the years 1911-1980. Corrected for a discontinuity. Correction Factors: Stations used: 723655 & 723744. Calculation dates: 1911-1968 & 1969-1980. Correction dates: 1911-1968. Factors: -7 -6 -9 -10 -13 -16 -9 -4 -7 -14 -15 -10.

723892: HANFORD USA 36.3N 119.7W 75m 1899-1980 10 1901
Sources:
Notes: Reliability: compared with 723890 & 723898 for the years 1901-1980.

723893: HOLLISTER USA 36.8N 121.4W 85m 1874-1974 20 1875
Sources:
Notes: Reliability: compared with 724813, 724814 & 724812 for the years 1874-1974, 1901-1974 & 1874-1974. Corrected for moves 1937/1938 & 1957/1958. Correction Factors: Stations used: 723890 & 723892. Calculation dates: 1910-1937 & 1958-1974, 1938-1957 & 1958-1974. Correction dates: 1874-1937 & 1938-1957. Factors: i) 1874-1937: 7 6 -1 -1 -6 -2 4 7 4 1 0 6. ii) 1938-1957: 7 -11 -16 -14 -19 -13 -15 -13 -15 -18 -10.

723895: INDEPENDENCE USA 36.8N 118.2W 1202m 1892-1980 80
Sources:
Notes: Reliability: compared with 723896 & 723898 for the years 1910-1980. Record shows warming trend 1940-1980.

723896: VISALIA USA 36.3N 119.3W 99m 1878-1980 20 1888
Sources:
Notes: Reliability: compared with 723890 & 723898 for the years 1888-1980 & 1899-1980. Corrected for a jump 1916/1917. Correction Factors: Stations used: 723890 & 723898. Calculation dates: 1899-1916 & 1930-1980. Correction dates: 1888-1916. Factors: 8 7 14 12 17 14 9 13 14 12 9 3.

723898: LEMON COVE USA 36.4N 119.0W 156m 1899-1980 20 1899
Sources:
Notes: Reliability: compared with 723890, 723892 & 723896 for the years 1899-1980, 1901-1980 & 1899-1980. Record too cold 1923-1929. Correction Factors: Stations used: 723890, 723892 & 723896. Calculation dates: 1917-1922 & 1930-1980, 1923-1929 & 1930-1980. Correction dates: 1899-1922 & 1923-1929. Factors: i) 1899-1922: -1 3 2 1 2 6 3 7 10 3 -6 -7. ii) 1923-1929: 13 15 14 9 11 8 12 15 25 24 16.

723899: POMERVILLE USA 36.1N 119.0W 119m 1889-1980 80
Sources:
Notes: Reliability: compared with 723896 & 723898 for the years 1902-1980. Jump to warmer periods 1955 & 1964.

723911: OJAI USA 34.5N 119.3W 228m 1905-1980 20 1909
Sources:
Notes: Reliability: compared with 722950 & 722867 for the years 1909-1980 & 1914-1980. Correction Factors: Stations used: 722950. Calculation dates: 1909-1933 & 1940-1960, 1934-1939 & 1940-1960. Correction dates: 1909-1933 & 1934-1939. Factors: i) 1909-1933: 0 -2 2 5 -2 -5 -8 -8 -5 -3 1 0. ii)

1934-1939: 12 9 10 16 11 7 3 2 7 9 23 10.

723940: SANTA MARIA USA 34.9N 120.5W 73m 1961-1980 10 1961
Sources:
Notes: Reliability: compared with 723911 for the years 1961-1980.

724010: RICHMOND USA 37.5N 77.4W 50m 1911-1950 10 1911
Sources:
Notes: Reliability: compared with 724050 & 724100 for the years 1911-1950.

724041: PRINCESS ANNE USA 38.2N 75.7W 6m 1823-1980 12 1894
Sources:
Notes: Reliability: compared with 724050 & 724070 for the years 1825-1980 & 1874-1980.

724050: WASHINGTON NATIONAL USA 38.9N 77.0W 20m 1820-1980 40
Sources:
Notes: Reliability: compared with 724041 for the years 1825-1980.

724057: WOODSTOCK USA 39.3N 76.9W 126m 1928-1970 10 1928
Sources:
Notes: Reliability: compared with 724041 for the years 1928-1970.

724070: ATLANTIC CITY USA 39.5N 74.6W 3m 1874-1980 20 1884
Sources:
Notes: Reliability: compared with 724041 & 724050 for the years 1874-1980. Corrected for a discontinuity 1969/1970. Correction Factors: Stations used: 724041. Calculation dates: 1970-1980. Correction dates: 1884-1969. Factors: 3 6 5 -3 -4 -2 -5 -12 -7 -8 -6.

724080: PHILADELPHIA USA 40.0N 75.2W 1750-1970 62
Sources:
Notes: Reliability: uncheckable.

724100: LYNCBURG/ P GLENN USA 37.3N 79.2W 286m 1871-1977 20 1895
Sources:
Notes: Reliability: compared with 724057, 724270 & 723091 for the years 1928-1970, 1889-1970 & 1882-1977. Corrected for discontinuity 1943/1944. Correction Factors: Stations used: 724057, 724270 & 723091. Calculation dates: 1928-1943 & 1944-1970. Correction dates: 1902-1943. Factors: -9 -14 -10 -7 -13 -9 -10 -8 -10 -8 -9 -11.

724280: COLUMBUS USA 40.0N 82.9W 247m 1878-1980 20 1878
 Sources:
 Notes: Reliability: compared with 724220, 724210 & 724270 for the years 1878-1980, 1878-1977 & 1889-1970. Corrected for jump 1972/1973. Record also has slight discontinuity 1927/1928 but not considered worth correcting. Correction Factors: Stations used: 724220 & 724210. Calculation dates: 1930-1972 & 1973-1977. Correction dates: 1878-1972. Factors: -10 -15 -3 -5 -5 -4 -6 -9 -7 -6.

724290: DAYTON USA 39.9N 84.2W 306m 1961-1980 62
 Sources:
 Notes: Reliability: compared with 724280 for the years 1961-1980 but considered uncheckable.

724320: EVANSVILLE USA 38.1N 87.5W 116m 1877-1980 20 1897
 Sources:
 Notes: Reliability: compared with 724230 for the years 1897-1980. Corrected for move to Airport Aug 1940. Correction Factors: Stations used: 724230. Calculation dates: 1897-1939 & 1941-1980. Correction dates: 1897-July 1940. Factors: -7 -5 -3 -4 -4 -3 -2 -6 -7 -7 -7 -8.

724340: ST. LOUIS USA 38.6N 90.2W 172m 1836-1980 20 1906
 Sources:
 Notes: Reliability: compared with 724400 & 724450 for the years 1888-1980 & 1889-1980. Jumps 1939/1940 & 1960/1961. Suspected move 1905/1906. Correction Factors: Stations used: 724400 & 724450. Calculation dates: 1905-1960 & 1961-1980. Correction dates: 1836-1960. Factors: -9 -12 -2 -3 -5 -5 -7 -6 -4 -6 -4 -8.

724370: TERRE HAUTE USA 39.5N 87.3W 169m 1875-1980 20 1893
 Sources:
 Notes: Reliability: compared with 724230 for the years 1895-1980. Corrected for move to Airport Feb 1947. Correction Factors: Stations used: 724230. Calculation dates: 1909-1946 & 1948-1980. Correction dates: 1893-Feb 1947. Factors: -11 -10 -10 -7 -6 -3 -8 -8 -3 -1 -6 -10.

724372: HANNIBAL USA 39.7N 91.4W 217m 1854-1980 20 1892
 Sources:
 Notes: Reliability: compared with 725405 & 725460 for the years 1892-1980. Prior to 1938 record too warm, may be due to changing observation times. Correction Factors: Stations used: 725405 & 725460. Calculation dates: 1939-1980. Correction dates: 1892-1938. Factors: -9 -3 -6 -3 -7 -7 -6 -9 -6 -7 -6 -8.

724140: CHARLESTON USA 38.4N 81.6W 310m 1885-1980 20 1902
 Sources:
 Notes: Reliability: compared with 724220 & 724270 for the years 1902-1980 & 1902-1970. Corrected for two discontinuities. Correction Factors: Stations used: 724220 & 724270. Calculation dates: 1905-1920 & 1937-1970, 1921-1936 & 1937-1970. Correction dates: 1902-1920 & 1921-1936. Factors: i) 1902-1920: -23 -22 -17 -12 -8 -11 -6 -6 -9 -12 -25. ii) 1921-1936: -7 -13 -6 -4 -5 -4 -5 -3 -6 -4 -6 -7.

724210: CINCINNATI USA 39.1N 84.5W 267m 1871-1977 70 1885
 Sources:
 Notes: Reliability: compared with 724280 for the years 1878-1977.

724220: LEXINGTON USA 38.0N 84.6W 294m 1858-1980 10 1887
 Sources:
 Notes: Reliability: compared with 724270 & 724271 for the years 1889-1970 & 1884-1980.

724230: LOUISVILLE USA 38.2N 85.7W 145m 1858-1980 10 1872
 Sources:
 Notes: Reliability: compared with 724320, 724370 & 724380 for the years 1897-1980, 1895-1980 & 1872-1980.

724270: PARKERSBURG USA 39.3N 81.6W 189m 1885-1970 70 1900
 Sources:
 Notes: Reliability: compared with 724220 & 724271 for the years 1889-1970.

724271: MCCONNELSVILLE USA 39.7N 81.9W 201m 1884-1980 20 1884
 Sources:
 Notes: Reliability: compared with 724220 & 724270 for the years 1884-1980 & 1889-1970. Corrected for discontinuities 1928/1929 & 1952/1953. Correction Factors: Stations used: 724270. Calculation dates: 1900-1927 & 1953-1970, 1928-1952 & 1953-1970. Correction dates: 1884-1927 & 1928-1952. Factors: i) 1884-1927: -3 -6 -6 -4 3 5 6 7 5 1 -1 -3. ii) 1928-1952: -12 -13 -13 -8 -6 -1 0 -1 -3 -7 -5 -8.

724273: CUMBERLAND USA 39.7N 78.6W 213m 1871-1980 80
 Sources:
 Notes: Reliability: compared with 724010 & 724050 for the years 1911-1950 & 1871-1980. Record shows several inhomogeneities.

724380: INDIANAPOLIS USA 39.7M 86.3W 241m 1861-1980 80
Sources: 724310: DODGE CITY USA 37.8M 100.0W 787m 1874-1980 10 1874
Notes: Reliability: compared with 724230 for the years 1872-1980. Record shows trends & station moved 1963/1964. Notes: Reliability: compared with 724500 & 724580 for the years 1888-1980 & 1888-1970.

724390: SPRINGFIELD/ILLI USA 39.8M 89.7W 179m 1879-1980 20 1879
Sources: 724560: TOPEKA USA 39.1M 95.6W 267m 1878-1980 20 1887
Notes: Reliability: compared with 724400 & 724372 for the years 1888-1980 & 1892-1980. Corrected for jumps 1939/1940 & 1953/1954. Correction Factors: Stations used: 724400. Calculation dates: 1900-1939 & 1954-1980, 1940-1953 & 1954-1980. Correction dates: 1879-1939 & 1940-1953. Factors: i) 1879-1939: -6 -6 -1 1 -4 0 -10 -8 0 1 4 -4. ii) 1940-1953: -17 -11 -13 -5 -11 -8 -15 -17 -11 -11 -7 -10. Notes: Reliability: compared with 724500, 724510 & 725507 for the years 1889-1980. Corrected for move to Airport 1937/1958. Correction Factors: Stations used: 724460. Calculation dates: 1900-1957 & 1958-1972. Correction dates: 1887-1957. Factors: -8 -7 -6 -10 -11 -10 -11 -11 -13 -10 -8.

724400: SPRINGFIELD USA 37.2M 93.4W 386m 1877-1980 10 1888
Sources: 724580: CONCORDIA/BLOSBER/KB USA 39.6M 97.7W 452m 1886-1970 20 1886
Notes: Reliability: compared with 724390 & 724372 for the years 1888-1980 & 1892-1980. Notes: Reliability: compared with 724500, 724510 & 725507 for the years 1889-1980. Corrected for a jump 1962-1963. Correction Factors: Stations used: 724510 & 725507. Calculation dates: -7 -9 -8 -6 -6 -5 -6 -4.

724450: COLUMBIA USA 38.8M 92.2W 270m 1879-1980 10 1889
Sources: 724622: DURANGO USA 37.3M 107.9W 1996m 1894-1980 10 1894 188
Notes: Reliability: compared with 724460 & 724580 for the years 1889-1980. Notes: Reliability: compared with 723651 & 724701 for the years 1904-1980 & 1915-1980.

724460: KANSAS CITY USA 39.3M 94.7W 297m 1870-1980 20 1889
Sources: 724640: FUEBLO USA 38.3M 104.5W 1428m 1869-1980 10 1890
Notes: Reliability: compared with 724450 & 724560 for the years 1889-1980. Corrected for move 1972/1973. Correction Factors: Stations used: 724560. Calculation dates: 1958-1972 & 1973-1980. Correction dates: 1889-1972. Factors: -11 -12 -13 -14 -15 -13 -7 -13 -15 -15 -12 -12.

724490: ST. JOSEPH USA 39.8M 94.9W 247m 1869-1980 80
Sources: 724666: LAS ANIMAS USA 38.1M 103.2W 1186m 1862-1980 80
Notes: Reliability: compared with 724460 for the years 1910-1980. Notes: Reliability: compared with 724640 & 724681 for the years 1889-1980 & 1906-1980.

724500: WICHITA USA 37.7M 97.4W 403m 1888-1980 20 1888
Sources: 724681: CANON CITY USA 38.4M 105.3W 1628m 1906-1980 10 1906
Notes: Reliability: compared with 724510 & 724640 for the years 1888-1980 & 1889-1980. Corrected for a jump 1966/1967. Correction Factors: Stations used: 724510. Calculation dates: 1900-1966 & 1967-1980. Correction dates: 1888-1966. Factors: -6 -12 -2 -5 -3 -6 -3 -3 -4 -7 -5 -7.

724682: CHEESEMAN USA 39.2M 105.3W 2096m 1903-1980 10 1903
Sources: Notes: Reliability: compared with 724690 for the years 1905-1980.

724690: DENVER USA 39.8M 105.0W 1625m 1872-1980 40
Sources: 39.8M 105.0W 1625m 1872-1980 40
Notes: Reliability: compared with 724682 for the years 1905-1980. Record shows urban warming of about 1.5C 1910-1970.

724694: IDAHO SPRINGS USA 39.8M 105.5W 2303m 1905-1970 20 1905
Sources: 39.8M 105.5W 2303m 1905-1970 20 1905
Notes: Reliability: compared with 724682 & 724690 for the years 1905-1970. Corrected for discontinuities 1921 & 1937. Correction Factors: Stations used: 724682. Calculation dates: 1905-1921 & 1939-1970, 1922-1938 & 1939-1970. Correction dates: 1905-1921 & 1922-1938. Factors: i) 1905-1921: 6 -2 -3 -6 -8 -10 -3 0 -1 1 6 0. ii) 1922-1938: 15 14 10 8 6 9 16 10 6 13 12 9.

724696: LEADWILLE USA 39.2M 106.3W 3062m 1908-1979 80
Sources: 39.2M 106.3W 3062m 1908-1979 80
Notes: Reliability: compared with 724682 & 724690 for the years 1909-1979 & 1908-1979. Record shows several discontinuities including 1920 & 1940.

724701: BLANDING USA 37.6M 109.5W 1860m 1905-1980 10 1915
Sources: 37.6M 109.5W 1860m 1905-1980 10 1915
Notes: Reliability: compared with 723651 & 724622 for the years 1915-1980.

724702: FILLMORE USA 39.0M 112.3W 1573m 1892-1980 10 1892
Sources: 39.0M 112.3W 1573m 1892-1980 10 1892
Notes: Reliability: compared with 724714 & 724708 for the years 1911-1980.

724703: EMERY USA 38.9M 111.3W 1890m 1901-1978 70 1906
Sources: 38.9M 111.3W 1890m 1901-1978 70 1906
Notes: Reliability: compared with 724702 & 724708 for the years 1901-1978 & 1911-1978.

724704: GREEN RIVER USA 39.0M 110.1W 1237m 1901-1970 80
Sources: 39.0M 110.1W 1237m 1901-1970 80
Notes: Reliability: compared with 724702 & 724703 for the years 1901-1970.

724705: ROCKLIN USA 38.8M 121.3W 72m 1870-1976 70 1913
Sources: 38.8M 121.3W 72m 1870-1976 70 1913
Notes: Reliability: compared with 724880 & 724884 for the years 1902-1976.

724706: PIUTE DAM USA 38.3M 112.2W 1798m 1911-1970 20 1918
Sources: 38.3M 112.2W 1798m 1911-1970 20 1918
Notes: Reliability: compared with 724702 & 724708 for the years 1918-1970. Corrected for a jump 1947/1948. Correction Factors: Stations used: 724702 & 724708. Calculation dates: 1922-1947 & 1948-1970. Correction dates: 1918-1947. Factors: 7 5 2 3 4 7 5 2 3 2 6 8 9.

724707: BEAVER USA 38.3M 112.6W 1804m 1914-1980 20 1914
Sources: 38.3M 112.6W 1804m 1914-1980 20 1914
Notes: Reliability: compared with 724702 & 724714 for the years 1914-1980. Corrected for two discontinuities. Correction Factors: Stations used: 724702 & 724714. Calculation dates: 1914-1943 & 1967-1980, 1944-1966 & 1967-1980. Correction dates: 1914-1943 & 1944-1966. Factors: i) 1914-1943: 12 7 12 12 13 14 12 10 8 10 7 9. ii) 1944-1966: 5 2 4 4 6 7 8 3 3 8 5 6.

724708: HARKSVILLE USA 38.4M 110.7W 1313m 1910-1980 20 1911
Sources: 38.4M 110.7W 1313m 1910-1980 20 1911
Notes: Reliability: compared with 724714 & 724702 for the years 1911-1980. Correction Factors: Stations used: 724714 & 724702. Calculation dates: 1911-1921 & 1922-1980. Correction dates: 1911-1921. Factors: 35 14 12 17 15 16 7 22 6 4 4 18.

724709: MORONI USA 39.5M 111.6W 1684m 1908-1980 10 1914
Sources: 39.5M 111.6W 1684m 1908-1980 10 1914
Notes: Reliability: compared with 724702 & 724708 for the years 1914-1980.

724711: KANAB USA 37.1M 112.5W 1519m 1914-1980 80
Sources: 37.1M 112.5W 1519m 1914-1980 80
Notes: Reliability: compared with 724730 & 724801 for the years 1917-1980 & 1915-1980.

724712: LAKETOWN USA 41.8M 111.3W 1825m 1900-1980 10 1913
Sources: 41.8M 111.3W 1825m 1900-1980 10 1913
Notes: Reliability: compared with 725757 for the years 1912-1980. First year is too warm.

724713: MOAB USA 38.6M 109.6W 1208m 1914-1980 80
Sources: 38.6M 109.6W 1208m 1914-1980 80
Notes: Reliability: compared with 724768 for the years 1914-1980. Suspected move 1943/1944.

724714: MILFORD USA 38.4W 113.0W 1532m 1911-1980 10 1911
Sources:
Notes: Reliability: compared with 724702 & 724708 for the years 1911-1980.

724730: MODENA USA 37.8W 113.9W 1664m 1901-1980 10 1917
Sources:
Notes: Reliability: compared with 724801 & 724711 for the years 1917-1980.

724760: GRAND JUNCTION USA 39.1W 108.5W 1476m 1885-1980 80
Sources:
Notes: Reliability: compared with 723651 & 724708 for the years 1904-1980 & 1911-1980.

724761: CRESTED BUTTE USA 38.9W 107.0W 2699m 1909-1980 20 1910
Sources:
Notes: Reliability: compared with 724682 for the years 1910-1980. Corrected for jump 1924/1925. Correction Factors: Stations used: 724682. Calculation dates: 1910-1924 & 1925-1940. Correction dates: 1910-1924. Factors: 20 6 4 13 15 12 23 15 6 14.

724762: COLLIERAN USA 39.2W 108.0W 1871m 1892-1980 80
Sources:
Notes: Reliability: compared with 723651 & 724708 for the years 1904-1980 & 1911-1980. Jump in 1948, not corrected. Oct 1929 probably wrong & coded as missing.

724763: DELTA USA 38.8W 108.1W 1541m 1888-1980 80
Sources:
Notes: Reliability: compared with 723651 & 724708 for the years 1907-1970 & 1911-1970. Jump 1950 has not been corrected.

724764: CLEWOOD SPRINGS USA 39.6W 107.3W 1775m 1901-1980 20 1910
Sources:
Notes: Reliability: compared with 724682 & 724762 for the years 1910-1980. Corrected for a jump 1918/1919. Correction Factors: Stations used: 724682. Calculation dates: 1910-1918 & 1919-1940. Correction dates: 1910-1918. Factors: 24 12 15 11 16 21 22 21 14 15 17 11.

724765: MONTROSE NO. 2 USA 38.5W 107.9W 1777m 1885-1980 70 1911
Sources:
Notes: Reliability: compared with 724760, 724763 & 724708 for the years 1904-1980, 1907-1970 & 1911-1980. Early years are too cold.

724766: THOMPSONS USA 39.0W 109.7W 1570m 1914-1980 80
Sources:
Notes: Reliability: compared with 724702 for the years 1914-1980.

724767: FRUITA USA 39.2W 108.7W 1374m 1902-1980 80
Sources:
Notes: Reliability: compared with 724703 & 724708 for the years 1902-1978 & 1911-1980.

724768: MANTI USA 39.3W 111.6W 1749m 1894-1980 70 1901
Sources:
Notes: Reliability: compared with 724702 & 724708 for the years 1894-1980 & 1911-1980.

724769: LAKE SPAULDING USA 39.3W 120.6W 1571m 1895-1980 80
Sources:
Notes: Reliability: compared with 724884 for the years 1914-1979.

724801: ALTON USA 37.4W 112.5W 2146m 1915-1980 10 1915
Sources:
Notes: Reliability: compared with 724711 & 724730 for the years 1915-1980 & 1917-1980.

724802: MINA USA 38.4W 118.1W 1387m 1896-1980 10 1906
Sources:
Notes: Reliability: compared with 724886 for the years 1911-1980.

724810: MERCED USA 37.3W 120.5W 46m 1872-1980 20 1891
Sources:
Notes: Reliability: compared with 723890 & 723892 for the years 1891-1980 & 1901-1980. Correction Factors: Stations used: 723890 & 723892. Calculation dates: 1950-1980. Correction dates: 1891-1950. Factors: 7 8 10 7 5 3 6 7 5 7 9 5.

724811: OAKDALE USA 37.9W 120.9W 67m 1893-1967 10 1932
Sources:
Notes: Reliability: compared with 723890 for the years 1908-1967.

724812: SAN JOSE USA 37.4M 121.9W 20m 1874-1980 20 1905
Sources:
Notes: Reliability: compared with 723890 & 723891 for the years 1867-1980 & 1901-1980. Correction Factors: Stations used: 723890 & 723891. Calculation dates: 1940-1980. Correction dates: 1905-1939. Factors: 2 -1 -3 -4 -8 -5 -4 1 -5 -7 2 3.

724813: SANTA CRUZ USA 37.0M 122.0W 39m 1873-1980 20 1874
Sources:
Notes: Reliability: compared with 724814, 724812 & 723893 for the years 1901-1976, 1874-1976 & 1874-1974. Correction Factors: Stations used: 724814. Calculation dates: 1901-1944 & 1945-1976. Correction dates: 1874-1944. Factors: -5 -5 -10 -13 -10 -8 -7 -9 -8 -6 -5 -6.

724814: SANTA CLARA USA 37.4M 121.8W 27m 1881-1976 10 1901
Sources:
Notes: Reliability: compared with 724813 & 724812 for the years 1901-1976.

724829: COLFAX USA 39.1M 121.0W 737m 1870-1980 10 1891
Sources:
Notes: Reliability: compared with 724831 & 724832 for the years 1916-1975 & 1916-1980. June 1905 wrong & has been coded as missing.

724830: SACRAMENTO CITY USA 38.6M 121.5W 6m 1850-1980 20 1853
Sources:
Notes: Reliability: compared with 724831 & 724832 for the years 1916-1975 & 1916-1980. Corrected for moves 1949/1950 & 1964/1965. Correction Factors: Stations used: 724831 & 724832. Calculation dates: 1924-1949 & 1965-1975. 1950-1964 & 1965-1975. Correction dates: 1852-1949 & 1950-1964. Factors: 1) 1852-1949: 10 11 11 13 16 15 14 12 8 11 13. 11) 1950-1964: 4 8 5 6 8 10 11 8 8 3 6 6.

724831: ANTIPOCE USA 38.0M 121.8W 9m 1879-1980 70 1924
Sources:
Notes: Reliability: compared with 724829 & 724832 for the years 1916-1975. Move indicated, but not corrected, 1923/1924.

724832: AUBURN USA 38.9M 121.1W 414m 1871-1980 10 1916
Sources:
Notes: Reliability: compared with 724831 & 724829 for the years 1916-1975 & 1916-1980.

724833: HEALINGBURG USA 38.6M 122.9W 35m 1877-1980 80
Sources:
Notes: Reliability: compared with 724832 for the years 1916-1980.

724834: MAPA STATE HOSP. USA 38.3M 122.3W 18m 1876-1980 20 1876
Sources:
Notes: Reliability: compared with 724832, 724835 & 723838 for the years 1916-1980, 1876-1980 & 1876-1978. Corrected for move 1939/1940. 1892/1893 move not corrected. Correction Factors: Stations used: 724832. Calculation dates: 1916-1939 & 1940-1980. Correction dates: 1876-1939. Factors: 2 5 12 9 15 16 14 13 7 6 9 8.

724835: CHICO EXP. STA. USA 39.7M 121.8W 70m 1870-1980 80
Sources:
Notes: Reliability: compared with 724832 for the years 1916-1980.

724836: PLACERVILLE USA 38.7M 120.8W 576m 1874-1980 10 1892
Sources:
Notes: Reliability: compared with 723838 & 724834 for the years 1890-1978 & 1890-1980.

724837: PRYALUMA USA 38.2M 122.6W 3m 1913-1980 70 1920
Sources:
Notes: Reliability: compared with 724838 for the years 1913-1978. Move indicated 1919/1920, not corrected.

724838: LIVERMORE USA 37.7M 121.8W 149m 1871-1980 10 1883
Sources:
Notes: Reliability: compared with 724832 & 724834 for the years 1916-1978 & 1876-1978. 1871-1882 too warm.

724839: SANTA ROSA USA 38.5M 122.7W 50m 1889-1980 80
Sources:
Notes: Reliability: compared with 724831, 724931 & 724838 for the years 1916-1975, 1901-1980 & 1901-1980. Record has many jumps.

724841: COLFAX USA 46.9M 117.4W 596m 1892-1980 10 1892
Sources:
Notes: Reliability: compared with 727831 & 727852 for the years 1892-1980 & 1900-1980.

724847: DAVIS AGRIC. COLLEGE USA
Sources: 38.9W 121.8W 1128m 1872-1980 80
Notes: Reliability: compared with 724884 & 724887 for the years 1908-1979 & 1908-1980. Move indicated, but not corrected 1922, 1939 & 1959.

724860: ELY USA
Sources: 39.3W 114.9W 1909m 1951-1980 40
Notes: Reliability: compared with 724886 for the years 1951-1980.

724862: DESHRET USA
Sources: 39.3W 111.7W 1397m 1899-1980 10 1913
Notes: Reliability: compared with 724886 for the years 1913-1980.

724866: SCIPIC USA
Sources: 39.3W 112.1W 1617m 1894-1980 10 1897
Notes: Reliability: compared with 724888 for the years 1895-1980. First two years too warm.

724867: OAK CITY USA
Sources: 39.4W 112.3W 1547m 1905-1980 40
Notes: Reliability: compared with 724862 & 724866 for the years 1914-1980.

724868: MC GILL USA
Sources: 39.4W 114.8W 1932m 1888-1980 80
Notes: Reliability: compared with 724886 for the years 1912-1980.

724871: PAROMAN USA
Sources: 37.8W 112.8W 1807m 1914-1980 10 1914
Notes: Reliability: compared with 724888 for the years 1914-1980. 1971 coded as missing.

724872: SAINT GEORGE USA
Sources: 37.1W 113.6W 841m 1914-1980 10 1914
Notes: Reliability: compared with 724881 for the years 1915-1980. 1976 coded as missing.

724880: REMO USA
Sources: 39.5W 119.8W 1343m 1870-1980 20 1900
Notes: Reliability: compared with 724705 & 724884 for the years 1902-1976 & 1888-1979. Corrected for move 1942/1943. Move suspected, but not corrected, 1899/1900. Correction Factors: Stations used: 724705 & 724884.

724881: FALLON USA
Sources: 39.5W 118.8W 1708m 1903-1980 40
Notes: Reliability: compared with 724886 for the years 1911-1980. Record shows trends.

724882: AUSTIN USA
Sources: 39.5W 117.1W 1613m 1888-1980 10 1911
Notes: Reliability: compared with 724886 for the years 1911-1980.

724883: YERINGTON USA
Sources: 39.0W 119.2W 1433m 1902-1980 40
Notes: Reliability: compared with 724886 for the years 1911-1980. Record shows trends.

724884: WILLOWS USA
Sources: 39.5W 122.2W 141m 1878-1980 70 1892
Notes: Reliability: compared with 724886 & 724887 for the years 1890-1979 & 1883-1979. 1901 & 1905 are suspect & have been coded as missing.

724885: QUINCEY USA
Sources: 39.6W 121.0W 141m 1895-1980 40
Notes: Reliability: compared with 724886 & 724884 for the years 1897-1979. Move indicated, but not corrected, 1912, 1935 & 1959.

724886: LABONTAN USA
Sources: 39.6W 119.1W 141m 1906-1980 10 1911
Notes: Reliability: compared with 724882 for the years 1911-1980.

724887: ORLAND USA
Sources: 39.8W 122.2W 51692 1980 70 1903
Notes: Reliability: compared with 724886 & 724884 for the years 1890-1980 & 1883-1979. Move indicated, but not corrected, 1902, 1911.

724888: LEVAN USA
Sources: 39.6W 111.9W 141m 1896-1980 10 1949
Notes: Reliability: compared with 724881, 724886 & 724702 for the years 1914-1980, 1895-1980 & 1892-1980.

724899: NEVADA CITY USA 39.3N 121.0W 183m 1864-1980 10 1895
Sources: 40.1N 74.0W 10m 1822-1977 10 1822
Notes: Reliability: compared with 724838 for the years 1895-1978.

724921: BROVILLE USA 39.5N 121.6W 16m 188-1976 80
Sources: 40.2N 73.9W 1m 1961-1980 10 1961
Notes: Reliability: compared with 724838 & 724889 for the years 1884-1976 & 1895-1976. Move indicated, but not corrected, 1959/1960.

724924: FOLSOM USA 38.7N 121.2W 16m 1872-1955 80
Sources: 41.3N 71.9W 1m 1781-1979 20 1781
Notes: Reliability: compared with 724832 for the years 1916-1955.

724930: OAKLAND USA 37.7N 122.2W 1961-1967 61
Sources: 41.2N 71.6W 1m 1881-1972 20 1881
Notes: Reliability: uncheckable.

724931: UKIAH USA 39.1N 123.2W 189m 1817-1920 10 1924
Sources: 41.3N 70.1W 1961-1967 10 1961
Notes: Reliability: compared with 724939 for the years 1893-1920. Early years too cold.

724932: BERKELEY USA 37.9N 122.3W 105m 1889-1980 10 1889
Sources: 42.4N 71.0W 1m 1743-1980 10 1871
Notes: Reliability: compared with 724938 & 724939 for the years 1887-1980 & 1893-1980.

724938: LOS GATOS USA 37.2N 122.0W 111m 1885-1980 10 1891
Sources: 42.4N 71.0W 1m 1743-1980 10 1871
Notes: Reliability: compared with 724932 for the years 1899-1980.

724939: PACAVILLE USA 38.4N 122.0W 53m 1880-1980 10 1905
Sources: 40.2N 76.9W 10m 1840-1980 10 1888
Notes: Reliability: compared with 724932 for the years 1893-1980. Early years too warm.

724940: SAN FRANCISCO USA 37.8N 122.4W 39m 1850-1980 10 1871
Sources: 40.2N 74.8W 10m 1865-1980 20 1866
Notes: Reliability: compared with 724830 for the years 1853-1980.

725027: NEW YORK USA 40.1N 74.0W 10m 1822-1977 10 1822
Sources: 40.2N 76.9W 10m 1840-1980 10 1888
Notes: Reliability: compared with 725045 for the years 1822-1970.

725030: NEW YORK MACARBDIA USA 40.2N 73.9W 1m 1961-1980 10 1961
Sources: 40.2N 74.8W 10m 1865-1980 20 1866
Notes: Reliability: compared with 725027 for the years 1961-1980.

725045: NEW HAVEN/TWEED USA 41.3N 71.9W 1m 1781-1979 20 1781
Sources: 42.4N 71.0W 1m 1743-1980 10 1871
Notes: Reliability: compared with 725027, 725111 & 744920 for the years 1872-1970, 1866-1970 & 1811-1970. Corrected for move to Airport 1951. Correction Factors: Stations used: 725027, 725111 & 744920. Calculation dates: 1951-1970. Correction dates: 1781-1950. Factors: -8 -5 -3 -2 -4 -4 -3 -3 -2 -3 -4.

725050: BLOCK ISLAND USA 41.2N 71.6W 1m 1881-1972 20 1888
Sources: 42.4N 71.0W 1m 1743-1980 10 1871
Notes: Reliability: compared with 725027 & 744920 for the years 1888-1972. Corrected for site change 1950/1951. Correction Factors: Stations used: 725027 & 744920. Calculation dates: 1951-1970. Correction dates: 1888-1950. Factors: -6 -9 -5 -8 -4 -6 -4 -4 -9 -8 -4.

725060: MAHTUCKEY USA 41.3N 70.1W 1961-1967 10 1961
Sources: 42.4N 71.0W 1m 1743-1980 10 1871
Notes: Reliability: compared with 744920 for the years 1961-1967.

725090: BOSTON USA 42.4N 71.0W 1m 1743-1980 10 1871
Sources: 42.4N 71.0W 1m 1743-1980 10 1871
Notes: Reliability: compared with 744920 for the years 1811-1980. Corrected for site changes Sept 1933 & 1950/1951. Correction Factors: Stations used: 744920. Calculation dates: 1951-1980. Correction dates: 1743-Sept 1933 & Oct 1933-1950. Factors: i) 1743-Sept 1933: -5 -7 -6 -8 -7 -6 -8 -7 -6 -7 -6 -3. ii) Oct 1933-1950: 0 -3 -3 -5 -4 -3 -6 -4 -6 -4 -6 -4 -0.

725110: HARRISBURG USA 40.2N 76.9W 10m 1840-1980 10 1888
Sources: 40.2N 74.8W 10m 1865-1980 20 1866
Notes: Reliability: compared with 725231 for the years 1888-1980.

725111: TRENTON USA 40.2N 74.8W 10m 1865-1980 20 1866
Sources: 42.4N 71.0W 1m 1743-1980 10 1871
Notes: Reliability: compared with 725027 & 725045 for the years 1866-1980 & 1866-1970. Correction Factors: Stations used: 725027 & 725045. Calculation

725150: BINGHAMTON USA 42.2M 76.0W 485m 1890-1980 20 1890
Sources:

Notes:

Reliability: compared with 725110 & 725231 for the years 1890-1980. Corrected for move 1967/1968. Correction Factors: Stations used: 725110 & 725231. Calculation dates: 1968-1980. Correction dates: 1890-1967. Factors: -15 -13 -18 -13 -9 -12 -11 -16 -17 -15 -17 -19.

725171: READING USA 40.4M 75.9W 82m 1839-1980 40
Sources:

Notes: Reliability: compared with 725110 & 725231 for the years 1890-1980. May 1969 moved to Airport, not corrected.

725180: ALBANY/NY USA 42.7M 73.8W 89m 1820-1977 20 1820
Sources:

Notes: Reliability: compared with 725027 & 725045 for the years 1822-1980. Corrected for move to Airport 1961. Correction Factors: Stations used: 725027. Calculation dates: 1961-1980. Correction dates: 1820-1960. Factors: -5 -9 -8 -4 -1 -7 -9 -4 0 -6 -11.

725200: PITTSBURG USA 40.5M 80.2W 373m 1870-1977 20 1870
Sources:

Notes: Reliability: compared with 725247 & 725217 for the years 1877-1980 & 1938-1970. Corrected for move to Airport 1961. Correction Factors: Stations used: 725247 & 725217. Calculation dates: 1961-1970. Correction dates: 1870-1960. Factors: -20 -23 -11 -14 -15 -13 -14 -12 -15 -14 -18 -21.

725217: WOOSTER USA 40.8M 81.9W 309m 1938-1970 10 1938
Sources:

Notes: Reliability: compared with 725247 for the years 1938-1970.

725227: GENEVA USA 42.9M 77.0W 180m 1949-1970 80
Sources:

Notes: Reliability: compared with 725231 for the years 1949-1970.

725231: ANGELICA USA 42.3M 78.0W 433m 1855-1980 10 1855
Sources:

Notes: Reliability: compared with 725290 & 725280 for the years 1855-1980.

725247: SANDUSKY USA 41.5M 82.7W 192m 1877-1970 10 1877
Sources:

Notes: Reliability: compared with 725200 for the years 1877-1977.

725260: ERIE USA 42.1M 80.2W 223m 1873-1980 80
Sources:

Notes: Reliability: compared with 725230 & 725290 for the years 1873-1980. Record shows trends.

725280: BUFFALO USA 42.9M 78.7W 215m 1831-1980 10 1841
Sources:

Notes: Reliability: compared with 725290 & 725231 for the years 1831-1980 & 1855-1980. 1831-1840 data from different site.

725290: ROCHESTER USA 43.1M 77.7W 167m 1829-1980 10 1830
Sources:

Notes: Reliability: compared with 725280 & 725231 for the years 1831-1980 & 1855-1980.

725311: SIDNEY USA 40.3M 84.2W 285m 1956-1980 20 1883
Sources:

Notes: Reliability: compared with 725390 for the years 1883-1980. Corrected for move Nov 1956. Correction Factors: Stations used: 725390. Calculation dates: 1957-1980. Correction dates: 1883-1955. Factors: -18 -19 -20 -15 -14 -11 -9 -12 -10 -13 -13 -11.

725315: URBANA USA 40.1M 88.2W 236m 1920-1970 10 1920
Sources:

Notes: Reliability: compared with 725442 for the years 1920-1970.

725320: PEORIA USA 40.7M 89.7W 199m 1855-1980 20 1856
Sources:

Notes: Reliability: compared with 725315, 725340 & 725442 for the years 1920-1970, 1873-1980 & 1872-1980. Corrected for move May 1943. Correction Factors: Stations used: 725315 & 725442. Calculation dates: 1944-1970. Correction dates: 1856-May 1943. Factors: -5 -7 -4 -3 -5 -5 -3 -3 -6 -6 -4 -6.

725330: FORT WAYNE USA 41.0M 85.2W 241m 1870-1980 20 1887
Sources:

Notes: Reliability: compared with 725390 & 725315 for the years 1887-1980 & 1920-1970. Corrected for move 1946/1947. Correction Factors: Stations used: 725390 & 725315. Calculation dates: 1947-1970. Correction dates:

1887-1946. Factors: -5 -5 -2 -2 -5 -6 -7 -4 -7 -7 -7 -8.

725340: CHICAGO O'HARE USA 42.0N 87.9W 190m 1871-1980 20 1873
Sources:
Notes: Reliability: compared with 725442, 725390 & 725315 for the years 1889-1980, 1864-1980 & 1920-1970. Corrected for move to Airport 1951. Correction Factors: Stations used: 725442, 725390 & 725315. Calculation dates: 1951-1970. Correction dates: 1873-1930 & 1931-1950. Factors: i) 1873-1930: -11 -5 1 6 10 9 6 5 -1 -4 -6 -8. ii) 1931-1950: -4 2 8 12 13 15 11 6 3 -1 -1 -1.

725360: TOLEDO USA 41.6N 83.5W 204m 1861-1980 20 1871
Sources:
Notes: Reliability: compared with 725390 for the years 1871-1980. Corrected for moves Jan 1943 & Feb 1955. Correction Factors: Stations used: 725390. Calculation dates: 1956-1980. Correction dates: Feb 1943-Feb 1955 & 1871-Jan 1943. Factors: i) 1871-Jan 1943: -14 -10 -8 -3 -4 -6 -7 -9 -9 -13 -16 -14. ii) Feb 1943-Feb 1955: -10 -2 -2 -2 -3 -8 -6 -5 -6 -7 -7 -1.

725370: DETROIT USA 42.3N 83.1W 191m 1836-1977 40
Sources:
Notes: Reliability: compared with 725390 & 725442 for the years 1864-1980 & 1872-1980. Record shows urban warming after 1940.

725390: LANSING USA 42.8N 84.6W 256m 1864-1980 10 1864
Sources:
Notes: Reliability: compared with 725340 & 725442 for the years 1864-1980 & 1872-1980.

725405: KEOKUK USA 40.4N 91.4W 161m 1871-1980 10 1871
Sources:
Notes: Reliability: compared with 725442 & 725460 for the years 1872-1980 & 1878-1980.

725442: DAVENPORT USA 41.5N 90.6W 173m 1871-1980 10 1872
Sources:
Notes: Reliability: compared with 725405 & 725460 for the years 1872-1980 & 1878-1980.

725460: DES MOINES USA 41.5N 93.7W 294m 1844-1980 10 1878
Sources:
Notes: Reliability: compared with 725405 & 725442 for the years 1878-1980.

725470: DURBUQUE USA 42.4N 90.7W 322m 1851-1980 20 1851
Sources:
Notes: Reliability: compared with 725442 & 725460 for the years 1872-1980 & 1878-1980. Corrected for move to Airport 1951. Correction Factors: Stations used: 725442 & 725460. Calculation dates: 1951-1980. Correction dates: 1851-1950. Factors: -12 -13 -12 -12 -15 -15 -14 -14 -12 -13 -12.

725507: CRETE USA 40.6N 97.0W 417m 1894-1970 10 1894
Sources:
Notes: Reliability: compared with 725510 & 725530 for the years 1894-1970.

725510: LINCOLN USA 40.9N 96.8W 351m 1878-1980 10 1886
Sources:
Notes: Reliability: compared with 725530 for the years 1886-1977.

725530: OMAHA USA 41.1N 95.9W 406m 1871-1977 10 1873
Sources:
Notes: Reliability: compared with 725510 & 725507 for the years 1886-1977 & 1894-1970.

725570: STOUX CITY USA 42.4N 96.4W 334m 1857-1980 20 1889
Sources:
Notes: Reliability: compared with 725510 & 725510 for the years 1894-1980 & 1889-1980. Corrected for move 1941/1942. Correction Factors: Stations used: 725507 & 725510. Calculation dates: 1942-1970. Correction dates: 1889-1941. Factors: -4 -4 -3 -1 -3 -1 0 -1 0 -1 -2 -7.

725572: YANKTON USA 42.9N 97.4W 378m 1873-1980 20 1873
Sources:
Notes: Reliability: compared with 725670 & 725510 for the years 1886-1980. Corrected for move July 1933. Correction Factors: Stations used: 725670 & 725510. Calculation dates: 1934-1980. Correction dates: 1886-June 1933. Factors: -10 -7 -10 -9 -8 -8 -8 -8 -7 -5 -8.

725620: NORTH PLATTE USA 41.1N 100.8W 849m 1875-1980 20 1875
Sources:
Notes: Reliability: compared with 725641 & 725670 for the years 1900-1970 & 1886-1980. Corrected for move to Airport 1951. Correction Factors: Stations used: 725641 & 725670. Calculation dates: 1951-1970. Correction dates: 1875-1950. Factors: -11 -10 -4 -4 -10 -8 -12 -6 -8 -9 -7 -9.

725640: CHEYENNE USA 41.1N 104.8W 1867m 1871-1980 10 1871
Sources:
Notes: Reliability: compared with 725641, 725642 & 725698 for the years 1900-1980, 1902-1980 & 1889-1978. Same data as 725691.

725641: PINE BLUFFS USA 41.2N 104.1W 1538m 1900-1970 10 1900
Sources:
Notes: Reliability: compared with 725670 for the years 1900-1970.

725642: WATERDALE USA 40.4N 105.2W 1603m 1902-1980 10 1902
Sources:
Notes: Reliability: compared with 725701 & 725646 for the years 1909-1980 & 1902-1980.

725643: FOXPAK USA 41.1N 106.1W 2757m 1909-1970 10 1909
Sources:
Notes: Reliability: compared with 725640 & 725698 for the years 1909-1970.

725644: CROCWATER USA 41.8N 104.8W 1610m 1900-1980 10 1900
Sources:
Notes: Reliability: compared with 725640 & 725641 for the years 1900-1980 & 1900-1970.

725645: SARATOGA USA 41.5N 106.8W 2070m 1914-1980 10 1925
Sources:
Notes: Reliability: compared with 725642 for the years 1914-1980. Early years too variable.

725646: LARAMIE USA 41.3N 105.6W 2195m 1891-1970 10 1891
Sources:
Notes: Reliability: compared with 725642 for the years 1902-1970.

725670: VALENTINE USA 42.9N 100.6W 789m 1886-1980 10 1886
Sources:
Notes: Reliability: compared with 725712, 725702 & 725641 for the years 1886-1980, 1889-1980 & 1900-1970.

725691: CHEYENNE/WY USA 42.9N 106.5W 1867m 1871-1980 80
Sources:
Notes: Reliability: see 725640 which has exactly the same data!

725692: ENCAMPMENT USA 41.2N 106.6W 2252m 1909-1980 80
Sources:
Notes: Reliability: compared with 725642 for the years 1909-1980.

725693: DOUGLAS USA 42.8N 105.4W 1479m 1909-1970 10 1909
Sources:
Notes: Reliability: compared with 725640 & 725698 for the years 1909-1970. 1960 coded as missing.

725694: WHEATLAND USA 42.1N 105.0W 1414m 1914-1980 20 1914
Sources:
Notes: Reliability: compared with 725640 & 725644 for the years 1914-1980. Corrected for jump 1966/1967. Correction Factors: Stations used: 725640 & 725644. Calculation dates: 1967-1980. Correction dates: 1914-1966. Factors: -7 -11 -6 -7 -9 -10 -9 -14 -13 -10 -9 -7.

725698: LUSK USA 42.8N 104.4W 1524m 1889-1978 10 1889
Sources:
Notes: Reliability: compared with 725640 for the years 1889-1978.

725701: STEAMBOAT SPRINGS USA 40.5N 106.8W 2064m 1908-1980 10 1909
Sources:
Notes: Reliability: compared with 725642 & 725646 for the years 1909-1980 & 1909-1970. 1978-1980 data coded as missing.

725702: LE ROI USA 40.5N 103.0W 1362m 1889-1980 12 1889
Sources:
Notes: Reliability: compared with 725670 for the years 1889-1980.

725703: FRASER USA 40.0N 105.8W 2609m 1909-1974 80
Sources:
Notes: Reliability: compared with 725701 for the years 1910-1970.

725704: VERNAL USA 40.5N 109.5W 1609m 1915-1980 10 1918
Sources:
Notes: Reliability: compared with 725708 for the years 1915-1980. First 3 years too variable.

725708: HEEKER USA 40.0N 107.9W 1935m 1891-1980 10 1891
Sources:
Notes: Reliability: compared with 725722 for the years 1892-1980.

725709: MYTON USA 40.2M 110.1W 1533m 1915-1980 10 1932
Sources:

Notes: Reliability: compared with 725722 for the years 1918-1980. Early years too warm.

725720: SALT LAKE CITY USA 40.8M 111.9W 1286m 1875-1980 20 1875
Sources:

Notes: Reliability: compared with 725725 & 725729 for the years 1905-1980 & 1896-1980. Corrected for move to Airport 1951. Correction Factors: Stations used: 725725 & 725729. Calculation dates: 1951-1980. Correction dates: 1875-1950. Factors: -10 -4 -3 -7 -7 -10 -7 -5 -6 -9 -3 -12.

725721: SPANISH FORK USA 40.1M 111.6W 1439m 1910-1980 80
Sources:

Notes: Reliability: compared with 725723 & 725812 for the years 1914-1980.

725722: FORT DUCHESNE USA 40.3M 109.9W 1521m 1888-1980 10 1892
Sources:

Notes: Reliability: compared with 725760 for the years 1892-1980.

725723: SANTAQUIN USA 40.0M 111.8W 1560m 1914-1980 10 1914
Sources:

Notes: Reliability: compared with 725812 for the years 1914-1980. 1931 coded as missing.

725724: HEBER USA 40.5M 111.4W 1701m 1893-1980 10 1893
Sources:

Notes: Reliability: compared with 725728 & 725914 for the years 1914-1980. 1931 coded as missing.

725725: MORGAN USA 41.0M 111.7W 1545m 1903-1980 10 1905
Sources:

Notes: Reliability: compared with 725744 for the years 1905-1980.

725728: SNAKE CREEK USA 40.5M 111.5W 1814m 1914-1980 10 1914
Sources:

Notes: Reliability: compared with 725914 for the years 1914-1980.

725729: TOOELE USA 40.5M 112.3W 1469m 1896-1980 10 1915
Sources:

Notes: Reliability: compared with 725725 for the years 1905-1980. 1945 coded as missing. Early years too variable.

725744: EVANSTON USA 41.3M 111.0W 2067m 1898-1980 10 1898
Sources:

Notes: Reliability: compared with 725725 & 725757 for the years 1905-1980 & 1898-1980.

725745: GREEN RIVER USA 41.5M 109.5W 1856m 1904-1980 10 1905
Sources:

Notes: Reliability: compared with 727832 & 725810 for the years 1912-1980 & 1911-1980.

725746: WELLS USA 41.1M 115.0W 1722m 1870-1980 10 1896
Sources:

Notes: Reliability: compared with 725757 for the years 1896-1980.

725757: LOCAN UTAH STATE UNI USA 41.8M 111.8W 1458m 1891-1980 10 1891
Sources:

Notes: Reliability: compared with 725744 & 725761 for the years 1898-1980 & 1902-1980.

725760: LANDER USA 42.8M 108.7W 1696m 1892-1980 10 1892
Sources:

Notes: Reliability: compared with 725708 & 725722 for the years 1892-1980.

725761: BORDER USA 42.3M 111.0W 1865m 1902-1980 10 1902
Sources:

Notes: Reliability: compared with 725757 for the years 1902-1980.

725762: PATHFINDER DAM USA 42.5M 106.8W 1807m 1899-1980 20 1906
Sources:

Notes: Reliability: compared with 725704, 725708 & 725760 for the years 1915-1980, 1906-1980 & 1906-1980. Corrected for move 1950. Correction Factors: Stations used: 725704, 725708 & 725760. Calculation dates: 1950-1980. Correction dates: 1906-1949. Factors: -16 -8 -14 -7 -8 -11 -13 -13 -11 -5 -7 -6.

725766: TWIN FALLS USA 42.6M 114.5W 1124m 1909-1980 80
Sources:
Notes: Reliability: compared with 725782 for the years 1916-1970.

725780: POCATELLO USA 42.9M 112.6W 1357m 1914-1978 80
Sources:
Notes: Reliability: compared with 725781 for the years 1914-1980. Record shows trends.

725781: GRACE USA 42.6M 111.7W 1692m 1907-1980 10 1921
Sources:
Notes: Reliability: compared with 725761 for the years 1907-1980.

725782: HOLLISTER USA 42.4M 114.6W 1379m 1908-1980 10 1908
Sources:
Notes: Reliability: compared with 725786 for the years 1908-1980. 1919 coded as missing.

725786: OAKLEY USA 42.3M 113.9W 1402m 1893-1980 10 1893
Sources:
Notes: Reliability: compared with 725787 & 725782 for the years 1906-1980 & 1908-1980.

725787: RUPERT USA 42.6M 113.7W 1281m 1906-1965 10 1906
Sources:
Notes: Reliability: compared with 725786 & 725782 for the years 1906-1980 & 1908-1980.

725810: WENDOVER USA 40.7M 114.0W 1291m 1911-1980 20 1911
Sources:
Notes: Reliability: compared with 725760 & 725832 for the years 1911-1980 & 1912-1980. Corrected for jump 1930/1931. Correction Factors: Stations used: 725760 & 725832. Calculation dates: 1931-1970. Correction dates: 1911-1930. Factors: -11 -12 -12 -10 -10 -15 -14 -5 -9 -7 -18 -13.

725811: BRIGHAM CITY USA 41.5M 112.0W 1321m 1915-1970 40
Sources:
Notes: Reliability: compared with 725757 for the years 1915-1970.

725812: ELBERTA USA 40.0M 112.0W 1429m 1902-1980 10 1914
Sources:
Notes: Reliability: compared with 725723 for the years 1914-1980. 1931 coded as missing.

725813: CORINNE USA 41.5M 112.1W 1289m 1897-1980 10 1912
Sources:
Notes: Reliability: compared with 725757 for the years 1897-1980. Early years too warm.

725814: DUCHESNE USA 40.2M 110.4W 1679m 1906-1978 10 1906
Sources:
Notes: Reliability: compared with 725722 for the years 1906-1970.

725830: WIMMERUCCA USA 41.0M 117.7W 1322m 1870-1980 10 1885
Sources:
Notes: Reliability: compared with 725831 for the years 1894-1980.

725831: GOLCONDA USA 41.0M 117.5W 1339m 1878-1980 10 1894
Sources:
Notes: Reliability: compared with 725830 for the years 1894-1980.

725832: LAMOILLE USA 40.7M 115.5W 1917m 1912-1970 10 1918
Sources:
Notes: Reliability: compared with 725760 for the years 1912-1970. Early years too warm.

725833: BEOWAHE USA 40.6M 116.5W 1431m 1870-1980 80
Sources:
Notes: Reliability: compared with 725832 for the years 1912-1980. Record shows trends.

725834: LOVELOCK USA 40.2M 118.5W 1211m 1891-1980 80
Sources:
Notes: Reliability: compared with 725830 & 725831 for the years 1891-1980 & 1894-1980.

725835: IMLAY USA 40.7M 118.1W 1298m 1888-1980 80
Sources:
Notes: Reliability: compared with 725830 & 725831 for the years 1914-1980.

725836: RIVERDALE USA 41.1N 112.0W 1338m 1914-1980 80
Sources:
Notes: Reliability: compared with 725757 for the years 1914-1980. Record shows trends.

725837: ELKO USA 40.8N 115.8W 1547m 1870-1980 80
Sources:
Notes: Reliability: compared with 725832 for the years 1912-1980.

725910: RED BLUFF USA 40.1N 122.3W 103m 1872-1980 10 1878
Sources:
Notes: Reliability: compared with 725912 & 725950 for the years 1901-1980 & 1888-1977.

725911: ORLEANS USA 41.3N 123.5W 122m 1903-1980 40
Sources:
Notes: Reliability: compared with 725913 for the years 1914-1980. First 20 years too warm, followed by a jump & then urban warming.

725912: REDDING USA 40.6N 122.4W 175m 1875-1980 20 1901
Sources:
Notes: Reliability: compared with 725910 & 725950 for the years 1900-1980. Correction Factors: Stations used: 725910 & 725950. Calculation dates: 1955-1980. Correction dates: 1931-1954. Factors: 5 9 11 13 19 18 19 18 15 15 5 4.

725913: HAPPY CAMP USA 41.8N 123.4W 332m 1914-1980 10 1914
Sources:
Notes: Reliability: compared with 725978 for the years 1914-1980.

725914: UTAH LAKE LEHI USA 40.4N 111.9W 1371m 1904-1980 10 1914
Sources:
Notes: Reliability: compared with 725728 for the years 1914-1980. 1922 coded as missing.

725940: FUREKA USA 40.8N 124.2W 13m 1878-1980 10 1886
Sources:
Notes: Reliability: compared with 725913 & 725972 for the years 1914-1980 & 1913-1980.

725950: MOUNT SHASTA USA 41.3N 122.3W 1082m 1888-1977 10 1931
Sources:
Notes: Reliability: compared with 725910 & 725912 for the years 1888-1977 & 1900-1977.

725969: PROSPECT USA 42.7N 122.5W 716m 1905-1980 20 1908
Sources:
Notes: Reliability: compared with 725976 & 725971 for the years 1908-1980. Corrected for jump 1948. Correction Factors: Stations used: 725971 & 725976. Calculation dates: 1949-1980. Correction dates: 1908-1948. Factors: 2 4 5 8 8 7 10 12 9 4 3.

725970: MEDFORD USA 42.4N 122.9W 405m 1961-1980 10 1961
Sources:
Notes: Reliability: compared with 725969 for the years 1961-1980.

725971: ASHLAND USA 42.2N 122.7W 542m 1879-1980 10 1889
Sources:
Notes: Reliability: compared with 725976 for the years 1897-1980.

725972: BROOKINGS USA 42.1N 124.3W 24m 1912-1980 10 1913
Sources:
Notes: Reliability: compared with 725940 for the years 1913-1980.

725973: CHILOQUIN USA 42.6N 121.8W 1286m 1913-1980 80
Sources:
Notes: Reliability: compared with 725971 & 725976 for the years 1913-1980. Record shows trends.

725974: GRANTS PASS USA 42.4N 123.3W 282m 1889-1980 80
Sources:
Notes: Reliability: compared with 725975 for the years 1913-1980. Record shows trends.

725975: RIDDLE USA 43.0N 123.4W 202m 1913-1980 10 1913
Sources:
Notes: Reliability: compared with 725979 for the years 1913-1980.

725976: KLAMATH FALLS USA 42.2N 121.8W 1249m 1894-1980 10 1897
Sources:
Notes: Reliability: compared with 725971 for the years 1897-1980.

725977: LAKEVIEW USA 42.2N 120.4W 1+55m 1890-1980 80

Sources: Reliability: compared with 725976 for the years 1897-1980. Record shows trends.

725978: YREKA USA 41.7N 122.6W 80m 1872-1980 10 1914

Sources: Reliability: compared with 725913 for the years 1914-1980.

725979: ROSEBURG USA 43.2N 123.4W 142m 1877-1980 10 1877

Sources: Reliability: compared with 725974 & 725975 for the years 1893-1980 & 1913-1980.

726050: CONCORD USA 43.2N 71.5W 104m 1853-1980 10 1871

Sources: Reliability: compared with 726170 for the years 1884-1980.

726080: EASTPORT USA 44.9N 67.0W 23m 1873-1977 40

Sources: Reliability: compared with 726170 & 726050 for the years 1884-1977 & 1874-1977. Record shows urban warming after 1940.

726170: BURLINGTON USA 44.5N 73.2W 101m 1828-1980 20 1884

Sources: Reliability: compared with 726050 for the years 1884-1980. Corrected for move 1905/1906. Correction Factors: Stations used: 726050. Calculation dates: 1906-1980. Correction dates: 1884-1905. Factors: -14 -12 -12 -11 -14 -16 -16 -17 -12 -13 -14.

726171: CANTON USA 44.6N 73.1W 134m 1855-1980 20 1862

Sources: Reliability: compared with 726172 & 726200 for the years 1897-1980 & 1867-1980. Corrected for site change Sept 1960. Correction Factors: Stations used: 726172 & 726200. Calculation dates: 1961-1980. Correction dates: 1867-Sept 1960. Factors: -4 -8 -7 -8 -6 -7 -5 -5 -6 -5 -10.

726172: LAKE PLACID USA 44.3N 74.0W 591m 1897-1980 10 1931

Sources: Reliability: compared with 726200 for the years 1897-1980. Record shows trends prior to 1930.

726175: ITRACA USA 44.5N 76.8W 293m 1827-1980 20 1827

Sources: Reliability: compared with 726172 & 726200 for the years 1897-1980 & 1854-1980. Corrected for site change May 1943. Correction Factors: Stations used: 726172 & 726200. Calculation dates: 1944-1980. Correction dates: 1827-May 1943. Factors: -16 -15 -14 -9 -13 -13 -14 -12 -10 -10 -12 -16.

726200: OSWEGO USA 43.5N 76.5W 107m 1844-1980 10 1885

Sources: Reliability: compared with 726172 & 726175 for the years 1862-1980 & 1854-1980. Early record appears to be from different site.

726277: MONTREAL USA 45.5N 73.7W 1961-1977 61

Sources: Reliability: uncheckable.

726350: GRAND RAPIDS USA 42.9N 85.5W 239m 1870-1980 10 1887

Sources: Reliability: compared with 726390 & 726410 for the years 1887-1977 & 1887-1980.

726390: ALPENA/PHILPS USA 45.1N 83.4W 211m 1873-1977 10 1873

Sources: Reliability: compared with 726350 & 726410 for the years 1887-1977 & 1873-1977.

726400: MILWAUKEE USA 43.0N 87.9W 205m 1841-1980 40

Sources: Reliability: compared with 726410 for the years 1871-1980. Record has a jump at 1940 followed by urban warming.

726410: MADISON USA 43.1N 89.3W 267m 1855-1980 10 1869

Sources: Reliability: compared with 726350 & 726390 for the years 1887-1980 & 1873-1977.

726418: LUDINGTON USA 43.9N 86.4W 210m 1896-1980 40

Sources: Reliability: compared with 726410 for the years 1896-1980.

726430: USA 08/05/55 USA 43.2N 91.1W 198m 1870-1990 10 1873
Sources:

Notes: Reliability: compared with 726442 & 726444 for the years 1891-1980 & 1926-1928.

726440: USA 08/05/55 USA 43.1N 91.1W 305m 1871-1990 20 1871
Sources:

Notes: Reliability: compared with 726430 & 726442 for the years 1891-1980. Correction Factors: Stations used: 726430 & 726442. Calculation dates: 1910-1960. Correction dates: 1891-1951. Factors: -1.9 -1.6 -1.6 -1.6 -1.6.

726442: USA 08/05/55 USA 43.1N 91.1W 411m 1886-1980 10 1927
Sources:

Notes: Reliability: compared with 726430 & 726444 for the years 1891-1980 & 1926-1928. Reason: above warming & cooling trends prior to 1926.

726444: USA 08/05/55 USA 43.1N 91.1W 385m 1871-1990 20 1871
Sources:

Notes: Reliability: compared with 726430 & 726450 for the years 1871-1980 & 1926-1980. Correction Factors: Stations used: 726410 & 726450. Calculation dates: 1871-1990. Correction dates: 1871-1944. Factors: 10 10 17 10 13 12 11 10 11 11 9.

726450: USA 08/05/55 USA 44.5N 88.1W 206m 1886-1980 10 1886
Sources:

Notes: Reliability: compared with 726350 & 726442 for the years 1886-1980.

726460: USA 08/05/55 USA 44.3N 89.1W 365m 1895-1980 80
Sources:

Notes: Reliability: compared with 726442 & 726443 for the years 1895-1980.

726462: USA 08/05/55 USA 44.9N 91.5W 271m 1891-1980 20 1891
Sources:

Notes: Reliability: compared with 726540 & 726580 for the years 1891-1980 & 1891-1977. Correction Factors: Stations used: 726540 & 726580. Calculation dates: 1961-1980. Correction dates: 1891-1960. Factors: -10 -13 -8 -6 -4 -9 -4 -10 -7 -5 -5 -6.

726540: USA 08/05/55 USA 44.4N 98.2W 390m 1881-1980 10 1881
Sources:

Notes: Reliability: compared with 726580 for the years 1881-1977.

726550: USA 08/05/55 USA 45.4N 94.7W 319m 1893-1980 20 1893
Sources:

Notes: Reliability: compared with 726462 & 726580 for the years 1893-1980 & 1893-1977. Correction Factors: Stations used: 726462 & 726580. Calculation dates: 1970-1960. Correction dates: 1893-1979. Factors: -11 -13 -4 -7 -4 -7 -4 -7 -10 -13 -12 -8.

726551: USA 08/05/55 USA 45.6N 94.4W 375m 1892-1980 80
Sources:

Notes: Reliability: compared with 726462 for the years 1892-1980.

726580: USA 08/05/55 USA 45.0N 91.1W 255m 1897-1977 10 1859
Sources:

Notes: Reliability: compared with 726540 for the years 1881-1977.

726611: USA 08/05/55 USA 45.9N 104.5W 1045m 1897-1980 20 1897
Sources:

Notes: Reliability: compared with 726627 & 726631 for the years 1910-1970 & 1914-1980. Correction Factors: Stations used: 726627 & 726631. Calculation dates: 1930-1970. Correction dates: 1897-1929. Factors: -17 -10 -9 -10 -6 -10 -16 -11 -11 -10 -15 -11.

726620: USA 08/05/55 USA 44.1N 103.1W 1027m 1868-1980 20 1898
Sources:

Notes: Reliability: compared with 726540 & 726631 for the years 1888-1980 & 1914-1980. Corrected for site changes. Correction Factors: Stations used: 726540 & 726631. Calculation dates: 1974-1980. Correction dates: 1888-1948 & 1948-1973. Factors: 1) 1888-1948: 6 18 14 6 6 3 1 -1 7 10 -4 4. 11) 1948-1973: -14 3 2 -1 -4 -4 -6 -8 -2 2 -9 -7.

726622: USA 08/05/55 USA 44.4N 100.3W 526m 1891-1980 20 1891
Sources:

Notes: Reliability: compared with 726627 & 726631 for the years 1910-1970 & 1914-1980. Correction Factors: Stations used: 726627 & 726631. Calculation dates: 1942-1970. Correction dates: 1891-1941. Factors: -12 -20 -12 -12 -10 -5 -9 -10 -12 -12 -12 -17.

726627: USA 08/05/55 USA 44.0N 101.9W 736m 1910-1970 10 1910
Sources:

Notes: Reliability: compared with 726631 & 726540 for the years 1914-1980 & 1910-1980.

72631: COLONY USA 44.9W 104.2W 1083m 1914-1980 10 1914
Sources: Reliability: compared with 72627 for the years 1914-1980.

72660: SHERIDAN USA 44.8N 107.0W 1208m 1893-1980 10 1893
Sources: Reliability: compared with 72760 & 726770 for the years 1909-1980 & 1894-1980.

72670: CODY USA 44.5N 109.1W 1521m 1909-1980 10 1909
Sources: Reliability: compared with 726660 for the years 1909-1980.

726701: ALTA USA 43.8N 111.0W 1960m 1909-1980 80
Sources: Reliability: compared with 726702 & 726703 for the years 1909-1980 & 1911-1980.

726702: DUBOIS USA 43.5N 109.6W 2108m 1906-1980 10 1907
Sources: Reliability: compared with 726703 & 726773 for the years 1911-1980 & 1907-1978.

726703: LOVELL USA 44.8N 108.4W 1169m 1909-1980 10 1909
Sources: Reliability: compared with 726660 for the years 1909-1980.

726704: MORAN USA 43.8N 110.6W 2069m 1911-1980 10 1911
Sources: Reliability: compared with 726702 & 726773 for the years 1911-1980 & 1909-1978.

726705: POWELL USA 44.8N 108.8W 1334m 1907-1980 80
Sources: Reliability: compared with 727600 & 726700 for the years 1908-1980 & 1909-1980.

726770: BILLINGS USA 45.8N 108.5W 944m 1894-1980 10 1909
Sources: Reliability: compared with 726660 & 726700 for the years 1894-1980 & 1909-1980.

726771: BIG TIMBER USA 45.8N 110.0W 1249m 1909-1980 20 1909
Sources: Reliability: compared with 726704 & 726773 for the years 1911-1980 & 1909-1980. Correction Factors: Stations used: 726704 & 726773. Calculation dates: 1967-1978. Correction dates: 1909-1966. Factors: -37 -8 -11 -7 -9 -9 -16 -12 -17 -20 -21 -18.

726772: BUSBY USA 45.5N 107.0W 1048m 1903-1980 80
Sources: Reliability: compared with 726660 for the years 1907-1980.

726773: YELLOWSTONE PARK USA 45.0W 110.7W 1899m 1889-1980 10 1896
Sources: Reliability: compared with 726703 & 726702 for the years 1911-1978 & 1907-1978.

726774: DILLON USA 45.2N 112.6W 1593m 1895-1980 10 1898
Sources: Reliability: compared with 726775 & 726815 for the years 1906-1967 & 1915-1980.

726775: DEEVER USA 44.9N 108.6W 1251m 1916-1980 20 1916
Sources: Reliability: compared with 726660 & 726779 for the years 1916-1980. Correction Factors: Stations used: 726660 & 726779. Calculation dates: 1940-1965. Correction dates: 1966-1971. Factors: 28 15 5 1 8 4 9 5 3 6 10 18.

726776: SALMON USA 45.2N 113.9W 1202m 1906-1967 10 1906
Sources: Reliability: compared with 726775 & 726818 for the years 1906-1967 & 1915-1967.

726777: BECCEN DAH USA 44.9W 111.3W 1978m 1913-1980 10 1913
Sources: Reliability: compared with 726814 for the years 1913-1980.

726779: MILES CITY USA 46.4N 105.9W 801m 1877-1980 20 1891
Sources: Reliability: compared with 726660 for the years 1893-1980. Correction Factors: Stations used: 726660. Calculation dates: 1940-1980. Correction dates: 1891-1939. Factors: -16 -7 -6 -10 -6 -8 -8 -10 -10 -11 -12.

726797: BOZEMAN AGRI COLLEGE USA 45.7M 111.1W 1480m 1892-1980 40
Sources: 726817: COUNCIL USA 44.7M 116.4W 899m 1915-1980 40
Notes: Reliability: compared with 726777 & 726814 for the years 1913-1980 & 1905-1980.

726810: BOISE USA 43.6N 116.2W 871m 1864-1980 10 1864
Sources: 726818: CHALLIS USA 44.5N 114.2W 1577m 1915-1980 10 1915
Notes: Reliability: compared with 726812 & 726816 for the years 1916-1980 & 1915-1980.

726811: ABERDEEN USA 43.0N 112.8W 1342m 1914-1980 20 1914
Sources: 726833: BAKER USA 44.8N 117.8W 1050m 1889-1980 40
Notes: Reliability: compared with 726815 & 726818 for the years 1914-1980 & 1915-1980. Correction Factors: Stations used: 726815 & 726818. Calculation dates: 1962-1980. Correction dates: 1914-1961. Factors: -9 -10 -9 -10 -10 -12 -13 -13 -14 -8 -9.

726812: ARROWROCK USA 43.6N 115.9W 998m 1916-1980 10 1916
Sources: 726878: UMATILLA USA 45.9N 119.4W 86m 1893-1965 10 1902
Notes: Reliability: compared with 726816 & 726810 for the years 1916-1980.

726813: CALDWELL USA 43.7N 116.7W 722m 1904-1980 40
Sources: 726879: HERMISTON USA 45.8N 119.3W 190m 1906-1980 10 1910
Notes: Reliability: compared with 726812 & 726816 for the years 1916-1980 & 1915-1980.

726814: IDAHO FALLS USA 43.5N 112.1W 1442m 1904-1980 10 1905
Sources: 726880: PENDLETON USA 45.7N 118.8W 454m 1890-1980 10 1890
Notes: Reliability: compared with 726777 & 726881 for the years 1913-1980 & 1914-1980.

726815: HAILEY USA 43.5N 114.3W 1624m 1909-1980 10 1909
Sources: 726881: ASHTON USA 44.1N 111.5W 1591m 1897-1980 10 1914
Notes: Reliability: compared with 726818 & 726774 for the years 1915-1980 & 1909-1980. 1917-1918 coded as missing.

726816: MACKAY USA 44.1M 115.6W 1213m 1908-1980 10 1915
Sources: 726882: COLDENDALE USA 45.8N 120.8W 503m 1905-1972 80
Notes: Reliability: compared with 726812 & 726810 for the years 1916-1980 & 1915-1980.

726883: ECHO USA 45.8W 119.2W 201m 1903-1971 10 1931
Sources:
Notes: Reliability: compared with 726879 & 726890 for the years 1910-1980 & 1905-1971.

726884: HEPNER USA 45.4W 119.5W 594m 1889-1980 10 1909
Sources:
Notes: Reliability: compared with 726890 for the years 1909-1980. 1911 coded as missing.

726885: HORO USA 45.5W 120.7W 569m 1910-1980 80
Sources:
Notes: Reliability: compared with 726890 for the years 1917-1980. Record shows trends.

726886: LA GRANDE USA 45.3W 118.1W 855m 1886-1965 10 1911
Sources:
Notes: Reliability: compared with 726880 & 726887 for the years 1893-1965 & 1903-1965. Years before 1911 are erratic.

726887: NEW MEADOWS USA 45.0W 116.3W 1179m 1903-1980 10 1903
Sources:
Notes: Reliability: compared with 726880 & 726888 for the years 1903-1965 & 1909-1980.

726888: PILOT ROCK USA 45.5W 118.8W 517m 1908-1980 80
Sources:
Notes: Reliability: compared with 726887 for the years 1909-1980.

726890: WALLA WALLA USA 46.0W 118.3W 289m 1872-1980 10 1872
Sources:
Notes: Reliability: compared with 726880 for the years 1873-1980.

726891: VALE USA 44.0W 117.3W 682m 1891-1980 20 1892
Sources:
Notes: Reliability: compared with 726893 & 726895 for the years 1903-1980 & 1912-1980. Correction Factors: Stations used: 726893 & 726895. Calculation dates: 1946-1980. Correction dates: 1892-1945. Factors: 12 0 5 9 10 11 10 6 11 9.

726892: ROBBIS DAM USA 45.5W 111.6W 1446m 1907-1980 20 1907
Sources:
Notes: Reliability: compared with 726893 & 726895 for the years 1907-1980 & 1912-1980. Correction Factors: Stations used: 726893 & 726895. Calculation dates: 1930-1980. Correction dates: 1907-1929. Factors: -4 0 4 10 13 10 12 10 7 12 2 9.

726893: WALLONA USA 45.6W 117.5W 891m 1903-1980 10 1903
Sources:
Notes: Reliability: compared with 726894 & 726895 for the years 1903-1954 & 1912-1980.

726894: WESTON USA 45.8W 118.3W 984m 1891-1954 10 1891
Sources:
Notes: Reliability: compared with 726893 & 726895 for the years 1903-1954 & 1912-1980.

726895: UNION USA 45.2E 117.9W 842m 1911-1980 10 1912
Sources:
Notes: Reliability: compared with 726894 & 726893 for the years 1912-1954 & 1912-1980.

726931: PRINCEVILLE USA 44.4W 120.9W 865m 1897-1980 80
Sources:
Notes: Reliability: compared with 726932 for the years 1897-1976.

726932: DAYVILLE USA 44.5W 119.5W 720m 1895-1978 10 1895
Sources:
Notes: Reliability: compared with 726941 for the years 1895-1963.

726933: BEND USA 44.1W 121.3W 1097m 1902-1980 80
Sources:
Notes: Reliability: compared with 726932 for the years 1902-1976.

726934: CORVALLIS USA 44.6W 123.2W 68m 1889-1980 80
Sources:
Notes: Reliability: compared with 726980 for the years 1890-1980.

726941: ALBANY USA 44.6W 123.1W 64m 1879-1963 10 1887
Sources:
Notes: Reliability: compared with 726932 for the years 1895-1963.

7 269 80: PORTLAND USA 45.5N 122.7W 12m 1871-1980 10 1873
Sources:
Notes: Reliability: compared with 7 269 80 for the years 1873-1980.

7 269 82: CASCADE LOCKS USA 45.7N 121.9W 30m 1879-1954 10 1891
Sources:
Notes: Reliability: compared with 7 269 80 for the years 1890-1954. 1901 coded as missing.

7 269 83: THE DALLES USA 45.6N 121.2W 29m 1874-1980 80
Sources:
Notes: Reliability: compared with 7 269 85 & 7 269 88 for the years 1909-1967 & 1913-1967.

7 269 84: VANCOUVER USA 45.7N 122.7W 64m 1898-1980 80
Sources:
Notes: Reliability: compared with 7 269 80 for the years 1898-1980.

7 269 85: HEADWORKS PORTLAND USA 45.5N 122.1W 228m 1899-1980 10 1909
Sources:
Notes: Reliability: compared with 7 269 88 for the years 1913-1980.

7 269 86: DUFUR USA 45.5N 121.1W 405m 1909-1980 80
Sources:
Notes: Reliability: compared with 7 269 85 & 7 269 88 for the years 1917-1980. Early years totally wrong.

7 269 87: WIND RIVER USA 45.8N 121.9W 350m 1911-1977 80
Sources:
Notes: Reliability: compared with 7 269 80 for the years 1914-1977.

7 269 88: CUNDON USA 45.2N 120.2W 862m 1907-1980 10 1913
Sources:
Notes: Reliability: compared with 7 269 85 for the years 1913-1980.

7 269 89: MCHINNVILLE USA 45.2N 123.2W 45m 1888-1980 80
Sources:
Notes: Reliability: compared with 7 269 80 for the years 1888-1980.

7 271 20: CARIBOU USA 46.9N 68.0W 191m 1961-1980 60
Sources:
Notes: Reliability: uncheckable.

7 271 30: PRESQUE ISLE USA 46.7N 68.0W 185m 1918-1970 20 1918
Sources:
Notes: Reliability: compared with 7 260 50 for the years 1918-1970. Correction Factors: Stations used: 7 260 50. Calculation dates: 1941-1970. Correction dates: 1918-1940. Factors: 17 17 14 5 9 6 8 7 11 11 16 16.

7 273 40: SAULT STE MARIE USA 46.5N 84.4W 270m 1888-1980 20 1888
Sources:
Notes: Reliability: compared with 7 274 30 for the years 1888-1980. Corrected for move to Airport after 1940. Correction Factors: Stations used: 7 274 30. Calculation dates: 1942-1980. Correction dates: 1888-1940. Factors: -13 -11 -6 -4 2 3 6 9 6 0 -2 -12.

7 274 27: CHATHAM USA 46.4N 86.9W 267m 1930-1970 10 1930
Sources:
Notes: Reliability: compared with 7 274 30 & 7 274 50 for the years 1930-1970.

7 274 30: MARQUETTE USA 46.6N 87.4W 224m 1872-1977 10 1873
Sources:
Notes: Reliability: compared with 7 274 50 & 7 274 27 for the years 1904-1977 & 1930-1970.

7 274 50: DULUTH USA 46.8N 92.1W 1871-1980 20 1904
Sources:
Notes: Reliability: compared with 7 274 30 & 7 274 27 for the years 1904-1980 & 1930-1950. Corrected for move to Airport. Correction Factors: Stations used: 7 274 30 & 7 274 27. Calculation dates: 1951-1970. Correction dates: 1904-1950. Factors: -17 -12 -13 -11 -2 2 -4 -10 -11 -10 -8 -12.

7 274 70: INTERNATIONAL FALLS USA 48.6N 93.4W 361m 1951-1980 10 1951
Sources:
Notes: Reliability: compared with 7 275 30 for the years 1951-1980.

7 275 30: FARCO USA 46.9N 96.8W 273m 1881-1980 10 1881
Sources:
Notes: Reliability: compared with 7 275 31 & 7 275 51 for the years 1892-1980 & 1887-1980.

727531: FERGUS FALLS USA 46.3N 96.1W 402m 1887-1980 10 1892
Sources: 46.3N 96.1W 402m 1887-1980 10 1892
Notes: Reliability: compared with 727530 & 727551 for the years 1892-1980.
1976-1980 deleted as from different site.

727551: WIMBICOSHISH DAM USA 47.4N 94.1W 401m 1887-1980 10 1887
Sources: 47.4N 94.1W 401m 1887-1980 10 1887
Notes: Reliability: compared with 727530 & 727531 for the years 1887-1980 &
1892-1980.

727570: DEVILS LAKE (ND) USA 48.1N 98.9W 450m 1905-1970 10 1905
Sources: 48.1N 98.9W 450m 1905-1970 10 1905
Notes: Reliability: compared with 727645 & 727670 for the years 1921-1970 &
1905-1970.

727640: BISMARCK USA 46.8N 100.8W 506m 1875-1980 20 1875
Sources: 46.8N 100.8W 506m 1875-1980 20 1875
Notes: Reliability: compared with 727670 & 727681 for the years 1879-1980 &
1889-1980. Corrected for move after 1950. Correction Factors: Stations
used: 727670 & 727681. Calculation dates: 1951-1980. Correction dates:
1879-1950. Factors: -13 -7 -8 -4 -8 -9 -7 -9 -5 -5 -10.

727645: DICKINSON USA 46.9N 102.8W 750m 1921-1970 10 1921
Sources: 46.9N 102.8W 750m 1921-1970 10 1921
Notes: Reliability: compared with 727570 for the years 1921-1970.

727651: SAVAGE USA 47.5N 104.4W 605m 1905-1980 80
Sources: 47.5N 104.4W 605m 1905-1980 80
Notes: Reliability: compared with 727670 for the years 1911-1980. Record above
trends.

727670: WILLISTON USA 48.2N 103.6W 579m 1879-1980 10 1879
Sources: 48.2N 103.6W 579m 1879-1980 10 1879
Notes: Reliability: compared with 727640 & 727681 for the years 1875-1980 &
1889-1980.

727681: GLENDIVE USA 47.1N 104.7W 632m 1889-1980 10 1889
Sources: 47.1N 104.7W 632m 1889-1980 10 1889
Notes: Reliability: compared with 727670 for the years 1889-1980.

727720: HELENA USA 46.6N 112.0W 1167m 1880-1980 20 1880
Sources: 46.6N 112.0W 1167m 1880-1980 20 1880
Notes: Reliability: compared with 727790 & 727791 for the years 1896-1980 &
1906-1980. Corrected for move April 1940. Correction Factors: Stations
used: 727790 & 727791. Calculation dates: 1941-1980. Correction dates:
1880-April 1940. Factors: -25 -20 -8 -6 -7 -9 -8 -9 -6 -11 -17.

727725: BIRMOCK USA 46.7N 121.1W 832m 1908-1977 10 1917
Sources: 46.7N 121.1W 832m 1908-1977 10 1917
Notes: Reliability: compared with 727886 for the years 1913-1977. 1920 coded as
missing.

727730: MISSOULA USA 46.9N 114.1W 972m 1870-1980 80
Sources: 46.9N 114.1W 972m 1870-1980 80
Notes: Reliability: compared with 727720 for the years 1886-1980.

727731: SAINT IGNATIUS USA 47.3N 114.1W 884m 1908-1980 80
Sources: 47.3N 114.1W 884m 1908-1980 80
Notes: Reliability: compared with 727720 for the years 1909-1980.

727734: DOUGLAS USA 31.4N 109.6W 1200m 1903-1980 10 1903
Sources: 31.4N 109.6W 1200m 1903-1980 10 1903
Notes: Reliability: compared with 727742 & 727744 for the years 1904-1980 &
1903-1980.

727736: KOOSKIA USA 46.1N 116.0W 384m 1908-1980 10 1908
Sources: 46.1N 116.0W 384m 1908-1980 10 1908
Notes: Reliability: compared with 727771 for the years 1912-1979. Years after
1975 ignored as from a new site.

727750: GREAT FALLS USA 47.5N 111.4W 1115m 1961-1980 10 1961
Sources: 47.5N 111.4W 1115m 1961-1980 10 1961
Notes: Reliability: compared with 727770 for the years 1961-1980.

727752: CASCADE USA 47.2N 111.7W 1033m 1904-1980 10 1916
Sources: 47.2N 111.7W 1033m 1904-1980 10 1916
Notes: Reliability: compared with 727720 & 727777 for the years 1904-1980 &
1904-1970.

727758: LEWISTOWN USA 47.1M 109.5W 1.253m 1896-1980 80

Sources:

Notes: Reliability: compared with 727770 for the years 1896-1980.

727770: HAYRE USA 46.6M 109.8W 788m 1880-1980 10 1880

Sources:

Notes: Reliability: compared with 727752 & 727777 for the years 1904-1980 & 1905-1970.

727771: BAUGAN USA 47.4M 115.4W 945m 1908-1980 10 1912

Sources:

Notes: Reliability: compared with 727736 for the years 1912-1979.

727777: MALTA USA 48.4M 107.9W 687m 1905-1978 10 1905

Sources:

Notes: Reliability: compared with 727770 for the years 1905-1970.

727790: KALISPELL USA 48.3M 114.3W 904m 1896-1980 10 1896

Sources:

Notes: Reliability: compared with 727720 for the years 1896-1980.

727791: FORTINE USA 48.8M 114.9W 914m 1906-1980 10 1922

Sources:

Notes: Reliability: compared with 727790 for the years 1906-1980. Years before 1921 are odd!

727792: SANDPOINT USA 48.3M 116.6W 640m 1910-1980 20 1910

Sources:

Notes: Reliability: compared with 727771 & 729811 for the years 1912-1979 & 1914-1980. Correction Factors: Stations used: 727771 & 727811. Calculation dates: 1931-1979. Correction dates: 1910-1930. Factors: -2 -2 -6 -2 -4 -2 -4 -5 -3 -5 -3 -2.

727798: LIBBY USA 48.4M 115.5W 634m 1895-1980 20 1911

Sources:

Notes: Reliability: compared with 727771 & 727811 for the years 1912-1979 & 1914-1980. Correction Factors: Stations used: 727771 & 727811. Calculation dates: 1931-1979. Correction dates: 1911-1930. Factors: 6 9 1 0 0 -1 3 4 1 1 4 10.

727811: PRIEST RIVER USA 48.4M 116.8W 725m 1911-1980 10 1914

Sources:

Notes: Reliability: compared with 727771 for the years 1912-1979.

727812: TLETON INTAKE USA 46.7M 121.0W 695m 1908-1971 20 1909

Sources:

Notes: Reliability: compared with 727725 for the years 1917-1971. Correction Factors: Stations used: 727725. Calculation dates: 1949-1970. Correction dates: 1909-1947. Factors: -3 -1 -2 -5 -10 -14 -15 -11 -9 -3 -2 1.

727815: LONG BEACH USA 46.4M 124.0W 8m 1883-1980 10 1883

Sources:

Notes: Reliability: compared with 727886 for the years 1913-1980.

727830: LEWISTON USA 46.4M 117.0W 431m 1878-1980 80

Sources:

Notes: Reliability: compared with 727831 & 727832 for the years 1900-1980 & 1909-1980.

727831: MOSCOW UNIV. USA 46.7M 117.0W 810m 1892-1980 10 1892

Sources:

Notes: Reliability: compared with 727832 & 727833 for the years 1909-1980 & 1906-1980. 1919 coded as missing.

727832: NEZ PERCE USA 46.3M 116.3W 958m 1909-1980 10 1909

Sources:

Notes: Reliability: compared with 727833 & 727835 for the years 1918-1980 & 1909-1980.

727833: OROFINO USA 46.5M 116.3W 313m 1903-1980 10 1918

Sources:

Notes: Reliability: compared with 727832 & 727835 for the years 1918-1980.

727835: KELLOGG USA 47.5M 116.2W 704m 1905-1980 10 1905

Sources:

Notes: Reliability: compared with 727832 & 727833 for the years 1909-1980 & 1918-1980. 1968-1969 coded as missing.

727836: POMEROY USA 46.5M 117.6W 551m 1891-1980 80

Sources:

Notes: Reliability: compared with 727852 for the years 1900-1980.

727850: SPOKANE USA 47.7M 117.4W 721m 1881-1980 20 1881
Sources: Reliability: compared with 727852 & 727855 for the years 1900-1980 & 1903-1980. Corrected for moves Aug 1947 & May 1965. Correction Factors: Stations used: 727852 & 727855. Calculation dates: 1966-1980. Correction dates: 1948-May 1965 & 1881-Aug 1947. Factors: i) 1881-Aug 1947: -15 -11 -8 -11 -10 -12 -12 -9 -8 -8 -11 -12. ii) 1948-May 1965: 6 6 5 3 6 7 6 7 6 6 8.

727852: WILBUR USA 47.8M 118.7W 658m 1900-1980 10 1900
Sources: Reliability: compared with 727855 & 727857 for the years 1903-1980 & 1909-1980.

727855: ODESSA USA 47.3M 118.7W 469m 1903-1980 10 1903
Sources: Reliability: compared with 727852 & 727857 for the years 1903-1980 & 1909-1980.

727856: WATERVILLE USA 47.7M 120.1W 798m 1890-1980 10 1890
Sources: Reliability: compared with 727921 for the years 1894-1980.

727857: DAVENPORT USA 47.7M 118.1W 749m 1909-1980 10 1909
Sources: Reliability: compared with 727852 & 727855 for the years 1909-1980.

727858: WALLACE WOODLAND USA 47.5M 115.9W 894m 1907-1980 10 1931
Sources: Reliability: compared with 727897 for the years 1917-1980. Years prior to 1930 appear uncheckable.

727886: PROSSER 4 USA 46.3M 119.8W 275m 1913-1980 10 1913
Sources: Reliability: compared with 727815 for the years 1913-1980.

727889: MILTON USA 46.0M 118.4W 255m 1914-1980 80
Sources: Reliability: compared with 727886 for the years 1914-1980.

727891: AMACORTEZ USA 48.5M 122.6W 9m 1893-1980 80
Sources: Reliability: compared with 727894 & 727922 for the years 1905-1980. Record shows trends.

727892: CONCORULLY USA 48.6M 119.8W 693m 1900-1980 40
Sources: Reliability: compared with 727938 & 742074 for the years 1914-1980 & 1916-1980.

727893: BELLINGHAM USA 48.8M 122.5W 4.2m 1910-1980 80
Sources: Reliability: compared with 727922 & 727920 for the years 1914-1980. Record shows trends.

727894: PORT TOWNSEND USA 48.1M 123.4W 30m 1873-1980 10 1890
Sources: Reliability: compared with 742075 for the years 1891-1980.

727895: EVERETT USA 48.0M 122.2W 18m 1914-1980 20 1914
Sources: Reliability: compared with 727923 & 742012 for the years 1914-1980. Correction Factors: Stations used: 727923 & 742012. Calculation dates: 1953-1980. Correction dates: 1914-1952. Factors: 0 3 7 4 5 6 8 7 7 5 1 0.

727896: LAURIER USA 49.0M 118.2W 501m 1910-1980 10 1910
Sources: Reliability: compared with 727897 & 727898 for the years 1910-1980 & 1911-1980.

727897: PORTBULL USA 49.0M 116.5W 548m 1889-1980 10 1889
Sources: Reliability: compared with 727898 & 727896 for the years 1911-1980 & 1910-1980.

727898: VALIER USA 48.3M 112.3W 1160m 1911-1980 10 1911
Sources: Reliability: compared with 727897 & 727896 for the years 1911-1980.

727899: KEMPFLER USA 48.1W 119.0W 576m 1915-1980 40
Sources: 727930: SEATTLE AIRPORT USA 47.5W 122.3W 4m 1878-1965 80
Notes: Reliability: compared with 727931 & 727935 for the years 1890-1965 & 1914-1980. Trends after 1940. Same data as 727931 before 1940.

727901: OLGA USA 48.6W 122.8W 24m 1890-1980 80
Sources: 727931: SEATTLE USA 47.7W 122.3W 6m 1878-1980 10 1941
Notes: Reliability: compared with 727922 & 727920 for the years 1911-1980. Record shows trends.

727902: WINTERBOP USA 48.3W 120.2W 535m 1909-1980 10 1911
Sources: 727932: WENATCHEE USA 47.4E 120.3W 193m 1912-1980 40
Notes: Reliability: compared with 727856 & 727924 for the years 1911-1980 & 1914-1966.

