RESEARCH TRIANGLE INSTITUTE

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COASTAL-INLAND SOLAR RADIATION DIFFERENCE STUDY

Final Report

Walter D. Bach, Jr.
and
Fred M. Vukovich

Research Triangle Institute
Research Triangle Park, North Carolina 27709

April 1980

Prepared for the
United States Department of Energy
Division of Solar Energy

DOE Contract No. EG-77-02-4470

DISCLAIMER

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FOREWORD

This study on coastal-inland solar radiation differences and the potential affect of the sea breeze circulation on those differences was performed under contract to the U.S. Department of Energy under contract number EG-77-C-02-4470. In order to perform this study, a field program was initiated in the period 1978. Measurements were made of global, direct, and ultraviolet radiation from the sun and various meteorological parameters. The basic analysis of the field data was performed by the staff of the Geosciences Department of the Research Triangle Institute (RTI). Dr. Walter D. Bach, Jr. of RTI was project leader. Another portion of the analysis was performed under a subcontract to Duke University by Mr. Paul J. Gunthorpe to satisfy his thesis requirements for a Masters Degree in the School of Forestry and Environmental Studies. His thesis is presented in Appendix 3. Portions of the results of his thesis are also summarized in the body of the report.

RTI acknowledges the cooperation and support of Mr. Ed Foss and students at the Cape Fear Technical Institute; Mr. B. N. Ayscue, Superintendent of the Horticultural Crop Research Station at Clinton, N.C.; the personnel at the United States Marine Corps at Camp LeJuene; Mr. C. H. Eden; Mr. Wayne Rich, Manager of the Henderson Airport at Wallace; and Mr. John Lossie, Manager of the Ellis Airport. The National Weather Service at the Raleigh-Durham Airport provided GOES imagery and plots of coastal weather reports to the project.

SUMMARY

The purpose of this study was to quantify the characteristics of solar insolation in the coastal zone and to determine the effect of the sea breeze circulation on the global insolation. In order to satsify these objectives, the Research Triangle Institute (RTI) established a six station sampling network in the coastal plain of southeastern North Carolina (Figure 1), where previous evidence has indicated that the sea breeze circulation is almost a daily occurrence from late May through October. Three sites [Sloop Point, Onslow Beach, and Cape Fear Technical Institute (CFTI)] were located near the coast (coastal sites) to assess the insolation at the coast. A site (Clinton) was located in an area seldom affected by the sea breeze (about 100 km from the coast). Two additional sites, Wallace and Ellis Airport, located between the coastal sites and the control site, were to be used to assess the transient impact of the sea breeze upon the insolation. Pyranometers were located at each site to measure the global insolation. Direct normal insolation measured by a pyrheliometer and ultraviolet radiation measured by UV radiometers were observed at the Sloop Point and Clinton sites only. Data were collected during the calendar year 1978.

The results of the study indicated that the global insolation had greater variability over the network during the summer season (June, July, and August). During the summer, there was a systematic diurnal variation of the difference in global insolation between the inland and the coastal sites. These differences were statistically significant at 0.5% level according to the Students-t test in the hours 1100 to 1500 EST. The data indicated that there was a depletion of global insolation at the inland sites. The average depletion over the day was 4.9%, and the most significant depletion occurred in the period 1000 to 1600 EST and was 7.0%.

The deficit of global insolation at the inland sites also occurred in spring (March, April, and May) and fall (September, October, and November); but the differences in those seasons were not

