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**A STUDY OF THE TEMPORAL AND SPATIAL VARIATION OF CLIMATE
AND SOLAR RADIATION IN THE METROPOLITAN PHOENIX AREA**

Final Technical Progress Report for July 1, 1977—June 30, 1978

**By
Robert W. Durrenberger**

September 29, 1978

Work Performed Under Contract No. EE-77-S-04-3969

**Arizona State University
Laboratory of Climatology
Tempe, Arizona**

U.S. Department of Energy

MASTER

Solar Energy

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VARIATION OF CLIMATE AND SOLAR RADIATION
IN THE METROPOLITAN PHOENIX AREA

FINAL TECHNICAL PROGRESS REPORT
FOR PERIOD JULY 1, 1977-JUNE 30, 1978

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PREPARED FOR THE
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SOLAR ENERGY
UNDER CONTRACT EE-77-C-04-3969

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ABSTRACT

The research performed under this contract was designed to identify spatial or temporal variation of any atmospheric parameters that might affect the operation of devices utilizing solar energy in the metropolitan Phoenix area. The first part of the research involved the analysis of all available solar and climatic data to determine their validity and comparability. For the standard climatic parameters, few difficulties were encountered, but the task of determining comparability of solar radiation data involved many pitfalls.

We concluded that most of the solar data acquired before January, 1977 could not be used for purposes of identifying spatial variability. And, a year and a half of data does not represent a long enough period of time upon which to base sound conclusions about spatial and temporal variability of solar radiation in the metropolitan Phoenix region. The data currently available to us do not indicate any great spatial variation of solar radiation in the metropolitan Phoenix area. However, any meaningful statements about spatial and temporal variability of solar radiation in the metropolitan Phoenix area must await the acquisition of additional data from well-calibrated equipment.

INTRODUCTION

Efficient heating and cooling of structures is largely dependent on building design and on the design of the heating and cooling systems installed in them. This is particularly true in the desert regions of the Southwest where high temperatures combined with high values of insolation place large loads on cooling systems. Thus, design factors become critical elements in the cost/benefit analysis of the feasibility of utilizing solar equipment in hot desert climates. And, the effect of changing weather conditions on incoming solar radiation is one of the more important design factors that needs to be considered. Thus, engineers and architects need to have some understanding of the validity and comparability of the solar and climatic data available to them, and they need to have some understanding of the variability of the data in time and space.

The research completed under this contract provided us with some of the answers about questions involving spatial and temporal variation of the standard climatic parameters such as temperature, precipitation, and wind but left unanswered significant questions about the variability of solar energy in time and space. There has not been sufficient attention given in the past to ensuring that solar radiation measurements taken by one agency were comparable to those taken by another agency.

Studies of mountain/valley and urban/rural differences in climate and studies of the effects of urbanization on temperature and wind fields and on precipitation patterns have been completed in various parts of the world. Several of these studies have indicated that urbanized areas receive less solar radiation than the surrounding rural regions; and that valley locations receive less energy than adjacent elevated regions.

Thus, it seemed to us that we needed to determine if there were actual differences in the amounts of solar energy available in the various parts of the metropolitan region of central Arizona and, if differences did exist, that we needed to explain why they existed. This led us to submit a research proposal to the Department of Energy with the following objectives:

- A. To analyze the climatic and solar data available in the metropolitan Phoenix area to determine the validity and comparability of the data for use by the solar energy industry.
- B. To examine the data to determine the nature and extent of the variations that occur in the climate of the metropolitan region and in the amounts of solar radiation available in various parts of the region.

Our region was defined so as to include the rural sites of Gila Bend, New River, and Gilbert so that we might use solar measurements taken at those sites in our analysis. (See Figure 1) Our period of study began with 1950 so that we could include a period of time prior to the beginning of rapid urbanization in Phoenix in 1955. The data base available from the National Weather Service sub-station network for the period since 1950 was analyzed to identify spatial and temporal variability of climatic parameters. Solar radiation data were obtained from all of the agencies that had monitoring programs.

In order to check on the comparability of data from the various sites, we ran our state standard instruments in side-by-side comparisons with sensors owned by the other agencies. And, for the period of analysis we did clear-day plots of the amounts of solar radiation received at each site. We also ran statistical tests of homogeneity and comparability of the data. Because of the poor calibration procedures and the poor quality of some of the sensors used prior to January, 1977, we felt that data acquired before that date were unreliable and could not be used to verify

our hypothesis that rural sites received more solar energy than urban sites.

We have published all of the solar data that we have obtained in two publications: Solar Radiation Data for Selected Stations in Arizona and Adjacent States 1975-1976 and in Solar Radiation Data for Arizona 1977. The publication, Climate and Energy in Central Arizona, contains most of the findings of the research funded under this contract. We are using this latter publication as a model for four other regional publications for other parts of Arizona.

And, although we were unable to prove or disprove our hypothesis that there is considerable spatial variability of the solar resource in the metropolitan region of Phoenix, we did make a number of other significant discoveries. We identified significant upward trends in minimum temperatures in the heart of the urbanized region. This finding will be of importance to those designing structures and forecasting energy use. Maps of precipitation amounts and frequencies show increases from the southwest to northeast. Visual observations of cloud cover from the ground and an analysis of satellite photography indicate a similar southwest to northeast increase in cloudiness. Thus, one should expect to have a comparable gradient established for solar radiation. However, we do not have an adequate network of solar sensors to establish that this kind of spatial variation within the region exists. The present station network, in general, parallels the edge of the hilly and mountainous country lying to the north and east of the metropolitan region. Thus, only slight differences in solar energy receipts exist among the stations analyzed in this report. It appears that Desert Sunshine Exposure Tests, Inc. at New River at an elevation of approximately 2000 feet receives

three to five percent more solar radiation on clear days than the National Weather Service station at Sky Harbor International Airport; but, we need more data to verify this finding.

Thus, it appears to us that the principal discovery of the research funded by the Department of Energy is the need for a long-term (ten year) program to monitor solar radiation and weather conditions on an hourly basis in and around metropolitan regions. Such monitoring programs should also include programs to develop techniques to forecast the availability of solar energy in all parts of the regions. Such forecasts should include not only predictions of how much energy will be available in any given hour but also predictions of the variability of the resource during each part of the day. It is only with such a program that we can provide society with the kind of information necessary to manage power systems that include photovoltaic units as a source of electricity.

BACKGROUND

The task of acquiring all available solar and climatic data in the Metropolitan Phoenix region and of analyzing these data to determine their comparability has proved to be a larger and more difficult undertaking than originally anticipated. For that reason, we are continuing to work on the task of identifying spatial and temporal variation of climate and solar energy in the region. The places where solar sensors have been located are shown on the map of the region (Figure 1). Although most of the sensors were first-class equipment, there was a great deal of variation in the ways in which data were recorded and the equipment maintained and operated. In most instances, station histories were incomplete or lost. Similar statements can be made about measurements of climatic parameters. Thus, conclusions about spatial and temporal variation of climate and of solar radiation in the region must be tentative and subject to a high probability of error. However, we have made a beginning in our effort to assess the solar energy resource of the region, and with several more years of data we will have definite evidence to support or reject our hypotheses about the spatial and temporal variation of the solar resource within the region.

LIMITATIONS OF STUDY

Like the National Weather Service solar monitoring program for the period of time prior to 1977, the local program suffered from many deficiencies. Although both General Motors and Desert Sunshine Exposure Tests now have sound programs of calibration and intercomparison of their solar sensors, this has not always been true. It is only within the past year that both of these organizations have instituted acceptable calibration practices. Thus, during the period covered by this study (1975-77), errors have been made in

Figure 1 -- Agencies Recording Solar Radiation

recording the data and some of the data loggers have malfunctioned.

One other problem in using data for this period is that there have been a number of changes in equipment and personnel at all of the stations. As a consequence, calibration records are incomplete.

HISTORY OF SOLAR MEASUREMENTS IN CENTRAL ARIZONA

Sunshine measurements have been made by the National Weather Service (Weather Bureau) since 1896. Data from these measurements have been used to reconstruct a trend-line, reproduced as Figure 2. Unfortunately, measurements of duration of sunshine have not been made in a consistent fashion through the years nor has this parameter been measured at the same location. These data and the ways in which they were acquired need to be analyzed further.

PERCENT OF POSSIBLE SUNSHINE; PHOENIX, ARIZONA, 1896-1976

Fig. 2

Source: John I. Yellott, "Solar Energy: A Statement of Position by Arizonans for Jobs and Energy."

Measurements of solar radiation were made in central Arizona at the Mount Harquahala station of the Smithsonian Institute in the period between 1920 and 1925. This site had been selected because of the clarity of the atmosphere in the region but was abandoned because of thunderstorm activity about the peak in the summer season. We have been unable to obtain this data from the Smithsonian.

Measurements by the Weather Bureau (NWS) at Sky Harbor International Airport began in May, 1950, when an Eppley pyranometer was placed in operation. Measurements at the General Motors Proving Ground (GMPG) south of Mesa and at Desert Sunshine Exposure Tests, Inc. (DSET) in North Phoenix began in 1955. The GMPG measurements were of total energy on a horizontal surface; the DSET measurements were at 45° .

In 1968, the Maricopa County Air Pollution Control District began to operate two Yellott solarimeters. One was located on top of South Mountain

and the other at the District Office near downtown Phoenix. The instrument on top of South Mountain was later moved to several other locations and the program was discontinued in 1976. The individuals who conceived and operated the program are deceased or retired. The only available data are on charts which are in our possession.

Within the past several years--beginning in 1975--several additional programs to monitor solar radiation have developed. Desert Sunshine Exposure Tests, Inc., which had moved to New River in 1970, added several new sensors in 1975 and began to report global-horizontal and direct-normal measurements at that time. Phelps Dodge began to record global-horizontal measurements on top of Valley Center (the highest office building in Phoenix) in 1975; the Laboratory of Climatology at Arizona State University began their program in the same year. WEST ASSOCIATES (Arizona Public Service) began collecting data at Gila Bend in 1977. A summary of the historical record may be found in Table I.

SOLAR CLIMATOLOGY OF THE REGION

The National Weather Service map of forecasting regions for Arizona shows that the metropolitan region is split by the line separating the Southwest Desert Zone from the Central Basins Zone. This reflects the observations of a number of professional meteorologists that the metropolitan region lies in a transition zone between the clear dry air of the Sonoran Desert Region and the cloudy atmosphere of the Mogollon Rim country of Arizona. These differences in cloud patterns have also been observed in the process of analyzing six years of satellite cloud photos of the area.

Our conclusions, based on these analyses, are that cloudiness (and, hence, solar radiation) is more variable during the winter season than

TABLE I

STATIONS RECORDING SOLAR RADIATION IN THE METROPOLITAN PHOENIX AREA

<u>Agency</u>	<u>Location</u>	<u>Instruments</u>	<u>Calibra- tion</u>	<u>Recorder</u>	<u>Available Data</u>	<u>Comments</u>	<u>Elevation</u>
National Weather Service (NWS)	Sky Harbor Airport	NIP PSP	NOAA "	Monitor Lab "	5/10/78 - Present 1975 - Present		1115'
Desert Sunshine Exposure Tests, Inc. (DSET)	New River	NIP PSP	NOAA/DSET "	Esterline Angus Chart	1975 - Present "	Research site has a full complement of instruments	2000'
General Motors Proving Ground (GMFG)	Gilbert	NIP PSP	NOAA "	Honeywell Chart	3/29/78 - Present 1975 - Present		1430'
ASU	Tempe	PSP NIP 45°S Shade Ring	Eppley/ NOAA " "	Esterline Angus Campbell Scientific	5/1/76 - 7/11/78 5/1/76 - 7/14/78 5/5/76 - 7/11/78 12/4/76 - 5/10/78	Removed to Water Conservation Lab " Discontinued	1195'
APS	Gila Bend	PSP NIP PSP	WEST " "	Westinghouse " "	11/1/77 - Present " None	Data difficult to acquire NIP data poor Data site poor, moved to Deer Valley	c. 750'
Maricopa County Air Pollution Control District	Health Dept. South Mtn St. Luke's Roosevelt Scottsdale			Esterline Angus Chart " " " "	6/10/68 - 2/26/71, 5/1/72 - 9/7/72, 1/22/74 - 4/5/74 4/24/68 - 1/19/70 11/9/70 - 1/31/72, 2/9/72 - 11/20/72 5/3/75 - 9/11/75 3/10/75 - 5/15/75 9/14/75 - 2/17/76	Strip Chart Records Only " " " "	c. 1090' c. 2650' c. 1120' c. 1080' c. 1240'
Phelps Dodge	Valley Bank Building	PSP	Climat Lab	SOLTEC Integrator	1975-77	Integrator difficulties in 1976-1977	1595'

during the period of the summer monsoon. However, some of the greatest changes in the amounts of solar energy received at Phoenix occur in the period of transition from dry, clear weather in May and June to humid, cloudy weather in late June and July. Once the summer monsoon flow becomes well established in late July, the pattern of diurnal cloudiness remains much the same until early September when a brief dry, clear period begins. However, even in summer there are periods that deviate from the norm. Thus, in the course of the year, there are two definite periods of dry, clear weather that separate the wetter and cloudier periods of summer and winter. These clear, dry periods are opportune times for intercomparison of all solar sensors operating in the state.

METHODOLOGY

For instruments calibrated by NOAA, data for the period of analysis have all been converted to the Absolute Scale by increasing the recorded data by 2.1%; for instruments calibrated by Eppley, the values have been increased by 4%. These values were chosen as a consequence of discussions with Ed Flowers of NOAA and as a consequence of intercomparisons between our State Standard instrument (NOAA calibrated) and the instruments used by GMPG and DSET (initially Eppley calibrated). Data which were obviously far out of line were discarded; as an example, an extremely low value at only one station in the region on a clear day is not included in the data set.

To ensure comparability of data we have run side-by-side comparisons of our State Standard with the sensors at the various sites. One weakness of this program is that while we can ensure that the instruments may be reading similar values, we have not been able to be as certain that the

data-recording equipment is functioning efficiently. In fact, the Phelps Dodge station on top of Valley Center continues to have problems with its recording equipment; and, General Motors has had intermittent problems. Some of these problems become obvious when one examines the evidence presented by Dr. Brazel in his analysis of the data.

One last check on comparability of data has been completed. We have taken the daily solar radiation values for all clear days without reference to visibility and plotted them against the values derived by Hans Rosendal of National Weather Service. The Rosendal values were estimates of the maximum amounts of solar radiation that might be received on a clear day at Sky Harbor International Airport and were derived from the NWS (Eppley PSP) measurements at the Airport for the period 1972-1975. The values are given in Appendix B and the plots are included as Appendix C. The data shown in these plots raise still more questions. It is obvious that the Rosendal values, determined from the 1972-1975 NWS data, need to be adjusted somewhat in mid-summer and in mid-winter. However, we need a few more years of data to develop a new set of numbers for these periods.

FINDINGS

The most significant findings of this investigation are:

1. That ensuring comparability of data from any network is a most difficult task when you must depend upon the cooperative efforts of a number of individuals and organizations; one agency must have responsibility for calibration and operation of the equipment in the regional network.

2. That analysis of data to ensure comparability of data should be done on a daily or weekly basis as the malfunctions of equipment and

poor maintenance or operation of equipment will result in loss of valuable data if the analysis of the data is done on an annual or biannual basis.

3. That one can be fairly certain that the pyranometers at GMPC, DSET, NWS-Phoenix, and APS-Gila Bend are now recording at about the same levels; they are all Eppley PSP's and all are calibrated frequently.

4. That the direct beam values from NWS-Phoenix and DSET are comparable. Data from APS-Gila Bend show too many inconsistencies to be useful.

5. That if we are to understand the reasons for spatial and temporal variation of solar radiation in the Metropolitan Region, we must look at hourly solar and weather data.

6. That the data available to us do not show a great variation in the amounts of total horizontal solar radiation within the region.

7. That in order to really understand the spatial variability of solar radiation in the region, one needs to place a series of pyrhemometers along a NE/SW line from the Mogollon Rim toward Yuma.

APPENDIX A

ANALYSIS OF COMPARABILITY OF DATA AND
OF SPATIAL VARIABILITY OF DATA

for

A STUDY OF THE TEMPORAL AND SPATIAL
VARIATION OF CLIMATE AND SOLAR RADIATION
IN THE METROPOLITAN PHOENIX AREA

Contract EE-77-C-04-3969

by

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Department of Geography
Arizona State University

ANALYSIS

Introduction

The stations available for comparison from January 1975 to June of 1978 are listed in Tables I, II, and III. These tables list the daily total mean ($\text{watt hr m}^{-2}\text{d}^{-1}$), standard deviation, sample size of comparison and the t-value of a difference of means test. Both clear day samples ($\text{vis.} \geq 35\text{mi}$) and all available days (clear and cloudy) were compared. Clear day comparisons ranged in sample size from $N=73$ to $N=333$, whereas all days sampled ranged from $N=278$ to $N=1237$ data points.

A simple analysis of means and t-test of difference of means were employed. A scattergram (Figure 1) was produced to illustrate certain aspects of calibration problems.

Comparisons--Horizontal (Global) Radiation

Table I lists the comparisons of stations for Global (180° horizontal direct and diffuse) radiation for the full record of data. Data include only those days when pairs of stations (one always including NWS) were simultaneously recording and when daily totals could be accurately computed with no missing data.

In comparing all sample days for 1975-78 (including data from cloudy plus clear days), there are expected differences, yet some notable peculiarities.

Glancing at Table II, it can be observed that Global Radiation reception at NWS is significantly less than Gila Bend and New River stations. In the case of Gila Bend, it is hypothesized that Salt River Air Pollution could be the cause of reduction in NWS values below those of Gila Bend. Elevation would favor an increase at NWS (located some 600' above Gila Bend.)

TABLE I

ALL SKY CASE

MSU SPSS TEST - 1975 TO 1977

FILE SOLAR (CREATION DATE = 29 AUG 78) RADIATION STATISTICAL TESTS

- T - T E S T -

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	*(DIFFERENCE) * MEAN	STANDARD DEVIATION	STANDARD ERROR	* CORR. * * PROB. *	2-TAIL * VALUE *	T * VALUE *	DEGREES OF FREEDOM	2-TAIL * PROB. *
HRNWS	NWS HORIZPNTAL GLOBAL RADIATION											
	1237	5607.5487	2060.311	58.580								
		5653.9659	2118.233	60.227	-46.3772	545.503	15.510	.966 .000	-2.99		1236	.003
HRDST	OSET HORIZONTAL GLOBAL RADIATION											
HRNWS	NWS HORIZPNTAL GLOBAL RADIATION											
	1217	5622.8606	2065.835	59.218								
		5604.7612	2001.751	57.381	18.0994	479.406	13.742	.973 .000	1.32		1216	.168
HRGM	GM HORIZONTAL GLOBAL RADIATION											
HRNWS	NWS HORIZPNTAL GLOBAL RADIATION											
	1027	5565.1365	1998.635	62.366								
		3788.8033	1654.285	51.621	1776.3333	1099.744	34.317	.835 .000	51.76		1026	.000
HRDPX	PD PHX HORIZONTAL GLORAL RDIATION											
HRNWS	NWS HORIZPNTAL GLOBAL RADIATION											
	278	5934.4208	2034.935	122.047								
		6067.1583	1891.648	113.454	-132.7374	671.739	40.288	.944 .000	-3.29		277	.001
HRGB	GILA BEND HORIZONTAL GLOBAL RADIATION											
HRNWS	NWS HORIZPNTAL GLOBAL RADIATION											
	646	5667.8493	2158.660	84.931								
		5484.8560	2115.161	83.220	183.0333	417.297	16.418	.961 .000	11.15		645	.000
HRASU	ASU HORIZONTAL GLOBAL RADIATION											

TABLE II

All Cloud Cover Cases % Difference of Means
of Pair-Wise Comparisons $\left(\frac{\bar{x} - \bar{y}}{\bar{x} + \bar{y}/2} \right)$

NWS/DSET	NWS < DSET by 0.82%*
NWS/GM	NWS > GM by 0.32%
NWS/PD	NWS > PD by 38.0%
NWS/GB	NWS < GB by 2.22%*
NWS/ASU	NWS > ASU by 3.28%

Clear Skies; ≥ 35 mi. Vis. % Difference of
Means $\left(\frac{\bar{x} - \bar{y}}{\bar{x} + \bar{y}/2} \right)$ of Pair-Wise Comparisons

NWS/DSET	NWS < DSET by 2.47%*
NWS/GM	NWS > GM by 0.05%
NWS/PD	NWS > PD by 36.8%*
NWS/GB	GB > NWS by 0.18%
NWS/ASU	NWS > ASU by 3.03%*

*Significant difference at .05% level determined
 by a t-test

The New River site (DSET) located in the uplands north of the Salt River Valley experiences a slight increase in solar radiation due to higher elevation and perhaps lower aerosol levels. Even though the DSET site values are usually higher, the average difference is very small--smaller than might have been anticipated. One hypothesis to explain this rather small difference is the likely existence of more mountain cloud cover particularly in the summer months when local slope heating can produce local cumulus clouds.

Inter-valley comparison (NWS versus General Motors, ASU, and Phelps Dodge site in downtown Phoenix) illustrate two results: (a) instruments and recorder errors can lead to faulty conclusions on the urban haze effect on solar reception; and (b) when data can be considered valid there appears to be a rather small difference in global radiation reception across the urban area. This may arise due to the enhanced scattering and reflection (thus increased diffuse radiation) of solar radiation which, in a sense, "makes up" for the absorption of the direct beam radiation by the urban haze layer. Idso (1970) has taken detailed solar measurements of direct beam and diffuse radiation and has shown this to be true.

The comparison of NWS with Phelps Dodge shows a 38.0% difference over an extremely small horizontal and vertical distance (Downtown is very near Sky Harbor Airport.) Upon investigating the instrumentation, it was found that PD instrumentation and recording systems were in error. Figure 1 shows a regression x-y plot--note the discontinuity in the correlation which can only be explained by faulty instrumentation. Whether the statistically significant difference between NWS and the Laboratory of Climatology (ASU) [3.28%] can be attributable to urban haze effects or

MSU SPSS TEST - CLEAR AND VIS GE 35

FILE SOLAR (CREATION DATE = 30 AUG 78) RADIATION STATISTICAL TESTS
 SCATTERGRAM OF (DOWN) HRNWS NWS HORIZONTAL GLOBAL RADIATION (ACROSS) HRDPX 2D PHX HORIZONTAL GLOBAL RDIATIO

FIGURE 1

other instrumentation problems cannot be determined. A comparison of NWS and General Motors site east of Phoenix in the desert indicated no statistically significant difference for global radiation reception. Again, this may be a case of increased diffuse radiation in the city offsetting direct beam absorption. Furthermore, natural desert aerosols may be just as abundant over GM as man-made aerosols in Phoenix.

Table III lists the pair-wise comparisons (NWS versus others) for clear days with visibility $\geq$ 35 miles. Table II shows percentage differences. Comparisons of NWS with stations outside the Salt River Valley show the same relationships as for all days. However, NWS data are 2.47% lower than DSET and not significantly different from GB. The former is the effect of urban haze and DSET's higher elevation; the latter is the result of urban haze--elevation would favor an increase of energy at NWS compared to GB.