727910: ASTORIA USA 46.2W 123.8W 3m 1853-1960 80
Sources: 727933: BUCKLEY USA 47.2S 122.0W 208m 1913-1980 10 1914
Notes: Reliability: compared with 727894 & 742075 for the years 1890-1960 & 1891-1960.

727920: OLYMPIA USA 47.1W 122.9W 21m 1877-1980 82
Sources: 727934: CEDAR LAKE USA 47.4W 121.7W 475m 1898-1980 10 1921
Notes: Reliability: compared with 727922 & 727894 for the years 1893-1980 & 1890-1980. Data gap 1956-1963 followed by site change, not corrected.

727921: SUNNYSIDE USA 46.3W 120.0W 227m 1894-1980 10 1894
Sources: 727935: KENT USA 47.4W 122.2W 12m 1912-1980 10 1914
Notes: Reliability: compared with 727856 for the years 1894-1980.

727922: BLAINE USA 49.0W 122.7W 24m 1893-1980 10 1902
Sources: 727936: LANDBURG USA 47.3W 121.2W 692m 1903-1980 10 1916
Notes: Reliability: compared with 727894 for the years 1893-1980.

727923: CENTRALIA USA 46.7W 123.0W 56m 1890-1980 10 1902
Sources: 727937: POYALLUP USA 67.2W 122.3W 15m 1914-1980 10 1914
Notes: Reliability: compared with 742012 for the years 1902-1980.

727924: BUMPING LAKE USA 46.9W 121.3W 1048m 1910-1967 10 1914
Sources: 727938: LEAVERWORTH USA 47.6W 120.7W 354m 1914-1980 10 1914
Notes: Reliability: compared with 727921 & 727936 for the years 1914-1966 & 1916-1966. 1950 coded as missing.

727939: VASHON ISLAND USA 47.5N 122.5W 70m 1887-1955 10 1887
Sources: Reliability: compared with 742012 & 727923 for the years 1897-1955 & 1902-1955.

727970: QUILLAYUTE USA 48.0N 124.6W 55m 1966-1980 10 1966
Notes: Reliability: compared with 742011 for the years 1966-1980.

727980: TATOOSH ISLAND USA 48.4N 124.7W 26m 1883-1966 10 1883
Notes: Reliability: compared with 742011 for the years 1914-1966.

742011: FORKS USA 48.0N 124.4W 106m 1907-1980 10 1914
Sources: Reliability: compared with 727980 for the years 1914-1966.

742012: SEERO WOOLEY USA 48.5N 122.2W 15m 1896-1980 10 1897
Notes: Reliability: compared with 727939 & 727923 for the years 1897-1955 & 1902-1980.

742072: LAKE KACHESS USA 47.3N 121.2W 692m 1908-1977 10 1909
Notes: Reliability: compared with 727935 & 742073 for the years 1914-1977. 1977 coded as missing.

742073: LAKE KEECHELUS USA 47.3N 121.3W 754m 1908-1977 10 1914
Notes: Reliability: compared with 742074 for the years 1914-1977. 1920 coded as missing.

742074: RITZVILLE USA 47.1N 118.4W 537m 1899-1980 10 1916
Notes: Reliability: compared with 727938 & 737935 for the years 1916-1980.

742075: ABERDEEN USA 47.0N 123.8W 3m 1891-1980 10 1891
Notes: Reliability: compared with 727894 for the years 1891-1980.

742076: CLK KLUM USA 47.2N 121.0W 58m 1899-1980 10 1917
Sources: Reliability: compared with 742072 for the years 1909-1977.

742077: SNOQUALMIE FALLS USA 47.5N 121.8W 134m 1898-1980 10 1925
Notes: Reliability: compared with 742072 & 727935 for the years 1909-1977 & 1914-1980. Early years too warm.

744920: BLUE HILL OBS. USA 42.1N 71.2W 198m 1811-1980 10 1811
Sources: Reliability: compared with 725045 & 725027 for the years 1811-1980 & 1822-1980.

760500: EMBENADA MEXICO 31.9N 116.6W 13m 1951-1978 40
Sources: Notes: AI: 1951-1970; 31 53°W 116 38°W, alt = 15m. Means of 07, 14 & 21h local time. Reliability: compared with 762250 & 762550 for the years 1951-1978 & 1951-1978.

762250: CHIHUAHUA UNIV. DE MEXICO 28.6N 106.1W 1423m 1901-1980 10 1941
Sources: Notes: AI: 1901-1920; 28 38°N 106 05°W, alt = 1423m. 1921-1935; 28 38°N 106 04°W, alt = 1423m. 1936-1940; 28 38°N 106 05°W, alt = 1423m. 1941-1960; 1/3(07) + 14 + 21) 90W meridian time. 28 38°N 106 04°W, alt = 1446m. 1961-1970; alt = 1423m. Reliability: compared with 764580 & 762550 for the years 1941-1980 & 1951-1980.

762430: PIEDRAS NEGRAS MEXICO 28.7N 100.5W 220m 1951-1970 10 1951
Sources: Notes: AI: 1951-1970; 28 42°N 100 32°W, alt = 220m. Means of 07, 14 & 21h local time. Reliability: compared with 763420 for the years 1951-1970.

762550: GUAYMAS MEXICO 27.9N 110.9W 6m 1951-1980 10 1951
Sources: Notes: AI: 1951-1970; 27 55°N 110 53°W, alt = 4m. Means of 07, 14 & 21h local time. Reliability: compared with 762250 for the years 1951-1980.

763420: HONCLOVA MEXICO 26.9N 101.4W 58m 1951-1980 10 1951
Sources: Notes: AI: 1951-1970; 26 55°N 101 25°W, alt = 58m. Means of 07, 14 & 21h local time. Reliability: compared with 763820 & 762430 for the years 1951-1980 & 1951-1970.

763810: CIUDAD LERDO (DCO) MEXICO 25.5N 103.5W 1140m 1951-1970 40
Sources: AI
Notes: AI: 1951-1970; 25 30'N 103 32'W, alt = 1140m. Means of 07, 14 & 21h local time. Reliability: compared with 763820 for the years 1951-1970.

763820: TORREON MEXICO 25.6N 103.4W 1150m 1951-1980 10 1951
Sources: AI
Notes: AI: 1951-1970; 25 34'N 103 25'W, alt = 1150m. Means of 07, 14 & 21h local time. Reliability: compared with 763420 & 763930 for the years 1951-1980.

763900: BALTILLO (COAH) MEXICO 25.4N 101.0W 1609m 1951-1970 10 1951
Sources: AI
Notes: AI: 1951-1970; 25 26'N 101 00'W, alt = 1609m. Means of 07, 14 & 21h local time. Reliability: compared with 763820 & 763930 for the years 1951-1970.

763930: MONTERREY MEXICO 25.7N 100.3W 534m 1902-1980 10 1905
Sources: AI
Notes: AI: 1921-1930; means of observations taken at 07, 14 & 21h 90W meridian time. 25 40'N 100 18'W, alt = 528m. 1931-1940; 1/3(07 + 14 + 21) 90W meridian time. 1941-1970; alt = 534m. Reliability: compared with 764580 for the years 1905-1980.

764050: LA PAZ MEXICO 24.1N 110.3W 18m 1951-1980 10 1951
Sources: AI
Notes: AI: 1951-1970; 24 10'N 110 12'W, alt = 18m. Means of 07, 14 & 21h local time. Reliability: compared with 764580 for the years 1951-1980.

764580: MAZATLAN MEXICO 23.2N 106.4W 3m 1880-1980 20 1880
Sources: AI
Notes: AI: 1880-1911; means of (hours not given). Alt = 4m. 1921-1970; 1/3(07 + 14 + 21) 90W meridian time. 1931-1970; alt = 78m. Reliability: compared with 763750 & 766850 for the years 1880-1970 & 1880-1970. Corrected for a site change. Correction Factors: Stations used: 763750 & 766850. Calculation dates: 1921-1960. Correction dates: 1880-1911. Factors: -22 -24 -28 -12 -8 -7 -8 -9 -12 -14 -16 -19.

765250: ZACATECAS MEXICO 22.8N 102.6W 2612m 1951-1980 10 1951
Sources: AI
Notes: AI: 1951-1970; 22 47'N 102 34'W, alt = 2612m. Means of 07, 14 & 21h local time. Reliability: compared with 764580 & 765480 for the years 1951-1980.

765480: TAMPICO MEXICO 22.2N 97.9W 13m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1960; 22 12'N 97 51'W, alt = 20m. Means of 07, 14 & 21h local time. 1961-1970; alt = 18m. Reliability: compared with 764580 & 765770 for the years 1951-1980.

765750: LEON (GTO) MEXICO 21.1N 101.7W 1809m 1878-1970 10 1889
Sources: AI

Notes: AI: Alt; 1809m. 1879-1920; means of (hours not given). 1921-1970; means of 1/3(07 + 14 + 21) 90W meridian time. Reliability: compared with 766850 for the years 1889-1970.

765770: GUAMAJUATO MEXICO 21.0N 101.3W 2037m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1970; 21 01'N 101 15'W, alt = 2073m. Means of 07, 14 & 21h local time. Reliability: compared with 765750 & 765250 for the years 1951-1980.

765930: PROGRESO (YUC) MEXICO 21.3N 89.7W 14m 1906-1970 10 1941
Sources: AI

Notes: AI: 1906-1940; 21 17'N 89 40'W, alt = 14m. 1941-1970; 1/3(07 + 14 + 21) 90W meridian time. Reliability: compared with 766440 for the years 1941-1970.

766120: GUADALAJARA MEXICO 20.7N 103.3W 1589m 1951-1980 40
Sources: AI

Notes: AI: 1951-1970; 20 41'N 103 20'W, alt = 1589m. Means of 07, 14 & 21h local time. Reliability: compared with 765250, 765770 & 765750 for the years 1951-1980.

766440: MERIDA MEXICO 21.0N 89.6W 72m 1895-1980 10 1895
Sources: AI

Notes: AI: 1895-1920; alt = 22m. Means of (hours not given). 1921-1930; means of 07, 14 & 21h 90W meridian time. 1931-1970; 1/3(07 + 14 + 21) 90W meridian time. 1931-1970; thermometers are in wooden sheds. Reliability: compared with 766850 & 768250 for the years 1895-1970.

766540: MANZANILLO MEXICO 19.1N 104.3W 6m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1970; 19 04'N 104 20'W, alt = 8m. Means of 07, 14 & 21h local time. Reliability: compared with 766797 for the years 1951-1973.

766650: MORELIA MEXICO 19.7N 101.1W 1923m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1970; 19 52'N 101 07'W, alt = 1923m. Means of 07, 14 & 21h local time. Reliability: compared with 766797 for the years 1951-1973.

766790: MEXICO CITY MEXICO 19.4N 99.1W 2234m 1878-1978 20 1878
Sources: AI

Notes: AI: 1878-1940; Means of 1/3(07 + 14 + 21) 105W meridian time, 1878-1920; Alt = 2259m. 1921-1950; Alt = 2250m. 1941-1950; Means of 1/2(max + min). 1951-1970; 1/3(07 + 14 + 21) local time. Reliability: compared with 765750 & 766850 for the years 1889-1950 & 1878-1950. 1951-1978 temp deleted. Corrected for a height change 1923/1924. Correction Factors: Stations used: 765750 & 766850. Calculation dates: 1924-1940. Correction dates: 1878-1923. Factors: 7 5 8 8 9 8 7 6 5 5.

766797: TACUBAYA U/A MEXICO 19.4N 99.2W 2306m 1921-1973 10 1921
Sources: AI

Notes: AI: 1921-1930; means of 24 hours 105W meridian time. 19 24'N 99 12'W, alt = 2309m. 1931-1940; means of 24 hours 90W meridian time. 19 24'N 99 06'W, alt = 2309m. 1941-1960; 1/3(07 + 14 + 21) 90W meridian time. 19 24'N 99 12'W, alt = 2309m. Reliability: compared with 766850 for the years 1921-1970.

766800: CIUDAD OF MEXICO MEXICO 19.4N 99.2W 2309m 1961-1980 61
Sources: AI

Notes: AI: Means of 07, 14 & 21h local time. Alt = 2309m. Reliability: uncheckable.

766850: FUEBLA MEXICO 19.0N 98.2W 2150m 1878-1970 10 1878
Sources: AI

Notes: AI: Means of 1/3(07 + 14 + 21) 90W meridian time. Alt: 2150m. Reliability: compared with 765750 for the years 1889-1970.

766870: JALAPA MEXICO 19.5N 96.9W 1399m 1951-1970 10 1951
Sources: AI

Notes: AI: 1951-1970; 19 32'N 96 55'W, alt = 1399m. Means of 07, 14 & 21h local time. Reliability: compared with 766920 for the years 1951-1970.

766920: VERACRUZ YLANG YLANG MEXICO 19.2N 96.1W 13m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1970; 19 12'N 96 08'W, alt = 16m. Means of 07, 14 & 21h local time. Reliability: compared with 767410 for the years 1951-1980.

766950: CAMPECHE (CAMP) MEXICO 19.9N 90.5W 25m 1951-1970 10 1951
Sources: AI

Notes: AI: 1951-1970; 19 51'N 90 32'W, alt = 25m. Means of 07, 14 & 21h local time. Reliability: compared with 766460 for the years 1951-1970.

767410: COATZACOALCOS MEXICO 18.2N 94.4W 14m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1970; 18 09'N 94 25'W, alt = 14m. Means of 07, 14 & 21h local time. Reliability: compared with 766920 for the years 1951-1980.

767460: CIUDAD ORREAGON MEXICO 18.5N 92.7W 2m 1952-1970 31
Sources: AI

Notes: AI: 1952-1960; 18 32'N 92 39'W, alt = 2m. Means of 07, 14 & 21h local time. 1961-1970; alt = 39m. Reliability: complete rubbish! 1961-1970 is 5C cooler than 1952-1960.

767500: CHETUMAL MEXICO 18.5N 88.3W 4m 1961-1980 61
Sources: AI

Notes: AI: 1/3(07 + 14 + 21) 90W meridian time. No other details available. Reliability: uncheckable.

767750: OAXACA MEXICO 17.1N 96.7W 1563m 1922-1980 10 1922
Sources: AI

Notes: AI: 1922-1930; Means of 07, 14 & 21 90W meridian time. 17 04'N 96 42'W, alt = 1563m. 1931-1940; 1/3(07 + 14 + 21) 90W meridian time. 1941-1960; 17 04'N 96 48'W, alt = 1563m. 1961-1970; 17 04'N 96 43'W, alt = 1563m. Reliability: compared with 766850 & 766440 for the years 1922-1970 & 1922-1980.

768050: ACAPULCO MEXICO 16.8N 99.9W 3m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1970; 16 50'N 99 56'W, alt = 3m. Means of 07, 14 & 21h local time. Reliability: compared with 768330 for the years 1951-1980.

768330: SALINA CRUZ MEXICO 16.2N 95.2W 4m 1903-1980 10 1941
Sources: AI

Notes: AI: 1903-1920; 16 10'N 95 12'W, alt = 56m. 1921-1930; 16 12'N 95 12'W, alt = 56m. 1931-1940; 16 10'N 95 12'W, alt = 56m. 1941-1960; 1/3(07 + 14 + 21) 90W meridian time. 16 10'N 95 12'W, alt = 56m. 1961-1970; 16 12'N 95 12'W, alt = 56m. Reliability: compared with 766797 & 768050 for the years 1941-1973 & 1951-1980.

- 768450: LAS CASAS MEXICO 16.7M 92.6V 2128m 1951-1980 80
Sources: AI
Notes: AI: 1951-1970; 16 44'N 92 38'W, alt = 2128m. Means of 07, 14 & 21b local time. Reliability: compared with 768050 for the years 1951-1980. Record shows a cooling trend.
- 769030: TAPACHULA MEXICO 14.9M 92.3V 168m 1951-1980 10 1951
Sources: AI
Notes: AI: 1951-1970; 14 54'N 92 16'W, alt = 168m. Means of 07, 14 & 21b local time. Reliability: compared with 766950 & 766440 for the years 1951-1970 & 1951-1980.
- 780160: KINDLEY FIELD BERMUDA 32.3M 64.8W 6m 1856-1977 10 1931
Sources: AI, A7
Notes: A7: Means of 1/2(max + min). Observations were also taken at the following times; 1856-1865; 0930 & 1530h, 1866-1886; 09 & 15h. Site: 1856-1862; 32.4M 64.7W, alt = 30m. 1863-1869; alt = 19m. 1870-1876; alt = 37m. AI: 1951-1970; St. George, 32 22'N 64 41'W, alt = 6m. Means of 1/2(max + min). Reliability: compared with 780730 & 785260 for the years 1931-1977. Correct values for 1961-1970 have been inserted from 780167.
- 780167: BERMUDA NAVAL STA. BERMUDA 32.3M 64.9W 13m 1951-1970 80
Sources: AI
Notes: AI: 1/2(max + min). No other details available. Reliability: compared with 780160 for the years 1951-1970. Data merged & checked with station 780160 & this record ignored.
- 780187: BOTANICAL GRDS. BERMUDA 32.3M 64.7W 19m 1856-1960 10 1856
Sources: AI, A7, A144
Notes: AI: 1866-1910; means of 1/4(09 + 21 + max + min), sometimes corrected as explained on p85, vol 79. 1911-1920; 1/4(0841 + 2041 + max + min), except for April-Oct 1919, which were 1/4(0730 + 1930 + max + min). No corrections were made. 19 21-1930; 1/4(0830 + 2030 + max + min). 1931-1950; 1/2(max + min). Rain was measured at 0800. In March 1932 the station moved from Prospect, 32.3M 64.8W to, Saint George, 32.4M 64.7W. 1951-1960; Botanical Gardens, 1/2(daily max + daily min). NB. Prior to May 1908 observations made at Hamilton & considered inaccurate. From May 1908 made at Prospect & from April 1930 at St. George. A7: Temp; 1/2(max + min). Obs. also taken at same time as Press; 1/2(0930 + 1530). Corrected for index error & reduced to 32F but not to sea level. No correction for gravity applied. A144: No details available. Reliability: compared with 780730 for the years 1856-1960.
- 780730: MASSAUD INT AP. BAHAMAS 25.1M 77.4W 10m 1855-1980 20 1855
Sources: AI, A7
Notes: AI: 1/2(max + min). 1874-1920; some values computed from AM obs., corrections on p98, vol 79. Alt: 1871-1884; 44ft, 1885-Oct 1891; 47ft.

Sept 1895-Oct 1913; 25ft, Nov 1913-June 1920; 12ft. 1940 moved 3 miles, from 25 05'N 77 21'W to 25 05'N 77 23'W, 18ft. Moved Nov 1957 to Airport from site 6 miles away; 25 03'N 77 28'W, 10m. 1961-1970; means of 8 3-hourly obs. Alt; 7m. New Providence AP; 25 03'N 77 28'W. A7: 1/2(max + min). Site: 25 04'N 77 20'W, alt = 6m. Reliability: compared with 783250 & 784390 for the years 1871-1980 & 1864-1967. Corrected for a site change 1940/1941. Correction Factors: Stations used: 783250 & 784390. Calculation dates: 1941-1960. Correction dates: 1855-1940. Factors: -14 -13 -11 -10 -9 -5 -3 -8 -9 -11 -11 -13.

781090: ABBABAHNS BAY BAHAMAS 22.4N 75.5W 3m 1951-1970 10 1951
Sources: AI

Notes: AI: 1/2(max + min). 1951-1970; 22 22'N 75 28'W, alt = 3m. Reliability: compared with 780730 for the years 1951-1970.

782550: CAMAGUET CUBA 21.4N 77.9W 1961-1970 61
Sources: AI

Notes: AI: 1951-1960; 21 24'N 77 55'W, alt = 121m. 1/2(max + min). 1961-1970; 21 25'N 77 51'W, alt = 110m. Reliability: uncheckable.

783100: CABO S ANTONIO CUBA 21.9N 85.0W 9m 1951-1970 10 1952
Sources: AI

Notes: AI: 1/2(max + min). 1951-1960; 21 52'N 84 58'W, alt = 9m. 1961-1970; 21 52'N 84 57'W. Reliability: compared with 783250 for the years 1952-1970.

783130: CUANE CUBA 22.2N 84.1W 1951-1960 61
Sources: AI

Notes: AI: 1951-1960; 22 11'N 84 05'W, alt = 23m. 1/2(max + min). Reliability: uncheckable.

783170: PABO REAL/SAN DIEGO CUBA 22.6N 83.3W 41m 1951-1970 10 1952
Sources: AI

Notes: AI: 1/2(max + min). 1951-1967; 22 35'N 83 20'W, alt = 41m. Station moved, less than 3 kms, in 1968 to 22 33'N 83 19'W. Reliability: compared with 783250 for the years 1952-1970.

783217: CALETA GRANDE CUBA 21.5N 83.1W 1951-1960 61
Sources: AI

Notes: AI: 1951-Sept 1955; Carapachibey, 21 28'N 82 56'W, alt = 5m. Jan 1956-1960; Caleta Grande, 21 30'N 83 08'W. 1/2(max + min). Reliability: uncheckable.

783247: SAN ANTONIO CUBA 22.9N 81.9W 1951-1960 61
Sources: AI

Notes: AI: 1951-1960; 22 55'N 81 52'W. 1/2(max + min). Reliability: uncheckable.

783250: CASA BLANCA CUBA 23.1N 82.4W 1899-1980 20 1871
Sources: AI, AI40

Notes: AI: 1871-1920; means of 10 bi-hourly observations, (04 to 22h). Prior to 1897 the thermometers had a northerly exposure & were indoors, protected by glass & shutters. After 1897 they were in a box with double shutters on the roof. The readings tend to be rather high, because of the lack of observations between 24 & 03h. 1921-1930; means as above, local meridian time. Alt = 77m. 1931-1960; means of 12 bi-hourly observations, 75N meridian time. 1951-1960; alt = 49m. AI40: No details available. Reliability: compared with 780730 & 766440 for the years 1871-1980 & 1895-1980. Correction Factors: Stations used: 780730. Calculation dates: 1885-1940. Correction dates: 1871-1884. Factors: -3 -6 -9 -12 -18 -18 -16 -11 -10 -9 -8 -5.

783260: ESCUELA TECH CUBA 23.1N 81.6W 1951-1960 61
Sources: AI

Notes: AI: 1951-1960; 23 03'N 81 34'W, alt = 54m. 1/2(max + min). Reliability: uncheckable.

783390: SANTA CLARA CUBA 22.4N 79.9W 1961-1970 61
Sources: AI

Notes: AI: 1961-1970; 1/2(max + min). 22 26'N 79 54'W, alt = 9m. Reliability: uncheckable.

783480: CAIBARIEN CUBA 22.5N 79.5W 1951-1960 61
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 22 31'N 79 29'W. Reliability: uncheckable.

783487: TUIMUCU CUBA 22.0N 79.5W 1951-1960 61
Sources: AI

Notes: AI: 1951-1960; 21 59'N 79 27'W. 1/2(max + min). Reliability: uncheckable.

783490: SANTI SPIRITUS CUBA 21.9N 79.5W 50m 1951-1970 61
Sources: AI

Notes: AI: 1951-1964; 21 56'N 79 27'W. In 1965 station moved less than 3 kms to 60m. 1/2(max + min). Reliability: uncheckable.

783530: CAYO PAREDONE GRANDE CUBA 22.5N 78.2W 1951-1960 61
Sources: AI

Notes: AI: 1951-1960; 22 29'N 78 09'W. 1/2(max + min). Reliability: uncheckable.

783547: CENTRAL ELIA CUBA 22.1N 78.7W 1951-1960 61
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). No other details available. Reliability: uncheckable.

783550: CAMAGUEY CUBA 21.4N 77.9W 1951-1960 61
Sources: AI

Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

783600: CABO CRUZ/ORIENTE CUBA 19.9N 77.6W 1951-1970 61
Sources: AI

Notes: AI: 1951-1960; 19 51'N 77 38'W. 1/2(max + min). 1961-1970; 19 51'N 77 44'W. Reliability: uncheckable.

783630: GIRARA CUBA 21.1N 76.1W 1951-1960 61
Sources: AI

Notes: AI: 1951-1960; 21 07'N 76 08'W, alt = 10m. 1/2(max + min). Reliability: uncheckable.

783640: SANTIAGO DE CUBA CUBA 20.1N 75.8W 1961-1970 61
Sources: AI

Notes: AI: 1961-1970; 1/2(max + min). 20 03'N 75 49'W, alt = 3m. Reliability: uncheckable.

783670: CUANTANARO MAS CUBA 19.9N 75.2W 23m 1946-1970 10 1946
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 19 54'N 75 09'W, alt = 23m. Reliability: compared with 784390 & 783250 for the years 1946-1967 & 1946-1970.

783690: PUERTA MAISI CUBA 20.3N 74.2W 6m 1951-1970 61
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 20 16'N 74 09'W, alt = 6m. 1961-1970; 20 15'N 74 09'W. Reliability: uncheckable.

783830: GRAND CAYMAN CAYMAN IS. 19.3N 81.4W 1952-1960 61
Sources: AI

Notes: AI: 1952-1960; 19 18°N 81 22'W, alt = 3m. 1/2(max + min). Reliability: uncheckable.

783870: NEGRIL POINT LIGHTHO JAMAICA 18.3N 78.4W 8m 1901-1970 20 1931
Sources: AI

Notes: AI: 1931-1940; means of 4-hourly observations 75W meridian time. 18 15'N 78 23'W, alt = 33ft. 19 41-1960; 1/2(max + min). 19 51-1960; alt = 10m. Reliability: compared with 783970 & 783250 for the years 1943-1970 & 1931-1970. Corrected for a jump caused by changing observation times, from mean of 3 fixed hours prior to 1961 to 1/2(max + min) after 1961. This change produced a difference of 3-5C1 Correction Factors: Stations used: 783970. Calculation dates: 1961-1970. Correction dates: 1931-1960. Factors: 53 51 53 52 52 45 51 48 48 44 47 49.

783880: MONTEGO BAY JAMAICA 18.5N 77.9W 1938-1980 62
Sources: AI

Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

783970: KINGSTON JAMAICA 17.9N 76.8W 3m 1852-1980 10 1852
Sources: AI, A7

Notes: A7: Alt; 69m. Temp; Means of 1/2(max + min). Observations were also taken at same time as Press; 1852-1853; 1/2(0930 + 2130), 1854-1863; 1/2(0930 + 1530), 1864-1880; 1/2(09 + 15). Corrected for index error and reduced to 32F, but not to mean sea level. No gravity correction applied. AI: Palisades Airport. Means of 1/2(max + min). 19 51-1960; alt = 7m, 19 61-1970 = 14m. Reliability: compared with 783250 & 780730 for the years 1943-1980. Station data not as printed in WWR but seems correct & does not have jump caused by changing observation times as do other Jamaican stations.

783977: CINCORNA GARDENS JAMAICA 18.1N 76.7W 1492m 1901-1970 61
Sources: AI

Notes: AI: 1961-1970; 1/2(max + min). 18 04'N 76 39'W, alt = 1492m. Reliability: uncheckable.

783990: MORANT POINT LIGHTHO JAMAICA 17.9N 76.2W 2m 1901-1970 20 1951
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 17 56'N 76 10'W, alt = 2m. 19 61-1970; 17 55'N 76 11'W. Reliability: compared with 783970 for the years 1951-1970. Corrected for a jump caused by changing observation times, from mean of 3 fixed hours prior to 1961 to 1/2(max + min) after 1961. Produced a difference of 3-5C. Correction Factors: Stations used: 783970. Calculation dates: 1961-1970. Correction dates: 1951-1960. Factors: 25 28 26 31 30 27 28 25 31 30 32 30.

784090: CAP-HAITIEN HAITI 19.8N 72.2W 3m 1951-1970 61
Sources: AI

Notes: AI: 1951-1960; 19 46'N 72 12'W, alt = 15m. 19 61-1970; 19 45'N 72 12'W, alt = 2m. Reliability: uncheckable.

784390: PORT-AU-PRINCE HAITI 18.6N 72.4W 41m 1863-1967 10 1864
Sources: AI, A29, A43

Notes: AI: 1888-1960; 1/4(07 + 13 + 21 + 21) 75W meridian time. Alt = 38m. 19 51-1960; alt = 41m. A29: 1/2(max + min). Alt; 57m. A43: Temp; 1/2(max + min). Observations were also taken at same time as Press; 1888-1889; 1/3(0712 + 1300 + 2100), 1890; 1/3(0719 + 1300 + 2100), 1891-1892; 1/3(0712 + 1300 + 2100), 1893-1902; 1/3(07 + 13 + 21), 1903-1904; 1/3(07 + 14 + 21), 1905-1910; 1/3(07 + 13 + 21). Alt; 1888 = 27m, 1889-1902 = 36m, 1903 = 12m, 1905-1910 = 37m. Reliability: compared with 780730 & 783250 for the years 1864-1967 & 1871-1967.

784470: CAYES HAITI 18.2N 73.7W 49m 1951-1970 61
Sources: AI

Notes: AI: 1951-1960; 18 11'N 73 41'W, alt = 7m. 19 61-1970; 18 12'N 73 45'W. Reliability: uncheckable.

784487: MONTE CRISTI HAITI 19.9N 71.7W 1951-1960 61
Sources: AI

Notes: AI: 1961-1970; 1/2(max + min). 19 51'N 71 38'W. Reliability: uncheckable.

784510: MONTE CRISTI DOMINICA 19.9N 71.6W 1961-1970 61
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 19 51'N 71 39'W, alt = 15m. 19 61-1970; 19 51'N 71 38'W. Reliability: uncheckable.

784550: DAJABOU DOMINICA 19.6N 71.7W 1961-1968 61
Sources: AI

Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

784567: SANTIAGO RODRIGUEZ DOMINICA 19.5N 71.4W 150m 1951-1970 61
Sources: AI

Notes: AI: 1951-1960; 19 29'N 71 21'W, alt = 150m. 19 61-1970; 19 28'N 71 20'W, alt = 120m. 1/2(max + min). Reliability: uncheckable.

784570: PUERTO PLATA DOMINICA 19.8N 70.7W 6m 1951-1978 10 1951
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 19 48'N 70 41'W, alt = 6m. 19 61-1970; 19 49'N 70 42'W. Reliability: compared with 784627 for the years 1951-1970.

784577: MONTEON DOMINICA 19.4N 71.2W 1961-1970 61
 Sources: AI
 Notes: AI: 1961-1970; 1/2(max + min). 19 24°N 71 09°W, alt = 36m. Reliability: uncheckable.

784587: SAN FRAN. DE MACORIS DOMINICA 19.3N 70.3W 130m 1951-1970 80
 Sources: AI
 Notes: AI: 1951-1960; 19 17°N 70 15°W, alt = 130m. Nov 1953-Dec 1954 only; 19 18°N 70 15°W. 1/2(max + min). 1961-1970; alt = 110m. Reliability: compared with 784570 for the years 1951-1970.

784597: SAN JOSE DOMINICA 19.3N 70.9W 1961-1970 61
 Sources: AI
 Notes: AI: 1961-1970; 1/2(max + min). 19 20°N 70 56°W, alt = 52m. Reliability: uncheckable.

784600: SANTIAGO DE LOS CAB. DOMINICA 19.4N 70.7W 222m 1951-1970 61
 Sources: AI
 Notes: AI: 1951-1960; 19 26°N 70 42°W, alt = 222m. 1961-1970; 1/2(max + min). 19 27°N 70 42°W, alt > 180m. Reliability: uncheckable.

784607: CONSTANZA DOMINICA 18.9N 70.7W 1961-1970 61
 Sources: AI
 Notes: AI: 1961-1970; 1/2(max + min). 18 54°N 70 44°W, alt = 116m. Reliability: uncheckable.

784610: NOCA DOMINICA 19.4N 70.5W 1961-1968 61
 Sources: AI
 Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

784617: COTUI DOMINICA 19.1N 70.1W 67m 1951-1970 61
 Sources: AI
 Notes: AI: 1951-1960; 19 03°N 70 08°W, alt = 67m. 1961-1970; 19 03°N 70 09°W. 1/2(max + min). Reliability: uncheckable.

784627: LA VECA DOMINICA 19.2N 70.5W 109m 1951-1970 10 1951
 Sources: AI
 Notes: AI: 1951-1960; 19 13°N 70 31°W, alt = 109m. 1/2(max + min). 1961-1970; 19 13°N 70 32°W, alt = 90m. Reliability: compared with 784637 for the years 1951-1970.

784637: VALVERDE DOMINICA 19.6N 71.1W 95m 1951-1970 80
 Sources: AI

Notes: AI: 1951-1960; 19 34°N 71 04°W, alt = 95m. 1/2(max + min). 1961-1970; 19 33°N 71 04°W, alt = 70m. Reliability: compared with 784627 for the years 1951-1970.

784640: CARRERA DOMINICA 19.6N 69.9W 15m 1951-1970 61
 Sources: AI

Notes: AI: 1951-1960; 19 37°N 69 53°W, alt = 15m. 1961-1970; 19 38°N 69 54°W, alt = 10m. 1/2(max + min). Reliability: uncheckable.

784670: SABANA DELA MAR DOMINICA 19.1N 69.4W 11m 1951-1970 10 1951
 Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 19 03°N 69 22°W, alt = 11m. 1961-1970; 19 03°N 69 25°W. Reliability: compared with 784627 for the years 1951-1970.

784677: JARABACOA DOMINICA 19.1N 70.6W 1961-1970 61
 Sources: AI

Notes: AI: 1961-1970; 1/2(max + min). 19 07°N 70 38°W, alt = 52m. Reliability: uncheckable.

784697: SAMBA DOMINICA 19.2N 69.3W 4m 1951-1970 80
 Sources: AI

Notes: AI: 1951-1960; 19 12°N 69 19°W, alt = 4m. 1961-1970; 19 12°N 69 20°W. 1/2(max + min). Reliability: compared with 784627 for the years 1951-1970.

784707: SANCHEZ DOMINICA 19.2N 69.6W 3m 1951-1970 80
 Sources: AI

Notes: AI: 1951-1960; 19 13°N 69 36°W, alt = 3m. 1/2(max + min). 1961-1970; alt = 10m. Reliability: compared with 784697 for the years 1951-1970.

784780: CABO ENCARGO DOMINICA 18.6N 68.3W 3m 1951-1970 10 1951
 Sources: AI

Notes: AI: 1/2(max + min). 1951-1960; 18 36°N 68 17°W, alt = 3m. 1961-1970; 18 37°N 68 19°W. Reliability: compared with 784697 for the years 1951-1970.

784797: LA ROMANA DOMINICA 18.4N 69.0W 5m 1951-1970 10 1951
 Sources: AI

Notes: AI: 1951-1960; 18 24°N 68 57°W, alt = 5m. 1/2(max + min). 1961-1970; 18 25°N 68 58°W, alt = 2m. Reliability: compared with 784697 for the years 1951-1970.

784800: SAN JUAN DE LA MAG. DOMINICA 18.0N 71.2W 409m 1951-1970 80
Sources: AI
Notes: AI: 1951-1960; 1/2(max + min). 18 48'N 71 13'W, alt = 409m. 1961-1970; 18 48'N 71 14'W, alt = 41m. Reliability: compared with 784797 for the years 1951-1970.

784817: HEYBA DOMINICA 16.5N 71.4W 5m 1951-1970 61
Sources: AI
Notes: AI: 1951-1960; 18 28'N 71 24'W, alt = 5m. 1961-1970; 18 28'N 71 25'W, alt = 10m. 1/2(max + min). Reliability: uncheckable.

784820: BARARONA DOMINICA 18.2N 71.1W 10m 1951-1970 61
Sources: AI
Notes: AI: 1951-1960; 1/2(max + min). 18 12'N 71 04'W, alt = 10m. 1961-1970; 18 12'N 71 06'W, alt = 10m. Reliability: uncheckable.

784837: EL SEIBO DOMINICA 18.8N 69.0W 115m 1951-1970 10 1952
Sources: AI
Notes: AI: 1951-1960; 18 45'N 69 01'W, alt = 115m. 1/2(max + min). 1961-1970; 18 46'N 69 02'W, alt = 80m. Reliability: compared with 784840 for the years 1951-1970.

784840: SAN CRISTOBAL DOMINICA 18.4N 70.1W 43m 1951-1970 10 1951
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 18 24'N 70 06'W, alt = 43m. 1961-1970; 18 25'N 70 06'W, alt = 40m. Reliability: compared with 784837 for the years 1951-1970.

784850: CABO CAUCEDO DOMINICA 18.4N 69.7W 1961-1968 61
Sources: AI
Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

784860: SANTO DOMINGO DOMINICA 18.5N 69.9W 14m 1951-1980 10 1951
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 18 28'N 69 53'W, alt = 14m. 1961-1970; 18 29'N 69 55'W, alt = 10m. Reliability: compared with 784867 for the years 1951-1970.

784867: AZUA DOMINICA 18.5N 70.8W 81m 1951-1970 10 1951
Sources: AI
Notes: AI: 1951-1960; 18 27'N 70 46'W, alt = 81m. Dec 1954 only; 18 02'N 70 43'W. 1/2(max + min). 1961-1970; 18 27'N 70 44'W, alt = 70m. Reliability: compared with 784860 for the years 1951-1970.

784877: MONTE PLATA DOMINICA 18.8N 69.8W 49m 1951-1970 61
Sources: AI
Notes: AI: 1951-1960; 18 48'N 69 46'W, alt = 49m. 1/2(max + min). 1961-1970; 18 48'N 69 47'W, alt = 50m. Reliability: uncheckable.

784887: SAN PEDRO DE MACORIS DOMINICA 18.4N 69.3W 4m 1951-1970 80
Sources: AI
Notes: AI: 1951-1960; 18 25'N 69 19'W, alt = 4m. 1/2(max + min). 1961-1970; 18 27'N 69 18'W. Reliability: compared with 784840 for the years 1951-1970.

785010: SWAN ISLAND PUERTO RICO 17.4N 83.9W 11m 1914-1930 10 1917
Sources: AI
Notes: AI: June 1914-Nov 1932; 17 24'N 83 56'W, alt = 28m. (1928-1932 observations for July-Nov only.) Sept 1938-Nov 1939; Weather Bureau (July-Nov only). Sept 1955-Sept 1956; Navy Building, alt = 28m. Sept 1956-1960; Observations Building, alt = 28m. 1/2(max + min). 1961-1970; 17 25'N 83 57'W. Reliability: compared with 783250 & 766440 for the years 1917-1980.

785107: ARECIBO PUERTO RICO 18.5N 66.7W 5m 1951-1970 10 1951
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 18 28'N 66 42'W. Reliability: compared with 785157 & 785200 for the years 1951-1970.

785127: BARRANQUIZAS PUERTO RICO 18.2N 66.3W 610m 1951-1970 80
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 18 10'N 66 19'W, alt = 610m. Reliability: compared with 785107 for the years 1951-1970.

785157: LAJAS PUERTO RICO 18.0N 67.1W 30m 1947-1970 10 1951
Sources: AI
Notes: AI: April 1947-1960; Agricultural Experimental Station, 18 02'N 67 05'W, alt = 100m. 1/2(max + min). 1961-1970; 18 03'N 67 03'W, alt = 20m. Reliability: compared with 785107 & 785200 for the years 1951-1970.

785167: MAYAGUEZ PUERTO RICO 18.2N 67.1W 24m 1899-1970 10 1899
Sources: AI
Notes: AI: Means of 1/2(max + min). 1899-1960; alt = 80m. 1961-1970 = 3m. Reliability: compared with 785260 for the years 1899-1970.

785200: PONCE
Sources: AI
FUERTO RICO 18.0N 66.6W 9m 1951-1970 10 1951
Notes: AI: 1961-1970; 1/2(max + min). 18 01'N 66 34'W. Reliability: compared with 785107 & 785157 for the years 1951-1970.

785217: AGUIRRE
Sources: AI
FUERTO RICO 18.0N 66.2W 15m 1899-1970 40
Notes: AI: Means of 1/2(max + min). 1899-1960; alt = 20m. 1961-1970; 17 58'N 66 13'W. Reliability: compared with 785260 for the years 1899-1960.

785227: COLOSO
Sources: AI
FUERTO RICO 18.4N 67.2W 12m 1951-1970 10 1951
Notes: AI: 1961-1970; 1/2(max + min). 18 23'N 67 09'W, alt = 12m. Reliability: compared with 785237 for the years 1951-1970.

785237: COROZAL SUBSTATION
Sources: AI
FUERTO RICO 18.3N 66.4W 19m 1951-1970 10 1951
Notes: AI: 1961-1970; 1/2(max + min). 18 20'N 66 22'W, alt = 198m. Reliability: compared with 785237 for the years 1951-1970.

785260: SAN JUAN
Sources: AI
FUERTO RICO 18.5N 66.1W 19m 1899-1980 20 1899
Notes: AI: 1898-1920; means reduced to means of 24 hours. Alt = 82ft. 1921-1970; 1/2(max + min). Alt: 1951-1960 = 47m. Reliability: compared with 785167 & 784860 for the years 1899-1970 & 1951-1980. Correction Factors: Stations used: 784860. Calculation dates: 1970-1980. Correction dates: 1899-1969. Factors: 8 6 5 9 6 5 6 7 8.

785317: HUMACAO
Sources: AI
FUERTO RICO 18.1N 65.8W 17m 1951-1970 40
Notes: AI: 1961-1970; 1/2(max + min). 18 08'N 65 50'W, alt = 17m. Reliability: compared with 785227 for the years 1951-1970.

785327: ISABELA SUBSTATION
Sources: AI
FUERTO RICO 18.5N 67.1W 12m 1951-1970 10 1951
Notes: AI: 1961-1970; 1/2(max + min). 18 28'N 67 04'W, alt = 1.0m. Reliability: compared with 785237 for the years 1951-1970.

785357: JUNCOS
Sources: AI
FUERTO RICO 18.3N 65.9W 61m 1951-1970 80
Notes: AI: 1961-1970; 1/2(max + min). 18 15'N 65 55'W, alt = 61m. Reliability: compared with 785227 for the years 1951-1970.

785367: FAJARDO
Sources: AI
FUERTO RICO 18.3N 65.7W 12m 1899-1970 40
Notes: AI: Means of 1/2(max + min). 1899-1960; alt = 40m. 1961-1970 = 12m. Reliability: compared with 785260 & 785167 for the years 1899-1970.

785430: C AMALIE-TRUMAN
Sources: AI
ST. THOMAS 18.3N 65.0W 5m 1948-1960 61
Notes: AI: July-Aug 1948; 18 21'N 64 58'W, alt = 130m. Bourne Field 2 miles W of Charlotte Amalie. Aug 1948; 18 20'N 64 58'W, alt = 15m. 1/2(max + min). Reliability: uncheckable.

785447: CHARLOTTE AMALIE
Sources: AI
ST. THOMAS 18.4N 64.9W 5m 1917-1970 10 1917
Notes: AI: 1917-Nov 1938; 18 21'N 64 56'W, alt = 38m. Station moved 200 yards SSE in Nov 1938 to 15m. 1/2(max + min). Reliability: compared with 785260, 785487 & 785167 for the years 1917-1970, 1917-1960 & 1917-1970.

785470: CHRISTIANSTED
Sources: AI
ST. CROIX 17.7N 64.8W 17m 1941-1970 61
Notes: AI: 1/2(max + min). April 1941-Feb 1946; Benedict Field, 7 miles WSW of Christiansted. Site changes occurred in June 1947 & Feb 1954, no details given. In April 1949 site moved to Alexander Hamilton Field, 17 42'N 64 48'W. Alt changed at some unknown date from 53 to 16m. Reliability: uncheckable.

785487: AUNAS HOPE
Sources: AI
ST. CROIX 17.8N 64.7W 52m 1876-1970 10 1876
Notes: Also known as Christiansted, prior to 1931. AI: 1876-1930; means of 1/3(08 + 14 + 21). Alt: 7m. 1931-1950; 1/2(08 + 21). 1951-1970; 1/2(daily max + daily min). 1931-1940; station was 2 miles SE of Christiansted town at the US Experiment Station. 1961-1970; Alt = 6m. Reliability: compared with 783250, 784390 & 785260 for the years 1876-1960, 1876-1960 & 1899-1960.

785830: BELIZE I.A.
Sources: AI, A7
BELIZE 17.5N 88.2W 5m 1866-1980 10 1945
Notes: AI: 1941-1950, alt = 5m. Means of 1/2(max + min). 1951-1958; 1/4(06 + 12 + 18 + 21) GMT. 1959-1960; 1/3(06 + 12 + 18) GMT. 1961-1970; 1/2(max + min). Alt = 5m. A7: Means of 1/2(max + min). Observations also taken at 09 & 15h. Reliability: compared with 766440 & 785010 for the years 1941-1980. 1941-1944 too cold.

785840: BELIZE / LANDIVER
Sources: AI
BELIZE 17.5N 88.2W 0m 1961-1976 61
Notes: AI: 1961-1970; 1/2(max + min). 17 31'N 88 12'W, alt = 0m. Reliability: uncheckable.

785860: CENTRAL FARM AGSTAT BELIZE 17.2N 89.0W 90m 1949-1970 61
Sources: AI

Notes: AI: 1961-1970; 1/2(max + min). 17 11'N 89 00'W, alt = 90m. Reliability: uncheckable.

785900: STANN CREEK AGSTAT BELIZE 17.0N 88.3W 6m 1932-1970 10 1933
Sources: AI

Notes: AI: 1961-1970; 1/2(max + min). 17 00'N 88 19'W, alt = 6m. Reliability: compared with 766440 & 785830 for the years 1933-1970 & 1941-1970.

785927: PUNTA GORDA AGSTAT BELIZE 16.1N 88.9W 6m 1954-1970 61
Sources: AI

Notes: AI: 1961-1970; 1/2(max + min). 16 08'N 88 51'W, alt = 6m. Reliability: uncheckable.

786210: EL PORTENIR GUATEMALA 16.5N 90.5W 1971-1980 61
Sources: AI

Notes: AI: No details available. Reliability: uncheckable.

786270: BUENQUETZANCO GUATEMALA 15.3N 91.5W 1971-1980 61
Sources: AI

Notes: AI: No details available. Reliability: uncheckable.

786310: CORAN GUATEMALA 15.3N 90.3W 1971-1980 61
Sources: AI

Notes: AI: No details available. Reliability: uncheckable.

786350: LA FRAGUA GUATEMALA 15.0N 89.5W 1971-1980 61
Sources: AI

Notes: AI: No details available. Reliability: uncheckable.

786380: LABOR OVALLE GUATEMALA 14.9N 91.5W 1971-1980 61
Sources: AI

Notes: AI: No details available. Reliability: uncheckable.

786400: GUATEMALA GUATEMALA 14.6N 90.4W 1480m 1845-1860 63
Sources: AI, A35, A40, A62, A106

Notes: AI: Means of 1/2(02 + 04 + 06 + .. 24) 90W meridian time. A35: No details available. A40: Temp; 1/2(max + min). Press: 1857-1858; means of 15h, 1859; of 16h, 1860; of 14h. Alt; 1480m. A62: No details available. A106: Normal values, /CLINO/, only. Temp; 1/12(02 + 04 + 06 + ...24). Press; 1/3(07 + 13 + 19), add 800 mb to reduce to MSL. Alt; 1502m. Reliability: uncheckable.

786410: GUATEMALA CIUDAD GUATEMALA 14.6N 90.5W 1502m 1931-1980 10 1931
Sources: AI

Notes: AI: No details available. Reliability: compared with 786620 for the years 1931-1980.

786500: ACAJUTLA EL SALVADOR 13.6N 89.8W 10m 1969-1980 61
Sources: AI

Notes: AI: No details available. Reliability: uncheckable.

786520: LOS ANDES EL SALVADOR 13.9N 89.7W 1700m 1967-1980 61
Sources: AI

Notes: AI: No details available. Reliability: uncheckable.

786620: SAN SALVADOR EL SALVADOR 13.7N 89.2W 699m 1912-1980 10 1921
Sources: AI

Notes: AI: 1921-1950; 1/4(07 + 14 + 21 + 21) 90W meridian time. 13 42'N 89 12'W, alt = 682m. 1941-1950; 13 42'N 89 13'W. Jan-Oct 1951; 13 43'N 89 12'N, alt = 692m. Nov 1951-1960; alt = 698m. 1961-1970; alt = 702m. 1951-1970; means of 24 hours from a thermometer reproofed by 3 daily observations at 07, 14 & 21h 90W meridian time. Reliability: compared with 766440, 766850 & 786410 for the years 1912-1980, 1912-1970 & 1931-1980.

787000: AMAPALA HONDURAS 13.3N 87.7W 5m 1951-1973 61
Sources: AI

Notes: AI: 1951-1960; 1/2(max + min). 13 18'N 87 40'W, alt = 5m. Reliability: uncheckable.

787010: CHAMALJA HONDURAS 16.5N 85.9W 2m 1951-1977 61
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 16 28'N 85 55'W, alt = 2m. Site changes occurred in Mar 1965, Mar 1969 & Oct 1969, no details given. Reliability: uncheckable.

787050: CRINA HONDURAS 15.8N 86.9W 1971-1977 61
Sources: AI
Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

787060: TELLA HONDURAS 15.7N 86.5W 3m 1951-1977 10 1951
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 15 43'N 86 29'W, alt = 3m. 1961-1970; 15 42'N 86 29'W. Reliability: compared with 787080 & 787140 for the years 1952-1977 & 1953-1977.

787080: LA MESA/SAN PEDRO HONDURAS 15.5N 88.0W 31m 1951-1977 10 1952
Sources: AI
Notes: AI: 1951-1960; 1/2(max + min). 15 28'N 88 01'W, alt = 71m. 1961-1970; 1/2(max + min). In Sept 1944 station moved from Barandillas Airport, 2km from town to the Air Taxi Terminal. In Feb 1965 moved to the new Airport at La Mesa, 13km SE of the city. 15 27'N 87 56'W, alt > 70m. Reliability: compared with 787060 & 787140 for the years 1952-1977 & 1953-1977.

787110: PUERTO LEBRERA HONDURAS 15.2N 83.8W 3m 1965-1977 61
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 15 13'N 83 48'W. Reliability: uncheckable.

787140: CATACAMAS HONDURAS 14.9N 85.9W 442m 1951-1977 10 1953
Sources: AI
Notes: AI: 1/2(max + min). 1951-1952; 14 54'N 85 56'W, alt = 442m. 1953-Feb 1954; Granje Demonstrative School, 5 kms SSE of city. In Feb 1954 station moved to the airport & moved again in July 1961 to 14 54'N 85 56'W, alt = 440m. Reliability: compared with 787080 & 787060 for the years 1953-1977.

787170: SANTA ROSA DE COPAN HONDURAS 14.8N 88.8W 1080m 1951-1977 80
Sources: AI
Notes: AI: 1953-1960; 1/2(max + min). 14 47'N 88 48'W, alt = 1080m. 1961-1970; 14 47'N 88 47'W, alt = 1080m. Reliability: compared with 787080 & 787140 for the years 1952-1977 & 1953-1977.

787200: TEGUCIGALPA HONDURAS 14.0N 87.2W 1007m 1951-1977 40
Sources: AI
Notes: AI: 1937-June 1950; means of observations taken at 08, 12 & 16h. 14 02'N 87 11'W, alt = 3ft. July 1950-1960; 1/2(max + min). Alt: 1007m. Station moved to the airport, 5 kms from the city. 1961-1970; 14 04'N 87 13'W, alt = 1007m. Reliability: compared with 787080 & 787140 for the years 1952-1977 & 1953-1977.

787240: CEOLUTECA HONDURAS 13.3N 87.2W 48m 1964-1977 61
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 13 18'N 87 11'W, alt 48m. Reliability: uncheckable.

787300: PUERTO CABEZAS NICARAGUA 14.0N 83.4W 1951-1960 61
Sources: AI
Notes: AI: 1951-1960; 14 00'N 83 24'W, alt = 13m. 1/2(max + min). Reliability: uncheckable.

787367: EL RECREO NICARAGUA 12.2N 83.4W 1952-1957 61
Sources: AI
Notes: AI: 1952-1960; means of readings at 12 noon. 12 09'N 83 26'W. Reliability: uncheckable.

787387: SERRACO NICARAGUA 12.9N 86.1W 1952-1960 61
Sources: AI
Notes: AI: 1953-1960; 12 51'N 86 06'W. Station probably moved in May 1955 but no details are given. Reliability: uncheckable.

787410: MARACUA/LAS MERCEDES NICARAGUA 12.1N 86.2W 56m 1952-1966 61
Sources: AI
Notes: AI: 1951-1960; 12 07'N 86 11'W, alt = 56m. 1961-1970; 12 09'N 86 10'W, alt = 50m. No other details available. Reliability: uncheckable.

787450: BLUEFIELDS NICARAGUA 12.0N 83.7W 1951-1960 61
Sources: AI
Notes: AI: 1951-1960; 12 00'N 83 43'W, alt = 12m. 1/2(max + min). Reliability: uncheckable.

787600: PUNTARENAS COSTA RICA 10.0N 84.8W 3m 1961-1980 61
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 9 58"W 84 50"W. Reliability: uncheckable.

787620: SAN JOSE / EL COCO COSTA RICA 10.0N 84.2W 939m 1956-1990 80
Sources: AI
Notes: AI: 1956-1960; 9 59"W 84 13"W, alt = 920m. 1961-1970; means of 24 hours. 10 00"W 84 12"W, alt > 930m. Reliability: compared with 786620 for the years 1956-1980. 1975-1977 data are same as 787630.

787630: SAN JOSE COSTA RICA 9.9N 84.1W 1866-1980 80
Sources: AI
Notes: AI: Means of 1/2(max + min). Alt: 1866-1940 = 1135m, 1941-1960 = 1172m. Site moved several times, but no details are given. 1961-1970; alt = 117m. Sites: 1888-1935; Central Office of Instituto Físico Geográfico in the city centre. 1936-1940; La Sabana Airport 2 mile west. 1941-1954; Central Office of Servicio Meteorológico in the city. Reliability: compared with 786620 for the years 1941-1980. Probably different sites in 1940s, 1950s & 1970s.

787637: ALAJUELA COSTA RICA 10.0N 84.2W 1951-1958 61
Sources: AI
Notes: AI: 1951-1956; Centro, 10 02"W 84 13"W, alt = 952m. Reliability: uncheckable.

787670: PUERTO LIMÓN COSTA RICA 10.0N 83.0W 3m 1961-1980 61
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 10 00"W 83 02"W. Reliability: uncheckable.

787707: MADDEN DAM COSTA RICA 9.2N 79.6W 1951-1960 61
Sources: AI
Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

787837: CRISTONAL PANAMA 9.4N 79.9W 7m 1863-1960 20 1912
Sources: AI, A29, A43
Notes: Also known as Colon. AI: Alt: 7m. Means of 1/2(daily max + daily min). The station was moved several times, but all locations are within a mile of each other & have been considered as identical. Detailed notes on the types of instruments used are given on p43, vol 105. Station moved in Sept 1941 from 9 21"W 79 54"W to a new alt of 47ft & moved again in April 1946 to 37ft. 1951-1960; alt = 7m. A29: No details available. A43: 1881-1884; Press; 1/3(06 + 13 + 21). Temp; 1/2(max + min). 1884-1888; Press; 1/3(07 + 11 + 19). Temp; 1/2(max + min). Temp was also read at same times as press. Reliability: compared with 786620 & 766850 for the years 1911-1960 & 1881-1960. Correction Factors: Stations used: 786620. Calculation dates:

1947-1960. Correction dates: 1881-1946. Factors: -7 -6 -9 -8 -6 -7 -7 -5 -4 -1 -3 -1.

787838: CHANGUIHOLA PANAMA 9.5N 82.5W 16m 1954-1970 61
Sources: AI
Notes: AI: 1954-1970; 9 29"W 82 29"W, alt = 16m. 1/2(max + min). Reliability: uncheckable.

787927: PUERTO ARMUELLES PANAMA 8.3N 82.9W 50m 1951-1970 61
Sources: AI
Notes: AI: 1951-1960; 8 17"N 82 52"W, alt = 50m. 1/2(max + min). 1961-1970; alt = 10m. Reliability: uncheckable.

787957: ALTO LIMO PANAMA 8.6N 82.5W 1953-1959 61
Sources: AI
Notes: AI: 1953-1959; 1/2(max + min). 8 38"W 82 28"W, alt = 4050m. Reliability: uncheckable.

788067: GAMBOA PANAMA 9.1N 79.7W 30m 1881-1888 63
Sources: A43
Notes: A43: Temp; Means of 1/2(max + min). Observations were also taken at same time as Press; 1881-1885; 1/3(06 + 13 + 21), 1886-1888; 1/3(07 + 11 + 19). Alt; 1881-1887 = 31m, 1888 = 30m. Reliability: uncheckable.

788071: BALBOA HEICHES PANAMA 9.0N 79.6W 36m 1951-1962 61
Sources: AI
Notes: AI: 1951-1960; 1/2(max + min). 8 57"W 79 33"W, alt = 36m. Reliability: uncheckable.

788620: COOLIDGE FLD ANTIGUA 17.1N 51.8W 10m 1962-1973 61
Sources: AI
Notes: AI: No details available. Reliability: uncheckable.

788660: JULIANA AP ST. MARTIN 18.1N 63.1W 3m 1951-1970 10 1951
Sources: AI
Notes: AI: Observations at the airport began in Oct 1952 as a continuation of observations at Philipsburg, from where the adjusted rainfall (1951-1952) has been calculated. 1952-1960; 18 03"N 63 06"W, alt = 3m. 1951-1970; 1/3(08 + 14 + 20) local time. From 1965-1970 the 20h observations were computed from 17h observations with the daily variation over Aug 1972-July 1976. 18 03"N 63 07"W. 1952-May 1969; alt = 2m. May 1969-1970; alt = 4m. Reliability: compared with 788970 for the years 1951-1970.

788877: SAINT VINCENT ST. VINCENT 13.2N 61.2W 1824-1841 63
Sources: A29, A35

Notes: A29: No details available. A35: No details available. Reliability: uncheckable.

788970: RAISET GUADELOUPE 16.3N 61.5W 8m 1891-1980 10 1952
Sources: A1, A43

Notes: A43: Temp; 1/2(max + min). Observations were also taken at same time as Press; 1891-1893; 1/3(06 + 12 + 21), 1894-1904; no details, 1905; 1/3(06 + 12 + 21), 1906-1907; 1/3(07 + 14 + 21), 1910; 1/2(07 + 17). Alt; 1891-June 1903 = 533m, July 1903-1909 = 492m, 1910 = 503m, 1911-1914; 16 00 M 64 04 W of Paris, alt = 503m. Alt; 1951-1970; 1/2(00 + 02 + 04 + ...22). Alt = 8m. Reliability: compared with 789260 & 789250 for the years 1892-1970 & 1952-1980. Early years of record are too cold.

789250: LAURENTIN MARTINIQUE 14.6N 61.1W 144m 1935-1980 10 1935
Sources: A1

Notes: A1: No details available. Reliability: compared with 789270 & 789260 for the years 1952-1980 & 1935-1970. 1935-1960 record from 789260 has been inserted in this record & 789260 has been consigned as useless. Probably the same with prec.

789260: FORT-DE-FRANCE MARTINIQUE 14.6N 61.1W 146m 1892-1970 80
Sources: A1, A43

Notes: A1: Press; means of 24 hours, reduced to sea level. Temp; means of 24 hours. 1932-1940; alt = 146m. 1941-1950; means of 1/2(max + min). Alt = 144m. 1951-1960; 1/2(00 + 02 + 04... + 22). Alt = 146m. In July 1934 station moved from 14 36' N 61 5' W to Observatoire de Desaix at 14 37' N 61 4' W, alt = 146m. A43: Temp; means of 1/2(max + min). Observations also taken at same time as Press; means of observations taken at 06, 10 & 16h. Alt; 4m. From 1909 temp & press were read at 07, 11 & 16h. 1911-1914; 14 36' N 63 25' W of Paris, alt = 4m. Reliability: compared with 789970 & 789560 for the years 1892-1970. Early years not compatible. Post 1935 2 sites. 1935-1960 record has been merged & checked with 789250.

789540: SEAMEL AIRPORT BARRADOS 13.1N 59.5W 56m 1951-1980 10 1954
Sources: A1, A7

Notes: A1: Jan-June 1951; 1/2(12 + 18) GMT. July 1951-1953; 1/4(12 + 15 + 18 + 21) GMT. 1954-1977; means of 8 3-hourly observations. A7: Temp; 1/2(daily max + daily min). Observations also available at same time as Press; 1/2(0930 + 1530). Corrected for index error & reduced to 32F but not to MSL. No correction for gravity applied. 13.1N 59.7W. Alt; 1853-1862 = 2m, 1863-1878 = 5m, 1879-1880 = 9m. Reliability: compared with 789260 & 788970 for the years 1951-1980. First 3 years are too warm.

789550: CODRINGTON BARRADOS 13.1N 59.6W 1853-1960 80
Sources: A1

Notes: A1: Between 1853 & 1902 alt changed many times, varying between 6 & 210ft, see p95, vol 79 for details. Earlier temp data were not included in source as considered too unreliable. Means of 1/2(max + min). 1920-1950; alt = 190ft. 1951-1970; alt = 58m. Reliability: compared with 789540 & 789260 for the years 1951-1960 & 1892-1960.

789560: PEARLS AP GRENADA 12.1N 61.8W 7m 1891-1963 20 1891
Sources: A1

Notes: A1: 1891-1936; Richmond Hill; 12 5' N 61 46' W, alt = 507ft. 1/2(max + min). 1937-1940; 12 5' N 61 45' W, alt = 617ft. Means of 24 hours. 1951-1970; Pearls Airport, alt = 7m. 1/3(08 + 11 + 14) standard time. Reliability: compared with 789260 & 789550 for the years 1892-1960 & 1891-1960. Corrected for observation time change, from fixed hours to 1/2(max + min). Correction Factors: Stations used: 789260. Calculation dates: 1951-1960. Correction dates: 1891-1940. Factors: 11 10 20 19 21 26 27 25 33 30 28 21.

789620: CROWN POINT AP TOBAGO 11.2N 60.8W 1'm 1967-1980 61
Sources: A1

Notes: A1: 1961-1970; 1/2(max + min). No other details available. Reliability: uncheckable.

789687: ST CLAIR EXP STM. TRINIDAD 10.7N 61.5W 7m 1862-1960 80
Sources: A1

Notes: A1: 1862-1920; Temp is reduced to means of 24 hours, by corrections based on 3.5 years of observations, given on p102, vol 79. 1862-1884; 1/2(0930 + 1530). Jan-Mar 1887; 1/2(09 + 15). April 1887-1920; 1/2(07 + 15). In July 1900 the station moved from Saint Annes at 133ft to Saint Clair at 67ft. 1921-1930; 1/2(mean daily max + mean daily min) corrected to means of 24 hours, see p33, vol XC. 1931-1945; 1/2(07 + 15) GMT. Alt; 20m. Reliability: compared with 789700 & 789260 for the years 1946-1960 & 1892-1960. Constantly changing observation times cause differences of between 2-3C in annual means.

789700: PIARCO INT.AP TRINIDAD 10.6N 61.4W 1m 1946-1980 10 1951
Sources: A1

Notes: A1: 1946-1950; 1/2(max + min). 10 37' N 61 21' W, alt = 36ft. 1951-1960; means of 6 3-hourly observations, 1/8(02 + 05 + ...23) local time. Alt = 12m. 1961-1970; 10 35' N 61 21' W, alt = 1m. 1969-1970; means of 24 hours. Reliability: compared with 789260 & 789880 for the years 1946-1980 & 1951-1980. 1946-1960 affected by changing observation times.

789880: DR. A. FLESMAN AP ANTILLAS 12.2N 69.0W 8m 1951-1980 10 1951
Sources: AI

Notes: AI: Means of 24 hourly observations, 1951-1970; 12 12"m 68.58"W, alt = 8m. Minor site changes occurred in Dec 1946, June 1961 & Feb 1964. Reliability: compared with 789700 for the years 1951-1980.

800010: SAN ANDRES COLOMBIA 12.6N 81.7W 6m 1961-1980 10 1961
Sources: AI

Notes: AI: 1961-1970; 1/4(07 + 14 + 20 + 20) local time or 1/4(07 + 13 + 19 + 19) local time. No other details available. Reliability: Record 803900 has been merged & checked with this record. Compared with 802220 for the years 1961-1980.

800090: SANTA MARIA COLOMBIA 11.1N 74.2W 1975-1980 61
Sources: AI

Notes: AI: 1961-1970; 1/4(07 + 14 + 20 + 20) local time or 1/4(07 + 13 + 19 + 19) local time. No other details available. Reliability: uncheckable.

800220: CARTAGENA COLOMBIA 10.5N 75.5W 1975-1980 61
Sources: AI

Notes: AI: 1961-1970; 1/4(07 + 14 + 20 + 20) local time or 1/4(07 + 13 + 19 + 19) local time. No other details available. Reliability: uncheckable.

800280: BARRAQUILLA/SOLEDAZ COLOMBIA 10.9N 74.8W 21m 1948-1980 82
Sources: AI68

Notes: AI68: 10 53"W 74 47"W, alt = 13 to 14m. No other details available. Reliability: compared with 804070 for the years 1948-1980. 1950s record has trends & data gaps.

800620: TURBO COLOMBIA 8.1N 76.7W 1970-1980 61
Sources: AI

Notes: AI: 1961-1970; 1/4(07 + 14 + 20 + 20) local time or 1/4(07 + 13 + 19 + 19) local time. No other details available. Reliability: uncheckable.

800910: BARRACABEHEJA COLOMBIA 7.0N 73.8W 134m 1948-1980 82
Sources: AI68

Notes: AI68: 7 00"W 73 48"W, alt = 83 to 126m. No other details available. Reliability: compared with 804070 for the years 1969-1980. 1950s record shows trends & data gaps.

800940: BUCARAMANGA COLOMBIA 7.1N 73.2W 1975-1980 61
Sources: AI

Notes: AI: 1961-1970; 1/4(07 + 14 + 20 + 20) local time or 1/4(07 + 13 + 19 + 19) local time. No other details available. Reliability: uncheckable.

800970: CUCUTA COLOMBIA 7.9N 72.5W 317m 1969-1980 61
Sources: AI

Notes: AI: 1961-1970; 1/4(07 + 14 + 20 + 20) local time or 1/4(07 + 13 + 19 + 19) local time. No other details available. Reliability: uncheckable.

801100: MEDULLIN COLOMBIA 6.2N 75.6W 1508m 1948-1980 10 1948
Sources: AI68

Notes: AI68: 6 16"W 75 35"W, alt = 1450 to 1475m. No other details available. Reliability: compared with 804070 for the years 1948-1980.

801120: ESTEBAN JARAMILLO COLOMBIA 5.9N 75.7W 1951-1960 61
Sources: AI

Notes: AI: 1951-1960; 5 55"W 75 43"W, alt = 1450m. 1/4(07 + 14 + 20 + 20) local time. Reliability: uncheckable.

802190: GIRARDOT COLOMBIA 4.3N 74.8W 1974-1980 61
Sources: AI

Notes: AI: 1961-1970; 1/4(07 + 14 + 20 + 20) local time or 1/4(07 + 13 + 19 + 19) local time. No other details available. Reliability: uncheckable.

802220: BOGOTA/ELDORADO COLOMBIA 4.7N 74.1W 2557m 1923-1980 20 1923
Sources: AI, AI65, AI66

Notes: AI: Alt; 1866-1920 = 2651m, 1921-1930 = 2642m, 1931-1940 = 2662m, site = 4 36"W 74 05"W, 1941-1955 = 2562m, site = 4 38"W 74 05"W, 1951-1960 = 2556m. Temp; Means of 24 hours. AI65/AI66: 4 36"W 74 05"W. Alt; 2655m. 1923-1940; 1/8(06 + 08 + 10 + 12 + 14 + 16 + 18 + 20). 1941-1953; 1/6(08 + 10 + 12 + 14 + 16 + 18). Reliability: compared with 804380 for the years 1923-1980. Correction Factors: Stations used: 804380. Calculation dates: 1959-1980. Correction dates: 1923-1936 & 1941-1952. Factors: i) 20 -20 -17 -14 -16 -15 -17 -15 -18 -18 -15 -18. ii) -39 -36 -33 -28 -30 -31 -31 -28 -28 -28 -31 -31.

802227: BOGOTA COLOMBIA 4.6N 74.1W 1866-1977 81
Sources: AI

Notes: AI: Alt; 1866-1920 = 2651m, 1921-1930 = 2642m, 1931-1940 = 2662m, site; 4 36"W 74 05"W, 1941-1955 = 2562m, site; 4 38"W 74 05"W, 1951-1960 = 2556m. Temp; 1941-1955; 1/2(max + min), 1956-1960; means of 24 hours. Reliability: compared with 802220 for the years 1951-1977.

803960: TIBACUY COLOMBIA 4.4N 74.5W 1525m 1952-1970 10 1952
Sources: AI
Notes: AI: 1952-1960; 1/4(07 + 14 + 20 + 20) local time. A 21°N 74 27'W, alt = 1525m. 1961-1970; alt = 1550m. Reliability: compared with 803940 for the years 1952-1970.

803970: CALIFUERTO AP. COLOMBIA 3.4N 76.4W 1961-1970 61
Sources: AI
Notes: AI: 1961-1970; 1/4(07 + 14 + 20 + 20) local time or 1/4(07 + 13 + 19 + 19) local time. No other details available. Reliability: record has been merged & checked with record 802590.

803980: LA FLORIDA COLOMBIA 2.5N 76.6W 1850m 1948-1980 80
Sources: AI, A168

Notes: A168: 2 26°N 76 36'W, alt = 1760 to 1789m. No other details available. AI: 1951-1970; 1/4(07 + 14 + 20 + 20). Alt = 1789m. 1961-1970; alt = 1850m. Reliability: compared with 802590, 840710 & 803990 for the years 1948-1980, 1948-1955 & 1953-1970. 1970s 7C warmer, due to a site change. 1960s record shows trends. Record 803080 has been merged & checked with this record.

803990: OSPINA PEREZ COLOMBIA 1.3N 77.5W 1700m 1952 1970 10 1953
Sources: AI

Notes: AI: 1953-1960; 1/4(07 + 14 + 20 + 20) local time. 1 17°N 77 29'W, alt = 1700m. 1961-1970; 1 16°N 77 29'W, alt = 1700m. Reliability: compared with 840710 for the years 1953-1970.

804001: CARACAS VENEZUELA 10.5N 67.0W 1891-1960 20 1933
Sources: AI

Notes: AI: 1891-1955; alt = 1042m. Data from Observatorio Cajigal, although some earlier observations were also taken at the railway station. 1941-1950; 1/3(07 + 13 + 22) 67.5W meridian time. 1951-1960; 1/4(0130 + 0730 + 1330 + 1930) Venezuela Standard Time. Instruments were moved 50 metres in 1955 & data corrected. 1951-1970; alt = 1035m. 1961-1970; 1/4(02 + 08 + 14 + 20) local time. Reliability: compared with 804070, 804100 & 804230 for the years 1933-1960, 1938-1960 & 1938-1960. Correction Factors: Stations used: 804070, 804100 & 804230. Calculation dates: 1951-1960. Correction dates: 1933-1950. Factors: 6 8 4 3 5 4 9 6 5 6.

804030: CORO WAS 804070 VENEZUELA 11.4N 69.7W 21m 1951-1970 10 1951
Sources: AI

Notes: AI: 1951-1960; 1/4(0130 + 0730 + 1330 + 1930) Venezuela Standard Time. 11 25°N 69 41'W, alt = 21m. In June 1949 station moved 13m W from the city centre to the airport. Moved 200m W in 1955, data were corrected. Alt = 17m. 1961-1970; 1/4(02 + 08 + 14 + 20) local time. Reliability: compared with 804070 for the years 1951-1970.

804050: LA ORCHILLA VENEZUELA 11.8N 66.2W 3m 1961-1975 61
Sources: AI

Notes: AI: 1/4(02 + 08 + 14 + 20) local time. No other details available. Reliability: uncheckable.

804070: MARACAIBO WAS 804020 VENEZUELA 10.7N 71.6W 40m 1933-1980 10 1933
Sources: AI, A153

Notes: A153: 1933-1937; 1/2(max + min). 10 41°N 71 34'W, alt = 5m. 1938-1947; 1/3(06 + 12 + 21). 10 38°N 71 36'W, alt = 6m. AI: 1951-1960; 1/4(0130 + 0730 + 1330 + 1930) Venezuela Standard Time. Alt = 40m. 1961-1970; 1/4(02 + 08 + 14 + 20) local time. Station was located at Fuertes Terrestres Quarters until Mar 1958 when it moved 300m W to Grano de Oro Airport, alt = 65m. In 1972 moved to La Chimite Airport, 10 34°N 71 44'W. Reliability: compared with 804100 & 804380 for the years 1933-1980.

804100: BARQUISIMETO VENEZUELA 10.1N 69.3W 591m 1938 1970 10 1938
Sources: AI, A153

Notes: A153: 1/3(06 + 12 + 21). 10 04°N 69 18'W, alt = 566m. AI: 1951-1960; 1/4(0130 + 0730 + 1330 + 1930) Venezuela Standard Time. Alt = 591m. 1961-1970; 1/4(02 + 08 + 14 + 20) local time. 1921-1949; sited in the city centre at Fuertes Terrestres Quarters. In 1949 station moved 3km W to the airport. Moved 500m in 1964 to an alt of 614m. Data were corrected for this last change. Reliability: compared with 804070 & 804380 for the years 1938-1970.

804130: MARACAY VENEZUELA 10.3N 67.7W 42m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1960; 1/4(0130 + 0730 + 1330 + 1930) Venezuela Standard Time. Prior to 1949 station was located in the city centre in Fuertes Terrestres Quarter. In 1949 moved 500m E from 10 15°N 67 39'W, alt = 442m to 10 51'W 67 15'W. Moved again in Dec 1955 to S.A. Mariscal Sucre, 10 15°N 67 39'W, alt = 437m. Data were corrected for this final move. 1961-1970; 1/4(02 + 08 + 14 + 20) local time. Reliability: compared with 804030 & 804070 for the years 1951-1970 & 1951-1980.

804150: MAIQUETA WAS 804030 VENEZUELA 10.6N 67.0W 41m 1951-1970 10 1951
Sources: AI

Notes: AI: 1951-1960; 1/4(0130 + 0730 + 1330 + 1930) Venezuela Standard Time. 10 36°N 66 59'W, alt = 43m. Reliability: compared with 804130 for the years 1951-1970.

804160: CARACAS/LA CARLOTA VENEZUELA 10.5N 66.9W 465m 1964-1980 61
Sources: AI, A153

Notes: A153: 1905-1936; 1/3(06 + 12 + 21). 1937-1947; 1/3(07 + 13 + 22). 1905-1932; 10 30°N 66 55'W, alt = 935m. 1933-1941; alt = 1042m. 1942-1945 = 1043m. 1946-1947 = 1042m. AI: Alt = 1042m. 1951-1960; 1/4(0130 + 0730 + 1330 + 1930) Venezuela Standard Time. Site was relocated in Feb 1955 &

data corrected. Alt = 48m. 1961-1970; 1/4(02 + 08 + 14 + 20) local time. Reliability: uncheckable.

804190: BARCELONA WAS 804140 VENEZUELA 10.1W 64.7W 7m 1938-1980 10 1938
Sources: AI, AI53

Notes: AI53: 1/3(06 + 12 + 21). 1938-1939; 10 08'N 64 41'W, alt = 3m. 1940-1944; alt = 5m. 1945-1947; Aragua du Barc, 9 27'N 64 49'W, alt = 96m. AI: 1951-1960; 1/4(0130 + 0730 + 1330 + 1930) Venezuela Standard Time. Alt = 7m. 1961-1970; 1/4(02 + 08 + 14 + 20) local time. In 1921 station was sited in the city centre. In Sept 1954 it moved 6km NW to the airport & moved again in 1965, by 150m. Data were corrected. Reliability: compared with 804380 & 804070 for the years 1938-1970.

804230: GUIRIA WAS 804120 VENEZUELA 10.6N 62.3W 8m 1926-1970 10 1971
Sources: AI, AI53, AI64

Notes: AI64: 1/3(06 + 12 + 21). 10 36'N 7 11'W, alt = 20m. AI53: 1/3(06 + 12 + 21). 1933-1938; 10 36'N 66 56'W of Paris, alt = 30m. 1939-1941; 10 35'N 62 18'W, alt = 9m. 1942-1947; alt = 7m. AI: 1951-1960; 1/4(0130 + 0730 + 1330 + 1930) Venezuela Standard Time. Alt = 6m. 1961-1970; 1/4(02 + 08 + 14 + 20) local time. Reliability: compared with 804380 & 804440 for the years 1926-1970. 1926-1929 different site but too short to correct.

804350: MATURIN WAS 804040 VENEZUELA 9.8N 63.2W 70m 1951-1970 10 1951
Sources: AI

Notes: AI: 1951-1960; 9 45'N 63 11'W, alt = 70m. 1/4(0130 + 0730 + 1330 + 1930) Venezuela Standard Time. 1961-1970; 1/4(02 + 08 + 14 + 20) local time. In Oct 1954 the station moved 700m W from the city centre to the airport, alt = 66m. Data were corrected for this move. Reliability: compared with 804230 for the years 1951-1970.

804380: MERIDA WAS 804060 VENEZUELA 8.6N 71.2W 1479m 1915-1980 10 1915
Sources: AI, AI53, AI63

Notes: AI53: 1/3(06 + 12 + 21). 1933-1943; 8 35'N 71 09'W, alt = 1613m. 1934-1937; alt = 1641m, 1938-1943; alt = 1613m. 1944-1947; 8 36'N 71 09'W, alt = 1623m. AI63: 1/2(max + min). 8 35'N 73 29'W of Paris. Alt; 1641m. AI: 1951-1960; 1/4(0130 + 0730 + 1330 + 1930) Venezuela Standard Time. Alt = 1479m. 1961-1970; 1/4(02 + 08 + 14 + 20) local time. In 1955 station moved 3km SW of Fuerzas Terrestres Quarters to the airport, alt = 1490m. Data were corrected for this move. Reliability: compared with 804001 & 804500 for the years 1915-1980 & 1938-1980.

804440: CIUDAD BOLIVAR VENEZUELA 8.2N 63.6W 50m 1917-1979 10 1917
Sources: AI, AI53, AI61

Notes: AI53: 1/3(06 + 09 + 21). 1933-1937; 8 08'N 63 33'W, alt = 54m. 1938-1942; alt = 38m. 1942-1947; alt = 54m. AI61: 8 52'N 63 33'W, alt = 38m. 1917-Aug 1918; 1/6(06 + 09 + 12 + 15 + 18 + 21). Sept 1918-1932; 1/3(06 + 12 + 21). AI: 1951-1960; 1/4(0130 + 0730 + 1330 + 1930) Venezuela Standard Time. Alt = 50m. 1961-1970; 1/4(02 + 08 + 14 + 20) local time. Alt = 48m.

Reliability: compared with 804230 & 804380 for the years 1926-1976 & 1917-1976.

804470: SAN CRISTOBAL VENEZUELA 7.8N 72.2W 930m 1919-1980 10 1951
Sources: AI

Notes: AI: 1919-1946; 7 46'N 72 14'W, alt = 830m. 1961-1970; 1/4(02 + 08 + 14 + 20) local time. Earlier data are from Cuartel Army Quarters. Station moved to the airport 5 miles NW of the city at an unknown date. Small site changes occurred in 1951 & 1961, data were corrected. Reliability: compared with 804380 for the years 1940-1980. 1940-1946 record useless.

804500: SAN FERNANDO VENEZUELA 7.9N 67.4W 73m 1938-1980 10 1938
Sources: AI, AI53, A29

Notes: AI: 1951-1960; 1/4(0130 + 0730 + 1330 + 1930) Venezuela Standard Time. 7 54'N 67 25'W, alt = 73m. 1961-1970; 1/4(02 + 08 + 14 + 20) local time. In Sept 1955 station moved 3km E to the airport, alt = 48m. Data were corrected for this move. AI53: 1/3(06 + 12 + 21). 7 53'N 67 28'W. Alt; 1938-1939; 73m, 1940; 68m, 1941; 40m, 1942-1947; 57m. A29: No details available. Reliability: compared with 804380 & 804620 for the years 1938-1980 & 1941-1980.

804530: TUMERENO VENEZUELA 7.3N 61.5W 104m 1951-1970 10 1951
Sources: AI

Notes: AI: 1951-1960; 1/4(0130 + 0730 + 1330 + 1930) Venezuela Standard Time. 7 18'N 61 27'W, alt = 181m. Station moved 150m E in April 1961 to 181m. Data were corrected for this move. 1961-1970; 1/4(02 + 08 + 14 + 20) local time. Reliability: compared with 804620 for the years 1951-1970.

804570: PUERTO AYACUCHO VENEZUELA 5.6N 67.5W 73m 1961-1980 61
Sources: AI

Notes: AI: 1961-1970; 1/4(02 + 08 + 14 + 20) local time. 5 36'N 67 30'W, alt = 7m. Reliability: uncheckable.

804620: SANTA ELENA VENEZUELA 4.6N 61.1W 907m 1941-1980 10 1941
Sources: AI

Notes: AI: 1941-1947; 4 36'N 61 07'W, alt = 907m. 1/3(06 + 12 + 21). 1951-1960; 1/4(0130 + 0730 + 1330 + 1930) Venezuela Standard Time. 1961-1970; alt; 900m. 1/4(02 + 08 + 14 + 20) local time. Reliability: compared with 804440 for the years 1941-1980.

804990: CARACAS VENEZUELA 10.5N 66.9W 1961-1970 10 1961
Sources: AI

Notes: AI: 1961-1970; 1/4(02 + 08 + 14 + 20) local time. 10 10'N 66 56'W, alt = 103m. Reliability: compared with 804130 for the years 1961-1970.

810010: GEORGETOWN FR. GUIANA 6.8N 58.2W 2m 1846-1979 20 1887
Sources: A1, A30, A35, A55, A102

Notes: A1: Alt = 2m. 1887-1950; means of 1/2(daily max + daily min). 1951-1952; 1/3(1045 + 1645 + 2145) GMT. 1953-1970; 1/2(12 + 18) GMT. A30: No details available. A35: No details available. A55: No details available. A102: No details available. Reliability: compared with 812020, 812017 & 814050 for the years 1931-1970, 1905-1960 & 1891-1979. Early record can not be checked but is probably about 0.5C too cold. Is certainly a better early record than 814050. 1953-1960 record is in error because of changing observation times. Correction Factors: Stations used: 812020. Calculation dates: 1931-1952. Correction dates: 1891-1930. Factors: -3 -4 -6 -4 -2 -1 -2 -6 -6 -7 -5 -2.

810020: TIMEHRI FR. GUIANA 6.5N 58.3W 29m 1951-1979 61
Sources: A1

Notes: A1: 1951-1960; means of 8 3-hourly observations. 6 30"W 58 15"W, alt = 29m. 1961-1970; 6 29"W 58 16"W. Reliability: uncheckable.

812010: PARAMARIBO SURINAM 5.9N 55.2W 1961-1970 10 1961
Sources: A1

Notes: A1: 1961-1970; 1/3(08 + 14 + 18) local time. Moved from 5 50"W 55 10"W to 5 51"W 55 10"W at some date. Reliability: compared with 812020 for the years 1961-1970.

812017: PARAMARIBO SURINAM 5.8N 55.2W 2m 1864-1960 20 1905
Sources: A1, A29, A43, A72

Notes: A1: Means of 1/3(08 + 14 + 18) local time. 1931-1940; calculations indicate that 1.1C should be subtracted from the average daily temps to reduce them to the means of 24 hours, see detailed notes on p57, vol 10. Alt; 1931-1950 = 4m, 1951-1960 = 2m. A29: No details available. A72: No details available. A43: Means of 1/2(max + min). No other details available. Reliability: compared with 812020 & 810010 for the years 1931-1960 & 1905-1960. Corrected for 2 site changes, 1924 & 1941. Correction Factors: Stations used: 812020. Calculation dates: 1942-1960. Correction dates: 1924-1941. Factors: -4 -7 -7 -6 -5 -5 -3 -2 -3 -5 -7 -4.

812020: NICKERIE SURINAM 6.0N 57.0W 4m 1931-1970 10 1931
Sources: A1

Notes: A1: 1/3(08 + 14 + 18) GMT. 1951-Sept 1957; Town, 5 57"W 56 59"W, alt = 2m. Oct 1957-1960; Airport, 5 57"W 57 02"W, alt = 2m. 1961-1970; alt = 3m. Reliability: compared with 812017 & 810010 for the years 1931-1960 & 1931-1970. Good record, used to sort out all the Guyanese records.

812050: BURNSIDE-COROMIE FR. GUIANA 5.2N 56.0W 5m 1895-1898 63
Sources: A43

Notes: A43: Temp; Means of 1/2(max + min). Observations also taken at same time as press. Press; Means of 1/3(07 + 14 + 21). Alt; 5m. Reliability:

uncheckable.

812060: MOENGO SURINAM 5.6N 54.4W 39m 1931-1970 61
Sources: A1

Notes: A1: 1931-1960; 5 36"W 54 22"W, alt = 39m. Alt changed from 39 to 33m at an unknown date during the 1961-1970 period. Reliability: uncheckable.

812090: STOELMANSEILAND SURINAM 4.4N 54.4W 1961-1970 61
Sources: A1

Notes: A1: 1961-1970; 1/3(08 + 14 + 18) local time. 4 21"W 54 25"W, alt = 53m. Reliability: uncheckable.

812250: ZANDERIJ SURINAM 5.5N 55.2W 16m 1952-1979 10 1952
Sources: A1

Notes: A1: 1951-1960; means of 24 hourly observations. 5 27"W 55 12"W, alt = 16m. 1961-1970; 1/3(08 + 14 + 18) local time. Reliability: compared with 812020 for the years 1952-1970.

812500: TAVELBERG SURINAM 3.8N 56.1W 1961-1970 61
Sources: A1

Notes: A1: 1961-1970; 1/3(08 + 14 + 18) local time. 3 47"W 56 08"W, alt = 34m. Reliability: uncheckable.

812510: SIPALIVINI SURINAM 2.0N 56.1W 1961-1970 61
Sources: A1

Notes: A1: 1961-1970; 1/3(08 + 14 + 18) local time. 2 01"W 56 06"W, alt = 300m. Reliability: uncheckable.

812530: COEKOENI SURINAM 3.4N 57.4W 1961-1970 61
Sources: A1

Notes: A1: 1961-1970; 1/3(08 + 14 + 18) local time. 3 22"W 57 21"W, alt = 150m. Reliability: uncheckable.

814010: SAINT LAURENT FR. GUIANA 5.5N 54.0W 1961-1970 61
Sources: A1

Notes: A1: 1961-1970; 1/2(max + min). 5 30"W 54 02"W. Reliability: uncheckable.

814050: CAYENNE/ROCHAMBEAU FR. GUIANA 4.8N 52.4W 9m 1845-1980 20 1891
Sources: A1, A5, A40, A43

Notes: A1: means of 1/12(00 + 02 + 04 + ...22). Alt; 9m. A5: No details available. A40: Data are means of observations taken at 12 noon. Observations are also given for 09, 15 & 21h. The following corrections

were made; Temp, -0.74C & Press, -0.20mm. A43: Temp; means of 1/2(max + min). 1911-1914; 4 56°N 54 41°W of Paris, alt = 6m. Reliability: compared with 810010, 812020 & 812017 for the years 1891-1980, 1931-1970 & 1905-1960. Corrected for change in observation time from fixed hours to 1/2(max + min) & for a site change in 1914. Correction Factors: Stations used: 812020 & 812250, 812017. Calculation dates: 1951-1960 & 1951-1960. Correction dates: 1961-1970 & 1891-1914. Factors: i) 1961-1970; 4 6 10 8 5 -14. ii) 1891-1914; -11 -11 -11 -11 -11 -14 -16 -19 -19 -18 -17

014080: ST. GEORGES FR. GUIANA 3.9W 51.8W 1961-1970 61
Sources: AI

Notes: AI: 1961-1970; 1/2(max + min). 3 53°N 51 48°W. Reliability: uncheckable.

814150: MARIPASOULA FR. GUIANA 3.6W 54.0W 1961-1970 61
Sources: AI

Notes: AI: 1961-1970; 1/2(max + min). 3 38°N 54 02°W, alt = 100m. Reliability: uncheckable.

820240: BOA VISTA BRAZIL 2.8W 60.7W 74m 1961-1980 61
Sources: AI

Notes: AI: 1961-1970; 1/5(12 + 00 + 00 + max + min) GMT. No other details available. Reliability: uncheckable.

820300: AWAYA APT BRAZIL 2.1W 50.9W 1967-1974 61
Sources: AI

Notes: AI: 1961-1970; 1/5(12 + 00 + 00 + max + min) GMT. No other details available. Reliability: uncheckable.

821060: S.GAB. DO CALÇOEIRA BRAZIL .18 67.1W 87m 1931-1980 10 1931
Sources: AI

Notes: AI: 1951-1960; 1/5(12 + 00 + 00 + max + min) GMT. 00 08°S 67 05°W, alt = 85m. Reliability: compared with 823310 for the years 1931-1980.

840080: SAN CRISTOBAL ECUADOR .9S 89.6W 6m 1950-1980 10 1951
Sources: AI

Notes: AI: Means of 24 hours. 1951-1960; 00 54°S 89 37°W, alt = 6m. Reliability: compared with 840710 for the years 1951-1980.

840276: ESMERALDAS YACUHA ECUADOR 1.0W 79.7W 1961-1970 61
Sources: AI

Notes: AI: 1961-1970; 1/3(07 + 13 + 19) local time. 0 59°N 79 39°W. Reliability: uncheckable.

840320: TULCAN ECUADOR .8N 77.7W 1961-1970 61
Sources: AI

Notes: AI: 1961-1970; means of 24 hourly observations. 0 49°N 77 43°W, alt = 2970m. Reliability: uncheckable.

840400: IBARRA ECUADOR .4N 78.1W 1961-1970 61
Sources: AI

Notes: AI: 1961-1970; 1/3(07 + 13 + 19) local time. 0 21°N 78 07°W, alt = 2220m. Reliability: uncheckable.

840710: QUITO/ M. SUCRE ECUADOR .2S 78.5W 2818m 1891-1980 10 1891
Sources: AI, A66

Notes: AI: 1891-1950; means of 24 hours, 75W meridian time. Alt; 2819m. Observations taken at 07, 09, 11, 13, 15, 17 & 19h 75W meridian time. To obtain other values the thermogram was used, applying corrections according to the direct thermometer observations. 1951-1970; means of 24 hours. Alt; 2818m. A66: No details available. Reliability: compared with 840080, 842030 & 821060 for the years 1951-1980, 1951-1980 & 1931-1980. Entire record is given in 1940s WWR volume, claimed to be checked & that no site changes have occurred since 1891. If true this record is unique!

842030: GUAYAQUILL ECUADOR 2.3S 79.9W 4m 1951-1980 10 1951
Sources: AI

Notes: AI: Means of 24 hourly observations. 1951-1960; 2 12°S 79 53°W, alt = 6m. 1961-1970; 2 11°S 79 53°W, alt = 1m. Reliability: compared with 840710 for the years 1951-1980.