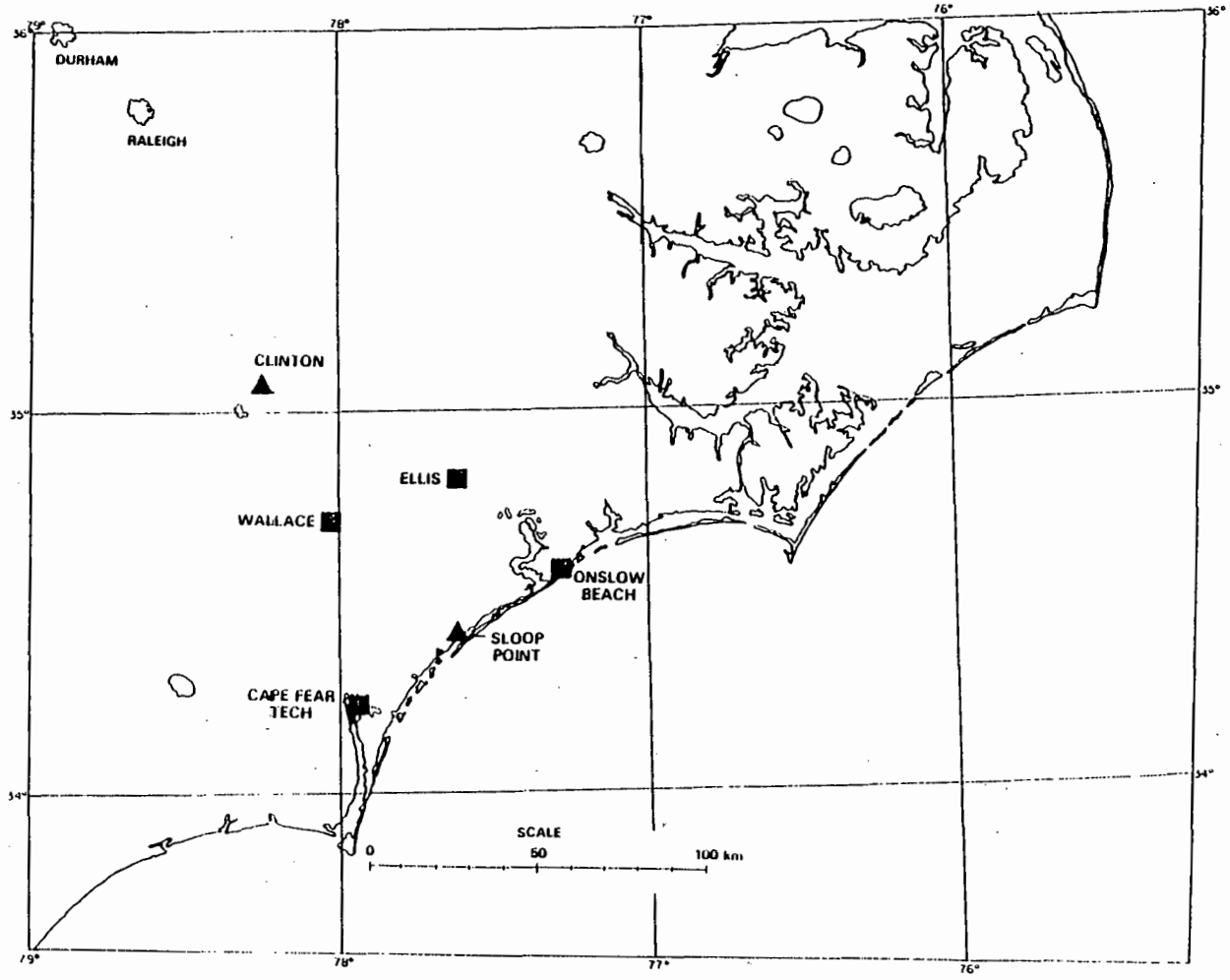

Figure 1. Sampling network for coastal-inland solar radiation study. All sites had pyranometers; the triangles refer to sites which also had pyrheliometers.

statistically significant at the 1% level. In the spring, there was an average 3.7% depletion between 1000 and 1600 EST. In the fall, the diurnal minimum occurred in the period 1100 to 1500 EST with an average depletion of 3.3%. Though the differences in the spring and fall were not statistically significant, the diurnal trends were similar to those in the summer season suggesting that these seasons may also be affected by the same phenomena influencing the summer. No diurnal depletion of global insolation was noted at the inland site or at any site in the wintertime (December, January, February).

GOES satellite data were used to identify 32 days in the period May through September 1978, when the study area was affected by the sea breeze. In the GOES imagery, the sea breeze was identified as a line separating a zone of cloudiness on the inland side from a zone of relatively clear skies on the coastal side. Sites behind the front consistently received 5.0% more global insolation than those ahead of the front irrespective of the cloud amount. The depletion of global insolation by cloudiness associated with sea breeze fronts, which had greater vertical extent and horizontal dimensions than air mass cumulus, was greater than that produced by air mass cumulus by 5 percentage points.