Inter-valley comparisons result in very similar conclusions to the clear and cloudy data sample.

Comparisons---Normal Incidence Radiation

Table IV shows the NIP data from ASU, DSET, and GB. The GB data are available for only 1977. All stations are compared to ASU. In every case DSET recorded highest values; GB and ASU were not significantly different. Similar comparative results arose irregardless of sky conditions, although differences were amplified under clear skies. These findings follow expectations based on altitude and aerosol effects. However, ASU should perhaps record slightly higher (and statistically different) values from GB. This insignificant difference may reflect a pollution effect evident in the ASU NIP record. Clear sky comparisons

TABLE III

CLEAR SKY

MSU SPSS TEST - CLEAR AND VIS GE 35

FILE SOLAR (CREATION DATE = 30 AUG 78) RADIATION STATISTICAL TESTS

- - - - - T - T E S T - - - - -

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	(DIFFERENCE) MEAN	STANDARD DEVIATION	STANDARD ERROR	2-TAIL CORR. PROB.	T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
HRNWS	NWS HORIZPNTAL GLOBAL RADIATION	6449.5829	1778.817	97.479							
	333	6610.3080	1745.089	95.630	-160.7251	253.245	13.878	.990 .000	-11.58	332	.000
HRDST	DSET HORIZONTAL GLOBAL RADIATION										
HRNWS	NWS HORIZPNTAL GLOBAL RADIATION	6490.2472	1766.007	97.660							
	327	6487.4425	1703.532	94.206	2.8047	267.142	14.773	.989 .000	.19	326	.850
HRGM	GM HORIZONTAL GLOBAL RADIATION										
HRNWS	NWS HORIZPNTAL GLOBAL RADIATION	6373.8268	1787.905	105.171							
	289	4391.1072	1663.716	97.866	1982.7196	1111.349	65.373	.795 .000	30.33	288	.000
HRPOPX	PD PHX HORIZONTAL GLOBAL RDIATION										
HRNWS	NWS HORIZPNTAL GLOBAL RADIATION	7232.4384	1315.347	153.950							
	73	7245.8904	1178.938	137.984	-13.4520	320.672	37.532	.973 .000	-.36	72	.721
HRGB	GILA BEND HORIZONTAL GLOBAL RADIATION										
HRNWS	NWS HORIZPNTAL GLOBAL RADIATION	6495.4922	1902.121	141.776							
	180	6301.0167	1815.859	135.347	194.4756	395.839	29.504	.978 .000	6.59	179	.000
HRASU	ASU HORIZONTAL GLOBAL RADIATION										

TABLE IV

Normal Incidence All Days 1978
(Watt-hrs. per sq. meter per day)

	<u>Mean</u>	<u>All Days St. Dev.</u>	<u>1978 N</u>	<u>Mean % from ASU</u>	
DSET	4913	3689	68	5.63*	DSET > ASU
ASU	4644	3278	68		

Normal Incidence Clear Days Only 1978

ASU	7610	2863	18	18.3*	DSET > ASU
DSET	9140	677	18		

Normal Incidence All Days 1977

ASU	7030	2409	251	4.4*	DSET > ASU
DSET	7344	2562	251		
ASU	7216	2419	166	0.7	ASU > GB
GILA BEND	7168	2683	166		

Normal Incidence Clear Days Only 1977

ASU	8599	1633	55	8.3*	DSET > ASU
DSET	9343	1775	55		
ASU	9032	1404	36	1.3	ASU > GB
GB	8917	1877	36		

* Significantly different at .05 level of significance

indicate there are several instances of apparent errors in the recording of direct normal radiation. These arose due to the lack of continual alignment of the pyrheliometer. Thus, without excluding these data, the correlations usually are low. Otherwise the time variations or direct beam data are highly correlated among the sites.

REFERENCES

- Idso, S. B. 1970. The Transmittance of the Atmosphere for Solar Radiation on Individual Clear Days. Journ. Appl. Meteorol. 9(2): 239-241.

APPENDIX B

SOLAR DATA - METROPOLITAN PHOENIX STATIONS

DAY	NWS	DSST	GM	PHYDD	GR	ASU	VIS	CLD	MAXPHY
1	1479.1	1258.4	1270.9	849.0	-999.0	-999.0	33.0	10.0	3615.0
2	2731.6	2810.4	3050.3	1920.0	-999.0	-999.0	17.8	3.0	3627.0
3	3351.7	3647.1	3691.0	2246.0	-999.0	-999.0	34.0	.0	3639.0
4	3495.2	3654.6	3618.2	2502.0	-999.0	-999.0	45.0	.0	3650.0
5	3438.8	3461.1	3497.5	2258.0	-999.0	-999.0	49.0	1.0	3652.0
6	3315.0	3437.2	3376.9	2176.0	-999.0	-999.0	36.0	5.0	3674.0
7	3184.7	3437.2	3247.8	2170.0	-999.0	-999.0	23.0	5.0	3686.0
8	2576.0	2060.6	2722.7	-999.0	-999.0	-999.0	27.0	9.0	3698.0
9	3495.2	3658.6	3376.9	2374.0	-999.0	-999.0	20.0	1.0	3722.0
10	3112.0	2831.0	3158.5	2071.0	-999.0	-999.0	35.0	7.0	3746.0
11	3161.1	3328.0	3267.7	2141.0	-999.0	-999.0	33.0	9.0	3770.0
12	3745.4	3806.0	3860.5	2479.0	-999.0	-999.0	59.0	.0	3794.0
13	3662.3	3840.0	3924.1	2479.0	-999.0	-999.0	49.0	7.0	3817.0
14	3626.5	3806.0	3936.6	2479.0	-999.0	-999.0	36.0	.0	3841.0
15	3637.7	3900.8	3984.4	2479.0	-999.0	-999.0	33.0	.0	3865.0
16	2708.0	2771.6	2652.1	1874.0	-999.0	-999.0	24.4	7.0	3889.0
17	3566.0	3873.0	3940.0	2560.0	-999.0	-999.0	30.0	3.0	3913.0
18	3554.7	3800.2	3691.0	2444.0	-999.0	-999.0	36.0	6.0	3937.0
19	3971.0	3982.2	4078.0	2630.0	-999.0	-999.0	66.6	.0	3961.0
20	3817.1	3836.6	3945.8	2653.0	-999.0	-999.0	35.0	7.0	3984.0
21	3697.2	3836.6	3776.2	2514.0	-999.0	-999.0	24.0	1.0	4008.0
22	3864.2	4126.7	3909.4	2583.0	-999.0	-999.0	48.0	.0	4032.0
23	3804.8	3982.2	3957.2	2630.0	-999.0	-999.0	43.0	.0	4056.0
24	3828.8	4066.4	4017.5	2572.0	-999.0	-999.0	30.0	.0	4080.0
25	3876.6	4053.0	4017.5	2618.0	-999.0	-999.0	27.0	.0	4104.0
26	4007.7	4132.8	4139.2	2677.0	-999.0	-999.0	23.0	1.0	4128.0
27	2400.8	2057.1	2994.7	1734.0	-999.0	-999.0	30.4	9.0	4151.0
28	3339.5	3654.6	3194.9	2269.0	-999.0	-999.0	18.0	9.0	4177.0
29	1622.6	2402.9	1017.1	1175.0	-999.0	-999.0	21.0	10.0	4223.0
30	2135.1	1108.1	883.0	1274.0	-999.0	-999.0	29.0	7.0	4259.0
31	2731.6	2965.0	3218.8	1746.0	-999.0	-999.0	37.0	6.0	4295.0
32	4115.0	4441.8	4248.4	2886.0	-999.0	-999.0	36.0	.0	4342.0
33	4151.0	4478.2	4139.2	2886.0	-999.0	-999.0	25.0	.0	4378.0
34	3590.6	3812.6	3860.5	2467.0	-999.0	-999.0	27.0	6.0	4414.0
35	3459.4	2784.1	2034.7	2269.0	-999.0	-999.0	35.0	7.0	4450.0
36	4070.5	4227.4	2952.6	2770.0	-999.0	-999.0	34.0	7.0	4485.0
37	4353.0	4416.9	4805.4	2909.0	-999.0	-999.0	40.0	7.0	4533.0
38	3566.0	3676.7	3949.0	2397.0	-999.0	-999.0	34.0	10.0	4581.0
39	4318.7	4622.8	4441.8	2909.0	-999.0	-999.0	20.0	.0	4629.0
40	3912.4	3400.8	4115.3	2583.0	-999.0	-999.0	34.0	8.0	4676.0
41	3423.5	3110.6	3122.1	2607.0	-999.0	-999.0	35.0	3.0	4724.0
42	4568.0	4974.3	4755.9	3107.0	-999.0	-999.0	45.0	.0	4772.0
43	4520.2	4650.2	4684.2	3049.0	-999.0	-999.0	40.0	7.0	4819.0
44	3017.4	2705.5	3267.7	1978.0	-999.0	-999.0	24.4	10.0	4867.0
45	2611.7	2323.4	2892.2	1524.0	-999.0	-999.0	12.4	7.0	4915.0
46	1872.7	1843.7	1000.1	1152.0	-999.0	-999.0	16.0	8.0	4963.0
47	4807.2	4700.1	4635.3	3154.0	-999.0	-999.0	22.0	2.0	5010.0
48	4926.2	4345.1	4732.0	3363.0	-999.0	-999.0	44.0	.0	5058.0
49	4949.7	5307.6	4841.2	3258.0	-999.0	-999.0	38.0	.0	5106.0
50	4985.6	5434.0	4877.6	3235.0	-999.0	-999.0	35.0	3.0	5153.0
51	4663.7	4914.0	4465.8	3037.0	-999.0	-999.0	23.0	7.0	5201.0
52	4568.4	5221.8	3776.2	3037.0	-999.0	-999.0	27.0	6.0	5249.0
53	5343.3	5627.4	5277.0	3538.0	-999.0	-999.0	55.0	.0	5296.0
54	5343.3	5667.8	5373.7	3573.0	-999.0	-999.0	42.0	.0	5344.0
55	5319.7	5651.4	5277.0	3584.0	-999.0	-999.0	40.0	.0	5392.0
56	5093.2	5380.8	-999.0	3445.0	-999.0	-999.0	24.0	6.0	5440.0
57	5116.8	5554.6	-999.0	3445.0	-999.0	-999.0	23.0	4.0	5487.0

DAY	NJC	DEET	GM	PHXPO	GR	ASH	VIS	CLD	MAYPHY
58	4074.3	5100.2	4052.6	3363.0	-000.0	-000.0	22.0	5.0	5535.0
59	5367.0	5724.2	5470.4	3770.0	-000.0	-000.0	28.0	.0	5583.0
60	5474.5	5760.6	5518.2	3631.0	-000.0	-000.0	36.0	1.0	5630.0
61	5463.2	5724.2	5506.8	3619.0	-000.0	-000.0	28.0	2.0	5678.0
62	4062.0	5784.5	5010.7	3258.0	-000.0	-000.0	33.0	0.0	5726.0
63	5045.0	5446.5	5022.2	4457.0	-000.0	-000.0	30.0	7.0	5774.0
64	2647.6	2541.8	2747.7	1722.0	-000.0	-000.0	31.4	9.0	5821.0
65	5033.2	5071.0	5143.8	3107.0	-000.0	-000.0	37.0	3.0	5869.0
66	3757.6	4538.6	3557.8	2508.0	-000.0	-000.0	32.0	10.0	5917.0
67	3434.8	4235.0	3546.4	2607.0	-000.0	-000.0	38.0	0.0	5964.0
68	5332.0	4078.9	5074.2	3817.0	-000.0	-000.0	36.0	1.0	6012.0
69	2460.2	2838.0	3158.5	1571.0	-000.0	-000.0	24.0	8.0	6060.0
70	3531.1	2541.0	3376.9	2176.0	-000.0	-000.0	28.2	9.0	6108.0
71	4580.7	5010.7	5252.0	3351.0	-000.0	-000.0	31.0	6.0	6155.0
72	5797.8	5204.2	5639.9	3712.0	-000.0	-000.0	27.0	3.0	6203.0
73	3256.4	2306.2	2844.4	1900.0	-000.0	-000.0	22.8	4.0	6251.0
74	6107.0	5579.6	5079.0	4050.0	-000.0	-000.0	36.0	.0	6298.0
75	6011.6	4076.8	5042.6	3957.0	-000.0	-000.0	40.0	3.0	6346.0
76	6428.8	6814.1	6172.4	4224.0	-000.0	-000.0	52.0	.0	6394.0
77	6238.2	6681.0	6112.1	4143.0	-000.0	-000.0	32.0	.0	6442.0
78	5343.3	5882.2	5482.0	3619.0	-000.0	-000.0	28.0	8.0	6489.0
79	4735.5	3849.0	4744.5	3130.0	-000.0	-000.0	39.0	10.0	6537.0
80	6345.8	6777.7	6112.1	4189.0	-000.0	-000.0	37.0	1.0	6585.0
81	5060.7	4710.5	5058.6	2886.0	-000.0	-000.0	26.0	6.0	6632.0
82	6667.6	7043.0	6402.2	4399.0	-000.0	-000.0	45.0	1.0	6680.0
83	6381.7	6741.3	6220.2	4154.0	-000.0	-000.0	43.0	4.0	6728.0
84	6369.4	5869.8	5066.5	4050.0	-000.0	-000.0	36.0	4.0	6776.0
85	3912.8	1017.1	2686.3	2711.0	-000.0	-000.0	13.8	7.0	6823.0
86	6572.3	6874.8	5030.1	4364.0	-000.0	-000.0	46.0	2.0	6871.0
87	5749.2	6353.8	5030.1	3875.0	-000.0	-000.0	37.0	6.0	6919.0
88	6942.3	7430.8	6681.0	4538.0	-000.0	-000.0	42.0	.0	6966.0
89	7204.7	7563.9	6801.6	4666.0	-000.0	-000.0	49.0	.0	7014.0
90	7025.4	7067.8	6692.8	4573.0	-000.0	-000.0	27.4	3.0	7062.0
91	5797.4	4914.0	3009.4	2386.0	-000.0	-000.0	25.0	4.0	7110.0
92	7204.7	7660.6	6095.0	4480.0	-000.0	-000.0	55.0	.0	7157.0
93	7097.1	7527.5	6047.2	4309.0	-000.0	-000.0	33.0	2.0	7193.0
94	-999.0	7612.8	7091.8	4550.0	-000.0	-000.0	30.0	.0	7229.0
95	7180.1	7612.8	7080.3	4632.0	-000.0	-000.0	40.0	.0	7265.0
96	5736.9	5047.1	6245.2	-999.0	-000.0	-000.0	33.4	5.0	7300.0
97	4747.8	-999.0	4635.3	2432.0	-000.0	-000.0	36.0	7.0	7336.0
98	4879.0	5361.2	5349.8	2851.0	-000.0	-000.0	42.0	8.0	7372.0
99	2743.9	2952.6	3715.9	1164.0	-000.0	-000.0	36.0	10.0	7408.0
100	5141.8	7654.6	6281.6	2653.0	-000.0	-000.0	23.4	6.0	7444.0
101	6322.2	6075.7	6535.4	3479.0	-000.0	-000.0	30.0	3.0	7479.0
102	5080.0	3840.0	4841.2	2618.0	-000.0	-000.0	30.0	5.0	7515.0
103	7287.7	7443.3	7043.9	4073.0	-000.0	-000.0	40.0	.0	7551.0
104	7490.7	7842.6	7285.2	4178.0	-000.0	-000.0	38.0	.0	7587.0
105	7526.6	8083.0	6734.9	4271.0	-000.0	-000.0	43.0	1.0	7622.0
106	7693.7	8156.7	6656.0	-999.0	-000.0	-000.0	43.0	.0	7658.0
107	5880.8	5630.9	4042.5	2886.0	-000.0	-000.0	39.0	6.0	7694.0
108	7419.0	7879.0	7055.4	4085.0	-000.0	-000.0	27.0	.0	7730.0
109	7634.2	8132.8	7491.1	4329.0	-000.0	-000.0	37.0	.0	7766.0
110	7729.5	8193.1	7587.8	4352.0	-000.0	-000.0	37.0	1.0	7801.0
111	7645.5	8205.6	7164.6	4271.0	-000.0	-000.0	36.0	5.0	7837.0
112	7824.0	7999.7	7624.2	4888.0	-000.0	-000.0	39.0	.0	7873.0
113	7670.1	7975.8	7563.9	4294.0	-000.0	-000.0	34.0	1.0	7909.0
114	7621.0	8156.7	7516.1	4888.0	-000.0	-000.0	27.0	1.0	7933.0
115	7729.5	8169.2	7576.4	-999.0	-000.0	-000.0	25.0	.0	7956.0

DAY	NWS	DSFT	GM	PHYPO	GR	ASH	VIS	CLD	MAXPHY
116	7598.3	6656.0	7043.0	4902.0	-999.0	-999.0	22.0	3.0	7980.0
117	7907.0	8447.9	7677.1	5574.0	-999.0	-999.0	28.0	.0	8004.0
118	7824.0	8386.6	7697.0	5574.0	-999.0	-999.0	32.0	.0	8028.0
119	7848.4	8386.6	7091.8	5400.0	-999.0	-999.0	26.0	.0	8052.0
120	-999.0	8435.4	7866.6	5423.0	-999.0	-999.0	31.0	.0	8076.0
121	-999.0	8302.3	7649.2	5353.0	-999.0	-999.0	27.0	.0	8100.0
122	-999.0	8265.0	7733.4	5213.0	-999.0	-999.0	31.0	.0	8123.0
123	-999.0	8375.1	7817.7	5306.0	-999.0	-999.0	21.0	.0	8147.0
124	-999.0	7387.0	7709.5	5039.0	-999.0	-999.0	20.0	5.0	8171.0
125	-999.0	8008.6	7830.2	5376.0	-999.0	-999.0	17.8	.0	8195.0
126	-999.0	8810.7	8072.5	5388.0	-999.0	-999.0	45.0	.0	8219.0
127	-999.0	8774.5	8072.5	5341.0	-999.0	-999.0	41.0	.0	8243.0
128	-999.0	8677.8	8012.2	5353.0	-999.0	-999.0	35.0	.0	8267.0
129	-999.0	8778.1	7854.1	5272.0	-999.0	-999.0	31.0	5.0	8290.0
130	-999.0	8750.6	8083.9	5411.0	-999.0	-999.0	29.0	.0	8314.0
131	-999.0	8810.9	8242.0	5504.0	-999.0	-999.0	36.0	.0	8338.0
132	8230.7	8605.0	8132.8	-999.0	-999.0	-999.0	28.0	.0	8362.0
133	8254.3	8750.6	8156.7	5400.0	-999.0	-999.0	32.0	.0	8386.0
134	8182.6	8665.3	8156.7	5283.0	-999.0	-999.0	30.0	2.0	8410.0
135	7410.0	8060.0	7563.9	4854.0	-999.0	-999.0	27.0	6.0	8434.0
136	6191.0	6602.4	5736.6	3852.0	-999.0	-999.0	35.0	8.0	8457.0
137	7061.2	6075.7	6814.1	5050.0	-999.0	-999.0	35.0	3.0	8481.0
138	7894.6	8592.5	7890.5	5283.0	-999.0	-999.0	37.0	1.0	8493.0
139	8051.4	8289.8	7563.9	5260.0	-999.0	-999.0	32.0	.0	8505.0
140	8063.7	7890.5	7660.6	5213.0	-999.0	-999.0	15.0	.0	8517.0
141	7991.0	7999.7	7793.8	5277.0	-999.0	-999.0	28.0	1.0	8529.0
142	8313.8	8665.0	8060.0	5388.0	-999.0	-999.0	28.0	3.0	8541.0
143	8182.6	8701.7	8036.1	5205.0	-999.0	-999.0	30.0	.0	8553.0
144	8301.5	8798.4	8169.2	5365.0	-999.0	-999.0	43.0	.0	8565.0
145	8218.4	8810.9	8205.6	5388.0	-999.0	-999.0	34.0	.0	8577.0
146	8385.5	8805.1	8242.0	5434.0	-999.0	-999.0	43.0	.0	8589.0
147	8290.2	8591.0	8132.8	5507.0	-999.0	-999.0	46.0	4.0	8601.0
148	7311.7	8405.8	6389.9	4309.0	-999.0	-999.0	52.0	1.0	8612.0
149	7204.7	7677.1	6692.4	4678.0	-999.0	-999.0	50.0	2.0	8624.0
150	8290.2	8132.8	8132.8	5400.0	-999.0	-999.0	58.0	.0	8636.0
151	8421.4	8847.3	8265.9	5504.0	-999.0	-999.0	52.0	.0	8648.0
152	8373.2	8810.9	8253.4	5423.0	-999.0	-999.0	46.0	.0	8660.0
153	8373.2	8847.3	8242.0	5434.0	-999.0	-999.0	35.0	.0	8672.0
154	7836.1	8423.0	8145.3	5007.0	-999.0	-999.0	34.0	5.0	8684.0
155	8516.7	8931.5	9113.5	5528.0	-999.0	-999.0	44.0	.0	8696.0
156	-999.0	9028.2	8532.2	5504.0	-999.0	-999.0	50.0	.0	8708.0
157	-999.0	9040.7	8532.2	5644.0	-999.0	-999.0	45.0	1.0	8720.0
158	-999.0	5906.2	7443.7	-999.0	-999.0	-999.0	32.0	3.0	8732.0
159	-999.0	8725.6	8083.9	5376.0	-999.0	-999.0	35.0	.0	8744.0
160	-999.0	8532.2	7890.5	5341.0	-999.0	-999.0	27.0	1.0	8756.0
161	8337.7	8919.0	8193.1	5446.0	-999.0	-999.0	31.0	.0	8768.0
162	8516.7	9175.0	8532.2	5609.0	-999.0	-999.0	50.0	.0	8779.0
163	8457.3	8955.4	8302.3	5516.0	-999.0	-999.0	41.0	.0	8791.0
164	8290.2	8701.7	8181.7	5446.0	-999.0	-999.0	30.0	2.0	8803.0
165	8361.0	8895.1	8326.2	5481.0	-999.0	-999.0	52.0	.0	8815.0
166	8432.7	8871.2	8351.2	5586.0	-999.0	-999.0	42.0	.0	8815.0
167	8337.3	8750.6	8229.5	5586.0	-999.0	-999.0	25.0	.0	8827.0
168	8445.0	8762.0	8205.6	5403.0	-999.0	-999.0	20.0	.0	8827.0
169	8170.7	8351.2	7660.6	5283.0	-999.0	-999.0	11.6	.0	8827.0
170	8432.7	8871.2	7721.0	5469.0	-999.0	-999.0	42.0	.0	8839.0
171	8349.7	8858.7	8120.3	-999.0	-999.0	-999.0	37.0	.0	8839.0
172	8361.0	8977.6	8253.4	5050.0	-999.0	-999.0	32.0	.0	8839.0
173	8445.0	8871.2	8351.2	5458.0	-999.0	-999.0	43.0	.0	8839.0