910300: TITIZIMA/CHICHUJIMA PACIFIC OC. 27.1N 142.2E 4m 1907-1964 60
Sources: AI

Notes: AI: 1907-1939; 1/6(02 + 06 + 10 + 14 + 18 + 22) 135E meridian time. 27 05°N 142 11°E, alt = 3m. 1933-1943; alt = 4m. 1940-1943; 1/3(06 + 14 + 18). 1949-1950; method of calculation unknown. 1951-1960; 1/2(max + min). 27 05°N 142 11°E, alt = 3m. Reliability: uncheckable.

910660: MIDWAY ISLAND PACIFIC OC. 28.2N 177.4W 13m 1921-1978 60
Sources: AI

Notes: AI: 1/2(max + min). 1921-1945; 28 13°N 177 22°W, alt = 6m. 1946-April 1952; 28 13°N 177 23°E. May 1952-1960; Terminal Building, Sand Island, 28 13°N 177 21°W, alt = 42m. 1961-1970; 28 12°N 177 23°W, alt = 4m. Reliability: uncheckable.

911150: IVO JIMA CENTRAL FLD PACIFIC OC. 24.8N 141.3E 105m 1949-1964 60
Sources: AI

Notes: AI: 1/2(max + min). 1951-1960; Central Airfield, 24 47°N 141 20°E, alt = 105m. 1961-1966; 24 47°N 141 19°E, alt = 102m. Reliability: uncheckable.

911310: MARCUS IS. RAC I. PACIFIC OC. 24.3N 154.0E 17m 1936-1980 60
Sources: AI
Notes: AI: 1936-Jan 1940; 1/6(0. . . + .22). Jan 1946-July 1947; 1/2(max + min). 1936-1950; 24 17'N 153 58'E. 1936-Oct 1937; alt = 10m. Nov 1937-Jan 1939; alt = 8m. Feb 1939-1940; 7m. 1951-1960; 24 18'N 153 58'E, alt = 7m. 1961-1970; alt = 6m. Reliability: uncheckable.

911550: FRENCH FRIGATE SHOAL PACIFIC OC. 23.9N 166.3W 2m 1952-1970 60
Sources: AI
Notes: AI: 1/2(max + min). 1952-1970; Tern Island, 23 52'N 166 17'W, alt = 6m. Alt changed at an unknown date to 2m. Reliability: uncheckable.

911650: LIHUE KAUAI HAWAII 22.0N 159.4W 63m 1905-1980 60
Sources: AI
Notes: AI: All sites since 1905 have been on the ground within a few 100ft of the present site except for an unknown number of years ending in 1938 when the instruments were on a 14ft roof. 1/2(max + min). 1905-1950; 21 59'N 159 22'W, alt = 207ft. 1950-1960; station moved 2m NE to 21 59'N 159 21'W, alt = 36m. 1961-1970; 21 59'N 159 21'W, alt = 35m. Reliability: uncheckable.

911657: LIHUE KAUAI HAWAII 22.0N 159.4W 63m 1950-1963 60
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 21 59'N 159 22'W, alt = 63m. Reliability: uncheckable.

911820: HONOLULU HAWAII 21.3N 157.9W 5m 1874-1980 60
Sources: AI, A73
Notes: AI: Alt; 5m. Means of 1/2(daily max + daily min). Prior to Sept 1904 the station was 2 miles from its present location, alt = 50ft. From 1883-1889 only observations at 06, 14 & 21h were available & these values have been corrected to 1/2(max + min) by applying a correction based on 1899-1903 data, see p104, vol 79. 1951-1960; observations from Federal Building, 21 19'N 157 52'W, alt = 12m. Observations also taken at Airport, 1951-Oct 1962, 21 20'N 157 56'W, alt = 7m. Nov 1962-1970; 21 20'N 157 55'W, alt = 2m. A73: No details available. Reliability: uncheckable.

911827: HONOLULU OBS. OAHU HAWAII 21.3N 158.1W 3m 1901-1970 60
Sources: AI
Notes: AI: 1/2(max + min). 1901-1946; 21 19'N 157 52'W, alt = 12ft. 1947-May 1960; 21 18'N 158 06'W, alt = 4m. June 1960-1970; 21 19'N 158 00'W, alt = 2m. Reliability: uncheckable.

911860: MOLOKAI APET HAWAII 21.2N 157.1W 137m 1951-1970 60
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 21 09'N 157 06'W, alt = 135m. Station was known as Bonstead Field prior to May 1953. 1961-1970; alt = 137m. Reliability: uncheckable.

911867: KUALAPUU, MOLOKAI HAWAII 21.2N 157.0W 1900-1970 60
Sources: AI
Notes: AI: 1900-May 1927; Molokai Ranch, 21 08'N 157 03'W, alt = 800ft. Aug 1927-1970; 21 09'N 157 02'W, alt = 268m. 1/2(max + min). Reliability: uncheckable.

911897: LAHAINA, MAUI HAWAII 20.9N 156.7W 15m 1913-1970 60
Sources: AI
Notes: AI: 1/2(max + min). 1913-Jan 1927; 20 53'N 156 41'W, alt = 30m. Feb 1927-1960; alt = 15m. 1961-1970; alt = 14m. Reliability: uncheckable.

911905: LANAI CITY LANAI HAWAII 20.8N 156.9W 494m 1930-1970 60
Sources: AI
Notes: AI: 1/2(max + min). 1951-1970; Several minor moves occurred, all within 1/4 mile of the Post Office, 20 50'N 156 55'W, alt = 494m. Reliability: uncheckable.

911915: HANA, MAUI HAWAII 20.8N 156.0W 40m 1907-1970 60
Sources: AI
Notes: AI: 1907-Mar 1957; 20 45'N 155 59'W, alt = 200ft. Mar 1957-1961; alt = 40m. 1/2(max + min). 1962-1970; alt = 37m. Reliability: uncheckable.

912030: ULITHI-FAL CAROLINE IS. 10.0N 139.7E 1937-1972 60
Sources: AI
Notes: AI: 1/2(max + min). 1954-1960; USCG station, 10 02'N 139 48'E, alt = 6m. 1961-1970; 10 02'N 139 48'E, alt = 2m. Reliability: uncheckable.

912120: GUAM MARIANA IS 13.4N 144.6E 19m 1921-1970 60
Sources: AI
Notes: AI: 1/2(max + min). 1921-1946; 13 24'N 144 38'E, alt = 19m. 1947-1950; 13 36'N 144 48'E. 1951-1960; Agaña Field, 13 36'N 144 48'E, alt = 48m. 1961-1970; 13 29'N 144 48'E, alt = 78m. Reliability: uncheckable.

912170: GUAM MARIANA IS 13.6N 144.8E 111m 1956-1980 60
Sources: AI
Notes: AI: 1/2(max + min). 1956-1970; 13 33'N 144 50'E, alt = 110m. Reliability: uncheckable.

912180: GUAN ANDERSON ATD MARIANA IS. 13.6N 144.9E 162m 1949-1972 60
Sources: AI

Notes: AI: 1/2(max + min). April 1948-May 1953; 13 34'N 144 55'E, alt = 245m. May 1953-Mar 1957; 13 34'N 144 56'E, alt = 577m. Mar 1957-Mar 1959; 13 34'N 144 58'E, alt = 550m. Mar 1959; 13 34'N 144 56'E, alt = 602m. 1961; 13 34'N 144 55'E, alt = 187m. 1961-Mar 1967; 13 35'N 144 55'E, alt = 187m. April 1967-1970; 193m. Reliability: uncheckable.

912190: SAIPAN MARIANA IS. 15.1N 145.6E 1927-1972 60
Sources: AI

Notes: AI: 1/2(max + min). 1951-1960; 15 07'N 145 42'E, alt = 32m. 1961-June 1962; 15 13'N 145 44'E, alt = 150m. July 1962-1970; 15 08'N 145 42'E, alt = 3m. Reliability: uncheckable.

912450: WAKE ISLAND PACIFIC OC. 19.3N 166.6E 4m 1935-1980 60
Sources: AI

Notes: AI: July 1935-Dec 1941; Peale Is, 19 18'N 166 37'E, alt = 7ft. July 1946-1950; 19 17'N 166 39'E, alt = 12ft. 1946-1950; 1/2(max + min). 1951-June 1963; alt = 4m. July 1963-1970; alt = 3m. Reliability: uncheckable.

912500: ENIWETOK MARSHALL IS. 11.4N 162.4E 6m 1941-1972 60
Sources: AI

Notes: AI: 1/2(max + min). 1941-1942; 11 21'N 162 21'E, alt = 16m. April 1944-Mar 1947; US Navy, alt = 17m. June 1949-Sept 1960; US Air Force, alt = 13m. Oct-Dec 1960; US Weather Bureau, alt = 13m. 1961-July 1969; 11 21'N 162 20'E, alt = 4m. Aug 1969-1970; 11 21'N 162 21'E, alt = 3m. Reliability: uncheckable.

912750: JOHNSTON ISLAND PACIFIC OC. 16.7N 169.5W 5m 1952-1980 60
Sources: AI

Notes: AI: 1952-May 1957; Terminal Building, 16 44'N 169 31'W, alt = 10ft. June 1957-1970; Weather Building, alt = 2m. 1/2(max + min). Reliability: uncheckable.

912850: NIHO/CEN. LYMAN HAWAII 19.7N 155.1W 1880-1980 60
Sources: AI

Notes: AI: Means of 1/2(mean daily max + mean daily min). Alt; 1917-1945 = 22m, 1946-1977 = 11m. Reliability: uncheckable.

912857: NIHO HAWAII HAWAII 19.7N 155.1W 12m 1942-1970 60
Sources: AI

Notes: AI: Means of 1/2(daily max + daily min). Alt; 12m. No other details available. Reliability: uncheckable.

913340: TRUK CAROLINE IS. 7.4N 151.9E 2m 1935-1980 60
Sources: AI

Notes: AI: 1935-1940; Elin Village, 7 23'N 151 54'E, alt = 112m. 1946-1950; Moen Island, 7 28'N 151 51'E, alt = 8ft. 1935-1940; 1/6(02 + 06 + ...22) 135E meridian time. 1946-1950; 1/2(11 + 23) 150E meridian time. Dec 1953-1970; station moved 430ft SW to 2m. 1/2(max + min). Reliability: uncheckable.

913480: PONAPE CAROLINE IS. 6.9N 158.2E 1928-1980 60
Sources: AI

Notes: AI: 1941-1943; 1/3(06 + 14 + 22). 1949-1950; 1/2(max + min). 1941-1943; 6 58'N 158 13'E, alt = 112m. Mar 1956-1957; station moved 1/4 mile NE to 19ft. Jan 1958-1970; station moved 170ft S to 37m. 1/2(max + min). Reliability: uncheckable.

913540: KUSAIE CAROLINE IS. 5.3N 163.0E 1903-1972 60
Sources: AI

Notes: AI: 1/2(max + min). 1954-1960; 5 20'N 163 01'E, alt = 2m. 1961-1970; 5 20'N 163 03'E, alt = 2m. Reliability: uncheckable.

913660: KWAJALEIN MARSHALL IS. 8.7N 167.7E 8m 1946-1980 60
Sources: AI

Notes: AI: 1/2(max + min). 1946-April 1952; 8 43'N 167 44'E, alt = 7ft. April 1952-May 1954; 8 44'N 167 43'E, alt = 7ft. Nov 1954-June 1960; 8 44'N 167 44'E, alt = 10ft. July-Dec 1960; alt = 3m. 1961-1970; alt = 2m. Reliability: uncheckable.

913740: MAJURO MARSHALL IS. 7.0N 171.3E 3m 1954-1980 60
Sources: AI

Notes: AI: 1/2(max + min). 1944-Aug 1946; Delap Airport. 1952-1954; 7 05'N 171 23'E. April 1954-Feb 1955; 7 06'N 171 23'E, alt = 10ft. Feb 1955-June 1957; 7 05'N 171 23'E, alt = 10ft. June 1957-1970; alt = 3m. Reliability: uncheckable.

914077: ANGLADE PALAU IS. 6.9N 134.2E 5m 1955-1972 60
Sources: AI

Notes: AI: 1955-1960; U.S.C.G. Lorm, 6 55'N 139 04'E, alt = 15m. 1/2(max + min). 1961-1970; 6 55'N 134 09'E, alt = 5m. Reliability: uncheckable.

914080: KOROR PALAU IS. 7.4N 134.5E 33m 1924-1980 60
Sources: AI

Notes: AI: 1924-1939; 1/6(02 + 06 + ...22). 1940-1943; 1/3(06 + 14 + 22) 135E meridian time. 1947-1950; 1/2(max + min). 7 21'N 134 29'E. 1924-May 1927; alt = 32m. June 1927-1943; 31m. 1944-1950; alt was unknown. Jan-May 1951; 7 20'N 134 29'E, alt = 94ft. Site changes occurred in July 1951 & Aug 1956, involving a move to 30m. No details are given. 1961-1970; alt = 29m.

Reliability: uncheckable.

914130: YAP CAROLINE IS. 9.5W 138.1E 17m 1900-1980 60
Sources: AI, A9
Notes: AI: Kolonie; 9 29'N 138 08'E, alt = 30m. 1921-1930; 1/2(daily max + daily min). 1931-1940; 1/6(02 + 06 + 10 + 14 + 18 + 22) 135E meridian time. Alt; 29m. 1941-1943; 1/3(06 + 14 + 22) 135E meridian time. 1948-1970; 1/2(max + min). 1951-1960; alt = 17m. 1961-Feb 1968; 9 31'N 138 08'E, alt = 19m. Mar 1968-1970; 9 29'N 138 05'E, alt = 13m. A9: Alt = 32m. No other details available. Reliability: uncheckable.

914870: FANNING PACIFIC OC. 3.8W 159.4W 5m 1922-1980 60
Sources: AI
Notes: AI: 1/2(max + min). 1921-1930; 3 54'N 159 23'W, alt = 18ft. 1931-1950; 3 30'N 159 13'W, alt = 6ft. 1951-1960; 3 51'N 159 22'W, alt = 5m. 1961-1970; 3 54'N 159 23'W, alt = 3m. Reliability: uncheckable.

914900: CHRISTMAS IS. CHRISTMAS IS 2.0W 157.5W 4m 1916-1979 60
Sources: AI
Notes: AI: 1921-1930; 1/4(09 + 21 + max + min). 1931-1970; 1/2(max + min). 1947-1950; alt = 52ft. 1951-1960; 1 59'N 157 22'W, alt = 3m. 1961-1970; 1 59'N 157 29'W, alt = 3m. Reliability: uncheckable.

915330: OCEAN IS/SANABA PACIFIC OC. .9S 169.5E 66m 1905-1981 60
Sources: AI
Notes: AI: 1/2(max + min). 1921-1925; 0 52'N 169 35'E, alt = 170ft. Dec 1925-July 1926; 130ft. July 1926-Jan 1927; 155ft. Jan 1927-1930; 134ft. May 1947-1950; 214ft. Site changed in Sept 1935, alt was increased by 52ft. A new screen was installed in Feb 1936 and another site change occurred in Sept 1939, alt = 171ft. 1931-Aug 1935; alt = 140ft. Sept 1935-Aug 1939; 187ft. Sept 1939-1941; 171ft. 1951-1960; 0 52'N 169 35'E, alt = 65m. 1961-1970; 0 54'N 169 32'E, alt = 24m. Reliability: uncheckable.

916100: TARAWA, KIRIBATI GILBERT IS. 1.3W 179.9E 2m 1946-1981 60
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 1 21'N 172 56'E, alt = 4m. 1961-1970; alt = 1 21'N 172 55'E, alt = 2m. Reliability: uncheckable.

960350: MEZMAN INDONESIA 3.6W 98.7E 1879-1980 62
Sources: AI
Notes: AI: 1879-1938; alt = 20m. From 1939 observations taken at aerodrome, 3 36'N 98 41'E, alt = 26m. 1931-1932; means of 24 hours. 1933-1940; 1/3(06 + 14 + 20). 1941-1950; means of 24 hours. 1951-1970; Means of 1/2(max + min). 3 34'N 98 41'E, alt = 25m. Reliability: compared with 961630 & 964910 for the years 1931-1980 & 1931-1970. Record shows jump associated with missing data, 1937-1961.

960730: SIBOLGA INDONESIA 1.6W 98.9E 3m 1961-1980 62
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 1 33'N 98 53'E, alt = 3m. Reliability: uncheckable.

961470: RAWAI INDONESIA 4.0N 108.4E 1961-1970 61
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 3 57'N 108 23'E, alt = 2m. Reliability: uncheckable.

961630: PADANG/TABING INDONESIA .9S 100.4E 3m 1850-1980 12 1850
Sources: AI, A35, A155
Notes: AI: Alt; 1879-1930 = 1m, 1931-1950 = 5m, 1951-1970 = 3m. No other details available. A35: No details available. A155: 0 56'N 100 22'E, alt = 7m. 1913-1932; 1/12(02 + 04 + ...24). 1933-1936; 1/3(06 + 14 + 20). Reliability: compared with 965810, 967450 & 960350 for the years 1912-1980, 1866-1980 & 1931-1980.

961950: JAMBI INDONESIA 1.6W 103.7E 25m 1961-1980 62
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 01 38'N 103 39'E, alt = 25m. Reliability: uncheckable.

964130: KUCHING MALAYSIA 1.5W 110.3E 78m 1951-1980 12 1961
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 1 29'N 110 20'E, alt = 26m. Reliability: compared with 962370 for the years 1961-1980.

964210: SIBU MALAYSIA 2.3W 111.8E 1962-1970 61
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 2 20'N 111 50'E, alt = 7m. 1962-Nov 1967; alt = 6m. Reliability: uncheckable.

964410: BINTULU MALAYSIA 3.2W 113.0E 1961-1970 61
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 3 12'N 113 02'E, alt = 3m. Reliability: uncheckable.

964490: MIRI MALAYSIA 4.4W 114.0E 1961-1970 61
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 4 23'N 113 59'E, alt = 3m. Reliability: uncheckable.

964710: KOTA KINABALU MALAYSIA 6.0N 116.0E 7m 1951-1980 62
 Sources: AI

Notes: AI: 1961-1970; 1/2(max + min). 5 57'N 116 03'E, alt = 3m. Reliability: uncheckable.

964910: SANDAKAR, SARAE MALAYSIA 5.8N 118.1E 14m 1879-1980 62
 Sources: AI

Notes: AI: Means of 1/2(daily max + daily min). Alt; 1879-1930 = 104ft, 1931-1950 = 182ft, 1951-1960 = 14m, 1961-1965; 5 54'N 118 04'E, alt = 11m. 1966-1970; alt = 12m. Reliability: compared with 966450, 960350 & 988360 for the years 1891-1970, 1931-1970 & 1951-1970. Record shows a jump associated with 1939-1950 data gap.

965090: TARAKAN INDONESIA 3.3N 117.6E 6m 1961-1980 62
 Sources: AI

Notes: AI: 1961-1970; 1/2(max + min). 3 20'N 117 34'E, alt = 6m. Reliability: uncheckable.

965330: SINGAWANG MALAYSIA 1.1N 109.7E 1961-1970 61
 Sources: AI

Notes: AI: 1961-1970; 1/2(max + min). 1 05'N 109 40'E, alt = 60m. Reliability: uncheckable.

965810: PONTIANAK INDONESIA .0N 109.3E 1879-1980 62
 Sources: AI, AI55

Notes: AI: Alt; 3m. No other details available. AI55; 0 01'N 109 20'E. Alt; 3m. 1912-1932; 1/2(02 + 04 + ...24). 1933-1936; 1/3(06 + 14 + 20). Reliability: compared with 961630 & 967450 for the years 1912-1980. Record shows jumps 1923-1926 & in the 1970s, associated with data gaps.

966330: BALIKPAPAN/SERPINGGAN INDONESIA 1.38 116.9E 3m 1951-1980 62
 Sources: AI

Notes: AI: 1/2(max + min). 1951-1970; 1 16'N 116 54'E, alt = 3m. Reliability: uncheckable.

968530: JOGJAKARTA INDONESIA 7.8N 110.4E 107m 1961-1980 62
 Sources: AI

Notes: AI: 1961-1970; 07 47'S 110 28'E, alt = 107m. 1/2(max + min). Reliability: uncheckable.

970140: MERADO INDONESIA 1.5N 124.8E 1879-1980 62
 Sources: AI, AI55

Notes: AI: Alt; 1879-1940 = 4m, 1941-1960 = 86m, 1961-1970; 1 32'N 124 55'E, alt = 80m. AI55; 1 30'N 124 50'E. Alt; 1912-May 1913 = 9m, June 1913-1916 = 4m, 1917-1933 = 9m, 1912-1932; 1/2(02 + 04 + ...24). 1933; 1/3(06 + 14 + 20). Reliability: compared with 977240 for the years 1912-1980. Oct 1976 value too low.

970480: COMONTALO INDONESIA 20.5N 123.1E 18m 1961-1980 62
 Sources: AI

Notes: AI: 1961-1970; 20 31'N 123 04'E, alt = 18m. 1/2(max + min). Reliability: uncheckable.

974040: MOROTAI INDONESIA 2.1N 128.3E 1951-1961 61
 Sources: AI

Notes: AI: 1/2(max + min). 1951-1960; 2 03'N 128 19'E, alt = 15m. Reliability: uncheckable.

981350: BASCO PHILIPPINES 20.5N 122.0E 11m 1951-1980 10 1951
 Sources: AI

Notes: AI: 1/2(max + min). 1951-1970; 20 27'N 121 58'E, alt = 11m. Reliability: compared with 982320 & 983250 for the years 1951-1980. 1957 values are too high.

982320: APARRI PHILIPPINES 18.4N 121.6E 4m 1886-1980 10 1886
 Sources: AI, AI02, AI06

Notes: AI: 1903-1920; no details. Alt = 5m. 1921-1946; 1/6(02 + 06 + 10 + 14 + 18 + 22) 120E meridian time. Alt; 1939-1946 = 6m, 1947-1950 = 17ft, 1951-1960 = 4m. 1947-1970; 1/2(max + min). 1961-1970; 18 22'N 121 38'E, alt = 3m. AI02: Press; 1/2(10 + 16). Temp; 1/2(max + min). AI05: Normal values. /CLINO/, only. Temp; 1/2(max + min). No other details available. Reliability: compared with 981350 & 983250 for the years 1951-1980. Jan 1963 & Aug 1976 values are too low.

982350: DAGUPAN PHILIPPINES 16.1N 120.3E 2m 1951-1980 10 1951
 Sources: AI

Notes: AI: 1/2(max + min). 1951-1960; 16 03'N 120 20'E, alt = 2m. 1961-1970; alt = 3m. Reliability: compared with 981350 & 982320 for the years 1951-1980.

984250: MANTILA / LDZON PHILIPPINES 14.6N 121.0E 1865-1960 62
 Sources: AI, AI7, AI02

Notes: AI: 1887-1948; means of 24 hours, 1887-1920; details of the instruments used are given on p108, vol 79. Alt; 1887-1945 = 14m, 1946-1947 = 71ft, 1948-1950 = 5ft, 1951-1960 = 16m, 1941-1948; Observations are a mixture of direct & self-recording, details on p77, vol "1941-1950". 1948-1960;

1/2(max + min). A17: No details available. A102: Press; means of 1/2(10 + 16) local time. Temp; means of 24 hourly observations. Reliability: uncheckable.

984290: MANILA, LUZON PHILIPPINES 14.5N 121.0E 15m 1887-1980 20 1887
Sources: A1

Notes: A1: 1951-1970; 1/2(max + min). Airtport; alt = 15m. Reliability: compared with 984440 for the years 1903-1980. Corrected for a jump 1948/1949.
Correction Factors: Stations used; 984440. Calculation dates; 1948-1980.
Correction dates; 1903-1948. Factors: 14 9 13 15 15 8 3 6 8 9 10.

984440: LEGASPI PHILIPPINES 13.2N 123.8E 19m 1903-1980 10 1903
Sources: A1

Notes: A1: 1903-1940; 1/6(02 + 06 10 + 14 + 18 + 22). 13 09'N 123 45'E, alt = 6m. In Sept 1910 the thermometer shelter changed. Small site changes in the rain gauge occurred in April 1908, Oct 1910 & Mar 1911. 1921-1950; means as above, time is 120E meridian time. 1931-1940; alt = 3m. 1941-1946; 13 08'N 123 44'E, alt = 18ft. Jan-Nov 1947; alt = 19ft. Dec 1947-Oct 1948; 13ft. Nov-Dec 1948; 64ft. 1949-1950; 62ft. 1951-1970; 1/2(max + min). 13 08'N 123 44'E, alt = 19m. Reliability: compared with 985500, 986370 & 986450 for the years 1951-1980, 1903-1980 & 1903-1980.

985500: TAGLOBAN PHILIPPINES 11.3N 125.0E 21m 1951-1980 10 1951
Sources: A1

Notes: A1: 1/2(max + min). 1951-1970; 11 15'N 125 00'E, alt = 21m. Reliability: compared with 984440, 986370 & 986450 for the years 1951-1980.

986370: ILOILO PHILIPPINES 10.7N 122.6E 14m 1903-1980 10 1903
Sources: A1

Notes: A1: 1903-1920; 1/6(02 + 06 + 10 + 14 + 18 + 22). 10 42'N 122 34'E, alt = 7m. Instruments moved about 500m in May 1912, from 6 to 7m. 1921-1950; means as above, time is 120E meridian time. 1931-1946; 10 42'N 122 32'E, alt = 14m. 1947-1950; 10 42'N 122 34'E, alt = 46ft. 1951-1970; 1/2(max + min). Alt = 14m. Reliability: compared with 984440 & 985500 for the years 1903-1980 & 1951-1980.

986450: CEBU PHILIPPINES 10.3N 123.9E 35m 1889-1980 10 1889
Sources: A1, A102

Notes: A102: Means of 24 hours. No other details available. A1: Means of 1/2(max + min). 1951-1970; 10 20'N 123 54'E, alt = 42m. Reliability: compared with 964910, 984440 & 985500 for the years 1891-1970, 1903-1980 & 1951-1980. 1899-1950 missing.

986530: SURIGAO PHILIPPINES 9.8N 125.5E 21m 1951-1979 10 1951
Sources: A1

Notes: A1: 1/2(max + min). 1951-1965; 9 48'N 125 30'E, alt = 22m. 1966-1970; 9 48'N 125 30'E, alt = 21m. Reliability: compared with 964910 & 988360 for the years 1951-1970 & 1951-1979.

988360: ZAMBUANGA PHILIPPINES 6.9N 122.1E 6m 1951-1980 10 1951
Sources: A1

Notes: A1: 1/2(max + min). 1951-1970; 6 54'N 122 04'E, alt = 6m. Reliability: compared with 964910 & 986530 for the years 1951-1970 & 1951-1979.

988510: REJAH BUAYAN PHILIPPINES 6.1N 125.2E 1951-1960 61
Sources: A1

Notes: A1: 1951-1960; 1/2(max + min). 6 07'N 125 14'E, alt = 15m. Reliability: uncheckable.

990010: SBIP STATION A OCEANIA 62.0N 33.0W 1946-1973 60
Sources: A1

Notes: A1: 1946-1950; 62 00'N 33 00'W. 1/8(0030 + 0330 +2130) GMT. 1951-1965; 1/8(00 + 03 + ...21) GMT. Reliability: uncheckable.

990020: SBIP STATION B OCEANIA 56.5N 51.0W 1946-1974 60
Sources: A1

Notes: A1: 1946-1950; 56 30'N 51 00'W. 1/8(0030 + 0330 +2130) GMT. 1951-1970; 1/8(00 + 03 + ...21) GMT. Reliability: uncheckable.

990030: SBIP STATION C OCEANIA 52.6N 35.5W 1945-1977 60
Sources: A1

Notes: A1: 1945-June 1946; 51 36'N 35 30'W. June 1946-1950; 52 36'N 35 30'W. 1/8(0030 + 0330 + ...2130) GMT. 1951-1970; 52 45'N 35 30'W. 1/8(00 + 03 +21) GMT. Reliability: uncheckable.

990040: SBIP STATION D OCEANIA 44.0N 41.0W 1949-1973 60
Sources: A1

Notes: A1: 1946-1950; 44 00'N 41 00'W. 1/8(0030 + 0330 +2130) GMT. 1951-1970; 1/8(00 + 03 +21) GMT. Reliability: uncheckable.

990050: SBIP STATION E OCEANIA 34.0N 52.0W 1945-1973 60
Sources: A1

Notes: A1: 1945-Aug 1949; 34 00'N 52 00'W. Sept 1949-1950; 35 00'N 48 00'W. 1/8(0030 + 0330 + ...2130) GMT. 1951-1970; 1/8(00 + 03 +21) GMT. Reliability: uncheckable.

990080: SHIP STATION H OCEANIA 38.0N 71.0W 1971-1977 60
Sources: AI
Notes: AI: 1949-1950; 36 00'N 70 00'W. 1/8(0030 + 0330 + ...2130) GMT.
Reliability: uncheckable.

990090: SHIP STATION I OCEANIA 60.0N 20.0W 1948-1975 60
Sources: AI
Notes: AI: 1948-Mar 1950; 60 00'N 20 00'W. April-Dec 1950; 59 00'N 19 00'W.
1/8(0030 + 0330 + ...2130) GMT. 1951-1970; 1/8(00 + 03 + ...21) GMT.
Reliability: uncheckable.

990100: SHIP STATION J OCEANIA 53.8N 18.7W 1948-1975 60
Sources: AI
Notes: AI: 1947-Mar 1950; 53 50'N 18 40'W. April-Dec 1950; 52 30'N 20 00'W.
1/8(0030 + 0330 + ...2130) GMT. 1951-1970; 1/8(00 + 03 + ...21) GMT.
Reliability: uncheckable.

990110: SHIP STATION K OCEANIA 45.0N 16.0W 1948-1976 60
Sources: AI
Notes: AI: 1949-1950; 45 00'N 16 00'W. 1/8(0030 + 0330 + ...2130) GMT. 1951-1970;
1/8(00 + 03 + ...21) GMT. Reliability: uncheckable.

990120: SHIP STATION L OCEANIA 57.0N 20.0W 1975-1980 60
Sources: AI
Notes: AI: No details available. Reliability: uncheckable.

990130: SHIP STATION M OCEANIA 66.0N 2.0E 1948-1976 60
Sources: AI
Notes: AI: 1948-1950; 66 00'N 2 00'E. 1/8(0030 + 0330 + ...2130) GMT. 1951-1970;
1/8(00 + 03 + ...21) GMT. Reliability: uncheckable.

990140: SHIP STATION N OCEANIA 30.0N 140.0W 1947-1974 60
Sources: AI
Notes: AI: No details available. Reliability: uncheckable.

990160: SHIP STATION P OCEANIA 49.0N 148.0W 1945-1980 60
Sources: AI
Notes: AI: No details available. Reliability: uncheckable.

990180: SHIP STATION R OCEANIA 47.0N 17.0W 1975-1980 60
Sources: AI
Notes: AI: No details available. Reliability: uncheckable.

990200: SHIP STATION T OCEANIA 29.0N 135.0E 1948-1960 60
Sources: AI
Notes: AI: No details available. Reliability: uncheckable.

990220: SHIP STATION V OCEANIA 34.0N 164.0E 1955-1971 60
Sources: AI
Notes: AI: No details available. Reliability: uncheckable.

990507: DRIFTING STATION A OCEANIA 86.2N 113.1W 1957-1958 60
Sources: AI
Notes: AI: 1957-1958; 86 12'N 113 08'W, an ice floe about 2 x 1-1.5 miles. Means
of 8 3-hourly observations. Prec is rain + 1/10 of snowfall. Reliability:
uncheckable.

990517: DRIFTING STATION B OCEANIA 75.4N 126.6W 1952-1959 60
Sources: AI
Notes: AI: 1952-1959; 75 24'N 126 35'W, alt = 6m, an ice mass about 9 x 5 miles.
July 1957-Dec 1958; means of 8 3-hourly observations. Prec is rain + 1/10
of snowfall. For rest of time; 1/2(max + min). Prec is rain + melted snow.
Reliability: uncheckable.

990527: NORTH POLE 2 ARCTIC 81.6N 162.8W 1950-1951 60
Sources: AI
Notes: AI: 1/4(00 + 06 + 12 + 18) GMT. 81 36'N 162 48'W. Reliability: uncheckable.

990537: NORTH POLE 4 ARCTIC 86.1N .3E 1954-1956 60
Sources: AI
Notes: AI: 1/4(00 + 06 + 12 + 18) GMT. 86 06'N 00 18'E. Reliability: uncheckable.

990547: NORTH POLE 6 ARCTIC 85.4N 28.1E 1956-1959 60
Sources: AI
Notes: AI: 1/4(00 + 06 + 12 + 18) GMT. 85 24'N 28 06'E. Reliability: uncheckable.

990557: NORTH POLE 7 ARCTIC 83.3N 34.1W 1957-1959 60
Sources: AI
Notes: AI: 83 18'N 34 06'W. 1/4(00 + 06 + 12 + 18) GMT, except for Jan-Mar 1959
when 1/2(00 + 12) GMT was used. Reliability: uncheckable.

991220: MOCADOR MOROCCO 31.5N 9.6W 1/m 1878-1971 60
Sources: A29, A43, A167

Notes: A29: Temp & Press; 1/3(07 + 14 + 21). A43: Temp; 1/2(max + min).
Observations were also taken at same time as Press; 1905; 1/3(08 + 14 + 20), 1909; 1/3(09 + 14 + 21). Alt; 1905 = 10m, 1909 = 15m. 1910-1911; 31 30' N 12 07' W of Paris, alt = 17m. A167: Means of 1/2(max + min). 31 31' N 9 47' W, alt = 5m. Reliability: uncheckable.

999002: MYCHURKA GREENLAND 73.5W 21.6W 4m 1932-1950 10 1932
Sources: #

Notes: A1: Koppen formula, $m = n - k(n - \text{min})$, where $n = 1/3(08 + 14 + 19)$ GMT, k is a seasonally dependant factor & min is the mean min temp. 1932-July 1939; alt = 3m. Sept 1946-1950; 73 29' N 21 34' W, alt = 4m. Reliability: compared with 010010 for the years 1932-1950.

999003: BALTISCHPORT USSR 59.4N 24.1E 10m 1839-1880 60
Sources: A13, A35

Notes: A13: Alt; 10m. Jan-Mar 1839 & April-Sept 1849; 1/3(07 + 12 + 21).
April-Aug 1839; 1/3(05 + 14 + 22). Sept 1839-Mar 1849; 1/3(07 + 14 + 22).
Oct 1849-Mar 1865; 1/3(08 + 0.5(12 + 15) + 22). April 1865-Nov 1869;
1/3(07 + 14 + 21). Dec 1869-June 1871; 1/3(08 + 14 + 21). July 1871-1880;
1/3(07 + 13 + 21). Corrections are given on pV. A35: No details available.
Reliability: uncheckable.

999004: LUGAN USSR 48.6N 39.3E 60m 1837-1882 60
Sources: A2, A13, A35

Notes: A2: No details available. A13: 1837-1861; 1/3(08 + 14 + 22). 1862-Aug 1872; 1/3(06 + 14 + 22). Sept 1872-1880; 1/3(07 + 13 + 21). Corrections are given on pIX. Alt; 60m. A35: No details available. Reliability: uncheckable.

999005: BOCOSLOWSK USSR 59.6N 60.1E 190m 1838-1882 60
Sources: A2, A13, A35, A70

Notes: A2: No details available. A13: Alt; 190m. 1838-1869; 1/3(08 + 14 + 22).
1870-1880; 1/3(07 + 13 + 21). Corrections are given on pXI. A35: No details available. A70: A combination of 1/4(08 + 14 + 22 + 22) & 1/3(07 + 13 + 21). Corrections, but no other details are given on pLXXXIII.
Reliability: uncheckable.

999011: BOUZAREAH ALGERIA 36.8N 3.0E 364m 1894-1950 60
Sources: A1

Notes: A1: 1894-1909; 1/4(07 + 13 + 19 + (19 + min)/2), corrected to means of 24 hours by corrections given on p6, vol 79. 1910-1920; means of 24 hourly v-lues. 1894-1940; alt = 342m. 1921-1922 & 1925-1930; tri-hourly observations, accepted as the 24 hour mean. 1923 & 1924; 1/3(07 + 13 + 18) corrected to mean of 24 hours by corrections given on p5, vol XC. 1931-1940; 1/3(07 + 13 + 18) reduced to true means of 24 hours, by

corrections given on p3, vol 105. 1941-1950; 1/4(07 + 13 + 18 + (min + 18)/2) GMT, alt = 344m. Reliability: uncheckable.

999013: FORT TRINQUET MAURITANIA 25.2N 11.6W 1945-1950 60
Sources: A1

Notes: A1: 1945-1950; 1/2(max + min). 25 14' N 11 35' W, alt = 1181ft. Reliability: uncheckable.

999014: CAPE SPARTEL MOROCCO 35.8N 5.9W 59m 1894-1920 60
Sources: A1

Notes: A1: 1/4(09 + 21 + max + min). Alt; 1894-July 1914 = 197ft, Sept 1914-1915 = 235ft, 1916-1920 = 197ft. Reliability: uncheckable.

999016: AMTA CHINA 46.4N 125.3E 151m 1914-1942 60
Sources: A1

Notes: A1: 1914-1939; 1/3(07 + 13 + 21) 126.5E meridian time. 1940-1943; 1/6(02 + 06 + 10 + 14 + 18 + 22) 135E meridian time. 46 25' N 125 20' E, alt = 151m. Reliability: uncheckable.

999017: QU'APPELLE CANADA 50.5N 103.9W 650m 1883-1968 60
Sources:

Notes: Reliability: uncheckable.

999018: FORT BAYARD CHINA 21.1N 110.5E 14m 1921-1940 60
Sources: A1

Notes: A1: 1921-1940; 1/2(max + min). 21 03' N 110 28' E, alt = 14m. Reliability: uncheckable.

999023: MUKDEN (SHENYANG) CHINA 41.8N 123.4E 4/m 1905-1943 60
Sources: A92

Notes: A92: alt = 44m. "Mean daily max" and "mean daily min" are given but "mean daily temp" does not appear to be 1/2(max + min), however some correction may have been made. No other details available. Reliability: uncheckable.

999024: FORT ARTHUR CHINA 38.8N 121.2E 16m 1906-1944 60
Sources: A92

Notes: A92: alt = 16m. "Mean daily max" and "mean daily min" are given, but "mean daily temp" does not appear to be 1/2(max + min), however some correction may have been made. No other details available. Reliability: uncheckable.

- 999025: TIENYIN CHINA 39.2N 117.2E 5m 1920-1948 60
Sources: A92
- Notes: A92: alt = 5m. "Mean daily max" and "mean daily min" are given but "mean daily temp" does not appear to be $1/2(\text{max} + \text{min})$, however some correction may have been made. No other details available. Reliability: uncheckable.
- 999026: JASK IRAN 25.8N 57.8E 4m 1893-1949 10 1893
Sources: A1
- Notes: A1: Means of $1/2(\text{max} + \text{min})$. Alt: 13ft. Reliability: compared with 404600 & 404270 for the years 1893-1949 & 1902-1949.
- 999027: SYAMA JAPAN 45.2N 147.9E 39m 1903-1944 10 1903
Sources: A1
- Notes: A1: 1903-1938; $1/6(02 + 06 + 10 + 14 + 18 + 22)$. 1939-1944; $1/3(06 + 14 + 22)$ 135E meridian time. 45 14'N 147 53'E, alt = 39m. Reliability: compared with 320980 & 474200 for the years 1903-1950.
- 999028: CHUNGKANGIN CHINA 41.8N 126.9E 312m 1915-1944 60
Sources: A1
- Notes: A1: Jan-May 1914; $1/3(06 + 14 + 22)$. June 1914-Dec 1939; $1/6(02 + 06 + 10 + 14 + 18 + 22)$. 1940-1944; $1/3(06 + 14 + 22)$ 135E meridian time. 41 47'N 126 53'E, alt = 312m. Reliability: uncheckable.
- 999029: JSORIN (ZVOSIN) KOREA 40.7N 129.2E 32m 1906-1944 60
Sources: A1
- Notes: A1: 1906-1920; means of (hours not given). 40 40'N 129 11'E, alt = 4m. 1921-1939; $1/6(02 + 06 + 10 + 14 + 18 + 22)$ 135E meridian time. Dec 1919-1944; 40 40'N 129 12'E, alt = 32m. 1940-1944; $1/3(06 + 14 + 22)$ 135E meridian time. Reliability: uncheckable.
- 999031: UNGGI KOREA 42.3N 130.4E 89m 1915-1944 60
Sources: A1
- Notes: A1: 1915-1939; $1/6(02 + 06 + 10 + 14 + 18 + 22)$. 1940-1944; $1/3(06 + 14 + 22)$ 135E meridian time. Jan-May 1915; alt = 6m. June 1915-Dec 1923; 66m. 1924-1936; 64m. 1937-1944; 89m. Reliability: uncheckable.
- 999032: FORT SHEVCHENKO USSR 44.5N 50.1E 24m 1873-1950 60
Sources: A1
- Notes: A1: 1882-1915; $1/5(07 + 13 + 21)$ corrected to means of 24 hours. Alt: 24m. 1921-1930; $1/3(07 + 13 + 21)$. Alt: 23m. 1931-Feb 1936; $1/3(07 + 13 + 21)$ local time, corrected to the means of 24 hours. Mar 1936-1940; $1/4(01 + 07 + 13 + 19)$. 1941-1950; $1/4(01 + 07 + 13 + 19)$ local time corrected to the means of 24 hours. NB. Temp; 1882-1915 reduced to a standard alt by assuming a decrease of .6C for every 100m. Reliability: uncheckable.
- 999033: W'ROWUSHIRO USSR 50.2N 155.8E 1936-1943 60
Sources: A1
- Notes: A1: 1936-April 1940; $1/6(02 + 06 + 10 + 14 + 18 + 22)$. May 1940-1943; $1/3(06 + 14 + 22)$ 135E meridian time. 1936-June 1937; alt = 11m. July 1937-Nov 1943; alt = 9m. Nov 1943-Dec 1943; 50 11'N 155 45'E, alt = 7m. Reliability: uncheckable.
- 999034: KASALINSK USSR 45.8N 62.1E 1881-1950 10 1900
Sources: A1, A2
- Notes: A1: 1881-1920; means of (hours not given). 1921-1935; $1/3(07 + 13 + 21)$ local time. Alt = 67m. 1936-1950; $1/4(01 + 07 + 13 + 19)$ local time, corrected to the means of 24 hours. A2: No details available. Reliability: compared with 353580 for the years 1900-1950. See also station 358490.
- 999038: NIKOLSK USSURIYSKY USSR 43.8N 132.0E 46m 1890-1950 10 1890
Sources: A1
- Notes: A1: 1890-1935; $1/3(07 + 13 + 21)$ corrected to means of 24 hours. 1936-1940; $1/4(01 + 07 + 13 + 19)$ local time. 1941-1950; $1/4(01 + 07 + 13 + 19)$ local time corrected to the means of 24 hours. Site; 1890-1910; 43 47'N 131 57'E, alt = 25m. 1911-1915; alt = 46m. 1916-1930 = 25m. 1931-1950 = 28m. NB. Temp corrections for 1889-1910 & for an unspecified site change are given on p.iiii, vol 79. Temp 1890-1915 reduced to a standard height, by assuming a decrease of .6C for every 100m. 1938 is $1/3(07 + 13 + 21)$. Reliability: compared with 319600 for the years 1890-1950.
- 999039: OCHIAI USSR 47.3N 142.7E 7m 1908-1950 10 1908
Sources: A1
- Notes: A1: 1908-1920; $1/3(07 + 13 + 21)$ corrected to means of 24 hours and reduced to a standard height of 7m by assuming a decrease of -.6C for every 100m. 47 20'N 142 44'E, alt = 7m. 1921-1935; $1/6(02 + 06 + 10 + 14 + 18 + 22)$ 135E meridian time. 47 20'N 142 47'E, alt = 7m. 1936-1940; 47 20'N 142 48'E, alt = 7m. 1940-1944; $1/3(06 + 14 + 22)$ 135E meridian time. Alt: 41m. 1946-1950; Dolinsk, USSR, 47 20'N 142 48'E, alt = 7m. $1/4(01 + 07 + 13 + 19)$ local time corrected to means of 24 hours. Reliability: compared with 320980 & 474200 for the years 1908-1950.
- 999041: WAIKATZ USSR 70.4N 58.8E 11m 1914-1950 10 1914
Sources: A1
- Notes: A1: 1921-1935; $1/3(07 + 13 + 21)$ local time, corrected to means of 24 hours. 70 24'N 58 47'E, alt = 11m. 1936-1938; $1/4(01 + 07 + 13 + 19)$ local time. 1939-1950; $1/4(01 + 07 + 13 + 19)$ local time corrected to means of 24 hours. Reliability: compared with 207440 for the years 1914-1950.
- 999042: DONG HOI VIETNAM 17.5N 106.6E 1941-1950 60
Sources: A1
- Notes: A1: 1941-1950; 17 29'N 106 36'E, alt = 5m. $1/12(02 + 04 + \dots + 24)$ 105E meridian time. Reliability: uncheckable.

999043: HAIPHONG VIETNAM 20.8N 106.7E 1948-1950 60
Sources: AI

Notes: AI: 1947-1950; 20 49' N 106 43' E, alt = 5m. 1/12(02 + 04 +24) 10SE meridian time. Reliability: uncheckable.

999045: HONKAY VIETNAM 21.5N 107.9E 9m 1906-1950 72
Sources: AI

Notes: AI: 1/2(max + min). 1906-1940; 21 31' N 107 51' E, alt = 9m. 1941-1950; 1/12(02 + 04 + ...24) 10SE meridian time. 21 31' N 107 58' E, alt = 10m. Reliability: compared with 999046 for the years 1906-1944.

999046: PHU-LIEN VIETNAM 20.8N 106.6E 116m 1906-1944 70
Sources: AI

Notes: AI: 1907-1920; means of 12 bi-hourly observations. 20 48' N 106 37' E, alt = 116m. 1921-1930; 1/2(max + min). 20 48' N 106 38' E, alt = 116m. 1931-1940; 1/12(02 + 04 + ...24) 10SE meridian time. Reliability: compared with 999045 for the years 1906-1944.

999048: CHIMAX BEI COBAN GUATEMALA 15.6N 90.4W 1892-1913 60
Sources: AI

Notes: AI: 1/3(06 + 12 + 18). No other details available. Reliability: uncheckable.

999049: OBIR AUSTRIA 46.5N 14.5E 2044m 1848-1944 60
Sources: AI, A35

Notes: Also known as Villacher Alpe. AI: 1851-1885; means of 24 hours. 1886-1944; 1/4(07 + 14 + 21 + 21) local time. Alt: 2044m. Rain gage moved 70m east in June 1941. Observations made at summer time April 1940-Nov 1942, Mar-Oct 1943 & April-July 1944, but no corrections made. Rain for Oct 1938-1939 is derived from surrounding stations. A35: No details available. Reliability: uncheckable.

999050: GUTERSLOH W.GERMANY 51.9N 8.4E 76m 1835-1923 60
Sources: AI, A14, A35, A101

Notes: AI: 1835-1923; alt = 76m. 1835-1886; 1/3(06 + 14 + 22). 1887-1923; 1/4(07 + 14 + 21 + 21). Site moved in 1853, no details available. A14: Alt; 72m. No other details available. A35: No details available. A101: No details available. Reliability: uncheckable.

999051: GIBRALTAR GIBRALTAR 36.1N 5.4W 3m 1852-1973 10 1852
Sources: AI, A8, A50

Notes: AI: 1852-1903; 1/2(max+min) corrected to 1/4(07+13+21+21) by correction based on 1911-20 data. In Aug 1911 a 10F error was found in min thermometer due to evaporation of spirit since 1904, 1904-June 1908; 1/2(09+15) reduced as above (corrections on p43, vol 79). July 1908-30;

true means of 1/4(07+13+21+21) reduced from; 1852-May 1862; 1/2(0930+1330), 1862-June 1908; 1/2(09+15). 1931-60; 1/2(max+min). In Nov 1935 moved from 102 to 395ft. Northfront opened May 1943, alt = 8ft. Windmill Hill closed in 1947 after several unsatisfactory moves. 1948-50 data adjusted by corrections given on p40. 1951-60; alt = 3m. Instruments read at station zone time nearest to 09GMT. NB. In May 1912 rain gauge moved 105ft S of other instruments to an alt of 46ft. A8: No details available. A43: No details available. Reliability: compared with 082220 & 085360 for the years 1852-1950 & 1864-1950.

999053: SASSARI ITALY 40.7N 8.6E 224m 1883-1950 10 1883
Sources: AI

Notes: AI: 1883-1920; means of (hours not given). Alt; 224m. 1921-1940; means of 1/4(09 + 21 + max + min) Central European Time. 1941-1950; 1/4(08 + 19 + max + min) 15E meridian time. Reliability: compared with 076500 & 162400 for the years 1883-1950.

999054: GJESVAR NORWAY 71.1N 25.4E 6m 1878-1968 60
Sources: AI

Notes: AI: Alt; 7m. 1878-1920; means of (hours not given). 1921-1926; means from Koppen formula, $m = n - k(n-min)$ where n is the mean of 3 daily observations, min is the daily min temp & k is a coefficient whose value varies with the season. 1921-1948; $n = 1/3(08 + 14 + 19)$ 15E meridian time. 1949-1950; $n = 1/3(07 + 14 + 19)$ 15E meridian time. Reliability: uncheckable.

999055: IMGOY NORWAY 71.1N 24.2E 1941-1950 60
Sources: AI

Notes: AI: 1941-1950; Koppen formula, $m = n - k(n - min)$, where n is the mean of 3 daily observations, k is a seasonally dependant correction factor & min is the mean min temp. 1941-1948; $n = 1/3(08 + 14 + 19)$. 1949-1950; $n = 1/3(07 + 14 + 19)$ 15E meridian time. 1941-Aug 1945; alt = 4m. Sept 1945-1950; alt = 8m. Reliability: uncheckable.

999056: MERAVERN-SLETNES NORWAY 71.0N 27.8E 10m 1899-1940 60
Sources: AI

Notes: AI: 1899-1926; 71 1' N 27 47' E, alt = 10m. 1927-1930; 71 5' N 28 14' E, alt = 10m. 1899-1940; means calculated by Koppen formula, $m = n - k(n-min)$, where m = true mean temp, min = daily min temp, n is the mean of 3 daily observations & k is a factor dependant on station & season. 1899-1919; $n = 1/3(08 + 14 + 20)$. 1920-1940; $n = 1/3(08 + 14 + 19)$. All 15E meridian time. 1927-1934; temp recorded at an alt of 7m. Reliability: uncheckable.

999057: PERM USSR 58.0N 56.3E 144m 1883-1950 60
Sources: AI

Notes: AI: 1883-1935; 1/3(07 + 13 + 21) local time, corrected to the means of 24 hours. Alt; 159m. 1921-1937; alt = 163m. In 1938 station moved to 144m, no details given. 1936-1950; 1/4(01 + 07 + 13 + 19) local time, corrected to

the means of 24 hours, except April-Dec 1938; 1/3(07 + 13 + 21). NB. Temp 1883-1920 reduced to a standard alt by assuming a decrease of .45C for every 100m. Reliability: uncheckable.

999058: NOVOROSISK USSR 44.7N 37.8E 37m 1881-1950 60
Sources: A1

Notes: A1: 1881-1935; 1/3(07 + 13 + 21) local time, corrected to the means of 24 hours. Alt; 37m. 1936-1940; 1/4(01 + 07 + 13 + 19) local time, corrected to the means of 24 hours. 1941-1950; 1/4(01 + 07 + 13 + 21) local time, corrected to means of 24 hours. NB. temp 1881-1920 reduced to a standard height by assuming a decrease of .45C for every 100m. Reliability: uncheckable.

999059: SVERDLOVSK USSR 56.8N 60.6E 1881-1950 60
Sources: A1

Notes: A1: 1881-1935; 1/3(07 + 13 + 21) local time, corrected to means of 24 hours. Alt; 281m. 1936-1960; 1/4(01 + 07 + 13 + 19) local time, corrected to means of 24 hours. In 1938 the station was out of use, values were interpolated from the neighbouring station at 56 47'N 60 38'E, alt = 290m. NB. Temp 1881-1920 reduced to a standard height by assuming a decrease of .45C for every 100m. Reliability: uncheckable.

999060: UST-ZYLMA USSR 65.5N 52.2E 27m 1889-1950 10 1897
Sources: A1

Notes: A1: 1889-1935; 1/3(07 + 13 + 21) local time, corrected to the means of 24 hours. Alt; 1889-1920 = 23m, 1921-1930 = 27m, 1931-1940 = 74m, 1941-1950 = 72m. 1936-1950; 1/4(01 + 07 + 13 + 19) local time, corrected to the means of 24 hours. NB. 1889-1935 temp reduced to a standard height by assuming a decrease of .45C for every 100m. Corrections for the period 1889-1915 & for an unspecified site change are given on p111, vol 79. Reliability: computed with 207440 for the years 1897-1950.

999071: QU'APPELLE CANADA 50.5N 103.8W 650m 1883-1950 60
Sources:

Notes: Reliability: uncheckable.

999082: NORTH HEAD USA 46.3N 124.1W 59m 1878-1950 60
Sources:

Notes: Reliability: uncheckable.

999120: ANTIGUA ANTIGUA 17.1N 61.8W 1947-1950 60
Sources: A1

Notes: A1: 1947-1950; 1/2(max + min). 17 05'N 61 50'W, alt = 120ft. Reliability: uncheckable.

APPENDIX B

Stations used in the gridding algorithm

Column headings:

ID = WMO Number (generally with additional 0)

LAT = Latitude (in tenths of degrees; minus sign indicates Southern Hemisphere)

LONG = Longitude (in tenths of degrees; minus sign indicates east of Greenwich)

ALT = Altitude (metres)

Station Name

Country

Unit Indicator (1 = tenths of degrees celcius)

First year of temperature data

Last year of data

Station used in the gridding process (GP)

First reliable year of data (0 = first year of data)

Quality control code (see Appendix A for details)

ID	LAT	LONG	ALT	STATION NAME	COUNTRY			STATUS	
010010	710	84	9	JAN MAYEN	NORWAY	1	1921	1980	GP 1921 10
010050	780	-142	9	ISFJORD RADIO	NORWAY	1	1912	1979	GP 1912 10
010250	695	-190	11	TROMO/SKATTO	NORWAY	1	1856	1980	GP 1876 12
010280	745	-190	14	BJORNOYA	NORWAY	1	1951	1980	GP 1951 10
010650	695	-255	133	KARASJOK	NORWAY	1	1876	1970	GP 1876 10
010980	704	-311	15	VARDO	NORWAY	1	1829	1980	GP 1829 12
011520	673	-144	13	BODO	NORWAY	1	1868	1980	GP 1868 10
012410	637	-96	7	ORLAND	NORWAY	1	1951	1980	GP 1951 10
012580	634	-105	115	TRONDHEIM/TYHOLT	NORWAY	1	1761	1980	GP 1761 10
013160	604	-53	44	BERGEN/FREDERIKSBERG	NORWAY	1	1816	1980	GP 1816 10
014150	589	-56	8	STAVANGER/SOLA	NORWAY	1	1951	1980	GP 1951 10
014920	599	-107	96	OSLO/GARDERMOEN	NORWAY	1	1816	1980	GP 1816 20
020570	656	-221	16	LULEA/KALLAX	SWEDEN	1	1951	1970	GP 1951 10
020760	599	-176	15	UPPSALA	SWEDEN	1	1739	1970	GP 1855 12
020800	685	-225	327	KARESUANDO	SWEDEN	1	1830	1980	GP 1951 72
021270	651	-172	327	STENSELE	SWEDEN	1	1951	1980	GP 1951 10
021960	658	-242	7	HAPARANDA	SWEDEN	1	1860	1980	GP 1860 10
022260	632	-147	-999	OSTERSUND	SWEDEN	1	1951	1980	GP 1951 10
023610	626	-180	8	HARNOSAND	SWEDEN	1	1859	1980	GP 1859 10
024180	594	-135	55	KARLSTAD	SWEDEN	1	1951	1980	GP 1951 10
024640	594	-181	52	STOCKHOLM	SWEDEN	1	1756	1980	GP 1756 10
025500	578	-142	232	JONKOPING	SWEDEN	1	1951	1980	GP 1951 10
025900	577	-183	28	VISBY	SWEDEN	1	1951	1980	GP 1951 10
028360	672	-266	181	SODANKYLA	FINLAND	1	1908	1980	GP 1908 10
028970	643	-277	136	KAJAANI	FINLAND	1	1951	1980	GP 1951 10
029110	631	-218	8	VAASA	FINLAND	1	1951	1980	GP 1951 10
029350	624	-257	145	JYVASKYLA	FINLAND	1	1951	1980	GP 1951 10
029720	605	-223	54	TURKU	FINLAND	1	1750	1980	GP 1951 72
029740	602	-250	56	HELSINKI/SEUTULA	FINLAND	1	1829	1980	GP 1829 20
030050	601	12	82	LERWICK	UK	1	1931	1980	GP 1931 10
030260	582	63	3	STORNOWAY	UK	1	1931	1980	GP 1931 10
030680	576	31	32	GORDON CASTLE	UK	1	1781	1975	GP 1900 72
030910	572	21	59	ABERDEEN/DYCE	UK	1	1871	1980	GP 1871 20
031000	565	69	9	TIREE	UK	1	1931	1980	GP 1931 10
031400	559	43	-999	GLASGOW	UK	1	1857	1978	GP 1857 10
031540	551	31	-999	DUMFRIES	UK	1	1871	1969	GP 1910 70
031600	560	34	35	EDINBURGH/TURNHOUSE	UK	1	1951	1980	GP 1951 10
031607	559	32	134	EDINBURGH/ROYAL OBS.	UK	1	1764	1960	GP 1857 10
031620	553	32	239	ESKDALEMUIR	UK	1	1931	1980	GP 1931 10
033020	533	45	10	VALLEY	UK	1	1931	1980	GP 1931 10
033230	534	29	-999	BIDSTON	UK	1	1870	1971	GP 1900 70
033340	534	23	77	MANCHESTER AIRPORT	UK	1	1794	1980	GP 1951 72
033400	534	15	-999	SHEFFIELD	UK	1	1882	1978	GP 1882 10
033770	532	5	68	WADDINGTON	UK	1	1951	1980	GP 1951 10
034970	526	-17	2	GORLESTON	UK	1	1931	1975	GP 1931 10
035340	525	17	96	BIRMINGHAM/ELMDON AP	UK	1	1951	1980	GP 1951 10
037898	519	26	-999	ROSS-ON-WYE	UK	1	1877	1975	GP 1877 10

ID	LAT	LONG	ALT	STATION NAME	COUNTRY	STATUS					
038270	504	41	27	PLYMOUTH/MT. BATTEN	UK	1	1865	1980	GP	1865	10
038900	517	12	63	OXFORD	UK	1	1828	1980	GP	1900	70
038988	539	11	-999	YORK	UK	1	1871	1969	GP	1871	10
038989	517	3	-999	ROTHAMSTEAD	UK	1	1872	1969	GP	1872	10
038991	538	25	115	STONYHURST	UK	1	1848	1969	GP	1848	10
038992	542	4	-999	SCARBOROUGH	UK	1	1872	1969	GP	1872	10
038993	525	19	-999	EDGBASTON	UK	1	1887	1969	GP	1887	10
038994	548	16	-999	DURHAM	UK	1	1847	1981	GP	1847	10
038995	552	16	-999	COCKLE PARK	UK	1	1898	1968	GP	1898	10
038996	522	-1	12	CAMBRIDGE	UK	1	1871	1969	GP	1871	10
039170	547	62	73	BELFAST/ALDERGROVE A	UK	1	1834	1980	GP	1885	72
039520	518	83	41	ROCHES POINT	IRELAND	1	1955	1970	GP	0	61
039530	519	103	14	VALENTIA OBSERVATORY	IRELAND	1	1869	1980	GP	1869	10
039650	531	79	72	BIRR	IRELAND	1	1954	1970	GP	0	61
039700	537	90	69	CLAREMORRIS	IRELAND	1	1949	1970	GP	1949	10
039710	535	74	110	MULLINGAR	IRELAND	1	1949	1970	GP	1949	10
039740	542	72	89	CLONES	IRELAND	1	1950	1970	GP	1950	10
039800	554	73	25	MALIN HEAD	IRELAND	1	1955	1980	GP	1955	10
040130	650	228	26	STYKKISHOLMUR	ICELAND	1	1846	1980	GP	1846	70
040180	640	226	49	KEFLAVIK	ICELAND	1	1952	1980	GP	1952	10
040300	640	220	16	REYKJAVIK	ICELAND	1	1901	1980	GP	1901	10
040480	634	203	122	VESTMANNAEYJAR	ICELAND	1	1884	1970	GP	1884	20
040630	657	181	27	AKUREYI	ICELAND	1	1882	1980	GP	1882	10
040650	666	180	6	GRIMSEY	ICELAND	1	1874	1970	GP	1874	10
040820	643	152	17	HOLAR I HORNAFIRDI	ICELAND	1	1951	1980	GP	1951	10
040887	647	144	18	TEIGARHORN	ICELAND	1	1884	1970	GP	1884	10
042100	728	561	63	UPERNAVIK	GREENLAND	1	1873	1980	GP	1873	10
042160	692	510	47	JAKOBSHAVN	GREENLAND	1	1866	1970	GP	1866	10
042200	687	528	48	EGEDESMINDE	GREENLAND	1	1951	1980	GP	1951	10
042500	642	517	20	GODTHAAB	GREENLAND	1	1866	1980	GP	1866	10
042620	612	482	30	IVIGTUT	GREENLAND	1	1875	1966	GP	0	61
043100	815	168	35	NORD	GREENLAND	1	1952	1972	GP	1952	10
043200	767	189	11	DANMARKSHAVN	GREENLAND	1	1951	1980	GP	1951	10
043400	705	220	41	KAP TOBIN	GREENLAND	1	1931	1980	GP	1951	10
043600	656	376	35	ANGMAGSSALIK	GREENLAND	1	1895	1980	GP	1895	10
043900	600	431	76	PRINS CHRISTIANS S.	GREENLAND	1	1951	1980	GP	1951	10
060110	621	68	39	THORSHAVN	FAEROES	1	1867	1980	GP	1867	10
060527	568	-83	19	VESTERVIG	DENMARK	1	1874	1969	GP	1874	10
060667	559	-85	7	TARM	DENMARK	1	1861	1969	GP	1861	10
061607	549	-121	27	BOGO	DENMARK	1	1873	1969	GP	1873	10
061860	557	-126	22	COPENHAGEN	DENMARK	1	1768	1980	GP	1768	10
062600	521	-52	8	DE BILT	NETHERLANDS	1	1706	1980	GP	1951	10
064470	508	-44	104	UCCLE	BELGIUM	1	1833	1980	GP	1833	10
065900	495	-60	330	LUXEMBOURG/TOWN	LUXEMBOURG	1	1838	1980	GP	1878	20
066100	468	-70	491	PAYERNE /ST. AEROL.	SWITZERLAND	1	1954	1970	GP	1954	10
066450	476	-76	318	BASEL/BINNINGEN	SWITZERLAND	1	1755	1970	GP	1755	10
066600	474	-86	569	ZURICH/TOWN/VILLE	SWITZERLAND	1	1836	1980	GP	1864	20

ID	LAT	LONG	ALT	STATION NAME	COUNTRY	STATU
066800	473	-93	2496	SANTIS	SWITZERLAND	1 1883 1980 GP 1883 10
067000	462	-62	416	GENEVA	SWITZERLAND	1 1753 1980 GP 1753 20
067700	460	-90	276	LUGANO	SWITZERLAND	1 1951 1980 GP 1951 10
070210	497	16	12	CHERBOURG	FRANCE	1 1951 1966 GP 0 61
071100	485	44	103	BREST/GUIPAVAS	FRANCE	1 1951 1980 GP 1951 10
071450	488	-20	168	TRAPPES	FRANCE	1 1951 1980 GP 1951 10
071500	488	-25	53	PARIS/LE BOURGET	FRANCE	1 1757 1980 GP 1764 10
071800	487	-62	217	NANCY/ESSEY	FRANCE	1 1841 1980 GP 1951 72
071900	486	-76	154	STRASBOURG/ENTZHEIM	FRANCE	1 1801 1980 GP 1801 12
072220	473	16	27	NANTES	FRANCE	1 1851 1980 GP 1851 10
072800	473	-51	227	DIJON	FRANCE	1 1845 1980 GP 1951 72
074340	459	-12	403	LIMOGES/BELLEGARDE	FRANCE	1 1961 1980 GP 1961 10
074350	458	-13	284	LIMOGES	FRANCE	1 1951 1972 GP 1951 10
074800	457	-47	201	LYON	FRANCE	1 1851 1980 GP 1851 10
075100	448	7	51	BORDEAUX/MERIGNAC	FRANCE	1 1842 1980 GP 1851 10
076300	436	-14	152	TOULOUSE/BLAGNAC	FRANCE	1 1784 1980 GP 1839 10
076450	439	-44	60	NIMES/COURBESSAC	FRANCE	1 1951 1980 GP 1951 10
076500	433	-54	8	MARSEILLE/MARIGNANE	FRANCE	1 1838 1980 GP 1838 10
076600	431	-59	27	TOULON	FRANCE	1 1951 1970 GP 1951 10
076900	437	-72	10	NICE/COTE DAZUR	FRANCE	1 1806 1980 GP 1951 72
077470	427	-29	48	PERPIGNAN	FRANCE	1 1836 1980 GP 1836 10
077610	419	-88	5	AJACCIO/CAMPO D. ORO	FRANCE	1 1951 1980 GP 1951 10
080010	434	84	67	LA CORUNA	SPAIN	1 1951 1980 GP 1951 10
080230	435	38	68	SANTANDER	SPAIN	1 1951 1970 GP 1951 10
080530	426	66	544	PONFERRADA	SPAIN	1 1951 1970 GP 1951 10
080750	424	37	891	BURGOS/VILLAFRIA	SPAIN	1 1866 1970 GP 1951 12
081410	417	47	715	VALLADOLID	SPAIN	1 1866 1980 GP 1866 12
081600	417	10	258	ZARAGOZA/SANJURJO	SPAIN	1 1951 1970 GP 1951 10
081610	417	9	233	ZARAGOZA	SPAIN	1 1951 1980 GP 1951 10
081800	414	-22	95	BARCELONA	SPAIN	1 1835 1980 GP 1926 72
082210	405	36	606	MADRID/BARAJAS	SPAIN	1 1951 1970 GP 1951 10
082220	404	37	657	MADRID/RETIRO	SPAIN	1 1840 1980 GP 1851 12
082850	395	4	11	VALENCIA	SPAIN	1 1951 1970 GP 1951 10
083900	374	60	13	SEVILLA/TABLADA	SPAIN	1 1951 1980 GP 1951 10
084880	368	25	7	ALMERIA	SPAIN	1 1951 1980 GP 1951 10
084950	362	54	3	NORTH FRONT	GIBRALTAR	1 1951 1980 GP 1951 10
085050	385	287	62	HORTA	AZORES	1 1902 1980 GP 1920 70
085120	377	257	36	PONTA DELGADA	AZORES	1 1865 1980 GP 1865 70
085210	326	169	56	FUNCHAL	MADEIRA	1 1864 1980 GP 1900 70
085240	331	163	82	PORTO SANTO	PORTUGAL	1 1940 1970 GP 1940 10
085360	387	91	95	LISBON	PORTUGAL	1 1854 1980 GP 1864 70
085490	402	84	141	COIMBRA	PORTUGAL	1 1866 1975 GP 1866 12
085830	169	251	16	MINDELO	CAPE VERDE I	1 1884 1961 GP 1884 10
085890	149	235	35	PRAIA	CAPE VERDE I	1 1904 1960 GP 1904 10
085940	167	230	55	SAL	CAPE VERDE I	1 1951 1975 GP 1951 10
091700	542	-121	4	WARNEMUNDE	E.GERMANY	1 1951 1980 GP 1951 10
091840	541	-135	1	GRIEFSWALD/WIECK	E.GERMANY	1 1951 1980 GP 1951 10

ID	LAT	LONG	ALT	STATION NAME	COUNTRY	STATUS					
092790	534	-131	64	NEUSTRELITZ	E.GERMANY	1	1951	1976	GP	1951	10
093610	521	-116	79	MAGDEBURG	E.GERMANY	1	1951	1976	GP	1951	10
093790	524	-131	85	POTSDAM	E.GERMANY	1	1893	1980	GP	1893	10
093930	522	-141	98	LINDENBERG	E.GERMANY	1	1951	1980	GP	1951	10
094530	518	-106	1142	BROCKEN	E.GERMANY	1	1951	1976	GP	1951	10
094690	513	-124	148	LEIPZIG	E.GERMANY	1	1951	1980	GP	1951	10
094700	514	-124	137	LEIPZIG	E.GERMANY	1	1759	1935	GP	1840	12
094860	511	-137	246	WAHNSDORF	E.GERMANY	1	1812	1974	GP	1812	10
094990	512	-150	237	GORLITZ	E.GERMANY	1	1836	1980	GP	1836	10
095540	510	-110	314	ERFURT/BINDERSLEBEN	E.GERMANY	1	1848	1980	GP	1848	12
100350	545	-96	48	SCHLESWIG	W.GERMANY	1	1954	1980	GP	1954	10
101470	536	-100	16	HAMBURG/FUHLSBUTTEL	W.GERMANY	1	1951	1980	GP	1951	10
103380	525	-97	55	HANNOVER	W.GERMANY	1	1856	1980	GP	1856	10
103840	525	-134	50	BERLIN	W.GERMANY	1	1701	1980	GP	1701	10
104100	514	-70	161	ESSEN	W.GERMANY	1	1951	1980	GP	1951	10
106280	500	-80	108	GEISENHEIM	W.GERMANY	1	1951	1980	GP	1951	10
106370	501	-86	113	FRANKFURT A MAIN	W.GERMANY	1	1961	1970	GP	0	61
106380	501	-87	109	FRANKFURT A MAIN	W.GERMANY	1	1757	1961	GP	1757	10
107080	492	-70	191	SAARBRUECKEN	W.GERMANY	1	1951	1970	GP	0	61
107380	487	-92	396	STUTTGART/ECHTERD	W.GERMANY	1	1952	1970	GP	0	61
107390	488	-92	315	STUTTGART/CANNSTADT	W.GERMANY	1	1792	1980	GP	1961	10
108660	481	-117	529	MUNCHEN/RIEM	W.GERMANY	1	1781	1980	GP	1781	10
109340	477	-95	407	FRIEDRICHSHAFEN	W.GERMANY	1	1866	1976	GP	1866	10
109610	474	-110	2962	ZUGSPITZE	W.GERMANY	1	1951	1980	GP	1951	10
109620	478	-110	983	HOHENPEISSENBERG	W.GERMANY	1	1781	1970	GP	1781	10
110120	481	-141	388	KREMUNSTER	AUSTRIA	1	1767	1980	GP	1800	10
110280	482	-156	282	ST. POLTEN	AUSTRIA	1	1951	1980	GP	1951	10
110350	482	-164	212	WIEN HOHE WARTE	AUSTRIA	1	1775	1981	GP	1777	10
111200	473	-114	582	INNSBRUCK/UNIVERSITY	AUSTRIA	1	1777	1980	GP	1880	10
111460	471	-130	3107	SONNBLICK	AUSTRIA	1	1887	1980	GP	1887	10
111500	478	-130	446	SALZBURG-FLUGHAFEN	AUSTRIA	1	1951	1980	GP	1951	10
112400	470	-155	347	GRAZ-THALERHOF	AUSTRIA	1	1951	1980	GP	1951	10
114060	501	-124	471	CHEB	CZECH	1	1953	1980	GP	1953	10
115180	501	-143	381	PRAGUE	CZECH	1	1771	1980	GP	1771	20
117230	492	-167	242	BRNO/TURANY	CZECH	1	1951	1980	GP	1951	10
117820	498	-183	253	OSTRAVA	CZECH	1	1951	1980	GP	1951	10
118160	482	-172	132	BRATISLAVA/IVANKA	CZECH	1	1951	1970	GP	0	61
119030	486	-192	319	SLIAC	CZECH	1	1951	1980	GP	1951	10
119340	491	-203	709	POPRAD/TATRY	CZECH	1	1951	1980	GP	1951	10
119680	487	-213	235	KOSICE	CZECH	1	1951	1970	GP	0	61
121050	542	-162	34	KOSZALIN	POLAND	1	1848	1970	GP	1848	10
121500	544	-186	12	GDANSK-WRZESZCZ	POLAND	1	1807	1980	GP	1807	20
121950	541	-230	170	SUWALKI	POLAND	1	1951	1970	GP	0	61
122050	534	-146	7	SZCZECIN-DABIE	POLAND	1	1836	1980	GP	1836	12
122500	531	-186	70	TORUN	POLAND	1	1951	1970	GP	0	61
122950	531	-232	141	BIALYSTOK	POLAND	1	1951	1980	GP	1951	10
123300	524	-168	92	POZNAN-LAWICA	POLAND	1	1951	1980	GP	1951	10

ID	LAT	LONG	ALT	STATION NAME	COUNTRY	STATUS
1 237 50	522	-210	107	WARSZAWA-OKECIE	POLAND	1 1779 1980 GP 1831 12
1 24000	519	-155	174	ZIELONA GORA	POLAND	1 1951 1970 GP 0 61
1 24240	511	-170	119	WROCLAW	POLAND	1 1792 1980 GP 1831 70
1 25200	504	-167	320	KLODZKO	POLAND	1 1951 1970 GP 0 61
1 25300	507	-180	176	OPOLE	POLAND	1 1951 1970 GP 0 61
1 25500	508	-191	263	CZESTOCHOWA	POLAND	1 1951 1970 GP 0 61
1 25660	500	-200	216	KRAKOW	POLAND	1 1825 1980 GP 1825 10
1 25850	507	-218	200	SANDOMIERZ	POLAND	1 1951 1970 GP 0 61
1 259 50	507	-233	219	ZAMOSC	POLAND	1 1951 1970 GP 0 61
1 26 250	493	-200	857	ZAKOPANE	POLAND	1 1951 1970 GP 0 61
1 269 50	498	-228	239	PRZEMYSL	POLAND	1 1951 1980 GP 1951 10
1 277 20	481	-208	120	MISKOLC	HUNGARY	1 1951 1980 GP 1951 10
1 28400	475	-190	130	BUDAPEST/METLOGIA	HUNGARY	1 1780 1980 GP 1780 10
1 28430	474	-192	140	BUDAPEST/LORINC	HUNGARY	1 1953 1980 GP 1953 10
1 28800	476	-216	114	DEBRECEN	HUNGARY	1 1853 1980 GP 1853 10
1 29 800	463	-202	96	SZEGED	HUNGARY	1 1951 1970 GP 0 61
1 29 820	463	-201	83	SZEGED	HUNGARY	1 1961 1980 GP 0 61
131 290	458	-160	163	ZAGREB	YUGOSLAVIA	1 1862 1980 GP 1862 10
131300	458	-160	122	ZAGREB /MAKSIMIR	YUGOSLAVIA	1 1951 1970 GP 0 61
131330	455	-164	98	SISAK	YUGOSLAVIA	1 1951 1970 GP 0 61
132740	448	-205	-999	BEOGRAD	YUGOSLAVIA	1 1888 1980 GP 1888 10
133340	435	-164	129	SPLIT/MARJAN	YUGOSLAVIA	1 1926 1980 GP 1926 10
133350	432	-164	-999	HVAR	YUGOSLAVIA	1 1859 1970 GP 1859 10
133400	438	-170	730	LIVNO	YUGOSLAVIA	1 1951 1970 GP 0 61
133540	439	-184	637	SARAJEVO	YUGOSLAVIA	1 1891 1980 GP 1891 10
1346 20	424	-193	33	TITOGRAD/GOLUBOVCI	YUGOSLAVIA	1 1951 1980 GP 1951 10
134830	420	-215	241	SKOPJE	YUGOSLAVIA	1 1951 1970 GP 0 61
135860	420	-215	240	SKOPJE	YUGOSLAVIA	1 1961 1980 GP 0 61
136000	421	-195	43	SHKODER AP	ALBANIA	1 1951 1970 GP 0 61
136150	413	-198	89	TIRANE AP	ALBANIA	1 1951 1970 GP 0 61
136220	405	-195	1	VLORE	ALBANIA	1 1951 1970 GP 0 61
150850	471	-245	366	BISTRITA	RUMANIA	1 1951 1980 GP 1951 10
150900	472	-276	103	IASI	RUMANIA	1 1951 1980 GP 1951 10
151 200	468	-237	415	CLUJ	RUMANIA	1 1881 1980 GP 1951 10
152470	458	-213	91	TIMISOARA	RUMANIA	1 1880 1980 GP 1880 12
152600	458	-243	452	SIBIU	RUMANIA	1 1851 1980 GP 1851 10
153600	452	-297	9	SULINA	RUMANIA	1 1876 1980 GP 1876 10
154200	445	-261	92	BUCURESTI/BANEASA	RUMANIA	1 1951 1980 GP 1951 10
154220	444	-261	82	BUCARESTI/FILARET	RUMANIA	1 1857 1980 GP 1857 10
154800	442	-287	32	CONSTANTA	RUMANIA	1 1951 1970 GP 1951 10
155050	432	-235	360	VRATZA	BULGARIA	1 1951 1970 GP 1951 10
155440	433	-269	198	KOLAROVGRAD	BULGARIA	1 1951 1971 GP 1951 10
156140	427	-233	564	SOFIA	BULGARIA	1 1951 1979 GP 0 62
156250	422	-248	160	PLOVDIV	BULGARIA	1 1951 1970 GP 0 61
156550	425	-275	28	BOURGAS	BULGARIA	1 1951 1979 GP 0 62
160590	452	-77	238	TURIN	ITALY	1 1753 1970 GP 1753 10
160800	455	-92	103	MILANO/LINATE	ITALY	1 1763 1980 GP 1764 10

ID	LAT	LONG	ALT	STATION NAME	COUNTRY			STATUS	
161050	455	-121	17	VENIZIA/S NICOLO	ITALY	1	19 51	19 80	GP 19 51 10
161100	457	-138	20	TRIESTE	ITALY	1	18 41	19 80	GP 18 41 10
161400	445	-115	60	BOLOGNA	ITALY	1	18 08	19 70	GP 18 08 12
161700	438	-113	75	FLORENCE	ITALY	1	18 32	19 70	GP 18 32 12
161900	436	-135	104	ANCONA	ITALY	1	19 51	19 78	GP 19 51 10
162420	417	-125	3	ROME	ITALY	1	18 11	19 80	GP 18 11 10
162890	409	-143	88	NAPOLI CAPODICHINO	ITALY	1	18 66	19 80	GP 18 66 22
163300	405	-173	41	TARANTO	ITALY	1	19 51	19 67	GP 0 61
164600	375	-151	65	CATANIA	ITALY	1	18 92	19 80	GP 18 92 20
165600	393	-91	18	CAGLIARI/ELMAS	ITALY	1	19 51	19 80	GP 19 51 10
165970	359	-145	80	LUQA	MALTA	1	18 53	19 80	GP 18 53 20
166410	396	-199	2	KERKYRA	GREECE	1	18 52	19 80	GP 19 51 72
166510	399	-251	17	LIMNOS	GREECE	1	19 51	19 70	GP 0 61
166870	382	-214	23	ARAXOS	GREECE	1	19 51	19 70	GP 0 61
167050	378	-209	8	ZAKYNTHOS	GREECE	1	19 51	19 80	GP 0 62
167140	380	-237	107	ATHENS	GREECE	1	18 58	19 80	GP 18 58 10
167210	377	-270	49	SAMOS	GREECE	1	19 51	19 70	GP 0 61
167260	370	-220	5	KALAMAI	GREECE	1	19 51	19 80	GP 0 62
167340	368	-217	34	MATHONI	GREECE	1	19 51	19 70	GP 0 61
167540	353	-252	48	HIRAKLION/CRETE	GREECE	1	19 51	19 80	GP 19 51 10
170300	413	-363	44	SAMSUN	TURKEY	1	18 19	19 80	GP 19 29 10
170380	410	-397	37	TRABZON	TURKEY	1	19 51	19 70	GP 0 61
170400	410	-405	4	RIZE	TURKEY	1	19 29	19 80	GP 19 29 10
170500	417	-266	48	EDIRNE	TURKEY	1	19 29	19 80	GP 19 29 10
170620	410	-291	40	ISTANBUL/GOZTEPE	TURKEY	1	18 39	19 80	GP 18 39 12
170700	407	-316	742	BOLU	TURKEY	1	19 51	19 70	GP 0 61
170740	414	-338	799	KASTAMONU	TURKEY	1	19 51	19 80	GP 19 51 10
170920	397	-395	1215	ERZINCAN	TURKEY	1	19 51	19 80	GP 19 51 10
170960	399	-413	1869	ERZURUM	TURKEY	1	19 29	19 80	GP 19 29 10
171120	401	-264	3	CANAKKALE	TURKEY	1	19 51	19 80	GP 19 51 10
171300	400	-329	894	ANKARA/CENTRAL	TURKEY	1	19 26	19 80	GP 19 26 10
171600	391	-342	985	KIRSEHIR	TURKEY	1	19 51	19 70	GP 0 61
171700	385	-434	1661	VAN	TURKEY	1	19 51	19 80	GP 19 51 10
171900	388	-305	1034	AFYON	TURKEY	1	19 51	19 80	GP 19 51 10
171950	386	-355	1070	KAYSERI/ERKILET	TURKEY	1	19 51	19 80	GP 19 51 10
172000	384	-383	998	MALATYA	TURKEY	1	19 51	19 80	GP 19 51 10
172020	387	-392	882	ELAZIG	TURKEY	1	19 51	19 70	GP 0 61
172100	379	-419	895	SIIRT	TURKEY	1	19 51	19 70	GP 0 61
172200	384	-273	25	IZMIR	TURKEY	1	18 43	19 80	GP 19 29 10
172400	378	-306	1043	ISPARTA	TURKEY	1	19 51	19 80	GP 19 51 10
172440	379	-325	1022	KONYA	TURKEY	1	19 51	19 80	GP 19 51 10
172600	371	-374	840	GAZIANTEP	TURKEY	1	19 51	19 70	GP 0 61
172700	371	-388	547	URFA	TURKEY	1	19 00	19 80	GP 19 51 10
172800	379	-402	677	DIYARBAKIR	TURKEY	1	19 29	19 80	GP 19 29 10
172920	372	-284	646	MUGLA	TURKEY	1	19 51	19 80	GP 19 51 10
173000	369	-307	43	ANTALYA	TURKEY	1	19 30	19 80	GP 19 30 10
173500	370	-353	66	ADANA INCIRLIK	TURKEY	1	19 29	19 80	GP 19 29 10

ID	LAT	LONG	ALT	STATION NAME	COUNTRY	STATUS					
176060	352	-333	220	NICOSIA	CYPRUS	1	1887	1974	GP	1887	10
200690	795	-770	18	OSTROV VIZE	USSR	1	1951	1980	GP	1951	10
202920	777	-1043	13	MYS CELJUSKIN	USSR	1	1951	1980	GP	1951	10
203530	770	-686	-999	MYS ZELANIJA	USSR	1	1931	1960	GP	1931	10
206740	735	-804	20	OSTROV DIKSON	USSR	1	1917	1980	GP	1917	10
207440	724	-527	46	MALYE KARMAKULY	USSR	1	1897	1963	GP	1897	10
208910	720	-1025	24	HATANGA/KHATANGA	USSR	1	1951	1980	GP	1951	10
214320	760	-1379	10	OSTROV KOTELNYJ	USSR	1	1951	1980	GP	1951	10
218240	803	-526	-999	BUKHTA TIBRAYHA	USSR	1	1929	1960	GP	1929	10
219460	706	-1479	48	COKURDAH	USSR	1	1951	1980	GP	1951	10
219650	706	-1624	6	CETYREHSTOLBOVOI	USSR	1	1951	1980	GP	1951	10
221130	690	-331	46	MURMANSK	USSR	1	1951	1980	GP	1951	10
221650	687	-433	-999	KANIN NOS	USSR	1	1951	1980	GP	1951	10
224220	659	-348	10	GRIDINO	USSR	1	1951	1970	GP	1951	10
225220	650	-348	10	KEM PORT	USSR	1	1862	1970	GP	0	60
225500	646	-406	13	ARKHANGELSK	USSR	1	1813	1980	GP	1813	10
226020	638	-308	181	REBOLY	USSR	1	1951	1980	GP	1951	10
228020	617	-307	18	SORTOVALA	USSR	1	1951	1970	GP	1951	10
228200	618	-343	40	PETROZAVODSK	USSR	1	1816	1979	GP	1951	12
228540	617	-402	224	NJANDOMA	USSR	1	1951	1970	GP	1951	10
230740	694	-862	-999	DUDINKA	USSR	1	1906	1960	GP	1906	10
231460	685	-736	7	MYS KAMENNYJ	USSR	1	1951	1980	GP	1951	10
232050	677	-530	7	NAR JAN-MAR	USSR	1	1961	1980	GP	1961	10
233300	665	-665	35	SALEHARD	USSR	1	1883	1980	GP	1883	10
234720	659	-876	37	TURUHANSK	USSR	1	1881	1980	GP	1881	10
236310	639	-651	20	BEREZOV	USSR	1	1881	1960	GP	1881	10
238040	617	-509	96	SYKTYVKAR	USSR	1	1817	1980	GP	18.7	10
238490	613	-735	43	SURGUT	USSR	1	1885	1980	GP	1885	10
238840	616	-900	60	PODKAMENNAJA	USSR	1	1951	1980	GP	0	60
239330	610	-691	40	HANTY-MANSIJSK	USSR	1	1951	1980	GP	1951	10
241250	685	-1124	127	OLENEK	USSR	1	1951	1980	GP	1951	10
242660	676	-1334	137	VERHOJANSK	USSR	1	1885	1980	GP	1885	10
245070	642	-1001	140	TURA	USSR	1	1951	1980	GP	1951	10
246410	638	-1216	107	VILJUJSK	USSR	1	1951	1980	GP	1951	10
246880	633	-1432	726	OJMJAKON	USSR	1	1951	1980	GP	1951	10
248170	613	-1080	282	ERBOGACEN	USSR	1	1951	1980	GP	1951	10
249440	604	-1204	226	OLEKMINSK	USSR	1	1882	1960	GP	1882	10
249590	620	-1297	103	JAKUTSK	USSR	1	1829	1980	GP	1882	10
249660	604	-1345	175	UST MAJA	USSR	1	1893	1960	GP	1893	10
251730	689	1795	7	MYS SMIDTA	USSR	1	1951	1980	GP	1951	10
252480	673	-1682	426	ILIRNEJ	USSR	1	1951	1980	GP	1951	10
253990	662	1698	7	MYS UZLEN	USSR	1	1951	1980	GP	1951	10
254000	657	-1509	43	ZYRJANKA	USSR	1	1951	1980	GP	1951	10
255630	648	-1776	62	ANADYR	USSR	1	1898	1980	GP	1898	10
257030	629	-1524	207	SEJMCAN	USSR	1	1951	1980	GP	1951	10
259540	604	-1660	2	KORF	USSR	1	1951	1980	GP	1951	10
260380	594	-248	44	TALLIN	USSR	1	1806	1980	GP	1806	12

ID	LAT	LONG	ALT	STATION NAME	COUNTRY			STATUS	
260630	600	-303	4	LENINGRAD/TOWN/VILLE	USSR	1	1743	1980	GP 1743 20
262580	578	-284	42	PSKOV	USSR	1	1951	1979	GP 1951 10
262890	580	-332	219	VALDAJ	USSR	1	1951	1970	GP 1951 10
262980	579	-341	178	BOLOGOE	USSR	1	1951	1970	GP 1951 10
264060	566	-210	8	LIEPAJA	USSR	1	1951	1970	GP 1951 10
264220	570	-241	3	RIGA	USSR	1	1795	1970	GP 1795 12
264770	564	-306	98	VELIKIE LUKI	USSR	1	1951	1980	GP 1951 10
266290	549	-239	75	KAUNAS	USSR	1	1951	1980	GP 1951 10
267020	547	-205	27	KALININGRAD	USSR	1	1848	1970	GP 1848 10
267300	546	-253	189	VIL'NJUS	USSR	1	1777	1970	GP 1777 10
267810	548	-321	241	SMOLENSK	USSR	1	1951	1979	GP 1951 10
268500	539	-275	234	MINSK	USSR	1	1951	1980	GP 1951 10
268980	533	-342	162	BRJANSK	USSR	1	1951	1970	GP 1951 10
270370	593	-399	118	VOLOGDA	USSR	1	1951	1980	GP 1951 10
271960	587	-496	164	KIROV	USSR	1	1845	1980	GP 1845 12
275530	562	-438	82	GORKIJ	USSR	1	1951	1970	GP 1951 10
275950	558	-491	64	KAZAN	USSR	1	1812	1980	GP 1812 12
276120	558	-376	156	MOSKVA	USSR	1	1779	1980	GP 1779 10
276650	550	-445	206	LUKOJANOV	USSR	1	1951	1970	GP 1951 10
279470	527	-415	139	TAMBOV	USSR	1	1951	1970	GP 1951 10
282250	580	-563	161	PERM	USSR	1	1883	1980	GP 1883 10
282750	582	-682	44	TOBOLSK	USSR	1	1832	1980	GP 1832 10
284400	568	-606	237	SVERDLOVSK	USSR	1	1831	1980	GP 1831 10
286980	550	-734	94	OMSK	USSR	1	1887	1980	GP 1887 10
289520	531	-635	171	KUSTANAJ	USSR	1	1951	1980	GP 1951 10
292310	583	-829	76	KOLPASEV	USSR	1	1951	1980	GP 1951 10
292630	585	-922	78	ENISEJSK	USSR	1	1871	1980	GP 1871 10
294300	565	-850	121	TOMSK	USSR	1	1837	1960	GP 1837 12
295740	560	-929	194	KRASNOJARSK	USSR	1	1951	1980	GP 1951 10
298380	533	-838	196	BARNAUL	USSR	1	1838	1980	GP 1838 10
298660	537	-917	251	MINUSINSK	USSR	1	1886	1980	GP 1886 10
302300	578	-1081	261	KIRENSK	USSR	1	1892	1980	GP 1892 20
303090	561	-1018	326	BRATSK	USSR	1	1951	1980	GP 1951 10
305540	546	-1131	1310	TROICKIJ PRIISK	USSR	1	1951	1980	GP 1951 10
307100	523	-1043	485	IRKUTSK	USSR	1	1820	1980	GP 1820 10
307580	520	-1135	685	CITA	USSR	1	1890	1980	GP 1890 10
308790	513	-1196	620	NERCINSKIJ ZAVOD	USSR	1	1839	1978	GP 1839 12
310040	586	-1254	682	ALDAN	USSR	1	1951	1980	GP 1951 10
310880	594	-1433	6	OHOTSK	USSR	1	1890	1980	GP 1890 10
312530	547	-1289	357	BOMNAK	USSR	1	1951	1980	GP 1951 10
313690	531	-1407	47	NIKOLAEVSK NA AMURE	USSR	1	1854	1980	GP 1854 10
315100	503	-1275	137	BLAGOVESCENSK	USSR	1	1881	1980	GP 1881 10
317350	485	-1352	72	HABAROVSK	USSR	1	1909	1980	GP 1909 10
319600	431	-1319	138	VLADIVOSTOK	USSR	1	1872	1980	GP 1872 10
320610	509	-1422	-999	ALEKSANDROVSK	USSR	1	1901	1960	GP 1901 10
320980	492	-1431	4	PORONAIK	USSR	1	1908	1964	GP 1908 10
321500	469	-1427	31	JUZNO-SAHALINSK	USSR	1	1951	1980	GP 1951 10