Twenty-four of the 32 days were in the summer. Global insolation data on those summer days showed a similar systematic diurnal trend as found in the summer season; i.e., there was a depletion of global insolation at the inland sites relative to both the coastal and Clinton sites. However, in the average of the 24 days, the depletion was noted in the period 1100 to 1700 EST, whereas in the summer season and in a data set containing all the remaining summer days in which sea breeze characteristics could not be identified, the depletion occurred in the period 1000 to 1600 EST. In the respective time periods, there was 7.8% depletion of global insolation on definite sea breeze days, 7.2% for the data set noted as all other summer days, and 7.0% for the summer season. The set of 24 sea breeze days also showed a depletion of global insolation at the Clinton and inland sites after 1600 EST. This effect was not noted in any other data set.

The 24 days identified as definite sea breeze days were probably days when the sea breeze circulation was very strong. This is supported by the persistence of the sea breeze until late in the day and by evidence that it may have affected the Clinton site. It is expected that only very intense sea breeze circulations would penetrate as far as 100 km inland.

Over the 24 days in the summer in which definite sea breeze characteristics were identified, the patterns and trends were similar to those in the summer season. This would suggest that the summer season was governed by the sea breeze circulation. Undoubtedly, the sea breeze circulation existed on many of the summer days in which definite sea breeze characteristics could not be identified. On those days, the maximum intensity of the sea breeze circulation may have been reached earlier in the day. This would explain the rather high percentage differences found in the period 1000 to 1200 in the data set noted as all other summer days compared to the data set in which definite sea breeze characteristics were identified.

The inland sites did not always fall within the realm of maximum cloud activity associated with the sea breeze front. The analysis of the days identified as definite sea breeze days indicated that most fronts passed through at 10 km band about 20 km inland from the coast. Furthermore, frontal passage at the inland sites occurred around 1500 to 1600 hours, a time when the sea breeze normally begins to dissipate. This would suggest that the depletion of global insolation experienced at the inland sites may not be the maximum amount of depletion associated with the sea breeze cloudiness.

There was a depletion of direct normal insolation at the Sloop Point site relative to the Clinton site in the spring and fall. The depletion amounted to 20.5% in the spring, and 23.2% in the fall. The depletion of direct normal insolation at the Sloop Point site was most pronounced in March and April and in October and November. There was no statistically significant differences in direct normal insolation between the coastal and inland site in the summer and winter.

An examination of the synoptic meteorological data during this period revealed no mechanism which could be responsible for the marked depletion in the spring and fall. Furthermore, no significant statistical differences were noted in the global insolation data between Sloop Point and Clinton in the spring and fall. In essence, the diffuse radiation made up for the loss in the direct normal insolation. This suggests that aerosols, water vapor, or even thin cirrus may be possible causes for the loss. To date, no adequate explanation for the cause of the marked depletion of direct normal insolation in the spring and fall have been determined.

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1.0 Introduction

The United States Department of Energy is conducting a comprehensive resource assessment of the availability of solar insolation (as an energy source) across the United States. This report treats aspects of the resource availability in the coastal-inland regions of the United States. Very little information on the characteristics of solar insolation along the coastal zone of the United States is available. Information on the insolation along the coastal zone is important because 60% of the nations population lives within 100 km of the Atlantic, Gulf, Great Lakes, and Pacific coasts. Consequently, greater energy demands exist within these highly populated areas.

It is important to understand those factors which might affect the solar insolation received at the surface in the coastal zone. One of the most significant factors affecting the solar insolation is the cloud cover associated with the sea breeze circulation. The sea breeze is a convective circulation system which under certain moisture conditions can produce extensive cloud cover which will inhibit the amount of solar radiation received at the surface in the coastal zone. In order to quantify the characteristics of solar insolation in the coastal zone and to determine the effect of the sea breeze circulation on the solar insolation, Research Triangle Institute (RTI) conducted a research program with the following specific objectives:

- Measure hourly average amounts of global, direct and ultraviolet solar insolation on the scale of the sea breeze circulation for twelve months.
- Analyze those data for the effects of sea breeze circulation on the measured differences.
- Develop methodologies to translate the results to other coastal locations.

Insolation measurements were made at six sites in the coastal plain of southeastern North Carolina during the calendar year 1978. In this region, the sea breeze circulation is most prevalent in the late spring and early summer months when a maximum temperature difference exists between the land and water surfaces, though weaker

sea breeze circulations may exist in the fall. Frequency of the sea breeze occurrences decreases toward the end of the warm season with the reduction of the land-sea temperature difference. The sea breeze front in this region is characterized by tall and dense cumulus clouds when sufficient water vapor exists. It is these cloud systems that can have significant effect on the solar radiation received at the surface.