DAY	NUS	YSET	GM	PHXP0	GR	ASH	VTS	CLD	MAXPHY
174	0516.7	8919.0	8435.4	5516.0	-999.0	-999.0	41.0	.0	8927.0
175	8707.4	9077.1	8508.2	5632.0	-999.0	-999.0	48.0	.0	8827.0
176	8540.3	8895.1	8459.4	5528.0	-999.0	-999.0	39.0	.0	8827.0
177	8687.8	9040.7	8495.8	5632.0	-999.0	-999.0	34.0	.0	8815.0
178	8612.1	9052.2	8762.0	5644.0	-999.0	-999.0	38.0	.0	8815.0
179	8588.5	9077.1	8759.6	5528.0	-999.0	-999.0	52.0	2.0	8803.0
180	8874.4	9200.8	8519.7	5760.0	-999.0	-999.0	60.0	3.0	8803.0
181	8540.3	8725.6	8423.0	5562.0	-999.0	-999.0	36.0	.0	8791.0
182	8340.7	8200.8	8229.5	5411.0	-999.0	-999.0	40.0	1.0	8791.0
183	8080.5	8132.8	7091.8	-999.0	-999.0	-999.0	31.0	5.0	8779.0
184	8772.8	8309.0	5784.0	3368.0	-999.0	-999.0	36.0	7.0	8768.0
185	7454.8	5676.3	6885.8	4713.0	-999.0	-999.0	27.0	5.0	8756.0
186	7102.8	7684.6	7412.8	4655.0	-999.0	-999.0	35.0	4.0	8744.0
187	7920.2	7926.9	6861.9	5050.0	-999.0	-999.0	36.8	3.0	8732.0
188	7061.2	7516.1	7443.3	4108.0	-999.0	-999.0	39.0	6.0	8720.0
189	5343.3	7188.5	5191.7	3340.0	-999.0	-999.0	36.0	9.0	8708.0
190	7573.7	8309.0	-999.0	4666.0	-999.0	-999.0	36.0	1.0	8696.0
191	7395.4	8314.8	7830.2	-999.0	-999.0	-999.0	27.0	4.0	8684.0
192	7395.8	8099.6	7649.2	4620.0	-999.0	-999.0	29.0	6.0	8672.0
193	6524.1	6608.2	6885.8	3701.0	-999.0	-999.0	36.0	9.0	8648.0
194	7538.9	7104.2	6814.1	4713.0	-999.0	-999.0	27.8	9.0	8624.0
195	7598.3	7418.3	7866.6	4748.0	-999.0	-999.0	26.0	2.0	8601.0
196	7573.7	8012.2	8083.0	4864.0	-999.0	-999.0	32.0	1.0	8577.0
197	5916.3	6462.6	5543.2	7689.0	-999.0	-999.0	33.0	6.0	8553.0
198	7789.0	7673.1	7624.2	-999.0	-999.0	-999.0	38.0	.0	8529.0
199	7907.9	8435.4	8060.0	4992.0	-999.0	-999.0	44.0	.0	8515.0
200	7920.2	8362.6	7513.6	4957.0	-999.0	-999.0	46.0	2.0	8481.0
201	6858.3	7043.9	6692.4	4143.0	-999.0	-999.0	46.0	3.0	8457.0
202	7776.7	8072.5	7721.0	4911.0	-999.0	-999.0	42.0	.0	8434.0
203	7753.1	8145.3	7721.0	4853.0	-999.0	-999.0	29.0	2.0	8410.0
204	7720.5	8120.3	7491.1	4748.0	-999.0	-999.0	29.0	1.0	8386.0
205	7598.3	7454.7	7479.7	4794.0	-999.0	-999.0	27.0	3.0	8362.0
206	7240.6	6789.1	7285.2	4562.0	-999.0	-999.0	43.0	3.0	8338.0
207	7478.8	7019.0	7454.7	4655.0	-999.0	-999.0	41.0	3.0	8314.0
208	4735.5	4914.0	4001.5	2991.0	-999.0	-999.0	27.4	8.0	8290.0
209	7216.0	7697.0	7346.6	4282.0	-999.0	-999.0	36.0	4.0	8267.0
210	7240.6	5204.2	7285.2	4204.0	-999.0	-999.0	36.4	2.0	8243.0
211	7765.4	8108.9	7915.4	4946.0	-999.0	-999.0	48.0	.0	8219.0
212	7765.4	8181.7	8036.1	4986.0	-999.0	-999.0	48.0	.0	8195.0
213	7740.8	8132.8	7890.5	4969.0	-999.0	-999.0	44.0	3.0	8159.0
214	7801.3	8181.7	7963.3	4922.0	-999.0	-999.0	44.0	.0	8123.0
215	7740.8	8096.4	7915.4	4946.0	-999.0	-999.0	46.0	.0	8088.0
216	7503.0	7782.3	7660.6	4806.0	-999.0	-999.0	38.0	1.0	8052.0
217	7431.2	7587.8	7436.7	4690.0	-999.0	-999.0	28.0	1.0	8016.0
218	7133.0	6717.4	7418.3	4492.0	-999.0	-999.0	25.0	1.0	7980.0
219	7264.2	7600.3	7563.9	4573.0	-999.0	-999.0	29.0	.0	7944.0
220	5916.3	6256.6	5616.0	4073.0	-999.0	-999.0	26.0	8.0	7909.0
221	5963.5	6644.6	4744.5	3922.0	-999.0	-999.0	20.0	5.0	7873.0
222	6065.0	7476.0	7224.9	4457.0	-999.0	-999.0	32.0	7.0	7837.0
223	2779.8	4586.4	5457.0	2106.0	-999.0	-999.0	36.0	9.0	7801.0
224	7084.8	7321.6	7310.2	4507.0	-999.0	-999.0	33.0	2.0	7766.0
225	7350.5	7782.3	7612.8	4678.0	-999.0	-999.0	41.0	.0	7730.0
226	7442.5	7733.4	7587.8	4725.0	-999.0	-999.0	46.0	.0	7694.0
227	7311.3	7769.8	7540.0	4690.0	-999.0	-999.0	34.0	.0	7658.0
228	7133.0	7442.3	7224.9	4387.0	-999.0	-999.0	35.0	1.0	7622.0
229	7657.8	7919.4	7757.4	4864.0	-999.0	-999.0	56.0	.0	7587.0
230	7442.5	7709.5	7830.2	4748.0	-999.0	-999.0	32.0	4.0	7551.0
231	6930.0	7673.1	6692.4	4341.0	-999.0	-999.0	41.0	4.0	7515.0

DAY	NWS	DSET	GM	PHXP0	GR	ASU	VTS	CLD	MAXPHX
232	4500.5	7201.0	6656.0	4078.0	-000.0	-999.0	42.0	6.0	7479.0
233	7156.5	7401.1	7273.8	4597.0	-000.0	-000.0	41.0	.0	7444.0
234	6870.6	7563.9	7285.2	4562.0	-000.0	-999.0	44.0	.0	7408.0
235	7048.9	7304.4	7224.9	4504.0	-000.0	-999.0	41.0	.0	7372.0
236	7216.0	7491.1	7358.0	4597.0	-000.0	-999.0	53.0	.0	7336.0
237	7180.1	7660.6	7430.8	4620.0	-000.0	-999.0	41.0	.0	7300.0
238	7073.5	7261.3	7201.0	4492.0	-000.0	-999.0	36.0	7.0	7265.0
239	6953.6	6810.1	7140.6	4492.0	-000.0	-999.0	40.0	.0	7229.0
240	6930.0	7277.4	7104.2	4399.0	-000.0	-999.0	37.0	.0	7193.0
241	6965.6	7401.1	7213.4	4480.0	-000.0	-000.0	30.0	.0	7157.0
242	7073.5	7479.7	7273.8	4550.0	-000.0	-999.0	51.0	.0	7121.0
243	6834.7	7177.0	7019.0	3901.0	-000.0	-999.0	44.0	.0	7086.0
244	5403.8	6451.1	5070.0	3165.0	-000.0	-999.0	40.0	7.0	7050.0
245	3673.6	4526.1	4914.0	2274.0	-000.0	-999.0	36.0	9.0	7014.0
246	6560.0	6850.5	6704.9	4096.0	-000.0	-999.0	39.0	.0	6978.0
247	5892.7	5471.5	5893.7	3782.0	-000.0	-999.0	30.0	6.0	6931.0
248	6087.4	6099.6	6183.8	3770.0	-000.0	-999.0	32.8	4.0	6895.0
249	2910.0	1561.0	2323.4	1862.0	-000.0	-999.0	32.0	1.0	6859.0
250	4380.0	4066.4	-000.0	2677.0	-000.0	-999.0	19.6	6.0	6823.0
251	6322.2	6825.5	5917.6	3968.0	-000.0	-999.0	30.0	2.0	6787.0
252	6441.1	6317.0	6619.6	3910.0	-000.0	-999.0	34.0	.0	6752.0
253	6536.4	6717.4	6691.0	4026.0	-000.0	-999.0	39.0	.0	6716.0
254	6767.0	7019.0	6874.4	4259.0	-000.0	-999.0	52.0	.0	6680.0
255	6560.0	6451.1	5131.4	4108.0	-000.0	-999.0	47.0	2.0	6644.0
256	6417.5	6281.6	6547.8	4073.0	-000.0	-999.0	40.0	2.0	6597.0
257	6405.2	6609.2	6609.2	3968.0	-000.0	-999.0	51.0	.0	6549.0
258	6274.0	6075.7	6475.0	3852.0	-000.0	-999.0	53.0	.0	6501.0
259	6238.2	6632.1	6571.8	-999.0	-999.0	-999.0	50.0	.0	6453.0
260	5904.0	6159.9	5833.4	3759.0	-000.0	-999.0	33.0	1.0	6406.0
261	5999.7	6256.6	6183.8	3817.0	-000.0	-999.0	38.0	.0	6358.0
262	6035.2	6341.0	6256.6	3922.0	-000.0	-999.0	43.0	.0	6310.0
263	6155.1	6378.3	6281.6	4026.0	-000.0	-999.0	47.0	.0	6263.0
264	6464.7	6704.9	6456.0	4189.0	-000.0	-999.0	53.0	.0	6215.0
265	6286.7	6422.2	6414.7	4050.0	-000.0	-999.0	51.0	.0	6167.0
266	6369.8	6535.4	6522.9	4108.0	-000.0	-999.0	51.0	.0	6120.0
267	6274.0	6426.2	6438.6	4026.0	-000.0	-999.0	47.0	.0	6072.0
268	6142.9	6305.5	6353.4	3901.0	-000.0	-999.0	47.0	.0	6024.0
269	5999.7	6193.8	6269.1	3945.0	-000.0	-999.0	39.0	.0	5976.0
270	6011.6	6148.5	6220.2	3922.0	-000.0	-999.0	37.0	.0	5941.0
271	5939.0	6087.1	6172.4	3910.0	-000.0	-999.0	37.0	.0	5905.0
272	4926.2	5724.2	5410.1	3247.0	-000.0	-999.0	31.0	6.0	5869.0
273	5391.5	5639.9	5470.4	3549.0	-000.0	-999.0	26.0	4.0	5833.0
274	5403.8	5700.2	5457.9	3549.0	-000.0	-999.0	29.0	3.0	5797.0
275	5630.7	5873.4	5845.8	3689.0	-000.0	-999.0	36.0	.0	5762.0
276	5558.6	5676.3	5820.9	-999.0	-000.0	-999.0	36.0	4.0	5726.0
277	5630.7	5784.5	5820.9	3770.0	-000.0	-999.0	41.0	.0	5690.0
278	5558.6	5724.2	5797.0	3724.0	-000.0	-999.0	34.0	.0	5654.0
279	4974.7	5107.4	5288.4	3317.0	-000.0	-999.0	27.0	4.0	5619.0
280	5057.7	4345.1	5457.9	3119.0	-000.0	-999.0	23.0	1.0	5583.0
281	5260.7	5570.6	5543.2	3503.0	-000.0	-999.0	23.0	.0	5547.0
282	5499.1	5651.4	5679.9	3607.0	-000.0	-999.0	37.0	.0	5511.0
283	5319.7	5591.0	5639.9	3538.0	-000.0	-999.0	31.0	.0	5475.0
284	5296.2	5543.2	5591.0	3538.0	-000.0	-999.0	38.0	.0	5440.0
285	5260.7	5167.8	5434.0	3456.0	-000.0	-999.0	42.0	.0	5404.0
286	5272.6	5673.5	5543.2	3468.0	-000.0	-999.0	40.0	.0	5368.0
287	5260.7	6728.8	5482.9	3491.0	-000.0	-999.0	40.0	.0	5332.0
288	5307.5	4296.2	5554.6	3514.0	-000.0	-999.0	63.8	.0	5296.0
289	5224.4	5471.5	5482.9	3456.0	-000.0	-999.0	51.0	.0	5261.0

DAY	NWS	DSFT	GM	PHXP	CR	ASH	VTS	CLD	MAXPHX
290	5165.7	5349.8	5335.1	3421.0	-999.0	-999.0	37.0	1.0	5225.0
291	4938.5	4841.2	4650.2	3282.0	-999.0	-999.0	28.0	2.0	5189.0
292	4449.5	3582.8	2686.3	3072.0	-999.0	-999.0	35.0	5.0	5153.0
293	4532.5	4066.4	3093.6	2984.0	-999.0	-999.0	35.0	3.0	5118.0
294	3995.5	4611.4	3533.9	2583.0	-999.0	-999.0	43.0	2.0	5070.0
295	4771.4	4647.8	4925.4	3170.0	-999.0	-999.0	36.0	.0	5022.0
296	4782.7	5071.0	4792.3	3154.0	-999.0	-999.0	29.3	.0	4974.0
297	4913.8	5167.8	5143.8	3282.0	-999.0	-999.0	51.0	.0	4927.0
298	4705.0	4998.2	4998.2	3235.0	-999.0	-999.0	42.0	1.0	4879.0
299	4640.2	4852.6	4928.7	3084.0	-999.0	-999.0	29.0	.0	4831.0
300	4520.2	4768.4	4974.8	3037.0	-999.0	-999.0	29.0	.0	4784.0
301	4424.9	4586.4	4695.6	2967.0	-999.0	-999.0	36.0	3.0	4736.0
302	4424.0	4684.2	4710.5	2967.0	-999.0	-999.0	31.0	.0	4688.0
303	4353.2	4481.8	4586.4	2863.0	-999.0	-999.0	30.0	.0	4640.0
304	4270.2	4526.1	4393.0	-999.0	-999.0	-999.0	25.0	.0	4593.0
305	4222.0	4381.5	4416.9	2816.0	-999.0	-999.0	30.0	.0	4557.0
306	4329.6	4465.8	4514.6	2886.0	-999.0	-999.0	32.0	.0	4521.0
307	4345.5	4575.0	4635.3	2967.0	-999.0	-999.0	36.0	.0	4485.0
308	4246.6	4441.8	4562.5	2863.0	-999.0	-999.0	47.0	.0	4450.0
309	4222.0	4332.6	4489.7	2828.0	-999.0	-999.0	34.0	.0	4414.0
310	4090.9	4356.6	4393.0	2758.0	-999.0	-999.0	26.0	.0	4378.0
311	4133.1	4332.6	4381.5	2781.0	-999.0	-999.0	29.0	.0	4342.0
312	4043.6	4212.0	4320.2	2735.0	-999.0	-999.0	26.0	.0	4306.0
313	4151.2	4393.0	4369.0	2805.0	-999.0	-999.0	41.0	.0	4271.0
314	3995.5	4288.4	4199.5	-999.0	-999.0	-999.0	26.0	.0	4235.0
315	3924.7	4199.5	4235.9	2677.0	-999.0	-999.0	25.0	.0	4211.0
316	4007.7	4287.8	4078.9	2735.0	-999.0	-999.0	30.0	.0	4187.0
317	3840.7	4030.0	4212.0	2618.0	-999.0	-999.0	11.0	.0	4163.0
318	3953.5	3679.5	3885.0	2246.0	-999.0	-999.0	2.9	5.0	4139.0
319	3542.4	3824.1	3727.4	-999.0	-999.0	-999.0	4.6	.0	4116.0
320	3637.7	3812.6	3849.0	2525.0	-999.0	-999.0	6.6	.0	4092.0
321	3673.6	3896.9	4017.5	2583.0	-999.0	-999.0	9.6	.0	4068.0
322	3450.4	3218.8	3849.0	2409.0	-999.0	-999.0	25.0	1.0	4044.0
323	3685.9	4210.0	3940.0	2583.0	-999.0	-999.0	21.0	.0	4020.0
324	3506.5	4066.4	3763.8	2409.0	-999.0	-999.0	23.0	5.0	3996.0
325	3637.7	4212.0	3836.6	2514.0	-999.0	-999.0	27.4	.0	3972.0
326	3793.5	4212.0	3945.8	2583.0	-999.0	-999.0	51.0	1.0	3949.0
327	3637.7	4102.8	3873.0	2514.0	-999.0	-999.0	32.0	.0	3925.0
328	3650.0	4053.9	4006.1	2467.0	-999.0	-999.0	56.0	.0	3901.0
329	3303.6	3812.6	3594.2	2258.0	-999.0	-999.0	31.0	5.0	3877.0
330	3399.0	3654.6	3557.8	2013.0	-999.0	-999.0	48.0	6.0	3853.0
331	2994.0	2747.7	3074.2	1780.0	-999.0	-999.0	27.4	5.0	3829.0
332	906.1	1074.6	386.9	419.0	-999.0	-999.0	10.4	10.0	3806.0
333	3495.2	3533.9	3351.9	2281.0	-999.0	-999.0	36.0	5.0	3782.0
334	3566.0	3982.2	3667.0	2409.0	-999.0	-999.0	59.0	.0	3758.0
335	3375.3	3727.4	3703.4	2327.0	-999.0	-999.0	42.0	1.0	3734.0
336	3303.6	3739.8	3618.2	2316.0	-999.0	-999.0	24.4	.0	3710.0
337	3434.8	3739.8	3618.2	2327.0	-999.0	-999.0	45.0	.0	3686.0
338	3220.6	3606.7	3424.7	2234.0	-999.0	-999.0	16.4	.0	3662.0
339	3328.2	3691.0	3546.4	2281.0	-999.0	-999.0	25.0	1.0	3639.0
340	3268.7	3643.1	3510.0	2246.0	-999.0	-999.0	26.4	.0	3615.0
341	3339.5	3751.3	3606.7	2292.0	-999.0	-999.0	48.0	.0	3591.0
342	3232.0	3691.0	3510.0	2258.0	-999.0	-999.0	39.0	2.0	3567.0
343	3315.0	3643.1	3510.0	2258.0	-999.0	-999.0	51.0	.0	3543.0
344	3292.3	3594.2	3461.0	2258.0	-999.0	-999.0	34.0	2.0	3519.0
345	3197.0	3485.0	3424.7	2164.0	-999.0	-999.0	26.0	.0	3507.0
346	2528.7	1960.4	2819.4	1641.0	-999.0	-999.0	36.0	8.0	3495.0
347	2934.6	1258.4	2335.8	-999.0	-999.0	-999.0	41.0	4.0	3472.0

DAY	NWS	OSCT	GM	PHYPD	GP	ASH	VIS	CLD	MAXPHY
348	3434.2	3727.4	3440.7	-999.0	-999.0	-999.0	67.6	1.0	3460.0
349	-999.0	3715.0	3570.3	2362.0	-999.0	-999.0	61.0	1.0	3460.0
350	2731.6	3407.5	2771.6	1757.0	-999.0	-999.0	45.0	6.0	3460.0
351	3148.8	3606.7	3413.3	2211.0	-999.0	-999.0	28.0	.0	3460.0
352	3232.0	3440.7	2698.8	2176.0	-999.0	-999.0	40.0	.0	3460.0
353	778.0	3440.7	3667.0	2141.0	-999.0	-999.0	45.0	2.0	3460.0
354	620.1	1077.4	620.2	894.0	-999.0	-999.0	34.0	10.0	3472.0
355	2922.7	955.8	863.6	349.0	-999.0	-999.0	11.2	8.0	3483.0
356	2814.6	895.4	2535.4	2246.0	-999.0	-999.0	20.0	6.0	3495.0
357	3292.7	3280.2	2481.4	1839.0	-999.0	-999.0	22.0	4.0	3507.0
358	-999.0	3570.3	3328.0	2258.0	-999.0	-999.0	28.0	3.0	3519.0
359	3256.4	3570.3	3291.6	2234.0	-999.0	-999.0	23.0	.0	3531.0
360	3137.5	3473.6	3267.7	2164.0	-999.0	-999.0	47.0	6.0	3543.0
361	2314.5	2348.3	2359.8	1571.0	-999.0	-999.0	26.0	9.0	3555.0
362	3303.6	3618.2	3376.9	2234.0	-999.0	-999.0	59.8	4.0	3567.0
363	3375.3	3630.6	3510.0	2316.0	-999.0	-999.0	72.0	1.0	3579.0
364	3375.3	3570.3	3437.2	2246.0	-999.0	-999.0	44.0	.0	3591.0
365	1324.3	1524.6	835.1	803.0	-999.0	-999.0	32.4	7.0	3603.0
366	3470.6	3679.5	3570.3	2316.0	-999.0	-999.0	66.0	.0	3615.0
367	3423.5	3715.9	3510.0	2316.0	-999.0	-999.0	56.0	.0	3627.0
368	3411.2	3670.5	3537.9	2274.0	-999.0	-999.0	52.0	3.0	3639.0
369	2910.0	3280.2	2074.7	1862.0	-999.0	-999.0	41.0	3.0	3650.0
370	3411.2	3636.7	3461.1	2013.0	-999.0	-999.0	43.0	1.0	3662.0
371	3303.6	3521.4	3424.7	2071.0	-999.0	-999.0	22.4	3.0	3674.0
372	3483.0	3510.0	3557.8	2153.0	-999.0	-999.0	57.0	7.0	3686.0
373	3470.6	3510.0	3643.1	2170.0	-999.0	-999.0	42.0	.0	3698.0
374	2710.3	2928.6	3582.8	1501.0	-999.0	-999.0	40.0	7.0	3722.0
375	3470.6	3727.4	3616.7	2211.0	-999.0	-999.0	22.0	.0	3746.0
376	3518.8	3800.2	3727.4	2316.0	-999.0	-999.0	36.0	.0	3770.0
377	3184.7	3643.1	3715.9	2258.0	-999.0	-999.0	34.0	5.0	3794.0
378	3405.2	3787.7	3679.5	2444.0	-999.0	-999.0	21.0	.0	3817.0
379	3434.2	3800.2	3691.0	2292.0	-999.0	-999.0	31.0	4.0	3841.0
380	3518.8	3933.3	3776.2	2386.0	-999.0	-999.0	20.0	3.0	3865.0
381	3662.3	3957.2	3900.2	2281.0	-999.0	-999.0	55.0	.0	3889.0
382	3733.1	3960.7	3936.6	2467.0	-999.0	-999.0	57.0	.0	3913.0
383	3197.0	3171.0	2917.2	2188.0	-999.0	-999.0	49.0	9.0	3937.0
384	3860.4	3996.8	2000.3	1210.0	-999.0	-999.0	41.0	8.0	3961.0
385	3554.7	3993.6	3388.3	2258.0	-999.0	-999.0	40.0	2.0	3984.0
386	2456.0	3328.0	2808.0	1373.0	-999.0	-999.0	51.0	8.0	4008.0
387	2731.6	2578.2	2469.0	1385.0	-999.0	-999.0	38.0	6.0	4032.0
388	3673.6	3836.6	3679.5	2176.0	-999.0	-999.0	30.0	1.0	4056.0
389	3041.2	2541.8	2529.3	1722.0	-999.0	-999.0	20.8	3.0	4080.0
390	3900.1	4163.1	3033.3	1315.0	-999.0	-999.0	34.0	2.0	4104.0
391	4031.3	4283.8	4126.7	2479.0	-999.0	-999.0	49.0	2.0	4128.0
392	4055.0	4381.5	4139.2	2455.0	-999.0	-999.0	54.0	.0	4151.0
393	4139.0	4385.1	4150.6	2514.0	-999.0	-999.0	57.0	.0	4187.0
394	4070.5	4272.3	4163.1	2490.0	-999.0	-999.0	48.0	.0	4223.0
395	4031.3	4259.8	4163.1	2479.0	-999.0	-999.0	34.0	5.0	4259.0
396	4210.7	4489.7	4345.1	2522.0	-999.0	-999.0	53.0	.0	4295.0
397	4187.1	4480.7	4248.4	2479.0	-999.0	-999.0	53.0	3.0	4342.0
398	4401.3	4320.2	4465.8	2618.0	-999.0	-999.0	48.0	1.0	4378.0
399	3976.6	4190.5	4671.7	2048.0	-999.0	-999.0	31.0	8.0	4414.0
400	2254.0	1294.8	2420.1	1175.0	-999.0	-999.0	28.0	9.0	4450.0
401	799.5	520.0	1174.2	233.0	-999.0	-999.0	29.0	10.0	4485.0
402	2338.0	1573.5	3147.0	1292.0	-999.0	-999.0	35.0	10.0	4533.0
403	3590.6	3957.2	4126.7	1524.0	-999.0	-999.0	42.0	8.0	4581.0
404	1288.4	1077.4	1500.7	454.0	-999.0	-999.0	38.0	10.0	4629.0
405	2600.4	1488.2	1827.3	1152.0	-999.0	-999.0	24.4	8.0	4676.0