ID	LAT	LONG	ALT	STATION NAME	COUNTRY	STATUS					
321950	469	-1519	26	SIMUSIR	USSR	1	1951	1980	GP	1951	10
325400	530	-1586	7	PETROPAVLOVSK	USSR	1	1891	1980	GP	1891	20
326180	552	-1660	6	OSTROV BERINGA	USSR	1	1951	1980	GP	1951	10
330080	521	-237	144	BREST	USSR	1	1951	1978	GP	1951	10
333010	506	-261	234	ROVNO	USSR	1	1951	1978	GP	1951	10
333450	505	-305	179	KIEV	USSR	1	1812	1980	GP	1812	20
333930	498	-240	325	LVOV	USSR	1	1824	1980	GP	1824	10
336310	486	-223	118	UZGOROD	USSR	1	1951	1978	GP	1951	10
336580	483	-260	240	CERNOVCY	USSR	1	1880	1978	GP	1880	10
336990	481	-309	103	JUZNO BUGSKAJA	USSR	1	1951	1970	GP	1951	10
337110	485	-323	148	KIROVOGRAD	USSR	1	1951	1978	GP	1951	10
338150	470	-289	90	KISINEV	USSR	1	1825	1970	GP	1825	22
338370	465	-307	64	ODESSA	USSR	1	1821	1980	GP	1821	10
339340	457	-344	-999	DZANKOJ	USSR	1	1951	1970	GP	1951	10
339460	450	-340	205	SIMFEROPOL	USSR	1	1821	1980	GP	1821	12
341220	517	-392	164	VORONEZ	USSR	1	1951	1980	GP	1951	10
341390	511	-407	194	KAMENNAYA STEPPE	USSR	1	1951	1970	GP	1951	10
341630	516	-455	190	OKTLABRSKII GORODOK	USSR	1	1881	1970	GP	1881	10
341720	516	-460	156	SARATOV	USSR	1	1951	1980	GP	1951	20
343000	499	-363	152	HAR KOV	USSR	1	1901	1980	GP	1901	10
345600	487	-444	145	VOLGOGRAD	USSR	1	1901	1970	GP	1901	10
346010	478	-353	86	ZAPOROZE	USSR	1	1951	1970	GP	1951	10
347310	473	-398	77	ROSTOV-NA-DONU	USSR	1	1901	1980	GP	1901	10
347590	466	-437	108	REMONTNO	USSR	1	1951	1970	GP	1951	10
348660	462	-454	-7	JASKUL	USSR	1	1951	1970	GP	1951	10
348800	464	-480	18	ASTRAHAN	USSR	1	1837	1980	GP	1837	10
349290	450	-392	33	KRASNODAR	USSR	1	1951	1970	GP	1951	10
351210	518	-551	109	ORENBOURG(TCHKALOV)	USSR	1	1832	1980	GP	1832	10
351880	511	-714	348	CELINOGRAD	USSR	1	1891	1978	GP	1891	10
353580	496	-635	123	TURGAJ	USSR	1	1900	1980	GP	1901	10
353940	498	-731	555	KARAGANDA	USSR	1	1951	1980	GP	1951	10
357000	470	-519	23	GUREV	USSR	1	1951	1980	GP	1951	10
357960	469	-750	423	BALHAS/BALKAHASH	USSR	1	1951	1980	GP	1951	10
358490	458	-621	67	KAZALINSK	USSR	1	1921	1978	GP	1921	10
361770	504	-803	206	SEMIPALATINSK	JSSR	1	1951	1980	GP	1951	10
368700	433	-769	-999	ALMA-ATA	USSR	1	1881	1980	GP	1881	20
369740	414	-760	2049	NATYN	USSR	1	1886	1960	GP	1886	10
370180	441	-391	95	TUAPSE	USSR	1	1951	1970	GP	1951	10
370310	450	-411	208	ARMAVIR	USSR	1	1951	1970	GP	1951	10
370500	441	-430	532	PJATIGORSK	USSR	1	1951	1980	GP	1951	10
370540	442	-431	314	MINERALNYE VODY	USSR	1	1951	1970	GP	1951	10
370990	436	-397	56	SOCHI	USSR	1	1951	1970	GP	1951	10
375490	417	-448	490	TBILISI	USSR	1	1844	1980	GP	1844	10
379850	387	-488	11	LENKORAN	USSR	1	1951	1970	GP	1951	10
380010	446	-503	3820	FORT SEVCENKO	USSR	1	1848	1980	GP	1848	10
382620	430	-598	66	CIMBAJ/CHIMBAY	USSR	1	1951	1980	GP	1951	10
384570	413	-693	428	TASKENT	USSR	1	1881	1980	GP	1881	10

ID	LAT	LONG	ALT	STATION NAME	COUNTRY			STATUS	
385070	400	-530	20	KRASNOVODSK	USSR	1	1883	1980	GP 1883 20
388800	380	-583	230	ASHABAD	USSE	1	1951	1980	GP 1951 10
400010	371	-412	455	KAMISHLI	SYRIA	1	1952	1980	GP 1952 10
400070	362	-372	393	ALEPPO	SYRIA	1	1952	1980	GP 1952 10
400220	356	-358	9	LATTAKIA	SYRIA	1	1952	1980	GP 1952 10
400450	353	-402	212	DEIR EZZOR	SYRIA	1	1952	1980	GP 1952 10
400610	346	-383	404	PALMYRA	SYRIA	1	1955	1980	GP 1955 10
400800	335	-361	724	DAMASCUS/MEZEE	SYRIA	1	1951	1980	GP 1951 20
401000	339	-355	24	BEIRUT(BEYROUTH)	LEBANON	1	1842	1980	GP 1842 22
401020	339	-360	921	RAYACK	LEBANON	1	1951	1980	GP 1951 12
401060	338	-359	918	KSARA OBSY	LEBANON	1	1921	1960	GP 1921 10
401800	320	-349	49	LOD AIRPORT	ISRAEL	1	1951	1980	GP 1963 70
401847	318	-352	810	JERUSALEM/OLD CITY	ISRAEL	1	1861	1960	GP 1861 10
401990	296	-350	11	EILAT	ISRAEL	1	1951	1980	GP 1951 10
402700	320	-359	771	AMMAN AIRPORT	JORDON	1	1923	1980	GP 1923 10
403720	294	-420	56	KUWAIT INTL AIRPORT	KUWAIT	1	1956	1981	GP 1956 10
404270	262	-506	2	BAHRAIN/MUHARRAQ	BAHREIN	1	1902	1980	GP 1902 10
404380	247	-467	609	RIYADH	SAUDI ARABIA	1	1941	1976	GP 1942 12
404770	215	-392	11	JEDDAH	SAUDI ARABIA	1	1951	1976	GP 0 62
405970	128	-451	3	ADEN/KHORMAKSAR	YEMEN	1	1881	1967	GP 1881 10
406080	363	-432	222	MOSUL	IRAQ	1	1926	1980	GP 1926 12
406210	355	-444	331	KIRKUK	IRAQ	1	1939	1980	GP 1939 12
406370	343	-454	201	KHANAQIN	IRAQ	1	1938	1975	GP 1938 22
406420	330	-403	615	RUTBAH	IRAQ	1	1929	1980	GP 1929 12
406500	333	-444	34	BAGHDAD	IRAQ	1	1888	1980	GP 1888 12
406650	322	-461	15	KUT-EL-HAI	IRAQ	1	1940	1980	GP 1941 12
406720	320	-450	20	DIWANIYA	IRAQ	1	1940	1980	GP 1940 22
406760	310	-462	3	NASIRIYA	IRAQ	1	1941	1980	GP 1941 12
406890	304	-477	2	BASRAH	IRAQ	1	1920	1980	GP 1920 12
407450	363	-596	-999	MASHHAD	IRAN	1	1906	1979	GP 1906 10
407540	357	-514	1191	TEHRAN MEHRABAD	IRAN	1	1951	1979	GP 0 62
408000	327	-517	-999	ESFAHAN	IRAN	1	1951	1979	GP 0 62
408310	304	-483	3	ABADAN	IRAN	1	1951	1979	GP 0 62
408410	303	-570	1749	KERMAN	IRAN	1	1951	1979	GP 0 62
408460	290	-508	14	BUSHEHR	IRAN	1	1878	1973	GP 1878 12
408480	296	-525	1491	SHIRAZ	IRAN	1	1951	1979	GP 0 62
415300	340	-716	-999	PESHAWAR	PAKISTAN	1	1931	1980	GP 1931 12
415600	339	-701	1725	PARACHINAR	AFGHANISTAN	1	1948	1980	GP 0 62
415730	339	-734	2168	MURREE	PAKISTAN	1	1947	1971	GP 1948 12
416200	314	-695	1407	FORT SANDEMAN	PAKISTAN	1	1947	1980	GP 0 62
416240	318	-709	174	DERA ISMAIL KHAN	PAKISTAN	1	1947	1980	GP 0 62
416400	315	-744	214	LAHORE CITY	PAKISTAN	1	1876	1980	GP 1876 10
416600	303	-669	1601	QUETTA/SAMUNGLI	PAKISTAN	1	1947	1980	GP 1949 12
416610	302	-670	1673	QUETTA CANTONMENT	PAKISTAN	1	1878	1960	GP 1951 10
416750	302	-714	123	MULTAN	PAKISTAN	1	1947	1980	GP 0 62
417120	289	-644	850	DALBANDIN	PAKISTAN	1	1947	1980	GP 1948 12
417150	283	-685	56	JACOBADAD	PAKISTAN	1	1947	1980	GP 1948 12

ID	LAT	LONG	ALT	STATION NAME	COUNTRY					STATUS	
417390	270	-641	969	PANJGUR	PAKISTAN	1	1947	1980	GP	0	62
417590	253	-635	9	PASNI	PAKISTAN	1	1947	1970	GP	0	62
417650	254	-684	30	HYDERABAD	PAKISTAN	1	1878	1980	GP	1878	12
417760	322	-356	-224	DEIR ALLA	JORDON	1	1952	1970	GP	0	61
417800	249	-672	22	KARACHI AIRPORT	PAKISTAN	1	1947	1980	GP	1948	12
417820	248	-670	4	KARACHI/MANORA	PAKISTAN	1	1876	1971	GP	1878	10
418580	249	-894	20	BOGRA	BANGLADESH	1	1947	1971	GP	0	62
418800	243	-917	23	SRIMANGAL	BANGLADESH	1	1947	1970	GP	0	62
419150	232	-892	12	JESSORE	BANGLADESH	1	1947	1971	GP	0	62
419190	236	-905	8	NARAYANJANJ	BANGLADESH	1	1947	1970	GP	0	62
419400	224	-918	14	CHITTAGONG CITY	BANGLADESH	1	1947	1980	GP	0	62
420270	341	-748	-999	SRINAGER	INDIA	1	1893	1980	GP	1893	10
420710	316	-749	234	AMRITSAR/RAJASANSI	INDIA	1	1948	1980	GP	1949	10
420830	311	-772	2202	SIMLA	INDIA	1	1876	1960	GP	1891	10
420990	309	-759	247	LUDHIANA	INDIA	1	1875	1980	GP	1876	10
421470	295	-797	2311	MUKTESWAR KUMAON	INDIA	1	1897	1980	GP	1898	10
421650	280	-733	224	BIKANER	INDIA	1	1878	1980	GP	1878	20
421820	287	-773	-999	NEW DELHI	INDIA	1	1931	1980	GP	1931	10
422610	272	-780	169	AGRA	INDIA	1	1876	1980	GP	1876	20
422950	271	-883	2128	DARJEELING	INDIA	1	1848	1978	GP	1848	22
423140	275	-948	106	DIBRUGARH	INDIA	1	1901	1980	GP	1902	10
423480	269	-759	390	JAIPUR	INDIA	1	1881	1960	GP	1881	10
423910	262	-859	49	DARBHANGA	INDIA	1	1876	1980	GP	1876	10
424040	260	-900	35	DHUBRI	INDIA	1	1881	1980	GP	1882	10
424100	261	-917	55	GAUHATI	INDIA	1	1902	1980	GP	1903	10
424510	252	-759	-999	KOTA	INDIA	1	1898	1979	GP	1898	10
424750	255	-819	98	ALLAHABAD/BAMHRAULI	INDIA	1	1876	1980	GP	1876	10
425150	253	-918	-999	CHERRAPUNJI	INDIA	1	1903	1980	GP	1903	12
425160	256	-919	-999	SHILLONG	INDIA	1	1903	1960	GP	1903	10
425870	241	-841	149	DALTONGANJ	INDIA	1	1893	1980	GP	1893	10
425990	243	-873	149	DUMKA	INDIA	1	1893	1980	GP	1893	10
426190	248	-928	29	SILCHAR	INDIA	1	1870	1974	GP	1870	22
426470	230	-726	-999	AHHADABAD	INDIA	1	1941	1980	GP	1941	20
426710	239	-788	551	SAGAR	INDIA	1	1875	1980	GP	1875	10
427310	224	-691	11	DWARFA	INDIA	1	1901	1978	GP	1901	10
427540	227	-758	567	INDORE	INDIA	1	1878	1980	GP	1896	70
428070	225	-884	6	CALCUTTA/ALIPORE	INDIA	1	1816	1980	GP	1876	10
428670	212	-792	310	NAGPUR/SONEGAON	INDIA	1	1875	1980	GP	1875	20
429090	209	-704	8	VERAVAL	INDIA	1	1890	1980	GP	1893	10
429330	207	-770	282	AKOLA	INDIA	1	1875	1980	GP	1875	10
429700	205	-859	27	CUTTACK	INDIA	1	1878	1973	GP	1879	10
430410	191	-820	533	JAGDALPUR	INDIA	1	1909	1980	GP	1909	10
430570	189	-729	6	BOMBAY/COLABA	INDIA	1	1842	1980	GP	1893	10
430630	185	-739	559	POONA	INDIA	1	1876	1980	GP	1876	20
431280	175	-785	545	BEGAMPET	INDIA	1	1893	1980	GP	1893	20
431490	177	-833	3	VISHAKHAPATNAM	INDIA	1	1889	1980	GP	1889	10
431970	159	-747	-999	BELGAUM	INDIA	1	1941	1975	GP	0	62

ID	LAT	LONG	ALT	STATION NAME	COUNTRY	STATUS					
432790	131	-803	16	MADRAS/MINAMBAKKAM	INDIA	1	1796	1980	GP	1875	10
432830	129	-749	-999	MANGALORE	INDIA	1	1941	1980	GP	1941	10
432950	130	-776	921	BANGALORE	INDIA	1	1875	1980	GP	1875	10
433110	111	-728	4	AMINI	INDIA	1	1892	1960	GP	1892	20
433330	117	-928	79	PORT BLAIR	INDIA	1	1868	1980	GP	1876	10
433390	102	-775	2343	KODAIKANAL	INDIA	1	1900	1960	GP	1908	70
433510	100	-763	3	FORT COCHIN	INDIA	1	1875	1973	GP	1891	10
433630	93	-793	11	PAMBAN	INDIA	1	1891	1980	GP	1892	10
433690	83	-728	-999	MINICOY	INDIA	1	1931	1980	GP	1931	20
433710	85	-770	64	TRIVANDRUM	INDIA	1	1837	1980	GP	1837	20
434130	90	-799	3	MANNAR	SRI LANKA	1	1951	1980	GP	1966	12
434180	86	-812	7	TRINCOMALEE	SRI LANKA	1	1865	1980	GP	1920	70
434660	69	-799	6	COLOMBO	SRI LANKA	1	1853	1980	GP	1853	20
434970	61	-811	20	HAMBANTOTA	SRI LANKA	1	1921	1980	GP	1921	10
435440	342	-777	3514	LEH KASHMIR	INDIA	1	1882	1968	GP	1882	10
450050	223	-1142	33	HONG KONG/ROYAL OBS.	HONG KONG	1	1853	1980	GP	1853	20
450110	222	-1136	59	MACAO	MACAO	1	1931	1980	GP	1931	12
466920	250	-1215	9	TAIPEI	TAIWAN	1	1897	1972	GP	1897	10
467490	242	-1207	85	TAICHUNG	TAIWAN	1	1897	1960	GP	1897	12
471050	378	-1289	27	KANGNUNG	KOREA	1	1951	1980	GP	1952	10
471100	376	-1268	18	SEOUL CITY/AP	KOREA	1	1954	1980	GP	1954	10
471120	375	-1266	70	INCHON	KOREA	1	1905	1980	GP	1905	10
471430	359	-1286	61	TAEGU ARTCC (RKST)	KOREA	1	1907	1960	GP	1916	70
471650	348	-1264	56	MOKPO	KOREA	1	1905	1980	GP	1905	10
474010	454	-1417	3	WAKKANAI	JAPAN	1	1951	1980	GP	1951	10
474090	440	-1443	39	ABASHIRI	JAPAN	1	1890	1980	GP	1890	10
474120	431	-1414	18	SAPPORO	JAPAN	1	1889	1980	GP	1889	20
474200	433	-1456	26	NEMURO	JAPAN	1	1880	1980	GP	1880	10
474260	422	-1428	34	URAKAWA	JAPAN	1	1951	1980	GP	1951	10
475820	397	-1401	10	AKITA	JAPAN	1	1886	1980	GP	1886	10
475850	396	-1420	47	MIYAKO	JAPAN	1	1883	1980	GP	1886	10
475900	383	-1409	40	SENDAI	JAPAN	1	1951	1980	GP	1951	10
476040	379	-1391	7	NIIGATA	JAPAN	1	1886	1980	GP	1886	20
476050	366	-1367	28	KANAZAWA	JAPAN	1	1951	1980	GP	1951	10
476180	362	-1380	611	MATSUMOTO	JAPAN	1	1898	1980	GP	1898	10
476240	364	-1391	113	MAEBASHI	JAPAN	1	1897	1980	GP	1897	10
476360	352	-1370	56	NAGOYA	JAPAN	1	1891	1980	GP	1891	20
476480	357	-1408	28	CHOSHI	JAPAN	1	1887	1980	GP	1897	10
476550	346	-1382	47	OMAEZAKI	JAPAN	1	1951	1980	GP	1951	10
476620	358	-1398	36	TOKYO	JAPAN	1	1876	1980	GP	1887	20
476780	331	-1398	81	HACHIJOJIMA	JAPAN	1	1951	1980	GP	1951	10
477440	354	-1334	8	YONAGO	JAPAN	1	1940	1980	GP	1940	10
477650	344	-1324	30	HIROSHIMA	JAPAN	1	1879	1980	GP	1879	20
477720	347	-1355	50	OSAKA	JAPAN	1	1883	1980	GP	1890	10
477780	335	-1358	75	SHIONOMISAKI	JAPAN	1	1913	1980	GP	1913	20
478000	342	-1293	22	IZUHARA	JAPAN	1	1887	1980	GP	1887	10
478070	336	-1304	14	FUKUOKA	JAPAN	1	1890	1980	GP	1890	20

ID	LAT	LONG	ALT	STATION NAME	COUNTRY	STATUS					
478150	332	-1316	6	OITA	JAPAN	1	1887	1980	GP	1887	10
478170	327	-1299	27	NAGASAKI	JAPAN	1	1845	1980	GP	1845	22
478270	316	-1306	5	KAGOSHIMA	JAPAN	1	1883	1980	GP	1883	20
478300	319	-1314	7	MIYAZAKI	JAPAN	1	1886	1980	GP	1886	10
478930	336	-1336	2	KOCHI	JAPAN	1	1886	1980	GP	1887	10
478980	327	-1330	32	SHIMIZU/ASHIZURI	JAPAN	1	1922	1980	GP	1922	12
479090	284	-1295	7	NAZE	JAPAN	1	1897	1980	GP	1897	10
479180	243	-1242	7	ISHIGAKIJIMA	JAPAN	1	1897	1980	GP	1897	10
479270	248	-1253	40	MIYAKOJIMA	JAPAN	1	1951	1980	GP	1951	10
479360	262	-1277	36	NAHA	JAPAN	1	1891	1980	GP	1897	12
479450	258	-1312	16	MINAMIDAITOJIMA	JAPAN	1	1951	1980	GP	1951	10
480420	220	-961	-999	MANDALAY	BURMA	1	1931	1980	GP	1950	72
480620	201	-930	5	AKYAB	BURMA	1	1878	1980	GP	1878	12
480970	168	-962	23	RANGOON	BURMA	1	1876	1980	GP	1876	12
483270	188	-990	313	CHIANGMAI	THAILAND	1	1929	1980	GP	1930	12
483780	168	-1003	50	PHITSANULOK	THAILAND	1	1937	1980	GP	1938	12
484000	158	-1002	28	NAKHON SAWAN	THAILAND	1	1939	1980	GP	1940	12
484310	150	-1021	181	NAKHON RATCHASIMA	THAILAND	1	1937	1980	GP	1938	10
484550	137	-1005	12	BANGKOK	THAILAND	1	1840	1980	GP	1902	12
484620	137	-1026	44	ARANYAPRATHET	THAILAND	1	1938	1980	GP	1939	12
484800	126	-1021	5	CHANTHABURI	THAILAND	1	1938	1980	GP	1939	12
485000	118	-998	5	PRACHUAP KHIRIKHAN	THAILAND	1	1938	1980	GP	1939	12
485170	105	-993	3	CHUMPHON	THAILAND	1	1951	1980	GP	1951	10
485680	72	-1006	10	SONGKHLA	THAILAND	1	1937	1980	GP	1951	12
486010	53	-1003	4	PENANG/BAYAN LEPAS	MALAYSIA	1	1951	1980	GP	1951	12
486150	62	-1023	9	KOTA BHARU	MALAYSIA	1	1951	1980	GP	1951	10
486470	31	-1017	17	KUALA LUMPUR/SUBANG	MALAYSIA	1	1951	1980	GP	1951	10
486650	22	-1022	11	MALACCA (WMKW)	MALAYSIA	1	1951	1980	GP	1951	12
486940	13	-1039	18	SINGAPORE	SINGAPORE	1	1825	1980	GP	1911	10
488550	160	-1082	7	DA-NANG/TOURANE	VIETNAM	1	1941	1974	GP	1941	10
488600	166	-1116	6	HOANG-SA/PATTLE	VIETNAM	1	1941	1973	GP	1941	12
488770	123	-1092	10	NHATRANG	VIETNAM	1	1898	1977	GP	1899	12
489000	108	-1067	19	SAIGON/TANSONNHUT	VIETNAM	1	1897	1980	GP	1897	20
489400	180	-1026	170	VIENTIANE	LAOS	1	1941	1978	GP	0	62
489660	134	-1039	15	SIEMREAP	KAMPUCHEA	1	1951	1970	GP	0	61
489720	135	-1060	54	STUNG TRENG	KAMPUCHEA	1	1951	1970	GP	0	62
489850	106	-1042	5	KAMPOT	KAMPUCHEA	1	1951	1970	GP	0	61
489910	116	-1049	10	PHNOM-PENH	KAMPUCHEA	1	1941	1970	GP	1941	12
505270	490	-1195	614	HAILAR	CHINA	1	1909	1981	GP	0	60
507450	473	-1239	146	QIQIHAR	CHINA	1	1909	1981	GP	0	60
509530	458	-1268	142	HARBIN	CHINA	1	1909	1979	GP	0	60
510760	477	-880	735	ALTAY	CHINA	1	1954	1981	GP	0	60
514310	439	-813	663	YINING	CHINA	1	1951	1981	GP	0	60
514630	438	-874	654	URUMQI	CHINA	1	1951	1981	GP	0	60
517090	394	-759	1289	KASHI	CHINA	1	1951	1981	GP	0	60
517770	390	-881	888	RUOQIANG	CHINA	1	1953	1981	GP	0	60
518280	371	-799	1375	HOTAN	CHINA	1	1953	1981	GP	0	60

ID	LAT	LONG	ALT	STATION NAME	COUNTRY						STATUS
522030	428	-935	738	HAMI	CHINA	1	1951	1981	GP	0	60
525330	398	-986	1543	CHIU CHUAN	CHINA	1	1934	1981	GP	0	60
528360	365	-980	3191	DULAN	CHINA	1	1940	1981	GF	0	60
528890	361	-1039	1520	LANCHOW	CHINA	1	1932	1981	GP	0	60
530680	436	-1120	965	ERENHOT	CHINA	1	1955	1981	GP	0	60
536140	384	-1062	1112	YINCHUAN	CHINA	1	1936	1981	GP	0	60
537720	377	-1125	778	TAIYUAN	CHINA	1	1916	1981	GP	0	60
542920	428	-1294	177	YANJI	CHINA	1	1914	1981	GP	0	60
543420	417	-1234	42	SHENYANG	CHINA	1	1905	1981	GP	0	60
545110	400	-1165	40	BEIHNG	CHINA	1	1841	1981	GP	0	60
545270	391	-1172	19	TIANJIN	CHINA	1	1891	1979	GP	0	60
546620	389	-1216	95	TA LIEN/TALIEN	CHINA	1	1905	1970	GP	0	60
548230	367	-1170	54	TSINAN/CHI NAN	CHINA	1	1949	1970	GP	0	60
548570	361	-1203	79	QINGDAO	CHINA	1	1898	1981	GP	0	60
555910	297	-911	3685	LHASA	CHINA	1	1935	1981	GP	0	60
561370	311	-969	3241	QAMDO	CHINA	1	1951	1981	GP	0	60
562940	307	-1041	498	CHENG TU	CHINA	1	1932	1981	GP	0	60
565710	278	-1022	1591	XICHANG	CHINA	1	1926	1981	GP	0	60
567390	251	-984	1648	TENGCHONG	CHINA	1	1916	1981	GP	0	60
567780	250	-1026	1893	KUNMING-YONNANFU	CHINA	1	1921	1981	GP	0	60
570360	343	-1089	400	HSI AN/SIAN	CHINA	1	1922	1981	GP	0	60
570830	347	-1136	110	ZHENGZHOU	CHINA	1	1950	1981	GP	0	60
574610	307	-1112	-999	YICHANG	CHINA	1	1924	1981	GP	0	60
574940	306	-1143	139	HANKOW	CHINA	1	1905	1979	GP	0	60
577450	274	-1096	267	ZHIJIANG	CHINA	1	1938	1981	GP	0	60
578160	266	-1067	1071	KUEI YANG/KWEIYANG	CHINA	1	1920	1979	GP	0	60
582380	321	-1188	68	NANJING	CHINA	1	1906	1979	GP	0	60
583670	312	-1214	7	SHANGHAI	CHINA	1	1847	1981	GP	0	60
586060	286	-1159	47	NANCHANG	CHINA	1	1929	1981	GP	0	60
586590	280	-1206	-999	WENZHO	CHINA	1	1924	1979	GP	0	60
588470	260	-1195	-999	FUZHOU	CHINA	1	1905	1979	GP	0	60
593160	233	-1166	1	SHANTOU	CHINA	1	1924	1981	GP	0	60
594310	228	-1083	72	NANNING	CHINA	1	1922	1981	GP	0	60
600100	283	165	2367	IZANA	CANARY IS.	1	1951	1970	GP	1951	10
600150	285	163	641	TENERIFE/LOS RODEOS	CANARY IS.	1	1885	1976	GP	1885	20
600200	285	162	46	SANTE CRUZ/TENERIFE	CANARY IS.	1	1921	1980	GP	1921	10
600300	279	153	25	LAS PALAMAS (GANDO)	CANARY IS.	1	1879	1980	GP	1879	12
600960	237	159	10	VILLA CISNEROS	CANARY IS.	1	1951	1975	GP	0	62
601500	339	55	549	MEKNES	MOROCCO	1	1923	1980	GP	0	60
601550	335	78	58	CASABLANCA	MOROCCO	1	1924	1980	GP	1924	10
602300	316	80	-999	MARRAKECH	MOROCCO	1	1901	1980	GP	1901	10
602500	303	97	19	AGADIR	MOROCCO	1	1923	1980	GP	0	60
602650	309	69	1136	OUARZAZATE	MOROCCO	1	1931	1980	GP	0	60
603900	367	-33	25	ALGER/DAR EL BEIDA	ALGERIA	1	1856	1980	GP	1856	10
604900	356	6	90	ORAN/ES SENIA	ALGERIA	1	1852	1974	GP	1852	10
605250	348	-57	81	BISKRA	ALGERIA	1	1932	1974	GP	0	62
605450	338	-29	767	LAGHOAT	ALGERIA	1	1878	1971	GP	1938	10

ID	LAT	LONG	ALT	STATION NAME	COUNTRY	STATUS
605710	315	22	-999	BECHAR	ALGERIA	1 1951 1980 GP 1951 10
605900	305	-28	398	EL GOLEA	ALGERIA	1 1892 1974 GP 1892 20
606000	301	22	498	BENI-ABBES	ALGERIA	1 1931 1969 GP 0 60
606250	271	-11	290	AOULEF	ALGERIA	1 1931 1962 GP 1931 10
606750	246	-12	347	OUALLEN	ALGERIA	1 1931 1962 GP 0 60
606800	228	-55	1378	TAMANRASSET	ALGERIA	1 1951 1980 GP 1951 10
607150	368	-102	4	TUNIS CARTHAGE	TUNISIA	1 1887 1980 GP 1887 20
607650	339	-101	5	GABES	TUNISIA	1 1951 1974 GP 1951 10
610170	186	-129	-999	BILMA	NIGER	1 1926 1980 GP 1950 20
610240	169	-79	-999	AGADEZ	NIGER	1 1926 1980 GP 1926 10
610360	142	-15	210	TILLABERY	NIGER	1 1951 1980 GP 0 60
610430	149	-52	-999	TAHOUA	NIGER	1 1951 1980 GP 1951 10
610520	135	-21	-999	NIAMEY	NIGER	1 1905 1980 GP 1905 10
610750	138	-53	274	BIRNI-N KONNI	NIGER	1 1951 1980 GP 1951 10
610800	134	-70	-999	MARADI	NIGER	1 1951 1980 GP 1951 10
610900	138	-90	-999	ZINDER	NIGER	1 1905 1980 GP 1923 10
610960	132	-120	339	MAINE-SORQA	NIGER	1 1951 1980 GP 1951 10
612020	202	-9	-999	TESSALIT	MALI	1 1951 1980 GP 1951 10
612140	184	-13	-999	KIDAL	MALI	1 1953 1980 GP 1953 10
612230	168	30	298	TOMBOUCTOU	MALI	1 1897 1980 GP 1897 20
612300	142	59	-999	NIORO	MALI	1 1951 1980 GP 1951 20
612400	152	17	-999	HOMBORI	MALI	1 1951 1980 GP 1951 10
612500	159	-23	-999	MENAKA	MALI	1 1951 1980 GP 0 60
612570	144	114	47	KAYES	MALI	1 1896 1980 GP 1896 10
612650	144	41	-999	MOPTI	MALI	1 1924 1980 GP 1924 10
612700	130	94	-999	KITA	MALI	1 1955 1980 GP 1955 20
612720	134	61	-999	SEGOU	MALI	1 1951 1980 GP 1951 10
612910	126	80	332	BEMAKO	MALI	1 1923 1980 GP 1923 10
612960	114	75	-999	BOUGOUNI	MALI	1 1951 1980 GP 1951 10
612970	113	56	-999	SIKASSO	MALI	1 1951 1980 GP 1951 10
614150	209	170	-999	PT ETIENNE	SENEGAL	1 1923 1980 GP 0 60
614210	205	130	-999	ATAR	SENEGAL	1 1923 1980 GP 1923 10
614420	181	159	-999	NOUAKCHOTT	MAURITANIA	1 1941 1980 GP 0 60
616000	161	165	4	SAINT LOUIS	SENEGAL	1 1862 1980 GP 0 60
616120	166	149	-999	PODOR	SENEGAL	1 1951 1980 GP 0 60
616270	153	151	-999	LINGUERE	SENEGAL	1 1951 1980 GP 1951 10
616300	156	132	-999	MATAM	SENEGAL	1 1951 1980 GP 1951 10
616410	147	175	24	DAKAR	SENEGAL	1 1898 1980 GP 0 60
616660	148	162	-999	DIOURBEL	SENEGAL	1 1951 1980 GP 0 60
616790	141	161	7	KAOLACK	SENEGAL	1 1931 1980 GP 0 60
616870	139	136	-999	TAMBACOUNDA	SENEGAL	1 1923 1980 GP 1923 10
616950	126	163	23	ZIGUINCHOR	SENEGAL	1 1923 1980 GP 1923 10
616980	129	149	22	KOLDA	SENEGAL	1 1951 1980 GP 1951 10
617010	134	166	26	BATHURST	GAMBIA	1 1910 1980 GP 0 60
617660	119	156	40	BISSAU AIRPORT	GUINEA	1 1941 1974 GP 0 60
618200	103	120	-999	MAMOU	GUINEA	1 1923 1980 GP 0 60
618560	85	132	27	LUNGI	SIERRA LEONE	1 1849 1980 GP 1891 10

ID	LAT	LONG	ALT	STATION NAME	COUNTRY	STATUS
618660	75	125	8	BONTHE	SIERRA LEONE	1 1951 1980 GP 1955 10
618910	80	109	186	DARU	SIERRA LEONE	1 1951 1980 GP 1951 10
619310	4	-67	15	SAO TOME	SAO TOME	1 1874 1975 GP 1874 12
620100	329	-132	84	TRIPOLI	LIBYA	1 1892 1980 GP 0 62
620530	321	-203	132	BENINA	LIBYA	1 1945 1980 GP 0 62
620630	319	-239	155	EL ADEM	LIBYA	1 1945 1975 GP 1945 10
622710	242	-233	-999	KUFRA	LIBYA	1 1951 1980 GP 0 62
623000	315	-252	6	SALLOUM	EGYPT	1 1951 1975 GP 0 62
623060	313	-272	-999	MATRUH	EGYPT	1 1951 1978 GP 1951 10
623180	312	-298	-999	ALEXANDRIA	EGYPT	1 1945 1975 GP 1945 10
623197	312	-299	32	KOM EL NADURA	EGYPT	1 1870 1957 GP 1870 10
623330	313	-323	1	PORT SAID	EGYPT	1 1886 1975 GP 1886 12
623660	300	-312	-999	CAIRO	EGYPT	1 1951 1978 GP 1951 12
623780	299	-313	141	HELWAN	EGYPT	1 1904 1978 GP 1904 10
623870	281	-307	-999	EL MINYA	EGYPT	1 1945 1975 GP 1945 10
623930	272	-311	70	MANQABAD/ASYUT	EGYPT	1 1951 1975 GP 1951 20
624050	257	-327	88	LUXOR	EGYPT	1 1941 1975 GP 1941 10
624140	240	-328	-999	ASWAN	EGYPT	1 1935 1978 GP 1951 20
624320	255	-290	-999	DAKLA	EGYPT	1 1951 1978 GP 1951 10
624350	254	-305	-999	KHARGA	EGYPT	1 1951 1975 GP 1951 10
624620	273	-338	3	HURGHADA	EGYPT	1 1951 1975 GP 1951 10
626000	219	-313	-999	WADI HALFA	SUDAN	1 1941 1964 GP 0 60
626400	159	-338	-999	ABU HAMED	SUDAN	1 1951 1975 GP 1951 10
626410	196	-372	-999	PORT SUDAN	SUDAN	1 1943 1980 GP 1943 10
626600	186	-319	249	KARIMA	SUDAN	1 1951 1975 GP 1951 10
626610	190	-369	796	GEBEIT	SUDAN	1 1951 1975 GP 1951 10
626800	176	-339	-999	ATBARA	SUDAN	1 1943 1975 GP 1943 10
627210	156	-326	-999	KHARTOUM	SUDAN	1 1901 1980 GP 1901 10
627300	155	-364	500	KASSALA	SUDAN	1 1941 1975 GP 1941 20
627500	140	-323	378	ED DUEIM	SUDAN	1 1951 1975 GP 1951 12
627510	144	-335	408	WAD MEDANI	SUDAN	1 1951 1975 GP 1951 20
627600	136	-254	730	EL FASHER	SUDAN	1 1941 1980 GP 1941 20
627700	134	-223	-999	GENEINA	SUDAN	1 1951 1975 GP 1951 10
627710	131	-302	74	EL OBEID	SUDAN	1 1910 1980 GP 1910 20
627720	132	-327	381	KOSTI	SUDAN	1 1943 1975 GP 1943 20
627810	127	-284	-999	EN NAHUD	SUDAN	1 1951 1975 GP 1951 20
628400	96	-316	388	MALAKAL	SUDAN	1 1941 1980 GP 0 60
628800	77	-280	439	WAU	SUDAN	1 1910 1980 GP 1942 10
629410	49	-317	457	JUBA	SUDAN	1 1941 1980 GP 1941 20
631250	115	-430	-999	DJIBOUTI	SOMALIA	1 1951 1978 GP 0 60
632250	95	-491	812	GARDO	SOMALIA	1 1954 1978 GP 0 61
632600	20	-454	10	MOGADISCIO	SOMALIA	1 1911 1981 GP 0 60
636120	31	-356	-999	LODWAR	KENYA	1 1951 1975 GP 1951 10
636240	40	-419	231	MANDERA	KENYA	1 1951 1975 GP 1951 10
636300	27	-323	-999	GULU	UGANDA	1 1951 1977 GP 1951 10
637230	6	-395	-999	GARISSA	KENYA	1 1940 1980 GP 1940 20
637390	-13	-368	1820	NAIROBI/KABETE	KENYA	1 1929 1955 GP 0 60

ID	LAT	LONG	ALT	STATION NAME	COUNTRY	STATUS				
637400	-13	-369	1624	NAIROBI/AIRPORT	KENYA	1	19 51	19 81	GP	0 60
637410	-13	-368	1798	NAIROBI/DAGORETTI	KENYA	1	19 55	19 75	GP	0 60
644580	16	-161	352	OUESSO	CONGO	1	19 51	19 79	GP	19 51 10
644590	16	-180	-999	IMPFONDO	CONGO	1	19 41	19 80	GP	19 41 20
644600	21	-140	547	SOUANKE	CONGO	1	19 51	19 77	GP	19 51 10
645000	7	-102	10	LIBREVILLE	GABON	1	1896	19 79	GP	1896 12
645010	7	-87	-999	PORT GENTIL	GABON	1	19 41	19 80	GP	19 41 10
645040	10	-96	13	COCOBEACH	GABON	1	19 51	19 80	GP	19 51 10
645100	21	-115	599	BITAM	GABON	1	19 54	19 79	GP	19 54 10
645500	-19	-110	89	MOUILA	GABON	1	19 51	19 80	GP	19 51 10
645510	-7	-102	26	LAMBARENE	GABON	1	19 51	19 80	GP	19 51 20
645520	8	-115	589	MITZIC	GABON	1	19 51	19 80	GP	19 51 20
645530	-16	-135	-999	FRANCEVILLE	GABON	1	19 46	19 70	GP	19 46 10
645560	6	-129	515	MAKOKOU	GABON	1	19 53	19 80	GP	0 60
645600	-8	-127	485	LASTOURSVILLE	GABON	1	19 54	19 79	GP	0 62
646000	42	-157	-999	BERBERATI	C. AFR. REP.	1	19 51	19 80	GP	0 62
646010	59	-156	1020	BOUAR	C. AFR. REP.	1	19 51	19 80	GP	0 62
646030	65	-183	458	BOUCA	C. AFR. REP.	1	19 51	19 67	GP	0 61
646500	43	-186	-999	BANGUI	C. AFR. REP.	1	19 41	19 80	GP	0 60
646540	84	-206	-999	NDELE	C. AFR. REP.	1	19 51	19 80	GP	19 51 10
646550	65	-220	584	BRIA	C. AFR. REP.	1	19 51	19 80	GP	19 51 12
646560	48	-228	500	BANGASSOU	C. AFR. REP.	1	19 46	19 80	GP	0 62
646580	102	-227	-999	BIRAO	C. AFR. REP.	1	19 51	19 80	GP	19 51 12
646590	54	-265	651	OBO	C. AFR. REP.	1	19 54	19 79	GP	0 62
646600	57	-208	-999	BAMBARI	C. AFR. REP.	1	19 53	19 79	GP	0 62
646610	65	-233	602	YALINGA	C. AFR. REP.	1	19 53	19 80	GP	19 53 12
647000	121	-150	-999	FORT LAMY	CHAD	1	19 51	19 78	GP	19 51 20
647050	104	-167	-999	BOUSSO	CHAD	1	19 53	19 78	GP	19 53 10
647060	85	-160	-999	MOUNDOU	CHAD	1	19 51	19 78	GP	19 51 20
647090	93	-159	-999	PALA	CHAD	1	19 53	19 78	GP	19 53 10
647500	91	-183	-999	SARH	CHAD	1	19 41	19 78	GP	19 41 10
647510	132	-183	-999	ATI	CHAD	1	19 51	19 78	GP	19 51 10
647530	180	-191	-999	FAYALARGEAU	CHAD	1	19 46	19 77	GP	0 62
647580	121	-186	-999	MONGO	CHAD	1	19 51	19 78	GP	19 51 10
648700	72	-133	-999	NGAOURENDE	CAMEROON	1	19 51	19 80	GP	0 62
648930	56	-108	1210	KOUNDJA	CAMEROON	1	19 51	19 79	GP	0 62
649100	40	-97	13	DOUALA	CAMEROON	1	1885	19 79	GP	0 60
649500	39	-115	760	YAOUNDE	CAMEROON	1	1889	19 79	GP	0 60
650100	130	-52	-999	SOKOTO	NIGERIA	1	19 16	19 60	GP	0 60
650460	120	-85	476	KANO	NIGERIA	1	19 05	19 77	GP	19 05 10
650820	107	-131	-999	MAIDUGURI	NIGERIA	1	19 16	19 77	GP	0 60
651010	85	-45	-999	ILORIN	NIGERIA	1	19 51	19 77	GP	19 51 10
651230	96	-65	-999	MINNA	NIGERIA	1	19 51	19 76	GP	19 51 10
651340	99	-88	-999	JOS	NIGERIA	1	19 51	19 77	GP	0 60
651670	92	-124	174	YOLA	NIGERIA	1	19 10	19 76	GP	0 62
652010	65	-34	38	LAGOS/IKEJA	NIGERIA	1	1892	19 77	GP	1892 10
652360	55	-57	-999	WARRI	NIGERIA	1	19 09	19 60	GP	19 09 20

ID	LAT	LONG	ALT	STATION NAME	COUNTRY	STATUS					
652500	47	-70	-999	PORT HARCOURT	NIGERIA	1	1951	1977	GP	1951	10
652570	63	-74	-999	ENUGU	NIGERIA	1	1951	1977	GP	1951	10
652640	50	-83	-999	CALABAR	NIGERIA	1	1909	1960	GP	0	60
652710	77	-85	-999	MAKURDI	NIGERIA	1	1951	1977	GP	1951	10
653060	111	-29	-999	KANDI	BENIN	1	1941	1980	GP	1941	10
653190	103	-13	-999	NATITINGUE	BENIN	1	1923	1980	GP	1923	10
653350	80	-24	-999	SAVE	BENIN	1	1951	1980	GP	1951	10
653380	72	-21	167	BOHICON	BENIN	1	1951	1980	GP	1951	10
653440	63	-24	-999	COTONOU	BENIN	1	1951	1980	GP	1951	20
653520	103	-5	-999	MANGO	TOGO	1	1951	1976	GP	1951	20
653610	89	-11	-999	SOKODE	TOGO	1	1951	1976	GP	1951	20
653760	75	-11	-999	ATAKPAME	TOGO	1	1951	1976	GP	1951	20
653870	61	-12	-999	LOME	TOGO	1	1926	1976	GP	1951	10
654180	94	-8	-999	TAMALE	GHANA	1	1945	1975	GP	1945	10
654670	48	17	-999	TAKORADI	GHANA	1	1941	1975	GP	1941	20
654720	56	2	65	ACCRA (WAS 654490)	GHANA	1	1888	1975	GP	1911	10
655030	123	15	-999	OUAGADOUGOU	UPPER VOLTA	1	1924	1979	GP	1924	10
655070	122	-4	-999	FADA NGOUR	UPPER VOLTA	1	1951	1979	GP	1951	20
655100	110	38	-999	BOBO DIOULASSO	UPPER VOLTA	1	1923	1979	GP	1941	10
655220	103	31	-999	GAOUA	UPPER VOLTA	1	1951	1979	GP	1951	20
655280	95	75	-999	ODIENNE	IVORY COAST	1	1941	1980	GP	1951	20
655480	74	75	-999	MAN	IVORY COAST	1	1951	1980	GP	1951	20
655550	76	50	-999	BOUAKE	IVORY COAST	1	1951	1980	GP	1951	20
655570	60	59	-999	GAGNOA	IVORY COAST	1	1951	1980	GP	1951	20
655620	66	47	-999	DIMBROKO	IVORY COAST	1	1951	1980	GP	1951	20
655780	53	40	-999	ABIDJAN VI	IVORY COAST	1	1923	1980	GP	1923	10
655920	44	73	-999	TABOU	IVORY COAST	1	1941	1980	GP	1941	10
655990	49	60	-999	SASSANDRA	IVORY COAST	1	1951	1980	GP	1951	20
656507	64	104	30	HARBEL	LIBERIA	1	1932	1960	GP	1932	10
656600	62	103	16	ROBERTS FIELD	LIBERIA	1	1961	1980	GP	0	62
700260	713	1568	9	BARROW	USA	1	1920	1981	GP	1921	10
700860	701	1436	12	BARTER ISLAND	USA	1	1947	1981	GP	1948	10
701330	669	1626	3	KOTZEBUE	USA	1	1928	1980	GP	1929	10
701740	669	1515	196	BETTLES	USA	1	1944	1981	GP	1945	10
701780	652	1521	71	TANANA	USA	1	1903	1981	GP	1904	10
701928	649	1479	145	UNIVERSITY EXP STA	USA	1	1922	1981	GP	1922	10
702000	645	1654	4	NOME	USA	1	1906	1981	GP	1906	10
702070	639	1608	5	UNALAKLEET	USA	1	1941	1981	GP	1942	10
702190	608	1618	38	BETHEL	USA	1	1923	1981	GP	1924	10
702310	630	1556	105	MCGRATH	USA	1	1942	1980	GP	1942	10
702337	622	1598	46	HOLY CROSS	USA	1	1893	1969	GP	1906	12
702480	625	1539	457	FAREWELL	USA	1	1944	1971	GP	1945	10
702490	621	1528	559	PUNTILLA	USA	1	1942	1981	GP	1942	10
702510	623	1501	105	TALKEETNA	USA	1	1918	1981	GP	1920	10
702617	648	1479	133	FAIRBANKS/EXP STAT.	USA	1	1904	1981	GP	1915	10
702649	637	1490	631	MCKINLEY PARK	USA	1	1923	1981	GP	1923	10
702670	640	1457	387	BIG DELTA	USA	1	1942	1981	GP	1942	20

ID	LAT	LONG	ALT	STATION NAME	COUNTRY	STATUS					
702710	622	1455	479	GULKANA	USA	1	1942	1981	GP	1943	10
702730	612	1500	35	ANCHORAGE	USA	1	1916	1981	GP	1916	10
702747	616	1493	46	MATANUSKA/EXP STAT.	USA	1	1917	1969	GP	1918	10
702750	611	1463	5	VALDEZ	USA	1	1910	1968	GP	1917	20
702820	648	1412	259	EAGLE	USA	1	1899	1981	GP	1899	12
702910	630	1420	522	NORTHWAY APRT	USA	1	1942	1981	GP	1942	10
702960	605	1455	13	CORDOVA	USA	1	1917	1981	GP	1917	20
703080	571	1703	9	ST. PAUL	USA	1	1916	1979	GP	1916	10
703160	552	1627	31	COLD BAY	USA	1	1942	1979	GP	1942	10
703260	587	1567	15	KING SALMON	USA	1	1918	1981	GP	1919	12
703400	598	1549	57	ILIAMNA	USA	1	1941	1981	GP	1941	10
703410	596	1515	19	HOMER	USA	1	1932	1981	GP	1933	10
703500	578	1525	4	KODIAK	USA	1	1899	1981	GP	1899	10
703600	598	1446	18	CAPE ST. ELIAS	USA	1	1936	1969	GP	1936	10
703710	571	1353	20	SITKA MAGNETIC OBS.	USA	1	1832	1981	GP	1832	10
703870	565	1324	11	WRANGELL	USA	1	1917	1981	GP	1917	10
703980	550	1316	34	ANNETTE ISLAND	USA	1	1941	1979	GP	1941	10
704140	527	1740	31	SHEMYA	USA	1	1943	1972	GP	1944	10
704540	519	1767	4	ADAK	USA	1	1942	1969	GP	1943	10
704890	539	1665	5	DUTCH HARBOR	USA	1	1906	1953	GP	1906	12
710430	653	1268	73	NORMAN WELLS	CANADA	1	1943	1980	GP	1944	10
710431	649	1256	74	FORT NORMAN	CANADA	1	1908	1975	GP	1909	12
710435	663	1286	53	FORT GOOD HOPE	CANADA	1	1898	1979	GP	1908	10
710450	602	1328	705	TESLIN A	CANADA	1	1943	1980	GP	1944	10
710503	545	1243	686	FORT ST JAMES	CANADA	1	1895	1980	GP	1895	10
710510	720	1253	86	SACHS HARBOUR	CANADA	1	1955	1980	GP	1956	10
710531	707	1178	9	HOLMAN	CANADA	1	1941	1969	GP	1948	10
710691	554	1165	594	HIGH PRAIRIE	CANADA	1	1926	1977	GP	1932	10
710720	762	1193	15	MOULD BAY	CANADA	1	1948	1980	GP	1949	10
710730	627	1092	164	FORT RELIANCE	CANADA	1	1948	1980	GP	1949	10
710740	788	1035	25	ISACHSEN	CANADA	1	1948	1978	GP	1949	10
710810	687	813	8	HALL BEACH	CANADA	1	1957	1980	GP	1959	10
710820	825	623	62	ALERT	CANADA	1	1950	1980	GP	1951	10
710900	705	686	25	CLYDE	CANADA	1	1946	1980	GP	1947	10
710921	628	699	-999	LAKE HARBOUR	CANADA	1	1913	1946	GP	0	62
710950	727	780	54	POND INLET	CANADA	1	1922	1980	GP	0	62
711010	533	1318	-999	SANDSPIT	CANADA	1	1948	1979	GP	1949	10
711090	507	1274	23	PORT HARDY	CANADA	1	1944	1979	GP	1944	10
711200	544	1103	541	COLD LAKE A	CANADA	1	1952	1980	GP	1953	10
711220	512	1156	1397	BANFF	CANADA	1	1888	1980	GP	1890	10
711231	539	1141	701	SION	CANADA	1	1911	1980	GP	1911	22
711282	505	1067	671	CHAPLIN	CANADA	1	1893	1980	GP	1893	20
711400	499	1000	366	BRANDON	CANADA	1	1856	1980	GP	1890	12
714322	430	793	175	WELAND	CANADA	1	1872	1980	GP	1874	10
714323	431	808	282	WOODSTOCK	CANADA	1	1871	1980	GP	1872	10
715270	428	802	186	PORT DOVER	CANADA	1	1875	1980	GP	1876	10
715274	425	819	206	RIDGETOWN	CANADA	1	1885	1980	GP	1886	12

ID	LAT	LONG	ALT	STATION NAME	COUNTRY					STATUS	
715380	423	830	190	WINDSOR A	CANADA	1	1866	1980	GP	1874	12
715382	418	827	175	PELEE ISLAND	CANADA	1	1889	1980	GP	1920	72
716000	440	601	-999	SABLE ISLAND	CANADA	1	1898	1980	GP	1898	10
716010	446	635	41	SHEARWATER	CANADA	1	1852	1980	GP	1945	12
716204	446	757	91	BROCKVILLE	CANADA	1	1872	1980	GP	1916	22
716213	442	774	76	BELLEVILLE	CANADA	1	1866	1980	GP	1921	12
716215	443	783	194	PETERBOROUGH	CANADA	1	1866	1970	GP	1964	72
716280	454	757	79	OTTAWA	CANADA	1	1872	1980	GP	1889	22
716286	459	757	186	HIGH FALLS	CANADA	1	1933	1972	GP	1960	70
716305	451	794	290	BEATRICE	CANADA	1	1878	1979	GP	1878	10
716307	444	788	267	LINDSAY	CANADA	1	1880	1971	GP	1881	10
716313	442	808	381	DURHAM	CANADA	1	1882	1980	GP	1883	12
716315	435	802	334	GUELPH OAC	CANADA	1	1881	1973	GP	1882	12
716323	453	800	194	PARRY SOUND	CANADA	1	1875	1976	GP	1876	10
716336	445	814	186	SOUTHAMPTON	CANADA	1	1873	1980	GP	1874	20
717070	462	601	60	SYDNEY	CANADA	1	1940	1980	GP	1940	10
717090	474	619	60	GRINDSTONE IS	CANADA	1	1941	1970	GP	1941	10
717170	470	655	34	CHATHAM	CANADA	1	1943	1980	GP	1943	10
717187	485	685	-999	FATHER POINT	CANADA	1	1877	1970	GP	1882	10
717220	464	760	170	MANIWAKI	CANADA	1	1953	1980	GP	1953	10
717270	483	710	163	BAGOTVILLE	CANADA	1	1942	1980	GP	1942	10
717277	484	711	46	CHICOUTIMI	CANADA	1	1931	1970	GP	1942	10
717310	463	795	201	NORTH BAY	CANADA	1	1887	1980	GP	1925	12
717380	486	853	379	WHITE RIVER	CANADA	1	1889	1976	GP	1889	10
718000	465	531	128	TREPASSEY	CANADA	1	1921	1969	GP	1934	10
718010	476	527	144	ST JOHNS/TORBAY	CANADA	1	1834	1970	GP	1898	10
718030	490	546	147	GANDER	CANADA	1	1937	1980	GP	1937	10
718090	519	554	130	BELLE ISLE	CANADA	1	1912	1968	GP	1920	72
718110	502	663	58	SEPT-ILES	CANADA	1	1944	1979	GP	1945	10
718130	502	618	5	NATASHQUAN	CANADA	1	1914	1980	GP	1915	10
718150	485	586	26	STEPHENVILLE	CANADA	1	1942	1980	GP	1942	10
718160	533	604	49	GOOSE	CANADA	1	1941	1980	GP	1942	10
718180	537	570	14	CARTWRIGHT	CANADA	1	1934	1980	GP	1941	10
718227	503	739	383	MISTASSINI POST	CANADA	1	1921	1969	GP	0	62
718260	532	709	537	NITCHEQUON	CANADA	1	1942	1980	GP	1943	10
718280	548	667	512	SCHEFFERVILLE	CANADA	1	1949	1969	GP	1949	10
718288	478	774	1080	GRAND LAKE VICTORIA	CANADA	1	1939	1980	GP	1946	10
718310	494	825	229	KAPUSKASING	CANADA	1	1938	1980	GP	1938	10
718360	513	807	10	MOOSONEE	CANADA	1	1877	1980	GP	1889	10
718410	503	889	320	ARMSTRONG	CANADA	1	1938	1980	GP	1939	10
718420	501	919	390	SIOUX LOOKOUT A	CANADA	1	1914	1980	GP	1915	10
718460	522	879	256	LANSDOWNE HOUSE	CANADA	1	1941	1980	GP	1942	10
718480	538	899	219	TROUT LAKE	CANADA	1	1939	1980	GP	1939	10
718501	506	932	361	EAR FALLS	CANADA	1	1928	1980	GP	1928	22
718510	500	983	261	PORTAGE LA PRAIRIE	CANADA	1	1886	1971	GP	1886	22
718517	492	981	297	MORDEN	CANADA	1	1904	1980	GP	1905	10
718520	499	971	240	WINNIPEG (COMBINED)	CANADA	1	1872	1979	GP	1878	10

ID	LAT	LONG	ALT	STATION NAME	COUNTRY					STATUS	
718523	490	972	236	EMERSON	CANADA	1	1920	1980	GP	1943	12
718588	549	986	233	WABOWDEN	CANADA	1	1943	1971	GF	1944	10
718630	504	1047	577	REGINA A	CANADA	1	1883	1980	GP	1884	12
718631	505	1037	586	INDIAN HEAD	CANADA	1	1889	1980	GP	1891	10
718640	503	1056	577	MOOSE JAW (CHAB/AP)	CANADA	1	1894	1980	GP	1895	20
718663	524	1052	552	PILGER	CANADA	1	1911	1980	GP	1918	72
718670	540	1011	271	THE PAS	CANADA	1	1910	1980	GP	1930	10
718680	528	1023	358	HUDSON BAY A	CANADA	1	1943	1980	GP	1944	10
718690	532	1057	428	PRINCE ALBERT A	CANADA	1	1884	1980	GP	1890	20
718700	503	1077	817	SWIFT CURRENT A	CANADA	1	1885	1980	GP	1885	20
718712	531	1094	648	WASECA	CANADA	1	1907	1980	GP	1908	20
718720	500	1107	717	MEDICINE HAT A	CANADA	1	1883	1980	GP	1895	20
718740	496	1128	920	LETHBRIDGE	CANADA	1	1936	1979	GP	1937	10
718762	521	1080	671	BIGGAR	CANADA	1	1917	1980	GP	1917	10
718770	511	1141	1067	CALGARY INT'L A	CANADA	1	1881	1980	GP	1885	10
718870	507	1205	345	KAMLOOPS	CANADA	1	1891	1969	GP	1898	10
718960	539	1227	676	PRINCE GEORGE	CANADA	1	1912	1980	GP	1913	20
718967	530	1216	1274	BARKERVILLE	CANADA	1	1888	1969	GP	1888	20
718980	543	1303	34	PRINCE RUPERT	CANADA	1	1911	1969	GP	1911	20
718990	543	1331	41	LANGARA	CANADA	1	1937	1969	GP	1937	10
718997	540	1322	3	MASSET	CANADA	1	1898	1967	GP	1911	10
719000	555	602	12	HOPEDALE	CANADA	1	1942	1980	GP	1942	10
719030	613	649	39	RESOLUTION IS	CANADA	1	1929	1961	GP	1930	12
719050	553	778	26	POSTE DE LA BALEINE	CANADA	1	1925	1980	GP	1926	12
719060	581	684	35	FORT CHIMO	CANADA	1	1941	1980	GP	1942	10
719070	585	781	51	NOUCDJOUAC	CANADA	1	1921	1980	GP	1942	12
719080	631	779	16	NOTTINGHAM ISLAND	CANADA	1	1927	1970	GP	1930	10
719090	638	686	34	FROBISHER BAY	CANADA	1	1946	1980	GP	1947	10
719130	588	941	29	FORT CHURCHILL	CANADA	1	1884	1980	GP	1932	12
719150	642	834	64	CORAL HARBOUR	CANADA	1	1933	1980	GP	1946	12
719160	633	907	6	CHESTERFIELD	CANADA	1	1921	1980	GP	1924	10
719170	800	859	10	EUREKA	CANADA	1	1947	1980	GP	1948	10
719180	730	852	11	ARCTIC BAY	CANADA	1	1937	1976	GP	0	62
719210	579	1017	343	BROCHET A	CANADA	1	1948	1980	GP	1949	12
719222	555	1024	299	ISLAND FALLS	CANADA	1	1929	1980	GP	1930	10
719230	611	1009	325	ENNADAI LAKE	CANADA	1	1949	1979	GP	1950	10
719240	747	950	67	RESOLUTE	CANADA	1	1947	1980	GP	1948	10
719250	691	1051	27	CAMBRIDGE BAY	CANADA	1	1929	1980	GP	1929	12
719260	643	960	12	BAKER LAKE	CANADA	1	1946	1980	GP	1950	10
719320	567	1114	369	FORT MCMURRAY	CANADA	1	1931	1980	GP	1931	10
719330	588	1111	232	FORT CHIPEWYAN A	CANADA	1	1883	1980	GP	1917	22
719333	584	1160	279	FORT VERMILION	CANADA	1	1905	1980	GP	1905	10
719340	600	1120	203	FORT SMITH	CANADA	1	1914	1980	GP	1915	10
719350	608	1158	166	HAY RIVER	CANADA	1	1893	1980	GP	1900	10
719360	625	1145	205	YELLOWKNIFE	CANADA	1	1942	1980	GP	1948	10
719380	678	1152	24	COPPERMINE	CANADA	1	1930	1980	GP	1933	10
719400	552	1189	669	GRANDE PRAIRE	CANADA	1	1922	1980	GP	1945	12

ID	LAT	LONG	ALT	STATION NAME	COUNTRY	STATUS					
719401	561	1184	670	FAIRVIEW	CANADA	1	1931	1980	GP	1931	20
719410	558	1247	747	GERMANSEN LANDING	CANADA	1	1951	1980	GP	1951	10
719430	562	1207	695	FORT ST JOHN	CANADA	1	1931	1980	GP	1942	10
719431	562	1207	686	BALDONNEL	CANADA	1	1927	1980	GP	1927	20
719442	552	1194	732	BEAVERLODGE	CANADA	1	1913	1980	GP	1913	10
719450	588	1226	382	FORT NELSON	CANADA	1	1937	1980	GP	1939	10
719460	618	1212	169	FORT SIMPSON	CANADA	1	1895	1980	GP	1910	72
719461	632	1234	156	WRIGLEY	CANADA	1	1943	1980	GP	1951	10
719491	628	1374	454	FORT SELKIRK	CANADA	1	1952	1980	GP	1957	10
719500	548	1272	523	SMITHERS	CANADA	1	1942	1980	GP	1943	10
719510	545	1286	217	TERRACE	CANADA	1	1912	1980	GP	1912	20
719511	552	1276	351	NEW HAZELTON	CANADA	1	1914	1976	GP	1915	10
719530	601	1288	689	WATSON LAKE	CANADA	1	1938	1980	GP	1944	10
719570	683	1335	68	INUVIK	CANADA	1	1957	1980	GP	1960	11
719580	584	1300	816	DEASE LAKE	CANADA	1	1944	1980	GP	1947	10
719590	695	1330	18	TUKTOYAKTUK	CANADA	1	1948	1980	GP	1950	12
719640	607	1351	703	WHITEHORSE	CANADA	1	1942	1980	GP	1943	10
719650	636	1359	504	MAYO	CANADA	1	1925	1980	GP	1929	10
719660	641	1391	369	DAWSON	CANADA	1	1900	1980	GP	1901	10
719680	682	1350	9	AKLAVIK	CANADA	1	1926	1962	GP	1926	12
719930	674	1349	30	FORT MCPHERSON	CANADA	1	1892	1977	GP	1940	12
722010	246	818	6	KEY WEST	USA	1	1851	1970	GP	1851	10
722020	258	803	2	MIAMI	USA	1	1895	1980	GP	1895	20
722060	303	817	9	JACKSONVILLE	USA	1	1872	1980	GP	1872	20
722070	321	812	14	SAVANNAH	USA	1	1874	1980	GP	1874	20
722080	328	799	15	CHARLESTON	USA	1	1823	1980	GP	1823	10
722110	280	825	6	TAMPA	USA	1	1825	1980	GP	1825	22
722127	283	823	54	ST. LEO	USA	1	1937	1970	GP	0	60
722141	309	839	79	THOMASVILLE	USA	1	1892	1980	GP	1892	10
722170	327	837	108	MACON	USA	1	1868	1980	GP	1868	20
722190	337	844	308	ATLANTA	USA	1	1879	1980	GP	1892	10
722220	305	872	34	PENSACOLA	USA	1	1879	1980	GP	1879	20
722230	307	882	22	MOBILE	USA	1	1873	1970	GP	1873	20
722310	300	901	17	NEW ORLEANS	USA	1	1874	1980	GP	1874	20
722340	323	888	88	MERIDIAN	USA	1	1889	1980	GP	1889	10
722360	324	909	78	VICKSBURG	USA	1	1871	1980	GP	1872	10
722401	302	927	8	JENNINGS	USA	1	1897	1980	GP	1897	10
722420	291	949	16	GALVESTON	USA	1	1873	1977	GP	1873	10
722480	325	938	77	SHREVEPORT	USA	1	1872	1980	GP	1872	10
722500	259	974	6	BROWNSVILLE	USA	1	1951	1980	GP	1951	10
722530	295	985	240	SAN ANTONIO	USA	1	1885	1980	GP	1886	10
722556	285	977	69	BEEVILLE	USA	1	1922	1970	GP	1922	20
722660	324	997	534	ABILENE	USA	1	1886	1980	GP	1886	20
722680	333	1045	1112	ROSWELL	USA	1	1893	1980	GP	1893	10
722682	324	1042	951	CARLSBAD	USA	1	1894	1980	GP	1894	20
722684	330	1058	2691	CLOUDCROFT	USA	1	1901	1970	GP	1901	10
722685	344	1032	1304	CLOVIS	USA	1	1911	1980	GP	1911	20

ID	LAT	LONG	ALT	STATION NAME	COUNTRY						STATUS
722687	332	1058	2068	MESCALERO	USA						
722688	335	1055	1896	FORT STANTON	USA	1	1911	1978	GP	1911	10
722689	327	1031	1102	HOBBS	USA	1	1900	1970	GP	1901	10
722693	326	1067	1303	JORNADA	USA	1	1913	1980	GP	1913	10
722694	327	1034	1158	PEARL	USA	1	1914	1980	GP	1914	10
722695	323	1068	1183	STATE UNIV.	USA	1	1916	1980	GP	1916	10
722697	328	1081	1872	FORT BAYARD	USA	1	1892	1980	GP	1892	20
722698	322	1080	1344	GAGE	USA	1	1891	1980	GP	1891	20
722699	338	1089	2149	LUNA R S	USA	1	1906	1979	GP	1906	10
722700	318	1065	1194	EL PASO	USA	1	1903	1980	GP	1906	10
722701	331	1060	1388	TULAROSA	USA	1	1879	1980	GP	1879	10
722732	315	1105	1519	CANELO	USA	1	1908	1979	GP	1908	10
722734	314	1109	1158	NOGALES	USA	1	1920	1980	GP	1920	20
722741	324	1129	537	AJO	USA	1	1914	1980	GP	1914	20
722742	317	1101	1405	TOMBSTONE	USA	1	1915	1980	GP	1915	10
722744	320	1103	1097	BENSON	USA	1	1904	1980	GP	1904	10
722745	334	1108	1082	GLOBE	USA	1	1903	1974	GP	1903	10
722781	334	1126	270	BUCKEYE	USA	1	1907	1975	GP	1907	20
722789	334	1109	1085	MIAMI	USA	1	1911	1980	GP	1911	20
722863	337	1111	672	ROOSEVELT	USA	1	1914	1980	GP	1914	20
722865	331	1171	200	ESCONDIDO	USA	1	1905	1970	GP	1910	10
722866	336	1146	81	BLYTHE	USA	1	1895	1979	GP	1895	10
722867	339	1178	117	YORBA LINDA	USA	1	1909	1980	GP	1909	20
722900	327	1172	9	SAN DIEGO	USA	1	1914	1980	GP	1914	10
722903	330	1166	1423	CUYAMACA	USA	1	1850	1980	GP	1851	10
722950	341	1182	95	LOS ANGELES	USA	1	1899	1980	GP	1899	20
722955	333	1166	969	WARNER SPRINGS	USA	1	1894	1980	GP	1894	10
722975	337	1163	3	INDIO	USA	1	1909	1977	GP	1909	20
723040	353	757	3	CAPE HATTERAS	USA	1	1880	1980	GP	1880	10
723060	359	788	122	RALEIGH	USA	1	1875	1980	GP	1875	10
723091	342	797	45	FLORENCE	USA	1	1887	1980	GP	1887	20
723092	343	779	9	WILMINGTON	USA	1	1882	1980	GP	1887	10
723120	349	822	292	GREENVILLE	USA	1	1871	1980	GP	1871	10
723140	352	807	224	CHARLOTTE	USA	1	1884	1980	GP	1908	70
723150	356	825	661	ASHEVILLE	USA	1	1878	1980	GP	1879	10
723240	350	852	203	CHATTANOOGA	USA	1	1903	1980	GP	1903	20
723270	361	867	180	NASHVILLE	USA	1	1879	1980	GP	1879	10
723287	355	868	240	LEWISBURG	USA	1	1871	1980	GP	1872	20
723340	351	900	79	MEMPHIS	USA	1	1939	1970	GP	1939	10
723346	358	898	299	KNOXVILLE	USA	1	1871	1980	GP	1871	20
723380	370	892	96	CAIRO	USA	1	1871	1980	GP	1871	20
723440	353	944	136	FORT SMITH	USA	1	1871	1980	GP	1871	10
723445	361	942	387	FAYETTEVILLE/DRAKE	USA	1	1882	1980	GP	1882	10
723493	364	994	579	WOODWARD	USA	1	1945	1970	GP	1945	10
723521	348	994	463	MANGUM	USA	1	1895	1977	GP	1920	72
723600	365	1031	1515	CLAYTON	USA	1	1893	1980	GP	1893	12
723601	368	1080	1719	AZTEC	USA	1	1909	1980	GP	1909	20
					USA	1	1919	1980	GP	1919	20

ID	LAT	LONG	ALT	STATION NAME	COUNTRY	STATUS					
723602	367	1080	1757	BLOOMFIELD	USA	1	1904	1980	GP	1904	10
723603	342	1034	1222	PORTALES	USA	1	1911	1980	GP	1911	10
723604	367	1060	2475	TRES PIEDRAS	USA	1	1905	1979	GP	1905	10
723606	364	1056	2117	TAOS	USA	1	1901	1980	GP	1901	10
723607	360	1068	2484	WOLF CANYON	USA	1	1912	1980	GP	1912	20
723608	364	1046	1785	SPRINGER	USA	1	1891	1980	GP	1904	10
723609	351	1033	1289	SAN JON	USA	1	1907	1980	GP	1908	10
723647	366	1017	1005	GOODWELL	USA	1	1910	1970	GP	1910	10
723652	355	1041	1371	BELL	USA	1	1904	1980	GP	1904	10
723653	345	1043	1228	FORT SUMNER	USA	1	1908	1980	GP	1908	20
723654	355	1085	2134	FORT WINGATE	USA	1	1897	1966	GP	1904	20
723655	345	1094	1746	ST. JOHNS	USA	1	1909	1980	GP	1909	10
723657	343	1056	2031	CORONA	USA	1	1912	1980	GP	1912	20
723659	356	1052	1972	LAS VEGAS	USA	1	1892	1980	GP	1892	10
723660	357	1059	2195	SANTE FE	USA	1	1849	1977	GP	1849	10
723662	348	1067	1489	LOS LUNAS	USA	1	1889	1970	GP	1890	10
723665	341	1072	1993	MAGDELENA	USA	1	1906	1980	GP	1906	10
723666	345	1063	1987	MOUNTAIN AIR	USA	1	1902	1980	GP	1902	10
723701	352	1125	1588	ASHFORK	USA	1	1916	1980	GP	1918	10
723702	353	1117	2239	FORT VALLEY	USA	1	1909	1980	GP	1909	10
723704	343	1115	1404	NATURAL BRIDGE	USA	1	1914	1970	GP	1914	10
723705	353	1129	1600	SELIGMAN	USA	1	1904	1980	GP	1904	10
723706	353	1122	2057	WILLIAMS	USA	1	1902	1980	GP	1947	10
723707	346	1126	1679	PRESCOTT	USA	1	1898	1980	GP	1898	10
723713	351	1117	2135	FLAGSTAFF	USA	1	1891	1980	GP	1891	10
723740	350	1107	1492	WINSLOW	USA	1	1909	1980	GP	1909	10
723741	349	1102	1545	HOLBROOK	USA	1	1904	1980	GP	1909	10
723744	345	1101	1720	SNOWFLAKE	USA	1	1910	1980	GP	1910	10
723745	341	1093	2152	SPRINGERVILLE	USA	1	1911	1980	GP	1911	20
723780	361	1121	2118	GRAND CANYON	USA	1	1903	1980	GP	1903	10
723811	340	1127	638	WICKENBURG	USA	1	1908	1980	GP	1908	10
723821	341	1173	257	SAN BERNARDINO	USA	1	1891	1980	GP	1891	10
723822	341	1172	412	REDLANDS	USA	1	1893	1980	GP	1893	20
723860	361	1152	664	LAS VEGAS	USA	1	1937	1980	GP	1937	10
723861	355	1149	1079	SEARCHLIGHT	USA	1	1913	1980	GP	1913	12
723871	369	1168	1006	BEATTY	USA	1	1913	1970	GP	1913	12
723890	368	1197	100	FRESNO	USA	1	1887	1980	GP	1887	10
723892	363	1197	75	HANFORD	USA	1	1901	1980	GP	1901	10
723893	368	1214	85	HOLLISTER	USA	1	1874	1974	GP	1875	20
723896	363	1193	99	VISALIA	USA	1	1888	1980	GP	1888	20
723898	364	1190	156	LEMON COVE	USA	1	1899	1980	GP	1899	20
723911	345	1193	228	OJAI	USA	1	1909	1980	GP	1909	20
724041	382	757	6	PRINCESS ANNE	USA	1	1823	1980	GP	1894	12
724057	393	769	126	WOODSTOCK	USA	1	1928	1970	GP	1928	10
724070	395	746	3	ATLANTIC CITY	USA	1	1874	1980	GP	1884	20
724080	400	752	-999	PHILADELPHIA	USA	1	1758	1970	GP	0	62
724100	373	792	286	LYNCHBURG/ P GLENN	USA	1	1871	1977	GP	1895	20

ID	LAT	LONG	ALT	STATION NAME	COUNTRY	STATUS					
724140	384	816	310	CHARLESTON	USA	1	1902	1980	GP	1902	20
724210	391	845	267	CINCINNATI	USA	1	1873	1977	GP	1885	70
724220	380	846	294	LEXINGTON	USA	1	1872	1980	GP	1887	10
724230	382	857	145	LOUISVILLE	USA	1	1872	1980	GP	1872	10
724270	393	816	189	PARKERSBURG	USA	1	1889	1970	GP	1900	70
724271	397	819	201	MCCONNELLSVILLE	USA	1	1884	1980	GP	1884	20
724280	400	829	247	COLUMBUS	USA	1	1878	1980	GP	1878	20
724320	381	875	116	EVANSVILLE	USA	1	1897	1980	GP	1897	20
724340	386	902	172	ST. LOUIS	USA	1	1836	1980	GP	1906	20
724370	395	873	169	TERRE HAUTE	USA	1	1893	1980	GP	1893	20
724372	397	914	217	HANNIBAL	USA	1	1892	1980	GP	1892	20
724390	398	897	179	SPRINGFIELD/ILI	USA	1	1879	1980	GP	1879	20
724400	372	934	386	SPRINGFIELD	USA	1	1888	1980	GP	1888	10
724450	388	922	270	COLUMBIA	USA	1	1889	1980	GP	1889	10
724460	393	947	297	KANSAS CITY	USA	1	1889	1980	GP	1889	20
724500	377	974	403	WICHITA	USA	1	1888	1980	GP	1888	20
724510	378	1000	787	DODGE CITY	USA	1	1874	1980	GP	1874	10
724560	391	956	267	TOPEKA	USA	1	1887	1980	GP	1887	20
724580	396	977	452	CONCORDIA/BLOSSER/KS	USA	1	1886	1970	GP	1886	20
724622	373	1079	1996	DURANGO	USA	1	1894	1980	GP	1894	10
724640	383	1045	1428	PUEBLO	USA	1	1889	1980	GP	1890	10
724681	384	1053	1628	CANON CITY	USA	1	1906	1980	GP	1906	10
724682	392	1053	2096	CHEESMAN	USA	1	1903	1980	GP	1903	10
724694	398	1055	2303	IDAHO SPRINGS	USA	1	1905	1970	GP	1905	20
724701	376	1095	1840	BLANDING	USA	1	1915	1980	GP	1915	10
724702	390	1123	1573	FILLMORE	USA	1	1892	1980	GP	1892	10
724703	389	1113	1890	EMERY	USA	1	1901	1978	GP	1906	70
724705	388	1213	72	ROCKLIN	USA	1	1902	1976	GP	1913	70
724706	383	1122	1798	PIUTE DAM	USA	1	1918	1970	GP	1918	20
724707	383	1126	1804	BEAVER	USA	1	1914	1980	GP	1914	20
724708	384	1107	1313	HANKSVILLE	USA	1	1911	1980	GP	1911	20
724709	395	1116	1684	MORONI	USA	1	1914	1980	GP	1914	10
724712	418	1113	1825	LAKETOWN	USA	1	1912	1980	GP	1913	10
724714	384	1130	1532	MILFORD	USA	1	1911	1980	GP	1911	10
724730	378	1139	1664	MODENA	USA	1	1917	1980	GP	1917	10
724761	389	1070	2699	CRESTED BUTTE	USA	1	1910	1980	GP	1910	20
724764	396	1073	1775	GLENWOOD SPRINGS	USA	1	1910	1980	GP	1910	20
724765	385	1079	1777	MONTROSE NO. 2	USA	1	1904	1980	GP	1911	70
724768	393	1116	1749	MANTI	USA	1	1894	1980	GP	1901	70
724801	374	1125	2146	ALTON	USA	1	1915	1980	GP	1915	10
724802	384	1181	1387	MINA	USA	1	1906	1980	GP	1906	10
724810	373	1205	46	MERCED	USA	1	1891	1980	GP	1891	20
724811	379	1209	67	OAKDALE	USA	1	1908	1967	GP	1932	10
724812	374	1219	20	SAN JOSE	USA	1	1874	1976	GP	1905	20
724813	370	1220	39	SANTA CRUZ	USA	1	1873	1980	GP	1874	20
724814	374	1218	27	SANTA CLARA	USA	1	1901	1976	GP	1901	10
724829	391	1210	737	COLFAX	USA	1	1891	1980	GP	1891	10

ID	LAT	LONG	ALT	STATION NAME	COUNTRY					STATUS	
724830	386	1215	6	SACRAMENTO CITY	USA	1	1853	1980	GP	1853	20
724831	380	1218	9	ANTIOCH	USA	1	1916	1975	GP	1924	70
724832	389	1211	414	AUBURN	USA	1	1916	1980	GP	1916	10
724834	383	1223	18	NAPA STATE HOSP.	USA	1	1876	1980	GP	1876	20
724836	387	1208	576	PLACERVILLE	USA	1	1890	1980	GP	1892	10
724837	382	1226	3	PETALUMA	USA	1	1913	1980	GP	1920	70
724838	377	1218	149	LIVERMORE	USA	1	1871	1978	GP	1883	10
724841	469	1174	596	COLFAX	USA	1	1892	1980	GP	1892	10
724862	393	1117	1397	DESERET	USA	1	1913	1980	GP	1913	10
724866	393	1121	1617	SCIPIO	USA	1	1895	1980	GP	1897	10
724871	378	1128	1807	PAROWAN	USA	1	1914	1980	GP	1914	10
724872	371	1136	841	SAINT GEORGE	USA	1	1914	1980	GP	1914	10
724880	395	1198	1342	RENO	USA	1	1888	1980	GP	1900	20
724882	395	1171	2013	AUSTIN	USA	1	1888	1980	GP	1911	10
724884	395	1222	41	WILLOWS	USA	1	1878	1979	GP	1892	70
724886	395	1191	1267	LAHONTAN	USA	1	1911	1980	GP	1911	10
724887	398	1222	77	ORLAND	USA	1	1883	1980	GP	1903	70
724888	395	1119	1615	LEVAN	USA	1	1891	1980	GP	1891	10
724889	393	1210	783	NEVADA CITY	USA	1	1895	1980	GP	1895	10
724931	391	1232	189	UKIAH	USA	1	1892	1980	GP	1924	10
724932	379	1223	105	BERKELEY	USA	1	1889	1980	GP	1889	10
724938	372	1220	111	LOS GATOS	USA	1	1887	1980	GP	1891	10
724939	384	1220	53	VACAVILLE	USA	1	1893	1980	GP	1905	10
724940	378	1224	39	SAN FRANCISCO	USA	1	1851	1982	GP	1871	10
725027	407	740	10	NEW YORK	USA	1	1822	1977	GP	1822	10
725045	413	729	7	NEW HAVEN/TWEED	USA	1	1781	1970	GP	1781	20
725050	412	716	36	BLOCK ISLAND	USA	1	1880	1970	GP	1888	20
725090	424	710	5	BOSTON	USA	1	1743	1980	GP	1871	20
725110	402	769	103	HARRISBURG	USA	1	1888	1980	GP	1888	10
725111	402	748	17	TRENTON	USA	1	1866	1980	GP	1866	20
725150	422	760	485	BINGHAMTON	USA	1	1890	1980	GP	1890	20
725180	427	738	89	ALBANY/NY	USA	1	1820	1977	GP	1820	20
725200	405	802	373	PITTSBURG	USA	1	1870	1977	GP	1870	20
725217	408	819	309	WOOSTER	USA	1	1938	1970	GP	1938	10
725231	423	780	433	ANGELICA	USA	1	1855	1980	GP	1855	10
725247	415	827	192	SANDUSKY	USA	1	1877	1970	GP	1877	10
725280	429	787	215	BUFFALO	USA	1	1831	1980	GP	1841	10
725290	431	777	167	ROCHESTER	USA	1	1830	1980	GP	1830	10
725311	403	842	285	SYDNEY	USA	1	1883	1980	GP	1883	20
725315	401	882	226	URBANA	USA	1	1920	1970	GP	1920	10
725320	407	897	199	PEORIA	USA	1	1856	1980	GP	1856	20
725330	410	852	241	FORT WAYNE	USA	1	1887	1980	GP	1887	20
725340	420	879	190	CHICAGO O'HARE	USA	1	1873	1980	GP	1873	20
725360	416	835	204	TOLEDO	USA	1	1871	1980	GP	1871	20
725390	428	846	256	LANSING	USA	1	1864	1980	GP	1864	10
725405	404	914	161	KEOKUK	USA	1	1871	1980	GP	1871	10
725442	415	906	173	DAVENPORT	USA	1	1872	1980	GP	1872	10

ID	LAT	LONG	ALT	STATION NAME	COUNTRY					STATUS	
725460	415	937	294	DES MOINES	USA	1	1878	1980	GP	1878	10
725470	424	907	322	DUBUQUE	USA	1	1851	1980	GP	1851	20
725507	406	970	417	CRETE	USA	1	1894	1970	GP	1894	10
725510	409	968	351	LINCOLN	USA	1	1886	1980	GP	1886	10
725530	411	959	406	OMAHA	USA	1	1873	1977	GP	1873	10
725570	424	964	334	SIOUX CITY	USA	1	1889	1980	GP	1889	20
725572	429	974	378	YANKTON	USA	1	1873	1980	GP	1873	20
725620	411	1008	849	NORTH PLATTE	USA	1	1875	1980	GP	1875	20
725640	411	1048	1867	CHEYENNE	USA	1	1871	1980	GP	1871	10
725641	412	1041	1538	PINE BLUFFS	USA	1	1900	1970	GP	1900	10
725642	404	1052	1603	WATERDALE	USA	1	1902	1980	GP	1902	10
725643	411	1061	2757	FOXPARK	USA	1	1909	1970	GP	1909	10
725644	418	1048	1610	CHUGWATER	USA	1	1900	1980	GP	1900	10
725645	415	1068	2070	SARATOGA	USA	1	1914	1980	GP	1925	10
725646	413	1056	2195	LARAMIE	USA	1	1891	1970	GP	1891	10
725670	429	1006	789	VALENTINE	USA	1	1886	1980	GP	1886	10
725693	428	1054	1479	DOUGLAS	USA	1	1909	1970	GP	1909	10
725694	421	1050	1414	WHEATLAND	USA	1	1914	1980	GP	1914	20
725698	428	1044	1524	LUSK	USA	1	1889	1978	GP	1889	10
725701	405	1068	2064	STEAMBOAT SPRINGS	USA	1	1909	1978	GP	1909	10
725704	405	1095	1609	VERNAL	USA	1	1915	1980	GP	1918	10
725708	400	1079	1935	MEEKER	USA	1	1891	1980	GP	1891	10
725709	402	1101	1533	MYTON	USA	1	1918	1980	GP	1932	10
725720	408	1119	1288	SALT LAKE CITY	USA	1	1875	1980	GP	1875	20
725722	403	1099	1521	FORT DUCHESNE	USA	1	1892	1980	GP	1892	10
725723	400	1118	1560	SANTAQUIN	USA	1	1914	1980	GP	1914	10
725724	405	1114	1701	HEBER	USA	1	1893	1980	GP	1893	10
725725	410	1117	1545	MORGAN	USA	1	1905	1980	GP	1905	10
725728	405	1115	1814	SNAKE CREEK	USA	1	1914	1980	GP	1914	10
725729	405	1123	1469	TOOELE	USA	1	1896	1980	GP	1915	10
725744	413	1110	2067	EVANSTON	USA	1	1898	1980	GP	1898	10
725745	415	1095	1856	GREEN RIVER	USA	1	1905	1980	GP	1905	10
725746	411	1150	1722	WELLS	USA	1	1896	1980	GP	1896	10
725757	418	1118	1458	LOGAN UTAH STATE UNI	USA	1	1891	1980	GP	1891	10
725760	428	1087	1696	LANDER	USA	1	1892	1980	GP	1892	10
725761	423	1110	1865	BORDER	USA	1	1902	1980	GP	1902	10
725762	425	1068	1807	PATHFINDER DAM	USA	1	1906	1980	GP	1906	20
725781	426	1117	1692	GRACE	USA	1	1907	1980	GP	1921	10
725782	424	1146	1379	HOLLISTER	USA	1	1908	1980	GP	1908	10
725786	423	1139	1402	OAKLEY	USA	1	1893	1980	GP	1893	10
725787	426	1137	1281	RUPERT	USA	1	1906	1965	GP	1906	10
725810	407	1140	1291	WENDOVER	USA	1	1911	1980	GP	1911	20
725812	400	1120	1429	ELBERTA	USA	1	1914	1980	GP	1914	10
725813	415	1121	1289	CORINNE	USA	1	1897	1980	GP	1912	10
725814	402	1104	1679	DUCHESNE	USA	1	1906	1970	GP	1906	10
725830	410	1177	1322	WINNEMUCCA	USA	1	1885	1980	GP	1885	10
725831	410	1175	1339	GOLCONDA	USA	1	1894	1980	GP	1894	10

ID	LAT	LONG	ALT	STATION NAME	COUNTRY	STATUS					
7 2583 2	407	1155	1917	LAMOILLE	USA	1	1912	1970	GP	1918	10
7 25910	401	1223	103	RED BLUFF	USA	1	1872	1980	GP	1878	10
7 2591 2	406	1224	175	REDDING	USA	1	1901	1980	GP	1901	20
7 25913	418	1234	332	HAPPY CAMP	USA	1	1914	1980	GP	1914	10
7 25914	404	1119	1371	UTAH LAKE LEHI	USA	1	1914	1980	GP	1914	10
7 25940	408	1242	13	EUREKA	USA	1	1886	1980	GP	1886	10
7 25950	413	1223	1082	MOUNT SHASTA	USA	1	1888	1977	GP	1931	10
7 25969	427	1225	756	PROSPECT	USA	1	1908	1980	GP	1908	20
7 25971	422	1227	542	ASHLAND	USA	1	1889	1980	GP	1889	10
7 2597 2	421	1243	24	BROOKINGS	USA	1	1913	1980	GP	1913	10
7 25975	430	1234	202	RIDDLE	USA	1	1913	1980	GP	1913	10
7 25976	422	1218	1249	KLAMATH FALLS	USA	1	1897	1980	GP	1897	10
7 25978	417	1226	802	YREKA	USA	1	1914	1980	GP	1914	10
7 25979	43 2	1234	142	ROSEBURG	USA	1	1877	1980	GP	1877	10
7 26050	43 2	715	104	CONCORD	USA	1	1871	1980	GP	1871	10
7 26170	445	732	101	BURLINGTON	USA	1	1884	1980	GP	1884	20
7 26171	446	751	134	CANTON	USA	1	1862	1980	GP	1862	20
7 2617 2	443	740	591	LAKE PLACID	USA	1	1897	1980	GP	1931	10
7 26175	445	768	293	ITHACA	USA	1	1827	1980	GP	1827	20
7 26200	435	765	107	OSWEGO	USA	1	1854	1980	GP	1885	10
7 26350	429	855	239	GRAND RAPIDS	USA	1	1887	1980	GP	1887	10
7 26390	451	834	211	ALPENA/PHELPS	USA	1	1873	1977	GP	1873	10
7 26410	431	893	262	MADISON	USA	1	1869	1980	GP	1869	10
7 26430	439	913	198	LA CROSSE	USA	1	1873	1980	GP	1873	10
7 26441	431	927	309	CHARLES CITY	USA	1	1891	1980	GP	1891	20
7 26442	437	926	411	GRAND MEADOW	USA	1	1886	1980	GP	1927	10
7 26443	431	862	189	GRAND HAVEN	USA	1	1871	1980	GP	1871	20
7 26450	445	881	208	GREEN BAY	USA	1	1886	1980	GP	1886	10
7 2646 2	449	915	271	EAU CLAIRE	USA	1	1891	1980	GP	1891	20
7 26540	444	982	390	HURON	USA	1	1881	1980	GP	1881	10
7 26550	456	942	318	ST.CLOUD	USA	1	1893	1980	GP	1893	20
7 26580	450	931	255	MINNEAPOLIS INTNL.	USA	1	1859	1977	GP	1859	10
7 26611	459	1045	1044	EKALAKA	USA	1	1897	1980	GP	1897	20
7 26620	441	1031	1027	RAPID CITY	USA	1	1888	1980	GP	1888	20
7 26622	444	1003	526	PIERRE	USA	1	1891	1980	GP	1891	20
7 26627	440	1019	736	COTTONWOOD	USA	1	1910	1970	GP	1910	10
7 26631	449	1042	1083	COLONY	USA	1	1914	1980	GP	1914	10
7 26660	448	1070	1208	SHERIDAN	USA	1	1893	1980	GP	1893	10
7 26700	445	1091	1521	CODY	USA	1	1909	1980	GP	1909	10
7 2670 2	435	1096	2108	DUBOIS	USA	1	1907	1980	GP	1907	10
7 26703	448	1084	1169	LOVELL	USA	1	1909	1980	GP	1909	10
7 26704	433	1106	2069	MORAN	USA	1	1911	1980	GP	1911	10
7 26770	458	1085	944	BILLINGS	USA	1	1894	1980	GP	1909	10
7 26771	458	1100	1249	BIG TIMBER	USA	1	1909	1980	GP	1909	20
7 26773	450	1107	1899	YELLOWSTONE PARK	USA	1	1896	1978	GP	1896	10
7 26774	452	1126	1593	DILLON	USA	1	1898	1980	GP	1898	10
7 26775	449	1086	1251	DEAVER	USA	1	1916	1980	GP	1916	20