2.0 Research Plan

2.1 Network Design

A six station sampling network (Figure 1) was established in the coastal plain of southeastern North Carolina, where Hinn (1978) has indicated that the sea breeze circulation is a nearly daily occurrence from late May through October. The area is well suited to study the effects of sea breeze circulation on insolation because there are few other factors that affect the insolation. The terrain is flat. The land is used for growing timber or farming which generally have no affect on a large local circulation such as the sea breeze. Inland marsh lands are largely uninhabited and have an abundant moisture supply. Heavy industry and population centers are distant so local pollution is not a factor in the insolation. The coast line, oriented northeast to southwest is reasonably uniform, broken only by occasional bays and inlets.

Three sites, Sloop Point, Onslow Beach, and Cape Fear Technical Institute (CFTI), were located near the coast to assess the insolation at the coast. A site was located at Clinton, an area seldom affected by the sea breeze. Two additional sites, Wallace and Ellis Airport, were located between the coastal sites and the Clinton site, and were to be used to assess the transient impact of the sea breeze upon the insolation.

Sites were chosen on the basis of field of view, the availability of electrical power, and the availability of a secure but accessible location. A specific description of each station follows.

CLINTON - This station was located on the Horticultural Crops Research Station of the North Carolina Department of Agriculture about 6 km northeast of Clinton, North Carolina and was used as the primary control site. The site is approximately 100 km from the coast and is approximately 400 m south-southwest of the main buildings of the research station, about 5 m from an access road, and adjacent to a 1.2 m high row of myrtle bushes. The instruments were located on top of the shelter about 2 m above the ground. A pyranometer was mounted to the south, a pyrheliometer towards the north, with a UV radiometer between (see Figure 2). The site has excellent exposure to all sides. The tallest trees are approximately 15 m high and 150 m to the south-southeast of the site.