DAY	NWS	OSFT	GM	PHYPO	GR	ASU	VIS	CLD	MAXPHY
406	4234.3	4272.3	3582.8	2479.0	-000.0	-999.0	31.0	2.0	4724.0
407	2898.7	3909.4	3013.9	1652.0	-000.0	-999.0	42.0	8.0	4772.0
408	4055.0	3727.4	4139.2	2339.0	-000.0	-999.0	28.0	3.0	4819.0
409	3184.7	2299.4	3037.8	1815.0	-000.0	-999.0	23.0	5.0	4867.0
410	4270.2	4283.8	4586.4	2851.0	-000.0	-999.0	31.0	4.0	4915.0
411	3936.0	3207.4	3594.2	2379.0	-000.0	-999.0	19.0	5.0	4963.0
412	4711.0	4877.6	4659.2	2793.0	-000.0	-999.0	31.0	3.0	5010.0
413	4830.8	5071.0	4828.7	2874.0	-000.0	-999.0	24.0	1.0	5058.0
414	4913.8	5058.6	4865.1	2973.0	-000.0	-999.0	24.0	5.0	5106.0
415	4985.6	5167.8	4985.8	2979.0	-000.0	-999.0	37.0	1.0	5153.0
416	5200.8	5410.1	5155.3	3170.0	-000.0	-999.0	64.0	.0	5201.0
417	5427.4	5554.6	5264.5	3200.0	-000.0	-999.0	64.0	.0	5249.0
418	5657.0	5663.8	5410.1	3275.0	-000.0	-999.0	57.0	1.0	5296.0
419	4210.7	4611.4	4369.0	2432.0	-000.0	-999.0	52.0	8.0	5344.0
420	4782.7	5603.5	4150.6	2886.0	-000.0	-999.0	43.0	3.0	5392.0
421	5307.5	5579.6	5349.8	3189.0	-000.0	-999.0	39.0	2.0	5440.0
422	5332.0	5651.4	5470.4	3223.0	-000.0	-999.0	33.0	3.0	5487.0
423	4139.0	4175.6	4332.6	2316.0	-000.0	-999.0	20.0	9.0	5535.0
424	5080.0	5228.1	5071.0	3095.0	-000.0	-999.0	27.0	6.0	5583.0
425	5224.4	5361.2	5180.2	3089.0	-000.0	-999.0	40.0	10.0	5607.0
426	2528.7	3461.1	2166.3	1362.0	-000.0	-999.0	28.0	7.0	5630.0
427	5343.3	5591.0	4622.8	3165.0	-000.0	-999.0	36.0	2.0	5678.0
428	1705.6	907.9	2045.7	780.0	-000.0	-999.0	18.6	9.0	5726.0
429	4771.4	2771.6	3533.9	3317.0	-000.0	-999.0	31.0	5.0	5774.0
430	4663.7	4115.7	5167.8	2781.0	-000.0	-999.0	45.0	8.0	5821.0
431	5415.1	5627.4	5457.9	3282.0	-000.0	-999.0	30.0	4.0	5869.0
432	5510.4	5533.9	4965.1	3177.0	-000.0	-999.0	35.0	4.0	5917.0
433	5307.5	5857.3	5071.0	3165.0	-000.0	-999.0	31.0	7.0	5964.0
434	5844.5	6188.5	5760.6	3456.0	-000.0	-999.0	26.0	.0	6012.0
435	7768.0	5216.6	3388.3	2234.0	-000.0	-999.0	30.0	9.0	6060.0
436	5749.0	5410.1	5264.5	2200.0	-000.0	-999.0	25.0	1.0	6108.0
437	5988.0	6080.7	5034.6	3514.0	-000.0	-999.0	36.0	2.0	6155.0
438	6737.5	6571.8	6196.3	3764.0	-000.0	-999.0	49.0	1.0	6203.0
439	6071.1	5651.4	5845.8	2816.0	-000.0	-999.0	48.0	4.0	6251.0
440	6202.3	6486.5	6728.8	3782.0	-000.0	-999.0	39.0	2.0	6298.0
441	5165.0	5095.0	5143.8	3026.0	-000.0	-999.0	53.0	10.0	6346.0
442	3697.2	4187.0	3546.4	2095.0	-000.0	-999.0	43.0	9.0	6394.0
443	6178.7	6475.0	6220.2	3712.0	-000.0	-999.0	23.0	5.0	6442.0
444	4879.0	5010.7	5047.1	2746.0	-000.0	-999.0	30.0	8.0	6489.0
445	6727.1	6861.9	6511.4	3933.0	-000.0	-999.0	53.0	4.0	6537.0
446	6584.6	6728.8	6656.0	3829.0	-000.0	-999.0	46.0	2.0	6585.0
447	6691.2	6922.2	6595.7	3957.0	-000.0	-999.0	46.0	.0	6632.0
448	6214.6	6345.8	6082.9	3724.0	-000.0	-999.0	32.0	3.0	6680.0
449	6631.7	6668.5	6486.5	3829.0	-000.0	-999.0	40.0	5.0	6728.0
450	6691.2	6922.2	6584.2	3910.0	-000.0	-999.0	27.0	.0	6776.0
451	7061.2	7237.4	6885.8	4224.0	-000.0	-999.0	46.0	.0	6823.0
452	4830.8	5204.2	5676.3	2630.0	-000.0	-999.0	34.0	8.0	6871.0
453	6428.8	6220.2	5773.0	3654.0	-000.0	-999.0	21.0	3.0	6919.0
454	6965.9	6365.8	6389.8	4201.0	-000.0	-999.0	33.0	1.0	6966.0
455	7061.2	7201.0	6071.1	4287.0	-000.0	-999.0	49.0	.0	7014.0
456	7180.1	7358.0	6071.1	4287.0	-000.0	-999.0	42.0	.0	7062.0
457	5772.0	6619.6	5054.0	3363.0	-000.0	-999.0	33.0	6.0	7110.0
458	7001.8	7285.2	6414.7	4154.0	-000.0	-999.0	33.0	1.0	7157.0
459	5990.3	6329.4	5760.6	3258.0	-000.0	-999.0	42.0	5.0	7193.0
460	7014.1	6947.2	6934.7	4128.0	-000.0	-999.0	36.6	4.0	7229.0
461	7048.9	6814.1	6801.6	4213.0	-000.0	-999.0	42.0	2.0	7265.0
462	6691.2	6910.8	6490.0	-999.0	-000.0	-999.0	41.0	2.0	7300.0
463	7287.7	7527.5	7104.2	4271.0	-000.0	-999.0	34.0	2.0	7336.0

DAY	NWS	DSFT	GM	PHXP0	GR	ASU	VIS	CLD	MAXPHY
464	6870.6	7224.9	6692.4	2805.0	-999.0	-999.0	32.0	4.0	7372.0
465	7228.7	7401.1	7080.3	4306.0	-999.0	-999.0	27.0	.0	7408.0
466	7168.9	7551.4	7128.2	4201.0	-999.0	-999.0	32.0	4.0	7444.0
467	7550.2	7673.1	7297.7	4387.0	-999.0	-999.0	39.0	.0	7479.0
468	6480.3	6426.2	6063.2	3619.0	-999.0	-999.0	36.0	6.0	7515.0
469	4020.1	2808.0	3351.9	2490.0	-999.0	-999.0	37.0	9.0	7551.0
470	3256.4	2311.3	2052.6	1815.0	-999.0	-999.0	28.0	7.0	7587.0
471	4306.0	3000.4	4841.2	2292.0	-999.0	-999.0	25.0	8.0	7622.0
472	5116.8	2359.8	4702.3	2711.0	-999.0	-999.0	24.0	8.0	7658.0
473	7442.5	5530.7	7091.8	4341.0	-999.0	-999.0	27.0	1.0	7694.0
474	7657.8	7745.9	7346.6	4445.0	-999.0	-999.0	35.0	2.0	7730.0
475	7717.2	7026.0	7443.3	-999.0	-999.0	-999.0	49.0	.0	7766.0
476	7740.8	7923.0	7503.6	4573.0	-999.0	-999.0	35.0	.0	7801.0
477	7538.9	7540.0	7043.9	4422.0	-999.0	-999.0	31.0	6.0	7837.0
478	7801.3	7939.4	7551.4	4573.0	-999.0	-999.0	34.0	1.0	7873.0
479	7907.0	7926.9	7673.1	4643.0	-999.0	-999.0	42.0	.0	7909.0
480	7729.5	7703.8	7540.0	4573.0	-999.0	-999.0	30.0	7.0	7933.0
481	7311.3	7636.7	6934.7	4341.0	-999.0	-999.0	38.0	4.0	7956.0
482	8015.5	8289.8	7400.3	4725.0	-999.0	-999.0	24.0	.0	7980.0
483	7991.0	9132.8	7709.5	4760.0	-999.0	-999.0	31.0	.0	8004.0
484	7657.8	7975.8	7576.4	4527.0	-999.0	-999.0	32.0	5.0	8028.0
485	7860.7	8132.0	7660.6	4655.0	-999.0	-999.0	33.0	.0	8052.0
486	8051.4	8279.4	7806.2	4760.0	-999.0	-999.0	36.0	.0	8076.0
487	8134.4	8362.6	7842.6	5167.0	-999.0	8102.0	27.0	.0	8100.0
488	8067.7	8208.4	7733.4	4690.0	-999.0	8146.0	35.0	3.0	8123.0
489	6333.5	5687.8	5554.6	3724.0	-999.0	5516.0	30.0	6.0	8147.0
490	5701.0	2880.8	5058.6	3189.0	-999.0	4957.0	28.4	7.0	8171.0
491	7645.5	6874.4	7055.4	4236.0	-999.0	7657.0	29.0	6.0	8195.0
492	5916.7	5703.6	5833.4	3491.0	-999.0	6098.0	36.0	7.0	8219.0
493	5463.0	4961.8	5385.1	3607.0	-999.0	5725.0	37.0	8.0	8243.0
494	7204.7	6728.8	6910.8	4143.0	-999.0	7203.0	36.0	3.0	8267.0
495	8301.5	8289.8	7915.4	4794.0	-999.0	8309.0	37.0	.0	8290.0
496	8146.7	8374.8	7890.5	4725.0	-999.0	8111.0	44.0	2.0	8314.0
497	8194.9	8362.6	8023.6	4771.0	-999.0	8344.0	35.0	1.0	8338.0
498	8123.1	8447.9	7926.9	5109.0	-999.0	8181.0	38.0	.0	8362.0
499	8719.7	8617.4	8326.2	4946.0	-999.0	8588.0	30.0	.0	8386.0
500	8468.6	8581.0	8205.6	4922.0	-999.0	8507.0	35.0	.0	8410.0
501	8373.2	8362.6	8120.3	4876.0	-999.0	8414.0	28.0	.0	8434.0
502	8277.9	8471.8	7950.8	5027.0	-999.0	8297.0	34.0	.0	8457.0
503	8003.2	8218.1	7782.3	4725.0	-999.0	8053.0	32.4	1.0	8481.0
504	6811.1	6681.0	7454.7	4003.0	-999.0	5772.0	30.0	9.0	8493.0
505	3292.3	4622.8	5216.6	1676.0	-999.0	4992.0	39.0	9.0	8505.0
506	6715.8	7241.3	5216.6	4410.0	-999.0	7110.0	42.0	7.0	8517.0
507	8265.6	8484.3	8108.9	4946.0	-999.0	8309.0	43.0	.0	8529.0
508	8599.7	8665.3	8253.4	5027.0	-999.0	8611.0	46.0	.0	8541.0
509	8230.7	8265.9	7926.9	4725.0	-999.0	-999.0	39.0	6.0	8553.0
510	8671.5	8714.2	8289.8	5027.0	-999.0	-999.0	35.0	.0	8565.0
511	8457.3	8568.6	8169.2	4888.0	-999.0	8483.0	21.0	.0	8577.0
512	8326.1	8459.4	8072.5	4876.0	-999.0	8390.0	22.0	.0	8589.0
513	8301.5	8519.7	8072.5	4864.0	-999.0	8414.0	26.0	.0	8601.0
514	8683.8	8798.4	8423.0	5062.0	-999.0	8728.0	42.0	.0	8612.0
515	8719.7	8677.8	8205.6	4957.0	-999.0	8646.0	47.0	2.0	8624.0
516	8528.0	8532.2	7479.7	4922.0	-999.0	8530.0	36.0	.0	8636.0
517	8624.3	7467.2	8289.8	4876.0	-999.0	8646.0	34.0	.0	8648.0
518	9435.1	8810.9	8351.2	5016.0	-999.0	-999.0	35.0	1.0	8660.0
519	8624.3	8810.9	8375.1	5027.0	-999.0	-999.0	33.0	.0	8672.0
520	8902.7	8858.7	8362.6	5097.0	-999.0	-999.0	41.0	.0	8684.0
521	8421.4	8847.3	8096.4	4888.0	-999.0	8542.0	46.0	.0	8696.0

DAY	NWS	DSFT	GM	PHYPD	GP	ASH	VTS	CLD	MAXPHY
522	7789.0	8750.6	7430.8	4469.0	-999.0	7913.0	39.0	7.0	8708.0
523	8695.1	8785.9	8289.9	5109.0	-999.0	8693.0	32.0	.0	8720.0
524	8432.7	8519.7	8109.9	4859.0	-999.0	8472.0	25.0	.0	8732.0
525	8576.2	8738.1	8312.3	4902.0	-999.0	8518.0	28.0	.0	8744.0
526	8671.5	8677.8	8326.2	5027.0	-999.0	8635.0	44.0	.0	8756.0
527	8671.5	8728.4	8253.4	5016.0	-999.0	8681.0	37.0	.0	8768.0
528	8743.2	8887.7	8386.6	5144.0	-999.0	8774.0	26.0	.0	8779.0
529	8826.3	8895.1	8447.9	5167.0	-999.0	8801.0	39.0	.0	8791.0
530	8766.8	8762.0	8447.9	5097.0	-999.0	8680.0	35.0	.0	8803.0
531	8516.7	8605.0	8289.9	5016.0	-999.0	8570.0	31.0	.0	8815.0
532	8647.9	8907.6	8386.6	5062.0	-999.0	8611.0	31.0	.0	8815.0
533	8826.3	8907.6	8447.9	5376.0	-999.0	8802.0	35.0	.0	8827.0
534	8779.1	8822.3	8338.7	5376.0	-999.0	8751.0	35.0	.0	8827.0
535	8528.2	8641.4	8181.7	5016.0	-999.0	8518.0	27.0	.0	8827.0
536	8588.5	8652.8	8289.9	5062.0	-999.0	8565.0	41.0	.0	8839.0
537	7932.5	8435.5	7213.4	4725.0	-999.0	8405.0	41.0	3.0	8839.0
538	8242.0	7999.7	7917.7	4829.0	-999.0	8437.0	34.0	.0	8839.0
539	8421.4	8822.3	8023.6	5039.0	-999.0	8405.0	38.0	.0	8839.0
540	8509.7	8801.2	8302.3	5109.0	-999.0	8611.0	44.0	.0	8827.0
541	8790.4	8919.0	8455.8	-999.0	-999.0	8751.0	49.0	.0	8827.0
542	8826.3	8907.6	8471.8	4902.0	-999.0	8844.0	50.0	.0	8827.0
543	8766.8	8871.2	8375.1	4946.0	-999.0	8739.0	42.0	.0	8815.0
544	8528.2	8652.8	8169.2	-999.0	-999.0	8507.0	32.0	.0	8815.0
545	8087.0	7842.6	7015.4	4469.0	-999.0	8041.0	32.0	.0	8803.0
546	8361.0	7576.4	7310.2	4562.0	-999.0	7192.0	36.0	4.0	8803.0
547	8230.7	8012.2	7237.4	4352.0	-999.0	-999.0	38.0	1.0	8791.0
548	8373.2	8450.4	7890.5	4527.0	-999.0	-999.0	38.0	.0	8791.0
549	8695.1	8762.0	8302.3	4841.0	-999.0	8262.0	46.0	.0	8779.0
550	8635.6	8762.0	8265.9	4841.0	-999.0	8223.0	54.0	.0	8768.0
551	8337.3	8218.1	8083.9	4643.0	-999.0	8286.0	51.0	.0	8756.0
552	7753.0	7479.7	6099.6	4402.0	-999.0	7576.0	35.0	4.0	8744.0
553	8277.1	8170.3	7954.1	4578.0	-999.0	8251.0	37.0	1.0	8732.0
554	7979.6	8023.6	7321.6	4445.0	-999.0	8088.0	29.0	1.0	8720.0
555	8015.5	8156.7	7963.3	4376.0	-999.0	7707.0	26.0	2.0	8708.0
556	7503.0	5954.0	7104.2	3901.0	-999.0	7832.0	28.0	4.0	8696.0
557	7789.0	8132.8	7194.2	4189.0	-999.0	7296.0	34.0	4.0	8684.0
558	7943.7	7733.4	7310.2	4189.0	-999.0	7797.0	41.0	2.0	8672.0
559	6691.2	6256.6	4950.4	3712.0	-999.0	5621.0	41.0	6.0	8648.0
560	7204.7	8096.8	5277.0	4061.0	-999.0	6773.0	44.0	3.0	8624.0
561	7956.0	8036.1	7660.6	4143.0	-999.0	7762.0	56.0	.0	8621.0
562	8087.0	8302.3	7697.0	4410.0	-999.0	7800.0	47.0	4.0	8577.0
563	7454.0	6728.8	6010.8	3968.0	-999.0	7622.0	40.0	6.0	8553.0
564	5856.8	6850.5	7467.2	7095.0	-999.0	5958.0	40.0	8.0	8529.0
565	6250.5	5567.1	5506.8	3014.0	-999.0	6517.0	38.0	8.0	8505.0
566	7979.6	8072.5	7540.0	4282.0	-999.0	8123.0	44.0	1.0	8481.0
567	7896.6	7516.1	7201.0	4073.0	-999.0	8111.0	46.0	7.0	8457.0
568	6560.0	7854.1	6684.2	2775.0	-999.0	5272.0	43.0	8.0	8434.0
569	7932.5	6801.6	6938.0	4224.0	-999.0	7797.0	35.0	6.0	8410.0
570	7693.7	7890.5	6934.7	3328.0	-999.0	7890.0	32.0	7.0	8386.0
571	7634.2	7612.8	-999.0	3863.0	-999.0	-999.0	32.6	6.0	8362.0
572	6123.9	4526.1	4768.4	3089.0	-999.0	-999.0	43.0	8.0	8338.0
573	7287.7	6922.2	7443.3	3991.0	-999.0	6680.0	28.0	6.0	8314.0
574	7120.7	7043.9	6208.8	3887.0	-999.0	7227.0	23.0	5.0	8290.0
575	6595.0	7563.9	6245.2	3666.0	-999.0	6598.0	28.0	9.0	8267.0
576	6536.4	6947.2	-999.0	3154.0	-999.0	6668.0	29.0	9.0	8243.0
577	5761.5	4562.5	6015.4	3189.0	-999.0	5714.0	36.0	8.0	8219.0
578	6906.5	7116.7	7224.9	3666.0	-999.0	6738.0	44.0	4.0	8195.0
579	7860.7	8072.5	7999.7	4306.0	-999.0	7552.0	59.0	1.0	8159.0