ID	LAT	LONG	ALT	STATION NAME	COUNTRY					STATUS	
7 26 776	452	1139	1 202	SALMON	USA	1	1906	1967	GP	1906	10
7 26 777	449	1113	1978	HEBGEN DAM	USA	1	1913	1980	GP	1913	10
7 26 779	464	1059	801	MILES CITY	USA	1	1891	1980	GP	1891	20
7 26 810	436	1162	871	BOISE	USA	1	1864	1980	GP	1864	10
7 26 811	430	1128	1342	ABERDEEN	USA	1	1914	1980	GP	1914	20
7 26 812	436	1159	998	ARROWROCK	USA	1	1916	1980	GP	1916	10
7 26 814	435	1121	1442	IDAHO FALLS	USA	1	1905	1980	GP	1905	10
7 26 815	435	1143	1624	HAILEY	USA	1	1909	1980	GP	1909	10
7 26 816	441	1156	1213	MACKEY	USA	1	1915	1980	GP	1915	10
7 26 818	445	1142	1577	CHALLIS	USA	1	1915	1980	GP	1915	10
7 26 878	459	1194	86	UMATILLA	USA	1	1902	1965	GP	1902	10
7 26 879	458	1193	190	HERMISTON	USA	1	1910	1980	GP	1910	10
7 26 880	457	1188	454	PENDLETON	USA	1	1890	1980	GP	1890	10
7 26 881	441	1115	1591	ASHTON	USA	1	1914	1980	GP	1914	10
7 26 883	458	1192	201	ECHO	USA	1	1905	1971	GP	1931	10
7 26 884	454	1195	594	HEPPNER	USA	1	1909	1980	GP	1909	10
7 26 886	453	1181	855	LA GRANDE	USA	1	1893	1965	GP	1911	10
7 26 887	450	1163	1179	NEW MEADOWS	USA	1	1903	1980	GP	1903	10
7 26 890	460	1183	289	WALLA WALLA	USA	1	1872	1980	GP	1872	10
7 26 891	440	1173	682	VALE	USA	1	1892	1980	GP	1892	20
7 26 892	455	1116	1446	NORRIS DAM	USA	1	1907	1980	GP	1907	20
7 26 893	456	1175	891	WALLOWA	USA	1	1903	1980	GP	1903	10
7 26 895	452	1179	842	UNION	USA	1	1912	1980	GP	1912	10
7 26 932	445	1195	720	DAYVILLE	USA	1	1895	1976	GP	1895	10
7 26 980	455	1227	12	PORTLAND	USA	1	1873	1980	GP	1873	10
7 26 985	455	1221	228	HEADWORKS PORTLAND	USA	1	1909	1980	GP	1909	10
7 26 988	452	1202	862	CONDON	USA	1	1913	1980	GP	1913	10
7 27 130	467	680	185	PRESQUE ISLE	USA	1	1918	1970	GP	1918	20
7 27 340	465	844	220	SAULT STE MARIE	USA	1	1888	1980	GP	1888	20
7 27 427	464	869	267	CHATHAM	USA	1	1930	1970	GP	1930	10
7 27 430	466	874	224	MARQUETTE	USA	1	1873	1977	GP	1873	10
7 27 450	468	921	-999	DULUTH	USA	1	1904	1980	GP	1904	20
7 27 470	486	934	361	INTERNATIONAL FALLS	USA	1	1951	1980	GP	1951	10
7 27 530	469	968	273	FARGO	USA	1	1881	1980	GP	1881	10
7 27 531	463	961	402	FERGUS FALLS	USA	1	1892	1975	GP	1892	10
7 27 551	474	941	401	WINNIBIGOSHISH DAM	USA	1	1887	1980	GP	1887	10
7 27 570	481	989	450	DEVILS LAKE (ND)	USA	1	1905	1970	GP	1905	10
7 27 640	468	1008	506	BISMARCK	USA	1	1875	1980	GP	1875	20
7 27 645	469	1028	750	DICKINSON	USA	1	1921	1970	GP	1921	10
7 27 670	482	1036	579	WILLISTON	USA	1	1879	1980	GP	1879	10
7 27 681	471	1047	632	GLENDIVE	USA	1	1889	1980	GP	1889	10
7 27 720	466	1120	1167	HELENA	USA	1	1880	1980	GP	1880	20
7 27 725	467	1211	832	RIMROCK	USA	1	1917	1977	GP	1917	10
7 27 734	314	1096	1200	DOUGLAS	USA	1	1903	1972	GP	1903	10
7 27 736	461	1160	384	KOOSKIA	USA	1	1908	1974	GP	1908	10
7 27 752	472	1117	1033	CASCADE	USA	1	1904	1980	GP	1916	10
7 27 770	486	1098	788	HAVRE	USA	1	1880	1980	GP	1880	10

ID	LAT	LONG	ALT	STATION NAME	COUNTRY	STATUS				
7 27 771	47 4	115 4	9 45	HAUGAN	USA	1	1912	1979	GP 1912	10
7 27 777	48 4	107 9	6 87	MALTA	USA	1	1905	1970	GP 1905	10
7 27 790	48 3	114 3	9 04	KALISPELL	USA	1	1896	1980	GP 1896	10
7 27 791	48 8	114 9	9 14	FORTINE	USA	1	1906	1980	GP 1922	10
7 27 792	48 3	116 6	6 40	SANDPOINT	USA	1	1910	1980	GP 1910	20
7 27 798	48 4	115 5	6 34	LIBBY	USA	1	1911	1980	GP 1911	20
7 27 811	48 4	116 8	7 25	PRIEST RIVER	USA	1	1914	1980	GP 1914	10
7 27 812	46 7	121 0	6 95	TIETON INTAKE	USA	1	1909	1971	GP 1909	20
7 27 815	46 4	124 0	8	LONG BEACH	USA	1	1883	1980	GP 1883	10
7 27 831	46 7	117 0	8 10	MOSCOW UNIV.	USA	1	1892	1980	GP 1892	10
7 27 832	46 3	116 3	9 58	NEZ PERCE	USA	1	1909	1980	GP 1909	10
7 27 833	46 5	116 3	3 13	OROFINO	USA	1	1906	1980	GP 1918	10
7 27 835	47 5	116 2	7 04	KELLOGG	USA	1	1905	1980	GP 1905	10
7 27 850	47 7	117 4	7 21	SPOKANE	USA	1	1881	1980	GP 1881	20
7 27 852	47 8	118 7	6 58	WILBUR	USA	1	1900	1980	GP 1900	10
7 27 855	47 3	118 7	4 69	ODESSA	USA	1	1903	1980	GP 1903	10
7 27 856	47 7	120 1	7 9 8	WATERVILLE	USA	1	1890	1980	GP 1890	10
7 27 857	47 7	118 1	7 49	DAVENPORT	USA	1	1909	1980	GP 1909	10
7 27 858	47 5	115 9	8 9 4	WALLACE WOODLAND	USA	1	1917	1980	GP 1931	10
7 27 886	46 3	119 8	2 7 5	PROSSER 4	USA	1	1913	1980	GP 1913	10
7 27 89 4	48 1	123 4	3 0	PORT TOWNSEND	USA	1	1890	1980	GP 1890	10
7 27 89 5	48 0	122 2	1 8	EVERETT	USA	1	1914	1980	GP 1914	20
7 27 89 6	49 0	118 2	5 0 1	LAURIER	USA	1	1910	1980	GP 1910	10
7 27 89 7	49 0	116 5	5 4 8	PORTHILL	USA	1	1889	1980	GP 1889	10
7 27 89 8	48 3	112 3	1 1 6 0	VALIER	USA	1	1911	1980	GP 1911	10
7 27 90 2	48 5	120 2	5 3 5	WINTHROP	USA	1	1911	1980	GP 1911	10
7 27 9 21	46 3	120 0	2 2 7	SUNNYSIDE	USA	1	1894	1980	GP 1894	10
7 27 9 22	49 0	122 7	2 4	BLAINE	USA	1	1893	1980	GP 1902	10
7 27 9 23	46 7	123 0	5 6	CENTRALIA	USA	1	1902	1980	GP 1902	10
7 27 9 24	46 9	121 3	1 0 4 8	BUMPING LAKE	USA	1	1914	1966	GP 1914	10
7 27 9 31	47 7	122 3	6	SEATTLE	USA	1	1890	1980	GP 1941	10
7 27 9 33	47 2	122 0	2 0 8	BUCKLEY	USA	1	1914	1980	GP 1914	10
7 27 9 34	47 4	121 7	4 7 5	CEDAR LAKE	USA	1	1914	1980	GP 1921	10
7 27 9 35	47 4	122 2	1 2	KENT	USA	1	1914	1980	GP 1914	10
7 27 9 36	47 3	121 2	6 9 2	LANDSBURG	USA	1	1916	1980	GP 1916	10
7 27 9 37	47 2	122 3	1 5	PUYALLUP	USA	1	1914	1980	GP 1914	10
7 27 9 38	47 6	120 7	3 5 4	LEAVENWORTH	USA	1	1914	1980	GP 1914	10
7 27 9 80	48 4	124 7	2 5	TATOOSH ISLAND	USA	1	1883	1966	GP 1883	10
7 4 20 11	48 0	124 4	1 0 6	FORKS	USA	1	1914	1980	GP 1914	10
7 4 20 12	48 5	122 2	1 5	SEDRO WOOLEY	USA	1	1897	1980	GP 1897	10
7 4 20 7 2	47 3	121 2	6 9 2	LAKE KACHESS	USA	1	1909	1976	GP 1909	10
7 4 20 7 3	47 3	121 3	7 5 4	LAKE KEECHELUS	USA	1	1914	1977	GP 1914	10
7 4 20 7 4	47 1	118 4	5 5 7	RITZVILLE	USA	1	1916	1980	GP 1916	10
7 4 20 7 5	47 0	123 8	3	ABERDEEN	USA	1	1891	1980	GP 1891	10
7 4 20 7 6	47 2	121 0	5 8 8	CLE ELUM	USA	1	1899	1980	GP 1917	10
7 4 20 7 7	47 5	121 8	1 3 4	SNOQUALMIE FALLS	USA	1	1899	1980	GP 1925	10
7 4 49 20	42 1	7 1 2	1 9 8	BLUE HILL OBS.	USA	1	1811	1980	GP 1811	10

ID	LAT	LONG	ALT	STATION NAME	COUNTRY	STATUS					
762250	286	1061	1423	CHIHUAHUA UNIV. DE	MEXICO	1	1941	1980	GP	1941	10
762430	287	1005	220	PIEDRAS NEGRAS	MEXICO	1	1951	1970	GP	1951	10
762550	279	1109	4	GUAYMAS	MEXICO	1	1951	1980	GP	1951	10
763420	269	1014	586	MONCLOVA	MEXICO	1	1951	1980	GP	1951	10
763820	256	1034	1150	TORREON	MEXICO	1	1951	1980	GP	1951	10
763900	254	1010	1609	SALTILLO (COAH)	MEXICO	1	1951	1970	GP	1951	10
763930	257	1003	534	MONTERREY	MEXICO	1	1905	1980	GP	1905	10
764050	241	1103	18	LA PAZ	MEXICO	1	1951	1980	GP	1951	10
764580	232	1064	3	MAZATLAN	MEXICO	1	1880	1980	GP	1880	20
765250	228	1026	2612	ZACATECAS	MEXICO	1	1951	1980	GP	1951	10
765480	222	979	13	TAMPICO	MEXICO	1	1951	1980	GP	1951	10
765750	211	1017	1809	LEON (GTO)	MEXICO	1	1889	1970	GP	1889	10
765770	210	1013	2037	GUANAJUATO	MEXICO	1	1951	1980	GP	1951	10
765930	213	897	14	PROGRESSO (YUC)	MEXICO	1	1941	1970	GP	1941	10
766440	210	896	22	MERIDA	MEXICO	1	1895	1980	GP	1895	10
766540	191	1043	6	MANZANILLO	MEXICO	1	1951	1980	GP	1951	10
766650	197	1011	1923	MORELIA	MEXICO	1	1951	1980	GP	1951	10
766790	194	991	2234	MEXICO CITY	MEXICO	1	1878	1950	GP	1878	20
766797	194	992	2306	TACUBAYA U/A	MEXICO	1	1921	1973	GP	1921	10
766850	190	982	2150	PUEBLA	MEXICO	1	1878	1970	GP	1878	10
766870	195	969	1399	JALAPA	MEXICO	1	1951	1970	GP	1951	10
766920	192	961	13	VERACRUZ YLANG YLANG	MEXICO	1	1951	1980	GP	1951	10
766950	199	905	25	CAMPECHE (CAMP)	MEXICO	1	1951	1970	GP	1951	10
767410	182	944	14	COATZACOALCOS	MEXICO	1	1951	1980	GP	1951	10
767750	171	967	1563	OAXACA	MEXICO	1	1922	1980	GP	1922	10
768050	168	999	3	ACAPULCO	MEXICO	1	1951	1980	GP	1951	10
768330	162	952	4	SALINA CRUZ	MEXICO	1	1941	1980	GP	1941	10
769030	149	923	168	TAPACHULA	MEXICO	1	1951	1980	GP	1951	10
780160	323	648	6	KINDLEY FIELD	BERMUDA	1	1931	1977	GP	1931	10
780187	323	647	19	BOTANICAL GRDNS.	BERMUDA	1	1856	1960	GP	1856	10
780730	251	774	10	NASSAU INT AP.	BAHAMAS	1	1855	1980	GP	1855	20
781090	224	755	3	ABRAHAMS BAY	BAHAMAS	1	1951	1970	GP	1951	10
783100	219	850	9	CABO S ANTONIO	CUBA	1	1952	1970	GP	1952	10
783170	226	833	41	PASO REAL/SAN DIEGO	CUBA	1	1952	1970	GP	1952	10
783250	231	824	-999	CASA BLANCA	CUBA	1	1871	1980	GP	1871	20
783670	199	752	23	GUANTANAMO NAS	CUBA	1	1946	1970	GP	1946	10
783870	183	784	8	NEGRIL POINT LIGHTHO	JAMAICA	1	1931	1970	GP	1931	20
783970	179	768	3	KINGSTON	JAMAICA	1	1852	1980	GP	1852	10
783990	179	762	2	MORANT POINT LIGHTHO	JAMAICA	1	1951	1970	GP	1951	20
784390	186	724	41	PORT-AU-PRINCE	HAITI	1	1864	1967	GP	1864	10
784570	198	707	6	PUERTO PLATA	DOMINICA	1	1951	1978	GP	1951	10
784627	192	705	109	LA VEGA	DOMINICA	1	1951	1970	GP	1951	10
784670	191	694	11	SABANA DELA MAR	DOMINICA	1	1951	1970	GP	1951	10
784780	186	683	3	CABO ENGANO	DOMINICA	1	1951	1970	GP	1951	10
784797	184	690	5	LA ROMANA	DOMINICA	1	1951	1970	GP	1951	10
784837	188	690	115	EL SEYBO	DOMINICA	1	1952	1970	GP	1952	10
784840	184	701	43	SAN CRISTOBAL	DOMINICA	1	1951	1970	GP	1951	10

ID	LAT	LONG	ALT	STATION NAME	COUNTRY	STATUS					
784860	185	699	14	SANTO DOMINGO	DOMINICA	1	1951	1980	GP	1951	10
784867	185	708	81	AZUA	DOMINICA	1	1951	1970	GP	1951	10
785010	174	839	11	SWAN ISLAND	PUERTO RICO	1	1917	1980	GP	1917	10
785107	185	667	5	ARECIBO	PUERTO RICO	1	1951	1970	GP	1951	10
785157	180	671	30	LAJAS	PUERTO RICO	1	1951	1970	GP	1951	10
785167	182	671	24	MAYAGUEZ	PUERTO RICO	1	1899	1970	GP	1899	10
785200	180	666	9	PONCE	PUERTO RICO	1	1951	1970	GP	1951	10
785227	184	672	12	COLOSO	PUERTO RICO	1	1951	1970	GP	1951	10
785237	183	664	198	COROZAL SUBSTATION	PUERTO RICO	1	1951	1970	GP	1951	10
785260	185	661	19	SAN JUAN	PUERTO RICO	1	1899	1980	GP	1899	20
785327	185	671	128	ISABELA SUBSTATION	PUERTO RICO	1	1951	1970	GP	1951	10
785447	184	649	5	CHARLOTTE AMALIE	ST. THOMAS	1	1917	1970	GP	1917	10
785487	178	647	52	ANNAS HOPE	ST. CROIX	1	1876	1957	GP	1876	10
785830	175	882	5	BELIZE I.A.	BELIZE	1	1866	1980	GP	1945	10
785900	170	883	6	STANN CREEK AGSTAT	BELIZE	1	1933	1970	GP	1933	10
786410	146	905	1502	GUATEMALA CIUDAD	GUATEMALA	1	1931	1980	GP	1931	10
786620	137	892	699	SAN SALVADOR	EL SALVADOR	1	1912	1980	GP	1921	10
787060	157	865	3	TELA	HONDURAS	1	1951	1977	GP	1951	10
787080	155	880	31	LA MESA/SAN PEDRO	HONDURAS	1	1952	1977	GP	1952	10
787140	149	859	442	CATACAMAS	HONDURAS	1	1953	1977	GP	1953	10
787837	94	799	7	CRISTOBAL	PANAMA	1	1881	1960	GP	1912	20
787927	83	829	50	PUERTO ARMUELLES	PANAMA	1	1956	1970	GP	0	61
788660	181	631	3	JULIANA AP	ST. MARRTEN	1	1951	1970	GP	1951	10
788970	163	615	8	RAIZET	GUADELOUPE	1	1891	1980	GP	1952	10
789250	146	611	144	LAMENTIN	MARTINIQUE	1	1935	1980	GP	1935	10
789540	131	595	56	SEAWELL AIRPORT	BARBADOS	1	1951	1980	GP	1954	10
789560	121	618	7	PEARLS AP	GRENADA	1	1891	1960	GP	1891	20
789700	106	614	12	PIARCO INT.AP	TRINIDAD	1	1946	1980	GP	1951	10
789880	122	690	8	DR. A. PLESMAN AP	ANTILLES	1	1951	1980	GP	1951	10
802590	34	764	964	CALI/CALIPUERTO	COLOMBIA	1	1948	1980	GP	1948	20
803910	79	726	-999	CAZADERO AP.	COLOMBIA	1	1948	1970	GP	1948	10
803920	76	726	1235	BLONAY	COLOMBIA	1	1951	1970	GP	1951	10
803930	49	751	1495	EL LIBANO	COLOMBIA	1	1951	1970	GP	1952	10
803940	50	756	1360	CHINCHINA	COLOMBIA	1	1951	1970	GP	1951	10
803960	44	745	1525	TIBACUY	COLOMBIA	1	1952	1970	GP	1952	10
803990	13	775	1700	OSPINA PEREZ	COLOMBIA	1	1953	1970	GP	1953	10
804001	105	670	-999	CARACAS	VENEZUELA	1	1905	1960	GP	1933	20
804030	114	697	21	CORO WAS 804070	VENEZUELA	1	1951	1970	GP	1951	10
804070	107	716	40	MARACAIBO WAS 804020	VENEZUELA	1	1933	1980	GP	1933	10
804100	101	693	591	BARQUISIMETO	VENEZUELA	1	1938	1970	GP	1938	10
804130	103	677	442	MARACAY	VENEZUELA	1	1951	1980	GP	1951	10
804150	106	670	43	MAIQUETA WAS 804030	VENEZUELA	1	1951	1970	GP	1951	10
804190	101	647	7	BARCELONA WAS 804140	VENEZUELA	1	1938	1980	GP	1938	10
804230	106	623	8	GUIRIA WAS 804120	VENEZUELA	1	1926	1970	GP	1937	10
804350	98	632	70	MATURIN WAS 804040	VENEZUELA	1	1951	1970	GP	1951	10
804380	86	712	1479	MERIDA WAS 804060	VENEZUELA	1	1915	1980	GP	1915	10
804440	82	636	50	CIUDAD BOLIVAR	VENEZUELA	1	1917	1976	GP	1917	10

ID	LAT	LONG	ALT	STATION NAME	COUNTRY	STATUS					
804470	78	722	830	SAN CRISTOBAL	VENEZUELA	1	1940	1980	GP	1951	10
804500	79	674	73	SAN FERNANDO	VENEZUELA	1	1938	1980	GP	1938	10
804530	73	615	104	TUMEREMO	VENEZUELA	1	1951	1970	GP	1951	10
804620	46	611	907	SANTA ELENA	VENEZUELA	1	1941	1980	GP	1941	10
804990	105	669	-999	CARACAS	VENEZUELA	1	1961	1970	GP	1961	10
810010	68	582	2	GEORGETOWN	FR. GUIANA	1	1846	1979	GP	1887	20
812010	59	552	-999	PARAMARIBO	SURINAM	1	1961	1970	GP	1961	10
812017	58	552	2	PARAMARIBO	SURINAM	1	1905	1960	GP	1905	20
812020	60	570	4	NICKERIE	SURINAM	1	1931	1970	GP	1931	10
812250	55	552	16	ZANDERIJ	SURINAM	1	1952	1979	GP	1952	10
814050	48	524	9	CAYENNE/ROCHAMBEAU	FR. GUIANA	1	1845	1980	GP	1891	20
821060	-1	671	87	S.GAB. DO CACHOEIRA	BRAZIL	1	1931	1980	GP	1931	10
840080	-9	896	6	SAN CRISTOBAL	ECUADOR	1	1951	1980	GP	1951	10
840710	-2	785	2818	QUITO/ M. SUCRE	ECUADOR	1	1891	1980	GP	1891	10
842030	-23	799	4	GUAYAQUILL	ECUADOR	1	1951	1980	GP	1951	10
910300	271	-1422	4	TITIZIMA/CHICHIJIMA	PACIFIC OC.	1	1907	1964	GP	0	60
910660	282	1774	13	MIDWAY ISLAND	PACIFIC OC.	1	1921	1978	GP	0	60
911310	243	-1540	17	MARCUS IS. RAC I.	PACIFIC OC.	1	1937	1980	GP	0	60
911550	239	1663	2	FRENCH FRIGATE SHOAL	PACIFIC OC.	1	1952	1970	GP	0	60
911650	220	1594	63	LIHUE KAUAI	HAWAII	1	1905	1980	GP	0	60
911820	213	1579	5	HONOLULU	HAWAII	1	1883	1980	GP	0	60
911860	212	1571	137	MOLOKAI APRT	HAWAII	1	1951	1970	GP	0	60
911867	212	1570	-999	KUALAPUU, MOLOKAI	HAWAII	1	1905	1954	GP	0	60
911897	209	1567	15	LAHAINA, MAUI	HAWAII	1	1942	1970	GP	0	60
911905	208	1569	494	LANAI CITY LANAI	HAWAII	1	1930	1970	GP	0	60
911915	208	1560	40	HANA, MAUI	HAWAII	1	1907	1960	GP	0	60
912120	134	-1446	19	GUAM	MARIANA IS	1	1921	1970	GP	0	60
912170	136	-1448	111	GUAM	MARIANA IS	1	1956	1980	GP	0	60
912180	136	-1449	162	GUAM ANDERSON AFB	MARIANA IS.	1	1949	1970	GP	0	60
912320	151	-1456	-999	SAIPAN	MARIANA IS.	1	1951	1970	GP	0	60
912450	193	-1666	4	WAKE ISLAND	PACIFIC OC.	1	1946	1980	GP	0	60
912500	114	-1624	6	ENIWETOK	MARSHALL IS.	1	1945	1970	GP	0	60
912750	167	1695	5	JOHNSTON ISLAND	PACIFIC OC.	1	1952	1980	GP	0	60
912850	197	1551	-999	HILO/GEN. LYMAN	HAWAII	1	1905	1980	GP	0	60
912857	197	1551	12	HILO HAWAII	HAWAII	1	1942	1970	GP	0	60
913340	74	-1519	2	TRUK	CAROLINE IS.	1	1935	1980	GP	0	60
913480	69	-1582	-999	PONAPE	CAROLINE IS.	1	1941	1980	GP	0	60
913560	53	-1630	-999	KUSAIE	CAROLINE IS.	1	1954	1970	GP	0	60
913660	87	-1677	8	KWAJALEIN	MARSHALL IS.	1	1946	1980	GP	0	60
913760	70	-1713	3	MAJURO	MARSHALL IS.	1	1955	1980	GP	0	60
914080	74	-1345	33	KOROR	PALAU IS.	1	1924	1980	GP	0	60
914130	95	-1381	17	YAP	CAROLINE IS.	1	1921	1980	GP	0	60
915330	-9	-1695	66	OCEAN IS/BANABA	PACIFIC OC.	1	1921	1981	GP	0	60
916100	13	-1799	2	TARAWA, KIRIBATI	GILBERT IS.	1	1951	1980	GP	0	60
960350	36	-987	-999	MEDAN	INDONESIA	1	1931	1980	GP	0	62
961630	-9	-1004	3	PADANG/TABING	INDONESIA	1	1850	1980	GP	1850	12
964910	58	-1181	14	SANDAKAN, SABAH	MALAYSIA	1	1880	1970	GP	0	62

ID	LAT	LONG	ALT	STATION NAME	COUNTRY				STATUS	
965810	0	-1093	-999	PONTIANAK	INDONESIA	1	1912	1980	GP	0 62
966330	-13	-1169	3	BALIKPAPAN/SEPINGGAN	INDONESIA	1	1951	1980	GP	0 62
970140	15	-1248	-999	MENADO	INDONESIA	1	1912	1980	GP	0 62
981350	205	-1220	11	BASCO	PHILIPPINES	1	1951	1980	GP	1951 10
982320	184	-1216	4	APARRI	PHILIPPINES	1	1886	1980	GP	1886 10
983250	161	-1203	2	DAGUPAN	PHILIPPINES	1	1951	1980	GP	1951 10
984290	145	-1210	15	MANILA, LUZON	PHILIPPINES	1	1887	1980	GP	1887 20
984440	132	-1238	19	LEGASPI	PHILIPPINES	1	1903	1980	GP	1903 10
985500	113	-1250	21	TACLOBAN	PHILIPPINES	1	1951	1980	GP	1951 10
986370	107	-1226	14	ILOILO	PHILIPPINES	1	1903	1980	GP	1903 10
986450	103	-1239	35	CEBU	PHILIPPINES	1	1891	1980	GP	1891 10
986530	98	-1255	21	SURIGAO	PHILIPPINES	1	1951	1979	GP	1951 10
988360	69	-1221	6	ZAMBOANGA	PHILIPPINES	1	1951	1980	GP	1951 10
990010	620	330	-999	SHIP STATION A	OCEANIA	1	1946	1973	GP	0 60
990020	565	510	-999	SHIP STATION B	OCEANIA	1	1946	1974	GP	0 60
990030	526	355	-999	SHIP STATION C	OCEANIA	1	1945	1977	GP	0 60
990040	440	410	-999	SHIP STATION D	OCEANIA	1	1949	1973	GP	0 60
990050	340	520	-999	SHIP STATION E	OCEANIA	1	1945	1973	GP	0 60
990090	600	200	-999	SHIP STATION I	OCEANIA	1	1948	1975	GP	0 60
990100	538	187	-999	SHIP STATION J	OCEANIA	1	1948	1975	GP	0 60
990110	450	160	-999	SHIP STATION K	OCEANIA	1	1949	1976	GP	0 60
990130	660	-20	-999	SHIP STATION M	OCEANIA	1	1948	1976	GP	0 60
990140	300	1400	-999	SHIP STATION N	OCEANIA	1	1947	1974	GP	0 60
999002	735	216	4	MYGGBUKTA	GREENLAND	1	1932	1950	GP	1932 10
999026	258	-578	4	JASK	IRAN	1	1893	1949	GP	1893 10
999027	452	-1479	39	SYANA	JAPAN	1	1903	1944	GP	1903 10
999034	458	-621	-999	KASALINSK	USSR	1	1881	1950	GP	1900 10
999038	438	-1320	46	NIKOLSK USSURIYSKY	USSR	1	1890	1950	GP	1890 10
999039	473	-1427	7	OCHIAI	USSR	1	1908	1950	GP	1908 10
999041	704	-588	11	WAIGATZ	USSR	1	1914	1950	GP	1914 10
999051	361	54	3	GIBRALTAR	GIBRALTAR	1	1852	1950	GP	1852 10
999053	407	-86	224	SASSARI	ITALY	1	1883	1950	GP	1883 10
999060	655	-522	27	UST-ZYLMA	USSR	1	1889	1950	GP	1897 10

GLOBAL-SCALE TEMPERATURE CHANGES TO AUGUST 1987 AND
A COMPARISON OF SATELLITE AND CONVENTIONAL DATA

P. D. Jones, T. M. L. Wigley, G. Ohring*, A. Thomasell*

Climatic Research Unit
University of East Anglia
Norwich NR4 7TJ, UK.

and

* NOAA/NESDIS
Satellite Research Laboratory
Washington, D. C. 20233

Introduction: Until recently, most estimates of long-term trends in global mean temperature were derived from land-based station data for the Northern Hemisphere (Wigley et al., 1985; Jones et al., 1986a). Improvements have been made in recent years by including data for the Southern Hemisphere (Jones et al., 1986b) and by the inclusion of sea surface temperature (SST) data for the ocean areas (Folland et al., 1984; Jones et al., 1986c). Despite these improvements there are still gaps in coverage over both the land and marine areas of both hemispheres. The greatest regions of sparse or no coverage are over the Southern Ocean, 45-65°S, and over the southeastern Pacific Ocean away from the South American coast.

For the land regions of both hemispheres there are still areas of scanty or no coverage. These gaps are due to the lack of adequate monthly GTS information due to reporting difficulties or to an inadequate density of land-based GTS stations. Examples of the former are the Iran/Iraq region, whilst examples of the latter occur over the Sahara desert, Antarctica and many Arctic regions. Here we will obtain and evaluate data over the land masses based on satellite estimates of surface brightness temperatures.

Satellite data: The satellite data used here have been produced at the NOAA/NESDIS Satellite Research Laboratory using clear sky satellite brightness temperature, corrected for atmospheric attenuation, as a measure of surface temperature. The satellite data set used is the Nimbus 7 THIR/TOMS cloud data set. The data are monthly means expressed in absolute degrees Kelvin for target areas of 500 x 500km for the 67 months, April 1979 to October 1984 (Thomasell and Ohring, 1987).

Gridpoint comparisons: Comparison of the satellite data with conventional land-based data can be performed either at the individual grid point level or the hemispheric level. Before direct grid-point comparison is possible it is necessary to interpolate the satellite data to the conventional grid of 5° latitude by 10° longitude points. The interpolated satellite data are then expressed as anomalies from the appropriate monthly mean, calculated using the five or six values for that month within the 67 month period of record. The conventional data are expressed as anomalies from the 1951-70 reference period used in our earlier work. Differences between the two data sets may therefore arise because of differences between the mean annual cycles over the two reference periods. This, however, is a secondary effect because such differences are small relative to the coherent month-to-month variability of the data.

Figure 1 shows correlation coefficients between the conventional and interpolated satellite data for the Northern (a) and Southern (b) Hemispheres. Agreement is excellent over high latitude regions and in middle latitude areas away from coasts, but noticeably poorer over tropical regions.

The algorithm used to compute surface temperature needs an initial estimate of the surface temperature (from USAF analyses) for the time of the satellite pass, in order to distinguish between cloudy and "cloud free" (less than 50% cloud cover) areas. Surface brightness temperatures are those which correspond to cloud free pixels. In order to determine the presence of low level clouds it is essential to have an accurate estimate of the surface temperature, and the method is clearly sensitive to the accuracy of the USAF data. Problems may arise in a number of ways. For example, the 50% cut-off in defining "cloud free" introduces some uncertainty in the temperature estimates. In some regions the identification of "cloud free" pixels may be unreliable due to uncertainties in the USAF temperature field which arise from data coverage problems. In addition, there may be other regions in which cloud is prevalent, giving only a limited number of cloud free pixels at certain times of the year. The results shown in Figure 1 highlight the major problem regions.

Hemispheric Comparisons: A direct comparison can be achieved by using only those grid points in the satellite data set which also have data available from conventional analyses. Figure 2 shows the two estimates for the Northern Hemisphere and Figure 3 shows similar estimates for the Southern Hemisphere. Correlation coefficients between the two time series for the 67 month period are 0.71 and 0.45 for the Northern and Southern Hemispheres respectively. The poorer result for the Southern Hemisphere is compatible with the earlier results in Figure 1.

In Figures 4 and 5, comparisons between estimates of Arctic and Antarctic area-average temperatures from satellite and conventional means are made. The satellite results here are based on all grid point data poleward of 62.5° , whereas the conventional data estimates are based on more limited coverage spanning the same regions. In both cases data over land and marine areas are combined, as distinct from the other analyses which used only land data. Correlation coefficients for the two areas are 0.80 (Arctic) and 0.61 (Antarctic) over the April 1979 to October 1984 period. The satellite time series for Antarctica shows considerably less variability from month to month than that based on conventional means. For the Arctic, the satellite and conventional time series show much closer variability. For Antarctica the satellite time series shows much less variability than the satellite-based Arctic time series. It is not clear whether the Antarctic results reflect an overestimate of variability in the time series based on conventional data or an underestimate in the satellite-based time series. The conventionally derived Antarctic series (updated from Raper et al., 1984) is estimated from only 16 stations, roughly equally spaced over the continent. Although this average may be slightly over-estimating variability because it is based on only a small number of stations, the coverage problem does not appear to be sufficient to explain the difference between the two time series. Spatial correlations over Antarctica are quite high and the error induced by lack of coverage, as estimated by Raper et al. (1984), is relatively small.

Update of conventional series: In Figures 2 to 5, time series based on conventional data are shown from April 1979 to August 1987. For the Northern Hemisphere, the warmth experienced during 1981 and 1983 has returned during 1986 and 1987. Over the Southern Hemisphere, almost all months since 1979 have been warmer than the 1951-70 reference period. The 8 month period from January to August 1987 is the warmest recorded since 1858. April 1987 was the warmest such month recorded over this 5-60°S region. Over Antarctica, August 1987 was the coldest such month recorded since comparable records began in 1957. Over the Arctic region, conditions have remained generally cooler than the 1951-70 reference period throughout 1986 and 1987.

References

- Folland, C.K. et al., 1984: Nature 310, 670-673.
- Jones, P.D., 1985: Climate Monitor 14, 43-49.
- Jones, P.D. et al., 1986a: Journal of Climate and Applied Meteorology 25, 161-179.
- Jones, P.D. et al., 1986b: Journal of Climate and Applied Meteorology 25, 1213-1230.
- Jones, P.D. et al., 1986c: Nature 322, 430-434.
- Raper, S.C.B. et al., 1984: Monthly Weather Review 112, 1341-1353.
- Thomasell, A. and Ohring, G., 1987: Paper presented at IUGG meeting in Vancouver.
- Wigley, T.M.L. et al., 1985: In Detecting the Climatic Effects of Increasing Carbon Dioxide (M.C. MacCracken and F.M. Luther, eds.), DOE/ER-0235, 55-90.

Acknowledgement

The work at the Climatic Research Unit was supported by the U.S. Department of Energy under grant No. DE-FG02-86-ER60397.

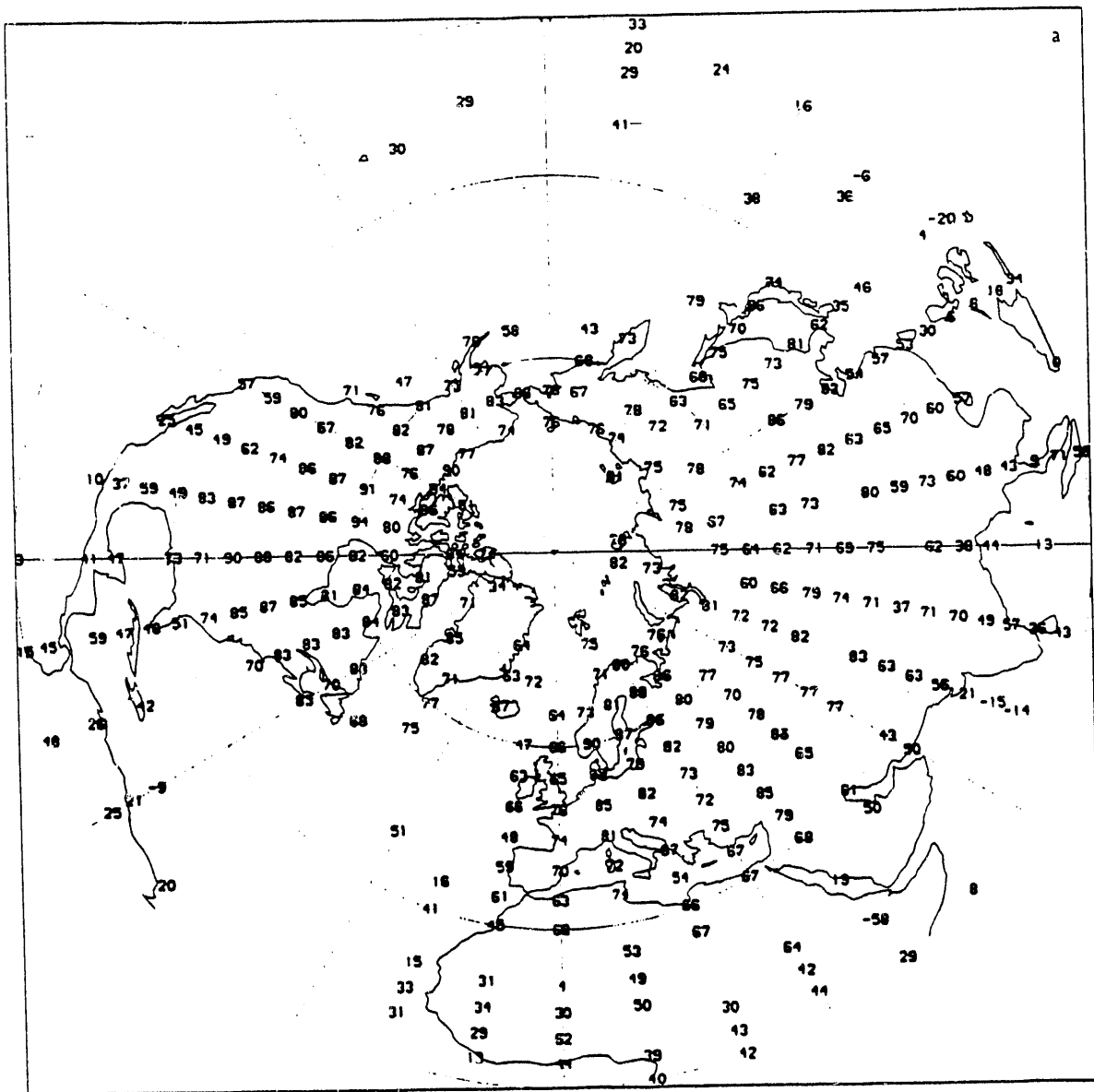
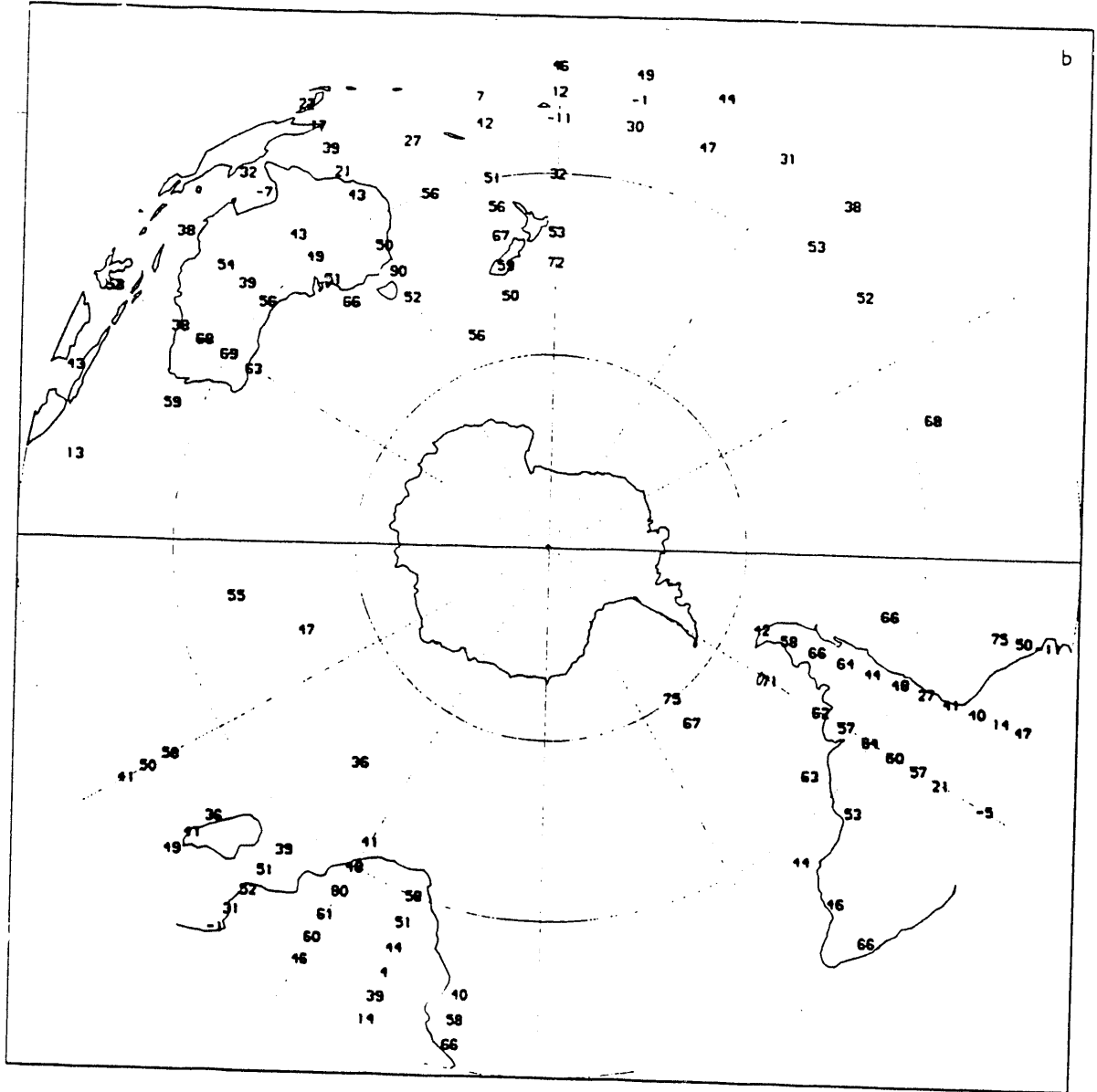


Figure 1: Correlation coefficients (x100) of coincident land and satellite grid points. R-values based on up to 67 months of data, April 1979 to October 1984. a) Northern Hemisphere, b) Southern Hemisphere.



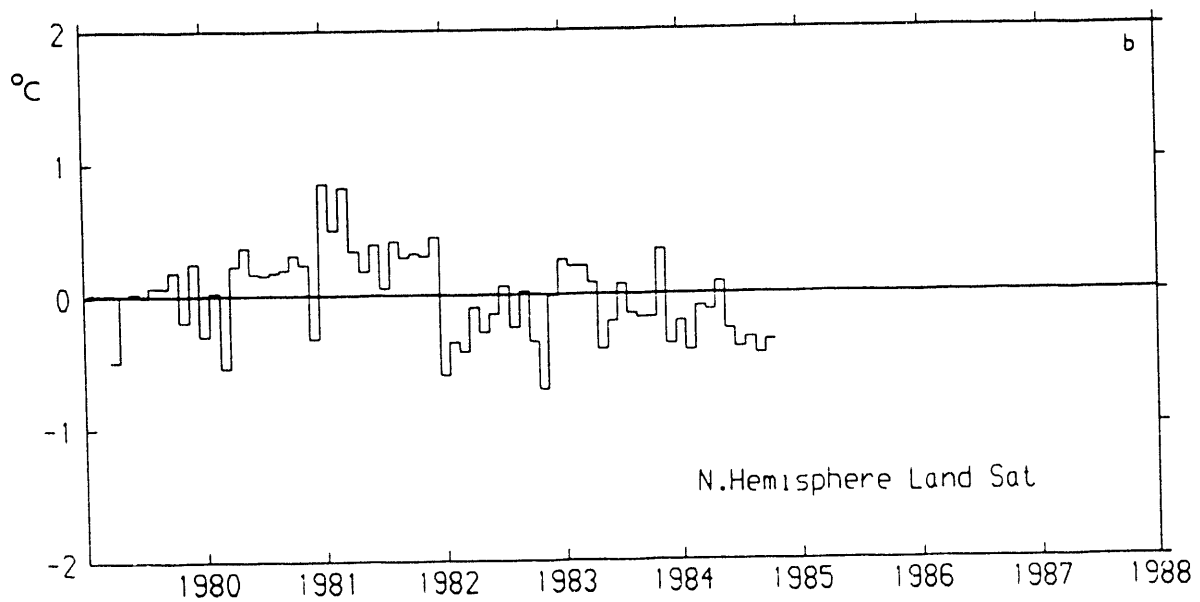
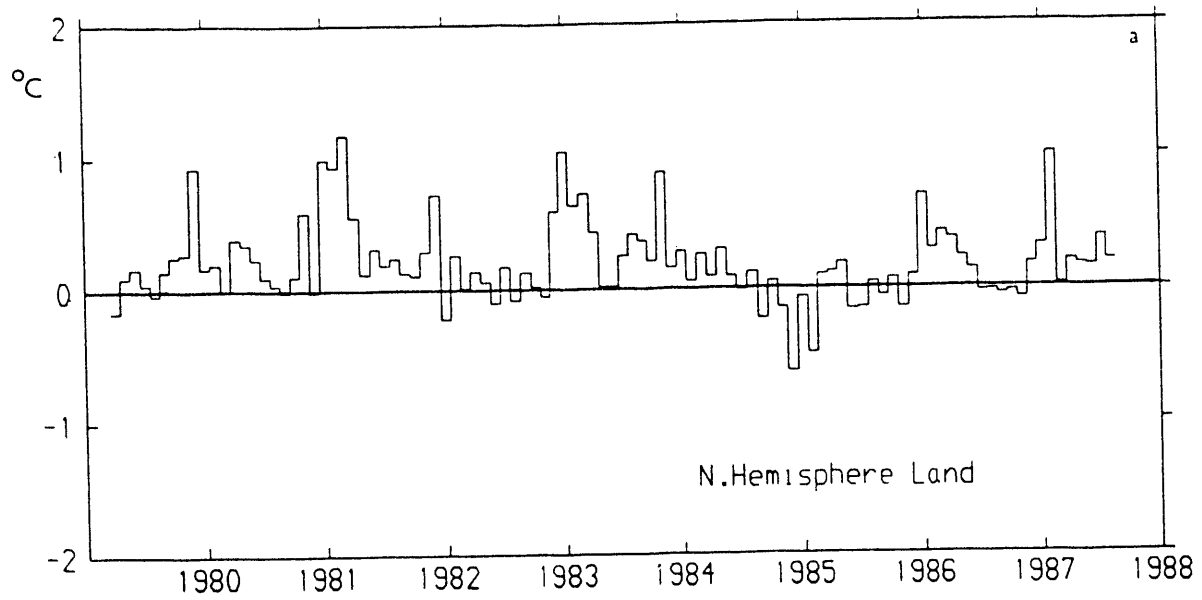


Figure 2: Monthly surface air temperature anomalies for the Northern Hemisphere. a) conventional (Jones et al., 1986a), anomalies from the 1951-70 reference period. b) satellite, anomalies from the April 1979-October 1984 reference period.

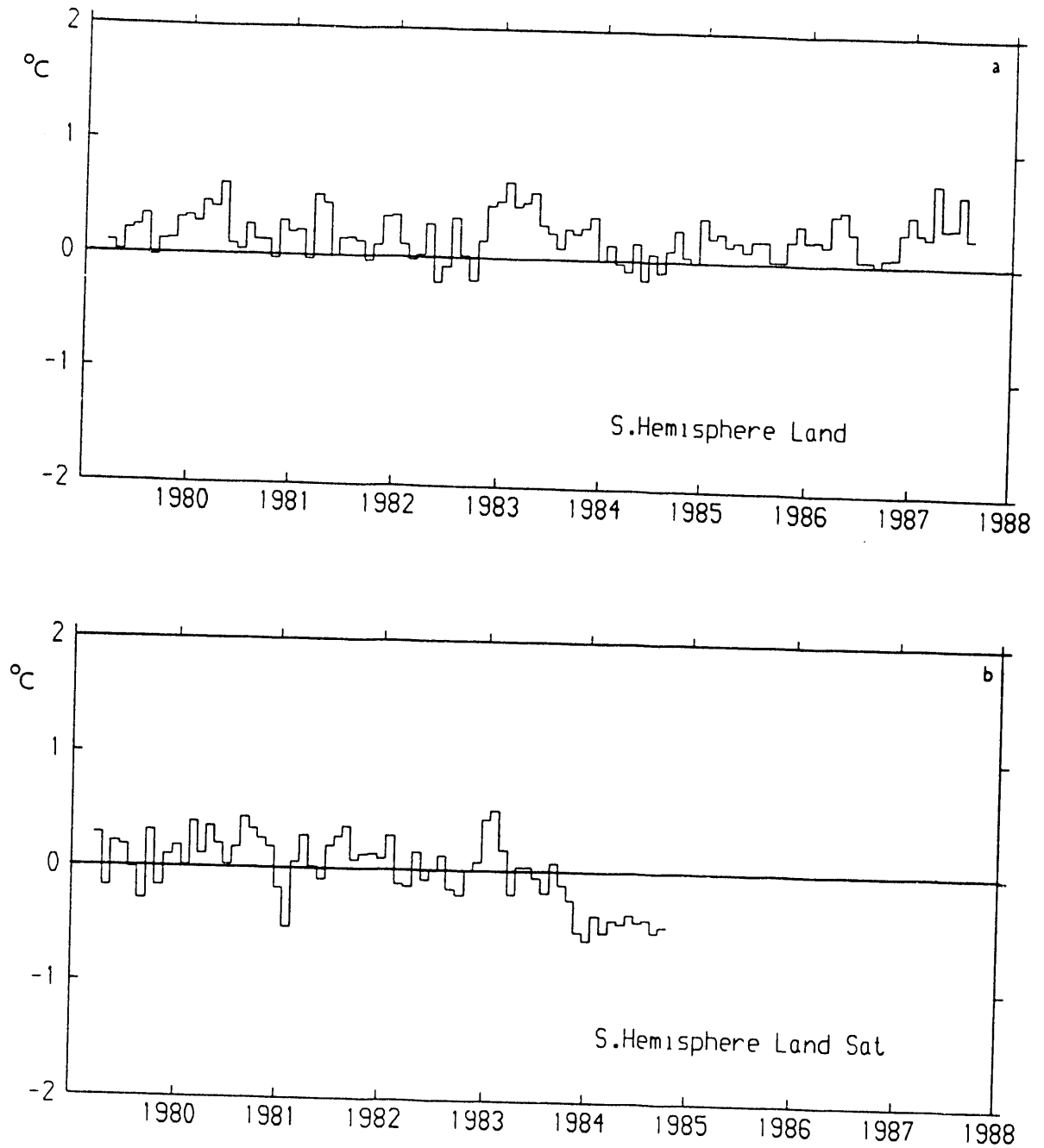


Figure 3: Monthly surface air temperature anomalies for the Southern Hemisphere (5-60°S inclusive). a) conventional (Jones et al., 1986b), anomalies from the 1951-70 reference period. b) satellite, anomalies from the April 1979-October 1984 reference period.

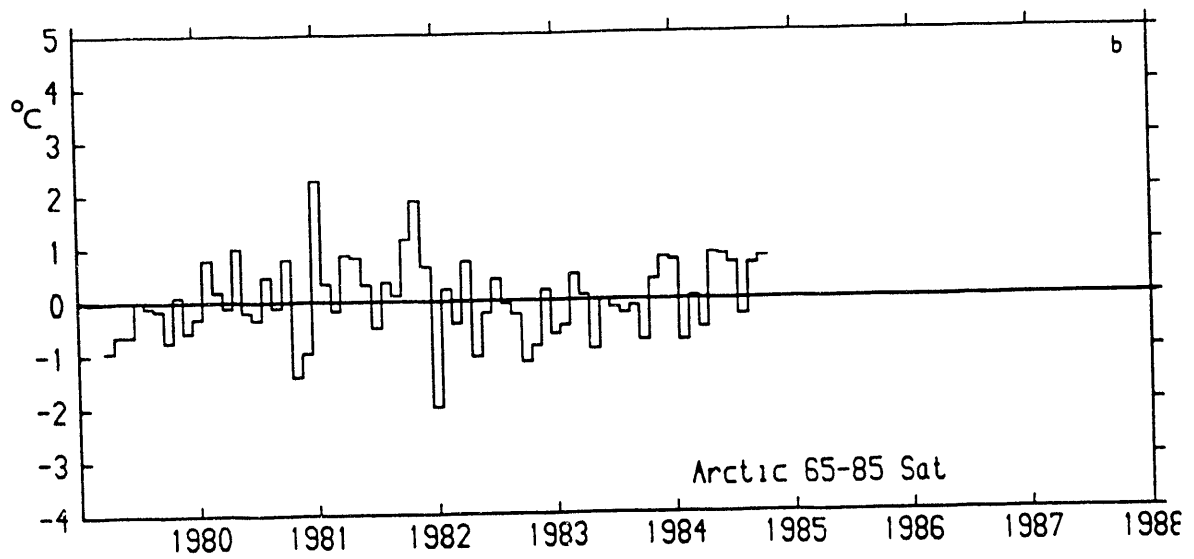
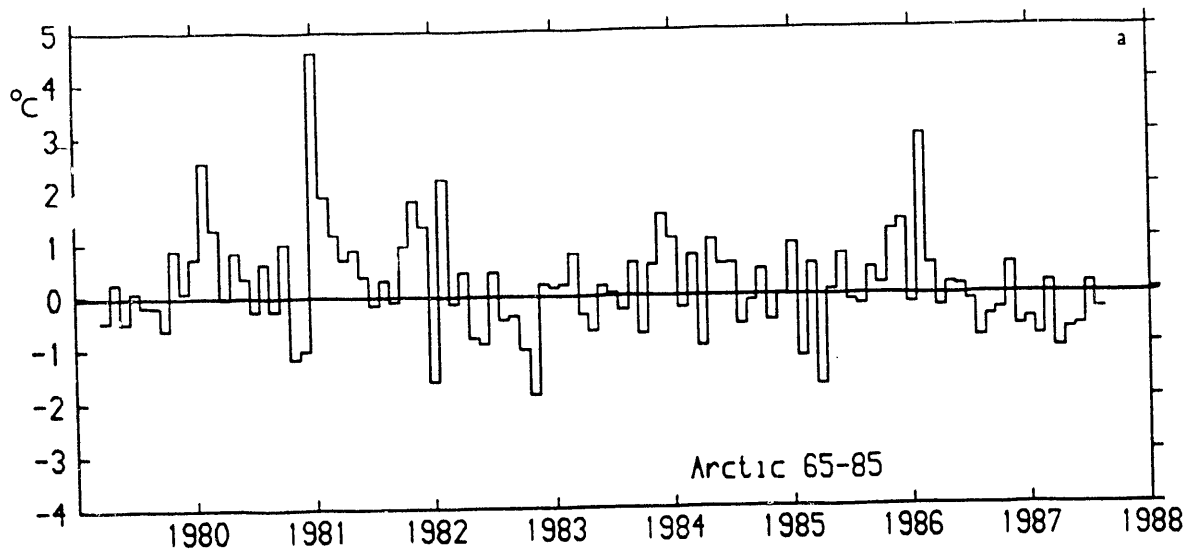


Figure 4: Monthly surface air temperature anomalies for the Arctic region (65-85°N inclusive). a) conventional (Jones, 1985), anomalies from the 1951-70 reference period. b) satellite, anomalies from the April 1979-October 1984 reference period.

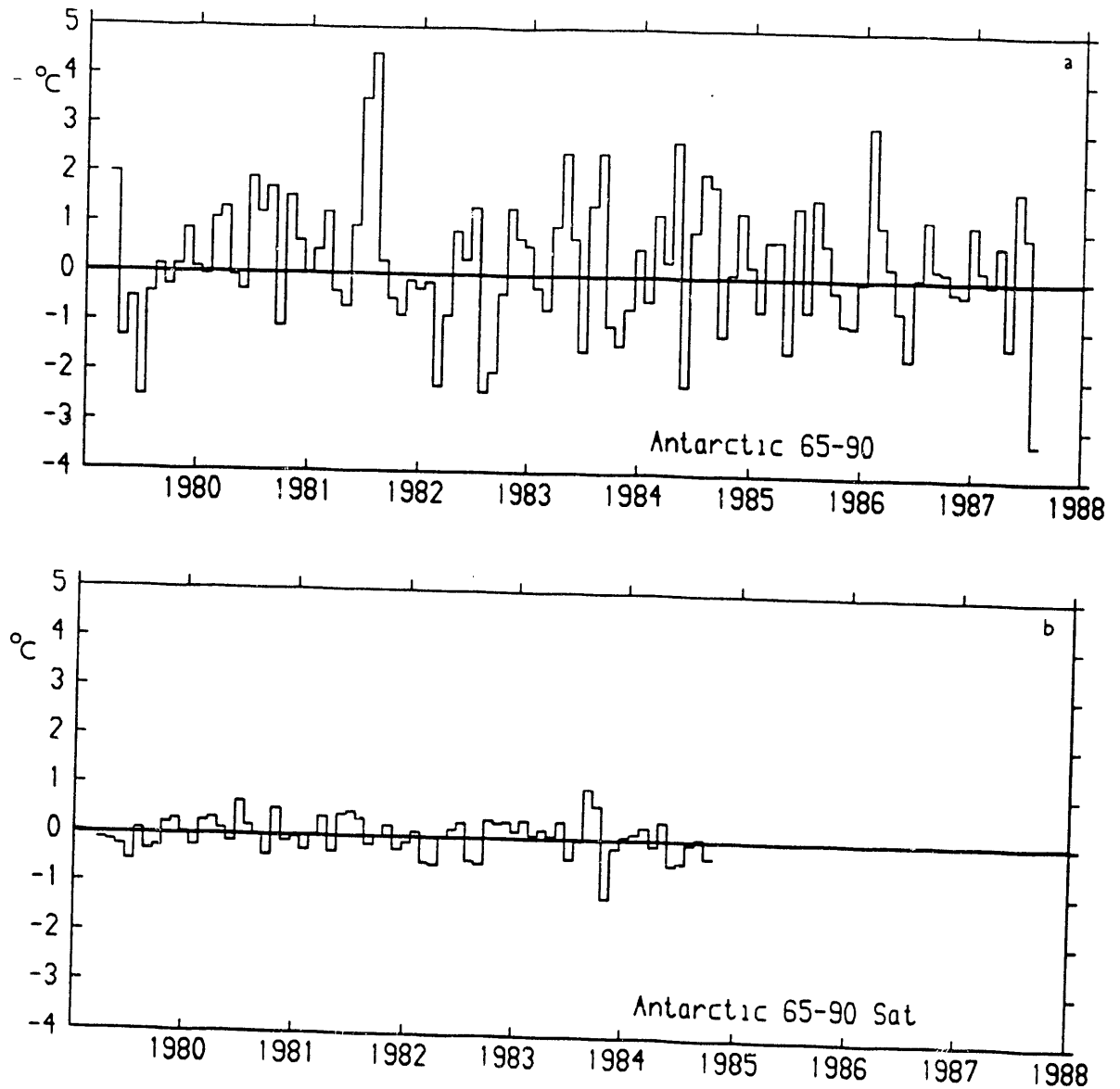


Figure 5: Monthly surface air temperature anomalies for the Antarctic region (65-90°S inclusive). a) conventional (Raper et al., 1984), anomalies from the 1957-75 reference period. b) satellite, anomalies from the April 1979-October 1984 reference period.

Office of Energy Research
Office of Basic Energy Sciences
Carbon Dioxide Research Division

Under Contract No. DE-AC02-79EV10098

TRO27

**A Grid Point Surface Air
Temperature Data Set for the
Southern Hemisphere**

CO2

February 1986

Prepared for
United States Department of Energy

DOE/EV/10098-6
Dist. Category UC-11

Office of Energy Research
Office of Basic Energy Sciences
Carbon Dioxide Research Division
Washington, D.C. 20545

TRO27

A Grid Point Surface Air Temperature Data Set for the Southern Hemisphere

Prepared by:
P.D. Jones, S.C.B. Raper, C.M. Goodess
B.S.G. Cherry and T.M.L. Wigley
Climate Research Unit
University of East Anglia
Norwich NR4 7TJ, UK

Under Contract No. DE-AC02-79EV10098

ABSTRACT

A compilation of 610 station records of monthly surface air temperature has been assembled for the Southern Hemisphere, north of 62.5°S. In order to use these data to construct the first grid point temperature data set for the Southern Hemisphere, the homogeneity of each of the station records has been assessed. Each station has been classed into one of three groups; immediately usable, corrected, or uncorrectable. The results are presented in tabular form.

Of the 610 station records, 293 were used to produce a gridded data set on a 5° latitude by 10° longitude grid between 5°S and 60°S inclusive. Grid point anomalies for 1851-1984, with respect to the reference period 1951-70, were interpolated from station data using a simple algorithm. In order to produce a best possible data set, Antarctic data were included after they became available in 1957.

TABLE OF CONTENTS

	Page
Abstract	i
Table of Contents	ii
List of Figures	iii
Acknowledgements	v
Introduction	1
Station Homogeneity Assessment	4
Gridding the Station Data	12
Conclusions	14
References	17
Appendix A: Station History Information and Homogeneity Assessment Details	19
Appendix B: Stations used in the Gridding Algorithm	66

LIST OF FIGURES

	Page
Figure 1: Station temperature difference time series: Curitiba (25.4°S, 49.3°W) minus Rio de Janeiro (22.9°S, 43.2°W), 1901-1980. The analysis identifies Rio de Janeiro as the errant station as a similar jump at 1941 also occurs when the station is compared with Iguape (24.7°S, 47.5°W). The station history information reveals that the observation time and station height were altered around 1940. The straight lines are the mean station differences for the two periods, 1901-1939 and 1941-1980. Correction details are given in Appendix A.	5
Figure 2: Station temperature difference time series: Ushuaia (54.9°S, 68.4°W) minus Punta Arenas (53.3°S, 70.9°W), 1931-1980. The analysis identifies Punta Arenas as the errant station as a similar jump at 1963 also occurs when the station is compared with Rio Gallegos (51.6°S, 69.4°W). A change of station site is indicated because of a data gap around 1963. The straight lines are the mean station differences for the two periods, 1931-1963 and 1964-1980. Correction details are given in Appendix A.	5
Figure 3: Station temperature difference time series: Johannesburg (26.2°S, 28.1°W) minus Durban (29.9°S, 31.0°W), 1905-1960. The analysis identifies Durban as the errant station as a similar jump at 1941 also occurs when the station is compared with Aliwal North (30.7°S, 26.7°W). The station history information reveals that the station was moved to the airport in 1941. The straight lines are the mean station differences for the two periods, 1905-1940 and 1941-1960. Correction details are given in Appendix A.	6
Figure 4: Station temperature difference time series: Lauthala Bay (18.1°S, 178.4°E) minus Nandi (17.9°S, 177.5°E), 1943-1980. The analysis identifies Nandi as the errant station as a similar jump occurs when the station is compared with Ono-i-lau (20.8°S, 178.8°E). The station history suggests a change of observation times after 1971. The straight lines are the mean station differences for the two periods, 1951-1970 and 1971-1980. Correction details are given in Appendix A.	6

Figure 5:	Locations of the 293 stations used in the gridding technique. The Antarctic stations were used by Raper et al. (1984) are not included	11
Figure 6:	The Southern Hemisphere Temperature (SHT) series 1858-1984 (anomalies relative to 1951-70).	16

ACKNOWLEDGEMENTS

The work described in this Technical Report was funded by the U.S. Department of Energy under Contract No. DE-AC02-79EV10098 and Grant No. DE-FG02-86-ER60397.

INTRODUCTION

Although many studies have been undertaken with temperature time series purporting to represent the whole globe, most are only representative of conditions over the Northern Hemisphere land masses. A truly representative average for the whole globe can only be achieved by incorporation of data from both the land and marine areas of both hemispheres.

Early studies by Willett (1950) and Mitchell (1961) using land-based data from both hemispheres indicated that a reasonable proxy for global conditions could be formed from averages for the Northern Hemisphere land mass only. Indeed, this was a convenient supposition to make, because data for the Northern Hemisphere land masses are the most plentiful and readily available. In support of this supposition it has been argued that external forcing factors should affect the hemispheres similarly, in both degree and timing. However, the representativeness of the Northern Hemisphere land data in a global context can be questioned because the number of Southern Hemisphere stations used by Willett and Mitchell was small, only one fifth of those used for the Northern Hemisphere with almost all being located between the equator and 40°S.

Recent work by Folland et al. (1984) using marine data has shown that important differences are apparent between the land and marine records for the Northern Hemisphere (Jones et al., 1986a) and between the marine records for the two hemispheres. The differences are most apparent in the degree of warming and cooling during the present century (see Wigley et al., 1985, 1986).

A detailed study of the hemispheric temperature trends for the Southern Hemisphere will enable more detailed comparisons of the Northern and Southern Hemisphere land and marine data sets to be made. The land areas of the Southern Hemisphere have often been ignored in previous studies; the only recent analysis to consider this region comprehensively being that of Hansen et al. (1981).

Data Sources

The basic source of station air temperature data for the Southern Hemisphere land masses is the set of volumes of World Weather Records (WWR) (Smithsonian Institution, 1927, 1934, 1947 and U.S. Weather Bureau, 1959-1982; available in digitized form from the National Center for Atmospheric Research (NCAR), Jenne, 1975). A considerable amount of additional temperature data for Argentina and Chile for the years 1931-60 has recently been added to this set. In WWR, these countries only have data available from 1951 (see Pittock, 1980, for further details).

Searches for data in archives as part of the present project yielded additional data for Indonesia and Australia and for some Pacific islands, particularly Tahiti. Additional data for New Zealand was found in Salinger (1981). For Peru, the Peruvian Meteorological Service supplied information for about ten stations covering the 1940s and 1950s. Additional data for Australia was provided by their Bureau of Meteorology. All of these sources are gratefully acknowledged.

Altogether 610 stations (between 2.5°S and 62.5°S) were used in this analysis. The names, locations, elevations and record lengths of all 610 stations are listed in Appendix A.

For the Antarctic region we used the data given in Raper et al. (1984)
and updated in various issues of Climate Monitor.

STATION HOMOGENEITY ASSESSMENT

It has long been known that the basic source of temperature data, World Weather Records, contains many records that are not homogeneous. Furthermore, we assumed that a significant fraction of the new station data could be non-homogeneous, although Salinger (1981) has inspected and corrected most of the New Zealand data. Station data may contain the effects of changes that result from numerous non-climatic factors (see Jones et al., 1985, 1986a, and Bradley and Jones, 1985, for a list of these factors and examples of their effects). The composite Southern Hemisphere data set was therefore analysed for homogeneity in a manner similar to that for the Northern Hemisphere (Jones et al., 1985).

For each of the 610 stations in this data set, data homogeneity was assessed, where possible, by comparing each station record with neighbouring station data. The technique is outlined in Jones et al. (1986a). When identified, inhomogeneities were corrected by comparison with neighbouring station data in a manner described by Jones et al. (1985).

Four examples of the homogeneity assessment are shown in Figures 1 to 4, each being discussed in the appropriate figure caption. The examples are:

Fig. 1, Curitiba (WMO No. 838420) minus Rio de Janeiro (837430) (Brazil)

Fig. 2, Ushuaia (879380) minus Punta Arenas (859340) (Argentina-Chile)

Fig. 3, Johannesburg (683697) minus Durban (685880) (South Africa)

Fig. 4, Lauthala Bay (916900) minus Nandi (916800) (Fiji).

Further examples are given in Jones et al. (1986b).

Details of this assessment are listed in Appendix A, which includes reference to some of the neighbouring stations used for comparisons,

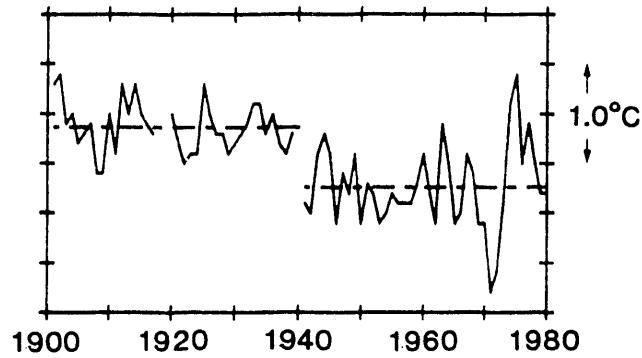


Figure 1: Station temperature difference time series: Curitiba (25.4°S, 49.3°W) minus Rio de Janeiro (22.9°S, 43.2°W), 1901-1980. The analysis identifies Rio de Janeiro as the errant station as a similar jump at 1941 also occurs when the station is compared with Iguape (24.7°S, 47.5°W). The station history information reveals that the observation time and station height were altered around 1940. The straight lines are the mean station differences for the two periods, 1901-1939 and 1941-1980. Correction details are given in Appendix A.

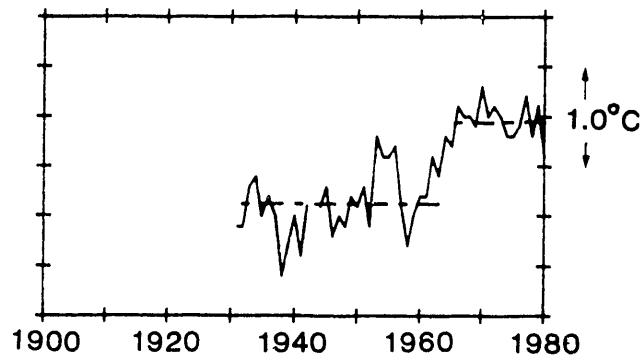


Figure 2: Station temperature difference time series: Ushuaia (54.9°S, 68.4°W) minus Punta Arenas (53.3°S, 70.9°W), 1931-1980. The analysis identifies Punta Arenas as the errant station as a similar jump at 1963 also occurs when the station is compared with Rio Gallegos (51.6°S, 69.4°W). A change of station site is indicated because of a data gap around 1963. The straight lines are the mean station differences for the two periods, 1931-1963 and 1964-1980. Correction details are given in Appendix A.

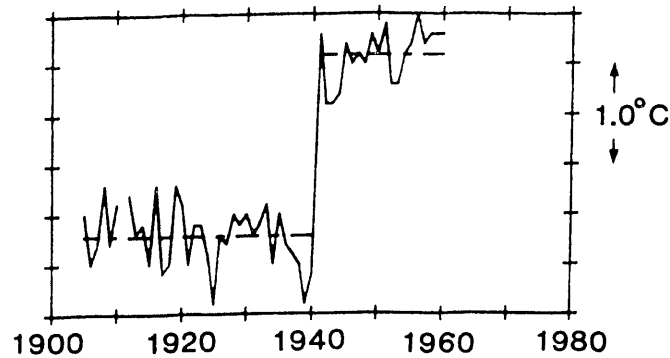


Figure 3: Station temperature difference time series: Johannesburg (26.2°S, 28.1°W) minus Durban (29.9°S, 31.0°W), 1905-1960. The analysis identifies Durban as the errant station as a similar jump at 1941 also occurs when the station is compared with Aliwal North (30.7°S, 26.7°W). The station history information reveals that the station was moved to the airport in 1941. The straight lines are the mean station differences for the two periods, 1905-1940 and 1941-1960. Correction details are given in Appendix A.

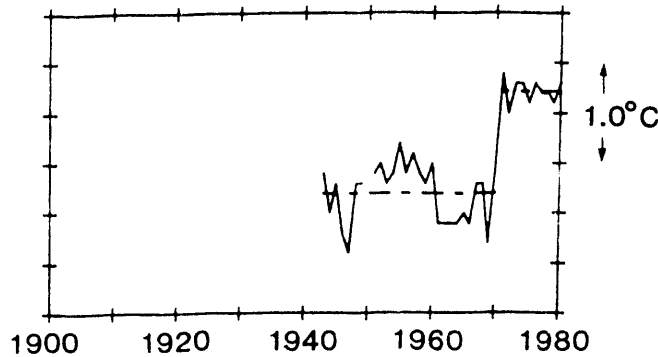


Figure 4: Station temperature difference time series: Lauthala Bay (18.1°S, 178.4°E) minus Nandi (17.9°S, 177.5°E), 1943-1980. The analysis identifies Nandi as the errant station as a similar jump occurs when the station is compared with Ono-i-lau (20.8°S, 178.8°E). The station history suggests a change of observation times after 1971. The straight lines are the mean station differences for the two periods, 1951-1970 and 1971-1980. Correction details are given in Appendix A.

corrections applied, (if any) and station history information. The format of this Appendix is exactly the same as given in Bradley et al. (1985) and Jones et al. (1985).

Results of the Station Homogeneity Assessment

Each station has been assigned a quality control code, identifying records which are correct, homogenized, uncheckable, incorrect, or affected by non-climatic warming trends. The quality control codes are given in Appendix A. In some instances 'correct' stations are only correct after a specified year - the first reliable year. In these cases earlier data are suspect and could not be reliably checked. These early data have not been used to derive grid point anomalies.

The numbers of stations in each homogenization category are listed in Table 1 for the three main continental regions of the Southern Hemisphere: southern Africa, South America and Australasia. Island stations are associated with the appropriate WMO region (i.e. Africa includes stations south of 2.5°S with WMO identifiers commencing with a 6, South America includes stations between 2.5°S and 62.5°S with WMO identifiers commencing with a 8, and Australasia includes stations south of 2.5°S with WMO identifiers commencing with a 9).

The number of stations which cannot be checked is roughly 46% of the total. Most of these records are too short for the homogenization analysis, generally having less than 20 years of data. Over half of these stations are located in South America, especially in Brazil. The lack of Brazilian data has been highlighted in Jones et al. (1986b). The proportion of incorrect

Table 1: Numbers of stations in each homogenization category for different regions of the Southern Hemisphere (2.5-62.5°S)

	A	B	C	D	E	F
Africa	59	26	52	2	0	139
S. America	87	24	147	13	1	272
Australia, Indonesia, New Zealand	91	15	81	10	2	199
All 3 regions	237	65	280	25	3	610
% of 610	38.9	10.7	45.9	4.1	0.5	

A: Stations correct after a specified year. (The specified year is not always the first year of record. In such cases, the early parts of the record were not used in any subsequent analyses.)

B: Stations homogenized.

C: Stations not examined (record too short or no adjacent stations for comparison).

D: Stations incorrect (e.g. numerous jumps and/or trends including non-climatic cooling trends).

E: Stations with non-climatic warming trends.

F: Station totals.

stations which could not be corrected is considerably smaller than for the Northern Hemisphere (Jones et al., 1985), although this was not a problem in the Northern Hemisphere because of the greater total number of stations.

In order to average the station data to produce regional and hemispheric mean values it is necessary to reduce all the monthly station data to anomalies. This eliminates the effect of different station elevations and other factors. The period with best data coverage, 1951-70, has been used as the basic reference period. The numbers of correct and homogenized data with sufficient reference period data (at least 15 of the 20 years between 1951 and 1970) for the three regions are listed in Table 2. A few stations with a long period of record, but without adequate reference period data have been included. For these stations, reference period means were estimated by comparison with neighbouring stations. The accuracy of this estimation is $\pm 0.2^{\circ}\text{C}$.

Altogether 293 stations were used in subsequent analyses. The names, locations and years of operation of these stations are listed in Appendix B. The locations of the 293 stations are shown in Figure 5. Further discussion of the station homogeneity assessment is given in Jones et al. (1986b).

Table 2: Stations with sufficient data in the reference period, 1951-70.

	A	B	C	Sum
Africa	52	26	8	86
S. America	70	23	14	107
Australia, Indonesia, New Zealand	83	15	2	100
All 3 regions	205	64	24	293
% of 293	70	22	8	

A: Stations correct after a specified year.

B: Stations homogenized.

C: Stations not checked.

Sum: Station totals by region and overall.

GRIDDING THE STATION DATA

In order to overcome the irregular spatial distribution of the station data, we have interpolated the data onto a regular 5° latitude by 10° longitude grid. This is exactly the same grid spacing as used for the Northern Hemisphere by Jones et al. (1986a) and Vinnikov et al. (1981). As was noted earlier, it is necessary to reduce all the station data to anomalies because of different station elevations and, to a lesser extent, different observation times. The reference period used was 1951-70.

Each station was associated with its nearest grid point in terms of great circle distance. Grid-point departures (from the 1951-70 reference period) were calculated by averaging all the stations near a point using inverse distance weighting.

$$T_g = \frac{\sum_{s=1}^n \alpha_s T_s}{\sum_{s=1}^n \alpha_s} \quad \dots \quad (1)$$

where T_g is the interpolated grid point temperature anomaly

T_s ($s = 1, n$) is the station temperature anomaly

α_s ($s = 1, n$) is the inverse of the great circle distance between the station and the grid point (constrained to $1/\alpha_s < 0.02$ nautical miles since some stations are located very close to grid points.)

The number of stations nearest to a particular grid point varied from grid point to grid point and from one period to another. In many cases only one station was used, and the station value simply becomes the grid-point value. In others, up to ten stations were averaged. Areas of denser station



Figure 5: Locations of the 293 stations used in the gridding technique. The Antarctic stations were used by Raper et al. (1984) are not included

coverage include New Zealand and northern Argentina.

Monthly mean grid point anomalies, relative to 1951-70, were calculated back to 1851 for all possible grid points between 5°S and 60°S inclusive. Grid points anomalies have been calculated and are stored to an accuracy of 0.01°C, although this does not reflect the accuracy of the original data. The results are not particularly sensitive to the method of gridding, as demonstrated in Jones et al. (1986a). Other uncertainties, however, mean that individual monthly grid point anomalies are probably only accurate to ±0.2°C. Our gridded data file includes two measures which can be used to assess the reliability of the grid point interpolations: the number of stations used (n) and the value of $\frac{1}{n} \sum_{s=1}^n a_s$. These two quantities are given for each month and for each grid point.

The data set is available on a computer magnetic tape.

CONCLUSIONS

Using this particular grid it is relatively easy to calculate an average time series (SH60) for the land areas of the Southern Hemisphere between 2.5°S and 62.5°S:

$$SH60 = \frac{\sum_{g=1}^M T_g \cos(\phi_g)}{\sum_{g=1}^M \cos(\phi_g)} \quad \dots (2)$$

where M is the number of grid points with temperature anomalies (T_g) in a particular month and ϕ_g is the latitude of the grid point. The number of grid points incorporated into SH60 increases with time reaching maximum coverage between 1951-1970, during which period approximately 27% of the entire Southern Hemisphere can be gridded (i.e. 30% of the 2.5-62.5°S region).

The effect of less complete coverage prior to 1951 has been assessed by Jones et al. (1986b). This assessment was carried out by comparing hemispheric estimates based on a sequence of frozen grids (viz. grid points available for each decade between the 1850s and the 1930s) with estimates based on the best possible grid. Comparisons were made over the period 1941-80. The results indicate that SH60 is a reasonably homogeneous and representative time series back to about 1890. Although the series is undoubtedly less reliable prior to this time, decadal mean values are useful indicators of mean temperature back to the 1860s.

In order to produce the best possible land average for the entire Southern Hemisphere it is necessary to include Antarctic data. Sufficient data for this continent are only available since the International

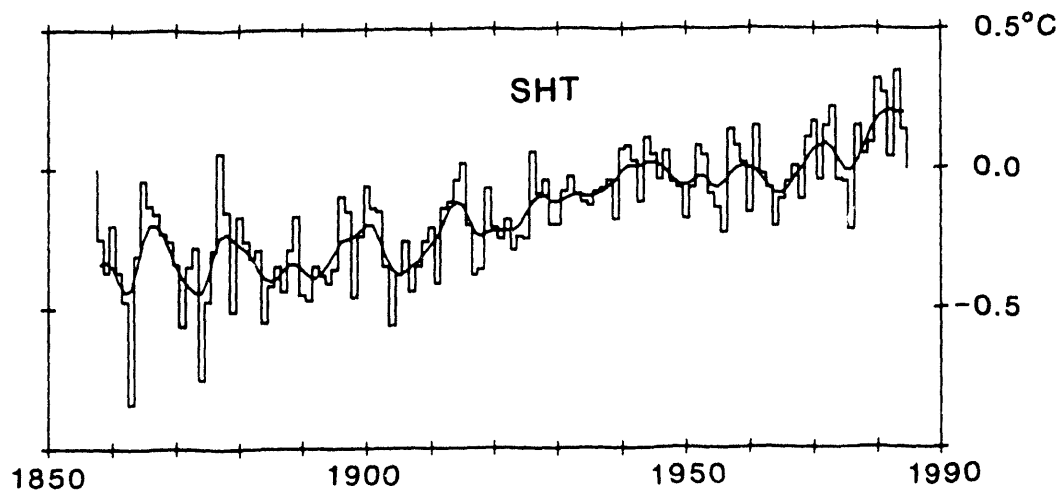


Figure 6: The Southern Hemisphere Temperature (SHT) series 1858-1984 (anomalies relative to 1951-70).

Geophysical Year in 1957. The best possible Southern Hemisphere area average, SHT, was calculated using

$$\text{SHT} = (a(\text{SH60}) + b(\text{ANT})) / (a+b) \quad \dots (3)$$

where ANT is the Antarctic series produced by Raper et al. (1984), and a and b are the areas of coverage of each series, expressed as proportions of the total Southern Hemisphere area. Although a and b vary slightly with time between 1957 and 1984, a is approximately four times b. Prior to 1956, the best possible Southern Hemisphere land average is simply the SH60 series (i.e. SHT and SH60 are identical).

The SHT series shows little overall trend during the nineteenth century (Figure 6). After 1900, the series shows a warming trend to the mid 1940s. Between about 1945 and 1970 no trend can be seen. Since 1970 a strong warming trend has set in. The three warmest years of the entire record are 1980, 1981 and 1983. The overall warming trend since 1900 is about 0.5°, of which roughly 0.3°C occurred between 1900 and 1945 and 0.2°C since 1970.

The history of the land-based Southern Hemisphere temperature series is, therefore, not dissimilar to that for the Northern Hemisphere. However, the early twentieth century warming up to 1940 is smaller in magnitude and the cooling evident in the Northern Hemisphere between 1940 and 1965 appears only as a hiatus in the longer-term warming trend. Further discussion of this data set and comparisons with the marine data for the Southern Hemisphere are given in Jones et al. (1986b).

REFERENCES

- Bradley, R.S., and P.D. Jones, 1985: Data bases for detecting CO₂-induced climatic change. (In) U.S. Dept. of Energy State of the Art Report on the Detection of Climatic Change. U.S. Dept. of Energy Carbon Dioxide Research Division, Washington, D.C., (to be published).
- Bradley, R.S., P.M. Kelly, P.D. Jones, H.F. Diaz and C. Goodess, 1985: A climatic data bank for the Northern Hemisphere, 1851-1980. DoE Technical Report No. TR017, U.S. Dept. of Energy Carbon Dioxide Research Division, Washington, D.C., 335 pp.
- Folland, C.K., D.E. Parker and F.E. Kates, 1984: Worldwide marine temperature fluctuations, 1856-1981. Nature, 310, 670-673.
- Hansen, J.E., D. Johnson, A. Lacis, S. Lebedeff, P. Lee, D. Rind and G. Russell, 1981: Climatic impact of increasing atmospheric carbon dioxide. Science, 213, 957-966.
- Jenne, R., 1975: Data sets for meteorological research. NCAR-TN/JA-111. National Center for Atmospheric Research, Boulder, Co., 194 pp.
- Jones, P.D., S.C.B. Raper, B.S. Santer, B.S.G. Cherry, C. Goodess, R.S. Bradley, H.F. Diaz, P.M. Kelly and T.M.L. Wigley, 1985: A grid point surface air temperature data set for the Northern Hemisphere, 1851-1984. DoE Technical Report No. 22. U.S. Dept. of Energy Carbon Dioxide Research Division, Washington, D.C., 251 pp.
- Jones, P.D., S.C.B. Raper, R.S. Bradley, H.F. Diaz, P.M. Kelly and T.M.L. Wigley, 1986a: Northern Hemisphere surface air temperature variations, 1851-1984. J. Clim. Appl. Met., 25, 161-179.
- Jones, P.D., S.C.B. Raper and T.M.L. Wigley, 1986b: Southern Hemisphere surface air temperature variations 1851-1984. J. Clim. Appl. Met., 25 (in press).
- Mitchell, J.M. Jr., 1961: Recent secular changes of global temperature. Ann. NY Acad. Sci., 95, 235-250.
- Raper, S.C.B., T.M.L. Wigley, P.R. Mayes, P.D. Jones and M.J. Salinger, 1984: Variations in surface air temperatures, Part 3: The Antarctic, 1957-82. Monthly Weather Review, 112, 1341-1353.
- Pittock, A.B., 1980: Patterns of climatic variation in Argentina and Chile - II. Temperature, 1931-60. Monthly Weather Review, 108, 1362-1369.
- Salinger, M.J., 1981: New Zealand climate: the instrumental record. Ph.D. Thesis, Victoria University, Wellington, New Zealand.

- Smithsonian Institution, 1927, 1935, 1947: World Weather Records, Smithsonian Inst., Miscellaneous Collections, Vol. 79, 90 and 104. Smithsonian Inst., Washington, D.C.
- U.S. Weather Bureau, 1959-82: World Weather Records, 1941-50 (1361 pp.), 1951-60 (Vol. 1-6), 1961-70 (Vols. 1-6), U.S. Department of Commerce, Washington, D.C.
- Vinnikov, K.Ya., G.V. Gruza, V.F. Zakharov, A.A. Kirillov, N.P. Kovyneva and E.Ya. Ran'kova, 1980: Current climatic changes in the Northern Hemisphere. Meteorologiya i Gidrologiya 1980, no. 6, 5-17.
- Wigley, T.M.L., J.K. Angell and P.D. Jones, 1985: Analysis of the temperature record. (In) U.S. Department of Energy State of the Art Report on the Detection of Climatic Change. U.S. Dept. of Energy Carbon Dioxide Research Division, Washington, D.C., (to be published).
- Wigley, T.M.L., P.D. Jones and P.M. Kelly, 1986: Empirical climate studies: warm world scenarios and the detection of CO₂-induced climatic change. (In) The Greenhouse Effect: Climatic Change and Ecosystems, B. Bolin, J. Jäger, B.R. Döös and R.A. Warrick, Eds., SCOPE Report No. 29, Wiley, New York (to be published).
- Willett, H.C., 1950: Temperature trends of the past century. (In) Centenary Proceedings Royal Meteorological Society, 195-206.

APPENDIX A

Station History Information and Homogeneity Assessment Details

Column Headings

Line 1:

WMO Number (generally with additional 0)
Station Name
Country
Latitude
Longitude
Height
First year of data (In some cases this may be the first year with
precipitation data. Temperature data starts later.)
Last year of data
Quality code
First reliable year of data

Line 2:

Source: Codes used by Bradley et al. (1985)

Subsequent lines:

Notes and homogeneity details.

Additional Information

Missing Codes:

Latitude - 999
Longitude - 1999
Height - 999

Quality Code:

First Digit

1 - Reliable back to first reliable year
2 - Corrected back to first reliable year
4 - Affected by urban warming
5,8 - Non-homogeneous and uncorrectable
6 - Not compared with neighbouring stations
7 - Reliable back to first reliable year, uncorrectable for earlier
years

Second Digit

0 - Record 90% complete
1 - Short record of less than 20 years
2 - Record less than 90% complete, generally containing many years of
missing data
3 - Antique record with data almost entirely from the nineteenth
century or earlier

619000: ASCENSION IS. ASCENSION IS 8.0S 14.5W 1923-1976 10 1923
Sources: A1
Notes: A1: 1/2(max + min). 1941-1950; 7 55'S 14 24'W, alt = 55ft. 1951-1960; alt = 17m. Reliability: compared with 619010 for the years 1923-1976.

619010: ST HELENA ST. HELENA 16.0S 5.7W 604m 1854-1980 10 1892
Sources: A1, A7, A8
Notes: A1: 1892-1976; means of daily observations at 9h, local time. Prec site moved from 1890ft, to 2070ft in Nov 1910, details on p170, vol 79. Both sites moved in Oct 1925 from 1980 to 1900ft. Aug 1926-1930 readings were taken at 6h local time but corrected to 9h, details on p74, vol 90. 1931-1970; 1/2(daily max + daily min). In 1937 alt changed to 2000ft. 1951-1960; alt = 633m. 1961-1970; 15 58'S 5 42'W, alt = 627m. A7: Temp; 1/2(max + min). Observations also taken at same times as Press; 1/2(0930 + 1500) corrected for index error & reduced to 32F, but not to MSI, no gravity correction made. A8: No details available, but probably means of 1/2(max + min). Reliability: compared with 619000 for the years 1923-1976. 1977-1980 data have been ignored.

619670: DIEGO GARCIA MAURITIUS 7.2S 72.4E 2m 1951-1972 10 1954
Sources: A1
Notes: A1: 1/2(max + min). 1951-1960; 7 14'S 72 26'E, alt = 2m. 1961-1970; alt = 3m. Reliability: compared with 619720 & 619680 for the years 1954-1972 & 1956-1972.

619680: ILES GLORIEUSES MAURITIUS 11.7S 47.2E 1956-1980 10 1956
Sources: A1
Notes: A1: 1961-1970; 1/2(max + min). 11 33'S 47 17'E, alt = 3m. Reliability: compared with 619720 & 619670 for the years 1956-1980 & 1956-1972.

619700: ILE JUAN DE NOVA (NEAHIA 17.1S 42.7E 1973-1980 61
Sources: A1
Notes: A1: No details available. Reliability: uncheckable.

619720: ILE EUROPA MAURITIUS 22.5S 40.3E 7m 1951-1981 10 1951
Sources: A1
Notes: A1: 1/2(max + min). 1951-1960; 22 21'S 40 21"E, alt = 7m. 1961-1970; alt = 12m. Reliability: compared with 619670 & 619680 for the years 1954-1972 & 1956-1980.

619740: AGALEGA MAURITIUS 10.6S 56.8E 3m 1951-1980 20 1951
Sources: A1
Notes: A1: 1/2(max + min). 1951-1960; 10 33'S 56 45"E, alt = 3m. 1961-1970; 10 26 S 56 45 E, alt = 3m. Reliability: compared with 619760, 619800 & 619840 for the years 1954-1980, 1951-1980 & 1957-1970. Corrected for jumps

1965/1966 & 1961/1962. Correction Factors: Stations used: 619760, 619800 & 619840. Calculation dates: 1954-1961 & 1962-1965. Correction dates: 1966-1970 & 1968-1970. Factors: i) 1966-1970; 0 -5 -3 -5 0 0 -3 4 -2 -2 -2 -3. ii) 1966-1970; -7 -8 -9 -7 -6 -4 -6 -3 -9 -6 -8 -9.

619760: SERGE-FRULOW/TROMEI MAURITIUS 16.0S 54.5E 1954-1980 10 1954
Sources: A1
Notes: A1: 1/2(max + min). 1954-1960; 15 53'S 54 31"E, alt = 8m. 1961-1970; alt = 7m. Reliability: compared with 619740 & 619800 for the years 1954-1980.