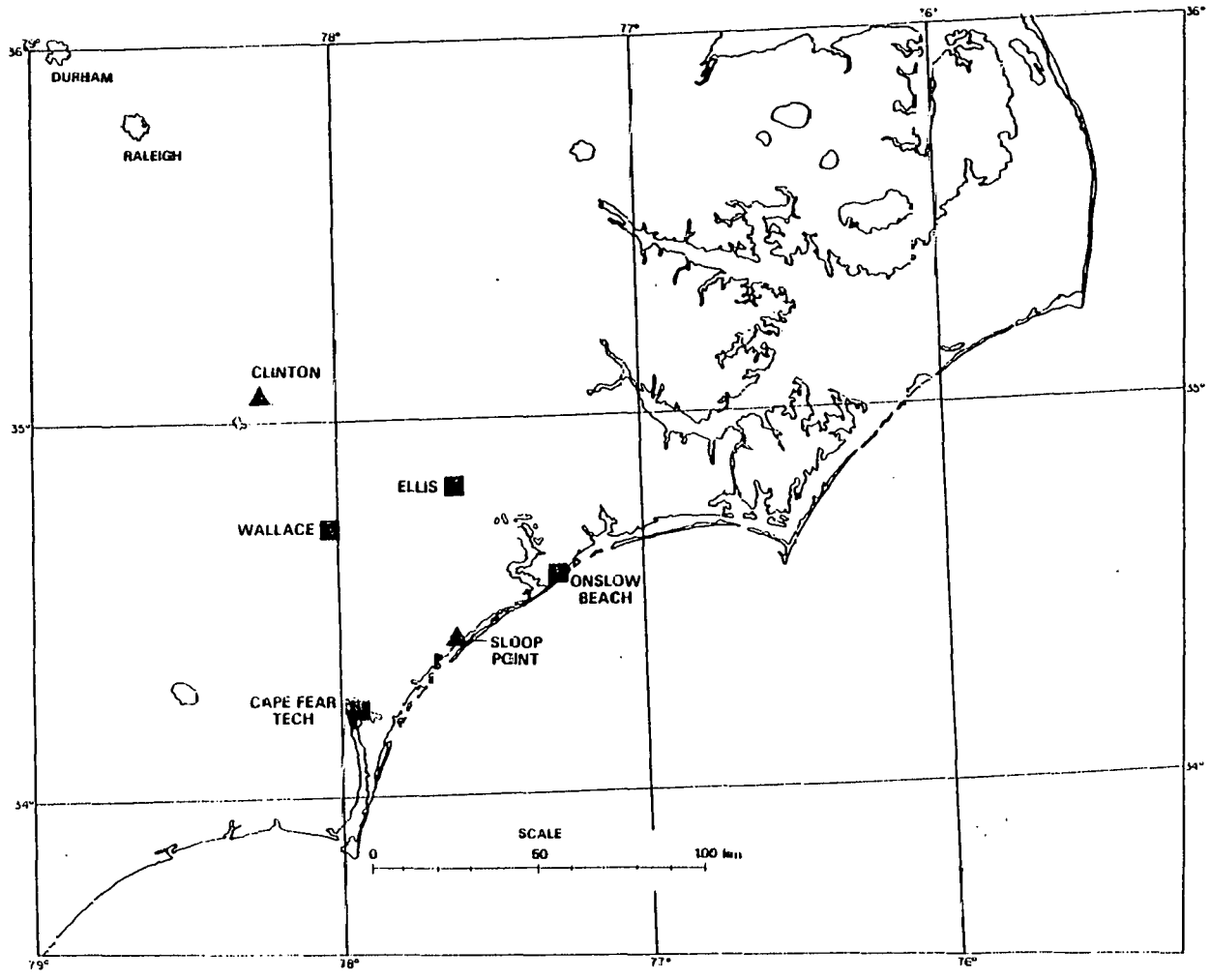

Figure 1. Sampling network for coastal-inland solar radiation study. All sites had pyranometers; the triangles refer to sites which also had pyrheliometers.