DAY	NHC	DSFT	GM	PHYPO	GR	ASH	VIS	CLD	MAXPHY
580	7932.5	8132.8	8072.5	4306.0	-999.0	8146.0	53.0	.0	8123.0
581	8146.7	8289.2	8218.1	4457.0	-999.0	8076.0	62.0	.0	8088.0
582	8194.0	8362.6	8289.8	4562.0	-999.0	8076.0	62.0	.0	8052.0
583	8218.4	8338.7	8362.6	4527.0	-999.0	8064.0	51.0	.0	8016.0
584	7884.3	7950.8	7854.1	4294.0	-999.0	7808.0	47.0	3.0	7990.0
585	3768.9	4961.8	4126.7	1722.0	-999.0	3735.0	51.0	8.0	7944.0
586	6847.7	7540.0	6136.0	3840.0	-999.0	6936.0	30.0	5.0	7909.0
587	7609.6	7745.9	7358.0	4224.0	-999.0	7401.0	34.0	2.0	7873.0
588	7586.0	7793.8	7527.5	4201.0	-999.0	7541.0	40.0	.0	7837.0
589	7586.0	7806.2	7612.8	4189.0	-999.0	7483.0	33.0	.0	7801.0
590	-999.0	7261.3	6293.0	3901.0	-999.0	6517.0	39.0	2.0	7766.0
591	7765.0	8083.9	7830.2	4352.0	-999.0	7797.0	40.0	.0	7730.0
592	7442.5	7987.2	7551.4	4085.0	-999.0	7203.0	44.0	2.0	7694.0
593	7621.0	7854.1	7721.0	4259.0	-999.0	7611.0	41.0	5.0	7658.0
594	7276.5	7503.6	6595.7	4038.0	-999.0	7285.0	44.0	4.0	7622.0
595	6715.8	5651.4	6002.2	3573.0	-999.0	6365.0	40.0	6.0	7587.0
596	7538.9	7769.8	7600.3	4189.0	-999.0	7424.0	57.0	.0	7551.0
597	7287.7	7454.7	7297.7	4376.0	-999.0	7215.0	38.0	.0	7515.0
598	7240.6	7406.9	7213.4	3991.0	-999.0	7215.0	39.0	.0	7479.0
599	7084.8	7334.1	7201.0	3957.0	-999.0	7099.0	42.0	1.0	7444.0
600	7001.8	7237.4	6499.0	3875.0	-999.0	7040.0	42.0	1.0	7408.0
601	7048.9	7310.2	7224.9	3933.0	-999.0	7180.0	36.0	.0	7372.0
602	6953.6	7201.0	7249.8	3875.0	-999.0	7180.0	42.0	.0	7336.0
603	7014.1	7213.4	7297.7	3898.0	-999.0	7099.0	42.0	.0	7300.0
604	6906.5	7067.8	7043.9	3852.0	-999.0	6889.0	36.0	.0	7265.0
605	6953.6	6681.0	6910.8	3863.0	-999.0	7075.0	35.0	2.0	7229.0
606	6930.0	7104.2	7237.4	4236.0	-999.0	6994.0	27.0	3.0	7193.0
607	6930.0	6353.4	7551.4	3829.0	-999.0	-999.0	35.5	4.0	7157.0
608	7037.7	7188.5	7224.9	3933.0	-999.0	7064.0	49.0	.0	7121.0
609	6775.2	7128.2	6910.8	3782.0	-999.0	6796.0	30.0	3.0	7086.0
610	6464.7	6245.2	6511.4	3631.0	-999.0	6517.0	27.8	3.0	7050.0
611	5367.0	6547.8	6039.3	2921.0	-999.0	5144.0	51.0	9.0	7014.0
612	6477.0	6656.0	6451.1	3506.0	-999.0	6459.0	35.0	2.0	6978.0
613	6322.2	6801.6	6414.7	3130.0	-999.0	-999.0	35.6	3.0	6931.0
614	3673.6	4925.4	3449.7	1769.0	-999.0	-999.0	35.8	10.0	6895.0
615	5630.3	6136.0	5676.3	3014.0	-999.0	4469.0	44.0	5.0	6859.0
616	6369.4	6389.8	6717.4	3433.0	-999.0	6168.0	43.0	2.0	6823.0
617	5641.6	6050.7	5264.5	3014.0	-999.0	5423.0	40.0	6.0	6787.0
618	2731.6	2614.6	2297.0	1106.0	-999.0	2851.0	41.0	10.0	6752.0
619	4365.5	3183.4	3510.0	2013.0	-999.0	2816.0	34.0	8.0	6716.0
620	5224.4	5794.5	5410.1	2828.0	-999.0	5760.0	40.0	3.0	6680.0
621	6500.5	6741.3	6717.4	3584.0	-999.0	6587.0	50.0	.0	6644.0
622	6023.9	6112.1	6087.1	3247.0	-999.0	6249.0	40.0	5.0	6597.0
623	6261.7	6389.8	6317.0	3328.0	-999.0	6086.0	42.0	6.0	6549.0
624	6524.1	6584.2	6644.6	3503.0	-999.0	6505.0	47.0	1.0	6501.0
625	6489.7	6632.1	6475.0	3808.0	-999.0	6493.0	43.0	.0	6453.0
626	6297.6	6741.3	6535.4	3375.0	-999.0	6447.0	42.0	.0	6406.0
627	6381.7	6656.0	6644.6	2991.0	-999.0	6470.0	48.0	.0	6358.0
628	6297.6	6475.0	6038.6	3282.0	-999.0	6389.0	53.0	4.0	6310.0
629	4795.0	5047.1	5204.2	1792.0	-999.0	5085.0	43.0	9.0	6263.0
630	4520.2	5457.0	5395.1	1850.0	-999.0	4050.0	36.0	8.0	6215.0
631	5797.4	5917.6	5954.0	2374.0	-999.0	5714.0	35.0	3.0	6167.0
632	4747.8	4187.0	4187.0	1943.0	-999.0	4725.0	27.0	8.0	6120.0
633	2314.5	2209.4	1694.2	559.0	-999.0	2211.0	16.8	8.0	6072.0
634	5427.4	5470.4	4416.9	2095.0	-999.0	5574.0	49.0	6.0	6024.0
635	4866.7	4732.0	5518.2	1559.0	-999.0	4457.0	32.0	6.0	5976.0
636	5797.4	5882.2	5687.8	2409.0	-999.0	-999.0	46.0	.0	5941.0
637	5808.7	6232.7	5979.0	2060.0	-999.0	-999.0	46.0	.0	5905.0

DAY	NWS	DSFT	GM	PHYPO	GB	ASU	VIS	CLD	MAXPHY
638	5821.0	6075.7	6015.4	-999.0	-999.0	5912.0	47.0	1.0	5869.0
639	5653.0	5966.5	5017.6	2351.0	-999.0	5213.0	44.0	.0	5833.0
640	2647.6	2045.7	5979.0	1362.0	-999.0	2455.0	38.0	7.0	5797.0
641	5296.2	5406.5	6015.4	2374.0	-999.0	5481.0	41.0	2.0	5762.0
642	5438.7	5773.0	5017.6	-999.0	-999.0	5621.0	39.0	1.0	5726.0
643	5558.6	5966.5	5833.4	3072.0	-999.0	5667.0	50.0	.0	5690.0
644	5535.0	5900.4	5857.3	3005.0	-999.0	5690.0	48.0	.0	5654.0
645	5307.5	5820.0	4098.2	3002.0	-999.0	5388.0	44.0	5.0	5619.0
646	5749.0	6090.6	5017.6	3165.0	-999.0	5818.0	51.0	.0	5583.0
647	5605.7	5900.4	5869.8	3130.0	-999.0	5714.0	48.0	.0	5547.0
648	5618.0	6026.8	5054.0	3154.0	-999.0	5749.0	49.0	.0	5511.0
649	5594.5	5954.0	5017.6	3165.0	-999.0	5714.0	49.0	.0	5475.0
650	5129.1	5579.6	5494.3	2886.0	-999.0	5295.0	38.0	2.0	5440.0
651	5188.5	5579.6	5434.0	2921.0	-999.0	5318.0	34.0	.0	5404.0
652	4007.7	4326.1	3406.7	2083.0	-999.0	4110.0	30.8	8.0	5368.0
653	4866.7	5300.0	4792.3	2618.0	-999.0	5004.0	36.0	1.0	5332.0
654	4997.9	5373.7	5324.8	2828.0	-999.0	5155.0	28.0	.0	5296.0
655	4913.8	5071.0	5107.4	2711.0	-999.0	4946.0	35.0	7.0	5261.0
656	4413.7	4671.7	4017.5	2362.0	-999.0	4096.0	37.0	9.0	5225.0
657	4389.0	4575.0	-999.0	2397.0	-999.0	4597.0	33.0	7.0	5189.0
658	4890.3	5252.0	5288.4	2735.0	-999.0	5050.0	41.0	2.0	5153.0
659	4699.6	5022.2	-999.0	2583.0	-999.0	4888.0	42.0	4.0	5118.0
660	2862.8	2516.8	2977.5	989.0	-999.0	2723.0	34.0	8.0	5070.0
661	3161.1	2557.8	2626.0	1396.0	-999.0	-999.0	19.0	7.0	5022.0
662	1443.2	2686.3	3485.0	559.0	-999.0	1618.0	26.4	9.0	4974.0
663	4049.5	4817.3	4708.1	2444.0	-999.0	4585.0	35.0	2.0	4927.0
664	4049.5	4780.0	4710.5	2479.0	-999.0	4585.0	20.4	.0	4879.0
665	4389.0	4017.5	4551.0	2409.0	-999.0	4632.0	17.8	1.0	4831.0
666	4246.4	3001.4	3618.2	2234.0	-999.0	3968.0	43.0	4.0	4784.0
667	4377.8	4332.6	4163.1	2409.0	-999.0	4306.0	45.0	1.0	4736.0
668	4485.0	4780.0	4332.6	2502.0	-999.0	4632.0	40.0	.0	4698.0
669	4151.2	4441.8	4405.4	2316.0	-999.0	4445.0	39.0	3.0	4640.0
670	4377.3	4708.1	4586.4	2409.0	-999.0	4538.0	38.0	.0	4593.0
671	4341.0	4671.7	4538.6	2409.0	-999.0	4527.0	41.0	.0	4557.0
672	4365.5	4684.2	4538.6	2420.0	-999.0	4550.0	50.0	.0	4521.0
673	4270.2	4611.4	4526.1	2362.0	-999.0	4410.0	44.0	.0	4485.0
674	4234.3	4575.0	4429.4	2304.0	-999.0	4410.0	47.0	.0	4450.0
675	4210.7	4465.8	4381.5	2327.0	-999.0	4364.0	42.0	.0	4414.0
676	4151.2	4465.8	4308.7	2316.0	-999.0	4282.0	36.0	.0	4378.0
677	4126.6	4381.5	4259.8	2258.0	-999.0	4259.0	40.0	.0	4342.0
678	4067.2	4296.2	4163.1	2211.0	-999.0	4201.0	40.0	.0	4306.0
679	3995.5	4175.6	3969.7	2176.0	-999.0	4119.0	35.0	3.0	4271.0
680	3924.7	4235.9	3873.0	2176.0	-999.0	4073.0	22.0	.0	4235.0
681	3900.1	4163.1	3945.8	2141.0	-999.0	4026.0	25.0	2.0	4211.0
682	2349.3	2638.5	2808.0	1687.0	-999.0	2560.0	17.2	9.0	4187.0
683	2958.1	3231.3	1682.7	1815.0	-999.0	2386.0	46.0	6.0	4163.0
684	3172.4	3207.4	3630.6	2048.0	-999.0	3328.0	36.0	6.0	4139.0
685	3685.0	4090.3	3909.4	2420.0	-999.0	3759.0	21.0	.0	4116.0
686	3244.1	3679.5	3739.8	2199.0	-999.0	3410.0	40.0	2.0	4092.0
687	3888.9	4126.7	3920.8	2642.0	-999.0	3491.0	47.0	.0	4068.0
688	3685.0	3993.6	3376.9	2420.0	-999.0	3478.0	53.0	1.0	4044.0
689	3601.0	3909.4	3570.3	2304.0	-999.0	3724.0	40.0	.0	4020.0
690	3554.7	3860.5	3557.8	2269.0	-999.0	3677.0	26.0	.0	3996.0
691	3518.8	3836.6	3618.2	2223.0	-999.0	3677.0	32.0	.0	3972.0
692	3483.0	3824.1	3194.9	2211.0	-999.0	3631.0	25.0	.0	3949.0
693	3423.5	3776.2	3194.9	2176.0	-999.0	3561.0	31.0	.0	3925.0
694	3399.9	3751.3	2917.2	2176.0	-999.0	3596.0	28.0	.0	3901.0
695	3483.0	3787.7	2989.0	2223.0	-999.0	3596.0	27.0	.0	3877.0

DAY	NWS	ASFT	GM	PHXPD	GB	ASH	VIS	CLD	MAXPHY
696	3483.0	3703.4	3134.6	2199.0	-999.0	3596.0	32.0	.0	3853.0
697	3197.0	3727.4	2420.1	2071.0	-999.0	3142.0	34.0	2.0	3829.0
698	3700.5	3969.7	3546.4	2432.0	-999.0	-999.0	64.0	.0	3806.0
699	3554.7	3876.6	3110.6	2327.0	-999.0	3735.0	51.0	.0	3782.0
700	3483.0	3800.2	2952.6	2292.0	-999.0	3701.0	42.0	.0	3758.0
701	3542.4	3824.1	2844.4	2292.0	-999.0	3642.0	55.0	.0	3734.0
702	3590.6	3797.7	2323.4	2327.0	-999.0	3654.0	58.0	.0	3710.0
703	3483.0	3703.4	-999.0	2234.0	-999.0	3607.0	46.0	.0	3686.0
704	3459.0	3667.0	-999.0	2234.0	-999.0	3561.0	40.0	.0	3662.0
705	3161.1	3413.3	-999.0	2048.0	-999.0	3165.0	31.0	2.0	3639.0
706	3339.5	3703.4	-999.0	2211.0	-999.0	2916.0	28.6	.0	3615.0
707	3390.9	3667.0	-999.0	2246.0	-999.0	3084.0	40.0	.0	3591.0
708	3280.0	3643.1	3594.2	2176.0	-999.0	3433.0	26.0	4.0	3567.0
709	3256.4	3364.4	3376.9	2141.0	-999.0	3317.0	22.0	2.0	3543.0
710	3161.1	3521.4	3424.7	2095.0	-999.0	3223.0	21.0	.0	3519.0
711	3351.7	3594.2	3557.8	2164.0	-999.0	3445.0	52.0	.0	3507.0
712	3315.0	3582.8	3497.5	1943.0	-999.0	3421.0	46.0	.0	3495.0
713	3256.4	3497.5	3485.0	2130.0	-999.0	3317.0	40.0	.0	3472.0
714	3101.6	3243.8	3183.4	2025.0	-999.0	2944.0	39.0	7.0	3460.0
715	3256.4	3557.8	3473.6	2164.0	-999.0	3351.0	35.0	.0	3460.0
716	3244.1	3594.2	3449.7	2130.0	-999.0	3328.0	36.0	2.0	3460.0
717	3197.0	3533.9	3351.0	2048.0	-999.0	3223.0	31.0	4.0	3460.0
718	2898.7	2808.0	2965.0	1722.0	-999.0	2956.0	25.0	4.0	3460.0
719	2850.5	2602.1	2602.1	465.0	-999.0	3095.0	17.0	4.0	3460.0
720	3161.1	3437.2	3255.2	2060.0	-999.0	3223.0	36.0	.0	3472.0
721	3256.4	3413.3	3413.3	2095.0	-999.0	3351.0	44.0	.0	3483.0
722	3184.7	3304.1	3461.1	2130.0	-999.0	3340.0	28.0	.0	3495.0
723	2886.4	2608.8	3013.9	1746.0	-999.0	2886.0	38.0	8.0	3507.0
724	3172.4	3449.7	3376.9	1676.0	-999.0	3293.0	26.4	.0	3519.0
725	3375.3	3643.1	3582.8	2514.0	-999.0	3526.0	58.0	.0	3531.0
726	2194.5	2553.2	2275.5	1303.0	-999.0	2362.0	48.0	9.0	3543.0
727	2385.3	2698.8	2578.2	1443.0	-999.0	2525.0	35.0	9.0	3555.0
728	3292.3	3654.6	3485.0	2109.0	-999.0	3456.0	31.0	5.0	3567.0
729	1037.3	1355.1	944.3	535.0	-999.0	1047.0	22.0	9.0	3579.0
730	2505.1	1906.8	2904.7	1641.0	-999.0	2548.0	9.6	7.0	3591.0
731	607.8	386.9	568.9	303.0	-999.0	547.0	5.4	10.0	3603.0
732	-999.0	2383.7	2808.0	1699.0	-999.0	2414.0	35.0	6.0	3615.0
733	-999.0	3194.9	3497.5	2071.0	-999.0	3278.0	27.5	5.0	3627.0
734	2805.0	545.0	2263.0	1804.0	-999.0	2373.0	31.7	7.0	3639.0
735	2083.0	2275.5	2129.9	1268.0	-999.0	2105.0	52.1	9.0	3650.0
736	2386.0	2093.5	3218.8	1757.0	-999.0	2491.0	26.0	6.0	3662.0
737	3456.0	3770.8	3667.0	2176.0	-999.0	3392.0	44.6	.0	3674.0
738	2083.0	1440.4	3171.0	1082.0	-999.0	-999.0	42.1	9.0	3686.0
739	547.0	749.8	339.0	303.0	-999.0	523.0	9.7	9.0	3698.0
740	3689.0	3824.1	3960.5	2316.0	-999.0	3626.0	56.7	.0	3722.0
741	3363.0	3715.9	3849.0	2153.0	-999.0	3450.0	55.0	3.0	3746.0
742	3596.0	3876.6	3715.9	2234.0	-999.0	3448.0	29.6	.0	3770.0
743	3410.0	3291.6	3582.8	2164.0	-999.0	3272.0	25.4	5.0	3794.0
744	3270.0	3800.2	3582.8	2181.0	-999.0	3303.0	15.9	1.0	3817.0
745	3421.0	3779.8	3582.8	2109.0	-999.0	3415.0	15.7	.0	3841.0
746	3549.0	3945.8	3763.8	2269.0	-999.0	3590.0	28.7	.0	3865.0
747	3735.0	3909.8	3884.4	2397.0	-999.0	3728.0	39.2	1.0	3889.0
748	3142.0	3351.9	3243.8	2025.0	-999.0	3070.0	60.0	8.0	3913.0
749	3631.0	3776.2	3800.2	2258.0	-999.0	3646.0	64.2	7.0	3937.0
750	3596.0	3763.8	3824.1	-999.0	-999.0	3533.0	57.1	7.0	3961.0
751	2805.0	3061.8	2965.0	1815.0	-999.0	2998.0	30.4	9.0	3984.0
752	780.0	689.5	1017.1	-999.0	-999.0	921.0	18.7	9.0	4008.0
753	2490.0	2775.2	2250.6	1571.0	-999.0	-999.0	9.4	7.0	4032.0

DAY	NMS	DSFT	GM	PHXP0	GR	ASU	VTS	CLD	MAYPHY
754	3107.0	3218.8	3020.8	1807.0	-000.0	3431.0	23.7	1.0	4056.0
755	3820.0	4102.8	3093.6	2374.0	-000.0	3915.0	42.5	.0	4080.0
756	1967.0	1790.9	2045.7	1117.0	-999.0	2029.0	38.7	9.0	4104.0
757	2292.0	2287.0	2735.2	1420.0	-000.0	2307.0	20.2	9.0	4128.0
758	-990.0	3992.2	3909.4	2351.0	-000.0	3805.0	26.2	2.0	4151.0
759	-990.0	4187.0	3920.8	2432.0	-000.0	3782.0	32.5	3.0	4187.0
760	-990.0	2408.6	2142.4	989.0	-000.0	1784.0	29.6	9.0	4223.0
761	-990.0	4465.8	4175.6	2548.0	-000.0	4051.0	21.1	.0	4259.0
762	-990.0	4416.0	4283.8	2665.0	-000.0	4156.0	45.0	.0	4295.0
763	2595.0	2711.3	3013.9	1594.0	-000.0	2770.0	25.0	9.0	4342.0
764	4178.0	4453.3	4259.8	2653.0	-000.0	4219.0	30.0	.0	4378.0
765	4038.0	3437.2	4030.0	2467.0	-000.0	-999.0	49.2	6.0	4414.0
766	4259.0	4622.8	4453.3	2700.0	-000.0	4342.0	43.3	.0	4450.0
767	4026.0	4150.6	4429.8	2595.0	-000.0	4307.0	50.0	3.0	4485.0
768	3794.0	4053.9	3630.6	2202.0	-000.0	3732.0	42.5	5.0	4533.0
769	4387.0	4671.7	4514.6	2595.0	-000.0	4355.0	43.8	.0	4581.0
770	4189.0	4695.6	4416.0	2479.0	-000.0	-999.0	40.0	4.0	4629.0
771	4341.0	4562.5	4465.8	2735.0	-000.0	-999.0	39.6	2.0	4676.0
772	4154.0	4780.9	4551.0	2700.0	-000.0	-999.0	33.3	.0	4724.0
773	4562.0	4880.0	4732.0	2944.0	-000.0	4564.0	30.8	.0	4772.0
774	4760.0	4974.3	4889.0	-999.0	-000.0	4766.0	47.9	.0	4819.0
775	4736.0	4977.9	4901.5	2979.0	-000.0	4728.0	55.4	1.0	4867.0
776	4666.0	5007.1	4974.3	2979.0	-000.0	4593.0	44.2	.0	4915.0
777	4888.0	5118.0	5034.6	3095.0	-000.0	-999.0	58.3	1.0	4963.0
778	4457.0	5180.2	5083.5	3014.0	-000.0	4930.0	37.1	.0	5010.0
779	4890.0	5167.8	5118.9	3049.0	-000.0	4935.0	46.7	2.0	5058.0
780	4457.0	5107.4	5022.2	3014.0	-000.0	4874.0	24.2	7.0	5106.0
781	5132.0	5410.1	5288.4	2828.0	-000.0	5161.0	47.5	4.0	5153.0
782	5190.0	5494.3	5421.5	3002.0	-000.0	5189.0	56.7	.0	5201.0
783	4981.0	5118.9	5034.6	2816.0	-000.0	4894.0	34.2	5.0	5249.0
784	4608.0	5264.5	4489.7	2665.0	-000.0	4625.0	16.9	.0	5296.0
785	-999.0	4852.6	5131.4	2735.0	-000.0	4990.0	48.3	2.0	5344.0
786	4328.0	1509.6	2018.6	1513.0	-999.0	2690.0	35.1	10.0	5392.0
787	4573.0	5373.7	4852.6	2514.0	7630.0	4833.0	59.2	4.0	5440.0
788	5469.0	5627.4	5543.2	3107.0	5800.0	5435.0	60.0	3.0	5487.0
789	5528.0	5760.6	5676.3	3177.0	5590.0	5009.0	63.3	.0	5535.0
790	5632.0	5567.1	5676.3	3340.0	5740.0	5473.0	51.7	3.0	5583.0
791	5074.0	5324.8	5131.4	3026.0	5260.0	4805.0	25.7	4.0	5630.0
792	5341.0	5697.8	5264.5	3340.0	5230.0	5022.0	37.1	3.0	5678.0
793	5574.0	5869.8	5724.2	3396.0	5710.0	5216.0	47.5	.0	5726.0
794	5539.0	5639.9	5651.4	3203.0	5500.0	5342.0	47.9	.0	5774.0
795	5772.0	6075.7	5917.6	3282.0	5800.0	5558.0	65.0	.0	5821.0
796	5865.0	6099.6	5966.5	3340.0	5800.0	-999.0	52.5	.0	5869.0
797	5097.0	5554.6	5180.2	2991.0	6950.0	-999.0	42.9	9.0	5917.0
798	3968.0	4508.9	4223.4	2199.0	4430.0	3614.0	45.4	9.0	5964.0
799	5877.0	6112.1	6026.8	3433.0	5990.0	5564.0	27.9	.0	6012.0
800	6051.0	6087.1	5651.4	3401.0	5910.0	5695.0	42.1	.0	6060.0
801	5970.0	6329.4	6087.1	3444.0	5900.0	5682.0	19.4	.0	6108.0
802	6156.0	6426.2	6335.5	3444.0	6180.0	5896.0	45.8	.0	6155.0
803	6144.0	5773.0	6281.6	3340.0	6100.0	5843.0	40.8	6.0	6203.0
804	6179.0	6499.0	6050.7	3584.0	6370.0	5898.0	46.7	.0	6251.0
805	6040.0	6535.4	6341.9	3479.0	6510.0	-999.0	47.1	6.0	6298.0
806	4655.0	5434.0	4078.9	2618.0	5410.0	-999.0	30.0	8.0	6346.0
807	6505.0	6438.6	6293.0	3735.0	6450.0	-999.0	53.3	.0	6394.0
808	6342.0	6692.4	6559.3	3724.0	6460.0	-999.0	45.8	.0	6442.0
809	6517.0	6717.4	6608.2	3805.0	6540.0	-999.0	46.7	.0	6489.0
810	6535.0	6704.9	6618.2	3817.0	6450.0	-999.0	36.7	.0	6537.0
811	6459.0	6752.7	6656.0	3887.0	6540.0	-999.0	40.0	.0	6585.0