619800: ST. DENIS/GILLOT MAURITIUS 20.9S 55.5E 12m 1951-1980 10 1951
Sources: A1
Notes: A1: 1/2(max + min). 1951-1960; 20 52'S 55 31"E, alt = 11m. 1961-1970; 20 54'S 55 31"E, alt = 10m. Reliability: compared with 619840 & 619740 for the years 1951-1980.

619840: S PIERRE/REUNION MAURITIUS 21.3S 55.5E 53m 1951-1970 10 1951
Sources: A1
Notes: A1: 1/2(max + min). 1951-1960; 21 20'S 55 29"E, alt = 3m. Station may have moved in Jan 1953 but no details are given. 1961-1970; alt = 52m. Reliability: compared with 619800 for the years 1951-1970.

619860: ST. BRANDON/RAPHAEL MAURITIUS 16.5S 59.6E 4m 1951-1980 20 1951
Sources: A1
Notes: A1: 1/2(max + min). 1951-1960; 16 27'S 59 33"E, alt = 4m. 1961-1970; 16 27 S 59 33 E, alt = 2m. Reliability: compared with 619880 & 619900 for the year 1951-1980. Corrected for a jump 1965/1966. Correction Factors: Stations used: 619880 & 619900. Calculation dates: 1951-1965. Correction dates: 1966-1980. Factors: -1 -1 -3 -1 0 0 -2 -1 -5 -4 -3.

619880: RODRIGUES MAURITIUS 19.7S 63.4E 59m 1951-1980 20 1951
Sources: A1
Notes: A1: 1/2(max + min). 1951-1960; 19 41'S 63 25"E, alt = 59m. 1961-1970; alt = 58m. Reliability: compared with 619860 & 619900 for the years 1951-1980. Corrected for a jump 1952/1953. Correction Factors: Stations used: 619860 & 619900. Calculation dates: 1951-1952. Correction dates: 1953-1980. Factors: -10 -11 -8 -16 -13 -15 -12 -19 -18 -15 -14 -11.

619900: PLAISANCE MAURITIUS 20.4S 57.7E 56m 1853-1980 10 1951
Sources: A1, A7, A35
Notes: A1: Alt; 1951-1960 = 57m, 1961-1970 = 55m. Means of 1/2(mean max + mean min). A7: Mean of 1/2(max + min). Observations also taken at 0930 & 1530h. Alt; 1853-Jan 1859 = 20ft, Feb 1859-1861 = 30ft. A35: No details available. Reliability: compared with 619860 & 619880 for the years 1951-1980.

619930: PAMPLEMOUSSES MAURITIUS 20.1S 57.5E 55m 1787-1960 62 1910
Sources: AI

Notes: AI: Means of $1/2(\max + \min)$. 1951-1960; 20 06'S 57 33'E, alt = 55m. Reliability: uncheckable.

619960: ILE NOUVELLE AMSTERDAM IS 37.9S 77.7E 28m 1951-1980 20 1951
Sources: AI

Notes: AI: $1/2(\max + \min)$. 1951-1970; 37 50'S 77 34'E, alt = 27m. Reliability: compared with 619900 & 619980 for the years 1951-1980. Corrected for a jump 1970/1971. Correction Factors: Stations used: 619900 & 619980. Calculation dates: 1951-1970. Correction dates: 1971-1980. Factors: 0 4 2 7 3 4 1 2 0 0 2 2.

619970: ILE CROZET OCEANIA 46.5S 51.0E 1973-1980 61
Sources: AI

Notes: AI: No details available. Reliability: uncheckable.

619980: KERGULEN KERGULEN IS. 49.4S 70.1E 18m 1951-1980 10 1951
Sources: AI

Notes: AI: $1/2(\max + \min)$. 1951-1960; 49 20'S 70 13'E, alt = 14m. 1961-1963; alt = 18m. 1964-1970; 49 21'S 70 15'E, alt = 29m. Reliability: compared with 619900 & 619960 for the years 1951-1980.

638700: MOHRASA KENYA 4.0S 39.6E 1890-1975 10 1931
Sources: AI, A160

Notes: AI: 1951-1960; alt = 50m. Means of $1/2(\max + \min)$. No other details available. A160: Means of $1/2(\max + \min)$. 1931-1935; 4 04'S 39 42'E, alt = 75ft. 1936-1937; alt = 53ft. 1938-1939 = 52ft. 1940-1941; 4 03'S 39 18'E, alt = 51ft. 1942-1945; alt = 52ft. 1946-1948; 4 02'S 39 37'E, alt = 200ft. Fort Reitz. Reliability: compared with 638700 & 638940 for the years 1931-1960 & 1931-1975.

638720: TABORA TANZANIA 5.0S 32.8E 1894-1978 10 1931
Sources: AI

Notes: AI: 1931-1950; Kuzeh Hill site opened in Sept 1930, 5 03'S 32 53'E, alt = 4155ft. Means of 24 hours. 1951; Kazeh; 5 02'S 32 49'E, alt = 1265m. 1952-1960; 5 05'S 32 50'E, alt = 1190m. Reliability: compared with 638940 & 674750 for the years 1931-1978 & 1931-1978.

638700: KISAUNI TANZANIA 6.2S 39.2E 18m 1892-1960 10 1951
Sources: AI

Notes: AI: 1951; Chuchwani; 6 15'S 39 13'E, alt = 19m. 1952-1960; Kisauni; 6 13'S 39 13'E, alt = 18m. Means of $1/2(\max + \min)$. No other details available. Reliability: compared with 638200 & 638940 for the years 1931-1960 & 1895-1960.

638940: DAR ES SALAAM TANZANIA 6.5S 39.3E 58m 1893-1978 10 1951
Sources: AI

Notes: AI: 1895-1920; means of 24 hours. Station moved in Dec 1898, no details given. Alt = 8m. 1951-Oct 1934; 6 52'S 39 16'E, alt = 12m. Nov 1934-1960; airport, 6 53'S 39 12'E, alt = 58m. Reliability: compared with 638200 & 674750 for the years 1931-1978 & 1934-1978.

639620: SONGEA TANZANIA 10.6S 35.6E 1908-1978 20 1951
Sources: AI

Notes: AI: 1951-1955; 10 41'S 35 40'E, alt = 1153m. 1956-1960; 10 41'S 35 35'E, alt = 1067m. No other details available. Reliability: compared with 672170 & 636120 for the years 1954-1978 & 1951-1975. Corrected for a jump 1969/1970. Correction Factors: Stations used: 672170 & 636120. Calculation dates: 1954-1969. Correction dates: 1970-1975. Factors: -4 -1 -8 -5 -8 -5.

639800: MAHE SEYCHELLES 4.6S 55.5E 3m 1891-1965 60 1894
Sources: AI

Notes: AI: 1942-1950; means of 24 hours, some values are $1/2(\max + \min)$. Alt: 16ft. Oct 1943-Feb 1945; Signal Hill, 4 36'S 55 27'E, alt = 1340ft. Prec read throughout at usual Port Victoria site, 4 37'S 55 27'E, alt = 3m. Reliability: uncheckable.

641460: LODJA ZAIRE 3.5S 23.3E 500m 1952-1971 61
Sources: AI

Notes: AI: Means of an empirically established formula. 1952-1960; 3 29'S 23 26'E, alt = 500m. Reliability: uncheckable.

641550: KINDU ZAIRE 3.0S 25.9E 475m 1951-1970 61
Sources: AI

Notes: AI: Means of an empirically established formula. 1951-1960; 2 57'S 25 55'E, alt = 475m. A site change may have occurred in Sept 1939 but no details are given. Reliability: uncheckable.

641780: USUMBURA ZAIRE 3.1S 29.3E 1951-1960 61
Sources: AI

Notes: AI: 1951-April 1953; 3 23'S 29 21'E, alt = 793m. May 1955-July 1959; 3 25'S 29 21'E, alt = 818m. Aug 1959-1960; 3 19 S 29 19'E, alt = 783m. Means calculated by an empirically established formula. Reliability: uncheckable.

641800: BUKAVU VILLE ZAIRE 2.5S 28.9E 1635m 1951-1971 61
Sources: AI

Notes: AI: Means of an empirically established formula. 1951-1960; 2 31'S 28 51'E, alt = 1635m. Reliability: uncheckable.

- 642010: MOANDA ZAIRE 6.0S 12.4E 1963-1971 61
Sources: AI
Notes: AI: No details available. Reliability: uncheckable.
- 642020: BANANA ZAIRE 6.0S 17.4E 1951-1960 61
Sources: AI
Notes: AI: Means of an empirically established formula. 1951-1960; 6 00'S 12 25'E, alt = 2m. Reliability: uncheckable.
- 642030: KITUNA ZAIRE 5.9S 12.4E 1963-1970 61
Sources: AI
Notes: AI: No details available. Reliability: uncheckable.
- 642070: MATADI ZAIRE 5.8S 13.4E 1963-1971 61
Sources: AI
Notes: AI: No details available. Reliability: uncheckable.
- 642100: KINSHASA ZAIRE 4.3S 15.3E 1931-1973 62 1951
Sources: AI
Notes: AI: Means of an empirically established formula. 1951-1960; 4 19'S 15 19'E, alt = 290m. A site change may have occurred in Mar 1959 but no details are given. Reliability: compared with 644500 for the years 1951-1971, but record considered uncheckable. April 1960 coded as missing.
- 642220: KIRWIT ZAIRE 5.0S 18.8E 1932-1973 61
Sources: AI
Notes: AI: Means of an empirically established formula. 1952-1960; 5 01'S 18 48'E, alt = 485m. Reliability: uncheckable.
- 642240: PORT FRANCOU ZAIRE 4.3S 20.4E 1951-1960 61
Sources: AI
Notes: AI: Means of an empirically established formula. 1951-1960; 4 20'S 20 35'E, alt = 435m. Reliability: uncheckable.
- 642350: LUI-LIABURG ZAIRE 5.9S 22.4E 1908-1971 61
Sources: AI
Notes: AI: Means of an empirically established formula. 1951-1960; 5 53'S 22 25'E, alt = 675m. A site change may have occurred in April 1956, but no details are given. Reliability: uncheckable.
- 642460: LUSAMBO ZAIRE 5.0S 23.4E 424m 1951-1971 61
Sources: AI
Notes: AI: Means of an empirically established formula. 1951-1960; 4 58'S 23 26'E, alt = 445m. Reliability: uncheckable.
- 642470: MBUJIMAYI ZAIRE 6.2S 21.6E 1963-1971 61
Sources: AI
Notes: AI: No details available. Reliability: uncheckable.
- 642760: KONGOLO ZAIRE 5.3S 27.0E 1927-1960 61
Sources: AI
Notes: AI: Means of an empirically established formula. 1952-1960; 5 21'S 27 00'E, alt = 570m. Reliability: uncheckable.
- 642820: MANONO ZAIRE 7.3S 27.4E 670m 1951-1971 61
Sources: AI
Notes: AI: Means of an empirically established formula. 1951-1960; 7 17'S 27 26'E, alt = 670m. Reliability: uncheckable.
- 642850: KALEHIE/ALBERTVILLE ZAIRE 5.9S 29.2E 790m 1952-1969 61
Sources: AI
Notes: AI: Means of an empirically established formula. 1952-1960; 5 53'S 29 11'E, alt = 790m. A site change may have occurred in Jan 1959 but no details are given. Reliability: uncheckable.
- 643150: KARINA BAKA ZAIRE 8.6S 25.3E 1120m 1952-1971 61
Sources: AI
Notes: AI: Means of an empirically established formula. 1952-1960; 8 38'S 25 15'E, alt = 1120m. A site change may have occurred in Sept 1952, but no details are given. Reliability: uncheckable.
- 643480: MITWABA ZAIRE 8.6S 27.3E 1951-1960 61
Sources: AI
Notes: AI: Means of an empirically established formula. 1951-1960; 8 36'S 27 20'E, alt = 1550m. A site change may have occurred in July 1957 but no details are given. Reliability: uncheckable.
- 643600: ELISABETHIV ZAIRE 11.6S 27.4E 1912-1973 62
Sources: AI
Notes: AI: Means of an empirically established formula. 1951-1960; 11 36'S 27 37'E, alt = 1276m. A site change may have occurred in Jan 1954, but no details are given. Also known as Iulumbaahi. Reliability: uncheckable.

- 643900: BEYUMBURA BURUNDI 3.3S 29.3E 1965-1971 61
Sources: AI
Notes: AI: Means calculated from an empirically established formula. No other details available. Reliability: uncheckable.
- 644000: POINTE NOIRE CONGO 4.8S 11.9E 1929-1980 10 1941
Sources: AI
Notes: AI: $1/2(\max + \min)$. 1941-1950; 4 49°S 11 54°E, alt = 17m. 1951-1960; alt = 16m. Reliability: compared with 644010 & 644050 for the years 1947-1980 & 1951-1980.
- 644010: DOLISIE CONGO 4.2S 12.7E 330m 1941-1980 20 1947
Sources: AI
Notes: AI: 1941-1950; 4 13°S 12 39°E, alt = 346m. $1/2(\max + \min)$. 1951-1960; 4 11°S 12 40°E, alt = 330m. Reliability: compared with 644000 & 644020 for the years 1947-1980 & 1954-1980. Corrected for a jump 1961/1962. Correction Factors: Stations used: 644000 & 644070. Calculation dates: 1954-1961. Correction dates: 1962-1980. Factors: 3 2 0 2 3 3 2 3 > 3.
- 644020: HOUYOMUZI CONGO 4.0S 14.0E 512m 1951-1980 10 1954
Sources: AI
Notes: AI: $1/2(\max + \min)$. 1951-1960; 4 00°S 13 57°E, alt = 509m. Reliability: compared with 644010 for the years 1954-1980.
- 644030: MAKABANA CONGO 3.5S 12.6E 160m 1963-1980 61
Sources: AI
Notes: AI: $1/2(\max + \min)$. No other details available. Reliability: uncheckable.
- 644050: SIBITTI CONGO 3.7S 13.4E 531m 1951-1980 20 1951
Sources: AI
Notes: AI: $1/2(\max + \min)$. 1951-1960; 3 41°S 13 21°E, alt = 530m. Reliability: compared with 644000 & 644010 for the years 1951-1980. Corrected for a jump 1954/1955. Correction Factors: Stations used: 644000 & 644010. Calculation dates: 1951-1954. Correction dates: 1955-1980. Factors: 5 6 6 10 8 7 5 4 5 6 2.
- 644500: BRAZZAVILLE CONGO 4.3S 15.3E 316m 1941-1980 10 1941
Sources: AI
Notes: AI: 1941-1950; $1/2(\max + \min)$. 4 15°S 15 15°E, alt = 309m. 1951-1960; alt = 513m. Reliability: compared with 642100 for the years 1951-1971.
- 644520: M FOUYA CONGO 2.6S 16.2E 312m 1951-1980 12 1951
Sources: AI
Notes: AI: $1/2(\max + \min)$. 1951-1960; 2 37°S 16 13°E, alt = 312m. Reliability: compared with 644530 & 644540 for the years 1951-1980.
- 644530: DJAMBALA CONGO 2.7S 14.8E 790m 1941-1980 12 1951
Sources: AI
Notes: AI: 1941-1950; 2 42°S 14 45°E, alt = 797m. 1951-1960; $1/2(\max + \min)$. 2 32°S 14 46°E, alt = 789m. Reliability: compared with 644520 & 644540 for the years 1951-1980.
- 645030: MAYUMBA GABON 3.4S 10.6E 1901-1978 62 1951
Sources: AI
Notes: AI: $1/2(\max + \min)$. 1951-1960; 3 25°S 10 39°E, alt = 35m. Reliability: uncheckable.
- 645070: TCHIBANGA GABON 2.9S 11.0E 79m 1952-1979 61
Sources: AI
Notes: AI: 1952-1960; 2 51°S 11 01°E, alt = 79m. $1/2(\max + \min)$. Reliability: uncheckable.
- 661040: CABINDA ANGOLA 5.5S 12.1E 1940 1972 61
Sources: AI
Notes: AI: 1951-1960; 5 33°S 12 11°E, alt = 20m. Site changes may have occurred in June 1953 &/or May 1952. No other details available. Reliability: uncheckable.
- 661300: AMBRIZITE ANGOLA 7.3S 12.9E 1940-1972 61
Sources: AI
Notes: AI: No details available. Reliability: uncheckable.
- 661400: CARHONA-BICE ANGOLA 7.6S 15.0E 1947-1975 61
Sources: AI
Notes: AI: 1956-1960; 7 35°S 15 00°E, alt = 826m. No other details available. Reliability: uncheckable.
- 661520: DUNDO ANGOLA 7.3S 20.8E 1933-1972 61
Sources: AI
Notes: AI: 1951-1960; 7 22°S 20 50°E, alt = 727m. A site change may have occurred Jan 1958. No other details available. Reliability: uncheckable.

661600: LUANDA ANGOLA 8.8S 13.2E 70m 1879-1980 20 1879
Sources: AI, A52
Notes: AI: Means of 24 hours, 1901-1960; alt = 43m. A52: Alt; 59m. Means of 1/2(max + min). Site; 8.8S 13.1E. Reliability: compared with 663050 & 663180 for the years 1951-1970 & 1941-1975. Corrected for a jump 1960/1961. Correction Factors: Stations used: 663050 & 663180. Calculation dates: 1951-1960. Correction dates: 1961-1970. Factors: 1 0 0 -3 -5 -7 1 -1 -6 -4 -3 -1.

662150: MALANGE ANGOLA 9.6S 16.4E 1142m 1951-1980 60 1951
Sources: AI
Notes: AI: 1951-1960; 9 13'S 16 22'E, alt = 1144m. A site change may have occurred Jan 1955. No other details available. Reliability: uncheckable.

662260: HENRIQUE CARVALHO ANGOLA 9.6S 20.4E 1947-1975 10 1951
Sources: AI
Notes: AI: 1951-1960; 9 39'S 20 24'E, alt = 1082m. No other details available. Reliability: compared with 662850 & 663180 for the years 1951-1975.

662400: PORTO AMBOIM ANGOLA 10.7S 13.7E 1943-1979 62
Sources: AI
Notes: AI: 1951-1960; 10 44'S 13 45'E, alt = 35m. A site change may have occurred Jan 1957. No other details available. Reliability: uncheckable.

662700: CELA ANGOLA 11.4S 15.1E 1308m 1951-1972 61
Sources: AI
Notes: AI: 1951-1960; 11 23'S 15 08'E, alt = 1311m. A site change may have occurred July 1960. No other details available. Reliability: uncheckable.

662850: LUSO ANGOLA 11.7S 19.9E 1937-1975 10 1941
Sources: AI
Notes: AI: 1941-1950; 11 47'S 19 55'E, alt = 1324m. 1/4(09 + 21 + max + min) 1'E meridian time. Dec 1954-1960; alt = 1328m. Reliability: compared with 663180 & 662260 for the years 1941-1975 & 1951-1975.

663050: LOBITO ANGOLA 12.3S 13.5E 1931-1972 10 1951
Sources: AI
Notes: AI: 1951-1960; 12 22'S 13 32'E, alt = 3m. No other details available. Reliability: compared with 663180, 663900 & 664220 for the years 1951-1970. 1958 has high values.

663180: NOVA LISBOA ANGOLA 12.7S 15.7E 1940-1975 20 1941
Sources: AI
Notes: AI: 1941-1950; 1/4(09 + 21 + max + min) 15E meridian time. Alt = 1716m. 1951-1960; 12 48'S 15 45'E, alt = 1705m. Reliability: compared with 663050, 663900 & 664220 for the years 1951-1970, 1941-1975 & 1941-1975. Corrected for a jump 1952/1953. Correction Factors: Stations used: 664220 & 663900. Calculation dates: 1941-1952. Correction dates: 1953-1975. Factors: -7 0 -1 0 -3 1 -3 -3 0 1 3 -3.

663250: SILVA PORTA ANGOLA 12.4S 17.0E 1948-1972 61
Sources: AI
Notes: AI: 1952-1960; 12 23'S 16 57'E, alt = 1702m. No other details available. Reliability: uncheckable.

663900: SA DA BARDEIRA ANGOLA 14.9S 13.5E 1933-1975 10 1941
Sources: AI
Notes: AI: 1941-1950; 14 55'S 13 29'E, alt = 1785m. 1/4(09 + 21 + max + min) 15E meridian time. 1951-1960; 14 56'S 13 34'E, alt = 1761m. Site changes may have occurred in Mar 1952 and Aug 1956 but no details are given. Reliability: compared with 663050, 663180 & 664220 for the years 1951-1970, 1941-1975 & 1941-1975.

664100: SERPA PINTO ANGOLA 14.6S 17.7E 1940-1975 10 1953
Sources: AI
Notes: AI: 1953-1960; 14 39'S 17 41'E, alt = 1346m. A site change may have occurred Jan 1955. No other details available. Reliability: compared with 676330 for the years 1953-1975.

664220: MOCAMEDES ANGOLA 15.2S 12.1E 1916-1980 10 1941
Sources: AI
Notes: AI: 1941-1950; 15 12'S 12 09'E, alt = 8m. 1/4(09 + 21 + max + min) 15E meridian time. Station may have been moved in Jan 1954 to an alt of 45m. Reliability: compared with 663050, 663180 & 663900 for the years 1951-1970, 1941-1975 & 1941-1975. 1952 & 1958 show very high values.

664470: MAVINGA ANGOLA 15.8S 20.4E 1088m 1953-1975 62
Sources: AI
Notes: AI: 1953-1960; 15 50'S 20 21'E, alt = 1190m. No other details available. Reliability: uncheckable.

664907: PEREIRA D'ECA ANGOLA 17.0S 15.7E 1933-1972 10 1941
Sources: AI
Notes: AI: 1941-1950; 17 14'S 15 44'E, 1/2(max + min). 1951-1960; 17 04'S 15 43'E, alt = 1150m. Reliability: compared with 676330 for the years 1941-1960.

670010: MORONI/GRANDE-COHORE COHOROS 11.75 43.2E 17m 1951-1980 20 1951
Sources: AI

Notes: AI: 1/2(max + min). 1951-1960; 11 42'S 43 14"E, alt = 8m. 1961-1970; alt = 12m. Reliability: compared with 670050 & 670090 for the years 1951-1978 & 1951-1980. Corrected for a jump 1970/1971. Correction Factors: Stations used: 670050 & 670090. Calculation dates: 1951-1970. Correction dates: 1971-1978. Factors: 10 13 10 7 9 8 7 9 13 9 10.

670040: OUANI/ANJOUAN COHOROS 12.15 44.4E 12m 1967-1980 61
Sources: AI

Notes: AI: No details available. Reliability: uncheckable.

670050: DZAOUZI/PAMANZI COHOROS 12.8S 45.3E 7m 1951-1978 10 1951
Sources: AI

Notes: AI: 1/2(max + min). 1951-1960; 12 49'S 45 17"E, alt = 5m. 1961-1970; 12 48'S 45 17"E, alt = 7m. Reliability: compared with 670010 for the years 1951-1978.

670090: DIEGO-SUAREZ MADAGASCAR 12.35 49.3E 105m 1941-1980 20 1941
Sources: AI

Notes: AI: 1/2(max + min). 1951-1960; 12 21'S 49 18"E. 1951-Aug 1957; alt = 29m. Sept 1957-1960; 105m. 1961-1970; 114m. Reliability: compared with 670250, 670270 & 670950 for the years 1951-1974, 1951-1974 & 1941-1980. Corrected for a jump 1957/1958. Correction Factors: Stations used: 670250, 670270 & 670950. Calculation dates: 1951-1957. Correction dates: 1958-1974. Factors: -17 -14 -18 -15 -17 -18 -17 -14 -11 -9 -8 -14.

670190: ANALAIWA MADAGASCAR 14.6S 47.8E 57m 1951-1974 10 1957
Sources: AI

Notes: AI: 1/2(max + min). 1951-1960; 14 38'S 47 46"E, alt = 57m. Station may have moved in Feb 1956 but no details are given. 1961-1970; alt = 105m. Reliability: compared with 670090, 670250 & 670950 for the years 1957-1974.

670250: ANTALAHA MADAGASCAR 15.0S 50.3E 6m 1951-1974 10 1951
Sources: AI

Notes: AI: 1/2(max + min). 1951-Sept 1956; 15 00'S 50 20"E, alt = 90m. Oct 1956-May 1966; alt = 24m. June 1966-1970; alt = 6m. Station may have moved Oct/Nov 1951 but no details are given. Reliability: compared with 670090 & 670270 for the years 1951-1974.

670270: MAJUNGA MADAGASCAR 15.7S 46.4E 22m 1951-1974 10 1951
Sources: AI

Notes: AI: 1/2(max + min). 1951-1960; 15 40'S 46 21"E, alt = 22m. 1961-1970; alt = 26m. Reliability: compared with 670090 & 670950 for the years 1951-1974.

670730: MAINTIRANO MADAGASCAR 18.1S 44.0E 25m 1951-1974 10 1951
Sources: AI

Notes: AI: 1/2(max + min). 1951-1960; 18 03'S 44 02"E, alt = 25m. 1961-1970; alt = 23m. Reliability: compared with 670950 & 671610 for the years 1951-1974.

670830: TAMANARIVE MADAGASCAR 19.0S 47.5E 1310m 1881-1980 20 1889
Sources: AI, A29, A43

Notes: AI: Means of 1/2(max + min). Alt: 1310m. A29: Alt: 1430m & 1400m. No other details available. A43: Temp; means of 1/2(max + min). Observations also taken at same time as Press; Jan-June 1889; 1/3(06 + 13 + 19), July-Dec 1889; 1/3(07 + 13 + 16), 1890-1910; 1/3(07 + 13 + 18). Alt: Jan-June 1889; 1360m, July 1889-1895; 1400m, 1896-June 1898; 1360m, July 1898-1910; 1400m. Reliability: compared with 670950 & 671610 for the years 1889-1980 & 1951-1980. Corrected for a jump 1970/1971. Correction Factors: Stations used: 670950 & 671610. Calculation dates: 1951-1970. Correction dates: 1971-1980. Factors: -3 -4 -4 -2 0 -2 -3 -2 1 -1 -4 -7.

670950: TAHATAVE MADAGASCAR 18.1S 49.4E 5m 1889-1980 20 1951
Sources: AI, A43

Notes: AI: Alt: 5m. 1/2(max + min). A43: Temp; 1/2(max + min). Observations also taken at same time as Press; Jan 1889; 7h, Feb 1889; 1/2(07 + 13), Mar 1889; 13h, April 1889-1890; 1/3(07 + 13 + 18), 1891-1900; 1/3(06 + 13 + 18), 1901; 1/3(07 + 14 + 19), 1901-1902; 1/3(07 + 14 + 17), 1902-Jan 1903; 1/3(07 + 14 + 17), 1903-May 1903; 1/3(07 + 14 + 17), 1903-June 1903-1910; 1/3(07 + 12 + 18). Alt: 1889-1901; 3m, 1902-1906; 5m, 1907-1910; 6m, 1911-1913; 18 09'S 47 06"E of Paris, alt: 6m. Reliability: compared with 670090, 670250 & 670190 for the years 1941-1980, 1951-1974 & 1957-1974. Corrected for jumps 1961/1962 & 1954/1955. Correction Factors: Stations used: 670250, 670190, 670830 & 671970. Calculation dates: 1951-1954 & 1955-1961. Correction dates: 1962-1974 & 1967-1974. Factors: i) -13 -12 -15 -10 -9 -10 -13 -14 -15 -13 -10. ii) -6 -2 -5 -2 -3 -5 -8 -5 -2 -3 -4 -2.

25

671430: MANANJARY MADAGASCAR 21.2S 48.4E 6m 1951-1974 10 1955
Sources: AI

Notes: AI: 1/2(max + min). 1951-1960; 21 12'S 48 22"E, alt = 3m. In Dec 1953 site moved to an unknown alt. Dec 1959-1970; alt = 6m. Reliability: compared with 671970 for the years 1955-1974.

671610: TULEAR MADAGASCAR 23.4S 43.7E 9m 1951-1980 20 1951
Sources: AI

Notes: AI: 1/2(max + min). 1951-1960; 23 23'S 43 44"E. 1951-Aug 1955; alt = 6m. Mar 1959-1960; 9m. 1961-1970; 6m. Reliability: compared with 671970 & 670830 for the years 1951-1974 & 1951-1980. Corrected for a jump 1960/1961. Correction Factors: Stations used: 671970 & 670830. Calculation dates: 1951-1960. Correction dates: 1961-1974. Factors: -5 -7 -4 -2 -7 -5 1 1 -4 -5 -4 -0.

671970: FORT-DAUPHIN MADAGASCAR 25.0S 46.8E 8m 1941-1974 20 1941
Sources: AI
Notes: AI: 1941-1950; 1/2(max + min). 25 02'S 46 49'E, alt = 44m. Mar 1951-1970; 25 02'S 46 57'E, alt = 8m. Reliability: compared with 670830 & 671430 for the years 1941-1974 & 1955-1974. Corrected for a jump 1967/1963. Correction Factors: Stations used: 670830 & 671430. Calculation dates: 1955-1962. Correction dates: 1963-1974. Factors: 6 -1 -1 -4 -5 -1 2 2 -5 -2 -3 0.

672150: PORTO AMELIA MOZAMBIQUE 12.9S 40.7E 1933-1980 10 1947
Sources: AI
Notes: AI: 1947-1960; 1/3(09 + 15 + 21). 12 58'S 40 30'E, alt = 50m. Reliability: compared with 670010 & 670090 for the years 1951-1980 & 1947-1980. 1959 coded as missing.

672170: VILA CABRAL MOZAMBIQUE 13.3S 35.7E 1934-1980 10 1954
Sources: AI
Notes: AI: 1951-1960; 1/3(09 + 15 + 21). 13 18'S 35 14'E, alt = 1357m. Reliability: compared with 636120 & 639620 for the years 1954-1975 & 1954-1978.

672370: NAMPULA MOZAMBIQUE 15.1S 39.3E 1971-1980 61
Sources: AI
Notes: AI: 1/3(09 + 15 + 21). No other details available. Reliability: uncheckable.

672407: MOSSURIL MOZAMBIQUE 15.0S 40.7E 1951-1955 61
Sources: AI
Notes: AI: 1/3(09 + 15 + 21). No other details available. Reliability: uncheckable.

672410: LUMBO MOZAMBIQUE 15.0S 40.7E 11m 1956-1969 61
Sources: AI
Notes: AI: 1951-1960; 1/3(09 + 15 + 21). 15 02'S 40 40'E, alt = 11m. Reliability: uncheckable.

672610: TETE MOZAMBIQUE 16.1S 33.5E 1907-1980 10 1952
Sources: AI
Notes: AI: 1951-1960; 1/3(09 + 15 + 21). 16 11'S 33 35'E, alt = 130m. Reliability: compared with 672830 for the years 1952-1980.

672830: QUELIMANE MOZAMBIQUE 17.8S 36.8E 1907 1980 20 1926
Sources: AI
Notes: AI: 1926-1960; 17 53'S 36 53'E, alt = 7m. Reliability: compared with 672970, 676970 & 677750 for the years 1926-1980, 1926-1960 & 1926-1980. Corrected for a jump 1939/1940. Correction Factors: Stations used: 676970 & 677750. Calculation dates: 1926-1939. Correction dates: 1940-1960. Factors: 2 5 2 0 4 5 2 3 1 8 7 4.

672970: BEIRA/SACADURA MOZAMBIQUE 19.8S 34.9E 16m 1913-1980 10 1931
Sources: AI
Notes: AI: 1913-1950; 19 50'S 34 51'E, alt = 8m. 1951-1960; 1/3(09 + 15 + 21). Reliability: compared with 673230 & 679830 for the years 1931-1980 & 1932-1980. 1935 values too high.

673230: INHAMITANE MOZAMBIQUE 23.8S 35.3E 1909 1980 10 1931
Sources: AI
Notes: AI: 1931-1960; 1/3(09 + 15 + 21). 23 52'S 35 23'E, alt = 15m. Reliability: compared with 679830 & 672970 for the years 1932-1980 & 1931-1980.

673390: LOURENCO MARQUES MOZAMBIQUE 25.9S 32.6E 1891-1978 61
Sources: AI, A29
Notes: AI: 1910-1950; means of 24 hours 30E meridian time. 1910-1960; alt = 54m. 1951-1960; 1/3(09 + 15 + 21) local time. A29: No details available. Reliability: uncheckable.

673410: LOURENCO MARQUES MOZAMBIQUE 26.0S 32.5E 64m 1897 1980 10 1892
Sources: AI, A29
Notes: AI: 1951-1960; means of 1/3(09 + 15 + 21) local time. Alt: 44m. A29: No details available. Reliability: compared with 685880 & 673230 for the years 1892-1980 & 1931-1980.

674750: KASAMA ZAMBIA 10.2S 31.2E 1384m 1925-1980 20 1934
Sources: AI
Notes: AI: 1908-July 1939; Kasama Bomb. July 1939-Mar 1950; Town site, 33 ft higher. April 1950-Dec 1950; Airdrome, 4 miles W of Bomb & 6ft lower. Airdrome is about 0.5F colder than Town site. 9 years of observations, July 1939-June 1948 give corrections to reduce 1/2(max + min) to true means, given on p8, vol "1941-1950". 1933-1950; 10 12'S 31 11"E, alt = 4550ft. 1951-Nov 1959; 10 13'S 31 08"E, alt = 1388m. Station moved 600 yards E in Dec 1959 to 1384m. 1/2(max + min). Reliability: compared with 638320 & 638940 for the years 1934-1978. Corrected for a jump 1960/1961. Comparison with 638320 also shows a jump 1947/1948, uncheckable. Correction Factors: Stations used: 638320 & 638940. Calculation dates: 1934-1960. Correction dates: 1961-1978. Factors: -15 -17 -14 -11 -6 1 1 2 1 -3 -11 -16.

- 675610: MDOLA
Sources: AI
- ZAMBIA 13.0S 28.7E 1270m 1912-1974 10 1935
- Notes: AI: 1/2(max + min). 1912-1941; Roma, 12 59' S 28 39' E, alt = 1274m. 1942-Nov 1943, temp only, Old W/T Station, 12 59' S 28 38' E, alt = 1305m. Dec 1943-1960; 13 00' S 28 39' E, alt = 1270m. Reliability: compared with 67450 & 676330 for the years 1934-1960 & 1938-1960.
- 675810: FORT JAMESON
Sources: AI
- ZAMBIA 13.6S 32.6E 1030m 1903-1974 60 1933
- Notes: AI: 1903-1960; 1/2(max + min). In April 1949 station moved from the town, 13 38' S 32 39' E, alt = 1147m, to the Airport, 13 34' S 32 35' E, alt = 1030m. Reliability: uncheckable.
- 675870: LILONGWE
Sources: AI
- MALAWI 14.0S 33.8E 1136m 1970-1980 10 1941
- Notes: AI: 1951-1960; 1/2(max + min). 1920-Oct 1940; Roma, 14 00' S 33 46' E, alt = 1036m. Nov 1940-July 1945; MTB Office (town), alt = 1068m. July 1945-July 1948; Agricultural Office (town), 13 59' S 33 46' E, alt = 1045m. Aug 1948-Oct 1951; Old Airfield, 13 58' S 33 45' E, alt = 1103m. Oct 1951-Nov 42' E, alt = 1134m. Reliability: compared with 675610 & 676970 for the years 1940-1960.
- 676330: MONGU
Sources: AI
- ZIMBABWE 15.3S 23.2E 1053m 1904-1980 10 1939
- Notes: AI: 1904-1960; 1/2(max + min). 1904-Jan 1953; Roma, 15 16' S 23 08' E, alt = 1057m. Jan 1953-Mar 1960; Airfield, 15 15' S 23 10' E, alt = 1058m. Mar-Dec 1960; alt = 1053m. Owing to the hill exposure min temps are high, corrections given on p499, vol "1951-1960". Reliability: compared with 664100 & 664907 for the years 1953-1975 & 1941-1960.
- 676610: LUSAKA
Sources: AI
- ZAMBIA 15.4S 28.3E 1279m 1917-1960 82
- Notes: AI: 1/2(max + min). 1917-June 1938; Railway Station, 15 25' S 28 17' E, alt = 1281m. July 1938-1960; Airport, 2 miles east of former site, 15 25' S 28 19' E, alt = 1279m. Reliability: compared with 676330 & 677430 for the years 1938-1960. Record shows jump 1949/1950 associated with data gaps.
- 676630: BROKEN-KABWE
Sources: AI
- ZAMBIA 14.4S 28.4E 1910-1980 61 1961
- Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.
- 676930: CHITLEKA
Sources: AI
- MALAWI 15.7S 35.0E 767m 1939-1980 10 1939
- Notes: AI: 1951-1960; 1/2(max + min). 15 41' S 34 58' E, alt = 767m. Minor moves of instruments occurred in early years but were not considered significant. Reliability: compared with 677750 for the years 1939-1980.
- 676970: ZOMBA
Sources: AI
- MALAWI 15.4S 35.3E 957m 1893-1973 10 1901
- Notes: AI: Means of 1/2(max + min). Sites: 1897-April 1933, Residency, alt = 3191ft, April 1933-June 1946; Experimental Office, alt = 3141ft. See p11, vol "1941-1950" for more detailed notes on site exposure. 1951-1960; alt = 957m. Corrections given on p238, vol 5 to reduce 1/2(max + min) to means of 24 hours. Reliability: compared with 672830 & 677750 for the years 1926-1960 & 1901-1960.
- 677430: LIVINGSTONE
Sources: AI
- ZIMBABWE 17.8S 25.8E 987m 1904-1980 20 1918
- Notes: AI: 1/2(max + min). 1922-Nov 1923; 17 50' S 25 49' E, alt = 3055ft, Survey Office. Dec 1923-1950; Observatory, 17 15' S 25 49' E, alt = 3161ft. In 1933 a screen replaced the old shelter. Details & corrections to reduce 1/2(max + min) to true means are given on p10, vol "1941-1950". Prec taken from meteorological observatory, 17 51' S 25 30' E, alt = 964m to 17 49' S 25 49' E, 1918-1980 & 1921-1963. Corrected with 679640 & 680320 for the years 1918-1980 & 1921-1963. Correction factors: Stations used: 679640 & 680320. Calculation dates: 1921-1931 & 1932-1955. Correction dates: 1956-1963 & 1956-1963. Factors: i) 1956-1963; -7 -16 -13 -8 -12 -6 -17 -14 -17 -19 -15 -10. ii) 1956-1963; -2 -4 -4 -4 -4 -4 -6 -6 -8 -7 -7 -3.
- 677750: SALISBURY OBS
Sources: AI
- ZIMBABWE 17.9S 31.0E 1472m 1898-1980 20 1898
- Notes: AI: 1/2(max + min). 1897-Sept 02; Educ. Dept, 100yds from present site, alt; 4860ft. Oct 1902-Nov 08; Agri Off/Native Hosp/4th St. 4860ft. Nov 1908-23; Gaol, 4845ft. 1911 screen char., d. 1924 on Met Off. 4890ft. July 1936; 4831ft; Belvedere Obs 2 miles W of previous site. Screen type changed. 15 yrs at Belvedere (July 1936-June 1951) give corr. to reduce 1/2(max + min) to 24 hr means (p10, vol "1941-50"). Prec sites more consistent, May 1936-60; 4th St. @ mile E of Obs which closed 1958 replaced by airport. Agri Off; 17 49' S 31 03' E, 1488m, Belvedere; 17 50' S 31 01' E, 1472m. Apt/Kutsaga Obs; 17 56' S 31 05' E, 1479m. Reliability: compared with 672610, 672830 & 679640 for the years 1952-1980, 1926-1980 & 1898-1980. Correction factors: Stations used: 679640, 672830 & 672610. Calculation dates: 1952-1960. Correction dates: 1961-1980. Factors: -4 -6 -3 -5 -3 -6 -6 -7 -6 -3 -6 -3.

679640: BULAWAYO /GOETZ OBS. ZIMBABWE 20.25 28.6E 1345m 1897-1980 10 1897
Sources: A1
Notes: A1: 1/2(daily max + daily min). 1897-Aug 1901; St. George's School, alt = 4440ft, Sept-Dec 1901; Railway Str., alt = 4469ft, 1902-May 1903; St. George's School, June 1903-1923; Goetz Observatory, alt = 4440ft. In Jan 1904 small Stevenson screen was replaced by larger one. 1921 on; alt = 4426ft. In July & Aug 1929 observations taken 1 or 2 miles away, alt = 4465ft, in a different screen. In July 1936 station moved to 4393ft. All early sites are within 2 miles of each other & are considered comparable. 15 years of observations (July 1936-June 1951) at Goetz Observatory site provide corrections to reduce 1/2(max + min) to true 24 hour means, given on p9, vol "1941-1950" & on p40A, vol 3, 1951-1960; alt = 1344m. Reliability: compared with 677750 for the years 1898-1980.

679830: CHIPINGA ZIMBABWE 20.25 32.4E 1132m 1912-1980 20 1913
Sources: A1
Notes: A1: 1912-1960; 1/2(max + min). Minor moves occurred in Nov 1950, from 1123m to 1124m, & in Nov 1955, to 1132m. Moves were not considered significant. 20 12'S 32 37'E. Reliability: compared with 672970 & 673230 for the years 1932-1980. Corrected for a jump 1960/1961. Correction Factors: Stations used: 672970 & 673230. Calculation dates: 1932-1960. Correction dates: 1961-1980. Factors: -6 -8 -11 -7 -6 -8 -5 -2 -8 -7 -6.

680140: GROUTFONTEIN NAMIBIA 19.6S 18.1E 140m 1898-1980 61
Sources: A1, A96
Notes: A1: Alt: 1400m. No other details available. A96: No details available. Reliability: uncheckable.

680320: MAUN S.AFRICA 20.0S 23.4E 945m 1921-1980 10 1921
Sources: A1
Notes: A1: 1921-1950; 1/2(max + min). Stevenson screen was introduced Sept 1925. 19 59'S 23 25'E, alt = 942m. 1951-1960; Means of 24 hours. Alt = 945m. Reliability: compared with 677430 & 679640 for the years 1921-1963.

681100: WINDHOEK NAMIBIA 22.5S 17.1E 1728m 1891-1980 10 1917
Sources: A1, A96
Notes: A1: Means of 1/2(max + min). In Aug 1927 the site moved 1/2 a mile, from 1685m to 1727m, no corrections were made. 1951-1960; alt = 1728m. A96: No details available. Reliability: compared with 683120 for the years 1931-1980.

681120: JC STRIJDOM/WINDHOEK NAMIBIA 22.5S 17.5E 1700m 1966-1980 61
Sources: A1
Notes: A1: No details available. Reliability: uncheckable.

681480: MAHALAPYE NAMIBIA 23.1S 26.8E 1005m 1917-1980 10 1917
Sources: A1
Notes: A1: 1/2(max + min). 1917-1940; 23 06'S 26 40'E, alt = 3796ft. 1941-1950; 23 04'S 26 48'E. 1951-1960; alt = 1005m. Reliability: compared with 677750 for the years 1917-1960.

681740: PIETSBURG S.AFRICA 23.8S 29.4E 1904-1980 20 1932
Sources: A1
Notes: A1: 1951-1960; means of 24 hourly values. 1932-1950; Civil Airport, 23 56'S 29 29'E, alt = 1294m. 1951-1960; Military Airport, 23 52'S 29 27'E, alt = 1230m. Reliability: compared with 677750 & 679640 for the years 1932-1980. Corrected for a jump 1960/1961. Correction Factors: Stations used: 677750 & 679640. Calculation dates: 1932-1960. Correction dates: 1961-1980. Factors: 13 12 12 8 12 12 12 10 8 10 12.

682420: WAFERING S.AFRICA 25.8S 25.6E 1910-1974 62
Sources: A1
Notes: A1: 1951-1952; 1/2(max + min). July 1958-1960; means of 24 hourly values. 1951-May 1958; 25 31'S 25 39'E, alt = 1277m. June 1958-1960; 25 32'S 25 38'E, alt = 1277m. Reliability: uncheckable.

682620: PRETORIA S.AFRICA 25.7S 28.2E 1910-1980 20 1951
Sources: A1
Notes: A1: 1951-1960; means of 24 hourly values. 25 45'S 28 14'E, alt = 1369m. Reliability: compared with 683620 & 684380 for the years 1951-1980. Corrected for a jump 1965/1966. Correction Factors: Stations used: 683620 & 684380. Calculation dates: 1951-1965. Correction dates: 1966-1980. Factors: 11 10 12 9 14 12 12 15 18 10 6 8.

683120: KEETMANSHOOP S.AFRICA 26.5S 18.1E 1897-1980 10 1931
Sources: A1, A96
Notes: A1: 1923-Sept 1948; 26 35'S 18 08'E, alt = 1004m. Oct 1948-1960; 26 34'S 18 07'E, alt = 1006m. No comparative observations were made. 1931-1950; means of 1/2(max + min). 1951-1960; means of 24 hours. A96: No details available. Reliability: compared with 685120, 684240 & 688160 for the years 1931-1960, 1951-1980 & 1931-1980.

683680: JAN SMUTS JO'BURG S.AFRICA 26.1S 28.2E 1700m 1951-1980 10 1951
Sources: A1
Notes: A1: 1951-1960; means of 24 hourly values. 1951-Aug 1953; Palmietfontein Airport, 26 21'S 28 08'E, alt = 1555m. Sept 1953-1960; International Airport, 26 08'S 28 14'E, alt = 1694m. Reliability: compared with 682620 & 684380 for the years 1951-1980.

- 683697: JOHANNESBURG/JOUBERT S.AFRICA 26.2S 28.1E 1753m 1889 1960 10 1905
Sources: AI
- Notes: AI: 1889-1940; alt = 5925ft. 1941-1950; Temp: Rand Airport, 26 15'S 28 09'E, alt = 5499ft. Prec: Joubert Park, 26 12'S 28 03'E, alt = 5750ft. 1951-1960; Joubert Park, as prec above, alt = 1753m. Corrections to reduce temp to the former alt. are given on p14, vol "1941-1950". Means of 1/2(daily max + daily min). Reliability: compared with 684380 & 685460 for the years 1941-1960, 1905-1960 & 1905-1960.
- 684060: ALFYAHDER BAY S.AFRICA 28.2S 16.2E 0m 1930 1980 10 1951
Sources: AI
- Notes: AI: 1951-1960; means of 24 hourly values, 28 30'S 16 32'E, alt = 21m. Reliability: compared with 685120 & 683120 for the years 1951-1980.
- 684240: UFFINGTON S.AFRICA 28.4S 21.2E 1900 1980 10 1951
Sources: AI
- Notes: AI: 1951-1960; means of 24 hourly values, 28 26'S 21 16'E, alt = 814m. Reliability: compared with 685120 & 684060 for the years 1951-1980.
- 684380: KIMBERLEY S.AFRICA 28.7S 24.5E 1274m 1877 1980 10 1897
Sources: AI
- Notes: AI: 2 sets of early observations exist, 13 1897-1930; means of 24 hours & 20 1894-1950; means of 1/2(max + min), 1951-1960; means of 24 hours & 1877-June 1928; 2E 42'S 24 47'E, alt = 3944ft, June 1928-1940; 28 42'S 24 46'E, alt = 3996ft, 1941-1950; alt = 3926ft, 1951-1960; 28 48'S 24 46'E, alt = 1197m. Temp: June 1928-1950 is corrected to former site, corrections are given on p15, vol "1941-1950". Reliability: compared with 685620, 683680 & 683697 for the years 1951-1980, 1951-1980 & 1905-1960. Corrected for jump 1973/1974. Correction Factors: Stations used: 687620 & 683680. Calculation dates: 1951-1973. Correction dates: 1974-1980. Factors: -9 -4 -9 -7 -13 -11 -6 -14 -8 -14 -11 -7.
- 684420: BLOEMFONTEIN S.AFRICA 29.1S 26.2E 1903-1980 20 1951
Sources: AI
- Notes: AI: 1951-1960; means of 24 hourly values, 29 07'S 26 11'E, alt = 1422m. Reliability: compared with 684380, 688420 & 683120 for the years 1951-1980. Corrected for a jump 1976/1977. Correction Factors: Stations used: 684380, 688420 & 683120. Calculation dates: 1951-1976. Correction dates: 1977-1980. Factors: -3 4 -2 -3 -3 -3 3 -5 -3 4 5.
- 684780: LSTCOURT S.AFRICA 29.0S 29.9E 1181m 1895-1973 10 1941
Sources: AI
- Notes: AI: 1951-1960; Temp taken at Pasture Research Station, 29 01'S 29 52'E, alt = 1181m. 1/2(max + min). Prec taken at Gaol, 29 00'S 29 53'E, alt = 1181m. Reliability: compared with 685880 & 683697 for the years 1941-1980.
- 685120: OKIEP S.AFRICA 29.6S 17.9E 918m 1882-1960 10 1900
Sources: AI
- Notes: AI: Means of 1/2(mean daily max + mean daily min). Alt: 1883-July 1919 = 3035ft, Sept 1919-1940 = 3060ft, 1941-Aug 1945 = 925m. In Sept 1955 the site moved 1/2 a mile north to an alt of 918m. Reliability: compared with 684240 & 684060 for the years 1951-1960.
- 685460: ALTHAL NORTH S.AFRICA 30.7S 26.7E 1316m 1881 1972 10 1881
Sources: AI
- Notes: AI: Means of 1/2(mean daily max + mean daily min). Site: 1881-1910, 30 41'S 26 40'E, alt = 4352ft, 1931-Feb 1934; 30 47'S 26 43'E, alt = 3252ft, Dec 1934-June 1943; 30 41'S 26 43'E, alt = 4367ft, Aug 1943-Mar 1945; 30 40'S 26 43'E, alt = 4474ft, Apr 1945-1960; 30 41'S 26 43'E, alt = 4367ft. Prec: 1950-Apr 1952; 30 41'S 26 41'E, alt = 4369ft, 1951-1960; alt = 1316m. No comparative observations were taken. Reliability: compared with 683697, 685880 & 684380 for the years 1905-1960, 1885-1960 & 1887-1960.
- 685880: DURBAN/LOUIS BOTHA S.AFRICA 29.9S 31.0E 0m 1873-1940 30 1865
Sources: AI
- Notes: AI: Means of 1/2(daily max + daily min). In June 1912 the site moved from 262ft to 50ft. Temp corrected, as given on p11, vol 79. 1921-1930; Temp corrected to 1884-1912 values, corrections given on p7, vol 90. Site: 1884-May 1912; 29 51'S 31 00'E, June 1912-Sept 1939; 29 52'S 31 03'E, alt = 50ft, Oct 1939-1940; 29 51'S 31 03'E, alt = 42ft (airport), 1941-Feb 1956; 29 50'S 31 02'E, alt = 42ft. Temp & prec corrections given on p9, vol 105, on p7, vol 90 & on p14, vol "1941-1950". alt reduced to 1884-1912 values. Mar 1956-1960; 29 58'S 30 57'E, alt = 8m. Reliability: compared with 685460, 683697 & 673410 for the years 1885-1960, 1905-1960 & 1892-1960. Corrected for a jump 1940/1941. Correction Factors: Stations used: 685460 & 693697. Calculation dates: 1905-1940. Correction dates: 1941-1960. Factors: -13 -15 -12 -13 -12 -18 -20 -20 -18 -17 -17 -15.
- 687280: BEANFORTH WEST S.AFRICA 34.3S 27.5E 1900-1973 10 1937
Sources: AI
- Notes: AI: means of 24 hourly values, Jan-June 1950, 32 19'S 22 38'E, alt = 868m. July 1950-1960; 32 18'S 22 40'E, alt = 893m. Reliability: compared with 688420 & 683177 for the years 1916-1965 & 1936-1960.
- 688160: CAPE TOWN /D F MALAN S.AFRICA 34.0S 18.6E 0m 1810-1980 72
Sources: AI, A35, A43
- Notes: AI: 1951-June 1956; Wingfield Airport, 33 54'S 18 32'E, alt = 17m, July 1956-1960; 33 58'S 18 36'E, alt = 44m. Means of 1/2(daily max + daily min). Small local site changes occurred in Sept 1912 & in 1942. A35: No details available. A43: No details available. Reliability: compared with 688420 for the years 1951-1980.

- 682430: SANTAREM/TAPERINHA BRAZIL 2.5S 54.3W 21m 1914-1980 22 1914
Sources: AI
- Notes: AI: 1914-1937; 1/4(07 + 14 + 21 + 21) local time, 2 30°E 54 20'W, alt = 21m. 1931-1940; 2 25°S 54 42'W, alt = 20m. 1938-1940; 1/4(12 + 18 + 24 + min) local time. 1941-1950; 1/4(12 + 18 + 24 + min) GMT. 1951-1970; 1/5(12 + 00 + 00 + max + min) GMT. Reliability: compared with 821060, 821980 & 825850 for the years 1931-1980, 1914-1963 & 1914-1980. 1960s t_{cor} -arm & corrected. Correction Factors: Stations used: 825860. Calculations, dates: 1961-1970 & 1951-1960. Correction dates: 1961-1970. Factor: 1.2 -15 -17 -16 -13 -13 -17 -11 -7 -3 -6 -7.
- 872800: SAU LUIZ BRAZIL 2.5S 44.3W 1974-1980 61
Sources: AI
- Notes: AI: 1/5(12 + 00 + 00 + max + min) GMT. No other details available. Reliability: uncheckable.
- 873310: MANAUS BRAZIL 3.1S 60.0W 60m 1872-1980 10 1931
Sources: AI, A29, A86
- Notes: AI: 1931-1937; 1/4(07 + 14 + 21 + 21) local time. 1938-1950; 1/4(12 + 18 + 24 + min) GMT. 1931-1960; alt = 44m. 1951-1970; 1/5(12 + 00 + 00 + max + min). 1931-1970; alt = 60m. A29: 3.1S 59.9W, alt = 40m. No other details available. A86: No details available. Reliability: compared with P21060 for the years 1931-1980.
- 873970: FORTA LEZA BRAZIL 3.7S 38.5W 20m 1849-1980 10 1961
Sources: AI, A46
- Notes: AI: 1849-1970; Musco Rocha, alt = 70m, 3 42°S 38 30'W, 1916-1930; Porongaba, 3 46°S 38 32'W, alt = 26m. There are considerable differences between 1916 1920 values for the 2 sites, so the latter are used, being more reliable. 1961-Nov 1965; alt = 27m, Dec 1965-1970 = 20m. Prior to 1937; 1/4(07 + 14 + 21 + 21) local time. 1938-1950; 1/4(12 + 18 + 24 + min) GMT. 1951-1970; 1/5(12 + 00 + 00 + max + min) GMT. A46: Alt = 20m. No other details available. Reliability: compared with 825860 for the years 1961-1980.
- 824000: FERNANDO DE NORONHA BRAZIL 3.8S 32.4W 101m 1911-1974 62
Sources: AI
- Notes: AI: 1911-1930; 3 50°S 32 25'W, alt = 105m. 1931-1940; alt = 106m. 1941-1960; 101m. Reliability: uncheckable.
- 824100: BENJAMIN CONSTANT BRAZIL 4.4S 70.0W 80m 1961-1980 62
Sources: AI
- Notes: AI: 1961-1970; alt = 80m. 1/5(12 + 00 + 00 + max + min) GMT. No other details available. Reliability: uncheckable.
- 68177: CAPE TONNE/ROYAL OBS S.AFRICA 33.9S 18.5E 12m 1841-1973 10 1857
Sources: AI, A35, A43
- Notes: AI: Mean of 1/2(daily max + daily min). Alt; 1842-1940 = 40ft, 1941-1950 = 55ft, 1951-1960 = 12m. A35: No details available. A43: No details available. Reliability: compared with 688420 & 688280 for the years 1885-1960 & 1944-1960. Nov 1960 value too high.
- 688280: GEORGE S.AFRICA 33.9S 22.4E 1900-1973 10 1944
Sources: AI
- Notes: AI: 1951-1960; means of 24 hourly values, 33 58°S 22 25'E, alt = 221m. Reliability: compared with 687280 & 688177 for the years 1944-1964 & 1944-1960.
- 688420: PORT ELIZABETH S.AFRICA 34.0S 25.6E 0m 1867-1980 20 1885
Sources: AI
- Notes: AI: Means of 1/2(mean daily max + mean daily min). 1867-1940; alt = 181ft, 33 59°S 25 37'E, 1941-1950; alt = 176ft, 33 57°S 25 37'E (Hill Lighthouse). 1951-1960; alt = 62m, 33 59°S 25 36'E (Driftlands Airport). Reliability: compared with 688177, 688280 & 678280 for the years 1885-1960, 1944-1964 & 1936-1965. Corrected for a jump 1950/1951. Correction Factors: Stations used: 688177, 688280 & 678280. Calculation dates: 1944-1950. Correction dates: 1951-1960. Factors: -10 -5 -6 -9 -15 -17 -16 -16 -16 -6 -9 -10.
- 688580: EAST LONDON S.AFRICA 33.0S 77.9E 1900-1980 80
Sources: AI
- Notes: AI: 1951-1960; means of 24 hourly values, 33 02°S 27 50'E, alt = 125m. Reliability: compared with 688420 for the years 1951-1980. Record shows jump in 1951 associated with data gaps.
- 689020: TRISTAN DA CUNHA S.AFRICA 37.1S 12.3W 23m 1942-1961 61
Sources: AI
- Notes: AI: 1942-1949; means of 24 hours, 37 03°S 12 19'W, alt = 75ft. 1951-1960; alt = 23m. May 1954-1960; 1/2(max + min). Reliability: uncheckable.
- 689060: GOUGH ISLAND S.AFRICA 40.3S 9.9W 0m 1955-1980 61
Sources: AI
- Notes: AI: 1/2(max + min), 1955-1960; 40 19°S 9 54'W, alt = 5m. 1961-1970; 40 21°S 9 53'W, alt = 54m. Reliability: uncheckable.
- 689040: MARION ISLAND S.AFRICA 46.9S 37.8E 0m 1948-1980 60 1948
Sources: AI
- Notes: AI: 1948-1950; 46 53°S 37 52'E, alt = 23m. Means of 24 hours. 1951-1960; Site is described on P223, vol 6. 1961-1970; alt = 22m. Reliability: uncheckable.

824250: COARI BRAZIL 4.1S 63.1W 40m 1961-1980 62
Sources: AI
Notes: AI: 1961-1970; 1/5(12 + 00 + 00 + max + min) GMT, 4 05'S 63 08'W, alt = 48m. Reliability: uncheckable.

825710: BARRA DO CORDA BRAZIL 5.5S 43.3W 82m 1961-1980 62
Sources: AI
Notes: AI: 1961-1970; alt = 82m. 1/5(12 + 00 + 00 + max + min) GMT. No other details available. Reliability: uncheckable.

825860: QUIXERAMOBIM BRAZIL 5.3S 39.3W 199m 1961-1980 10 1912
Sources: AI
Notes: AI: 1896-1909; hourly records from apparatus Theorell, then 1/3(07 + 14 + 21) corrected to means of 24 hours, by corrections given on pl12, vol 79. 1896-1930; alt = 707m. 1921-1937; 1/4(07 + 14 + 21 + 21) local time. 1931-1960; alt = .39m. 1961-1970 = 21m. 1918-1950; 1/4(12 + 18 + 24 + min) GMT. 1951-1970; 1/5(12 + 24 + 24 + max + min) GMT. Reliability: compared with 823970 & 832290 for the years 1961-1980 & 1912-1980. 1915 March-July & 1919 March-June set to -999.

825960: CEARA MIRIM BRAZIL 5.7S 31.4W 64m 1961-1979 62
Sources: AI
Notes: AI: 1969-1970; alt = 64m. 1/5(12 + 00 + 00 + max + min) GMT. No other details available. Reliability: uncheckable.

825990: NATAL BRAZIL 5.9S 35.3W 8m 1961-1979 62
Sources: AI
Notes: AI: 1961-1970; alt = 8m. 1/5(12 + 00 + 00 + max + min) GMT. No other details available. Reliability: uncheckable.

826680: FELIX DO XIANGU BRAZIL 6.3S 51.0W 1975-1980 61
Sources: AI
Notes: AI: 1/5(12 + 00 + 00 + max + min) GMT. No other details available. Reliability: uncheckable.

826780: FLORIARD BRAZIL 6.8S 43.0W 1973-1980 61
Sources: AI
Notes: AI: 1/5(12 + 00 + 00 + max + min) GMT. No other details available. Reliability: uncheckable.

827040: CRUSKIRO 160 SPI BRAZIL 7.6S 72.7W 106m 1961-1980 62
Sources: AI
Notes: AI: 1961-1970, alt = 170m. 1/5(12 + 00 + 00 + max + min) GMT. No other details available. Reliability: uncheckable. Locally missing.

827410: ALTO TAPAJOS BRAZIL 7.4S 57.5W 100m 1961-1979 62
Sources: AI
Notes: AI: 1961-1970, 1/5(12 + 00 + 00 + max + min) GMT. 7 21'S 57 11'W, alt = 140m. Reliability: uncheckable.

827630: CAROLINA BRAZIL 7.1S 47.5W 1974-1980 61
Sources: AI
Notes: AI: 1/5(12 + 00 + 00 + max + min) GMT. No other details available. Reliability: uncheckable.

828250: PORTO VELHO BRAZIL 8.8S 63.9W 100m 1961-1980 80
Sources: AI
Notes: AI: 1961-1970, 1/5(12 + 00 + 00 + max + min) GMT. 8 04'S 63 53'W, alt = 105m. Reliability: compared with 83110 & 824250 for the years 1961-1980. Record shows jump in mid 1971, becoming 106m, uncorrected.

828610: COMARCAS ZUMARATA BRAZIL 8.3S 49.3W 107m 1961-1980 60
Sources: AI
Notes: AI: 1961-1970, 1/5(12 + 00 + 00 + max + min) GMT. 8 17'S 49 17'W, alt = 100m. Reliability: uncheckable.

829000: REPIPI BRAZIL 8.1S 45.0W 1 180 1980 12 1947
Sources: AI
Notes: AI: In Jan 1921 Reiter, 8 04'S 34 13'W, alt = 10m, was replaced by Olinda, 8 00'S 34 51'W, alt = 4m. 1931-Sept 1937; alt = 30m. Sept 1937-April 1938 = 21m. April 1938 = 62m. 1941-1950, means of 1/4(12 + 18 + 24 + min) GMT. 1951-1960; 1/5(12 + 24 + 24 + max + min) GMT. 1961-1979; alt = 62m. NB. Prior to 1937, 1/4(07 + 14 + 21 + 21) local time. Reliability: compared with 827630 & 832290 for the years 1941-1980.

829130: SENHA MAUREIRA BRAZIL 9.1S 68.7W 100m 1911-1972 62
Sources: AI
Notes: AI: 1911-1937; 1/4(07 + 14 + 21 + 21) local time. 9 08'S 68 40'W, alt = 135m. 1938-1940; 1/4(12 + 18 + 24 + min) local time. 1941-1980. 1/4(12 + 18 + 24 + min) GMT. Reliability: uncheckable.

829150: RIO BRANCA BRAZIL 10.0S 67.8W 1973-1980 61
Sources: AI
Notes: AI: 1/5(12 + 00 + max + min) GMT. No other details available.
Reliability: uncheckable.

829300: CACHIMBO BRAZIL 9.1S 68.7W 1969-1974 61
Sources: AI
Notes: AI: 1969-1970; 1/5(12 + 00 + max + min) GMT. No other details available. Reliability: uncheckable.

829790: REMANSO BRAZIL 9.7S 62.1W 41m 1961-1966 62
Sources: AI
Notes: AI: 1961-1970; alt = 41m. 1/5(12 + 00 + max + min) GMT. No other details available. Reliability: uncheckable.

829830: PETROLINA BRAZIL 9.4S 40.5W 1973-1980 61
Sources: AI
Notes: AI: 1/5(12 + 00 + max + min) GMT. No other details available. Reliability: uncheckable.

830640: PORTO NACIONAL BRAZIL 10.7S 48.4W 24m 1961-1980 62
Sources: AI
Notes: AI: 1961-1970; 1/5(12 + 00 + max + min) GMT. 10 43'S 48 25'W, alt = 238m. Site may have changed July 1968 but no details are given.
Reliability: uncheckable.

830960: ARACAJU BRAZIL 10.9S 37.1W 7m 1961-1980 62
Sources: AI
Notes: AI: 1961-1970; 1/5(12 + 00 + max + min) GMT. 10 55'S 37 05'W, alt = 6m. Reliability: uncheckable. Record does show suspect values (-5C anomalies) May-Sept 1968.

832290: SALVADOR BRAZIL 13.0S 38.5W 6m 1911-1980 22 1912
Sources: AI
Notes: AI: 1912-1937; 1/4(07 + 14 + 21 + 21) local time. Ondina, 13 00'S, 48 31'W, alt = 47m. Jan 1933-Sept 1938; City Centre, 12 58'S 38 32'W, alt = 64m. Oct 1938-1940; Airport, 12 57'S 38 29'W, alt = 9m. 1938-1941; 1/4(12 + 18 + 24 + min) local time. 1941-1950; 1/4(12 + 18 + 24 + min) GMT. 1951-1960; 1/5(12 + 00 + max + min) GMT. Reliability: compared with 825860, 833390 & 829000 for the years 1912-1980, 1931-1979 & 1941-1980. July 1968 & July 1977 are 4C too warm & have been replaced with -999. Corrected for a jump 1070/1971. Correction Factors: Stations used: 825860 & 829000. Calculation dates: 1941-1970 & 1971-1980. Correction dates: 1912-1970. Factors: 11 12 13 8 12 14 14 16 18 15 10 13.

832680: BOMJESUS DA LAPA BRAZIL 13.3S 43.4W 1973-1980 61
Sources: AI
Notes: AI: 1/5(12 + 00 + max + min) GMT. No other details available.
Reliability: uncheckable.

833390: CAETITE BRAZIL 14.1S 42.6W 87m 1931 1974 12 1931
Sources: AI
Notes: AI: 1931-1950, 14 03'S 42 37'W, alt = 87m. 1931-1937; 1/4(07 + 14 + 21 + 21) local time. 1938-1940; 1/4(12 + 18 + 24 + min) local time. 1941-1950; 1/4(12 + 18 + 24 + min) GMT. 1951-1960; 1/5(12 + 00 + max + min) GMT. Reliability: compared with 833290 for the years 1931-1979. Record shows small & uncorrected jump about 1940.

833610: CUIABA BRAZIL 15.6S 56.1W 165m 1901-1980 10 1901
Sources: AI
Notes: AI: 1901-1920, 1/5(max + min). Jesuit College, 15 36'N 56 06'W, alt = 165m. 1921-1937; 1/4(07 + 24 + 21 + 21) local time. Alt = 199m. 1938-1950; 1/4(12 + 18 + 24 + min) local time. 1941-1950; 15 35'S 56 06'W, alt = 165m. 1951-1960; 1/5(12 + 00 + max + min) GMT. 1961-1970; 15 36'S 56 06'W, alt = 165m. 1967-1970; alt = 153m. Reliability: compared with 835570 & 860330 for the years 1931-1980 & 1941-1980.

833670: SANTA CRUZ BRAZIL 15.7S 52.7W 1961-1966 61
Sources: AI
Notes: AI: 1961-1966, 1/5(12 + 00 + max + min) GMT. No other details available. Reliability: uncheckable.

833770: BRASILIA BRAZIL 15.8S 47.9W 1158m 1963-1980 10 1963
Sources: AI
Notes: AI: 1961 1970, 1/5(12 + 00 + max + min) GMT. 15 47'S 47 56'W, alt = 1161m. Reliability: compared with 814230 for the years 1963-1980.

833790: FORMOSA BRAZIL 15.5S 47.3W 906m 1961-1974 61
Sources: AI
Notes: AI: 1961-1970, alt = 906m. 1/5(12 + 00 + max + min) GMT. No other details available. Reliability: uncheckable.

834230: GOIANIA BRAZIL 16.7S 49.3W 729m 1961-1980 10 1963
Sources: AI
Notes: AI: 1961-1970; alt = 729m. 1/5(12 + 00 + max + min) GMT. No other details available. Reliability: compared with 833770 for the years 1963-1980.

834370: MONTES CLAROS BRAZIL 16.7S 43.9W 1975-1980 61
 Sources: AI
 Notes: AI: 1/5(12 + 00 + max + min) GMT. No other details available.
 Reliability: uncheckable.

834980: CARAVELAS BRAZIL 17.7S 39.3W 4m 1961-1980 62
 Sources: AI
 Notes: AI: 1961-1970; alt = 4m. 1/5(12 + 00 + 00 + max + min) GMT. No other details available. Reliability: uncheckable.

835520: CORUMBA BRAZIL 19.0S 57.7W 145m 1931-1980 12 1931
 Sources: AI
 Notes: AI: 1931-1937; 1/4(07 + 14 + 21 + 21) local time. 19 00'S 57.39'W, alt = 145m. 1938-1940; 1/4(12 + 18 + 24 + min) local time. 1941-1950; 1/4(12 + 18 + 24 + min) GMT. 1951-1960; 1/4(12 + 00 + 00 + max + min) GMT. Reliability: compared with 833610 for the years 1931-1980.

835790: ARAXA BRAZIL 19.6S 47.0W 1971-1980 61
 Sources: AI
 Notes: AI: 1/5(12 + 00 + 00 + max + min) GMT. No other details available. Reliability: uncheckable.

835870: BELO HORIZONTE BRAZIL 19.9S 43.4W 850m 1961-1980 61
 Sources: AI
 Notes: AI: 1961-1970; 1/5(12 + 00 + 00 + max + min) GMT. 19 56'S 43 56'W, 1961-Sept 1966; alt = 916m. Oct 1966-1970; alt = 852m. Reliability: compared with 837430 for the years 1961-1980. Record shows suspect, warm, values in 1972 & 1973. Record thus considered uncheckable.

836110: CAMPO GRANDE BRAZIL 20.1S 54.6W 656m 1968-1980 61
 Sources: AI
 Notes: AI: 1968-1970; alt = 656m. 1/5(12 + 00 + 00 + max + min) GMT. No other details available. Reliability: uncheckable.

836120: CAMPO GRANDE/AP BRAZIL 20.5S 54.7W 567m 1969-1980 61
 Sources: AI
 Notes: AI: 1969-1970; alt = 567m. 1/5(12 + 00 + 00 + max + min) GMT. Reliability: uncheckable.

836180: TRÊS LAGOAS BRAZIL 20.8S 51.7W 314m 1961-1980 62
 Sources: AI
 Notes: AI: 1961-1970; alt = 314m. 1/5(12 + 00 + 00 + max + min) GMT. No other details available. Reliability: uncheckable.

836500: TRINIDADE/ILHA BRAZIL 20.5S 29.3W 21m 1967-1980 60
 Sources: AI
 Notes: AI: 1967-1970; alt = 21m. 1/5(12 + 00 + 00 + max + min) GMT. No other details available. Reliability: uncheckable.

836920: JUIZ DE FORA BRAZIL 21.8S 43.3W 683m 1910-1980 62
 Sources: AI
 Notes: AI: 1910-1930; 1/4 45'S 43 20'W, alt = 873m. 1931-1940; 21 46'S 43 21'W, alt = 678m. 1941-1950; alt = 699m. Prior to 1938; 1/4(07 + 14 + 21 + 21) local time. 1938-1940; 1/4(12 + 18 + 24 + min) local time. 1941-1950; 1/4(12 + 18 + 24 + min) GMT. 1951-1960; 1/5(12 + 00 + 00 + max + min) GMT. Reliability: uncheckable.

837020: PONTA PORA BRAZIL 22.5S 55.7W 650m 1961-1980 62
 Sources: AI
 Notes: AI: 1961-1970; alt = 650m. 1/5(12 + 00 + 00 + max + min) GMT. No other details available. Reliability: uncheckable.

837220: BAURU BRAZIL 22.3S 49.1W 1975-1980 61
 Sources: AI
 Notes: AI: 1/5(12 + 00 + 00 + max + min) GMT. No other details available. Reliability: uncheckable.

837430: RIO DE JANEIRO BRAZIL 22.9S 43.2W 26m 1832-1980 20 1851
 Sources: AI, A35, A47
 Notes: AI: 1871-1873; 1/3(07+13+17). Jan 1874-June 1879; 1/4(07+10+13+16). July 1879-June 1885; 1/7(04+07+10+13+16+19+22). July 1885-1920; 1/8(01+04, ..., 22). All reduced to 24 hour means, corrections based on 8 daily obs. for 1900-1904, see p113, vol 79. 1851-1922; alt; 61m. 1923 moved to 33m & in 1924 to 18m. 1921-1930; 24 hour means, corrected from 18m to old alt, 70m. 1931-1937; 1/4(07+14+21+21) local time. 1938-50; 1/4(12+18+24+min) GMT. Mar 1939 moved to 45m. 1951-60; alt; 27m. 1/5(12+00+00+max+min) GMT. 1961-1970; alt; 3m. A35: No details available. A47: No details available. Reliability: compared with 838210 & 838420 for the years 1895-1980 & 1885-1980. Corrected for a jump 1940/41, may be observation time change. Correction Factors: Stations used: 838210 & 838420. Calculation dates: 1901-1940 & 1941-1980. Correction dates: 1851-1940. Factors: 7 8 9 10 8 9 7 8 9 5.

- 837660: LONDRINA BRAZIL 23.45 51.24 566m 1961-1980 62
Sources: A1
Notes: A1: 1961-1970; 1/5(12 + 00 + max + min) GMT. 23 23'S 51 11'W, alt = 567m. Reliability: uncheckable.
- 837800: SAO PAULO BRAZIL 23.55 46.64 1961-1970 61
Sources: A1
Notes: A1: 1961-1970; 1/5(12 + 00 + max + min) GMT. No other details available. Reliability: uncheckable.
- 837810: SAO PAULO BRAZIL 23.65 46.94 795m 1887-1980 40
Sources: A1
Notes: A1: 1848-1858; 1/2(06 + 15) corrected to mean of 24 hours. 1886-Feb 1888; alt = 730m, Mar 1888-1894 = 740m, 1894-July 1902 = 755 & 761m, Aug 1902 = 815m. From 1912 the observatory, 820m, was used. 1887-1937; 1/4(07 + 14 + 21 + 21) local time. Corrections etc. are on p59, vol 90. In Dec 1934 the site moved from 23 34'S 46 41'W, alt = 808m, to 23 39'S 46 32'W, alt = 796m. 1938-1950; 1/4(12 + 18 + 24 + 24) GMT. 1541-1960; alt = 795m. 1951-1960; 1/5(12 + 00 + max + min) GMT. 1961-1970; 23 30'S 46 37'W, alt = 79m. Reliability: compared with 838210 & 838420 for the years 1895-1980 & 1971-1980.
- 838210: IGUAPE BRAZIL 24.75 47.54 4m 1895-1980 12 1895
Sources: A1
Notes: A1: 1895-1930; alt varied from 3 to 10m. 1895, 1901; hourly values reduced to 1/4(07 + 14 + 21). 1902-1937; 1/4(07 + 14 + 21 + 21) local time. 1931-1960; alt = 5m. 1938-1940; 1/4(12 + 18 + 24 + min) GMT. 1941-1950; 1/3(12 + 18 + 24) GMT. 1951-1960; 1/5(12 + 24 + 24 + max + min) GMT. NB. Corrections to reduce means of 24 hours, for 1895-1901, to 1/4(07 + 14 + 21 + 21) are given on p61, vol XC. Reliability: compared with 838420 for the years 1895-1980.
- 838260: FOZ DO IGUAQU BRAZIL 25.55 54.64 226m 1964-1980 62
Sources: A1
Notes: A1: 1965-1970; alt = 226m. 1/5(12 + 00 + 00 + max + min) GMT. No other details available. Reliability: uncheckable.
- 838420: CURITIBA BRAZIL 25.45 49.34 949m 1885-1980 10 1895
Sources: A1
Notes: A1: 1885-1913; means of 24 hours, from apparatus Theorell. 1914-1920; 1/3(07 + 14 + 21) corrected to means of 24 hours, corrections given on p111, vol 79. 1885-1950; alt = 908m, 1951-1960 = 949m. 1921-1937; 1/4(07 + 14 + 21 + 21) local time. 1938-1950; 1/4(12 + 18 + 24 + min) GMT. 1951-1960; 1/5(12 + 00 + 00 + max + min) GMT. 1961-1970; alt = 91m. Reliability: compared with 838210 for the years 1895-1980.
- 838747: BLUMENAU BRAZIL 26.95 49.14 29m 1940-1907 65
Sources: A-9
Notes: A-9: A1; 29m. Means of 1/2(max + min). Reliability: compared with 838420 for the years 1890-1907. Record shows uncorrected jump 1896/1897.
- 838960: BRUSQUE BRAZIL 27.15 49.04 24m 1906-1960 10 1941
Sources: A1
Notes: A1: 1906-1930; 27 05'S 48 09'W, alt = 19m. 1931-1950; 27 06'S 48 07'W, alt = 24m. 1906-1937; 1/4(07 + 14 + 21 + 21) local time. 1938-1940; 1/4(12 + 18 + 24 + min) local time. 1941-1950; 1/4(12 + 18 + 24 + min) GMT. 1951-1960; 1/5(12 + 00 + 00 + max + min) GMT. Reliability: compared with 838420 for the years 1941-1960.
- 838970: FLORIANOPOLIS BRAZIL 27.65 48.64 1961-1970 61
Sources: A1
Notes: A1: 1961-1970; 1/5(12 + 00 + 00 + max + min) GMT. 27 35'S 48 34'W. 1961-July 1968; alt = 35m. July 1968-1970; alt = 6m. Reliability: uncheckable.
- 839310: ALEGRETE BRAZIL 29.11 55.14 10m 1961-1980 64
Sources: A1
Notes: A1: 1961-1970; alt = 103m. 1/5(12 + 00 + 00 + max + min) GMT. No other details available. Reliability: uncheckable.
- 839670: PORTO ALEGRE BRAZIL 30.05 51.24 10m 1961-1980 10 1961
Sources: A1
Notes: A1: 1961-1970; 1/5(12 + 00 + 00 + max + min) GMT. 30 02'S 51 13'W. 1961-Aug 1970; alt = 7m. Aug-Dec 1970; alt = 10m. Reliability: compared with 865950 for the years 1961-1980. Jan 1976 has a suspect cloud anomaly, but data is same as in PCH so has not been altered.
- 839970: SANTA VITORIA BRAZIL 33.55 53.44 6m 1961-1980 62
Sources: A1
Notes: A1: 1961-1970; alt = 6m. 1/5(12 + 00 + 00 + max + min) GMT. No other details available. Reliability: uncheckable.
- 842260: CANAR ECUADOR 2.65 78.94 3140m 1961-1980 61
Sources: A1
Notes: A1: 1961-1970; means of 24 hourly observations. 2 33'S 78 56'W, alt = 3140m. Reliability: uncheckable.

842350: LA TOMA EQUADOR 4.0S 79.4W 1962-1970 61
Sources: AI
Notes: AI: 1961-1970; 1/3(07 + 13 + 19) local time. 4 00'S 79 21'W, alt = 1230m. Reliability: uncheckable.

842650: MACARA ECUADOR 4.4S 81.0W 1961-1970 61
Sources: AI
Notes: AI: 1961-1970; 1/3(07 + 13 + 19) local time. 4 23'S 79 58'W, alt = 430m. Reliability: uncheckable.

843710: ZORRITOS PERU 3.7S 80.7W 1961-1968 61
Sources: AI
Notes: AI: 1961-1962; 1/3(07 + 13 + 18) local time. 1963-1970; 1/3(07 + 13 + 19) local time. No other details available. Reliability: uncheckable.

843770: IQUITOS PERU 3.9S 73.4W 126m 1947-1981 10 19 49
Sources: AI
Notes: AI: 1961-1970; 3 45'S 73 15'W, alt = 120m. 1961-1962; 1/3(07 + 13 + 18) local time. 1963-1970; 1/3(07 + 13 + 19) local time. Reliability: compared with 823310 for the years 1949-1980.

843800: EL ALTO PERU 4.3S 81.2W 270m 1951-1971 62
Sources: AI
Notes: AI: 1951-1960; means of observations taken at 07, 13 & 18h local time. 4 15'S 81 14'W, alt = 270m. Reliability: uncheckable.

843900: TALARA COREPC PERU 4.6S 81.3W 85m 1949-1980 10 19 49
Sources: AI, AI/3
Notes: AI: 1961-1962; 1/3(07 + 13 + 18) local time. 1963-1970; 1/3(07 + 13 + 19) local time. 1961-1970; 4 34'S 81 15'W, alt = 85m. No other details available. AI73: No details available. Reliability: compared with 844010 for the years 1949-1980; 1955-1980.

844010: PIURA PERU 5.2S 80.6W 55m 1955-1981 10 19 55
Sources: AI, AI73
Notes: AI: 1961-1962; 1/3(07 + 13 + 18) local time. 1963-1970; 1/3(07 + 13 + 19) local time. No other details available. AI73: No details available. Reliability: compared with 843900 & 844520 for the years 1955-1980; 1955-1981.

844250: YURIMACIAS PERU 5.9S 76.1W 186m 1961-1980 62
Sources: AI
Notes: AI: alt = 186m. 1961-1962; 1/3(07 + 13 + 18) local time. 1963-1970; 1/3(07 + 13 + 19) local time. No other details available. Reliability: uncheckable.

844350: MOTOBAMBA PERU 6.0S 77.0W 634m 1961-1980 62
Sources: AI
Notes: AI: alt = 834m. 1961-1962; 1/3(07 + 13 + 18) local time. 1963-1970; 1/3(07 + 13 + 19) local time. No other details available. Reliability: uncheckable.

844440: CHACHAPOYAS PERU 6.2S 77.8W 216m 1961-1980 62
Sources: AI
Notes: AI: alt = 216m. 1961-1962; 1/3(07 + 13 + 18) local time. 1963-1970; 1/3(07 + 13 + 19) local time. No other details available. Reliability: uncheckable.

844510: LAMBAYEQUE PERU 6.7S 79.9W 18m 1931-1961 80
Sources: AI
Notes: AI: 1931-1940; means of 17 daily observations. 6 42'S 79 54'W, alt = 16m. 1941-1950; 1/3(07 + 13 + 18) local time. 6 42'S 79 55'W, alt = 16m. 1951-1960; 6 42'S 79 54'W, alt = 18m. Reliability: compared with 846311 for the years 1931-1961. Record shows an uncorrected jump about 1950. early years are too warm.

844550: TARPOTO PERU 6.5S 76.3W 42m 1951-1980 80
Sources: AI, AI73
Notes: AI: 1944-1948; 1/3(07 + 13 + 18) local time. 6 47'S 79 40'W, alt = 51m. 1963-1970; 1/3(07 + 13 + 19) local time. Reliability: compared with 844010 & 844010 for the years 1949-1980 & 1955-1981.

844720: CAJAMARCA PERU 7.2S 78.5W 2444m 1961-1980 62
Sources: AI
Notes: AI: alt = 2444m. 1961-1962; 1/3(07 + 13 + 18) local time. 1963-1970; 1/3(07 + 13 + 19) local time. No other details available. Reliability: uncheckable.

844740: JUANJUI PERU 7.7S 76.7W 350m 1961-1980 62
Sources: AI
Notes: AI: alt = 350m. 1961-1962; 1/3(07 + 13 + 18) local time. 1963-1970; 1/3(07 + 13 + 19) local time. No other details available. Reliability: uncheckable.

845010: TRUJILLO PERU 8.1S 79.0W 26m 1961-1980 62
Sources: AI
Notes: AI: alt = 26m. 1961-1962; 1/3(07 + 13 + 18) local time. 1963-1970; 1/3(07 + 13 + 19) local time. No other details available. Reliability: uncheckable.

845150: PUCALLPA PERU 8.4S 74.6W 200m 1961-1980 62
Sources: AI
Notes: AI: 1961-1970; 8 22'S 74 35'W, alt > 200m. 1961-1962; 1/3(07 + 13 + 18) local time. 1963-1970; 1/3(07 + 13 + 19) local time. Reliability: uncheckable.

845310: CHIMBOTE PERU 9.2S 78.5W 10m 1964-1980 62
Sources: AI
Notes: AI: 1964-1970; alt = 10m. 1/3(07 + 13 + 19) local time. No other details available. Reliability: uncheckable.

845340: TINGO MARIA PERU 9.1S 76.0W 642m 1951-1980 62
Sources: AI
Notes: AI: 1951-1960; means of 07, 13 & 18h local time. 9 08'S 75 57'W, alt = 641m. Reliability: uncheckable.

845420: HUARAZ PERU 9.5S 77.5W 1971-1980 61
Sources: AI
Notes: AI: 1/3(07 + 13 + 19) local time. No other details available. Reliability: uncheckable.

845640: HUANUCO PERU 9.9S 75.8W 1912m 1962-1980 62
Sources: AI
Notes: AI: alt = 1912m. 1962; 1/3(07 + 13 + 18) local time. 1963-1970; 1/3(07 + 13 + 19) local time. No other details available. Reliability: uncheckable.

845930: CERRO DE PASCO PERU 10.8S 76.2W 1955-1981 62
Sources: AI, AI73
Notes: AI: 1961-1962; 1/3(07 + 13 + 18) local time. 1963-1970; 1/3(07 + 13 + 19) local time. No other details available. AI73: No details available. Reliability: uncheckable.

846030: SAN RAMON PERU 11.1S 75.3W 800m 1961-1974 61
Sources: AI
Notes: AI: alt = 800m. 1961-1962; 1/3(07 + 13 + 18) local time. 1963-1970; 1/3(07 + 13 + 19) local time. No other details available. Reliability: uncheckable.

846130: PACHACHACA PERU 11.5S 75.9W 1961-1971 61
Sources: AI
Notes: AI: 1961-1962; 1/3(07 + 13 + 18) local time. 1963-1970; 1/3(07 + 13 + 19) local time. No other details available. Reliability: uncheckable.

846230: JANUJA PERU 11.8S 75.5W 3388m 1961-1975 61
Sources: AI
Notes: AI: alt = 3388m. 1961-1962; 1/3(07 + 13 + 18) local time. 1963-1970; 1/3(07 + 13 + 19) local time. No other details available. Reliability: uncheckable.

846280: CALLAO AP PERU 12.0S 77.1W 13m 1910-1980 62
Sources: AI, A97
Notes: AI: 1961-1962; 1/3(07 + 13 + 18) local time. 1963-1970; 1/3(07 + 13 + 19) local time. Alt; 34m. A97: No details available. Reliability: uncheckable.

846300: CAMPO DEL MARTE/LIMA PERU 12.1S 77.9W 1961-1970 61
Sources: AI, AI73
Notes: AI: 1961-1962; 1/3(07 + 13 + 18) local time. 1963-1970; 1/3(07 + 13 + 19) local time. 1961-1970; 12 04'S 77 55'W, alt = 13m. No other details available. AI73: No details available. Reliability: uncheckable.

846310: LIMATambo PERU 12.1S 77.0W 135m 1961-1972 61
Sources: AI
Notes: AI: alt; 135m. 1961-1962; 1/3(07 + 13 + 18) local time. 1963-1970; 1/3(07 + 13 + 19) local time. Reliability: uncheckable.

846311: LIMA/CAMPO DEL MARTE PERU 12.1S 77.0W 137m 1929-1981 10 1929
Sources: AI, A97
Notes: AI: 1931-1940; means of 12 daily observations. 1941-1962; 1/3(07 + 13 + 18) local time. Alt; 1931-1940 = 128m, 1941-1950 = 135m, 1951-1960 = 137m. 1963-1970; 1/3(07 + 13 + 19) local time. A97: No details available. Reliability: compared with 846910 for the years 1943-1981.

- 846330: HUANCAYO/HUAYAO PERU 12.0S 75.3W 3350m 1951-1978 10 1952
Sources: AI
Notes: AI: 1951-1962; means of 07, 13 & 18h local time. 12 02'S 75 20"W, alt = 3350m. 1963-1970; 1/3(07 + 13 + 19) local time. Reliability: compared with 846311 for the years 1952-1977.
- 846580: PTO. MALDONADO PERU 12.6S 69.2W 200m 1961-1980 62
Sources: AI
Notes: AI: alt = 200m. 1961-1962; 1/3(07 + 13 + 18) local time. 1963-1970; 1/3(07 + 13 + 19) local time. No other details available. Reliability: uncheckable.
- 846730: HUANCA/AVACUCHO PERU 13.2N 74.4W 2761m 1961-1980 60
Sources: AI
Notes: AI: 1964-1970; alt = 2761m. 1/3(07 + 13 + 19) local time. No other details available. Reliability: uncheckable.
- 846770: QUINCENIL PERU 13.3S 70.7W 620m 1961-1980 62
Sources: AI
Notes: AI: alt = 620m. 1961-1962; 1/3(07 + 13 + 18) local time. 1963-1970; 1/3(07 + 13 + 19) local time. No other details available. Reliability: uncheckable.
- 846860: CUZCO (KAYRA) PERU 13.7S 72.0W 3219m 1937-1981 72 1961
Sources: AI
Notes: AI: 1961-1970; 13 33'S 72 00"W, alt > 3310m. 1961-1962; 1/3(07 + 13 + 18) local time. 1963-1970; 1/3(07 + 13 + 19) local time. Reliability: compared with 852010 for the years 1937-1980.
- 846910: PISCO PERU 13.8S 76.3W 7m 1943-1982 70 1947
Sources: AI, A173
Notes: AI: 1961-1962; 1/3(07 + 13 + 18) local time. 1963-1970; 1/3(07 + 13 + 19) local time. 1961-1970; 13 45'S 76 15"W. No other details available. A173: No details available. Reliability: compared with 846311 for the years 1943-1981.
- 847210: SAN JUAN PERU 15.5S 75.3W 31m 1957-1981 60
Sources: AI
Notes: AI: alt = 31m. 1961-1962; 1/3(07 + 13 + 18) local time. 1963-1970; 1/3(07 + 13 + 19) local time. No other details available. Reliability: uncheckable.
- 847350: JULIACA PERU 15.5S 70.2W 3825m 1962-1980 62
Sources: AI
Notes: AI: alt = 3825m. 1962; 1/3(07 + 13 + 18) local time. 1963-1970; 1/3(07 + 13 + 19) local time. No other details available. Reliability: uncheckable.
- 847450: PUNO PERU 15.8S 70.0W 3852m 1961-1972 61
Sources: AI
Notes: AI: alt = 3852m. 1961-1962; 1/3(07 + 13 + 18) local time. 1963-1970; 1/3(07 + 13 + 19) local time. No other details available. Reliability: uncheckable.
- 847520: AREQUIPA PERU 16.4S 71.6W 2451m 1892-1981 22 1949
Sources: AI
Notes: AI: 1892-1930; 1/2(daily max + daily min). Mny 1909-Mar 1910; 1/2(08 + 20) corrected to 1/2(max + min). Harvard College Observatory, alt = 8041ft. Reliability: compared with 846860, 846311 & 847820 for the years 1937-1980. 1929-1981 & 1949-1980. Corrected for a jump 1973/1974. Correction Factors: Stations used: 846860 & 847820. Calculation dates: 1961-1973 & 1974-1980. Correction dates: 1900-1973. Factors: -14 -11 -14 -11 -16 -13 -19 -17 -24 -26 -23 -19.
- 847627: PAUCARANY PERU 17.5S 69.4W 1952-1960 61
Sources: AI
Notes: AI: 1952-1960; Means of 07, 13 & 18h local time. 17 30'S 69 46"W, alt = 4451m. Reliability: uncheckable.
- 847820: TACNA PERU 18.1S 70.4W 458m 1949-1981 10 1949
Sources: AI
Notes: AI: 1961-1970; 18 02'S 70 15"W, alt > 450m. 1961-1962; 1/3(07 + 13 + 18) local time. 1963-1970; 1/3(07 + 13 + 19) local time. Reliability: compared with 852010 & 847520 for the years 1949-1980.
- 849950: HUANCAYO PERU 12.1S 75.3W 1961-1970 61
Sources: AI
Notes: AI: 1961-1970; 12 07'S 75 20"W, alt = 338m. No other details available. Reliability: uncheckable.
- 850410: COBILJA BOLIVIA 11.1S 68.7W 260m 1951-1980 62
Sources: AI
Notes: AI: 1951-1960; means of 05, 14 & 27h local time. 11 04'S 68 44"W, alt = 260m. 1961-1970; 11 01'S 68 47"W, alt = 250m. Reliability: uncheckable.