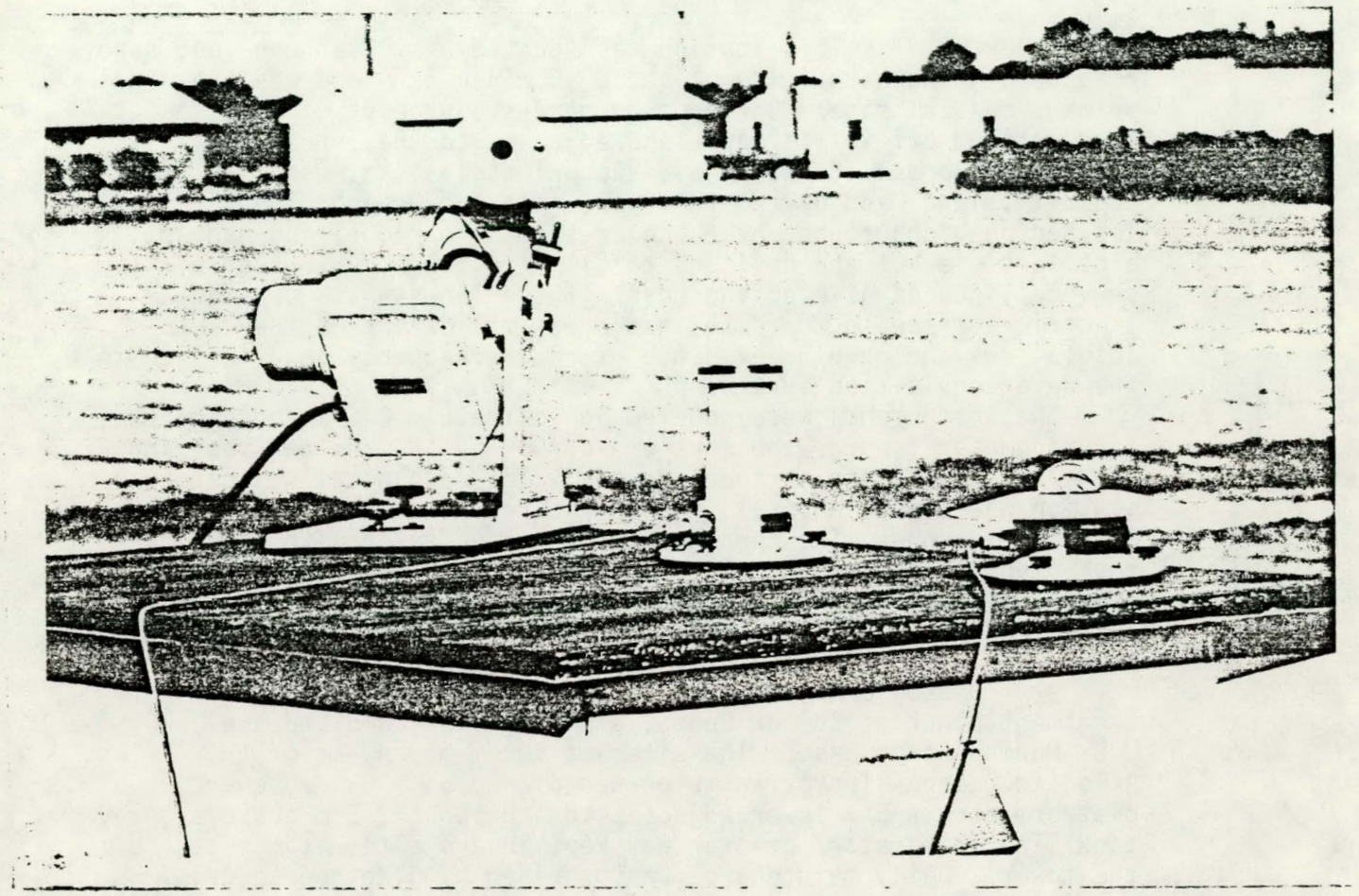

Figure 2. Instrumentation at the Clinton Site. To the left is the pyrheliometer; center, the UV radiometer; and right, the pyranometer.

A mechanical weather station was set up 20 m north-northwest of the shelter with excellent exposure for air flow from all directions. The anemometer was approximately 3 m above ground. The station was exceptionally well maintained because of the active interest of the station attendant and that of the research station superintendent.

SLOOP POINT - This station was located beside an unpaved, sandy road separating cornfields on the C. H. Eden farm and was the primary coastal site. One hundred meters southeast of the site, the land dropped off into a marshland adjacent to the Intercoastal Waterway. Across the waterway, approximately 4 km, was Topsail Island, and beyond that, the Atlantic Ocean. The site was located on high ground, near the crest of the ridge, and had an excellent view of the horizons to all directions. Overhead utility service lines paralleled the road. These lines which provided electric service to the site, had a minimal affect on the insolation, and gave no evidence of radio frequency interference in the data acquisition systems.

The instruments were mounted approximately 2.5 m above ground, a pyranometer towards the southern corner of the shelter roof and a pyrheliometer to the northern corner. The mechanical weather station was placed about 15 m down the road towards the water and 3 m above ground. The corn crop never interferred with the instrument exposure. Lacking rainfall in June and July, the plant growth was stunted, never growing more than 1 m high.

ONSLOW BEACH - This site was located at the sewage treatment plant at Onslow Beach, a part of the Camp LeJeune, U.S. Marine Corps Base. The site was 100 m northwest of the Atlantic Ocean. The pyranometer was placed on a 0.4 m square platform atop a 5 m tower adjacent to and about 2.5 m above a spray tank. The integrator/ printer was kept in a shelter at the base of the tower. Daily maintenance was provided by plant personnel, usually in the afternoon. The site had excellent exposure to the horizon in all directions. The ground albedo at this site is probably the greatest of any site in the study because of the white sand and the highly reflective metal roofs to the south of the site. However, the effect of reflections from roofs were minimized since the pyranometer was mounted at a high point along the beach above the roof tops. The effects of a water tower about 800 m northeast of the site upon the installation are not known.

CAPE FEAR TECHNICAL INSTITUTE - A pyranometer was located on a small platform 15 m above the water level on the southeast corner of the upper deck of the Albert Lennon Marine Laboratory at the Cape Fear Technical Institute (CFTI). The laboratory is a moored barge in the Cape Fear River, adjacent to downtown Wilmington, North Carolina, about 15 km inland (west) from the Atlantic Ocean. To the east and southeast two buildings extend more than 10° above the

horizon, but there were no obstructions to the south and west. The integrator/printer was located in a secure office one floor below the sensor. A CFTI student tended the station daily. The station is approximately 7 km south of the National Weather Service Office, New Hanover County Airport, Wilmington, North Carolina.

Since the barge is subject to oscillations because of occasional river traffic, a brief study of the effects of those oscillations upon an hourly integrated value was conducted. Regardless of the season, as long as the period of oscillation is less than 6 min., the integrated hourly error is less than one percent. The plane of the oscillation makes very little difference.