DAY	NWS	DSCT	GM	PHXP0	GR	ASH	VTS	CLD	MAXPHY
812	6598.7	6838.0	6734.9	3968.0	6600.0	-999.0	37.5	.0	6632.0
813	6459.0	6745.2	6644.6	3852.0	6510.0	-999.0	33.7	.0	6680.0
814	6400.7	6656.0	6595.7	3817.0	6490.0	-999.0	30.2	.0	6728.0
815	4015.0	3316.6	4053.9	2351.0	3150.0	-999.0	27.4	7.0	6776.0
816	3258.7	2578.2	2456.5	1827.0	5040.0	-999.0	42.1	9.0	6823.0
817	6121.0	5410.1	5773.0	3607.0	6750.0	-999.0	39.2	2.0	6871.0
818	3421.7	3679.5	4090.7	2176.0	6120.0	-999.0	24.7	7.0	6919.0
819	6831.0	7071.4	7114.7	4108.0	6950.0	-999.0	38.3	.0	6966.0
820	6761.7	7152.1	7116.7	4050.0	6880.0	-999.0	45.8	3.0	7014.0
821	6936.0	7188.5	7116.7	4143.0	6920.0	-999.0	38.3	.0	7062.0
822	6610.0	7192.1	7031.4	4003.0	6970.0	-999.0	32.1	1.0	7110.0
823	1862.0	1355.1	1949.0	-999.0	7050.0	-999.0	27.1	10.0	7157.0
824	6901.0	7067.8	7406.9	-999.0	7050.0	-999.0	46.2	.0	7193.0
825	6994.0	7394.4	7273.8	-999.0	7190.0	-999.0	40.4	.0	7229.0
826	7087.0	7346.6	7358.0	4236.0	7200.0	-999.0	45.8	.0	7265.0
827	7168.0	7491.1	7310.2	4271.0	7280.0	-999.0	52.5	4.0	7300.0
828	7238.0	7430.9	7346.6	4329.0	7220.0	-999.0	40.8	.0	7336.0
829	7239.0	7479.7	7430.8	4375.0	7350.0	-999.0	43.3	.0	7372.0
830	7424.0	7624.2	7527.5	4085.0	7560.0	-999.0	47.5	3.0	7408.0
831	7506.0	7673.1	7636.7	4457.0	7390.0	-999.0	48.3	.0	7444.0
832	7180.0	7394.4	7430.8	4352.0	7270.0	-999.0	31.7	.0	7479.0
833	7180.0	7394.4	7516.1	4375.0	7220.0	-999.0	30.8	1.0	7515.0
834	7320.0	7540.0	7563.9	4422.0	7320.0	-999.0	33.7	.0	7551.0
835	5551.0	7104.2	6547.8	3119.0	6580.0	-999.0	42.5	8.0	7587.0
836	7285.0	7733.4	7370.5	4375.0	7360.0	-999.0	26.2	.0	7622.0
837	7401.0	7624.2	7527.5	4445.0	7490.0	7362.0	33.7	.0	7658.0
838	6517.0	7749.8	7624.2	4387.0	7490.0	7424.0	29.6	.0	7694.0
839	7148.0	7866.6	7430.8	4259.0	6720.0	7209.0	39.6	4.0	7730.0
840	7017.0	6874.4	7684.6	4341.0	7290.0	7107.0	35.0	1.0	7766.0
841	7657.0	7939.4	7757.4	-999.0	7900.0	-999.0	35.0	.0	7801.0
842	8076.0	8108.9	8048.6	-999.0	7900.0	-999.0	40.8	1.0	7837.0
843	6133.0	6595.7	6099.6	7619.0	5580.0	-999.0	37.5	10.0	7873.0
844	5446.0	7261.3	5204.2	3305.0	5030.0	-999.0	41.7	9.0	7909.0
845	6051.0	7107.0	6159.9	3689.0	5700.0	-999.0	42.1	4.0	7933.0
846	6051.0	7091.8	7484.6	4527.0	7190.0	-999.0	43.8	2.0	7956.0
847	7378.0	7551.4	7551.4	4503.0	7440.0	-999.0	34.6	6.0	7980.0
848	7459.0	5293.0	6015.4	3759.0	6290.0	6815.0	36.8	10.0	8004.0
849	6447.0	7987.2	8036.1	-999.0	7910.0	7600.0	46.7	.0	8028.0
850	6889.0	7950.8	7963.3	4690.0	7720.0	7516.0	42.1	1.0	8052.0
851	7808.0	7879.0	7636.7	-999.0	-999.0	7401.0	44.6	3.0	8076.0
852	7797.0	8096.4	8012.2	-999.0	7800.0	7490.0	49.6	2.0	8100.0
853	7855.0	7915.4	7757.4	-999.0	7800.0	7617.0	42.1	2.0	8123.0
854	7029.0	7007.5	7188.5	7273.0	7610.0	6754.0	39.6	4.0	8147.0
855	8099.0	8120.3	8278.4	8041.0	8050.0	7681.0	43.3	.0	8171.0
856	7064.0	7406.9	6789.1	7645.0	7050.0	5683.0	49.6	3.0	8195.0
857	7983.0	7963.3	8169.2	8274.0	7870.0	7679.0	41.2	.0	8219.0
858	8076.0	7177.0	8219.1	8227.0	7880.0	7552.0	39.2	1.0	8243.0
859	8068.0	7782.3	8205.6	8437.0	8000.0	7934.0	42.5	1.0	8267.0
860	6517.0	5446.5	7527.5	6773.0	5950.0	6697.0	43.3	4.0	8290.0
861	8169.0	8314.8	8351.2	8576.0	8240.0	7811.0	45.8	.0	8314.0
862	7820.0	7467.2	7903.0	8204.0	7580.0	7471.0	47.9	8.0	8338.0
863	7832.0	7383.0	7866.6	7739.0	6720.0	7477.0	41.7	4.0	8362.0
864	4585.0	3836.6	4308.7	8457.0	4890.0	-999.0	30.8	9.0	8386.0
865	7587.0	4780.9	7479.7	8309.0	7830.0	-999.0	32.1	4.0	8410.0
866	8158.0	8156.7	8235.6	8402.0	8070.0	7911.0	43.3	2.0	8434.0
867	8216.0	8181.7	8338.7	8251.0	8170.0	7964.0	45.0	.0	8457.0
868	8251.0	8114.8	8411.5	8507.0	8360.0	7920.0	25.0	.0	8481.0
869	8483.0	8484.3	8583.0	8902.0	8410.0	8199.0	52.1	.0	8493.0

DAY	NWS	DSFT	GM	PHXPQ	GR	ASH	VTS	CLO	MAXPHY
870	8251.0	8218.1	8568.6	8669.0	8400.0	8107.0	47.9	1.0	8505.0
871	8437.0	8484.3	8568.6	8320.0	8300.0	8146.0	48.7	.0	8517.0
872	8425.0	8423.0	8568.6	8297.0	8330.0	8118.0	64.6	.0	8529.0
873	8437.0	8386.6	8544.6	8204.0	8350.0	8130.0	50.4	.0	8541.0
874	7068.0	5749.1	7406.0	6838.0	6180.0	6608.0	37.1	9.0	8553.0
875	1955.0	1815.8	1404.0	2851.0	4050.0	1829.0	32.9	10.0	8565.0
876	6447.0	6825.5	6780.1	6540.0	7000.0	7158.0	40.4	7.0	8577.0
877	8286.0	8205.6	8411.5	7983.0	8300.0	7973.0	43.3	.0	8589.0
878	8309.0	8279.4	8434.3	8006.0	8280.0	7994.0	36.7	1.0	8601.0
879	8553.0	8399.0	8592.5	9192.0	8420.0	8234.0	45.8	.0	8612.0
880	8553.0	8487.0	8592.5	9192.0	8450.0	8207.0	47.5	.0	8624.0
881	8553.0	8475.4	8652.9	9174.0	8360.0	8280.0	55.8	.0	8636.0
882	8181.0	8193.1	8423.0	7797.0	8180.0	-999.0	40.8	.0	8648.0
883	8134.0	8072.5	8229.5	7611.0	8080.0	-999.0	30.8	.0	8660.0
884	8134.0	7782.3	7411.1	1669.0	7000.0	7854.0	27.1	.0	8672.0
885	7890.0	7346.6	7443.3	-999.0	7070.0	7612.0	27.5	3.0	8684.0
886	4990.0	4594.1	4635.3	4282.0	6240.0	4874.0	37.5	9.0	8696.0
887	7203.0	7200.8	6914.1	7227.0	6520.0	6932.0	40.9	7.0	8708.0
888	7308.0	5627.4	7454.7	6866.0	7440.0	7685.0	43.3	8.0	8720.0
889	7401.0	6668.5	6741.3	6808.0	7770.0	7000.0	39.6	8.0	8732.0
890	7157.0	6381.0	7479.7	6749.0	7060.0	6919.0	36.2	6.0	8744.0
891	8774.0	8338.7	8145.3	8274.0	8290.0	8089.0	47.5	.0	8756.0
892	8588.0	8423.0	8508.2	8274.0	8580.0	8210.0	45.0	.0	8768.0
893	8774.0	8471.8	8447.9	8344.0	8490.0	8341.0	48.7	.0	8779.0
894	7948.0	6781.3	7745.9	7925.0	7080.0	7674.0	45.0	5.0	8791.0
895	8763.0	8572.2	8677.8	8448.0	8500.0	8357.0	43.3	.0	8803.0
896	8914.0	8581.0	8689.2	8300.0	8970.0	8385.0	40.0	.0	8815.0
897	8914.0	8645.3	8858.7	8390.0	8970.0	8503.0	45.0	.0	8827.0
898	9147.0	8701.7	8983.7	8472.0	8750.0	8482.0	41.7	2.0	8839.0
899	8623.0	8036.1	8471.8	7808.0	8200.0	7867.0	41.2	8.0	8851.0
900	8786.0	8423.0	7963.3	8204.0	8850.0	8261.0	40.8	8.0	8863.0
901	8751.0	8592.5	8568.6	8588.0	8630.0	8278.0	47.1	.0	8875.0
902	8937.0	8508.2	8677.8	8483.0	8667.0	8388.0	47.1	.0	8887.0
903	6877.0	6780.1	5833.4	-999.0	5970.0	5599.0	48.7	9.0	8899.0
904	7145.0	7890.5	7673.1	6819.0	8280.0	6849.0	33.3	5.0	8911.0
905	8181.0	8362.6	8132.8	7122.0	8200.0	7694.0	37.5	1.0	8923.0
906	8146.0	8145.3	7975.8	7215.0	8150.0	7714.0	34.6	1.0	8935.0
907	8286.0	8218.1	8156.7	7355.0	8140.0	7839.0	42.9	.0	8947.0
908	8530.0	8314.9	8229.5	7404.0	8350.0	7965.0	53.3	.0	8959.0
909	7471.0	8362.6	8628.9	7401.0	-999.0	7871.0	41.7	2.0	8971.0
910	7250.0	8253.4	8218.1	6598.0	-999.0	7714.0	25.1	5.0	8983.0
911	7052.0	7587.8	7406.9	6237.0	-999.0	7416.0	31.3	6.0	8995.0
912	8041.0	7454.7	8132.8	6773.0	-999.0	7276.0	31.3	3.0	9007.0
913	8158.0	7926.9	7926.9	7157.0	8000.0	7213.0	31.7	.0	9019.0
914	8111.0	8156.7	8048.6	7080.0	7850.0	-999.0	40.4	.0	9031.0
915	5853.0	5603.5	5676.3	5679.0	3890.0	-999.0	44.6	8.0	9043.0
916	7413.0	7540.0	7443.3	6296.0	7770.0	-999.0	44.2	4.0	9055.0
917	8320.0	8338.7	8156.7	7052.0	8250.0	-999.0	46.2	.0	9067.0
918	8274.0	8459.4	8265.0	7529.0	8190.0	7898.0	46.2	.0	9079.0
919	8379.0	8459.4	8326.2	7040.0	8130.0	8004.0	46.7	.0	9091.0
920	8344.0	8362.6	8156.7	7017.0	8290.0	7850.0	47.5	.0	9103.0
921	8204.0	8302.3	8023.6	6936.0	8030.0	7731.0	42.9	.0	9115.0
922	7378.0	7649.2	7975.8	5935.0	7300.0	7426.0	41.7	1.0	9127.0
923	7669.0	7806.2	7358.0	6563.0	7020.0	7180.0	41.2	4.0	9139.0
924	7645.0	7721.0	7418.3	6808.0	7660.0	7038.0	35.4	5.0	9151.0
925	5181.0	8229.5	7975.8	6924.0	8090.0	7777.0	48.7	.0	9163.0
926	5725.0	4910.8	4941.0	8957.0	7750.0	5218.0	40.4	6.0	9175.0
927	6971.0	8193.1	6632.1	6043.0	7400.0	6155.0	48.7	6.0	9187.0

DAY	NWS	DSFT	GM	PHXP0	GR	ASH	VIS	CLD	MAXPHY
928	7936.0	7080.3	7856.6	6610.0	5470.0	7378.0	46.2	4.0	8553.0
929	7645.0	7207.7	7516.1	6575.0	7590.0	7298.0	45.0	2.0	8529.0
930	5656.0	5857.3	7310.2	4748.0	7090.0	5948.0	43.3	6.0	8505.0
931	7020.0	7334.1	7075.8	6877.0	7660.0	7051.0	45.8	3.0	8481.0
932	6540.0	7164.6	6522.9	5248.0	7170.0	6181.0	45.8	7.0	8457.0
933	3680.0	3630.6	4078.9	2607.0	4410.0	3598.0	40.0	9.0	8434.0
934	6450.0	5022.2	5254.5	5574.0	7860.0	5199.0	43.3	7.0	8410.0
935	5178.0	4320.2	3982.2	3991.0	5180.0	3688.0	45.0	9.0	8386.0
936	7785.0	7128.2	7479.7	6808.0	7790.0	7209.0	44.6	1.0	8362.0
937	8146.0	8036.1	7733.4	6656.0	7560.0	7494.0	43.8	4.0	8338.0
938	5318.0	7128.2	7091.8	4631.0	5880.0	5276.0	42.5	6.0	8314.0
939	7855.0	7830.2	7906.2	6540.0	7480.0	7246.0	46.2	.0	8290.0
940	7680.0	7673.1	7709.5	6493.0	7520.0	7269.0	39.2	3.0	8267.0
941	7715.0	7321.6	7684.6	6517.0	7620.0	7320.0	44.2	3.0	8243.0
942	6656.0	7454.7	6922.2	5562.0	6580.0	6410.0	45.8	8.0	8219.0
943	7378.0	7680.3	7370.5	6202.0	7030.0	6963.0	34.6	7.0	8195.0
944	6784.0	6402.2	6874.4	5446.0	6860.0	6553.0	26.7	8.0	8159.0
945	7494.0	7600.3	7527.5	6424.0	6930.0	7108.0	35.0	6.0	8123.0
946	7773.0	7697.0	7612.8	6575.0	7620.0	7393.0	41.7	.0	8088.0
947	7657.0	7576.4	7576.4	6517.0	7620.0	7244.0	37.9	.0	8052.0
948	7773.0	7793.8	7733.4	6493.0	7630.0	7158.0	40.0	.0	8016.0
949	7157.0	7684.6	7055.4	6173.0	7020.0	6587.0	42.5	1.0	7980.0
950	7715.0	7649.2	6971.1	6540.0	6970.0	7072.0	39.2	1.0	7944.0
951	7180.0	6983.6	7224.9	6202.0	6470.0	-999.0	28.3	3.0	7909.0
952	7296.0	7321.6	7152.1	6202.0	6700.0	-999.0	42.5	4.0	7873.0
953	4922.0	3982.2	5603.5	4282.0	6310.0	-999.0	32.9	6.0	7837.0
954	7436.0	6971.1	7297.7	6435.0	7350.0	-999.0	38.7	1.0	7801.0
955	7180.0	6917.6	7213.4	5458.0	6980.0	-999.0	36.4	4.0	7766.0
956	7517.0	7321.6	6861.9	2956.0	7270.0	-999.0	43.3	3.0	7730.0
957	5528.0	6087.1	6196.3	4713.0	6310.0	-999.0	44.6	6.0	7694.0
958	4376.0	4283.9	5579.6	3154.0	3400.0	-999.0	32.1	8.0	7658.0
959	5120.0	3037.8	5494.3	3898.0	4030.0	-999.0	30.8	8.0	7622.0
960	6810.0	6491.1	6681.0	5423.0	6040.0	-999.0	41.2	4.0	7587.0
961	7180.0	6971.1	6983.6	6144.0	7210.0	6715.0	44.6	4.0	7551.0
962	7238.0	7358.0	7140.6	6272.0	7210.0	6765.0	43.3	2.0	7515.0
963	7227.0	7310.2	7188.5	6819.0	6850.0	6916.0	49.2	1.0	7479.0
964	5842.0	6063.2	4261.8	5737.0	4080.0	5261.0	36.7	7.0	7444.0
965	7261.0	6584.2	6353.4	-999.0	6740.0	6974.0	41.7	2.0	7408.0
966	6726.0	6995.0	6898.3	6051.0	6600.0	6143.0	38.3	1.0	7372.0
967	7157.0	7104.2	7091.8	6261.0	7140.0	6664.0	47.5	.0	7336.0
968	7052.0	7201.0	7055.4	6528.0	7070.0	6722.0	34.6	.0	7300.0
969	7296.0	7370.5	7164.6	6947.0	7220.0	6865.0	40.0	.0	7265.0
970	6947.0	6632.1	6995.0	6714.0	6450.0	6654.0	37.1	4.0	7229.0
971	7157.0	7128.2	7104.2	6819.0	7080.0	6730.0	40.0	.0	7193.0
972	7692.0	6947.2	6971.1	-999.0	6520.0	6658.0	32.1	.0	7157.0
973	6971.0	7007.5	6885.8	6598.0	6790.0	6385.0	33.3	.0	7121.0
974	7005.0	7043.9	6891.6	6685.0	6910.0	6230.0	42.9	.0	7086.0
975	5578.0	4925.4	5579.6	5225.0	6130.0	5795.0	41.7	5.0	7050.0
976	5575.0	5071.0	6547.8	6424.0	6420.0	6298.0	30.2	2.0	7014.0
977	6179.0	6656.0	6305.5	6016.0	6480.0	5867.0	45.4	3.0	6978.0
978	6493.0	6595.7	5494.3	6412.0	6340.0	6040.0	39.6	2.0	6931.0
979	6936.0	5616.0	6535.4	6540.0	6430.0	6339.0	39.6	2.0	6895.0
980	6668.0	6704.9	6550.3	6307.0	6480.0	6303.0	33.3	1.0	6859.0
981	6668.0	6668.5	-999.0	6342.0	6550.0	6255.0	33.7	.0	6823.0
982	6179.0	6571.8	6426.2	6016.0	6450.0	5944.0	31.3	1.0	6787.0
983	6310.0	6378.3	6183.8	6016.0	6200.0	6080.0	40.0	2.0	6752.0
984	3107.0	3703.4	2674.9	2455.0	2030.0	2610.0	44.6	8.0	6716.0
985	2211.0	5167.8	2215.2	1536.0	1620.0	2146.0	43.8	9.0	6680.0