850430: RIBERALTA BOLIVIA 11.0S 66.1W 172m 1951-1980 62
Sources: AI
Notes: AI: 1951-1960; means of 08, 14 & 22h local time. 11 00'S 66 05'W, alt = 172m. 1961-1970; 11 00'S 66 07'W, alt > 160m. No other details available. Reliability: uncheckable.

851040: SAN JOAQUIN BOLIVIA 13.1S 64.8W 200m 1951-1976 62
Sources: AI
Notes: AI: 1951-1960; means of 08, 14 & 22h local time. 13 04'S 64 48'W, alt = 200m. Reliability: uncheckable.

851410: RURRENABARQUE BOLIVIA 14.5S 67.6W 200m 1951-1980 12 1951
Sources: AI
Notes: AI: 1951-1960; means of 08, 14 & 22h local time. 14 28'S 67 35'W, alt = 200m. 1961-1970; 14 28'S 67 34'W, alt = 270m. Reliability: compared with 851540 & 852010 for the years 1951-1980.

851540: TRINIDAD BOLIVIA 14.8S 64.8W 236m 1951-1980 11 1951
Sources: AI
Notes: AI: 1951-1960; means of 08, 14 & 22h local time. 14 55'S 64 48'W, alt = 236m. 1961-1970; 14 48'S 64 46'W, alt = 230m. Reliability: compared with 851410 for the years 1951-1980.

851960: CONCEPCION BOLIVIA 16.3S 62.1W 490m 1951-1980 62
Sources: AI
Notes: AI: 1951-1960; means of 08, 14 & 22h local time. 16 15'S 62 03'W, alt = 490m. Reliability: uncheckable.

852010: EL ALTO BOLIVIA 16.5S 68.1W 3658m 1898-1980 20 1918
Sources: AI
Notes: AI: 1951-1960; means of observations taken at 08, 14 & 22h local time. Alt: 4103m. No other details available. Reliability: compared with 851410 & 870070 for the years 1951-1980 & 1918-1980. 1940s too warm & have been corrected. Correction Factors: Stations used: 870070. Calculation dates: 1941-1950 & 1951-1980. Correction dates: 1941-1950 only. Factors: -31 -30 -31 -20 -20 -15 -14 -13 -13 -9 -18.

852070: SAN IGNACIO BOLIVIA 16.4S 61.0W 370m 1951-1980 62
Sources: AI
Notes: AI: 1951-1960; Means of 08, 14 & 22h local time. 16 22'S 60 59'W, alt = 370m. 1961-1970; alt = 400m. Reliability: uncheckable.

852230: COCHABAMBA BOLIVIA 17.4S 66.2W 2570m 1941-1980 20 1941
Sources: AI
Notes: AI: 1941-1950; 17 23'S 66 10'W, alt = 2570m. Temp means may be same as Press; 1/3(12 + 18 + 22) GMT. 1951-1960; 1/3(08 + 14 + 22) local time. 1961-1970; 17 24'S 66 12'W, alt = 2570m. Reliability: compared with 852010, 870070 & 852450 for the years 1941-1980, 1941-1980 & 1943-1980. Corrected for a jump 1952. Correction Factors: Stations used: 852450. Calculation dates: 1943-1951 & 1952-1973. Correction dates: 1941-1951. Factors: 4 1 -3 10 21 25 27 33 14 16 15 3.

852300: CHARANA BOLIVIA 17.6S 69.5W 4059m 1951-1980 62
Sources: AI
Notes: AI: 1951-1960; means of 08, 14 & 22h local time. 17 36'S 69 28'W, alt = 4059m. 1961-1970; 17 37'S 69 27'W, alt = 4060m. Reliability: uncheckable.

852420: ORURO BOLIVIA 18.0S 67.1W 3706m 1951-1980 12 1951
Sources: AI
Notes: AI: Means of 08, 14 & 22h local time. 1951-1960; 17 58'S 67 07'W, alt = 3706m. 1961-1970; 17 57'S 67 07'W, alt = 3700m. Reliability: compared with 852010 for the years 1951-1980.

852450: SANTA CRUZ BOLIVIA 17.9S 63.3W 437m 1943-1980 12 1943
Sources: AI
Notes: AI: 1951-1960; means of 08, 14 & 22h local time. 17 47'S 63 10'W, alt = 437m. 1961-1970; 17 48'S 63 10'W, alt = 430m. Reliability: compared with 853150 & 852230 for the years 1951-1980 & 1943-1980.

852470: SANJOSE BOLIVIA 17.9S 60.8W 397m 1951-1966 61
Sources: AI
Notes: AI: 1951-1960; means of 08, 14 & 22h local time. 17 51'S 60 47'W, alt = 397m. 1961-1970; 17 49'S 60 48'W, alt = 290m. Reliability: uncheckable.

852680: ROBOSRE BOLIVIA 18.4S 59.8W 300m 1951-1980 62
Sources: AI
Notes: AI: 1951-1960; means of 08, 14 & 22h local time. 18 21'S 59 45'W, alt = 300m. 1961-1970; 18 20'S 59 45'W. Reliability: uncheckable.

852830: SUCRE/LAJAS TAMBO BOLIVIA 19.1S 65.3W 2850m 1966-1980 62
Sources: AI
Notes: AI: 1961-1970; 19 03'S 65 16'W, alt > 2850m. No other details available. Reliability: uncheckable.

852890: PUERTO SUAREZ BOLIVIA 19.0S 57.9W 154m 1951-1980 62
Sources: AI
Notes: AI: 1951-1960; means of 08, 14 & 22h local time. 18 57'S 57 52'W, alt = 154m. Reliability: uncheckable.

853150: CARI RI BOLIVIA 20.1S 63.6W 792m 1951-1980 12 1951
Sources: AI
Notes: AI: 1951-1960; means of 08, 14 & 22h local time. 20 06'S 63 33'W, alt = 914m. 1961-1970; 20 01'S 63 33'W, alt = 87m. Reliability: compared with 852450 for the years 1951-1980.

853640: TARIJA BOLIVIA 21.5S 64.8W 1955m 1966-1980 62
Sources: AI
Notes: AI: 1961-1970; 21 32'S 64 45'W, alt > 1950m. No other details available. Reliability: uncheckable.

853650: YACUIBA BOLIVIA 22.6S 63.7W 580m 1914-1980 22 1914
Sources: AI
Notes: AI: 1914-1950; 1/3(08 + 14 + 20) corrected to means of 24 hours by comparison with Ingenio Esperanza. 24 05'S 64 50'W, alt = 558m. Details on P37, vol XC. 22 02'S 63 40'W, alt = 622m. 1951-1980; 1/3(08 + 14 + 22) local time. 22 01'S 63 43'W, alt = 58m. 1961-1970; 22 05'S 63 42'W, alt = 57m. Reliability: compared with 870070 & 870470 for the years 1914-1980. Record too cold prior to 1930, has been corrected. Correction Factors: Stations used: 870070. Calculation dates: 1914-1930 & 1951-1960. Correction dates: 1914-1930. Factors: 22 22 24 7 11 26 37 40 35 34 25.

854060: ARICA CHILE 18.5S 70.3W 29m 1931-1980 11 1931
Sources: AI
Notes: AI: 1931-1940; 1/4(07 + 18 + max + min) 75W meridian time. 18 28'S 70 20'W, alt = 29m. 1941-1960; 1/4(08 + 19 + max + min) 60W meridian time. 18 28'S 70 22'W, alt = 29m. 1961-1970; 1/4(08 + 20 + max + min) GMT. 18 29' S 70 19'W, alt = 4m. Reliability: compared with 847820 for the years 1949-1980. 1950s are missing.

854170: IQUIQUE CHILE 20.3S 70.1W 1967-1973 61
Sources: AI
Notes: AI: 1967-1970; 1/4(08 + 20 + max + min). No other details available. Reliability: uncheckable.

854420: ANTOFAGASTA CHILE 23.5S 70.4W 122m 1951-1980 10 1951
Sources: AI
Notes: AI: 1951-1960; 1/4(08 + 19 + max + min). 23 28'S 70 26'W, alt = 122m. 1961-1970; 1/4(08 + 20 + max + min) GMT. Alt = 130m. Reliability: compared with 854060 for the years 1951-1980.

854690: ISLA DE PASCUA CHILE 27.2S 109.4W 1937-1980 10 1942
Sources: AI
Notes: AI: 1961-1970; 1/4(08 + 20 + max + min) GMT. 27 10'S 109 26'W, alt > 40m. Reliability: compared with 853740 for the years 1942-1980.

854700: COPIAPO CHILE 27.4S 70.3W 1967-1975 61
Sources: AI
Notes: AI: 1967-1970; 1/4(08 + 20 + max + min). No other details available. Reliability: uncheckable.

854860: VALLENAR CHILE 28.6S 70.8W 1961-1970 61
Sources: AI
Notes: AI: 1961-1970; 1/4(08 + 20 + max + min) GMT. 28 35'S 70 45'W, alt > 520m. Reliability: uncheckable.

854880: LA SERENA CHILE 29.9S 71.3W 32m 1869-1980 80
Sources: AI
Notes: AI: 1869-1940; alt = 35m. 1941-1960; 1/4(08 + 19 + max + min) 60W meridian time. 1961-1970; 1/4(08 + 20 + max + min) GMT. Alt; 16m. Reliability: compared with 855000 for the years 1941-1960.

855000: PUNTA TORTUCA CHILE 29.9S 71.4W 25m 1901-1960 10 1906
Sources: AI
Notes: AI: alt = 25m. 1951-1960; 1/4(08 + 19 + max + min). No other details available. Reliability: compared with 874200 for the years 1906-1960.

855580: PUNTA ANGELES CHILE 33.0S 71.7W 41m 1951-1980 10 1951
Sources: AI
Notes: AI: alt = 41m. 1951-1960; 1/4(08 + 19 + max + min). 1961-1970; 1/4(08 + 20 + max + min). No other details available. Reliability: compared with 855850 for the years 1951-1980.

855740: SANTIAGO CHILE 33.5S 70.8W 520m 1861-1980 10 1861
 Sources: AI
 Notes: AI: 1861-1891; 1/3(07 + 14 + 22) corrected to means of 24 hours. 1892-1915; 1/4(07 + 14 + 21 + 21) corrected to means of 24 hours. 1916-1928; means of 24 hours. 1892-1930; alt = 519m, 1931-1960 = 520m. From Sept 1927 75W meridian, not local, time was used. 1929-1930; 1/4(07 + 13 + 21 + 21) corrected to means of 24 hours. April-Dec 1930; 1/2(max + min) reduced to 1/4(07 + 14 + 21 + 21). Full details of the complicated corrections are given on p63, vol 90. 1931-1940; 1/4(07 + 14 + max + min) 75W meridian time. 1941-1960; 1/4(07 + 14 + max + min) (CUT) meridian time. 1961-1970; 1/4(08 + 20 + max + min) GMT. Alt = 52m. Reliability: compared with 874200 & 873450 for the years 1906-1980 & 1873-1980.

855850: JUAN FERNANDEZ CHILE 33.5S 78.8W 6m 1901-1980 10 1901
 Sources: AI
 Notes: AI: 1901-1930; 1/4(07 + 14 + 21 + 21). 33 27'S 78 50'W, alt = 6m. 1931-1940; 1/4(07 + 14 + max + min) 75W meridian time. 33 37'S 78 52'W, alt = 6m. 1941-1960; 1/4(08 + 19 + max + min) 60W meridian time. 1961-1970; 1/4(08 + 20 + max + min) GMT. Reliability: compared with 855740 for the years 1901-1980.

856080: RANCAGUA CHILE 34.2S 70.8W 1967-1975 61
 Sources: AI
 Notes: AI: 1967-1970; 1/4(08 + 20 + max + min). No other details available. Reliability: uncheckable.

856290: CURICO CHILE 35.0S 71.2W 1967-1975 61
 Sources: AI
 Notes: AI: 1967-1970; 1/4(08 + 20 + max + min). No other details available. Reliability: uncheckable.

856400: CONSTITUCION CHILE 35.3S 72.4W 1961-1970 61
 Sources: AI
 Notes: AI: 1961-1970; 1/4(08 + 20 + max + min) GMT. 35 19'S 72 25'W, alt > 10m. Reliability: uncheckable.

856570: LINARES Ch. 35.9S 71.6W 1931-1974 61
 Sources: AI
 Notes: AI: 1967-1970; 1/4(08 + 20 + max + min) GMT. No other details available. Reliability: uncheckable.

856720: CHILLAN CHILE 36.6S 72.0W 1931-1975 62
 Sources: AI
 Notes: AI: 1967-1970; 1/4(08 + 20 + max + min). No other details available. Reliability: uncheckable.

856830: CONCEPCION CHILE 36.8S 73.1W 15m 1931-1975 61
 Sources: AI
 Notes: AI: 1961-1970; 1/4(08 + 20 + max + min) GMT. 36 46'S 73 04'W, alt > 10m. Reliability: uncheckable.

857030: LOS ANGELES CHILE 37.4S 72.4W 1931-1975 61
 Sources: AI
 Notes: AI: 1967-1970; 1/4(08 + 20 + max + min). No other details available. Reliability: uncheckable.

857430: TEMUCO CHILE 38.8S 72.7W 1967-1975 61
 Sources: AI
 Notes: AI: 1967-1970; 1/4(08 + 20 + max + min). No other details available. Reliability: uncheckable.

857660: VALDIVIA CHILE 39.9S 73.3W 13m 1853-1980 62
 Sources: AI
 Notes: AI: Alt: 1853-1920 = 15m, 1921-1940 = 9m, 1941-1950 = 5m, 1951-1960 = 13m. Means of 1/4(08 + 19 + max + min) 60W meridian time. 1961-1970; 1/4(08 + 20 + max + min) GMT. Reliability: uncheckable.

857670: VALDIVIA CHILE 39.8S 73.2W 13m 1961-1973 61
 Sources: AI
 Notes: AI: alt = 13m, 1961-1970; 1/4(08 + 20 + max + min). No other details available. Reliability: uncheckable.

857707: PUNTA GALERA CHILE 40.0S 73.7W 40m 1899-1960 10 1899
 Sources: AI
 Notes: AI: Alt: 40m. 1899-1930; 1/2(max + min). Corrections given on p64, vol IX to correct values of 1/3(07 + 14 + 21), 1/3(07 + 13 + 21) & 1/3(07 + 13 + 18) to means of 24 hours. 1931-1940; 1/4(07 + 14 + max + min) 75W meridian time. 1941-1960; 1/4(08 + 19 + max + min) 60W meridian time. Reliability: compared with 858340 for the years 1910-1950.

857820: OSORNO CHILE 40.6S 73.1W 1961-1970 61
 Sources: AI
 Notes: AI: 1961-1970; 1/4(08 + 20 + max + min) GMT. 40 36'S 73 03'W, alt > 50m. Reliability: uncheckable.

857990: PUERTO MONTT CHILE 41.4S 73.1W 110m 1862-1980 61
 Sources: AI, AZ9
 Notes: AI: El Tepual; 1967-1977, alt: 110m. No other details available, but probably means of 1/4(08 + 19 + max + min). AZ9: No details available.

Reliability: uncheckable.

858190: ANCIUD CHILE 41-9S 73.8W 1961-1970 61
Sources: AI
Notes: AI: 1961-1970; 1/4(08 + 20 + max + min) GMT. 41 54'S 73 48"W, alt > 110m.
Reliability: uncheckable.

858340: ISLA GUARFO CHILE 43-6S 74.9W 140m 1908-1980 10 1910
Sources: AI
Notes: AI: 1909-1930; 1/2(max + min), 43 34'S 74 45"W, alt = 140m, 1931-1940;
1/4(07 + 18 + max + min) 75W meridian time, 1941-1950; 1/4(08 + 19 + max +
min) 60W meridian time. Reliability: compared with 857707 for the years
1910-1950.

858620: PUERTO AYSEN CHILE 45.4S 72.7W 1961-1970 61
Sources: AI
Notes: AI: 1961-1970; 1/4(08 + 20 + max + min) GMT. 45 24'S 72 42"W, alt > 10m.
Reliability: uncheckable.

859340: PUNTA ARENAS MAG CHILE 3S 70.9W 28m 1888-1946 :C 1888
Sources: AI
Notes: AI: 1888-1932; alt = 28m, 1888-1889; 1/4(07 + 14 + 21 + 21), 1900-Sept
1927; 1/4(07 + 14 + 21 + 21) Santiago Time, reduced to means of 24 hours,
Sept 1927-1928; 1/4(07 + 14 + 21 + 21) 75W meridian time, 1929-April 1930;
1/4(07 + 13 + 21 + 21) 74W meridian time, April-Dec, 1930; 1/2(max + min)
corrected to means of 24 hours, Corrections etc. Given on p64, vol 90,
1931-1940; 1/4(07 + 18 + max + min). In April 1932 the site moved from 28
to 8m, 1951-1960; alt = 28m, 1941-1960; 1/4(08 + 19 + max + min) 60W
meridian time, 1961-1970; 53 00'S 70 50"W, alt = 3m, 1/4(08 + 20 + max +
min) GMT. Reliability: compared with 879300 for the years 1888-1980.
Corrected for a jump 1963/1964. Correction Factors: Stations used: 879380.
Calculation dates: 1931-1967, 1967-1980. Correction dates: 1888-1963.
Factors: -7 -8 -5 -7 -7 -9 -11 -9 -8 -6 -12 -9.

859360: PUNTA ARENAS CHILE 53.3S 70.5W 1942-1943 61
Sources: AI
Notes: AI: No details available. Reliability: uncheckable.

860170: NUEVA ASUNCION PARAGUAY 20.7S 61.9W 315m 1961-1978 62
Sources: AI
Notes: AI: 1961-1970; 1/3(12 + 18 + 24) GMT. 20 43'S 61 55"W, alt > 510m.
Reliability: uncheckable.

860330: BAHIA NECA PARAGUAY 20.2S 58.2W 96m 1941-1980 12 1941
Sources: AI
Notes: AI: 1941-1960; 1/3(08 + 14 + 20) local time, 20 14'S 58 10"W, alt = 97m,
1961-1970; 1/3(12 + 18 + 24) GMT. 20 13'S 58 10"W, alt = 90m. Reliability:
compared with 833610 for the years 1941-1980.

860660: MARISCAL ESTICARR PARAGUAY 22.0S 60.7W 181m 1951-1980 12 1951
Sources: AI
Notes: AI: alt = 181m, 1951-1960; 1/3(08 + 14 + 20), 1961-1970; 1/3(12 + 18 + 24)
GMT. No other details available. Reliability: compared with 860860 &
871860 for the years 1951-1979 & 1951-1980.

860830: MARISCAL PARAGUAY 22.0S 60.6W 1961-1970 62
Sources: AI
Notes: AI: 1951-1960; 1/3(08 + 14 + 20), 22 01'S 60 37"W, alt = 181m, 1961-1970;
1/3(12 + 18 + 24) GMT. Reliability: uncheckable.

860860: PUERTO CASADO PARAGUAY 22.3S 57.9W 887m 1951-1979 12 1951
Sources: AI
Notes: AI: 1951-1960; 1/3(08 + 14 + 20), 22 17'S 57 52"W, alt = 87m, 1961-1970;
1/3(12 + 18 + 24) GMT. Reliability: compared with 860860 for the years
1951-1979.

860970: PIERRO JUAN CABELLI (PILKALUY) 22.4S 55.7W 662m 1961-1979 62
Sources: AI
Notes: AI: 1961-1970; 1/3(12 + 18 + 24) GMT. 22 35'S 55 39"W, alt > 660m.
Reliability: uncheckable.

861250: POZO COLORADO PARAGUAY 23.4S 58.9W 1971-1976 61
Sources: AI
Notes: AI: Possibly 1/3(12 + 18 + 24) GMT. No other details available.
Reliability: uncheckable.

861340: CONCEPCION PARAGUAY 23.4S 57.3W 74m 1961-1980 62
Sources: AI
Notes: AI: 1961-1970; 1/3(12 + 18 + 24) GMT. 23 25'S 57 15"W, alt > 70m.
Reliability: uncheckable.

862180: ASUNCION/CITY PARAGUAY 25.4S 57.8W 116m 1877-1980 20 1893
Sources: AI, A29
Notes: AI: 1893-1920; 1/2(daily max + daily min), 1921-1930; means of 24 hours,
1931-1960; 1/3(08 + 14 + 20) local time, 1893-1960; alt = 93m, 25 17'S 57
41"W, 1931-1960; alt = 64m, 25 16'S 57 38"W, 1971-1970; 25.3S 57.6W, alt =

- 863600: SALTO URUGUAY 31.45 58.0W 46m 1951-1980 89
Sources: AI
Notes: AI: 1951-1960; 1/10(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21 + max + min). 31
23°S 57'58"W, alt = 46m. 1961-1970; alt = 47m. Reliability: compared with
871550 for the years 1951-1980. Record shows uncorrected jump 1575/1576.
- 864300: PAYSANDU URUGUAY 32.35 58.1W 1961-1970 62
Sources: AI
Notes: AI: 1961-1970; 1/10(00 + 03 +21) + 1/10(max + min) GMT. 32 20°S 58
05"W, alt = 53m. Reliability: uncheckable.
- 864400: MELO URUGUAY 32.45 54.3W 94m 1951-1980 62
Sources: AI
Notes: AI: 1951-1960; 1/10(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21 + max + min). 32
22°S 54'15"W, alt = 94m. 1961-1970; alt = 95m. Reliability: uncheckable.
- 864600: PASO DE LOS TOROS URUGUAY 32.85 56.5W 79m 1961-1980 12 1961
Sources: AI
Notes: AI: 1961-1970; 1/10(00 + 03 +21) + 1/10(max + min) GMT. 32 49°S 56
31"W, alt = 80m. Reliability: compared with 865600 for the years 1961-1980.
- 864900: MERCEDES - SORIANO URUGUAY 33.35 58.1W 22m 1961-1980 82
Sources: AI
Notes: AI: 1961-1970; 1/10(00 + 03 +21) + 1/10(max + min) GMT. 33 15°S 58
04"W, alt = 23m. Reliability: compared with 864600 & 865000 for the years
1961-1980. Record is inhomogeneous & uncorrectable.
- 865000: TRINTA Y TRES URUGUAY 33.25 54.4W 57m 1961-1980 12 1961
Sources: AI
Notes: AI: 1961-1970; 1/10(00 + 03 +21) + 1/10(max + min) GMT. 33 11°S 54
21"W, alt = 58m. Reliability: compared with 864600 for the years 1961-1980.
- 865500: SAN JOSE URUGUAY 34.45 56.7W 1961-1970 61
Sources: AI
Notes: AI: 1961-1970; 1/10(00 + 03 +21) + 1/10(max + min). No other details
available. Reliability: uncheckable.
- 865600: COLOMBIA URUGUAY 34.55 57.9W 20m 1951-1980 10 1961
Sources: AI
Notes: AI: 1951-1960; 1/10(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21 + max + min). 34
28°S 57'51"W, alt = 20m. 1961-1970; alt = 15m. Reliability: compared with
864600 for the years 1961-1980.
- 862280: PTO. PTE. FRANCO PARAGUAY 25.65 54.6W 125m 1951-1968 62
Sources: AI
Notes: AI: 1951-1960; 1/3(08 + 14 + 20). 25 36°S 54'35"W, alt = 125m. In 1965
station moved from 25 36°S 54'36"W to 25 32°S 54'36"W & was renamed Puerto
Presidente Stroessner. 1961-1970; 1/3(12 + 18 + 24) GMT. Reliability:
uncheckable.
- 862330: SAN JUAN BAUTISTA PARAGUAY 25.15 58.1W 155m 1898-1980 10 1941
Sources: AI
Notes: AI: 155m. No other details available. Reliability: compared with
871660 for the years 1941-1980.
- 862480: PUERTO STROESSNER PARAGUAY 25.55 54.6W 125m 1961-1980 62
Sources: AI
Notes: AI: 1961-1970; 1/3(12 + 18 + 24) GMT. In 1965 station moved from Puerto
Presidente Franco, 25 36°S 54'36"W to present site, 25 32°S 54'36"W, alt =
120m. Reliability: uncheckable.
- 862550: PILAR PARAGUAY 26.95 58.3W 55m 1951-1980 10 1951
Sources: AI
Notes: AI: 1951-1960; 1/3(08 + 14 + 20). 26 51°S 58'19"W, alt = 55m. 1961-1970;
1/3(12 + 18 + 24) GMT. Reliability: compared with 871660 for the years
1951-1980.
- 862600: SAN JUAN BAUTISTA PARAGUAY 26.75 57.2W 149m 1961-1979 62
Sources: AI
Notes: AI: alt = 149m. 1961-1970; 1/3(12 + 18 + 24) GMT. No other details
available. Reliability: uncheckable.
- 862970: ENCARNACION PARAGUAY 27.35 55.8W 80m 1941-1980 10 1941
Sources: AI
Notes: AI: 1941-1960; 1/3(08 + 14 + 20) local time. 27 20°S 55'50"W, alt = 113m.
1961-1970; 1/3(12 + 18 + 24) GMT. Reliability: compared with 871660 for
the years 1941-1980.

865607: MINAS URUGUAY 34.4S 55.2W 1961-1967 62
Sources: AI
Notes: AI: 1961-1965; 1/10(0 + C +21) + 1/10(max + min). No other details available. Reliability: uncheckable.

865650: ROCHA URUGUAY 34.5S 54.3W 22m 1951-1980 12 1951
Sources: AI
Notes: AI: 1951-1960; 1/10(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21 + max + min). 34 30'S 54 20'W, alt = 22m. 1961-1970; 34 29'S 54 18'W. Reliability: compared with 865950 for the years 1951-1980.

865800: MONTEVIDEO/PRADO OBS URUGUAY 35.0S 56.2W 1961-1970 61
Sources: AI
Notes: AI: 1961-1970; 1/10(00 + 03 +21) + 1/10(max + min). No other details available. Reliability: uncheckable.

865850: MONTEVIDEO/PRADO URUGUAY 34.8S 56.2W 22m 1883-1974 22 1883
Sources: AI, A64
Notes: AI: 1883-1901; station was 10km north of Prado at Colegio, alt = 59m. 7km from the sea, & then at the Port. 1883-1920; station was at Prado, 1921-1950; 1/3(07 + 14 + 21) corrected to Prado series & to means of 24 hours. Corrections & differences between Colegio & Prado are given on p71, vol 90. 1951-1960; means of 24 hours. 1961-1970; 35.0S 56.2W, alt = 2m. Means of 24 hourly observations. A64: No details available. Reliability: compared with 875850 & 873450 for the years 1883-1974. Corrected for a jump 1890/1891. Correction Factors: Stations used: 875850. Calculation dates: 1883-1890 & 1891-1950. Correction dates: 1883-1890. Factors: 4 8 3 2 5 2 3 2 3 6 11 10.

865950: PUNTA DEL ESTE URUGUAY 35.0S 55.0W 16m 1951-1980 81
Sources: AI
Notes: AI: 1951-1960; 1/10(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21 + max + min). 34 58'S 54 57'W, alt = 16m. 1961-1970; alt = 17m. Reliability: compared with 865600 & 809670 for the years 1951-1980 & 1961-1980. Record is too warm after 1975.

870070: LA QUIACA OBS. ARGENTINA 22.1S 65.6W 3459m 1903-1980 10 1911
Sources: AI
Notes: AI: 1911-1946; means of 24 hours. 1947-1950; 1/3(08 + 14 + 20) 60m meridian time corrected to means of 24 hours. 22 06'S 65 36'W, alt = 3458m. 1951-1960; 1/3(08 + 14 + 20) corrected to means of 24 hours. Alt = 3458m. 1961-1970; 1/3(08 + 14 + 20) 60m meridian time corrected to means of 24 hours by corrections given on p7, vol 3. Alt = 3450m. Reliability: compared with 870470 for the years 1911-1980.

870460: S.S. DE JUJUY ARGENTINA 24.5S 65.2W 1931-1980 82
Sources: AI
Notes: AI: 1951-1950; 1/3(08 + 14 + 20) + C, a correction factor, or 1/4(02 + 08 + 14 + 20). No other details available. Reliability: 1970s are too warm & station moved 1947/1943, errors are uncorrectable.

870470: SALTA AEREO ARGENTINA 24.8S 65.5W 1726m 1873-1980 20 1911
Sources: AI, A75
Notes: AI: 1901-20; 1176m, 1921-30; 1182m, 1901-29; 24 hr means or 08.14 & 20h corrected to 24 hr means. Aug 1910-09; 1173m. Nov 1949 moved from 24 47'S 65 25'W to 24 45'S 65 26'W, 1220m. Oct 1949-50; 1/3(08+14+20) 60m meridian time. 1951-60; 1/4(02+08+14+20). Mar 1958 moved to 24 51'S 65 29'W, 1226m. 1961-70; 1/4(02+08+14+20) 60m meridian time. A75: 1/7(max+min). No other details available. Reliability: compared with 871190, 871700, 870460 & 870070 for the years 1941-1960, 1956-1980, 1931-1980 & 1911-1980. Corrected for site changes Aug/Sept 1930 (from 24 46'S 65 28'W) & Nov/Dec 1949. Correction Factors: Stations used: 1) 870070 ii) 870460. Calculation dates: i) 1911-Aug 1930 & Dec 1949-80 ii) 1943-Nov 1949 & Dec 1949-60. Correction date: i) 1911-Aug 1930 ii) Sept 1910-Nov 1949. Factors: i) -11 -14 -13 -15 -15 -10 -20 -14 -11 -4 -3 -6 ii) -7 -9 -9 -6 -7 -7 -11 -11 -9 -5 -5 -3.

870650: RIVALMATA ARGENTINA 24.3S 63.0W 1931-1980 10 1931
Sources: AI
Notes: AI: 1951-1970; 1/3(08 + 14 + 20) + C, a correction factor. 24 10'S 62 54'W, alt = 20m. Reliability: compared with 870070 & 871660 for the years 1931-1980.

870780: LAS LOMITAS ARGENTINA 24.7S 60.6W 130m 1951-1980 20 1951
Sources: AI
Notes: AI: 1951-1960; 1/4(02 + 08 + 14 + 20). 24 47'S 60 35'W, alt = 130m. 1961-1970; 1/4(02 + 08 + 14 + 20) 60m meridian time. Reliability: compared with 860680 & 871660 for the years 1951-1980. Corrected for a jump 1965/1966. Correction Factors: Stations used: 860680 & 871660. Calculation dates: 1954-1965 & 1966-1971. Correction dates: 1951-1965. Factors: 8 15 5 8 6 12 5 17 14 17 6.

871160: TUCUMAN OBSERVATORIO ARGENTINA 26.8S 65.2W 480m 1961-1976 10 1961
Sources: AI
Notes: AI: alt = 480m. 1961-1970; 1/3(08 + 14 + 20) + C, a correction factor, or 1/4(02 + 08 + 14 + 20). No other details available. Reliability: compared with 870470 for the years 1961-1976.

871190: TUCUMAN ARGENTINA 26.8S 65.2W 481m 1880-1960 10 1941
Sources: AI, A75
Notes: AI: 1874-1930; alt = 447m. Prior to Sept 1930 observations were taken at Chacras al Oeste & then from the Filles Station; no other details

available. 1931-1966; alt = 427m. In Aug 1946 the station moved from 26 51°S 65 11'W to 26 48'S 65 12'W, alt = 481m. 1941-1946; means of 24 hours. 1947-1950; 1/3(08 + 14 + 20) 60M meridian time. 1951-1960; 1/4(02 + 08 + 14 + 20). 1961-1970; 1/4(02 + 08 + 14 + 20) 60M meridian time. A75: Means of 1/3(07 + 14 + 21). No other details available. Reliability: compared with 870470 for the years 1873-1980. 1886-1952 data are missing.

871200: TUCUMAN AERO ARGENTINA 26.8S 65.2W 420m 1855-1980 12 1953
Sources: A1, A75

Notes: A1: 1952-1977; alt = 420m. 1952-1960; 1/4(02 + 08 + 14 + 20). 1961-1970; 1/4(02 + 08 + 14 + 20) 60M meridian time. A75: 1/3(07 + 14 + 21). No other details available. Reliability: compared with 870470 for the years 1873-1980. 1886-1952 data are missing.

871290: SANTIAGO DEL ESILRO ARGENTINA 27.9S 64.4W 214m 1873-1980 12 1931
Sources: A1, A75

Notes: A1: Means of 1/4(02 + 08 + 14 + 20) 60M meridian time. Alt: 1951-1960; 19m & 214m, 1961-1970 = 19m. A75: No details available. Reliability: compared with 871660 for the years 1874-1980. 1883-1930 data are missing.

871490: PRES ROQUE SAENZPENA ARGENTINA 26.8S 60.5W 92m 1968-1980 61
Sources: A1

Notes: A1: alt = 92m. 1968-1970, 1/3(08 + 14 + 20) + C, a correction factor, or 1/4(02 + 08 + 14 + 20). No other details available. Reliability: uncheckable.

871550: RESISTENCIA ARGENTINA 27.5S 59.0W 52m 1951-1980 12 1951
Sources: A1

Notes: A1: 1951-1960; 1/4(02 + 08 + 14 + 20). 27 28'S 58 59'W, alt = 51m. Reliability: compared with 871660 for the years 1951-1980.

871620: FORMOSA AERO ARGENTINA 26.2S 58.2W 60m 1879-1980 62
Sources: A75

Notes: A75: Alt: 82m. No other details available. Reliability: uncheckable.

871660: CORRIENTES ARGENTINA 27.5S 58.9W 60m 1873-1980 12 1874
Sources: A1, A75

Notes: A1: Airport; 1961-1970; 1/3(08 + 14 + 20) + C, 60M meridian time, values of C given on p7, vol 3. A75: Means of 1/2(max + min). No other details available. Reliability: compared with 860680 & 871290 for the years 1951-1980 & 1874-1980.

871780: POSADAS AERO ARGENTINA 27.4S 55.8W 133m 1903-1980 20 1931
Sources: A1

Notes: A1: 1902-1930; 27 24'S 55 50'W, alt = 136m. 1931-1940; 27 18'S 55 56'W, alt = 117m. Reliability: compared with 871660 & 862970 for the years 1931-1980 & 1941-1980. Corrected for a jump 1965/1966. Correction Factors: Stations used: 871660 & 862970. Calculation dates: 1941-1965 & 1966-1980. Correction dates: 1931-1965. Factors: 12 8 2 6 5 8 9 10 9 11 9.

872170: LA RIOJA ARGENTINA 29.5S 66.9W 1931-1980 20 1931
Sources: A1

Notes: A1: 1951-1960; 1/3(08 + 14 + 20) + a correction factor. At end of 1950 station moved from the town, 29 25'S 66 52'W, alt = 516m, to the airport, 29 23'S 66 49'W, alt = 430m. 1961-1970; 1/4(02 + 08 + 14 + 20) 60M meridian time. Reliability: compared with 871290, 872220, 873110 & 873220 for the years 1931-1980. Corrected for a move, to the airport, 1950/1951. Correction Factors: Stations used: 871290. Calculation dates: 1941-1950 & 1951-1960. Correction dates: 1931-1950. Factors: 17 15 9 2 -1 -7 -4 7 6 12 11.

872200: CATAMARCA AERO ARGENTINA 28.5S 65.8W 531m 1903-1950 62
Sources: A1

Notes: A1: 1903; means of 07, 14 & 21h corrected to means of 24 hours. 1904-1920; means of 08, 14 & 20h corrected to means of 24 hours. 28 27'S 65 47'W, alt = 510m. 1921-1930; means of 24 hours. Alt changed in Mar 1929 to 528m & in Oct 1935 to 517m. 1931-1950; 28 29'S 65 44'W, 1951-1970; 1/4(02 + 08 + 14 + 20). Sites: Prior to Aug 1936; 28 28'S 65 44'W, alt = 528m. Sept 1936-April 1946; 28 29'S 65 54'W, alt = 515m. May 1946-1950; 28 28'S 65 47'W, alt = 546m. 1951-1960; 28 26'S 65 46'W, alt = 547m. 1961-1970; 28 27'S 65 46'W, alt = 553m. Reliability: uncheckable.

872220: CATAMARCA AERO ARGENTINA 28.7S 65.9W 531m 1904-1980 10 1904
Sources: A1

Notes: A1: 1904-1920; means of 08, 14 & 20h corrected to means of 24 hours. 28 27'S 65 47'W, alt = 510m. 1921-1930; means of 24 hours. Alt changed in Mar 1929 to 528m & in Oct 1935 to 517m. 1931-1950; 28 29'S 65 44'W, 1951-1970; 1/4(02 + 08 + 14 + 20). Sites: Prior to Aug 1936; 28 28'S 65 44'W, alt = 528m. Sept 1936-April 1946; 28 29'S 65 54'W, alt = 515m. May 1946-1950; 28 28'S 65 47'W, alt = 546m. 1951-1960; 28 26'S 65 46'W, alt = 547m. 1961-1970; 28 27'S 65 46'W, alt = 553m. Reliability: compared with 871290, 872170 & 873450 for the years 1904-1980, 1931-1980 & 1904-1980. Dec 1978 10C too cold & Nov 1980 10C too warm, values have been corrected.

872570: CERES ARGENTINA 30.0S 62.0W 1931-1980 20 1931
Sources: A1

Notes: A1: 1951-1960; 1/4(02 + 08 + 14 + 20). 29 53'S 61 57'W, alt = 88m. 1961-1970; 1/4(02 + 08 + 14 + 20) GMT. Reliability: compared with 871660 & 873740 for the years 1931-1980. Corrected for a jump 1964/1965. Correction Factors: Stations used: 871660 & 873740. Calculation dates: 1931-1964 & 1965-1980. Correction dates: 1931-1964. Factors: 8 5 7 10 8 8 7 9 8 6 8 4.

872700: RECONQUISTA AERO ARGENTINA 29.25 59.7W 48m 1961-1980 60
Sources: AI
Notes: AI: 1961-1970; 1/4(02 + 08 + 14 + 20) 60W meridian time. 29 11'S 59 42"W, alt > 40m. Reliability: uncheckable.

872720: GOYA ARGENTINA 29.25 59.3W 36m 1877-1960 10 1891
Sources: AI, A75
Notes: AI: 1877-1920; means of 07, 14 & 21h or 08, 14 & 20h, corrected to means of 24 hours. 1920-1940; mean of 27 hours. (CU meridian time. AI: 1877-May 1930 = 26m, June 1930-Sept 1931 = 37m, Oct 1931-Oct 1935 = 36m, Nov 1935-1950 = 37m, 1951-1960 = 36m. 1941-1950; 1/3(08 + 14 + 20) 60W meridian time, corrected to means of 24 hours. 1951-1960; 1/4(02 + 08 + 14 + 20). A75: No details available. Reliability: compared with 873450 & 873850 for the years 1877-1960. Record shows small jump 1890/1891. 1877 much too warm.

872890: PASO DE LOS LIBROS ARGENTINA 29.8S 57.3W 1931-1980 10 1931
Sources: AI
Notes: AI: 1961-1970; 1/4(02 + 08 + 14 + 20) 60W meridian time. 29 41'S 57 09"W, alt > 60m. Reliability: compared with 872720 & 873950 for the years 1931-1960 & 1951-1980.

873050: JACHAL ARGENTINA 30.3S 68.8W 1971-1980 61
Sources: AI
Notes: AI: 1/3(08 + 14 + 20) + C, a correction factor, or 1/4(02 + 08 + 14 + 20). No other details available. Reliability: uncheckable.

873110: SAN JUAN ARGENTINA 31.6S 66.4W 630m 1897-1980 10 1931
Sources: AI, A75
Notes: AI: 1897-1930; alt = 664m, 1931-1944 = 620m. In Aug 1944 the station moved from 31 32'S 66 34"W to 31 33'S 66 31"W, alt = 620m (airport). 1941-Nov 1946; means of 24 hours. Dec 1946-1950; 1/3(08 + 14 + 20) 60W meridian time. 1951-1960; 1/4(02 + 08 + 14 + 20). Site changed several times, see p9, vol 3. In 1960 it was 31 36'S 68 33"W, alt = 630m. A75: No details available. Reliability: compared with 873490 & 855000 for the years 1931-1980 & 1931-1960.

873120: SAN JUAN ARGENTINA 31.5S 68.5W 652m 1875-1888 63
Sources: AI, A75
Notes: AI: 1897-1930; alt = 664m. 1931-1944 = 620m. In Aug 1944 the station moved from 31 32'S 68 34"W to 31 33'S 68 31"W, alt = 620m (airport). 1941-Nov 1946; means of 24 hours. Dec 1946-1950; 1/3(08 + 14 + 20) 60W meridian time. 1951-1960; 1/4(02 + 08 + 14 + 20). Site changed several times, see p9, vol 3. In 1960 it was 31 36'S 68 33"W, alt = 630m. A75: No details available. Reliability: uncheckable.

873220: CHEPES ARGENTINA 31.4S 66.7W 1931-1980 82 1931
Sources: AI
Notes: AI: 1951-1950; 1/3(08 + 14 + 20) + C, a correction factor, or 1/4(02 + 08 + 14 + 20). No other details available. Reliability: compared with 872170 & 873110 for the years 1931-1980. Nov & Dec 1949 together with all 1950 values are too warm & have been replaced with -999. Station also moved about 1940.

873440: CORDOBA AERO ARGENTINA 31.3S 64.2W 474m 1951-1980 80
Sources: AI
Notes: AI: 1951-1960; 1/4(02 + 08 + 14 + 20). 31 19'S 63 13"W, alt = 474m. 1961-1970; 1/4(02 + 08 + 14 + 20) GMT. Reliability: compared with 873450 for the years 1951-1980.

873450: CORDOBA ARGENTINA 31.4S 64.2W 425m 1873-1980 10 1873
Sources: AI, A75
Notes: AI: 1873-1950; means of 24 hours, 60W meridian time. 1873-1930; alt = 425m, 1931-1960 = 425m. 1951-1960; 1/4(02 + 08 + 14 + 20) 60W meridian time. 1961-1970; 1/3(08 + 14 + 20) + C, 60W meridian time. Values of C are given on p7, vol 3. A75: No details available. Reliability: compared with 873850 & 872720 for the years 1873-1980 & 1877-1960.

873490: PILAR ARGENTINA 31.7S 63.9W 1931-1980 10 1931
Sources: AI
Notes: AI: 1961-1970; 1/3(08 + 14 + 20) 60W meridian time + C. Values of C, a correction factor, are given on p7, vol "1961-1970". 31 40'S 63 53"W, alt > 330m. Reliability: compared with 874360 for the years 1931-1980.

873740: PARANA ARGENTINA 31.7S 60.5W 78m 1875-1980 1C 1931
Sources: AI, A75
Notes: AI: Alt: 78m, 1961-1970 = 6m. No details available, but probably means of either 1/4(02 + 08 + 14 + 20) or 1/3(08 + 14 + 20) plus some correction factor. 1961-1970; 1/4(02 + 08 + 14 + 20) 60W meridian time. A75: 31.7S 60.3W. No other details available. Reliability: compared with 874800 & 872570 for the years 1941-1980 & 1931-1980.

873940: CONCORDIA ARGENTINA 31.5S 58.0W 38m 1931-1950 60
Sources: AI
Notes: AI: alt = 38m. Possibly 1/3(08 + 14 + 20) + C, a correction factor, or 1/4(02 + 08 + 14 + 20). No other details available. Reliability: uncheckable.

8739 50: CONCORDIA ARGENTINA 31.5S 58.0W 39m 1902-1980 10 1951
Sources: AI
Notes: AI: 1902-1960; 1/3(08 + 14 + 20) corrected to nears of 24 hours. 31 23'S 58 02'W, alt = 24m. 1951-1960; alt = 38m. Reliability: compared with 872890 for the years 1951-1980.

8740 00: CRISTO REDENTOR ARGENTINA 32.9S 70.2W 1941-1980 12 1941
Sources: AI
Notes: AI: 1951-1960; 1/4(02 + 08 + 14 + 20) local time. 32 50'S 70 05'W, alt = 3829m. 1961-1970; 1/4(02 + 08 + 14 + 20) 60W meridian time. Alt; 3810m. Reliability: compared with 875740 for the years 1941-1980.

8741 80: MENDOZA AERRO ARGENTINA 32.9S 68.8W 703m 1951-1980 10 1951
Sources: AI
Notes: AI: 1951-1960; 32 51'S 68 47'W, alt = 703m. 1/4(02 + 08 + 14 + 20). 1961-1970; 1/4(02 + 08 + 14 + 20) 60W meridian time. 32 50'S 68 47'W, alt > 700m. Reliability: compared with 874200 & 874360 for the years 1951-1980. Record is too cold prior to 1955.

8742 00: MENDOZA OBSERVATORIO ARGENTINA 32.9S 68.8W 828m 1892-1980 10 1906
Sources: AI
Notes: AI: 1866-June 1938; alt = 755m, 32 53'S 68 50'W. 1931-1960; means of 24 hours 60W meridian time. July 1938-Jan 1944; 32 53'S 68 50'W, alt = 769m. Feb 1944 on; Martin Park, 32 53'S 68 52'W, alt = 827m. 1961-1970; alt = 82m. 1961-1970; 1/3(08 + 14 + 20) + C, 60W meridian time. Values for the correction factor, C, are given on p7, vol 3. Reliability: compared with 874360 & 853740 for the years 1931-1960 & 1906-1980. Oct 1978 value incorrect, -80 has been replaced with 180.

8743 60: SAN LUIS ARGENTINA 33.4S 66.4W 1931-1980 20 1931
Sources: AI
Notes: AI: 1951-1960; 1/4(02 + 08 + 14 + 20). 1961-1970; 1/4(02 + 08 + 14 + 20) 60W meridian time. 1931-May 1946; Town, 33 16'S 65 19'W, alt = 737m. In June 1946 station moved to the airport, 33 16'S 66 21'W, alt = 716m. Reliability: compared with 873490, 874180 & 874200 for the years 1931-1980, 1951-1980 & 1931-1980. Corrected for move to the airport 1946. Correction Factors: Stations used: 873490. Calculation dates: 1931-1945 & 1946-1980. Correction dates: 1931-1945. Factors: 9 5 7 1 6 4 7 2 5 7 8.

8744 80: VILLA REYNOLDS AP. ARGENTINA 33.7S 65.4W 1971-1980 61
Sources: AI
Notes: AI: 1/3(08 + 14 + 20) + C, a correction factor, or 1/4(02 + 08 + 14 + 20). No other details available. Reliability: uncheckable.

8745 30: RIO CUARTO ARGENTINA 33.1S 64.4W 1931-1980 20 1931
Sources: AI
Notes: AI: 1961-1970; 1/4(02 + 08 + 14 + 20) 60W meridian time. 33 07'S 64 14'W, alt > 420m. Reliability: compared with 873490 for the years 1931-1980. Corrected for a jump 1941/1942. Correction Factors: Stations used: 873490. Calculation dates: 1931-1941 & 1942-1980. Correction dates: 1931-1941. Factors: 3 0 11 8 6 4 4 3 -2 1 1.

8746 00: ROSARIO ARGENTINA 33.0S 60.9W 1875-1980 10 1941
Sources: AI, A75
Notes: AI: 1951-1955; 32 56'S 60 42'W, alt = 22m. 1956-1960; 32 55'S 60 47'W, alt = 27m (airport), 1961-1970; 32 55'S 60 47'W, alt = 2m. Means of 1/4(02 + 08 + 14 + 20). 1961-1970; 1/4(02 + 08 + 14 + 20) 60W meridian time. A75: No details available. Reliability: compared with 872570, 874970 & 875760 for the years 1941-1980, 1961-1980 & 1951-1980.

8749 70: CUALEGUAYCHU AERRO ARGENTINA 33.0S 58.6W 20m 1961-1980 10 1961
Sources: AI
Notes: AI: 1961-1970; 1/4(02 + 08 + 14 + 20) 60W meridian time. 33 00'S 58 37'W, alt > 20m. Reliability: compared with 874800 for the years 1961-1980.

8749 80: MAZARUCH AP. ARGENTINA 33.6S 59.4W 1971-1980 61
Sources: AI
Notes: AI: Probably 1/3(08 + 14 + 20) + C, a correction factor, or 1/4(02 + 08 + 14 + 20). No other details available. Reliability: uncheckable.

8750 90: SAN RAFAEL AERRO ARGENTINA 34.6S 68.4W 745m 1961-1980 60
Sources: AI
Notes: AI: 1961-1970; 1/4(02 + 08 + 14 + 20) 60W meridian time. 34 35'S 68 24'W, alt > 740m. Reliability: uncheckable.

8753 40: LABOULAYE ARGENTINA 34.1S 63.4W 136m 1961-1980 60
Sources: AI
Notes: AI: 1961-1970; 1/3(08 + 14 + 20) 60W meridian time + C. Values of C, a correction factor, are given on p7, vol "1961-1970". Reliability: compared with 874530 & 873480 for the years 1961-1980. Record shows an uncorrected jump in the 1970s.

8754 40: PEHUAIJO AERRO ARGENTINA 35.5S 62.0W 89m 1951-1980 10 1951
Sources: AI
Notes: AI: alt = 89m. 1951-1960; 1/3(08 + 14 + 20) + C, a correction factor, or 1/4(02 + 08 + 14 + 20). No other details available. Reliability: compared with 876230 & 876420 for the years 1951-1980.

875450: PEHUAJO AP. ARGENTINA 35.5S 61.9W 1961-1967 61
Sources: AI

Notes: AI: 1951-1960; 1/3(08 + 14 + 20) + a correction factor. Prior to Oct 1959 station was in town, 35°49'S 61°54'W, alt = 86m. In Oct 1959 moved to the airport, 35°52'S 61°54'W, alt = 87m. 1961-1970; 1/4(02 + 08 + 14 + 20) 60W meridian time. Reliability: uncheckable.

875480: JUJIN ARGENTINA 34.6S 61.8W 1931-1980 20 1933
Sources: AI

Notes: AI: 1951-1960; 1/4(02 + 08 + 14 + 20). 1951-Aug 1959; 34°33'S 60°56'W, alt = 81m. Sept 1959-1960; Airport, 34°35'S 60°56'W, alt = 81m. 1961-1970; 1/4(02 + 08 + 14 + 20) 60W meridian time. 34°33'S 60°55'W, alt = 80m. Reliability: compared with 876420 & 876480 for the years 1933-1980. Corrected for a site change 1954. Correction Factors: Stations used: 876420 & 876480. Calculation dates: 1937-1954 & 1955-1980. Correction dates: 1933-1954. Factors: -3 -1 -1 -2 -4 -5 -4 -7 -5 -5 -4 -4.

875760: EZEIZA AERO ARGENTINA 34.8S 58.3W 20m 1951-1980 10 1951
Sources: AI

Notes: AI: 1951-1960; 1/4(02 + 08 + 14 + 20). 34°50'S 58°32'W, alt = 20m. 1961-1970; 1/4(02 + 08 + 14 + 20) 60W meridian time. Reliability: compared with 874800 & 874970 for the years 1951-1980 & 1961-1980.

875850: BUENOS AIRES/UBS GEN ARGENTINA 34.6S 58.4W 21m 1856-1980 20 1856
Sources: AI, A73

Notes: AI: 1858-1890, 1/3(07 + 11 + 21) corrected to means of 24 hours. 1891-1930; means of 24 hours 60W meridian time. 1951-1960; 1/4(02 + 08 + 14 + 20) 60W meridian time. 1856-1920; 5 series of data exist: 1856-1875, 1873-1897, 1893-1902 & 1901-1906; 1906 on; 34°36'S 58°22'W, alt = 25m. All earlier series are reduced to the latter site. April 1933-Sept 1934; alt = 32m, then 25m. 1951-1960; alt = 55m. 1961-1970; 1/4(02 + 08 + 14 + 20) 60W meridian time. AI; 7m. A73: No details available. Reliability: compared with 873450, 876420 & 876480 for the years 1873-1980. 1931-1980 & 1931-1980. Correction Factors: Stations used: 876420 & 876480. Calculation dates: 1941-1958 & 1959-1980. Correction dates: 1856-1958. Factors: 8 5 7 4 6 4 4 2 2 7 8 3.

875960: PUNTA INDIO ARGENTINA 35.4S 57.3W 1975-1980 61
Sources: AI

Notes: AI: Probably 1/3(08 + 14 + 20) + C, a correction factor, or 1/4(02 + 08 + 14 + 20). No other details available. Reliability: uncheckable.

876020: CIOS MALIAL ARGENTINA 37.4S 70.3W 1931-1961 10 1931
Sources: AI

Notes: AI: At end of Aug 1938 alt changed from 819 to 636m. Town site; 37°23'S 70°17'W. Prior to 1957; 1/3(08 + 14 + 20) + a correction factor. 1957-1960; 1/4(02 + 08 + 14 + 20). Reliability: compared with 877840 & 877650 for the

years 1931-1961.

876190: GENERAL ACHA ARGENTINA 37.0S 64.2W 0m 1897-1960 10 1931
Sources: AI

Notes: AI: 1897-1930; alt = 218m, Railway Station. 1921-1930; alt = 218m. Meteorological Station. 1897-1939; alt = 224m. 1939-1960; alt = 238m. No other details available. Reliability: compared with 876230 for the years 1941-1960.

876230: SANTA ROSA ARGENTINA 36.6S 64.4W 1941-1980 10 1941
Sources: AI

Notes: AI: 1910-Aug 1953; Town, 36°37'S 64°19'W, alt = 183m. Sept 1953-1970; Airport, 36°35'S 64°16'W, alt = 189m. 1931-1960; 1/4(02 + 08 + 14 + 20). 1961-1970; 1/4(02 + 08 + 14 + 20) 60W meridian time. Reliability: compared with 876420 for the years 1941-1980.

876420: AZUL ARGENTINA 36.7S 59.9W 1931-1980 10 1931
Sources: AI

Notes: AI: 1961-1970; 1/3(08 + 14 + 20) 60W meridian time + C. Values of C, a correction factor, are given on p7, vol "1961-1970". Reliability: compared with 876190 & 876230 for the years 1931-1960 & 1941-1980.

876480: DOLORES ARGENTINA 36.4S 57.7W 1931-1980 10 1937
Sources: AI

Notes: AI: 1961-1970; 1/4(02 + 08 + 14 + 20) 60W meridian time. 36°21'S 57°44'W. Reliability: compared with 876420 for the years 1931-1980.

876730: FUELCHE ARGENTINA 36.1S 65.9W 1968-1977 61
Sources: AI

Notes: AI: Probably 1/3(08 + 14 + 20) + C, a correction factor, or 1/4(02 + 08 + 14 + 20). No other details available. Reliability: uncheckable.

876790: FIGUE ARGENTINA 37.6S 62.4W 1975-1980 61
Sources: AI

Notes: AI: Probably 1/3(08 + 14 + 20) + C, a correction factor, or 1/4(02 + 08 + 14 + 20). No other details available. Reliability: uncheckable.

876880: TRES ABRUYOS ARGENTINA 38.4S 60.4W 1931-1980 12 1931
Sources: AI

Notes: AI: 1951-1960; 1/3(08 + 14 + 20) + C, a correction factor, or 1/4(02 + 08 + 14 + 20). No other details available. Reliability: compared with 877500 for the years 1931-1980.

- 876920: MAR DEL PLATA ARGENTINA 38.0S 57.7W 24m 1888-1980 10 1931
Sources: AI
- Notes: AI: 1888-1930, alt = 4m, 1931-1950 = 14m, 1951-1977, airport, alt = 2m, 1888-1960, means of 24 hours, 1961-1970; 1/4(02 + 08 + 14 + 20) 60W meridian time. Reliability: compared with 876230 & 876470 for the years 1941-1980 & 1931-1980.
- 876940: MAR DEL PLATA ARGENTINA 38.1S 57.6W 1951-1956 61
Sources: AI
- Notes: AI: 1902-1940, 38 02'S 57 51'W, alt = 14m, 1941-1950, 38 02'S 57 35'W, alt = 24m, 1/4(02 + 08 + 14 + 20). Reliability: uncheckable.
- 876960: MAR DEL PLATA ARGENTINA 38.1S 57.6W 1975-1980 61
Sources: AI
- Notes: AI: Probably 1/3(08 + 14 + 20) + C, a correction factor, or 1/4(02 + 08 + 14 + 20). No other details available. Reliability: uncheckable.
- 877130: FREQUEN AERU ARGENTINA 39.0S 66.0W 270m 1900-1980 10 1957
Sources: AI
- Notes: AI: 1900-1940, 39 00'S 66 01'W, alt = 271m, 1951-1960; 1/4(02 + 08 + 14 + 20). 38 57'S 66 07'W, alt = 270m, 1961-1970; 38 57'2 66 08'W, alt = 270m. Reliability: compared with 877500 for the years 1957-1960. Jan 1977 value incorrect, replaced with 1999.
- 877140: LIPULLETTI ARGENTINA 39.0S 66.0W 265m 1931-1970 20 1931
Sources: AI
- Notes: AI: 1931-1940, means of 24 hours, 39 07'S 67 59'W, alt = 265m, 1941-1950; 38 56'S 68 01'W, alt = 265m, Dec 1946-1950; 1/3(08 + 14 + 20). 1951-1960; 1/3(08 + 14 + 20) corrected to means of 24 hours, 38 57'S 67 59'W, alt = 265m, 1961-1970; 1/4(02 + 08 + 14 + 20). Reliability: compared with 877840 & 877500 for the years 1931-1970. Correction Factors: Stations used: 877840 & 877500. Calculation dates: 1931-1946 & 1957-1970, 1947-1956 & 1957-1970. (Correction dates: 1) 1931-1946 (2) 1947-1956. Factors: 1) 1931-1946, -5 3 5 6 2 5 3 4 -1 0 5 0. 1) 1947-1956, 5 10 12 9 5 14 4 13 3 2 4 7.
- 877480: COMANDANTE ESPERANZA ARGENTINA 38.7S 66.4W 74m 1951-1970 62
Sources: AI
- Notes: AI: 1951-1960, 1/4(02 + 08 + 14 + 20). 38 44'S 61 10'W, alt = 70m. Reliability: uncheckable.
- 877500: BAHIA BLANCA AERU ARGENTINA 38.7S 62.3W 72m 1860-1980 20 1860
Sources: AI, A29, A75
- Notes: AI: 1860-1920, 24 hour means (some earlier years obs. made at different hrs & corrected to 24 hr means). 1921-43; 24 hr means 60W meridian time.
- Bahia Blanca, 1860-1931; 38 43'S 62 16'W, 29m, Puerto Belgrano, 1932-36; 38 55'S 62 04'W, 11m, Harding Green, 1937-Aug 1939; 38 43'S 62 09'W, 74m, Sept-Dec 1940; 38 45'S 62 12'W, 66m. All prec taken at Bahía Blanca.
- 1941-50; 38 44'S 62 10'W, 66m, 1951-60; 38 44'S 62 11'W, 70m, 1961-70; 38 44'S 62 11'W, 8m, Nov 1943-1950; 1/3(08+14+20) local time, 1951-70; 1/4(02+08+14+20) 60W meridian time. A29: No details available. A75: No details available. Reliability: compared with 877840 & 878280 for the years 1931-1980 & 1901-1980. Correction Factors: Stations used: 878280 & 875850. Calculation dates: 1901-1930 & 1931-1958. Correction dates: 1860-1930. Factors: -12 -6 -8 -6 -9 -10 -11 -10 -13 -12 -13 -12.
- 877650: SAN CARLOS ARGENTINA 41.2S 71.3W 1931-1980 20 1931
Sources: AI
- Notes: AI: 1905-Nov 1934; alt = 835m, Nov 1934-May 1939; 825m, June 1939-Mar 1942; 815m, April 1942-Mar 1951; 853m. In April 1951 station moved from 41 09'S 71 18'W to Airport, 41 09'S 71 10'W, alt = 778m. Nov 1955-Aug 1958; 826m. Sept 1958-1970; 836m, 1951-1960; 1/3(08 + 14 + 20) + a correction factor, or 1/4(02 + 08 + 14 + 20). 1961-1970; 1/4(02 + 08 + 14 + 20) 60W meridian time. Reliability: compared with 877840 & 878280 for the years 1931-1980. Corrected for a jump 1960/1961. Correction Factors: Stations used: 877840 & 878280. Calculation dates: 1931-1960 & 1961-1980. Correction dates: 1931-1960. Factors: -4 -2 -4 -11 -8 -10 -6 -11 -9 -3 1 -4.
- 877740: MAQUINGRAO ARGENTINA 41.3S 68.7W 887m 1961-1980 60
Sources: AI
- Notes: AI: 1961-1970; 1/4(02 + 08 + 14 + 20) 60W meridian time. 41 15'S 68 44'W, alt > 880m. Reliability: uncheckable.
- 877840: SAN ANTONIO OESTE ARGENTINA 40.7S 65.0W 1931-1980 10 1931
Sources: AI
- Notes: AI: 1961-1970; 1/3(08 + 14 + 20) 60W meridian time + C. Values of C, a correction factor, are given on p7, vol "1961-1970". Reliability: compared with 877500 & 877650 for the years 1931-1980. Nov 1931, 1932, 1937, 1943 & 1960, & Dec 1975 values all incorrect & have been corrected.
- 877910: VIEDMO AP. ARGENTINA 40.9S 63.0W 1971-1980 61
Sources: AI
- Notes: AI: Probably 1/3(08 + 14 + 20) + C, a correction factor, or 1/4(02 + 08 + 14 + 20). No other details available. Reliability: uncheckable.
- 878030: ESQUEL I ARGENTINA 42.2S 71.1W 557m 1896-1980 20 1931
Sources: AI
- Notes: AI: 1896-1930; alt = 557m, 1931-1940; alt = 568m. Means of 24 hours, 60W meridian time, 1941-1950; 1/3(08 + 14 + 20) 60W meridian time, corrected to means of 24 hours. Alt = 566m, 1961-1970; alt = 78m. Means of 1/4(02 + 08 + 14 + 20) 60W meridian time. Reliability: compared with 878280 & 877840 for the years 1931-1980. Years prior to 1949 are too warm & have

been corrected. Correction Factors: Stations used: 878280 & 871840.
 Calculation dates: 1931-1949 & 1951-1980. Correction dates: 1931-1949.
 Factors: -13 -2 -3 -2 -7 -11 -13 -17 -17 -9 -6 -6.

878140: PASO DEL LOS RIBOS ARGENTINA 43.85 56.1W 1971-1980 60
 Sources: AI
 Notes: AI: Probably 1/3(08 + 14 + 20) + C, a correction factor, or 1/4(02 + 08 + 14 + 20). No other details available. Reliability: uncheckable.

878270: PUERTO MADRYN ARGENTINA 42.85 65.0W 14m 1901 1980 17 1903
 Sources: AI
 Notes: AI: 1901-1903; 1/3(07 + 14 + 21) corrected to means of 24 hours. 1904-1920; 1/3(08 + 14 + 20) corrected to means of 24 hours. 42 49'S 64 58'W, alt = 14m. 1921-1930; means of 24 hours. 1931-Nov 1933; P. Madryn, 42 46'S 58 29'W, alt = 8m. Per 1933-1950; Trelaw, 43 15'S 65 22'W, alt = 13m. Reliability: compared with 878490 for the years 1903-1933. 1934-1974 data are missing.

878257: CURBUTI ARGENTINA 43.35 65.1W 8m 1881-1887 63
 Sources: A/S
 Notes: A/S: Alt, 8m. No other details available. Reliability: uncheckable.

878280: TRELAW ARGENTINA 43.25 65.3W 39m 1901-1980 10 1903
 Sources: AI
 Notes: AI: 1941-Dec 1946; 43 15'S 65 22'W, alt = 13m. In Dec 1944 station moved 25km to the airport, 43 14'S 65 18'W, alt = 39m. 1941-Nov 1946; means of 24 hours. Dec 1946-1950; 1/3(08 + 14 + 20) 60W meridian time corrected to means of 24 hours. 1951-1960; 1/3(08 + 14 + 20) corrected to means of 24 hours. 1961-1970; 1/4(02 + 08 + 14 + 20) 60W meridian time. Reliability: compared with 878490 for the years 1903-1964. July-Nov 1949 about 5C too warm and have been replaced with -019.

878490: SARRIENO ARGENTINA 45.55 67.0W 26m 1903-1964 10 1903
 Sources: AI
 Notes: AI: 1903; 1/3(07 + 14 + 21) corrected to means of 24 hours. 1904-1920; 1/3(08 + 14 + 20) corrected to means of 24 hours. 45 30'S 69 00'W, alt = 274m. 1921-1930; means of 24 hours. 1931-1940; 45 35'S 69 04'W, alt = 272m. April 1937 alt changed to 270m. 1941-1970; 1/3(08 + 14 + 20) 60W meridian time corrected to means of 24 hours. Alt = 268m. 1971-1980; 45 35'S 69 08'W, alt = 26m. Reliability: compared with 878280 & 879120 for the years 1903-1963.

878600: UPHIMRU RIVADAVIA ARGENTINA 45.95 67.0W 1931-1980 10 1931
 Sources: AI
 Notes: AI: 1961-1970; 1/4(02 + 08 + 14 + 20) 60W meridian time. 45 47'S 67 30'W, alt > 60m. Reliability: compared with 878490 for the years 1931-1960.

878800: GOBERNADOR GREGORES ARGENTINA 48.85 70.3W 358m 1951-1980 62
 Sources: AI
 Notes: AI: 1/3(08 + 14 + 20) + a correction factor. 1937-1946; 48 47'S 70 08'W, alt = 285m. 1946-1960; 48 47'S 70 15'W, alt = 358m. Reliability: uncheckable.

878960: PUERTO DESEADO AERU ARGENTINA 47.75 65.9W 79m 1961-1980 62
 Sources: AI
 Notes: AI: 1961-1970; 1/4(02 + 08 + 14 + 20) 60W meridian time. 47 44'S 65 55'W, alt > 70m. Reliability: uncheckable.

879030: LAGO ARGENTINO AERU ARGENTINA 50.35 72.3W 222m 1961-1980 62
 Sources: AI
 Notes: AI: 1961-1970; 1/3(08 + 14 + 20) 60W meridian time + C. Values of C, a correction factor, are given on p7, vol "1961-1970". Reliability: uncheckable.

879090: SAN JULIAN ARGENTINA 49.35 67.8W 28m 1951-1980 62
 Sources: AI
 Notes: AI: 1951-1960; 1/3(08 + 14 + 20) + C, a correction factor. 49 19'S 67 47'W, alt = 26m. Reliability: uncheckable.

879120: SANTA CRUZ PUERTO ARGENTINA 50.05 68.5W 12m 1901-1975 10 1903
 Sources: AI
 Notes: AI: 1901-1903; 1/3(07 + 14 + 21) corrected to means of 24 hours. 1904-1920; 1/3(08 + 14 + 20) corrected to means of 24 hours. 1921-1930; means of 24 hours. In Dec 1936 alt changed from 13 to 11m. 1931-1950; 50 11'S 68 32'W. 1951-1960; 1/3(05 + 14 + 20) corrected to means of 24 hours. Alt = 12m. Reliability: compared with 878490 for the years 1903-1964.

879140: SANTA CRUZ PUERTO ARGENTINA 50.05 68.5W 1920-1958 62
 Sources: AI
 Notes: AI: 1951-1958; 1/3(08 + 14 + 20) + C, a correction factor, or 1/4(02 + 08 + 14 + 20). No other details available. Reliability: uncheckable.

879250: RIO GALIENOS ARGENTINA 51.65 69.4W 1931-1980 20 1931
 Sources: AI
 Notes: AI: 1951-1960; 1/4(02 + 08 + 14 + 20). 51 40'S 69 16'W, alt = 22m. 1961-1970; airport, 51 37'S 69 17'W. 1/4(02 + 08 + 14 + 20) 60W meridian time. Reliability: compared with 879380 for the years 1931-1980. Correction Factors: Station used: 879380. Calculation dates: 1931-1960 & 1961-1980. Correction dates: 1931-1960. Factors: 4 8 9 11 7 2 3 7 7 3 0.

879340: RIO GRANDE ANTARCTICA 53.8S 67.9W 1975-1980 61
Sources: AI
Notes: AI: Probably 1/3(08 + 14 + 20) + C, a correction factor, or 1/4(02 + 08 + 14 + 20). No other details available. Reliability: uncheckable.

879380: USHUAIA ARGENTINA 54.9S 68.4W 30m 1876-1980 12 1931
Sources: AI, A7S
Notes: AI: Alt: 6m. 1951-1960; 54.9S 68.6W. 1/4(02 + 08 + 14 + 20). 1961-1970; 1/4(02 + 08 + 14 + 20) 60W meridian time. 54.8S 68.3W. A7S: No details available. Reliability: compared with 878490 for the years 1903-1964.

879680: ORCAHAS DEST. NAVAL ARGENTINA 60.8S 44.8W 4m 1903-1980 10 1903
Sources: AI
Notes: AI: 1903-1950, means of 24 hours. 60 44'S 44 39'W, alt = 7m. 1931-1940; 60 43'S 44 47'W, alt = 5m. 1941-1950; 60 44'S 44 44'W, alt = 4m. 1951-1960; 1/4(03 + 09 + 15 + 21). Reliability: compared with 889000 & 889030 for the years 1903-1960 & 1905-1980.

888900: STANLEY ANTARCTICA 51.7S 57.9W 51m 1874-1980 10 1875
Sources: AI, A91
Notes: AI: 1903-1920; alt = 6ft. 1923-1950 = 2m. 1951-1960 = 53m. 1874-1930; 1/2(max + min). Station moved in Dec. 1941 & in Aug 1945, no details available. 1951-1960; 1/8(00 + 03 + 06 + 09 + 12 + 15 + 18 + 21) GMT. 1961-1970; alt = 51m. A91: Alt: 51m. No other details given, but probably means of 1/2(max + min). Reliability: compared with 879680 & 889030 for the years 1923-1980.

889030: GRYTVIKEN/S. GEORGIA ANTARCTICA 54.4S 36.5W 2m 1905-1980 10 1905
Sources: AI
Notes: AI: 1905-June 1907; 1/2(08 + min) corrected to means of 24 hours by corrections given on p121, vol 79. Then means of 24 hourly thermograph records, controlled by eye-readings at 08, 14 & 20h. Some months are 1/3(08 + 14 + 20) only, corrected to means of 24 hours by corrections given on p21. 54 13'S 36 33'W, alt = 4m. 1921-1940; means of 24 hours. June 1938-1940; alt = 3m. 1941-1948; 1/3(08 + 14 + 20) 60W meridian time corrected to means of 24 hours. 54 14'S 36 03'W. 1949-1950; 54 16'S 36 30'W, alt = 2m. 1/8(00 + 03 + 06 + ...21). The former station closed in 1948 & was replaced by King Edward Point, the two sites should be compatible. 1961-1970; 54 17'S 36 30'W, alt = 2m. Reliability: compared with 889000 & 879680 for the years 1923-1980 & 1905-1980.

889250: SIGNY I./S.ORKNEY ANTARCTICA 60.8S 45.7W 22m 1947-1976 60
Sources: AI
Notes: AI: 1/8(00 + 03 + 06 +21) GMT. 1951-1970; 60 43'S 45 36'W, alt = 7m. Reliability: uncheckable.

889680: ISLA ORCADA DEL SUR ANTARCTICA 60.8S 44.8W 1931-1980 60
Sources: AI
Notes: AI: 1961-1970; 1/4(02 + 08 + 14 + 20) 60W meridian time. 60 44'S 44 44'W. Reliability: uncheckable.

915030: MUMDA MISSION SOLOMON IS. 8.3S 157.3E 1962-1970 60
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 8 20'S 157 16'E, alt = 3m. Reliability: uncheckable.

915170: HONTARA SOLOMON IS. 9.9S 160.0E 58m 1951-1979 10 1951
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 9 52'S 159 58'E, alt = 59m. Site may have changed in July 1951 & in Jan 1954, but no details are given. 1961-1970; alt = 55m. Reliability: compared with 915540 for the years 1951-1979.

915510: SOLA, VENUA LAVA NEW HEBRIDES 13.9S 167.6E 42m 1954-1969 60
Sources: AI
Notes: AI: 1/2(max + min). 1954-1960; 13 52'S 167 33'E, alt = 42m. Reliability: uncheckable.

915540: LUCANVILLE/SANTO NEW HEBRIDES 15.5S 167.0E 146m 1951-1981 20 1951
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 15 31'S 167 08'E, alt = 153m. Reliability: compared with 915580 for the years 1951-1980. Corrected for a site change 1972/1973. Correction Factors: Stations used: 915580. Calculation dates: 1951-1972 & 1973-1980. Correction dates: 1951-1972. Factors: 4 4 4 10 8 6 8 12 10 8 8 6.

915580: VILA/EFATE NEW HEBRIDES 17.9S 168.3E 20m 1948-1981 10 1948
Sources: AI
Notes: AI: 1947-1950; 1/2(max + min). 17 44'S 168 19'E, alt = 65ft. 1951-1960; alt = 20m. 1961-1970; 17 45'S 168 18'E, alt = 20m. Reliability: compared with 915540 & 915680 for the years 1951-1980 & 1954-1972.

915680: ANELITYUH NEW HEBRIDES 20.2S 169.8E 8m 1954-1972 10 1954
Sources: AI
Notes: AI: 1/2(max + min). 1954-1960; 20 12'S 169 47'E, alt = 9m. 1961-1970; 20 14'S 169 46'E, alt = 7m. Reliability: compared with 915580 for the years 1954-1972.

915770: KOTHMAC
Sources: AI
NEWCALEDONIA 20.5S 164.1E 18m 1951-1980 10 1951
Notes: AI: 1/2(max + min). 1951 Nov 1951, 20 32'S 164 15'E, alt = 12m. Dec 1963; alt = 17m. 1963-1970; 20 34'S 164 11'E, alt = 23m. Reliability: compared with 915900 & 915920 for the years 1951-1970 & 1951-1980.

915900: TONTOUTA
Sources: AI
NEWCALEDONIA 22.0S 166.2E 37m 1951-1970 10 1951
Notes: AI: 1/2(max + min). 1951 1960, 22 01'S 166 12'E, alt = 19m. 1961-July 1963; 22 01'S 166 13'E, alt = 20m. Aug 1963-1969, alt = 36m. 1970; alt = 10m. Reliability: compared with 915920 & 915770 for the years 1951-1970.

915940: NIURAMA
Sources: AI, A9, A43, A109
NEWCALEDONIA 22.2S 166.9E 72m 1800-1980 11 1891
Notes: AI: 1941-1950; observations made at 3 different sites. 1941-1942; Nouville, alt = 2m, 1943 1946, Rue Bouquene, alt = 4m, 1947-1950, Hydrobase, alt = 3m. Important differences in the daily extreme values occur between sites, but it is believed good homogeneity exists for monthly means. 1951-1960, alt = 72m, 1961-1970 = 70m. Means of 1/2(max + min). A9: No details available. A43: Temp; 1/2(max + max). Observations also taken at same times as Press; 1905 on; 1/2(09 + 15). 1891-1905; alt = 11m, 1906-1910 = 9m. 1911-1913; 22 16'S 164 07'E of Paris, alt = 9m. A109; Alt; 30ft. No other details available. Reliability: compared with 915900 & 916900 for the years 1951-1970 & 1941-1980.

916290: ARUKAI
Sources: AI
GILBERT IS. 2.8S 176.0E 1932-1980 10 1956
Notes: AI: 1/2(max + min) 1951 1960, 2 40'S 176 53'E, alt = 7m. 1961-1970; 2 40'S 176 50'E, alt = 4m. Reliability: compared with 916100 & 916430 for the years 1956 1970.

916430: FUNAFUTI
Sources: AI
ELlice IS. 8.5S 179.1E 3m 1927-1980 10 1932
Notes: AI: 19m. 1912 station moved to Funafuti, 8 31'S 179 12'E, alt = 10ft. From Vaitupu Island. 1/2(max + min). 1951-1960; alt = 4m. 1961-1970; 8 31'S 179 13'E, alt = 1m. Reliability: compared with 916100 for the years 1951-1980.

916480: NIURAKITA
Sources: AI
ELlice IS. 10.8S 179.5E 3m 1 51-1980 00
Notes: AI: 1951-1960, 10 45'S 179 30'E, alt = 4m. 1/2(max + min). 1/4(00 + 06 + 12 + 18) GMT used Jan-Mar & Aug-Dec 1959 & Jan, Feb, Sept-Nov 1960. 1961-1970; 1/2(max + min). 10 45'S 179 30'E, alt = 2m. Reliability: uncheckable.

916500: ROTUMA
Sources: AI
FIJI 12.5S 177.0E 26m 1912-1981 10 1933
Notes: AI: 1/2(max + min). 1951-1960; 12 30'S 177 03'E, alt = 26m. 1961-1970; 1/4(00 + 06 + 12 + 18) GMT. Reliability: compared with 916800 & 916900 for the years 1942-1980 & 1933-1980.

916520: VUNIKONDI
Sources: AI
FIJI 16.1S 180.0W 63m 1951-1970 10 1951
Notes: AI: 1951-1960; 16 08'S 180 00'E, alt = 63m. 1/2(max + min). 1961-1970; 1/4(00 + 06 + 12 + 18) GMT. 16 08'S 179 59'W, alt = 63m. Reliability: compared with 916590 & 916600 for the years 1955-1970 & 1951-1970.

916590: NABODWALU VANUA LEVU FIJI
Sources: AI
17.0S 178.7E 30m 1951-1970 10 1955
Notes: AI: 1/2(max + min). 1951-1960; 16 59'S 172 42'E, alt = 30m. 1961-1970; 17 00'S 178 42'E, alt = 36m. 1/4(00 + 06 + 12 + 18) GMT. Reliability: compared with 916520 & 916600 for the years 1956-1970.

916600: YASAWA-I-RAWA
Sources: AI
FIJI 16.7S 177.6E 50m 1951-1970 10 1951
Notes: AI: 1951-1960; 1/4(00 + 06 + 12 + 18) GMT. 16 42'S 177 35'E, alt = 50m. 1961-1970; 1/4(00 + 06 + 12 + 18) GMT. Reliability: compared with 916520 & 916590 for the years 1951-1970 & 1956-1970.

916800: MANDI A
Sources: AI
FIJI 17.9S 177.5E 16m 1942-1981 20 1942
Notes: AI: 1/2(max + min). 1951-1960; 17 45'S 177 27'E, alt = 16m. 1961-1970; 1/4(00 + 06 + 12 + 18) GMT. In May 1965 station moved 0.5km to 19m. Reliability: compared with 916900 & 916900 for the years 1951-1980. Corrected for a site change 1970/1971. Correction Factors: Station: used: 916900 & 916900. Calculation dates: 1951-1970 & 1971-1980. Correction dates: 1942-1970. Factors: -11 -9 -11 -10 -7 -8 -8 -9 -12 -10 -8.

916830: NAUSORI
Sources: AI
FIJI 18.1S 178.6E 1971-1980 60
Notes: AI: Probably 1/4(00 + 06 + 12 + 18) GMT. No other details available. Reliability: uncheckable.

916900: LAUTHALA BAY
Sources: AI
FIJI 18.1S 178.4E 9m 1921-1981 10 1921
Notes: AI: alt = 9m. Probably 1/4(00 + 06 + 12 + 18) GMT. No other details available. Reliability: compared with 916500 & 916990 for the years 1933-1980 & 1943-1980.

916990: UNO-I LAU FIJI 20.85 178.8W 27m 1943-1981 10 1943
Sources: AI
Notes: AI: 1/2(max + min), 1951-1960, 20 40'S 178 43"W, alt = 28m. 1961-1970; 1/4(00 + 06 + 12 + 18) GMT. Reliability: compared with 916900 for the years 1943-1940.

917000: CANTON ISLAND PACIFIC OC. 2.8S 171.7W 3m 1937-1979 10 1937
Sources: AI
Notes: AI: 1937-April 1940, 1/2(max + min), Sept 1942-Jan 1946; means of 24 hours, 1947-1950; 1/2(max + min), 1942-1946; alt = 18ft, 1947-1950; 2 46'S 171 43"W, alt = 11ft, Jan 1955-1960; Topham Field, alt = 3m, 1961-1970; alt = 2m. Reliability: compared with 917200 for the years 1951-1967.

917200: ATAFU TOKELAU 8.5S 172.5W 1940-1975 20 1951
Sources: AI
Notes: AI: 1/2(max + min), 1951-1970, 8 32'S 172 31"W, alt = 2m. Reliability: compared with 917240 & 917530 for the years 1951-1970 & 1951-1979. Corrected for a site change associated with 1975-1977 data gap. Correction Factors: Stations used: 917530. Calculation dates: 1951-1974 & 1978-1979. Correction dates: 1951-1974. Factors: 16 10 14 15 16 9 15 17 19 13 22 14.

917240: NUKUNONO TOKELAU 9.2S 171.9W 3m 1951-1970 10 1951
Sources: AI
Notes: AI: 1/2(max + min), 1951-1960, 9 12'S 171 55"W, alt = 3m. 1961-1970; alt = 1m. Reliability: compared with 917200 & 917000 for the years 1951-1970 & 1951-1967.

917530: WALLIS WALLIS IS. 13.2S 176.1W 1949-1981 10 1950
Sources: AI
Notes: AI: 1951-1960, 1/4(min + 09 + 12 + 18) GMT. 13 16'S 176 08"W, alt = 3m. 1961-1970; 1/2(max + min). Alt; 11m. Station was transferred to Nihiro in July 1970. Reliability: compared with 917800 & 917880 for the years 1951-1967 & 1951-1970.

917581: WALLIS, AKA AKA WALLIS IS. 13.3S 176.1W 28m 1964-1981 60
Sources: AI
Notes: AI: alt = 28m. 1961-1970, 1/2(max + min). No other details available. Reliability: uncheckable.

917620: APIA SAMOA 13.8S 171.6W 2m 1890-1980 10 1891
Sources: AI, A73, A109
Notes: AI: 1890-1930, 1/3(07 + 14 + 21) corrected to the means of 24 hours & to the site of the new observatory at Mulinu, Apia, by simultaneous observations from Nov 1902-Dec 1904. Since Nov 1902 Mulinu has made standard observations. 1890-1910; prec observations taken at Sog; & from

1902 taken at Mulinu, a coefficient of 0.909 was used to reduce the old data. 1890-1970; alt given as 2m throughout, despite the various site changes. 1930-1970; 1/2(mean max + mean min). Between 1908 & 1920 the screen type was changed, also changed in Aug 1932 & Jan 1946. In April 1946 a small local site change was made. The rain gage moved in April 1943 & was replaced in Jan 1947. Fuller site & instrument details given on p61, vol 105 & on p86, vol "1941-1950", A73; Alt = 2m. No other details available. A109: No details available. Reliability: compared with 916900 for the years 1921-1980.

917650: TAFUNA AP, TUTIULA SAMOA 14.3S 170.7W 2m 1956-1980 60
Sources: AI
Notes: AI: 1956-1960, 1/2(max + min), 14 20'S 170 43"W, alt = 2m. Reliability: uncheckable.

917667: TAPUTINU, TUTIULA SAMOA 14.4S 170.8W 1955-1960 60
Sources: AI
Notes: AI: 1955-1960, 1/2(max + min), 14 22'S 170 47"W, alt = 11m. Reliability: uncheckable.

917800: VAVAU TONGA 18.6S 173.9W 1927-1970 10 1951
Sources: AI
Notes: AI: 1/4(00 + 06 + 12 + 18) GMT. In 1957 station moved from 18 35'S 170 00"W to 18 37'S 173 59"W, alt = 10m. 1961-1970; 1/2(max + min), 18 39'S 173 59"W, alt = 9m. Reliability: compared with 917530 & 917880 for the years 1951-1970.

917880: NUKUALOFA TONGA 21.1S 175.1W 1867-1970 11 1951
Sources: AI
Notes: AI: No details available. Reliability: compared with 917530 & 917800 for the years 1951-1970. Data for 19th century are too warm.

918000: PENNYN COOK ISLANDS 9.0S 158.0W 1m 1937-1981 10 1937
Sources: AI
Notes: AI: 1/2(max + min), 1951-1960; 9 00'S 158 03"W, alt = 1m. 1961-1970; 9 01'S 158 04"W, alt = 2m. Reliability: compared with 918110 for the years 1937-1980.

918040: RAKARANGA COOK ISLANDS 10.1S 161.1W 5m 1951-1970 10 1951
Sources: AI
Notes: AI: 1/2(max + min), 1951-1960; 10 03'S 161 06"W, alt = 3m. 1961-1970; alt = 5m. Reliability: compared with 918110 & 918000 for the years 1951-1970.

918110: PUKA-PUKA
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960, 10 55'S 165 49'W, alt = 2m. 1961-1970, alt = 3m. Reliability: compared with 918000 for the years 1937-1980.

918220: NIUEIS, AI091
Sources: AI
Notes: AI: 1/2(max + min). 1971-June 1940, 19 02'S 169 55'W, alt = 27m. Site moved 150yds. in July 1940, from 63ft to an unknown alt. Site moved 10ft in Jan 1949. The site is described on p86, vol "1941-1950", as being not ideal. 1941-1950; alt = 65ft. 1951-1960; 19 02'S 169 55'W, alt = 20m. 1961-1970; 19 04'S 169 55'W, alt = 55m. Reliability: compared with 918300 & 918430 for the years 1931-1980 & 1921-1980.

918300: ATUTAKI A
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 18 30'S 159 49'W, alt = 6m. 1961-1970; 18 30'S 159 46'W, alt = 4m. Reliability: compared with 918220 & 918430 for the years 1931-1980.

918410: KAKOHOHA
Sources: AI, AI09
Notes: AI09: Alt; 7m. No other details available. AI: Means of 1/2(max + min). In July 1934 the site moved 3 miles from Avarua to the b-410 Station & in June 1948 to the Airport which lies between the other 2 sites, 2 miles W of Avarua, alt = 200ft. 1951-1960; 21 12'S 159 46'W, alt = 5m. Reliability: compared with 918220 & 918300 for the years 1921-1980 & 1931-1980.

919020: MALDEN ISLAND
Sources: AI, AI09
Notes: AI: 1890-1919; means of observations at 09h. Alt; Mar 1890-Apr 1897 = 7ft, July 1897-May 1901 = 18ft, June 1901-June 1909 = 23ft, July 1909-Aug 1911 = 20ft, Sept 1911-Nov 1913 = 29ft, Dec 1913-1919 = 26ft. Later data are too incomplete for publication. AI09: No details available. Reliability: uncheckable.

919250: ATUONA
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 9 48'S 139 02'W, alt = 6m. 1961-July 1965; alt = 60m. Aug 1965-1970; alt = 91m. Reliability: uncheckable.

919270: NAPUKA
Sources: AI
Notes: AI: 1/2(max + min). 1955-1960; 14 14'S 141 12'W, alt = 2m. Reliability: uncheckable.

918110: PUKA-PUKA
Sources: AI
Notes: AI: alt = 2m. No other details available. Reliability: uncheckable.

919300: BORA-BORA
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 16 31'S 151 65'W, alt = 3m. 1961-1965; 16 30'S 151 45'W, 1966-1970; 16 29'S 151 45'W, alt = 2m. Reliability: compared with 919380 & 919310 for the years 1951-1980 & 1955-1980.

919310: MOPELIA
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 16 55'S 154 00'W, alt = 3m. 1961-1970; 16 46'S 153 57'W, alt = 2m. Reliability: compared with 919380 & 919300 for the years 1955-1980.

919380: TAHITI
Sources: AI, A9, A29, A43, AI09
Notes: AI: Means of 1/2(daily max + daily min). 1935-1948; alt = 92m. In Sept 1948 the station moved 2 km west, from 17 32'S 149 34'W, alt = 92m, to 17 32'S 149 35'W, alt = 2m. 1961-1970; 17 33'S 149 37'W, alt = 1m. A9: Temp; other details available. A43: Means of 1/2(max + min). Observations also taken at 06 & 13h prior to 1896, then at 08 & 16h. Alt; 6m. AI09: No details available. Reliability: compared with 919310 & 919300 for the years 1955-1980 & 1951-1980. Early years, 1876-1906, also seem to be correct.

919430: TAKAHORA
Sources: AI
Notes: AI: 1/2(max + min). 1952-1960; 14 30'S 145 05'W, alt = 2m. 1961-1970; 14 29'S 145 02'W, alt = 2m. Reliability: compared with 919380 & 919310 for the years 1952-1980 & 1955-1980.

919440: RAO
Sources: AI
Notes: AI: alt = 3m. 1969-1970; 1/2(max + min). No other details available. Reliability: uncheckable.

919450: BEREHERETUE
Sources: AI
Notes: AI: alt = 3m. 1966-1970; 1/2(max + min). No other details available. Reliability: uncheckable.

919460: TUAMOTU IS.
Sources: AI
Notes: AI: alt = 3m. 1969-1970; 1/2(max + min). No other details available. Reliability: uncheckable.

919470: TUAMOTU IS.
Sources: AI
Notes: AI: alt = 3m. 1966-1970; 1/2(max + min). No other details available. Reliability: uncheckable.