WALLACE - A pyranometer was located atop the one story terminal building of the Henderson Airport, Wallace, North Carolina, a site located about 55 km from the coast. The site has an unobstructed view of the sky from northeast to northwest. The local OMNI radio antenna and a utility pole with an attached mercury vapor lamp were located in the northern quadrant. The pyranometer cable lay across the roof of the building, entering a secure office through a conduit opening to the integrator printer. The site was tended daily by a local resident, charged with airport operations. The initial installation was completely destroyed on July 27 during an electrical storm. Damage apparently resulted from a line surge through the integrater printer, and the cable to the thermopile of the pyranometer. Spare units were installed promptly and remained in service throughout the rest of the field program.

ELLIS AIRPORT - A pyranometer was mounted atop an instrument shelter, approximately 20 m southeast of the middle marker on the approach to runway 05 at the Albert S. Ellis Airport near Richlands, North Carolina. This station was located about 45 km from the coast. Electric service was obtained through cooperation of the Federal Aviation Administration. The instrument was tended daily by airport security personnel making their routine checks, under the direction of the Airport Manager. In this location, the horizon was clearly visible in all directions with no obstructions to 3°.

2.2 Instrumentation

Eppley Precision Spectral Pyranometers (PSP) were used to measure the global insolation at all sites. Direct insolation was measured using an Eppley Normal Incident Pyrheliometer (NIP). Ultraviolet radiation was measured with an Eppley UV radiometer. Only two NIPs and ultraviolet radiometers were used in the field program, and these were located at the Clinton and Sloop Point sites. Each NIP was mounted on an electrically driven, polar axis tracking mount made by Eppley. The data were recorded using Eppley integrator printer units

(I/P). These units accumulated the input voltage in counts (1000 counts per hour is equivalent to a 10 mv output) for the hours from midnight to midnight. At predetermined intervals, the time and accumulated counts since midnight were printed on paper tape. The amount of energy incident upon the sensor at a given time period is proportional to the difference in the counts over that period. In normal operations, the data were printed hourly.

At Clinton, Sloop Point, Onslow Beach, and Ellis Airport, waterproof shelters were constructed to house the I/P units recording the insolation. In the winter, these shelters were painted dark green and were heated by a thermostatically controlled 100-watt lightbulb. In the summer, the sides were painted white and air was drawn through the shelters by a small fan to help maintain proper temperature conditions. At CFTI, the I/P units were housed in facilities provided for by CFTI; and at Wallace, in facilities at the Henderson Airport.

The tracking units for the pyrheliometers were aligned on the local meridian. At the minute of true solar noon, the shadow of a plumb line was permanently marked across the top of the instrument shelters at Clinton and Sloop Point. The base of the tracker unit was aligned along that line and was fastened to the top of the shelter. The pyrheliometer was mounted on the tracker and aligned in accordance with the manufacturer's instructions. The alignment was checked each morning and afternoon using the pin-hole and target spot that are a part of the instrument. Routine maintenance, described in Appendix 1, was scheduled as a daily responsibility of the station attendant. Adjustments to the declination angle were done on days with enough direct insolation to permit alignment using the pin-hole and target spot. The azimuth was readjusted by the field operator after power failures.

Mechanical weather stations manufactured by Meteorology Research, Incorporated were placed in the field at the Clinton and Sloop Point sites. This system measures wind run (miles of wind), wind direction, temperature, humidity, and rainfall. Slope of the wind run trace is proportional to wind speed. The temperature stylus is driven by a bimetal coil and the humidity stylus, by expansion and contraction of

beads of Zerex. Precipitation is measured in 0.01 inch increments by a tripping bucket gauge.

2.3 Quality Assurance

A two-phase data quality assurance program was carried out to insure the integrity of the field data. Before the field program, an intercomparison of all instruments and data acquisition systems was performed on the campus of RTI. One instrument of each type was calibrated at the National Oceanic and Atmospheric Administrations Solar Radiation Facility before field deployment. Those instruments were retained at RTI for periodic checks of in-field instruments and as spares in case of field instrument malfunction or failure. Upon completion of the field program, an intercomparison of all systems (instruments and integrator/printers) was conducted for three weeks at RTI. The reference instruments were returned to NOAA for recalibration.