DAY	NWS	DEFT	GM	PHXPB	GR	ASH	VIS	CLD	MAXPHY
986	6354.7	5773.7	6269.1	6109.0	6410.0	5949.0	36.2	2.0	6644.0
987	6214.0	6136.0	6220.2	5912.0	6350.0	5930.0	37.0	2.0	6597.0
988	6319.7	6232.7	6075.7	5923.0	5330.0	-999.0	42.5	3.0	6549.0
989	5795.0	6656.0	5869.8	6249.0	5950.0	6116.0	47.5	1.0	6501.0
990	6086.0	6112.1	5820.9	6005.0	6020.0	5472.0	39.2	5.0	6453.0
991	6470.0	6789.1	6365.8	6261.0	6640.0	6052.0	46.2	.0	6406.0
992	6482.0	6681.0	6462.6	6202.0	6450.0	6271.0	60.8	.0	6358.0
993	6307.0	6475.0	6281.6	6040.0	6350.0	5982.0	45.4	.0	6310.0
994	6307.0	6475.0	6245.2	6063.0	6330.0	5987.0	43.3	.0	6263.0
995	6400.0	6522.9	6365.8	6156.0	6340.0	6067.0	46.2	.0	6215.0
996	2223.0	2445.0	2541.8	2025.0	2830.0	2111.0	44.2	8.0	6167.0
997	5609.0	5749.1	5736.6	5225.0	5350.0	5188.0	47.9	6.0	6120.0
998	6144.0	6293.0	6199.6	5842.0	6130.0	5823.0	48.7	.0	6072.0
999	5760.0	6220.2	5712.7	5621.0	6000.0	5561.0	50.8	1.0	6024.0
1000	4957.0	5833.4	3679.5	5074.0	5250.0	4488.0	44.6	6.0	5976.0
1001	1804.0	1464.3	3679.5	1583.0	2750.0	1648.0	17.9	9.0	5941.0
1002	5609.0	5942.6	7019.0	5213.0	5770.0	5364.0	24.7	.0	5905.0
1003	5818.0	6015.4	5760.6	5469.0	-999.0	5493.0	38.3	.0	5869.0
1004	5818.0	5954.0	5773.0	5469.0	-999.0	5518.0	41.7	4.0	5833.0
1005	5411.0	5970.0	5773.0	5528.0	-999.0	5571.0	46.7	.0	5797.0
1006	5307.0	5954.0	5773.0	5446.0	-999.0	5516.0	43.8	.0	5762.0
1007	5376.0	5324.8	5288.4	6074.0	-999.0	5353.0	40.4	3.0	5726.0
1008	4480.0	4199.5	5118.0	4189.0	-999.0	3710.0	44.6	7.0	5690.0
1009	5167.0	4961.8	5167.8	4776.0	-999.0	4957.0	35.8	3.0	5654.0
1010	1722.0	1017.1	1573.5	1280.0	-999.0	1527.0	18.2	10.0	5619.0
1011	3247.0	5022.2	3993.6	2886.0	-999.0	2932.0	23.3	8.0	5583.0
1012	4783.0	5095.0	4308.7	4527.0	-999.0	4551.0	32.9	6.0	5547.0
1013	5283.0	5288.4	4780.9	-999.0	-999.0	5110.0	33.7	.0	5511.0
1014	5167.0	5337.3	5131.4	-999.0	-999.0	4869.0	28.3	.0	5475.0
1015	5213.0	5518.2	-999.0	4783.0	-999.0	4795.0	44.2	.0	5440.0
1016	5004.0	4998.2	-999.0	4725.0	-999.0	4446.0	44.2	.0	5404.0
1017	5132.0	5107.4	5083.5	4829.0	-999.0	-999.0	45.0	.0	5368.0
1018	5120.0	5131.4	5131.4	4911.0	-999.0	4661.0	41.7	.0	5332.0
1019	5178.0	5118.9	5083.5	4922.0	-999.0	4626.0	49.2	.0	5296.0
1020	5074.0	4708.1	4719.5	4038.0	-999.0	4121.0	45.0	2.0	5261.0
1021	4911.0	4914.0	4928.7	4678.0	-999.0	-999.0	38.3	.0	5225.0
1022	4818.0	4732.0	4852.6	4562.0	-999.0	4326.0	42.9	.0	5189.0
1023	4282.0	4066.4	-999.0	4154.0	-999.0	3569.0	37.5	2.0	5153.0
1024	4841.0	4817.3	-999.0	4597.0	-999.0	4323.0	35.4	.0	5118.0
1025	4690.0	4684.2	4732.0	4562.0	-999.0	4197.0	29.6	1.0	5070.0
1026	4632.0	4405.4	4622.8	4445.0	-999.0	4161.0	32.5	.0	5022.0
1027	4725.0	4622.8	4708.1	4578.0	-999.0	4130.0	39.2	.0	4974.0
1028	4655.0	4622.8	4659.2	4515.0	-999.0	4158.0	35.8	.0	4927.0
1029	4748.0	4684.2	4695.6	4469.0	-999.0	4285.0	35.0	.0	4879.0
1030	4713.0	4635.3	4659.2	4562.0	6590.0	4238.0	35.8	.0	4831.0
1031	3561.0	3957.2	3134.6	3363.0	4210.0	3231.0	37.1	4.0	4784.0
1032	4399.0	4017.5	4308.7	4189.0	4590.0	3889.0	39.6	4.0	4736.0
1033	2548.0	1367.6	2626.0	2130.0	2790.0	2047.0	25.2	9.0	4688.0
1034	3991.0	4223.4	4175.6	3980.0	4740.0	3503.0	17.5	2.0	4640.0
1035	3945.0	3836.6	4017.5	3759.0	4370.0	3439.0	26.2	5.0	4593.0
1036	4364.0	4393.0	4416.9	4154.0	4620.0	3911.0	57.1	2.0	4557.0
1037	4387.0	4381.5	4429.4	4224.0	4730.0	4014.0	47.5	.0	4521.0
1038	4341.0	4248.4	4272.3	4108.0	4640.0	3901.0	38.7	.0	4485.0
1039	3479.0	3304.1	3485.0	3188.0	3570.0	3136.0	30.0	4.0	4450.0
1040	4166.0	4053.9	4175.6	3922.0	4420.0	3700.0	35.8	2.0	4414.0
1041	2130.0	2202.7	1972.9	2025.0	3340.0	1618.0	37.1	8.0	4378.0
1042	2793.0	2153.8	2919.4	2816.0	3930.0	2266.0	41.2	7.0	4342.0
1043	4015.0	4066.4	4259.8	3863.0	4440.0	3626.0	32.5	.0	4306.0

DAY	NWS	DSET	GM	PHXP	GR	ASH	VIS	CLD	MAXPHY
1044	4294.0	4212.0	4378.7	7991.0	4490.0	3977.0	47.5	1.0	4271.0
1045	4294.0	4115.3	4150.6	4038.0	4460.0	3929.0	51.2	2.0	4235.0
1046	3782.0	4102.8	1657.8	7805.0	4300.0	3714.0	54.6	4.0	4211.0
1047	3782.0	3800.2	7537.9	7619.0	4190.0	3447.0	55.0	2.0	4187.0
1048	3933.0	3763.8	3836.6	7642.0	4190.0	3599.0	55.0	5.0	4163.0
1049	3863.0	7992.2	7776.2	7607.0	4210.0	3613.0	36.2	1.0	4139.0
1050	3573.0	3643.1	3546.4	3340.0	4130.0	3199.0	28.3	8.0	4116.0
1051	3782.0	7824.1	3787.7	7607.0	4130.0	7498.0	27.7	.0	4092.0
1052	3829.0	3751.3	3670.5	3573.0	4100.0	7487.0	25.0	2.0	4068.0
1053	2979.0	3304.1	2917.2	2723.0	3150.0	2612.0	31.7	5.0	4044.0
1054	3479.0	2759.1	3050.3	3095.0	3230.0	2953.0	27.1	3.0	4020.0
1055	3095.0	2977.5	3074.2	2863.0	3140.0	2656.0	30.4	9.0	3996.0
1056	2928.0	2941.1	2578.2	2653.0	2510.0	2511.0	27.9	8.0	3972.0
1057	3154.0	3110.6	3207.4	2909.0	3360.0	2916.0	39.2	8.0	3949.0
1058	3619.0	3643.1	3461.1	3468.0	3030.0	3286.0	27.9	.0	3925.0
1059	3503.0	3473.6	3364.4	3328.0	3830.0	3161.0	36.2	6.0	3901.0
1060	3549.0	3557.8	3304.1	3308.0	3940.0	3202.0	36.7	.0	3877.0
1061	3596.0	3570.3	3171.0	3410.0	3950.0	3260.0	35.8	4.0	3853.0
1062	3165.0	2626.0	2311.9	2921.0	3440.0	2787.0	32.9	7.0	3829.0
1063	3386.0	3521.0	2226.6	3200.0	3810.0	3101.0	33.4	1.0	3806.0
1064	3514.0	3485.0	2735.2	3363.0	3810.0	3201.0	58.7	3.0	3782.0
1065	3340.0	4303.0	3194.9	3170.0	3680.0	3096.0	42.5	7.0	3758.0
1066	3235.0	3104.0	2344.2	3084.0	3500.0	2933.0	37.5	7.0	3734.0
1067	3107.0	3004.2	2290.8	2921.0	3510.0	2946.0	30.0	7.0	3710.0
1068	3351.0	3328.0	2023.1	2212.0	3640.0	3060.0	37.5	.0	3686.0
1069	3317.0	3280.2	1284.3	3165.0	3600.0	3029.0	26.7	.0	3662.0
1070	3270.0	3255.2	-999.0	3130.0	3570.0	2977.0	21.7	.0	3639.0
1071	3386.0	3400.8	-999.0	3235.0	3700.0	3093.0	28.3	.0	3615.0
1072	3375.0	3340.5	-999.0	3200.0	3720.0	3072.0	21.7	.0	3591.0
1073	3293.0	3280.2	3082.9	3084.0	3600.0	3013.0	27.5	.0	3567.0
1074	2851.0	3225.4	2870.6	2886.0	3050.0	2481.0	34.6	9.0	3543.0
1075	2409.0	24074.9	2440.8	3216.0	3120.0	2012.0	26.2	8.0	3519.0
1076	3270.0	3243.8	3126.2	3037.0	3560.0	2943.0	27.9	.0	3507.0
1077	3049.0	2989.0	2911.8	2898.0	3470.0	2756.0	18.1	1.0	3495.0
1078	3154.0	3304.1	3051.6	3014.0	3470.0	2847.0	15.3	1.0	3472.0
1079	3072.0	3147.0	2783.9	2944.0	3500.0	2818.0	20.4	1.0	3460.0
1080	3165.0	3037.8	3232.9	2979.0	3520.0	2918.0	25.8	2.0	3460.0
1081	3223.0	3351.9	3020.6	3026.0	3580.0	-999.0	18.1	1.0	3460.0
1082	3247.0	3243.8	3061.8	3026.0	3570.0	2956.0	24.2	1.0	3460.0
1083	2339.0	1718.1	2698.4	2071.0	3100.0	2216.0	35.0	8.0	3460.0
1084	3119.0	3231.3	2729.6	2956.0	3450.0	2841.0	43.3	3.0	3460.0
1085	1967.0	2082.1	1895.2	1629.0	2300.0	1765.0	43.3	9.0	3472.0
1086	2281.0	2263.0	1080.8	2095.0	2430.0	2063.0	39.6	9.0	3483.0
1087	1629.0	1161.7	1424.2	1327.0	1640.0	1464.0	38.3	10.0	3495.0
1088	873.0	1204.8	727.7	570.0	560.0	718.0	30.4	10.0	3507.0
1089	3014.0	3074.2	2858.4	2775.0	3340.0	2793.0	29.6	2.0	3519.0
1090	791.0	931.8	759.9	489.0	600.0	-999.0	33.7	9.0	3531.0
1091	721.0	629.2	824.3	419.0	630.0	592.0	12.7	10.0	3543.0
1092	1455.0	616.7	1295.8	1129.0	1980.0	1059.0	10.5	9.0	3555.0
1093	1606.0	835.1	2119.7	1233.0	2090.0	1488.0	8.2	9.0	3567.0
1094	1978.0	1682.7	2205.2	1734.0	2910.0	1565.0	9.4	7.0	3579.0
1095	2933.0	1488.2	2858.4	2455.0	3020.0	1838.0	16.2	4.0	3591.0
1096	1394.0	1706.6	1873.1	1059.0	1630.0	-999.0	19.6	9.0	3603.0
1097	3061.0	3094.0	3051.6	-999.0	-999.0	-999.0	30.0	2.0	3615.0
1098	2829.0	3081.5	3318.4	-999.0	-999.0	-999.0	41.0	4.0	3627.0
1099	2505.0	2393.0	2944.0	-999.0	-999.0	-999.0	31.0	10.0	3639.0
1100	2756.0	2283.8	2055.0	-999.0	-999.0	2299.0	10.0	10.0	3650.0
1101	3337.0	3227.1	3586.2	-999.0	-999.0	2870.0	49.0	1.0	3662.0

DAY	NWS	DSFT	GM	PHXPB	GB	ASH	VIS	CLD	MAXPHY
1102	2770.0	2247.4	2911.3	-999.0	-999.0	2284.0	32.0	7.0	3674.0
1103	3331.0	3480.9	3415.0	-999.0	-999.0	2883.0	40.0	.0	3686.0
1104	3546.0	3528.7	3470.4	-999.0	-999.0	3031.0	49.0	.0	3698.0
1105	2619.0	2259.9	2622.9	-999.0	-999.0	-999.0	37.0	9.0	3722.0
1106	1074.0	290.2	738.8	-999.0	-999.0	675.0	19.0	10.0	3746.0
1107	2070.0	1933.4	2001.9	-999.0	-999.0	1449.0	34.0	9.0	3770.0
1108	3427.0	3516.2	3543.8	-999.0	-999.0	2855.0	85.0	.0	3794.0
1109	3113.0	2912.0	3500.6	-999.0	-999.0	2547.0	16.0	6.0	3817.0
1110	1800.0	1027.8	2023.1	-999.0	-999.0	1333.0	27.0	10.0	3841.0
1111	1228.0	741.3	792.1	-999.0	-999.0	666.0	13.0	9.0	3865.0
1112	1611.0	2006.2	1909.6	-999.0	-999.0	1015.0	36.0	10.0	3889.0
1113	2101.0	1730.9	2622.9	-999.0	-999.0	1710.0	12.0	8.0	3913.0
1114	3469.0	3613.0	3693.8	-999.0	-999.0	1977.0	14.0	1.0	3937.0
1115	1196.0	580.3	1852.0	-999.0	-999.0	640.0	26.0	10.0	3961.0
1116	1068.0	748.8	1750.8	-999.0	-999.0	563.0	15.0	10.0	3984.0
1117	3455.0	3661.8	3703.9	-999.0	-999.0	2554.0	8.0	4.0	4008.0
1118	3703.0	3637.9	3768.3	-999.0	-999.0	2859.0	33.0	4.0	4032.0
1119	3240.0	3528.7	3490.5	-999.0	-999.0	-999.0	19.0	2.0	4056.0
1120	-999.0	3915.6	3800.5	-999.0	-999.0	2311.0	48.0	.0	4080.0
1121	-999.0	3818.9	3650.6	-999.0	-999.0	35.0	37.0	6.0	4104.0
1122	-999.0	3928.1	3726.0	-999.0	-999.0	-999.0	31.0	.0	4128.0
1123	2980.0	3202.2	2922.8	-999.0	-999.0	2272.0	24.0	10.0	4151.0
1124	3346.0	3528.7	3426.1	-999.0	-999.0	-999.0	32.0	4.0	4187.0
1125	3212.0	3685.8	3382.8	-999.0	-999.0	-999.0	17.0	7.0	4223.0
1126	570.0	591.8	695.5	-999.0	-999.0	-999.0	15.0	10.0	4259.0
1127	1657.0	680.6	2077.4	-999.0	-999.0	-999.0	9.0	10.0	4295.0
1128	1760.0	3480.9	3661.6	-999.0	-999.0	4576.0	9.0	5.0	4742.0
1129	3812.0	4036.2	4368.2	-999.0	-999.0	-999.0	12.0	.0	4378.0
1130	4231.0	4290.0	4218.2	-999.0	-999.0	4447.0	49.0	.0	4414.0
1131	2510.0	2380.6	2933.9	-999.0	-999.0	2617.0	45.0	9.0	4450.0
1132	1680.0	1655.7	2258.6	-999.0	-999.0	1818.0	38.0	10.0	4485.0
1133	2430.0	1679.6	2869.5	-999.0	-999.0	2411.0	23.0	8.0	4533.0
1134	3477.0	3649.4	3597.2	-999.0	-999.0	3761.0	40.0	5.0	4581.0
1135	-999.0	3577.6	3929.3	-999.0	-999.0	3866.0	20.0	4.0	4629.0
1136	-999.0	3842.8	3951.5	-999.0	-999.0	4303.0	40.0	6.0	4676.0
1137	1093.0	350.5	1702.0	-999.0	-999.0	-999.0	32.0	9.0	4724.0
1138	4354.0	2851.7	4421.5	-999.0	-999.0	4137.0	46.0	4.0	4772.0
1139	3399.0	3045.1	3971.6	-999.0	-999.0	4262.0	36.0	7.0	4819.0
1140	1797.0	858.0	2698.4	-999.0	-999.0	-999.0	24.0	10.0	4867.0
1141	995.0	2066.5	1959.6	-999.0	-999.0	1653.0	15.0	9.0	4915.0
1142	3996.0	3335.3	4282.6	-999.0	-999.0	4290.0	35.0	6.0	4963.0
1143	4954.0	4881.8	5203.5	-999.0	-999.0	5037.0	65.0	.0	5010.0
1144	4676.0	4724.7	4614.7	-999.0	-999.0	4710.0	53.0	1.0	5058.0
1145	4910.0	5039.8	4968.0	-999.0	-999.0	5101.0	54.0	1.0	5106.0
1146	5088.0	5051.3	5106.0	-999.0	-999.0	5151.0	55.0	.0	5153.0
1147	5046.0	4978.5	4989.2	-999.0	-999.0	5084.0	47.0	.0	5201.0
1148	5186.0	5075.2	5010.3	-999.0	-999.0	5229.0	55.0	.0	5249.0
1149	5179.0	5171.9	5074.7	-999.0	-999.0	5281.0	54.0	.0	5296.0
1150	5197.0	5184.4	5192.5	-999.0	-999.0	5254.0	36.0	.0	5344.0
1151	4961.0	5075.2	5053.6	-999.0	-999.0	5020.0	27.0	3.0	5392.0
1152	4931.0	4786.1	5053.6	-999.0	-999.0	4998.0	25.0	5.0	5440.0
1153	3269.0	3033.7	4314.8	-999.0	-999.0	3547.0	37.0	10.0	5487.0
1154	1895.0	1486.2	3082.9	-999.0	-999.0	2150.0	31.0	10.0	5535.0
1155	1438.0	810.2	2355.2	-999.0	-999.0	2094.0	21.0	10.0	5583.0
1156	1928.0	1728.5	2976.2	-999.0	-999.0	3042.0	27.0	10.0	5630.0
1157	2020.0	1172.1	2376.4	-999.0	-999.0	2803.0	24.0	10.0	5678.0
1158	5607.0	5450.6	5716.9	-999.0	-999.0	5919.0	35.0	.0	5726.0
1159	3379.0	2115.4	4432.6	-999.0	-999.0	3533.0	40.0	10.0	5774.0

DAY	NMS	OSFT	GM	PHXPD	GR	ASU	VTS	CLD	MAXPHX
1160	1324.0	1051.4	3543.9	-999.0	-999.0	1910.0	24.0	10.0	5821.0
1161	5038.0	4628.0	4903.6	-999.0	-999.0	-999.0	25.0	6.0	5869.0
1162	5610.0	5679.4	6001.3	-999.0	-999.0	5951.0	24.0	.0	5917.0
1163	5445.0	5462.1	5855.8	-999.0	-999.0	5831.0	29.0	6.0	5964.0
1164	5279.0	5329.0	5513.6	-999.0	-999.0	5486.0	34.0	7.0	6012.0
1165	4504.0	3455.0	4819.0	-999.0	-999.0	4684.0	38.0	7.0	6060.0
1166	4604.0	3746.1	5203.5	-999.0	-999.0	4821.0	38.0	6.0	6108.0
1167	2565.0	2574.0	3137.2	-999.0	-999.0	2568.0	27.0	10.0	6155.0
1168	5264.0	3577.6	5130.1	-999.0	-999.0	4932.0	7.0	6.0	6203.0
1169	5932.0	5595.2	6081.2	-999.0	-999.0	6101.0	21.0	.0	6251.0
1170	6236.0	6187.0	6413.3	-999.0	-999.0	6364.0	40.0	.0	6298.0
1171	6480.0	6259.0	6520.0	-999.0	-999.0	6489.0	59.0	.0	6346.0
1172	6438.0	6211.0	6520.0	-999.0	-999.0	6438.0	50.0	.0	6394.0
1173	3811.0	3444.5	4722.5	-999.0	-999.0	3811.0	40.0	10.0	6442.0
1174	6032.0	5895.4	6060.0	-999.0	-999.0	6032.0	44.0	3.0	6489.0
1175	4518.0	4616.0	5117.0	-999.0	-999.0	4518.0	26.0	10.0	6537.0
1176	5285.0	4338.0	5010.3	-999.0	-999.0	5285.0	30.0	7.0	6585.0
1177	4569.0	4821.4	5684.7	-999.0	-999.0	4569.0	33.0	6.0	6632.0
1178	6421.0	5812.6	6155.7	-999.0	-999.0	6421.0	47.0	1.0	6680.0
1179	6280.0	6320.1	6552.2	-999.0	-999.0	6280.0	28.0	.0	6728.0
1180	6607.0	6345.0	6487.8	-999.0	-999.0	6607.0	48.0	.0	6776.0
1181	6451.0	6235.8	6413.3	-999.0	-999.0	6451.0	47.0	9.0	6823.0
1182	5252.0	5425.7	5428.0	-999.0	-999.0	5252.0	24.0	10.0	6871.0
1183	6273.0	6199.4	6434.5	-999.0	-999.0	6273.0	19.0	4.0	6919.0
1184	6518.0	5933.0	6487.8	-999.0	-999.0	6518.0	33.0	5.0	6966.0
1185	5952.0	6102.7	5631.3	-999.0	-999.0	5952.0	39.0	6.0	7014.0
1186	5690.0	4833.0	5642.4	-999.0	-999.0	5690.0	32.0	6.0	7062.0
1187	4207.0	3328.0	4368.2	-999.0	-999.0	3188.0	40.0	9.0	7110.0
1188	5559.0	4283.8	6241.3	-999.0	-999.0	5786.0	45.0	4.0	7157.0
1189	6775.0	6353.4	6476.8	-999.0	-999.0	-999.0	44.0	7.0	7193.0
1190	6148.0	5845.8	5899.0	-999.0	-999.0	-999.0	28.0	8.0	7229.0
1191	6941.0	6898.3	6498.9	-999.0	-999.0	-999.0	29.0	1.0	7265.0
1192	7029.0	7052.7	7040.0	-999.0	-999.0	-999.0	33.0	.0	7300.0
1193	6958.0	6451.1	6994.0	-999.0	-999.0	-999.0	31.0	2.0	7336.0
1194	4667.0	2516.8	3513.0	-999.0	-999.0	4007.0	25.0	8.0	7372.0
1195	5888.0	4852.6	6447.0	-999.0	-999.0	5527.0	43.0	5.0	7408.0
1196	7169.0	7007.5	7075.0	-999.0	-999.0	-999.0	34.0	.0	7444.0
1197	7212.0	6958.6	7099.0	-999.0	-999.0	7001.0	30.0	.0	7479.0
1198	7061.0	6668.5	6924.0	-999.0	-999.0	-999.0	35.0	4.0	7515.0
1199	7081.0	6728.8	7029.0	-999.0	-999.0	-999.0	38.0	3.0	7551.0
1200	7327.0	6983.6	7273.0	-999.0	-999.0	7109.0	41.0	3.0	7587.0
1201	7460.0	7152.1	7320.0	-999.0	-999.0	7222.0	45.0	1.0	7622.0
1202	6645.0	6365.8	5400.0	-999.0	-999.0	6289.0	46.0	5.0	7658.0
1203	7580.0	7491.1	7541.0	-999.0	-999.0	7380.0	41.0	.0	7694.0
1204	7694.0	7383.0	7576.0	-999.0	-999.0	7353.0	41.0	.0	7730.0
1205	7549.0	7019.0	7424.0	-999.0	-999.0	7323.0	19.0	2.0	7766.0
1206	6537.0	6752.7	6901.0	-999.0	-999.0	6553.0	23.0	6.0	7801.0
1207	8070.0	7470.8	7599.0	-999.0	-999.0	7418.0	24.0	.0	7837.0
1208	7650.0	7527.5	7517.0	-999.0	-999.0	7457.0	29.0	1.0	7873.0
1209	7617.0	7563.9	7611.0	-999.0	-999.0	5834.0	29.0	3.0	7909.0
1210	7235.0	6522.0	6971.0	-999.0	-999.0	-999.0	25.0	8.0	7933.0
1211	6526.0	6559.3	6482.0	-999.0	-999.0	-999.0	30.0	8.0	7956.0
1212	7580.0	7443.3	7494.0	-999.0	-999.0	-999.0	41.0	.0	7980.0
1213	7723.0	7261.3	7634.0	-999.0	-999.0	-999.0	29.0	.0	8004.0
1214	7752.0	7383.0	7634.0	-999.0	-999.0	7519.0	32.0	1.0	8028.0
1215	6416.0	5930.1	6179.0	-999.0	-999.0	6241.0	34.0	7.0	8052.0
1216	6124.0	5616.0	5877.0	-999.0	-999.0	6187.0	27.0	8.0	8076.0
1217	6323.0	4006.1	4050.0	-999.0	-999.0	5890.0	27.0	8.0	8100.0