- 919480: RIKITEA PACIFIC OC. 23.1S 174.9W 1940-1980 60
Sources: AI
- Notes: AI: 1/2(max + min), 1952-1960, 23.07'S 174.57'W, alt = 3m. 1961-1970, 23.07'S 174.58'E, alt = 2m. Reliability: uncheckable.
- 919500: RIRIHU AUSTRAL IS. 22.4S 171.3W 1939-1969 60
Sources: AI
- Notes: AI: 1/2(max + min), 1951-1960, 22.27'S 171.20'W, alt = 4m. Reliability: uncheckable.
- 919540: TURHAI AUSTRAL IS. 23.4S 177.4W 1952-1980 60
Sources: AI
- Notes: AI: 1966-1970, 1/2(max + min). No other details available. Reliability: uncheckable.
- 919580: RAFA AUSTRAL IS. 27.5S 174.2W 1944-1980 10 1952
Sources: AI
- Notes: AI: 1/2(max + min), 1952-1960, 27.25'S 174.17'W, alt = 6m. 1961-1970, 27.25'S 174.20'W, alt = 6m. Reliability: compared with 919600 for the years 1956-1980.
- 919600: PILLAHRN PACIFIC OC. 25.0S 170.1W 1940-1981 11 1945
Sources: AI
- Notes: AI: 1/2(max + min), 1953-1960, 25.04'S 170.04'W, alt = 309m. 1961-1970, 24.06'S 170.06'W, alt = 264m. Reliability: compared with 919580 for the years 1956-1980. 1940-1945 too warm.
- 930110: KAITIATA AIRPORT NEW ZEALAND 35.1S 174.3E 82m 1949-1982 10 1949
Sources: AI, A175
- Notes: AI: 1961-1970, 1/2(max + min), 35.04'S 173.17'E, alt = 82m. A175: No details available. Reliability: compared with 931190 for the years 1949-1982.
- 931140: WHERUAPAI NEW ZEALAND 36.8S 174.6E 27m 1945-1982 40
Sources: AI, A175
- Notes: AI: 1/2(max + min), 1951-1960, 36.67'S 174.36'E, alt = 26m. 1961-1970, 36.48'S 174.38'E, alt = 31m. A175: No details available. Reliability: compared with 930110 & 931190 for the years 1949-1982 & 1945-1982.
- 931140: ALBERT PARK NEW ZEALAND 36.9S 174.6E 1965-1970 60
Sources: AI
- Notes: AI: 1/2(max + min), 1951-1970, 36.51'S 174.46'E, alt = 49m. Reliability: uncheckable.
- 931150: AUCKLAND NEW ZEALAND 36.9S 174.8E 1951-1960 60
Sources: AI
- Notes: AI: 1951-1960, 1/2(max + min), 36.51'S 174.46'E, alt = 5m. Reliability: uncheckable.
- 931190: AUCKLAND NEW ZEALAND 36.8S 174.8E 5m 1853-1984 10 1867
Sources: AI, A40, A50, A175
- Notes: AI: Means of 1/2(daily max + daily min), 1853-1866; alt = 140ft. 1868-1887; alt = 756ft, 1.5 miles from earlier site. 1888-1909; 1/4 mile from last site, alt = 125ft. Sept 1909; moved 1/2 mile, alt = 125ft. Until 1930, 36.50'S 174.50'E. Prior to 1868 a proper screen wasn't used & temp data are unreliable. The screen used until 1909 wasn't good, being too massive, monthly means are probably fairly satisfactory, but range is too great. 1931-1940, alt = 160ft, 1941-1949 = 134ft, 1950 = 12ft, 1931-1960; 36.51'S 174.46'E, 1951-1960; alt = 5m. 1965-1977; aerodrome, 37.05 174.8E, alt = 5m. A40: No details available. A50: No details available. A175: No details available. Reliability: compared with 934340 for the years 1864-1984. Earlier years are too warm.
- 932910: GISBORNE AERODROME NEW ZEALAND 38.7S 178.0E 8m 1937-1982 10 1937
Sources: AI, A175
- Notes: AI: alt = 8m. 1/2(max + min). No other details available. A175: No details available. Reliability: compared with 934340 & 931190 for the years 1937-1982.
- 933080: NEW PLYMOUTH NEW ZEALAND 39.1S 174.1E 58m 1944-1982 10 1951
Sources: AI, A50, A175
- Notes: AI: 1/2(max + min), 1951-1960; Harland Hill. 1961-1970; airport, 39.01'S 174.11'E, alt = 28m. In May 1968 station moved 2km, no details available. A50: No details available. A175: No details available. Reliability: compared with 934340 for the years 1944-1982. Earlier years are considered to be incorrect.
- 933710: NAPIER NEW ZEALAND 39.5S 176.9E 2m 1951-1970 10 1951
Sources: AI
- Notes: AI: 1/2(max + min), 1951-1960; 39.29'S 176.55'E, alt = 2m. 1961-1970; 39.30'S 176.55'E, alt = 2m. Reliability: compared with 932910 for the years 1951-1970.
- 934340: WELLINGTON NEW ZEALAND 41.3S 174.8E 128m 1862-1984 20 1862
Sources: AI, A50, A175
- Notes: AI: 1862-1868; alt = 90ft, 1869 = 60ft, 1870-June 1906 = 140ft, June 1906-June 1912 = 110ft, July 1912-1927 = 10ft, 1928-1950 = 415ft. Means of 1/2(daily max + daily min). In July 1949 trees by the rain gauge were removed & it is speculated that the resulting rainfall increase may have been 10%, details given on p85, vol "1941-1950". 1951-1960; alt = 119m. 1961-1970, Kelburn, alt = 125m. A50: No details available. A175: No

details available. Reliability: compared with 935450 & 939998 for the years 1862-1982 & 1906-1982. Corrected for a site change 1927. Correction Factors: Stations used: 935450 & 939998. Calculation dates: 1907-1927 & 1928-1982. Correction dates: 1862-1907. Factors: -8 -11 -11 -9 -8 -8 -7 -9 -10 -10 -8 -9.

935450: NELSON NEW ZEALAND -1.35 171.2E 7m 1862-1984 11 1862
 Sources: AI, A50, A175
 Notes: AI: 1/2(max + min). Alt. 1951-1960 = 7m. 1961-1970 = 5m. airport. A50: No details available. A175: No details available. Reliability: compared with 936140, 934340 & 939998 for the years 1866-1982, 1862-1982 & 1907-1982.

936140: HOKITIKA AERODROME NEW ZEALAND -2.75 171.0E 40m 1866-1984 21 1866
 Sources: AI, A40, A50, A175
 Notes: AI: Means of 1/2(daily max + daily min). Alt. 1866-1930 = 91ft, 1931-1945 = 12ft, 1946-1950 = 16ft, 1951-1960 = 5m. In 1945 the old station, 42 43'S 170 58'E, closed & was replaced in 1943 by the airport site, 42 43'S 170 57'E, alt = 16ft. Corrections to reduce latter data given on p85, vol "1941-1950". 1961-1970; 42 43'S 170 59'E, alt = 45m. Station moved from Hokitika South in Nov 1963, dual observations available, for Nov 1963-Mar 1965. A40: No details available. A50: No details available. A175: No details available. Reliability: compared with 935450, 934340 & 939998 for the years 1866-1982. Correction Factors: Stations used: 939998. Calculation dates: 1894-1911 & 1912-1984. Correction dates: 1894-1911. 1866-1880 considered correct so were not corrected. 1881-1893 missing. Factors: -15 -18 -14 -12 -9 -8 -6 -9 -13 -10 -10 -14.

937800: CHRISTCHURCH NEW ZEALAND -1.55 171.5E 8m 1864-1984 11 1905
 Sources: AI, A40, A175
 Notes: AI: Means of 1/2(daily max + daily min). 1864-1880; station was 6 miles from the sea & alt was 21ft. The new station opened in 1905, alt = 25ft. Prec. 1894-1904, was taken 1/4 mile from the new site. 1961-1950, alt = 22ft, 1951-1960 = 8m. 1961-1970; 43 29'S 172 33"E, alt = 36m. Airport site opened in Oct 1943, local site change occurred in July 1953, April 1956 & Oct 1960. A40: No details available. A175: No details available. Reliability: compared with 939999 for the years 1864-1984. Station data 1864-1880 are almost the same as 939999 so have been ignored.

937870: CHRISTCHURCH NEW ZEALAND -3.55 172.6E 8m 1951-1970 80
 Sources: AI
 Notes: AI: 1/2(max + min). 1951-1960; 43 32'S 172 37"E, alt = 3m. 1961-1970; alt = 7m. Local site changes occurred in July 1953, April 1956 & Oct 1960. Reliability: Station data have not been used as they are so similar to data for station 937800.

938430: INVERCARGILL NEW ZEALAND 46.45 168.4E 1951-1960 60
 Sources: AI
 Notes: AI: 1951-1960; 1/2(max + min). Pumping Station, 46 25'S 168 22"E, alt = 2m. Reliability: uncheckable.

938440: INVERCARGILL AERO NEW ZEALAND 46.45 168.3E 1m 1948-1984 10 1948
 Sources: AI, A175
 Notes: AI: 1/2(max + min). 1951-1960; 46 25'S 168 19"E, alt = 1m. 1961-1970; 46 25'S 168 20"E, alt = 2m. A175: No details available. Reliability: compared with 938940 for the years 1948-1984.

938900: DUNEDIN AP. NEW ZEALAND 45.9S 170.2E 1962-1970 60
 Sources: AI
 Notes: AI: 1961-1970; 1/2(max + min). 45 56'S 170 12"E, alt = 1m. Prior to 1962 observations were taken at Tairā 9km NE, alt = 25m. Reliability: uncheckable.

938940: DUNEDIN NEW ZEALAND 45.9S 170.5E 2m 1853-1984 20 1853
 Sources: AI, A50, A175
 Notes: AI: 1/2(max + min). 1864-1891; station was 3 miles from sea at 500ft. In 1892 it moved to 300ft. In 1913 moved again to a site 2 miles from the sea, alt = 250ft. 1931-1940; alt = 246ft. 1941-1950; 249ft. Prec given only from 1913, as earlier data considered too unreliable. From Oct 1940 temp recorded at Beta St, alt = 690ft & from Feb 1947 at Museumburgh, alt = 5ft. Corrections given on p85, vol "1941-1950". Museumburgh, alt = 31"E, alt = 2m, opened in May 1925 (prec), but temp taken at different sites prior to Nov 1947 & Oct 1960. A50: No details available. A175: No details available. Reliability: compared with 939998 & 939860 for the years 1864-1984 & 1878-1982. Corrected for a site change 1903/1904. Correction Factors: Stations used: 939998. Calculation dates: 1864-1903 & 1904-1984. Correction dates: 1853-1903. Factors: 6 5 5 4 6 6 7 4 6 4 6.

939440: CAMPBELL ISLAND NEW ZEALAND 52.5S 167.1E 19m 1941-1984 10 1941
 Sources: AI, A175
 Notes: AI: 1941-1950; 1/2(max + min). 52 32'S 169 08"E, alt = 54ft. Site is described on p86, vol "1941-1950". In April 1957 station moved from Tucker Cove, 52 32'S 169 09"E to Beeman Cove, 52 33'S 169 07"E, alt = 19m. 1961-1970; 52 33'S 169 09"E, alt = 15m. A175: No details available. Reliability: compared with 949980 for the years 1948-1980.

939860: CHATHAM ISLAND 2 NEW ZEALAND 44.0S 176.6E 49m 1878-1982 11 1878
 Sources: AI, A109, A175
 Notes: AI: Means of 1/2(max + min). Earlier sites were about 1 mile inland & E of present site. Feb 1878-Mar 1910; alt = 100ft. Station moved twice in June 1912, to 248ft. Temp June 1912-1914 have been corrected by 0.5F. More details given on p84, vol "1941-1950". 1941-1950; 43 58'S 176 33"E, alt = 162ft. 1951-1960; 43 57'S 176 34"E, alt = 44m. 1961-1970; 43 57'S 176 34"E,

940850: RABAU NEW BRITAIN I PAPIA NEW G. 4.2S 152.2E 6m 1891-1980 10 1949
Sources: A1, A9, A108

Notes: A1: Means of 1/2(max + min). Alt: 1946-1950 = 20ft, 1951-1960 = 6m, 1961-1970 = 4m, A9: No details available. A108: No details available. Reliability: compared with 940270 & 940350 for the years 1949-1975 & 1977-1980.

941200: PARWIN AIRPORT AUSTRALIA 12.5S 130.9E 29m 1870-1980 20 1882
Sources: A1

Notes: A1: Means of 1/2(max + min). 1832-940; alt = 97ft. 1941-1950 = 88ft. Prec data for 1921-1940 are adjusted to allow for defects found in the gauge, this makes their homogeneity rather doubtful. 1941-1960; alt = 27m, 1961-1970; 12 25'S 130 52'E, alt = 31m. Reliability: compared with 942870, 942870 & 940350 for the years 1882-1980, 1907-1980 & 1903-1980. Corrected for jumps 1939/1940 & 1964/1965. Correction Factors: Stations used: 940350, 942870 & 541260. Calculation dates: 1907-1939, 1940-1964 & 1965-1980. Correction dates: 1882-1939 & 1940-1964. Factors: i) 1882-1939, -1 -3 -6 -3 -4 -7 -5 -6 -6 0. ii) 1940-1964, 4 3 0 6 5 0 3 4 2 2 5.

941750: THURSDAY ISLAND AUSTRALIA 10.6S 142.2E 61m 1951-1980 20 1951
Sources: A1

Notes: A1: 1/2(max + min). 1951-1960; 10 35'S 142 13'E, alt = 61m. 1961-1970; alt = 58m. Reliability: compared with 940140, 940270, 940350, 940440 & 940850 for the years 1951-1980, 1951-1980, 1951-1980 & 1951-1980. Corrected for a jump 1958/1959. Correction Factors: Stations used: 940140, 940350 & 940850. Calculation dates: 1951-1958 & 1959-1980. Correction dates: 1951-1958. Factors: -3 -3 -7 -3 -8 -5 -9 -3 -1 -3 -4 -4.

942030: BROOME AUSTRALIA 18.0S 122.2E 9m 1890-1980 11 1951
Sources: A1, A74

Notes: A1: Means of 1/2(max + min). 1931-1960; alt = 19m. 1961-1970 = 17m, 18.0S 122.3E. A74: Temp; 1/2(max + min). Press; 1881-1885; means of 12 noon. 1886-1899; 1/2(09 + 15). Alt; 9m. Reliability: compared with 942120 & 942340 for the years 1898-1980 & 1951-1970. Earlier years considered incorrect.

942120: HALLS CREEK AUSTRALIA 18.3S 127.6E 406m 1891-1980 10 1951
Sources: A1, A74

Notes: A1: 1/2(mean max + mean min). 1951-1960; 18.3S 127.6E, alt = 406m, 1961-1970; 18.2S 127.7E, alt = 410m. A74: 1/2(max + min). No other details available. Reliability: compared with 942030 for the years 1898-1980. Early record considered incorrect.

942140: WYNDBAM AUSTRALIA 15.4S 128.1E 7m 1889-1899 60
Sources: A74

Notes: A74: Alt; 7m. Temp; 1/2(max + min). Press; 1/2(09 + 15). Reliability: uncheckable.

alt = 44m. Minor site changes occurred in 1954, 1956, 1957 & 1959. A109. No details available. A17: No details available. Reliability: compared with 919999 & 938940 for the years 1878-1982.

939970: RAOUH IS/KERMADEC IS NEW ZEALAND 29.3S 177.9E 49m 1937-1982 10 1940
Sources: A1, A175

Notes: A1: alt = 49m. 1/2(max + min). No other details available. A175: No details available. Reliability: compared with 918430 for the years 1940-1982.

939998: HASTERTON NEW ZEALAND -1.0 175.7E 1906-1984 10 1907
Sources: A175

Notes: A175: No details available. Reliability: compared with 934340 & 935450 for the years 1907-1984.

939999: TIRCOOL COLLEGE NEW ZEALAND 43.3S 172.7E 186m-1984 10 1864
Sources: A175

Notes: A175: No details available. Reliability: compared with 937800 & 938940 for the years 1864-1984.

940140: HAIANG PAPIA NEW G. 5.2S 145.8E 12m 1951-1980 40
Sources: A1

Notes: A1: 1/2(max + min). 1951-1960; 5 13'S 145 48'E, alt = 6m. 1961-1970; 5 13'S 145 47'E, alt = 4m. Reliability: compared with 940350 & 940270 for the years 1951-1980.

940270: LAE PAPIA NEW G. 6.7S 147.0E 9m 1945-1975 10 1949
Sources: A1

Notes: A1: 1945-1950; 6 43'S 147 00'E, alt = 12ft. 1/2(max + min). 1951-1970; 6 44'S 147 00'E, alt = 8m. Reliability: compared with 940350, 940440 & 940850 for the years 1949-1975, 1961-1975 & 1949-1975.

940350: PORT MURRESBY AP PAPIA NEW G. 9.5S 147.2E 30m 1891-1980 10 1903
Sources: A1, A108, A109

Notes: A1: Means of 1/2(mean daily max + mean daily min). Some early figures were unreliable & so were computed from the 09h dry bulb observations, by corrections given on p62, vol 79 & on p36, vol 90. Alt; 1891-Sept 1895 = 51ft, Oct-Dec 1895 = 39ft, July 1902-1940 = 126ft, 1941-1950 = 140ft, 1951-1960 = 28m. 1961-1970; 9 26'S 147 13"E, alt = 35m. A108: Temp; 1/2(max + min). Press; 1/2(09 + 15) corrected & reduced to 32F. MSI & standard gravity. A109: No details available. Reliability: compared with 941200 for the years 1903-1980.

942340: DALY WATERS AUSTRALIA 16.3S 133.4E 216m 1951-1970 10 1951
Sources: AI, A40
Notes: AI: 1950-1960; alt = 216m, 1961-1977; alt = 216m, 1/2(max + min). A40: No details available. Reliability: compared with 942030 & 942140 for the years 1951-1970.

942380: TENNANT CREEK H.O. AUSTRALIA 19.7S 134.2E 376m 1969-1980 60
Sources: AI, A40
Notes: AI: 1/2(max + min). No other details available. A40: No details available. Reliability: uncheckable.

942750: GEORGETOWN AUSTRALIA 18.3S 143.6E 1951-1960 60
Sources: AI
Notes: AI: 1951-1960, 1/2(max + min). 18 17'S 143 33'E, alt = 302m. Reliability: uncheckable.

942770: MT. SURPRISE AUSTRALIA 18.2S 144.3E 453m 1951-1963 60
Sources: AI
Notes: AI: 1951-1960, 1/2(max + min). 18 09'S 144 15'E, alt = 453m. Reliability: uncheckable.

942870: CAIRNS AUSTRALIA 16.9S 145.7E 5m 1882-1980 10 1907
Sources: AI
Notes: AI: 1/2(max + min). Alt: 1882-1950 = 16ft, 1951-1960 = 5m, 1961-1970 = 3m. Reliability: compared with 941200 for the years 1907-1980.

942940: TOWNSVILLE AUSTRALIA 19.3S 146.8E 4m 1951-1980 20 1951
Sources: AI
Notes: AI: 1/2(max + min). 19 15'S 146 46'E, alt = 4m. 1961-1970, alt = 6m. Reliability: compared with 942870 & 942990 for the years 1961-1980 & 1951-1980. Corrected for a site change 1968/1969. Correction Factors: Stations used: 942870 & 942990. Calculation dates: 1961-1968 & 1969-1980. Correction dates: 1951-1968. Factors: 8 8 7 6 4 4 3 2 4 5 6 7.

942990: WILLIS IS. AUSTRALIA 16.3S 150.0E 8m 1951-1980 10 1951
Sources: AI
Notes: AI: 1/2(max + min). 19 51-1960; 16 18'S 149 59'E, alt = 8m. 1961-1970; alt = 6m. Reliability: compared with 942870 & 942940 for the years 1961-1980 & 1951-1980.

943000: CARRAVON AUSTRALIA 24.9S 113.7E 4m 1883-1980 10 1951
Sources: AI, A74
Notes: AI: 1951-1960; alt = 5m, 1961-1970 = 4m, 1/2(max + min). A74: Temp; 1/2(max + min). Press; 1/2(09 + 15). Alt; 4m. Reliability: compared with 943050 for the years 1951-1975.

943020: NORTH WEST CAPE AUSTRALIA 21.8S 114.2E 1975-1980 60
Sources: AI
Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

943050: ONSLOW AUSTRALIA 21.7S 115.0E 4m 1886-1975 10 1938
Sources: AI, A74
Notes: AI: 1/2(max + min). Alt: 1886-1950 = 14ft, 1951-1960 = 4m, 1961-1970; 21.6S 115.1E, alt = 4m. A74: Temp; 1/2(max + min). Press; 1/2(09 + 15). No other details available. Reliability: compared with 943000 & 942030 for the years 1951-1975.

943120: PORT HEDLAND AUSTRALIA 20.4S 118.6E 11m 1951-1980 10 1951
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 20 23'S 118 37'E, alt = 8m. 1961-1970; alt = 9m. Reliability: compared with 943050 for the years 1951-1975.

943160: MULLAGINE AUSTRALIA 21.9S 120.1E 386m 1951-1964 60
Sources: AI
Notes: AI: 1951-1960; 1/2(max + min). 21 54'S 120 06'E, alt = 386m. Reliability: uncheckable.

943260: ALICE SPRINGS AUSTRALIA 23.6S 133.6E 549m 1874-1980 10 1879
Sources: AI, A40
Notes: AI: 1/2(max + min). 1874-1931; alt = 1926ft. In Feb 1932 instruments moved 2 miles to an alt. of 1901ft. 1951-1960; alt = 546m. 1961-1970; alt = 545m; 23.8S 133.9E. A40: No details available. Reliability: compared with 943350 & 941200 for the years 1907-1975 & 1882-1980. Record seems correct but is a long way from comparison stations.

943320: MT. ISA AUSTRALIA 20.7S 139.5E 1975-1980 60
Sources: AI
Notes: AI: 1/2(max + min). No other details available. Reliability: uncheckable.

943350: CLONCUREY AUSTRALIA 20.7S 140.5E 191m 1884-1975 10 1907
Sources: AI
Notes: AI: 1/2(max + min). Alt: 1884-1950 = 639ft, 1951-1960 = 188m, 1961-1970 = 189m. Reliability: compared with 943260 & 942870 for the years 1907-1975.

943660: LONGREACH AUSTRALIA 23.5S 144.2E 187m 1951-1980 10 1951
Sources: AI
Notes: AI: 1/2(max + min). 1951-1965; 23.26°S 144.15°E, alt = 187m. 1966-1970; 23.26°S 144.16°E, alt = 191m. Reliability: compared with 943350 & 945100 for the years 1951-1975 & 1951-1980.

943670: MACKAY AUSTRALIA 21.1S 149.0E 4m 1951-1980 10 1951
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 21.07°S 149.10°E, alt = 31m. 1961-1970; 21.07°S 149.13°E, alt = 31m. Reliability: compared with 942990 & 943740 for the years 1951-1980 & 1951-1971.

943740: ROCKHAMPTON AUSTRALIA 21.4S 150.5E 14m 1951-1971 10 1951
Sources: AI
Notes: AI: 1/2(max + min). 1951-1970; 21.23°S 150.29°E, alt = 10m. Reliability: compared with 942990 for the years 1951-1971.

943800: GLADSTONE AUSTRALIA 23.9S 151.3E 7m 1951-1980 20 1951
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 23.51°S 151.16°E, alt = 7m. 1961-1970; 23.50°S 151.17°E, alt = 7m. Reliability: compared with 942990 & 943670 for the years 1951-1980. Corrected for a site change 1957/1958. Correction Factors: Stations used: 942990 & 943670. Calculation dates: 1951-1957 & 1958-1980. Correction dates: 1951-1957. Factors: 5 6 9 9 6 11 8 7 3 2.

943870: BUNDABERG AUSTRALIA 24.9S 152.4E 1961-1970 60
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 24.52°S 152.21°E, alt = 14m. Reliability: uncheckable.

944000: HARELIN POOL AUSTRALIA 26.3S 114.2E 5m 1987-1989 60
Sources: A74
Notes: A74: Alt; 5m. Temp; 1/2(max + min). Press; 1/2(09 + 15). Reliability: uncheckable.

944030: GERALDTON AUSTRALIA 28.8S 114.7E 37m 1877-1980 60
Sources: AI, A74
Notes: AI: 1/2(max + min). 1961-1970; 28.48°S 114.42°E, alt = 37m. A74: Temp; 1/2(max + min). Press; 1/2(09 + 15). No other details available. Reliability: uncheckable.

944300: MEKATHARRA AUSTRALIA 26.6S 118.5E 518m 1951-1980 10 1951
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 26.36°S 118.29°E, alt = 511m. 1961-1970; 26.35°S 118.30°E, alt = 522m. Reliability: compared with 943120 for the years 1951-1980.

944570: WARRBURTON RANGE AUSTRALIA 26.1S 126.6E 366m 1951-1964 60
Sources: AI
Notes: AI: 1951-1960; 1/2(max + min). 26.05°S 126.36°E, alt = 366m. Reliability: uncheckable.

944610: GILES AUSTRALIA 25.0S 128.2E 599m 1956-1980 10 1956
Sources: AI
Notes: AI: 1/2(max + min). 1956-1960; 25.02°S 128.18°E, alt = 514m. 1961-1970; alt = 588m. Reliability: compared with 944760 & 943260 for the years 1956-1980.

944760: OODNABATTA AUSTRALIA 27.6S 135.5E 113m 1951-1980 10 1951
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 27.33°S 135.27°E, alt = 116m. 1961-1970; 27.33°S 135.28°S, alt = 118m. Reliability: compared with 944610 & 943260 for the years 1956-1980 & 1951-1980.

944800: MARREE AUSTRALIA 29.7S 138.1E 49m 1951-1963 60
Sources: AI
Notes: AI: 1951-1960; 1/2(max + min). 29.39°S 138.04°E, alt = 49m. Reliability: uncheckable.

945100: CHARLEVILLE AUSTRALIA 26.4S 146.3E 304m 1951-1980 10 1951
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 26.25°S 146.17°E, alt = 299m. 1961-1970; alt = 306m. Reliability: compared with 943350 & 943600 for the years 1951-1975 & 1951-1980.

945270: MOREE AUSTRALIA 29.5S 149.9E 212m 1964-1980 60
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 29.28°S 149.51°E, alt = 212m. Reliability: uncheckable.

945420: DALBY AUSTRALIA 27.2S 151.3E 345m 1951-1964 60
Sources: AI
Notes: AI: 1951-1960; 1/2(max + min). 27.11°S 151.16°E, alt = 345m. Reliability: uncheckable.

945680: ANDERLEY AUSTRALIA 27.6S 152.7E 26m 1951-1970 10 1951
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 27 38'S 152 43'E, alt = 26m. 1961-1970; alt = 25m. Reliability: compared with 945780, 945760 & 949590 for the years 1951-1970.

945760: BRISBANE APT AUSTRALIA 27.5S 153.0E 41m 1951-1970 80
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 27 28'S 153 02'E, alt = 41m. 1961-1970; alt = 36m. Reliability: compared with 945780 & 945680 for the years 1951-1970.

945780: BRISBANE APT AUSTRALIA 27.5S 153.0E 0m 1880-1980 10 1887
Sources: AI, A40
Notes: AI: 1/2(daily max + daily min). Alt. 1887-July 1911 = 137ft, Aug 1911-July 1918 = 38ft, Aug 1918-1930 = 123ft, 1931-1950 = 134ft, 1951-1960 = 41m. Eagle Farm; 1951-1960, 27.5S 153.1E, alt = 4m. A40: No details available. Reliability: compared with 947670 & 949590 for the years 1887-1980 & 1915-1980.

945910: GOULANGAITTA AUSTRALIA 28.2S 153.5E 1962-1970 60
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 28 10'S 153 30'E, alt = 6m. Reliability: uncheckable.

946010: CAPE LEJWIN AUSTRALIA 34.2S 115.3E 1897-1899 60
Sources: A74
Notes: A74: Temp; 1/2(max + min). Press; 1/2(09 + 15). Reliability: uncheckable.

946080: PERTH AUSTRALIA 32.0S 115.8E 60m 1852-1970 80
Sources: AI, A40, A74
Notes: AI: 1/2(max + min). 1876-1950; alt = 210ft, 1951-1960 = 60m. 1961-1970; 31 57'S 115 30'E, alt = 19m. A40: No details available. A74: Temp; 1/2(max + min). Press; 1/2(09 + 15). No other details available. Reliability: compared with 946100 for the years 1951-1970.

946100: PERTH AUSTRALIA 32.0S 115.7E 60m 1852-1980 11 1871
Sources: AI, A40, A74
Notes: AI: 1/2(max + min). 1951-1960; 31.9S 116.0E, alt = 18m, 1961-1970; 31 55'S 115 38'E, alt = 20m. A40: No details available. A74: Temp; 1/2(max + min). Press; 1/2(09 + 15). No other details available. Reliability: compared with 946370 & 943280 for the years 1941-1980 & 1879-1980.

946290: KATANNING AUSTRALIA 33.7S 117.6E 310m 1885-1964 11 1951
Sources: AI, A74
Notes: AI: 1/2(max + min). Alt; 310m. A74: Temp; 1/2(max + min). Press; 1/2(09 + 15). Reliability: compared with 946370 for the years 1951-1964. Early years considered incorrect.

946340: SOUTHERN CROSS AUSTRALIA 31.3S 119.3E 1895-1899 60
Sources: A74
Notes: A74: Temp; 1/2(max + min). Press; 1/2(09 + 15). Reliability: uncheckable.

946370: KALGOORLIE AUSTRALIA 30.8S 121.5E 361m 1941-1980 10 1941
Sources: AI
Notes: AI: 1941-1950; 1/2(max + min). 30 65'S 121 30'E, alt = 1247ft. 1951-1960; 30 46'S 121 27'E, alt = 361m. 1961-1970; 30 47'S 121 27'E, alt = 360m. Reliability: compared with 946100 for the years 1941-1980.

946380: ESPERANCE M. O. AUSTRALIA 33.8S 121.9E 25m 1883-1980 60
Sources: AI, A74
Notes: AI: 1/2(max + min). Alt; 25m. A74: Temp; 1/2(max + min). Press; 1/2(09 + 15). Reliability: uncheckable.

946460: FOREST AUSTRALIA 30.9S 128.1E 157m 1951-1980 20 1951
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 30 51'S 128 06'E, alt = 160m. 1961-1970; 30 50'S 128 06'E, alt = 156m. Reliability: compared with 946530 & 946590 for the years 1951-1980. Corrected for a site change 1968. Correction Factors: Stations used: 946530 & 946590. Calculation dates: 1951-1968 & 1969-1980. Correction dates: 1951-1968. Factors: 6 4 9 4 4 2 1 5 6 6 8 7.

946500: MARALINGA AUSTRALIA 30.2S 131.6E 1961-1967 60
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 30 09'S 131 35'E, alt = 294m. Since 1970 WHO number has been allocated to Yalata. Reliability: uncheckable.

946530: CEDUNA AUSTRALIA 32.1S 133.7E 17m 1951-1980 10 1951
Sources: AI
Notes: AI: 1/2(max + min). 1951-Feb 1969; 32 08'S 133 42'E, alt = 19m. Mar 1969-1970; alt = 24m. Reliability: compared with 946590 for the years 1951-1980.

946590: WOOMERA AUSTRALIA 31.25 136.8E 169m 1951-1980 10 1951
Sources: AI
Notes: AI: 1951-1960; 31 09'S 136 48'E, alt = 169m. 1961-1970; 31 09'S 136 49'E, alt = 165m. Reliability: compared with 946530 for the years 1951-1980.

946720: ADELAIDE AUSTRALIA 35.05 138.5E 43m 1839-1980 20 1857
Sources: AI, A40
Notes: AI: 1/2(daily max + daily min). 1839-1950; alt = 140ft, 1951-1960 = 43m, 1961-1977 = 11m. Prec site moved in 1879, average annual difference between 2 sites was 0.26 inches, so 2 records can be considered uniform. In the early years observations were made at a private house in Adelaide & Adelaide also in Government House grounds. Observatory opened in May 1860. A40: No details available. Reliability: compared with 943260, 947150, 948210 & 948680 for the years 1879-1980, 1879-1945, 1951-1980 & 1951-1970. 1961 on too cold & corrected, may be a site change or observation time change. Correction Factors: Stations used: 948210 & 948680. Calculation dates: 1951-1960 & 1961-1970. Correction dates: 1857-1960. Factors: -14 -9 -17 -11 -9 -6 -4 -8 -5 -7 -9 -8.

946740: LEIGH CREEK AUSTRALIA 30.55 138.4E 1961-1970 60
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 30 28'S 138 25'E, alt = 200m. Reliability: uncheckable.

946750: ADELAIDE AUSTRALIA 34.9S 138.6E 1961-1970 60
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 34 56'S 138 35'E, alt = 43m. 1961-1970; At some stage station moved from W. Terrace to Regional Office. This latter site moved in 1977, no details given. Reliability: uncheckable.

946890: BROKEN HILL AUSTRALIA 32.05 141.5E 1961-1970 10 1961
Sources: AI
Notes: AI: 1/2(max + min). No other details available. Reliability: compared with 946720 for the years 1961-1970.

946900: BROKEN HILL AUSTRALIA 32.05 141.5E 2m 1951-1964 10 1951
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 31 58'S 141 27'E, alt = 286m. 1961-1970; alt = 304m. Reliability: compared with 946720 for the years 1951-1964.

946930: MULDURA AUSTRALIA 34.25 142.1E 51m 1961-1980 60
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 34 14'S 142 05'E, alt = 51m. Reliability: uncheckable.

947030: ROURKE AUSTRALIA 30.1S 145.9E 110m 1951-1964 60
Sources: AI, A40
Notes: AI: Alt; 110m. 1/2(max + min). A40: Alt; 107m. No other details available. Reliability: uncheckable.

947110: COBAR AUSTRALIA 31.55 145.8E 221m 1962-1980 60
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 31 32'S 145 49'E, alt = 221m. Reliability: uncheckable.

947150: WILGETT AUSTRALIA 30.05 148.2E 1879-1945 10 1879
Sources: A49
Notes: A49: No details available. Reliability: compared with 946720 for the years 1879-1945.

947190: DUBBO AUSTRALIA 32.3S 148.6E 265m 1875-1964 11 1875
Sources: AI, A40, A49
Notes: AI: Alt; 265m. 1/2(max + min). A40: No details available. A49: No details available. Reliability: compared with 949950 & 945780 for the years 1912-1964 & 1887-1964.

947500: NOMRA AUSTRALIA 35.0S 150.5E 1961-1970 60
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 34 57'S 150 32'E, alt = 108m. Reliability: uncheckable.

947530: RICHMOND AUSTRALIA 33.6S 150.8E 1961-1970 60
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 33 36'S 150 47'E, alt = 19m. Reliability: uncheckable.

947620: TAMWORTH AUSTRALIA 31.1S 150.9E 1961-1970 60
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 31 05'S 150 51'E, alt = 40m. Reliability: uncheckable.

947670: SYDNEY AUSTRALIA 34.0S 151.1E 92m 1859-1980 20 1859
Sources: AI, A40
Notes: AI: 1/2(daily max + daily min). Prec; 1840-1855; site was 5 miles from city & from 1856-1859 was at Peterham before moving to temperature site at the Observatory. Alt; 1859-1917 = 146ft, April 1917-June 1922 = 133ft, July 1922-1950 = 138ft, 1951-1960 = 42m, 1961-1970 = 92m. Station moved in Sept 1963, no details given. A40: No details available. Reliability: uncheckable.

compared with 945780, 947190, 949950 & 949960 for the years 1887-1980, 1875-1964, 1912-1980 & 1915-1980. Corrected for a site change 1912. Correction Factors: Stations used: 945780 & 947190. Calculation dates: 1887-1912 & 1913-1945. Correction dates: 1859-1912. Factors: 3 6 3 4 6 5 6 7 4 8 1 1.

947760: WILLIAMTOWN AUSTRALIA 37.8S 151.0E 9m 1951-1980 60
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 32 49'S 151 50'E, alt = 4m. 1961-1970; alt = 9m. Reliability: uncheckable.

947910: COFFS HARRIS AUSTRALIA 30.3S 153.1E 5m 1961-1980 60
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 30 19'S 153 07'E, alt = 5m. Reliability: uncheckable.

948020: ALBANY AUSTRALIA 35.0S 117.0E 71m 1877-1980 60
Sources: AI, A74
Notes: AI: 1/2(max + min). 1951-1960, alt = 69m, 1961-1970 = 71m. A74: Temp; 1/2(max + min). Press; 1/2(09 + 15). No other details available. Reliability: uncheckable.

948210: MT. GAMBLER H.O. AUSTRALIA 37.8S 140.8E 69m 1951-1980 10 1951
Sources: AI, A40
Notes: AI: 1/2(max + min). Alt; 1951-1960 = 69m, 1961-1970 = 65m. A40: No details available. Reliability: compared with 948680 for the years 1951-1970.

948650: LAVERKTON AIRPORT AUSTRALIA 37.9S 144.8E 14m 1951-1980 60
Sources: AI
Notes: AI: 1951-1960; 37 52'S 144 46'E, alt = 14m. 1961-1970; 37 53'S 144 45'E, alt = 14m. Reliability: uncheckable.

948680: MELBOURNE AUSTRALIA 37.8S 145.0E 44m 1941-1970 10 1951
Sources: AI, A40
Notes: AI: 1/2(max + min). Alt; 1941-1950 = 114ft, 1951-1960 = 44m, 1961-1970 = 35m. Station moved in Sept 1962 & Sept 1966, both within 500m of the original site. A40: No details available. Reliability: compared with 948210 for the years 1951-1970.

948690: DERILIJUIN AUSTRALIA 35.5S 145.0E 95m 1863-1964 10 1941
Sources: AI, A49
Notes: AI: 1/2(max + min). Alt; 1941-1950 = 311ft, 1951-1960 = 95m. A49: No details available. Reliability: compared with 948680 for the years 1941-1964.

949070: EAST SALE AUSTRALIA 38.1S 147.1E 5m 1961-1980 60
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 38 06'S 147 08'E, alt = 5m. Reliability: uncheckable.

949100: WAGGA AUSTRALIA 35.2S 147.5E 221m 1961-1980 60
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 35 10'S 147 28'E, alt = 221m. Reliability: uncheckable.

949260: CANBERRA AUSTRALIA 35.3S 149.2E 577m 1951-1980 80
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 35 18'S 149 12'E, alt = 560m, 1961-1970; alt = 576m. Reliability: compared with 947670 for the years 1951-1980.

949680: LAUNCESTON AP AUSTRALIA 41.6S 147.2E 177m 1951-1976 10 1951
Sources: AI
Notes: AI: 1951-1960, 1/2(max + min). 41 33'S 147 13'E, alt = 174m, 1961-1970; alt = 171m. Reliability: compared with 949750 for the years 1951-1976.

949700: HOBART, TASMANIA AUSTRALIA 42.9S 147.3E 54m 1951-1970 10 1951
Sources: AI
Notes: AI: 1/2(max + min). 1951-June 1966, 42 53'S 147 20'E, alt = 54m, July 1966-1970; alt = 55m. Reliability: compared with 949680 for the years 1951-1970.

949750: HOBART, TASMANIA AUSTRALIA 43.0S 147.2E 54m 1841-1980 11 1884
Sources: AI, A40
Notes: AI: 1/2(daily max + daily min) 150E meridian time. Alt; 1931-1940 = 197ft, 1941-1950 = 177ft. 1951-1977; airport, 42 50'S 147 32'E, alt = 4m. A40: No details available. Reliability: compared with 947670 for the years 1859-1980. Earlier years are too warm.

949800: PATS RIVER AUSTRALIA 40.1S 148.0E 1962-1970 60
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 40 06'S 148 01'E, alt = 10m. Reliability: uncheckable.

949950: LORD HOWE ISLAND AUSTRALIA 31.5S 159.1E 46m 1886-1980 10 1912
Sources: AI, A108, A109
Notes: AI: 1/2(max + min). Alt; 1886-1950 = 35ft, 1951-1960 = 11m, 1961-1970 = 5m, 1971-1977 = 4m. A108: No details available. A109: No details available. Reliability: compared with 947190 & 945780 for the years

1912-1964 & 1912-1980.

949960: NORFOLK ISLAND AUSTRALIA 29.15 167.9E 109m 1890-1980 20 1915
Sources: AI, AI06, AI09

Notes: AI: 1/2(max + min). 1891-1950, 29.03'S 167.56'E, 1951-1960; alt = 110m. 1961-1970, 29.05'S 167.58'E, alt = 113m. AI08: 29.15 168.0E. No other details available. AI09: No details available. Reliability: compared with 949950 for the years 1915-1980. Corrected for site changes Feb 1939 & July 1948. Correction Factors: Stations used: 949950. Calculation dates: 1915-1938 & 1940-1947. Correction dates: 1915-1938 (Feb 1939) & 1940-1947 (July 1948). Factors: i) 1915-1938, -10 -8 -6 -11 -6 -4 -6 -5 -5 -6 -4 -8. ii) 1940-1947, 9 7 3 2 2 8 5 4 4 3 9 6.

949970: HEARD ISLAND AUSTRALIA 53.15 72.5E 1948-1954 60
Sources: AI

Notes: AI: 1948-1950; 1/2(max + min). 53.06'S 72.31'E, alt = 15ft. 1951-1954; alt = 5m. Reliability: uncheckable.

949980: MACQUARIE ISLAND AUSTRALIA 54.5S 159.0E 6m 1948-1980 10 1948
Sources: AI

Notes: AI: 1/2(max + min). 1951-1970; 54.30'S 158.57'E, alt = 6m. Reliability: compared with 939440 for the years 1948-1980.

937357: BATHURST AUSTRALIA 33.4S 149.6E 672m 1858-1945 80
Sources: A49

Notes: A49: Alt; 672m. No other details available. Reliability: compared with 947670 for the years 1858-1945.

962210: PALEMBANG INDONESIA 2.9S 104.7E 10m 1961-1980 12 1961
Sources: AI

Notes: AI: 1961-1970; 1/2(max + min). 2.54'S 104.42'E, alt = 10m. Reliability: compared with 962370 for the years 1961-1980.

962530: BENGKULU INDONESIA 3.5S 102.1E 14m 1961-1980 62
Sources: AI

Notes: AI: 1961-1970; 1/2(max + min). 3.32'S 102.20'E, alt = 14m. Reliability: uncheckable.

962730: HENGKALA ASTRANSETRA INDONESIA 4.5S 105.2E 14m 1961-1980 62
Sources: AI

Notes: AI: 1961-1970; 4.27'S 105.11'E, alt = 14m. 1/2(max + min). Reliability: uncheckable.

962950: BEBANTI INDONESIA 5.3S 105.2E 86m 1961-1980 62
Sources: AI

Notes: AI: 1961-1970; 1/2(max + min). 5.16'S 105.11'E, alt = 88m. Reliability: uncheckable.

966850: BANDJARMASIN/ULIN INDONESIA 3.5S 114.8E 20m 1954-1980 62
Sources: AI

Notes: AI: 1/2(max + min). 1954-1970, 3.27'S 114.45'E, alt = 20m. Reliability: uncheckable.

967370: SEBANG INDONESIA 6.1S 106.1E 40m 1961-1980 62
Sources: AI

Notes: AI: 1961-1970; 1/2(max + min). 6.07'S 106.08'E, alt = 40m. Reliability: uncheckable.

967390: CURUG INDONESIA 6.5S 106.7E 46m 1961-1980 62
Sources: AI

Notes: AI: 1961-1970; 1/2(max + min). 6.14'S 106.39'E, alt = 46m. Reliability: uncheckable.

967430: JAKARTA(KEKAYORAN) INDONESIA 6.2S 106.9E 3m 1961-1980 82
Sources: AI

Notes: AI: 1961-1970; 1/2(max + min). 6.09'S 106.51'E, alt = 3m. Reliability: compared with 967450 for the years 1961-1980. Record shows a jump 1966/1969 followed by a data gap, 1971-1975.

967450: DJAKARTA OBS. INDONESIA 6.2S 106.8E 8m 1864-1980 10 1866
Sources: AI

Notes: AI: 1866-1950; means of 24 hours. Alt; 1864-1970 = 7m, 1971-1960 = 8m. 1951-1960; 1/2(max + min). 1961-1970; alt = 6m, 06 11'S 106.50'E. Reliability: compared with 961630, 965810 & 967810 for the years 1866-1980, 1912-1980 & 1912-1980. Oct 1961 value is too low.

967470: JAKARTA (HALIM P.K.) INDONESIA 6.3S 106.8E 74m 1961-1980 82
Sources: AI

Notes: AI: 1961-1970; 1/2(max + min). 6.15'S 106.50'E, alt = 24m. Reliability: compared with 967450 for the years 1961-1980. Record shows a jump 1971-1975 associated with a data gap.

967810: BANDUNG INDONESIA 6.9S 107.6E 740m 1912-1980 12 1912
Sources: AI, AI55

Notes: AI55: 6.55'S 107.36'E. Alt; 1912-1943 = 730m, 1944-1945 = 768m, 1912-1932; 1/12(02 + 04 + ...24). 1933-1945; 1/3(06 + 14 + 20). AI: 1961-1870; 6.54'S

107° 35'E, alt = 740m. Reliability: compared with 967450 & 967811 for the years 1912-1980 & 1912-1948. Sept 1979 value is too low.

967811: TJIBODAS INDONESIA 6.8S 107.0E 1400m 1905-1948 12 1905
Sources: A155
Notes: A155: Alt: 1400m. 1905-1932; 1/2(02 + 04 + ...24). 1933-1948; 1/3(06 + 14 + 20). No other details available. Reliability: compared with 968051 & 967810 for the years 1912-1933 & 1912-1948. 1905 values are too low.

967970: TEGAL INDONESIA 6.9S 109.2E 3m 1961-1980 62
Sources: A1
Notes: A1: 1961-1970; 1/2(max + min). 6 51'S 109 09'E, alt = 3m. Reliability: uncheckable. Jan 1964 & June 1978 values are too low.

968010: TASIKMALAYA INDONESIA 7.3S 108.1E 335m 1961-1978 62
Sources: A1
Notes: A1: 1961-1970; 1/2(max + min). 7 20'S 108 15'E, alt = 335m. Reliability: uncheckable.

968050: CILACAP INDONESIA 7.7S 109.0E 6m 1961-1980 62
Sources: A1
Notes: A1: 1961-1970; 1/2(max + min). 7 44'S 109 01'E, alt = 6m. Reliability: uncheckable. Aug 1961 value is too low, 1963 too high.

968051: KARANGARJAR INDONESIA 7.6S 109.6E 13m 1912-1933 80
Sources: A155
Notes: A155: Alt: 13m. 1912-1917; 1/5(06 + 09 + 12 + 15 + 17). 1918-1933; 1/12(02 + 04 + ...24). No other details available. Reliability: compared with 967811 & 968531 for the years 1912-1933. Record shows, uncorrected, jump 1916/1917.

968390: SEPANGANG INDONESIA 7.0S 110.4E 31m 1961-1980 62
Sources: A1
Notes: A1: 1961-1970; 6 59'S 110 23'E, alt = 31m. 1/2(max + min). Reliability: uncheckable.

968531: TUSARI INDONESIA 7.9S 112.9E 1735m 1912-1933 10 1912
Sources: A155
Notes: A155: Alt: 1735m. 1912-1932; 1/12(02 + 04 + ...24). 1933; 1/3(06 + 14 + 20). No other details available. Reliability: compared with 968051 & 969367 for the years 1912-1933.

968810: MADJUN INDONESIA 7.6S 111.5E 110m 1961-1979 62
Sources: A1
Notes: A1: 1961-1970; 1/2(max + min). 7 37'S 111 31'E, alt = 110m. Reliability: uncheckable. June 1976 value is too low.

969330: SURABAJA/PERAK INDONESIA 7.2S 112.7E 3m 1951-1980 62
Sources: A1
Notes: A1: 1/2(max + min). 1951-1970; 7 13'S 112 43'E, alt = 3m. Reliability: uncheckable.

969367: PASURUAN INDONESIA 7.6S 112.9E 5m 1879-1960 10 1915
Sources: A1, A155
Notes: A1: 1879-1960; alt = 5m. 1931-1932; true daily means from 2 hourly readings 1933-1940; 1/3(06 + 14 + 20). 1941-1950; means of 24 hours. 1951-1960; 1/2(mean max + mean min). A155: 7 38'S 112 55'E. Alt: 5m. 1912-1913; 1/3(07 + 12 + 17) reduced to 24 hourly means. 1914-1931; 1/12(02 + 04 + ...24). Reliability: compared with 968531, 967810 & 967811 for the years 1912-1933, 1912-1960 & 1912-1948. 1914 values are too low.

969730: KALIANGET INDONESIA 7.1S 114.0E 3m 1961-1980 62
Sources: A1
Notes: A1: 1961-1970; 1/2(max + min). 7 03'S 113 58'E, alt = 3m. Reliability: uncheckable.

969887: KAJOMAS INDONESIA 7.9S 114.2E 930m 1888-1960 61
Sources: A1, A155
Notes: A1: 1888-1960; alt = 930m. No other details available. A155: 7 56'S 114 09'E. Alt: 1912-1914 = 950m, 1915-1918 = 1060m, 1/12(02 + 04 + ...24). Reliability: uncheckable.

969960: COCOS ISLAND INDONESIA 12.3S 96.7E 8m 1952-1980 20 1952
Sources: A1
Notes: A1: 1/2(max + min). 1952-1960; 12 05'S 96 53'E, alt = 5m. 1961-1970; 12 12'S 96 50'E, alt = 3m. Reliability: compared with 967450 for the years 1952-1980. Corrected for a jump 1959/1960. Correction Factors: Stations used; 967450. Calculation dates; 1960-1970. Correction factors: 1952-1959. Factors; -3 -2 -5 -4 -5 -4 -3 -4 -9 -4 -4 -3.

971460: KENDARI INDONESIA 4.1S 122.4E 30m 1962-1980 62
Sources: A1
Notes: A1: 1961-1970; 1/2(max + min). 4 06'S 122 26'E, alt = 30m. Reliability: uncheckable.

971800: MAKASSAR/HAMDAI INDONESIA 5.1S 119.6E 14m 1951-1980 62
Sources: AI
Notes: AI: 1/2(max + min). 1951-1960; 5 04'S 119 33'E, alt = 14m. 1961-1970; 4 05'S 119 33'E, alt = 14m. Reliability: uncheckable.

972300: DENPASAR INDONESIA 8.8S 115.2E 1m 1961-1980 62
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 8 45'S 115 10'E, alt = 1m. Reliability: uncheckable.

972400: KEMBIGA INDONESIA 8.6S 116.1E 15m 1961-1980 62
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 8 34'S 116 04'E, alt = 15m. Reliability: uncheckable.

973400: WAINGAPU INDONESIA 9.7S 120.3E 10m 1965-1980 62
Sources: AI
Notes: AI: 1961-1970; 1/2(max + min). 9 40'S 120 20'E, alt = 10m. Reliability: uncheckable.

973720: KUPANG/PENFUI INDONESIA 10.2S 123.6E 108m 1879-1980 82
Sources: AI, A155
Notes: AI: 1879-1950; alt = 15m. 1951-1970; alt = 108m. Means of 1/2(max + min). 1961-1970; 10.2S 123.7E. A155: 10 10'S 123 34'E. Alt: 1913-1916 = 3m, 1917 = 44m, 1918-1927 = 3m, 1928-1936 = 45m. 1913-1932; 1/12(02 + 04 + ...24). 1933-1936; 1/3(06 + 14 + 20). Reliability: compared with 973900 & 977240 for the years 1927-1980 & 1913-1980.

973900: DELI, TIMOR INDONESIA 8.6S 125.6E 5m 1927-1980 82 1927
Sources: AI, A152
Notes: AI52: Means of 1/2(max + min). 8 35'S 125 35'E. AI: Means of 1/2(max + min). 1951-1960; 8 35'S 125 35'E, alt = 5m. Reliability: compared with 973720 & 977240 for the years 1927-1980.

973917: FAZENDA ALGARVE INDONESIA 8.7S 125.6E 1951-1960 61
Sources: AI
Notes: AI: 1951-1960; 1/2(max + min). 8 40'S 125 21'E, alt = 918m. Reliability: uncheckable.

973950: BAUCAU INDONESIA 8.5S 126.5E 1951-1960 61
Sources: AI
Notes: AI: 1951-1960; 1/2(max + min). 8 28'S 126 27'E, alt = 513m. Reliability: uncheckable.

976860: WAKENA/WEST IRIAN INDONESIA 4.1S 139.0E 1660m 1957-1980 62
Sources: AI
Notes: AI: 1957-1960; 1/2(max + min). 4 04'S 138 57'E, alt = 1660m. No other details available. Reliability: uncheckable.

976900: SENTANI INDONESIA 2.6S 140.5E 86m 1956-1980 62
Sources: AI
Notes: AI: 1/2(max + min). 1956-1960; 2 34'S 140 29'E, alt = 98m. Reliability: uncheckable.

977240: AMBON/LAHA INDONESIA 3.7S 128.2E 12m 1879-1980 82
Sources: AI, A155
Notes: AI: 1879-1930; alt = 1m. 1931-1950 = 4m. 1947-1950; means of 24 hours GMT. 1951-1970; 1/2(max + min). 1879-1950; 03 42'S 128 10'E. 1951-1960; 03 42'S 128 05'E, alt = 12m. 1961-1970; Pattimura, 03 42'S 128 05'E, alt = 10m. A155: 3 42'S 128 10'E. Alt: 4m. 1912-1932; 1/12(02 + 04 + ...24). 1933-1948; 1/3(06 + 14 + 20). Reliability: compared with 970140, 973900 & 973720 for the years 1912-1980, 1927-1980 & 1913-1980. 1951 & 1959 values are too high.

977600: KAIMANA INDONESIA 3.7S 133.8E 3m 1956-1979 62
Sources: AI
Notes: AI: 1956-1960; 1/2(max + min). 03 40'S 133 45'E, alt = 2m. Reliability: uncheckable.

979000: SAUMLAKI INDONESIA 8.0S 131.3E 24m 1962-1980 62
Sources: AI
Notes: AI: 1961-1970; 7 59'S 131 18'E, alt = 24m. 1/2(max + min). Reliability: uncheckable.

979800: HERAUKE INDONESIA 8.5S 140.4E 3m 1956-1980 62
Sources: AI
Notes: AI: 1/2(max + min). 1956-1960; 8 28'S 140 23'E, alt = 3m. Reliability: uncheckable.

999006: CAPE PEMBROKE ANTARCTIC 51.7S 57.7W 16m 1895-1947 60 1895
Sources: AI
Notes: AI: 1895-1930; 1/6(00 + 04 + 08 + 12 + 16 + 20). Some earlier values calculated from means of 08, 16 & 20h, corrections given on pl.19, vol. 79. Alt: 1895-July 1899 = 80ft, July 1899-Mar 1906 = 75ft, April 1906-July 1908 = 50ft, Aug 1908 on = 70ft. Observations taken at Lighthouse. Prior to Jan 1903 observations considered less reliable. 1931-1947; 1/2(daily max + daily min). 1931-1940; alt = 21m, 1941-1947 = 54ft. Reliability: uncheckable.

999990: CAPE LEEUWIN AUSTRALIA 34.4S 115.1E 22m 1897-1984 10 1897
Sources: A176
Notes: A176: 1/2(max + min). No other details available. Reliability: compared with 999991 & 946100 for the years 1904-1984 & 1897-1980.

999991: LAPE MATUKALISTE AUSTRALIA 33.5S 115.0E 110m 1904-1984 10 1904
Sources: A176
Notes: A176: 1/2(max + min). No other details available. Reliability: compared with 999990 for the years 1904-1984.

999992: ANCURUWI AUSTRALIA 14.0S 136.4E 16m 1938-1984 20 1938
Sources: A176
Notes: A176: 1/2(max + min). No other details available. Reliability: compared with 941200 & 942870 for the years 1938-1980. Corrected for a site change after the data gap 1951-1961. Correction Factors: Stations used: 941200 & 942870. Calculation dates: 1962-1980. Correction dates: 1938-1951. Factors: -4 -7 -8 -13 -15 -19 -14 -8 -1 0 -2.

APPENDIX B

Stations used in the gridding algorithm

Column headings:

ID = WMO Number (generally with additional 0)

LAT = Latitude (in tenths of degrees; minus sign indicates Southern Hemisphere)

LONG = Longitude (in tenths of degrees; minus sign indicates east of Greenwich)

ALT = Altitude (metres)

Station Name

Country

Unit Indicator (1 = tenths of degrees celcius)

First year of temperature data

Last year of data

Station used in the gridding process (GP)

First reliable year of data (0 = first year of data)

Quality control code (see Appendix A for details)

ID	LAT	LONG	ALT	STATION NAME	COUNTRY	STATUS
619000	-80	145	-999	ASCENSION IS.	ASCENSION IS	1 1923 1976 GP 1923 10
619010	-160	57	604	ST HELENA	ST. HELENA	1 1892 1980 GP 1892 10
619670	-72	-724	2	DIEGO GARCIA	MAURITIUS	1 1954 1972 GP 1954 10
619720	-225	-403	7	ILE EUROPA	MAURITIUS	1 1951 1980 GP 1951 10
619740	-106	-568	3	AGALEGA	MAURITIUS	1 1951 1980 GP 1951 20
619760	-160	-545	-999	SERGE-FROLOW/TROMEL	MAURITIUS	1 1954 1980 GP 1954 10
619800	-209	-555	12	ST. DENIS/GILLOT	MAURITIUS	1 1951 1980 GP 1951 10
619840	-213	-555	53	S PIERRE/REUNION	MAURITIUS	1 1951 1970 GP 1951 10
619860	-165	-596	4	ST. BRANDON/RAPHAEL	MAURITIUS	1 1951 1980 GP 1951 20
619880	-197	-634	59	RODRIGUES	MAURITIUS	1 1951 1980 GP 1951 20
619900	-204	-577	56	PLAISANCE	MAURITIUS	1 1951 1980 GP 1951 10
619930	-201	-575	55	PAMPLEMOUSSES	MAURITIUS	1 1787 1960 GP 1910 62
619960	-379	-775	28	ILE NOUVELLE	AMSTERDAM IS	1 1951 1980 GP 1951 20
619980	-494	-701	18	KERGULEN	KERGULEN IS.	1 1951 1980 GP 1951 10
638200	-40	-396	-999	MOMBASA	KENYA	1 1931 1975 GP 1931 10
638320	-50	-328	-999	TABORA	TANZANIA	1 1931 1978 GP 1931 10
638700	-62	-392	18	KISAUNI	TANZANIA	1 1892 1960 GP 1951 10
638940	-65	-393	58	DAR ES SALAAM	TANZANIA	1 1895 1978 GP 1951 10
639620	-106	-356	-999	SONGEA	TANZANIA	1 1951 1978 GP 1951 20
639800	-46	-555	3	MAHE	SEYCHELLES	1 1894 1965 GP 1894 60
642100	-43	-153	-999	KINSHASA	ZAIRE	1 1951 1971 GP 1951 62
644000	-48	-119	-999	POINTE NOIRE	CONGO	1 1941 1980 GP 1941 10
644010	-42	-127	330	DOLISIE	CONGO	1 1947 1980 GP 1947 20
644020	-40	-140	512	MOUYONDZI	CONGO	1 1954 1980 GP 1954 10
644050	-37	-134	531	SIBITI	CONGO	1 1951 1980 GP 1951 20
644500	-43	-153	316	BRAZZAVILLE	CONGO	1 1941 1980 GP 1941 10
644520	-26	-162	312	M POUYA	CONGO	1 1951 1980 GP 1951 12
644530	-27	-148	790	DJAMBALA	CONGO	1 1951 1980 GP 1951 12
645030	-34	-106	-999	MAYUMBA	GABON	1 1951 1978 GP 1951 62
661600	-88	-132	70	LUANDA	ANGOLA	1 1879 1980 GP 1879 20
662150	-96	-164	1142	MALANGE	ANGOLA	1 1951 1980 GP 1951 60
662260	-96	-204	-999	HENRIQUE CARVALHO	ANGOLA	1 1951 1975 GP 1951 10
662850	-117	-199	-999	LUSO	ANGOLA	1 1941 1975 GP 1941 10
663050	-123	-135	-999	LOBITO	ANGOLA	1 1951 1970 GP 1951 10
663180	-127	-157	-999	NOVA LISBOA	ANGOLA	1 1941 1975 GP 1941 20
663900	-149	-135	-999	SA DA BANDEIRA	ANGOLA	1 1941 1975 GP 1941 10
664100	-146	-177	-999	SERPA PINTO	ANGOLA	1 1953 1975 GP 1953 10
664220	-152	-121	-999	MOCAMEDES	ANGOLA	1 1941 1980 GP 1941 10
670010	-117	-432	17	MORONI/GRANDE-COMORE	COMOROS	1 1951 1980 GP 1951 20
670050	-128	-453	7	DZAOUDZI/PAMANZI	COMOROS	1 1951 1978 GP 1951 10
670090	-123	-493	105	DIEGO-SUAREZ	MADAGASCAR	1 1941 1980 GP 1941 20
670250	-150	-503	6	ANTALAHA	MADAGASCAR	1 1951 1974 GP 1951 10
670270	-157	-464	22	MAJUNGA	MADAGASCAR	1 1951 1974 GP 1951 10
670730	-181	-440	25	MAINTIRANO	MADAGASCAR	1 1951 1974 GP 1951 10
670830	-190	-475	1310	TANANARIVE	MADAGASCAR	1 1889 1980 GP 1889 20
670950	-181	-494	5	TAMATAVE	MADAGASCAR	1 1889 1980 GP 1951 20
671430	-212	-484	6	MANANJARY	MADAGASCAR	1 1955 1974 GP 1955 10

ID	LAT	LONG	ALT	STATION NAME	COUNTRY			STATUS	
671610	-234	-437	9	TULEAR	MADAGASCAR	1	19 51	19 80	GP 19 51 20
671970	-250	-468	8	FORT-DAUPHIN	MADAGASCAR	1	19 41	19 74	GP 19 41 20
672150	-129	-405	-999	PORTO AMELIA	MOZAMBIQUE	1	19 47	19 80	GP 19 47 10
672170	-133	-352	-999	VILA CABRAL	MOZAMBIQUE	1	19 54	19 80	GP 19 54 10
672610	-161	-335	-999	TETE	MOZAMBIQUE	1	19 52	19 80	GP 19 52 10
672830	-178	-368	-999	QUELIMANE	MOZAMBIQUE	1	19 26	19 80	GP 19 26 20
672970	-198	-349	16	BEIRA/SACADURA	MOZAMBIQUE	1	19 13	19 80	GP 19 13 10
673230	-238	-353	-999	INHAMBANE	MOZAMBIQUE	1	19 31	19 80	GP 19 31 10
673410	-260	-325	64	LOURENCO MARQUES	MOZAMBIQUE	1	18 92	19 80	GP 18 92 10
674750	-102	-312	1384	KASAMA	ZAMBIA	1	19 34	19 80	GP 19 34 20
675610	-130	-287	1270	NDOLA	ZAMBIA	1	19 33	19 60	GP 19 35 10
675810	-136	-326	1030	FORT JAMESON	ZAMBIA	1	19 33	19 60	GP 19 33 60
675870	-140	-338	1136	LILONGWE	MALAWI	1	19 40	19 80	GP 19 41 10
676330	-153	-232	1053	MONGU	ZIMBABWE	1	19 38	19 80	GP 19 39 10
676630	-144	-284	-999	BROKEN-KABWE	ZAMBIA	1	19 61	19 80	GP 19 61 61
676930	-157	-350	767	CHILEKA	MALAWI	1	19 39	19 80	GP 19 39 10
676970	-154	-353	957	ZOMBA	MALAWI	1	19 01	19 60	GP 19 01 10
677430	-178	-258	987	LIVINGSTONE	ZIMBABWE	1	19 18	19 80	GP 19 18 20
677750	-179	-310	1472	SALISBURY OBS	ZIMBABWE	1	18 98	19 80	GP 18 98 20
679640	-202	-286	1345	BULAWAYO /GOETZ OBS.	ZIMBABWE	1	18 97	19 80	GP 18 98 10
679830	-202	-326	1132	CHIPINGA	ZIMBABWE	1	19 32	19 80	GP 19 33 20
680320	-200	-234	945	MAUN	S.AFRICA	1	19 21	19 63	GP 19 21 10
681100	-225	-171	1728	WINDHOEK	NAMIBIA	1	19 17	19 80	GP 19 17 10
681480	-231	-268	1005	MAHALAPYE	NAMIBIA	1	19 17	19 60	GP 19 17 10
681740	-238	-294	-999	PIETSBURG	S.AFRICA	1	19 32	19 80	GP 19 32 20
682620	-257	-282	-999	PRETORIA	S.AFRICA	1	19 51	19 80	GP 19 51 20
683120	-265	-181	-999	KEETMANSHOOP	S.AFRICA	1	19 31	19 80	GP 19 31 10
683680	-261	-282	1700	JAN SMUTS JO'BURG	S.AFRICA	1	19 51	19 80	GP 19 51 10
683697	-262	-281	1753	JOHANNESBURG/JOUBERT	S.AFRICA	1	19 05	19 60	GP 19 05 10
684060	-285	-165	0	ALEXANDER BAY	S.AFRICA	1	19 51	19 80	GP 19 51 10
684240	-284	-212	-999	UPPINGTON	S.AFRICA	1	19 51	19 80	GP 19 51 10
684380	-287	-248	1250	KIMBERLEY	S.AFRICA	1	18 97	19 80	GP 18 97 20
684420	-291	-262	-999	BLOEMFONTEIN	S.AFRICA	1	19 51	19 80	GP 19 51 20
685120	-296	-179	918	OKIEP	S.AFRICA	1	19 00	19 60	GP 19 00 10
685460	-307	-267	1316	ALIWAL NORTH	S.AFRICA	1	18 81	19 60	GP 18 81 10
685880	-299	-310	0	DURBAN/LOUIS BOTHA	S.AFRICA	1	18 85	19 80	GP 18 85 20
688177	-339	-185	12	CAPE TOWNE/ROYAL OBS	S.AFRICA	1	18 57	19 60	GP 18 57 10
688420	-340	-256	0	PORT ELIZABETH	S.AFRICA	1	18 85	19 80	GP 18 85 20
689940	-469	-378	0	MARION ISLAND	S.AFRICA	1	19 48	19 80	GP 19 48 60
823310	-31	600	60	MANAUS	BRAZIL	1	19 31	19 80	GP 19 31 10
825860	-53	393	199	QUIXERAMOBIM	BRAZIL	1	18 96	19 80	GP 19 12 10
832290	-130	385	6	SALVADOR	BRAZIL	1	19 12	19 80	GP 19 12 22
833610	-156	561	165	CUIABA	BRAZIL	1	19 01	19 80	GP 19 01 10
837430	-229	432	26	RIO DE JANEIRO	BRAZIL	1	18 32	19 80	GP 18 51 20
838420	-254	493	949	CURITIBA	BRAZIL	1	18 85	19 80	GP 18 95 10
843770	-39	734	126	IQUITOS	PERU	1	19 49	19 81	GP 19 49 10
843800	-43	812	270	EL ALTO	PERU	1	19 51	19 71	GP 0 62

ID	LAT	LONG	ALT	STATION NAME	COUNTRY	STATUS					
843900	-46	813	85	TALARA CORPAC	PERU	1	1949	1980	GP	1949	10
844010	-52	806	55	PIURA	PERU	1	1955	1981	GP	1955	10
844520	-69	799	31	CHICLAYO	PERU	1	1943	1981	GP	1943	10
845340	-91	760	642	TINGO MARIA	PERU	1	1951	1980	GP	0	62
846280	-120	771	13	CALLAO AP	PERU	1	1910	1980	GP	0	62
846311	-121	770	137	LIMA/CAMPO DEL MARTE	PERU	1	1929	1981	GP	1929	10
846330	-120	753	3350	HUANCAYO/HUAYAO	PERU	1	1952	1977	GP	1952	10
846910	-138	763	7	PISCO	PERU	1	1943	1982	GP	1947	70
847520	-164	716	2451	AREQUIPA	PERU	1	1900	1981	GP	1949	22
847820	-181	704	458	TACNA	PERU	1	1949	1980	GP	1949	10
850430	-110	661	172	RIBERALTA	BOLIVIA	1	1951	1980	GP	0	62
851410	-145	676	200	RURRENABAQUE	BOLIVIA	1	1951	1980	GP	1951	12
851540	-148	648	236	TRINIDAD	BOLIVIA	1	1951	1980	GP	1951	10
852010	-165	681	3658	EL ALTO	BOLIVIA	1	1918	1980	GP	1918	20
852230	-174	662	2570	COCHABAMBA	BOLIVIA	1	1941	1980	GP	1941	20
852420	-180	671	3706	ORURO	BOLIVIA	1	1951	1980	GP	1951	12
852450	-179	633	437	SANTA CRUZ	BOLIVIA	1	1943	1980	GP	1943	12
853150	-201	636	792	CAMIRI	BOLIVIA	1	1951	1980	GP	1951	12
853650	-220	637	580	YACUIBA	BOLIVIA	1	1914	1980	GP	1914	22
854060	-185	703	29	ARICA	CHILE	1	1931	1980	GP	1931	11
854420	-235	704	122	ANTOFAGASTA	CHILE	1	1951	1980	GP	1951	10
854690	-272	1094	-999	ISLA DE PASCUA	CHILE	1	1942	1980	GP	1942	10
855000	-299	714	25	PUNTA TORTUGA	CHILE	1	1901	1960	GP	1906	10
855580	-330	717	41	PUNTA ANGELES	CHILE	1	1951	1980	GP	1951	10
855740	-335	708	520	SANTIAGO	CHILE	1	1861	1980	GP	1861	10
855850	-335	788	6	JUAN FERNANDEZ	CHILE	1	1901	1980	GP	1901	10
857660	-399	733	13	VALDIVIA	CHILE	1	1941	1980	GP	0	62
857670	-398	732	13	VALDIVIA	CHILE	1	1961	1973	GP	0	61
857707	-400	737	40	PUNTA GALERA	CHILE	1	1899	1957	GP	1899	10
859340	-533	709	28	PUNTA ARENAS MAG	CHILE	1	1888	1980	GP	1888	20
860330	-202	582	96	BAHIA NEGRA	PARAGUAY	1	1941	1980	GP	1941	12
860680	-220	607	181	MARISCAL ESTIGARR	PARAGUAY	1	1951	1980	GP	1951	12
860860	-223	579	887	PUERTO CASADO	PARAGUAY	1	1951	1979	GP	1951	12
862180	-254	578	116	ASUNCION/CITY	PARAGUAY	1	1893	1980	GP	1893	20
862330	-251	581	155	SAN JUAN BAUTISTA	PARAGUAY	1	1941	1980	GP	1941	10
862550	-269	583	55	PILAR	PARAGUAY	1	1951	1980	GP	1951	10
862970	-273	558	80	ENCARNACION	PARAGUAY	1	1941	1980	GP	1941	10
865600	-345	579	20	COLONIA	URUGUAY	1	1951	1980	GP	1961	10
865650	-345	543	22	ROCHA	URUGUAY	1	1951	1980	GP	1951	12
865850	-348	562	22	MONTEVIDEO/PRADO	URUGUAY	1	1883	1974	GP	1883	22
870070	-221	656	3459	LA QUIACA OBS.	ARGENTINA	1	1911	1980	GP	1911	10
870470	-248	655	1226	SALTA AERO	ARGENTINA	1	1873	1980	GP	1911	20
870650	-243	630	-999	RIVADAVIA	ARGENTINA	1	1931	1980	GP	1931	10
870780	-247	606	130	LAS LOMITAS	ARGENTINA	1	1951	1980	GP	1951	20
871160	-268	652	480	TUCUMAN OBSERVATORIO	ARGENTINA	1	1961	1976	GP	1961	10
871190	-268	652	481	TUCUMAN	ARGENTINA	1	1941	1960	GP	1941	10
871200	-268	652	420	TUCUMAN AERO	ARGENTINA	1	1855	1980	GP	1953	12

ID	LAT	LONG	ALT	STATION NAME	COUNTRY	STATUS					
871290	-279	644	214	SANTIAGO DEL ESTERO	ARGENTINA	1	1874	1980	GP	1931	12
871550	-275	590	52	RESISTENCIA	ARGENTINA	1	1951	1980	GP	1951	12
871660	-275	589	60	CORRIENTES	ARGENTINA	1	1873	1980	GP	1874	12
871780	-274	558	133	POSADAS AERO	ARGENTINA	1	1931	1980	GP	1931	20
872170	-295	669	-999	LA RIOJA	ARGENTINA	1	1931	1980	GP	1931	20
872200	-285	658	531	CATAMARCA AERO	ARGENTINA	1	1931	1950	GP	0	62
872220	-287	659	531	CATAMARCA AERO	ARGENTINA	1	1904	1980	GP	1904	10
872570	-300	620	-999	CERES	ARGENTINA	1	1931	1980	GP	1931	20
872700	-292	597	48	RECONQUISTA AERO	ARGENTINA	1	1961	1980	GP	0	60
872720	-292	593	36	GOYA	ARGENTINA	1	1877	1960	GP	1891	10
872890	-298	573	-999	PASO DE LOS LIBROS	ARGENTINA	1	1931	1980	GP	1931	10
873110	-316	684	630	SAN JUAN	ARGENTINA	1	1931	1980	GP	1931	10
873450	-314	642	425	CORDOBA	ARGENTINA	1	1873	1980	GP	1873	10
873490	-317	639	-999	PILAR	ARGENTINA	1	1931	1980	GP	1931	10
873740	-317	605	78	PARANA	ARGENTINA	1	1876	1980	GP	1931	10
873940	-315	580	38	CONCORDIA	ARGENTINA	1	1931	1950	GP	0	60
873950	-315	580	39	CONCORDIA	ARGENTINA	1	1951	1980	GP	1951	10
874000	-329	702	-999	CRISTO REDENTOR	ARGENTINA	1	1941	1980	GP	1941	12
874200	-329	688	808	MENDOZA OBSERVATORIO	ARGENTINA	1	1906	1980	GP	1906	10
874360	-334	664	-999	SAN LUIS	ARGENTINA	1	1931	1980	GP	1931	20
874530	-331	644	-999	RIO CUARTO	ARGENTINA	1	1931	1980	GP	1931	20
874800	-330	609	-999	ROSARIO	ARGENTINA	1	1941	1980	GP	1941	10
875440	-355	620	89	PEHUAJO AERO	ARGENTINA	1	1951	1980	GP	1951	10
875480	-346	618	-999	JUNIN	ARGENTINA	1	1933	1980	GP	1933	20
875760	-348	585	20	EZEIZA AERO	ARGENTINA	1	1951	1980	GP	1951	10
875850	-346	584	25	BUENOS AIRES/OBS CEN	ARGENTINA	1	1856	1980	GP	1856	20
876020	-374	703	-999	CHOS MALAL	ARGENTINA	1	1931	1961	GP	1931	10
876190	-370	642	0	GENERAL ACHA	ARGENTINA	1	1931	1960	GP	1931	10
876230	-366	644	-999	SANTA ROSA	ARGENTINA	1	1941	1980	GP	1941	10
876420	-367	599	-999	AZUL	ARGENTINA	1	1931	1980	GP	1931	10
876480	-364	577	-999	DOLORES	ARGENTINA	1	1931	1980	GP	1937	10
876920	-380	577	24	MAR DEL PLATA	ARGENTINA	1	1931	1980	GP	1931	10
877150	-390	680	270	NEUQUEN AERO	ARGENTINA	1	1957	1980	GP	1957	10
877190	-390	680	265	CIPOLLETTI	ARGENTINA	1	1931	1970	GP	1931	20
877500	-387	623	72	BAHIA BLANCA AERO	ARGENTINA	1	1860	1980	GP	1860	20
877650	-412	713	-999	SAN CARLOS	ARGENTINA	1	1931	1980	GP	1931	20
877840	-407	650	-999	SAN ANTONIO OESTE	ARGENTINA	1	1931	1980	GP	1931	10
878030	-422	711	557	ESQUEL I	ARGENTINA	1	1931	1980	GP	1931	20
878280	-432	653	39	TRELEW	ARGENTINA	1	1901	1980	GP	1903	10
878490	-455	690	268	SARMIENTO	ARGENTINA	1	1903	1964	GP	1903	10
878600	-459	670	-999	COMODORO RIVADARIA	ARGENTINA	1	1931	1980	GP	1931	10
878800	-488	703	358	GOBERNADOR GREGORES	ARGENTINA	1	1951	1980	GP	0	62
879120	-500	685	12	SANTA CRUZ PUERTO	ARGENTINA	1	1901	1975	GP	1903	10
879140	-500	685	-999	SANTA CRUZ PUERTO	ARGENTINA	1	1920	1958	GP	0	62
879250	-516	694	-999	RIO GALLEGOS	ARGENTINA	1	1931	1980	GP	1931	20
879380	-549	684	30	USHUAIA	ARGENTINA	1	1876	1980	GP	1931	12
879680	-608	448	4	ORCADAS DEST. NAVAL	ARGENTINA	1	1903	1980	GP	1903	10

ID	LAT	LONG	ALT	STATION NAME	COUNTRY	STATUS					
888900	-517	579	51	STANLEY	ANTARCTICA	1	1874	1980	GP	1875	10
889030	-544	365	2	GRYTVIKEN/S. GEORGIA	ANTARCTICA	1	1905	1980	GP	1905	10
889250	-608	457	22	SIGNY I./S.ORKNEY	ANTARCTICA	1	1947	1976	GP	0	60
889680	-608	448	-999	ISLA ORCADA DEL SUR	ANTARCTICA	1	1931	1980	GP	0	60
915170	-99	-1600	58	HONIARA	SOLOMON IS.	1	1951	1979	GP	1951	10
915540	-155	-1670	146	LUGANVILLE/SANTO	NEW HEBRIDES	1	1951	1981	GP	1951	20
915580	-179	-1683	20	VILA/EFATE	NEW HEBRIDES	1	1948	1981	GP	1948	10
915680	-202	-1698	8	ANEITYUM	NEW HEBRIDES	1	1954	1972	GP	1954	10
915770	-205	-1643	18	KOUMAC	NEWCALEDONIA	1	1951	1980	GP	1951	10
915900	-220	-1662	37	TONTOUTA	NEWCALEDONIA	1	1951	1970	GP	1951	10
915920	-222	-1664	72	NOUEMA	NEWCALEDONIA	1	1891	1980	GP	1891	11
916290	-28	-1760	-999	ARORAE	GILBERT IS.	1	1956	1970	GP	1956	10
916430	-85	-1791	3	FUNAFUTI	ELLICE IS.	1	1932	1980	GP	1932	10
916500	-125	-1770	26	ROTUMA	FIJI	1	1933	1981	GP	1933	10
916520	-161	1800	63	VUNIKONDI	FIJI	1	1951	1970	GP	1951	10
916590	-170	-1787	30	NABOUWALU VANUA LEVU	FIJI	1	1955	1970	GP	1955	10
916600	-167	-1776	50	YASAWA-I-RARA	FIJI	1	1951	1970	GP	1951	10
916800	-179	-1775	16	NANDI A	FIJI	1	1942	1981	GP	1942	20
916900	-181	-1784	9	LAUTHALA BAY	FIJI	1	1921	1981	GP	1921	10
916990	-208	1788	27	ONO-I-LAU	FIJI	1	1943	1981	GP	1943	10
917000	-28	1717	3	CANTON ISLAND	PACIFIC OC.	1	1937	1967	GP	1937	10
917200	-85	1725	-999	ATAFU	TOKELAU	1	1951	1979	GP	1951	20
917240	-92	1719	3	NUKUNONO	TOKELAU	1	1951	1970	GP	1951	10
917530	-132	1761	-999	WALLIS	WALLIS IS.	1	1950	1981	GP	1950	10
917620	-138	1718	2	APIA	SAMOA	1	1890	1980	GP	1891	10
917800	-186	1739	-999	VAVAU	TONGA	1	1951	1970	GP	1951	10
917880	-211	1751	-999	NUKUALOFA	TONGA	1	1867	1970	GP	1951	11
918000	-90	1580	1	PENRHYN	COOK ISLANDS	1	1937	1981	GP	1937	10
918040	-101	1611	5	RAKAHANGA	COOK ISLANDS	1	1951	1970	GP	1951	10
918110	-109	1658	2	PUKAPUKA	COOK ISLANDS	1	1932	1981	GP	1932	10
918220	-190	1699	21	NIUEIS, ALOFI	COOK ISLANDS	1	1921	1981	GP	1921	10
918300	-188	1598	-999	AITUTAKI A	COOK ISLANDS	1	1931	1981	GP	1931	10
918430	-212	1598	7	RAROTONGA	COOK ISLANDS	1	1907	1980	GP	1907	10
919300	-165	1518	2	BORA-BORA	SOCIETY IS.	1	1951	1980	GP	1951	10
919310	-169	1540	3	MOPELIA	SOCIETY IS.	1	1955	1980	GP	1955	10
919380	-175	1496	2	TAHITI	SOCIETY IS.	1	1876	1980	GP	1876	11
919430	-145	1450	2	TAKAHORA	TUAMOTU IS.	1	1952	1980	GP	1952	10
919580	-275	1442	-999	RAPA	AUSTRAL IS.	1	1952	1980	GP	1952	10
919600	-250	1301	-999	PITCAIRN	PACIFIC OC.	1	1940	1981	GP	1945	11
930110	-351	-1733	82	KAITAIA AIRPORT	NEW ZEALAND	1	1949	1982	GP	1949	10
931190	-368	-1748	5	AUCKLAND	NEW ZEALAND	1	1853	1984	GP	1867	10
932910	-387	-1780	8	GISBORNE AERODROME	NEW ZEALAND	1	1937	1982	GP	1937	10
933080	-391	-1741	58	NEW PLYMOUTH	NEW ZEALAND	1	1944	1982	GP	1951	10
933710	-395	-1769	2	NAPIER	NEW ZEALAND	1	1951	1970	GP	1951	10
934340	-413	-1748	128	WELLINGTON	NEW ZEALAND	1	1862	1984	GP	1862	20
935450	-413	-1732	7	NELSON	NEW ZEALAND	1	1862	1984	GP	1862	11
936140	-427	-1710	40	HOKITIKA AERODROME	NEW ZEALAND	1	1866	1984	GP	1866	21

ID	LAT	LONG	ALT	STATION NAME	COUNTRY	STATUS					
937800	-435	-1725	8	CHRISTCHURCH	NEW ZEALAND	1	1864	1984	GP	1905	11
938440	-464	-1683	1	INVERCARGILL AERO	NEW ZEALAND	1	1948	1984	GP	1948	10
938940	-459	-1705	2	DUNEDIN	NEW ZEALAND	1	1853	1984	GP	1853	20
939440	-525	-1691	19	CAMPBELL ISLAND	NEW ZEALAND	1	1941	1984	GP	1941	10
939860	-440	-1766	49	CHATHAM ISLAND 2	NEW ZEALAND	1	1878	1982	GP	1878	11
939970	-293	-1779	49	RAOUL IS/KERMADEC IS	NEW ZEALAND	1	1940	1982	GP	1940	10
939998	-410	-1757	-999	MASTERTON	NEW ZEALAND	1	1906	1984	GP	1907	10
939999	-435	-1727	-999	LINCOLN COLLEGE	NEW ZEALAND	1	1864	1984	GP	1864	10
940270	-67	-1470	9	LAE	PAPUA NEW G.	1	1949	1975	GP	1949	10
940350	-95	-1472	30	PORT MORESBY AP	PAPUA NEW G.	1	1903	1980	GP	1903	10
940850	-42	-1522	6	RABAU NEW BRITAIN I	PAPUA NEW G.	1	1949	1980	GP	1949	10
941200	-125	-1309	29	DARWIN AIRPORT	AUSTRALIA	1	1882	1980	GP	1882	20
941750	-106	-1422	61	THURSDAY ISLAND	AUSTRALIA	1	1951	1980	GP	1951	20
942030	-180	-1222	9	BROOME	AUSTRALIA	1	1894	1980	GP	1951	11
942120	-183	-1276	406	HALLS CREEK	AUSTRALIA	1	1898	1980	GP	1951	10
942340	-163	-1334	214	DALY WATERS	AUSTRALIA	1	1951	1970	GP	1951	10
942870	-169	-1457	5	CAIRNS	AUSTRALIA	1	1907	1980	GP	1907	10
942940	-193	-1468	4	TOWNSVILLE	AUSTRALIA	1	1951	1980	GP	1951	20
942990	-163	-1500	8	WILLIS IS.	AUSTRALIA	1	1951	1980	GP	1951	10
943000	-249	-1137	4	CARNARVON	AUSTRALIA	1	1951	1980	GP	1951	10
943050	-217	-1150	4	ONSLOW	AUSTRALIA	1	1938	1975	GP	1938	10
943120	-204	-1186	11	PORT HEDLAND	AUSTRALIA	1	1951	1980	GP	1951	10
943260	-236	-1336	549	ALICE SPRINGS	AUSTRALIA	1	1879	1980	GP	1879	10
943350	-207	-1405	191	CLONCURRY	AUSTRALIA	1	1907	1975	GP	1907	10
943460	-235	-1442	187	LONGREACH	AUSTRALIA	1	1951	1980	GP	1951	10
943670	-211	-1490	4	MACKAY	AUSTRALIA	1	1951	1980	GP	1951	10
943740	-234	-1505	14	ROCKHAMPTON	AUSTRALIA	1	1951	1971	GP	1951	10
943800	-239	-1513	76	GLADSTONE	AUSTRALIA	1	1951	1980	GP	1951	20
944300	-266	-1185	518	MEEKATHARRA	AUSTRALIA	1	1951	1980	GP	1951	10
944760	-276	-1355	113	OODNADATTA	AUSTRALIA	1	1951	1980	GP	1951	10
945100	-264	-1463	304	CHARLEVILLE	AUSTRALIA	1	1951	1980	GP	1951	10
945680	-276	-1527	26	AMBERLEY	AUSTRALIA	1	1951	1970	GP	1951	10
945780	-275	-1530	0	BRISBANE APT	AUSTRALIA	1	1887	1980	GP	1887	10
946100	-320	-1157	60	PERTH	AUSTRALIA	1	1852	1980	GP	1876	11
946370	-308	-1215	361	KALGOORLIE	AUSTRALIA	1	1941	1980	GP	1941	10
946460	-309	-1281	157	FORREST	AUSTRALIA	1	1951	1980	GP	1951	20
946530	-321	-1337	17	CEDUNA	AUSTRALIA	1	1951	1980	GP	1951	10
946590	-312	-1368	169	WOOMERA	AUSTRALIA	1	1951	1980	GP	1951	10
946720	-350	-1385	43	ADELAIDE	AUSTRALIA	1	1857	1980	GP	1857	20
947670	-340	-1511	92	SYDNEY	AUSTRALIA	1	1859	1980	GP	1859	20
948210	-378	-1408	69	MT. GAMBIER M.O.	AUSTRALIA	1	1951	1980	GP	1951	10
948680	-378	-1450	44	MELBOURNE	AUSTRALIA	1	1941	1970	GP	1951	10
949680	-416	-1472	177	LAUNCESTON AP	AUSTRALIA	1	1951	1976	GP	1951	10
949700	-429	-1473	54	HOBART, TASMANIA	AUSTRALIA	1	1951	1970	GP	1951	10
949750	-430	-1472	54	HOBART, TASMANIA	AUSTRALIA	1	1841	1980	GP	1884	11
949950	-315	-1591	46	LORD HOWE ISLAND	AUSTRALIA	1	1912	1980	GP	1912	10
949960	-291	-1679	109	NORFOLK ISLAND	AUSTRALIA	1	1915	1980	GP	1915	20

ID	LAT	LONG	ALT	STATION NAME	COUNTRY	STATUS				
949980	-545	-1590	6	MACQUARIE ISLAND	AUSTRALIA	1	1948	1980	GP 1948	10
967450	-62	-1068	8	DJAKARTA OBS.	INDONESIA	1	1866	1980	GP 1866	10
967810	-69	-1076	740	BANDUNG	INDONESIA	1	1912	1980	GP 1912	12
969330	-72	-1127	3	SURABAJA/PERAK	INDONESIA	1	1951	1980	GP	0 62
969367	-76	-1129	5	PASURUAN	INDONESIA	1	1912	1960	GP 1915	10
969960	-123	-967	8	COCOS ISLAND	INDONESIA	1	1952	1980	GP 1952	20
971800	-51	-1196	14	MAKASSAR/MANDAI	INDONESIA	1	1951	1980	GP	0 62
999006	-517	577	16	CAPE PEMBROKE	ANTARCTIC	1	1895	1947	GP 1895	60
999990	-344	-1151	22	CAPE LEEUWIN	AUSTRALIA	1	1897	1984	GP 1897	10
999991	-335	-1150	110	CAPE NATURALISTE	AUSTRALIA	1	1904	1984	GP 1904	10
999992	-140	-1064	16	ANGURURU	AUSTRALIA	1	1938	1984	GP 1938	20

A-346

INTERNAL DISTRIBUTION

1. T. A. Boden
2. M. P. Farrell
3. P. Kanciruk
4. D. E. Reichle
5. R. J. Sepanski
6. R. I. Van Hook
- 7-206. CDIAC
207. Central Research Library
- 208-211. ESD Library
212. Information Analysis Library
- 213-214. Laboratory Records Department
215. Laboratory Records, RC
216. ORNL Patent Office
217. ORNL Y-12 Technical Library

EXTERNAL DISTRIBUTION

218. R. S. Bradley, Department of Geology and Geography, University of Massachusetts, Amherst, Massachusetts 01003-0026
219. B. S. G. Cherry, Climatic Research Unit, University of East Anglia, Norwich, Norfolk, United Kingdom NR4 7TJ
220. Roger C. Dahlman, Carbon Dioxide Research Program, Environmental Sciences Division, Office of Health and Environmental Research, ER-74, U.S. Department of Energy, Washington, DC 20585
221. H. F. Diaz, National Oceanic and Atmospheric Administration, Environmental Research Laboratories, R/E/AR6, 325 Broadway, Boulder, Colorado 80303
222. Jerry F. Franklin, Bloedel Professor of Ecosystem Analysis, College of Forest Resources, University of Washington, Anderson Hall (AR-10), Seattle, WA 98195
223. David J. Galas, Office of Health and Environmental Research, ER-70, U.S. Department of Energy, Washington, DC 20585
224. C. M. Goodess, Climatic Research Unit, University of East Anglia, Norwich, Norfolk, United Kingdom NR4 7TJ

225. Thomas J. Gross, Carbon Dioxide Research Program, Environmental Sciences Division, Office of Health and Environmental Research, ER-74, U.S. Department of Energy, Washington, DC 20585
226. George M. Hornberger, Department of Environmental Sciences, Clark Hall, University of Virginia, Charlottesville, VA 22903
- 227-231. P. D. Jones, Climatic Research Unit, University of East Anglia, Norwich, Norfolk, United Kingdom NR4 7TJ
232. G. Y. Jordy, Director, Office of Program Analysis, Office of Energy Research, ER-30, G-226, U.S. Department of Energy, Washington, DC 20585
233. P. M. Kelly, Climatic Research Unit, University of East Anglia, Norwich, Norfolk, United Kingdom NR4 7TJ
234. H. M. McCammon, Acting Deputy Director, Environmental Sciences Division, Office of Health and Environmental Research, Office of Energy Research, ER-74, U.S. Department of Energy, Washington, DC 20585
235. R. H. Olsen, Vice President for Research, University of Michigan, Medical Science Building II, #5605, 1301 East Catherine Street, Ann Arbor, MI 48109-0620
236. Ari Patrinos, Acting Director, Environmental Sciences Division, Office of Health and Environmental Research, ER-74, U.S. Department of Energy, Washington, DC 20585
237. S. C. B. Raper, Climatic Research Unit, University of East Anglia, Norwich, Norfolk, United Kingdom NR4 7TJ
238. Michael R. Riches, Carbon Dioxide Research Program, Environmental Sciences Division, Office of Health and Environmental Research, ER-74, U.S. Department of Energy, Washington, DC 20585
239. B. Santer, Climatic Research Unit, University of East Anglia, Norwich, Norfolk, United Kingdom NR4 7TJ
240. T. M. L. Wigley, Climatic Research Unit, University of East Anglia, Norwich, Norfolk, United Kingdom NR4 7TJ
241. F. J. Wobber, Environmental Sciences Division, Office of Health and Environmental Research, Office of Energy Research, ER-74, U.S. Department of Energy, Washington, DC 20585
242. Office of Assistant Manager for Energy Research and Development, Oak Ridge Operations, P. O. Box 2001, U.S. Department of Energy, Oak Ridge, TN 37831-8600
- 243-252. Office of Scientific and Technical Information, P. O. Box 62, Oak Ridge, TN 37831

END

**DATE
FILMED**

2 / 11 / 92