DAY	NWS	DSFT	GM	PHXP0	GR	ASH	VIS	CLD	MAXPHX
1218	6385.0	6072.9	5434.0	-999.0	-999.0	5815.0	31.0	7.0	8123.0
1219	7739.0	7467.2	7599.0	-999.0	-999.0	7528.0	26.0	1.0	8147.0
1220	7711.0	7334.1	7587.0	-999.0	-999.0	7472.0	29.0	6.0	8171.0
1221	6868.0	6632.1	7110.0	-999.0	-999.0	6682.0	22.0	8.0	8195.0
1222	7918.0	8060.0	7401.0	-999.0	-999.0	-999.0	36.0	1.0	8219.0
1223	8133.0	7769.8	7995.0	-999.0	-999.0	7912.0	36.0	.0	8243.0
1224	7940.0	7673.1	8064.0	-999.0	-999.0	8034.0	45.0	3.0	8267.0
1225	-999.0	7879.0	8076.0	-999.0	-999.0	-999.0	43.0	.0	8290.0
1226	6862.0	7383.0	6691.0	-999.0	-999.0	6958.0	43.0	8.0	8314.0
1227	8249.0	7842.6	8146.0	-999.0	-999.0	7951.0	29.0	.0	8338.0
1228	8005.0	7697.0	8134.0	-999.0	-999.0	7931.0	23.0	.0	8362.0
1229	8332.0	7975.8	8123.0	-999.0	-999.0	8063.0	34.0	.0	8386.0
1230	8052.0	7879.0	8019.0	-999.0	-999.0	7800.0	34.0	2.0	8410.0
1231	-999.0	7071.4	7669.0	-999.0	-999.0	8024.0	35.0	5.0	8434.0
1232	-999.0	8060.0	8251.0	-999.0	-999.0	8109.0	26.0	.0	8457.0
1233	8007.0	8326.2	8216.0	-999.0	-999.0	8161.0	45.0	1.0	8481.0
1234	8336.0	6850.5	7389.0	-999.0	-999.0	8061.0	39.0	8.0	8493.0
1235	-999.0	7903.0	7355.0	-999.0	-999.0	7035.0	36.0	6.0	8505.0
1236	7936.0	7224.9	7645.0	-999.0	-999.0	7609.0	38.0	4.0	8517.0
1237	8299.0	7999.7	8239.0	-999.0	-999.0	8019.0	41.0	.0	8529.0
1238	7614.0	7370.5	7913.0	-999.0	-999.0	-999.0	31.0	5.0	8541.0
1239	8444.0	8169.2	8390.0	-999.0	-999.0	-999.0	34.0	.0	8553.0
1240	8319.0	6874.4	8014.0	-999.0	-999.0	8348.0	26.0	1.0	8565.0
1241	6018.0	6104.3	5597.0	-999.0	-999.0	-999.0	31.0	7.0	8577.0
1242	8192.0	7757.4	8088.0	-999.0	-999.0	-999.0	32.0	4.0	8589.0
1243	8270.0	7963.3	8111.0	-999.0	-999.0	-999.0	30.0	.0	8601.0
1244	8425.0	8145.3	8297.0	-999.0	-999.0	-999.0	36.0	.0	8612.0
1245	8613.0	8242.0	8472.0	-999.0	-999.0	8264.0	45.0	.0	8624.0
1246	8611.0	8219.1	8437.0	-999.0	-999.0	8196.0	33.0	.0	8636.0
1247	8475.0	8120.3	8402.0	-999.0	-999.0	8082.0	33.0	.0	8648.0
1248	8520.0	8088.6	8518.0	-999.0	-999.0	8130.0	33.0	.0	8660.0
1249	8631.0	8351.2	8472.0	-999.0	-999.0	8230.0	31.0	.0	8672.0
1250	8617.0	8278.4	8448.0	-999.0	-999.0	8228.0	30.0	.0	8684.0
1251	8641.0	8314.8	8518.0	-999.0	-999.0	8228.0	36.0	.0	8696.0
1252	8257.0	7297.7	8227.0	-999.0	-999.0	7924.0	18.0	1.0	8708.0
1253	8422.0	8120.3	8227.0	-999.0	-999.0	8013.0	40.0	1.0	8720.0
1254	8393.0	8072.5	8332.0	-999.0	-999.0	8068.0	39.0	.0	8732.0
1255	8339.0	7963.3	8274.0	-999.0	-999.0	7942.0	37.0	.0	8744.0
1256	8251.0	7903.0	8146.0	-999.0	-999.0	6597.0	37.0	.0	8756.0
1257	8522.0	8265.9	8332.0	-999.0	-999.0	6061.0	40.0	.0	8768.0
1258	8727.0	8435.4	8507.0	-999.0	-999.0	6810.0	49.0	.0	8779.0
1259	8538.0	8919.0	8414.0	-999.0	-999.0	7901.0	44.0	3.0	8791.0
1260	8423.0	8108.9	8332.0	-999.0	-999.0	7980.0	44.0	1.0	8803.0
1261	8336.0	8048.6	8216.0	-999.0	-999.0	7554.0	38.0	.0	8815.0
1262	8531.0	8253.4	8320.0	-999.0	-999.0	-999.0	39.0	.0	8815.0
1263	8569.0	8314.8	8390.0	-999.0	-999.0	-999.0	33.0	.0	8827.0
1264	8645.0	8338.7	8448.0	-999.0	-999.0	-999.0	43.0	4.0	8827.0
1265	8201.0	7939.4	8239.0	-999.0	-999.0	-999.0	45.0	6.0	8827.0
1266	8522.0	8169.2	8332.0	-999.0	-999.0	6101.0	39.0	1.0	8839.0
1267	8703.0	8169.2	8344.0	-999.0	-999.0	8279.0	36.0	.0	8839.0
1268	-999.0	8411.5	8344.0	-999.0	-999.0	8022.0	30.0	3.0	8839.0
1269	7841.0	7491.1	7203.0	-999.0	-999.0	7384.0	29.0	8.0	8839.0
1270	8206.0	8278.4	8053.0	-999.0	-999.0	7385.0	26.0	2.0	8827.0
1271	8251.0	8218.1	8076.0	-999.0	-999.0	-999.0	33.0	.0	8827.0
1272	8555.0	8495.8	8344.0	-999.0	-999.0	-999.0	41.0	.0	8827.0
1273	8231.0	8253.4	8053.0	-999.0	-999.0	7592.0	31.0	.0	8815.0
1274	8359.0	8326.2	7762.0	-999.0	-999.0	7661.0	31.0	1.0	8815.0
1275	4778.0	6789.1	2560.0	-999.0	-999.0	4266.0	29.0	7.0	8803.0

DAY	NWS	DSET	GM	PHXPD	GB	ASH	VIS	CLD	MAXPHY
1276	8095.0	8048.6	7948.0	-999.0	-999.0	7158.0	36.0	1.0	8803.0
1277	8494.0	8532.2	8425.0	-999.0	-999.0	7607.0	46.0	.0	8791.0

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APPENDIX C

CLEAR DAY SOLAR RADIATION VALUES

The points plotted in this appendix represent values derived by dividing the quantities of solar energy actually received on a given day by the maximum amount that might be expected on that day. This is a technique developed by Hans Rosendal of the Phoenix Office of National Weather Service. He derived his maximum expected values from the Phoenix NWS 1972-1975 data base. The actual numbers for each day are given in Appendix B.

CLEAR DAY SOLAR RADIATION

DSET

CLEAR DAY SOLAR RADIATION GMPG GILBERT

CLEAR DAY SOLAR RADIATION

NWS PHOENIX

APPENDIX D

FREQUENCY DISTRIBUTIONS OF SOLAR
RADIATION VALUES IN THE
PHOENIX METROPOLITAN REGION

CLEAR DAYS WITH VISIBILITIES GREATER THAN 25 MILES

		STATION	MEAN	STDEV	500	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	9000	9500	10000
55	JANUARY																							
	NWS		3692.5	240.4	.0	.0	.0	.0	.0	28.6	57.1	14.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	USET		3921.6	266.7	.0	.0	.0	.0	.0	3.2	67.7	29.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	GM		3836.9	232.6	.0	.0	.0	.0	.0	6.5	67.7	25.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	PHXPD		2424.6	148.5	.0	.0	.0	.0	65.4	34.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	GB ASU		3320.7	524.4	.0	.0	.0	.0	10.0	20.0	30.0	30.0	10.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	FEBRUARY																							
	NWS		4846.3	451.7	.0	.0	.0	.0	.0	.0	.0	28.6	25.0	42.9	3.6	.0	.0	.0	.0	.0	.0	.0	.0	.0
	USET		5063.4	438.2	.0	.0	.0	.0	.0	.0	.0	17.9	28.6	32.1	21.4	.0	.0	.0	.0	.0	.0	.0	.0	.0
	GM		4924.5	406.6	.0	.0	.0	.0	.0	.0	.0	17.9	32.1	46.4	3.6	.0	.0	.0	.0	.0	.0	.0	.0	.0
	PHXPD		3102.9	326.5	.0	.0	.0	.0	40.0	40.0	20.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	GB ASU		5590.0	559.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	100.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
55	MARCH																							
	NWS		6390.6	444.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	20.0	40.0	28.6	11.4	.0	.0	.0	.0	.0	.0
	USET		6549.4	521.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.9	8.6	37.1	31.4	17.1	2.9	.0	.0	.0	.0	.0
	GM		6347.8	418.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	22.9	22.9	68.6	5.7	.0	.0	.0	.0	.0	.0
	PHXPD		3854.2	385.7	.0	.0	.0	.0	.0	.0	27.6	37.9	27.6	6.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	GB ASU		6290.6	597.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	15.4	33.3	33.3	7.7	.0	.0	.0	.0	.0	.0
	APRIL																							
	NWS		7446.3	576.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.5	7.5	40.0	47.5	22.5	.0	.0	.0
	USET		7721.0	411.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	4.2	31.0	40.5	22.5	.0	.0	.0
	GM		7419.6	284.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	4.2	50.0	42.9	22.5	.0	.0	.0
	PHXPD		4594.6	413.5	.0	.0	.0	.0	.0	.0	.0	.0	57.1	28.6	7.1	7.1	.0	.0	.0	.0	.0	.0	.0	.0
	GB ASU		7395.4	246.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	84.6	15.4	.0	.0	.0	.0
55	MAY																							
	NWS		8359.3	173.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	USET		8392.9	316.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.8	12.1	74.5	23.5	.0	.0
	GM		8203.5	252.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.8	12.1	50.0	12.1	.0	.0
	PHXPD		6162.4	1463.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	18.0	44.2	4.7	.0	.0	.0	.0	.0	.0	.0	.0
	GB ASU		6270.7	153.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	23.5	58.3	17.3	.0	.0
55	JUNE																							
	NWS		8544.1	196.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	USET		8606.6	335.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	GM		8338.7	220.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	PHXPD		5873.7	1222.8	.0	.0	.0	.0	.0	.0	.0	.0	1.8	10.9	43.6	21.8	.0	.0	3.6	35.3	26.7	60.4	16.7	.0
	GB ASU		8461.7	250.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.1	6.4	.0	14.9	36.2	50.0	.0	.0

CLEAR DAYS WITH VISIBILITIES GREATER THAN 25 MILES

59

ALL DAYS

STATION	MEAN	STDV	500	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	9000	9500	10000
JANUARY																						
NWS	3049.5	820.4	.0	2.6	4.4	5.3	8.8	13.2	34.2	25.4	6.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
DSET	3155.6	1028.3	.8	6.5	3.2	3.2	10.5	7.3	13.7	42.7	12.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
GM	3215.6	871.0	.8	3.2	3.2	1.6	8.1	12.9	18.5	41.9	9.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
PHXPD	2086.5	420.4	1.1	2.2	11.1	14.4	55.6	15.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
GB	.0	.0	2.0	2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
ASU	2533.5	1071.4	2.0	12.0	6.0	6.0	20.0	14.0	20.0	16.0	4.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
FEBRUARY																						
NWS	4116.2	1147.5	.0	1.8	2.7	4.5	2.7	4.5	7.3	8.2	21.8	25.5	18.2	2.7	.0	.0	.0	.0	.0	.0	.0	.0
DSET	4152.2	1363.2	.9	2.7	3.5	4.4	3.5	3.5	7.1	8.0	14.2	17.7	23.0	11.5	.0	.0	.0	.0	.0	.0	.0	.0
GM	4231.0	1018.2	.0	.0	.9	4.5	3.6	5.4	6.3	9.9	22.5	20.7	23.4	2.7	.0	.0	.0	.0	.0	.0	.0	.0
PHXPD	2649.9	688.0	2.4	.0	4.8	5.3	15.5	33.3	31.0	4.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
GB	6090.0	857.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	25.0	50.0	.0	.0	.0	.0	.0	.0	.0	.0
ASU	4295.2	1015.4	.0	.0	.0	4.2	6.3	6.3	.0	8.3	18.8	29.2	27.1	.0	.0	.0	.0	.0	.0	.0	.0	.0
MARCH																						
NWS	5434.2	1268.5	.0	.0	.8	1.6	1.6	2.4	4.0	5.6	.8	9.7	16.1	13.7	25.0	14.5	4.0	.0	.0	.0	.0	.0
DSET	5388.5	1522.8	.0	.8	2.4	.8	1.6	3.8	3.2	4.0	4.0	5.6	12.9	14.1	20.2	15.3	7.3	.0	.0	.0	.0	.0
GM	5454.9	1200.4	.0	.0	.0	.0	3.2	4.8	3.2	4.0	4.0	5.6	17.7	19.4	21.0	16.9	2.4	.0	.0	.0	.0	.0
PHXPD	3391.8	767.2	.0	1.1	1.1	4.3	6.5	10.8	23.8	30.1	17.2	3.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
GB	6031.0	800.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	12.0	22.0	25.0	32.0	.0	.0	.0	.0	.0	.0
ASU	5254.0	1159.3	.0	.0	.0	2.4	.0	4.8	2.4	7.1	.0	.0	14.3	14.3	22.5	21.4	4.8	.0	.0	.0	.0	.0
APRIL																						
NWS	6841.8	1133.0	.0	.0	.0	.8	.0	.8	.8	.0	2.5	2.5	3.4	6.8	8.5	10.2	30.5	29.7	3.4	.0	.0	.0
DSET	6890.6	1454.5	.0	.0	.8	.8	.8	3.4	.8	.0	2.5	1.7	1.7	4.9	5.8	13.4	21.8	28.6	13.4	.0	.0	.0
GM	6779.5	1149.4	.0	.0	.0	.8	.0	.8	.8	.0	2.5	1.7	2.5	3.3	11.7	11.7	29.8	30.7	1.7	.0	.0	.0
PHXPD	4056.1	845.7	.0	.0	1.3	1.3	5.1	7.7	6.4	5.1	46.2	21.8	2.6	.0	.0	.0	.0	.0	.0	.0	.0	.0
GB	7122.8	569.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	10.3	13.4	10.3	58.6	17.0	.0	.0	.0	.0
ASU	6685.7	1075.7	.0	.0	.0	.0	.0	.0	3.8	.0	3.4	.0	.0	11.5	11.5	7.4	50.0	11.5	.0	.0	.0	.0
MAY																						
NWS	7774.0	1069.5	.0	.0	.0	.9	.0	.0	.9	.0	.0	.0	.9	1.8	5.5	4.6	7.3	13.8	51.4	11.0	.0	.0
DSET	7718.8	1235.5	.0	.0	.0	.8	.0	.8	.0	.8	.8	2.4	.8	2.4	6.5	11.3	13.7	26.3	21.0	.0	.0	.0
GM	7655.5	1068.2	.0	.0	.8	.0	.0	.0	.0	.0	1.6	.0	.8	3.2	4.8	8.1	23.4	46.8	8.5	.0	.0	.0
PHXPD	5787.3	1610.7	.0	.0	.0	1.1	.0	1.1	2.3	3.3	16.4	20.0	32.2	32.2	32.2	32.2	16.7	46.8	8.5	.0	.0	.0
GB	7674.5	1047.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
ASU	7593.1	1092.1	.0	.0	.0	1.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
JUNE																						
NWS	8324.1	835.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.8	.0	.0	.0	.0	7.0	5.3	36.0	47.4	1.8	.0
DSET	8324.3	734.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.8	.0	1.7	.0	.0	4.0	10.5	30.5	43.3	.0	.0
GM	8100.0	752.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	4.0	10.5	30.5	43.3	.0	.0
PHXPD	5974.5	1226.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	4.8	9.8	35.7	17.8	.0	7.0	10.5	30.5	43.3	.0	.0
GB	8100.8	734.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
ASU	7852.8	871.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.3	1.3	.0	.0	.0	.0	.0	.0	.0	.0	.0

ALL DAYS

STATION	MEAN	STDV	500	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	9000	9500	10000
JULY																						
NWS	7294.6	930.8	.0	.0	.0	.0	.0	.0	.0	1.1	.0	1.1	3.2	7.5	3.2	11.3	18.3	35.5	16.1	2.2	.0	.0
OSET	7333.9	1067.3	.0	.0	.0	.0	.0	.0	.0	1.1	1.1	3.2	3.2	5.4	4.4	11.3	18.3	27.5	16.1	2.2	.0	.0
GM	7096.7	1035.5	.0	.0	.0	.0	.0	.0	.0	1.1	1.1	3.2	3.2	5.4	4.4	11.3	18.3	27.5	16.1	2.2	.0	.0
PHXPD	4877.4	1222.2	.0	.0	.0	.0	.0	3.3	8.9	12.2	16.7	27.8	3.3	4.4	4.4	12.2	25.6	35.5	16.1	2.2	.0	.0
GU	7203.3	1084.3	.0	.0	.0	.0	.0	.0	.0	3.2	3.2	3.2	3.2	4.4	4.4	12.2	25.6	35.5	16.1	2.2	.0	.0
ASU	7014.3	1083.4	.0	.0	.0	.0	.0	.0	.0	3.6	3.6	3.6	3.6	4.4	4.4	12.2	25.6	35.5	16.1	2.2	.0	.0
AUGUST																						
NWS	7043.9	846.3	.0	.0	.0	.0	.0	1.1	.0	1.1	1.1	1.1	1.1	4.3	.0	22.3	42.4	21.7	3.3	.0	.0	.0
OSET	7170.9	906.6	.0	.0	.0	.0	.0	.0	1.1	1.1	1.1	1.1	1.1	4.3	.0	22.3	42.4	21.7	3.3	.0	.0	.0
GM	7091.3	740.5	.0	.0	.0	.0	.0	.0	1.1	1.1	1.1	1.1	1.1	4.3	.0	22.3	42.4	21.7	3.3	.0	.0	.0
PHXPD	4760.5	1066.4	.0	.0	.0	1.1	1.1	1.1	1.1	18.7	27.5	23.1	3.3	1.1	1.1	11.3	38.7	29.0	9.7	.0	.0	.0
GB	6628.1	984.0	.0	.0	.0	.0	.0	.0	3.2	3.2	6.5	6.5	3.0	.0	16.1	35.5	29.0	9.7	.0	.0	.0	.0
ASU	6993.4	704.0	.0	.0	.0	.0	.0	.0	.0	2.0	.0	.0	2.0	.0	7.8	33.3	37.3	9.7	.0	.0	.0	.0
SEPTEMBER																						
NWS	5675.0	1131.3	.0	.0	.0	1.1	3.3	2.2	1.1	2.2	2.2	6.7	5.6	21.1	43.3	11.1	.0	.0	.0	.0	.0	.0
OSET	5844.0	1160.0	.0	.0	1.1	1.1	2.2	1.1	1.1	1.1	2.2	4.4	6.7	13.3	37.8	26.7	1.1	.0	.0	.0	.0	.0
GM	5739.1	1170.7	.0	.0	1.1	1.1	2.2	1.1	1.1	1.1	2.2	1.1	6.7	13.3	37.8	26.7	1.1	.0	.0	.0	.0	.0
PHXPD	3938.6	1520.2	.0	1.1	1.1	1.1	1.1	2.2	4.5	11.4	21.6	11.4	10.2	14.5	17.0	20.5	.0	.0	.0	.0	.0	.0
GB	5623.9	1412.6	.0	.0	.0	1.1	3.3	2.2	1.1	.0	.0	.0	10.2	14.5	17.0	20.5	.0	.0	.0	.0	.0	.0
ASU	5354.0	1291.5	.0	.0	.0	1.8	3.5	5.5	.0	.0	7.3	1.8	14.5	25.5	32.7	5.5	.0	.0	.0	.0	.0	.0
OCTOBER																						
NWS	4724.3	803.8	.0	.0	1.1	1.1	.0	3.2	2.2	4.3	20.4	25.8	30.1	11.8	.0	.0	.0	.0	.0	.0	.0	.0
OSET	4838.8	961.7	.0	.0	2.2	.0	1.1	2.2	1.1	4.3	12.9	29.0	21.5	22.6	2.2	1.1	.0	.0	.0	.0	.0	.0
GM	4850.5	880.2	.0	.0	.0	1.1	.0	4.6	2.3	5.7	10.3	28.7	23.0	22.6	1.1	.0	.0	.0	.0	.0	.0	.0
PHXPD	3351.4	1018.1	.0	2.3	3.4	.0	13.6	15.0	26.1	12.5	6.8	15.9	1.1	1.1	1.1	16.7	.0	.0	.0	.0	.0	.0
GB	4548.3	1113.9	.0	.0	.0	.0	3.4	16.7	3.4	.0	3.4	3.4	15.3	15.3	.0	.0	.0	.0	.0	.0	.0	.0
ASU	4441.3	943.9	.0	.0	.0	3.4	3.4	3.4	3.4	8.5	23.7	23.7	15.3	15.3	.0	.0	.0	.0	.0	.0	.0	.0
NOVEMBER																						
NWS	3655.2	537.6	.0	1.1	.0	.0	2.2	5.6	23.3	40.0	27.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
OSET	3834.6	608.0	.0	.0	1.1	.0	2.2	6.7	8.9	35.6	40.0	5.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
GM	3617.5	749.3	1.1	.0	.0	3.3	2.2	8.9	18.9	31.1	26.7	6.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
PHXPD	2712.3	651.3	1.1	.0	.0	3.4	4.5	28.4	11.4	10.2	4.5	10.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
GB	3912.3	512.7	.0	.0	.0	.0	3.3	3.3	20.0	30.0	36.7	10.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
ASU	3468.0	646.2	.0	.0	1.7	1.7	3.4	11.0	27.1	33.9	16.9	3.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
DECEMBER																						
NWS	2834.2	775.3	.0	6.6	4.4	4.4	6.5	12.1	63.7	2.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
OSET	2927.8	943.4	1.1	6.5	6.5	6.5	6.5	7.5	33.3	35.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
GM	2764.1	868.2	1.1	6.5	6.5	6.5	6.5	8.8	35.5	35.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
PHXPD	2086.7	705.7	1.1	6.5	6.5	6.5	6.5	12.1	37.3	41.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
GU	2882.3	962.2	.0	6.7	.0	.0	.0	8.8	37.3	41.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
ASU	2727.8	793.9	.0	5.1	6.8	5.1	6.8	28.8	37.3	41.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0