In the intercomparison tests before the field program, the sensitivity of each non-calibrated instrument was determined by comparison with the calibrated instrument. Results of the intercomparison are presented in Table 1. The pyranometer sensitivities are consistently 3% lower than the manufacturer's value. The relative dispersion of the readings is about 1.3%. This dispersion includes the total system--pyranometer, integrator, and printer. Some of the variance arises from the sensor. A constant 10 mv was applied to each integrator/printer unit. In each hour, the I/P units responded with 992 to 1002 counts for a maximum of 0.8% departure from the expected count. Most I/P units showed less than 0.5% error in an hour.

When the instruments were returned from the field, a similar analysis was conducted for a three week period. The calibration of the reference instruments changed only slightly. Table 2 shows the calibration values for each of the major calibrations. The changes in the pyranometers and pyrheliometers is less than 1% which is considered within anticipated error. The 2% change in the UV calibration is also within the expected range. Based on these results, the derived calibrations for the sensors did not change.

TABLE 1. INSTRUMENT SENSITIVITY (S) DERIVED AND GIVEN BY THE MANUFACTURER FOR EACH INSTRUMENT AT EACH SITE

Instrument Type	Location	S* (derived)	S* (manufacturers)
Pyranometer	Onslow Beach	10.17	10.46
	Sloop Point	9.44	9.62
	CFTI	11.27	11.63
	Ellis Airport	10.99	11.09
	Wallace	11.00	11.23
	Clinton	11.00	11.24
	RTI	10.37†	10.61
Pyrheliometer	Sloop Point	8.85	8.85
	Clinton	8.29	8.29
	RTI	8.64†	8.70
UV Radiometer	Sloop Point	156	129
	Clinton	313	223
	RTI	153†	133

*Number of millivolts required for one watt/meter^2
†NOAA-ERL calibration

TABLE 2. CALIBRATION VALUES FOR THE REFERENCE INSTRUMENTS FOR THE TWO MAJOR CALIBRATIONS AND THE PERCENT DIFFERENCE BETWEEN THE VALUES

	Pyranometer	Pyrheliometer	UV Radiometer
Serial #	16142F3	16220E6	16374
Fall 1977	10.37*	8.64*	153.00*
Spring 1979	10.46	8.60	156.10
Percent Difference	0.86	0.47	2.03

*Units are millivolts/watt meter^{-2}

In-field calibrations were conducted during the first part of the field program. The reference instruments were removed from RTI and taken sequentially to each site. Sensor output was recorded on a dual pen strip chart recorder, and were integrated over the sample period, usually two hours. The instantaneous insolation recorded by each instrument was compared at quarter hourly intervals.

Each field station operator was thoroughly briefed upon proper station maintenance, i.e., daily cleaning of the optical opening of the instrument, daily check of the wiring, the dessicant, and the level of the unit. After performing these tasks, the time of day was recorded on the printer tape of each insolation instrument. The wind vane on the mechanical weather station was rotated through a full circle and the date and time were written on the strip chart. A daily log was maintained at each station (Figure 3). Also, a field station manual of operation was developed and kept at each location for reference (Appendix 1). Operators notified RTI whenever problems developed so that corrective maintenance could be performed.

2.4 Data Processing

Field insolation data and station logs were mailed to RTI by the station attendants twice each month. Each set of data was closely checked for consistency in the count values and in the time of the observation, especially when clocks are reset after power outages. After checking the data, the hourly count data were entered into a computer, stored on magnetic tape, and bulk processed. The processing essentially converted counts to energy, E (kJ/m^2), through the following formula:

$$E = 36\ \Delta C/S,$$

where ΔC is the increment of counts in the hour, and S is the instrument sensitivity determined by calibration.

Some of the I/P units were particularly sensitivity to intermittent signals which appeared on the power line. This typically caused increasing counts during the nighttime hours. In most cases, the counting was systematic and gave an approximate constant increment in counts during the nighttime hours. Lacking any further knowledge

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COASTAL-INLAND SOLAR RADIATION DIFFERENCE STUDY

DAILY LOG

STATION _____ OBSERVER _____ MONTH _____

SENSOR _____ SERIAL NUMBER _____ YEAR _____

DATE	TIME	DOME	DESSIC.	LEVEL	WIRING	DECLIN.	INITIALS	COMMENTS
				INITIAL EACH PRINTER TAPE DAILY				

Figure 3. Example of daily log at each station.

of the data, the same trends were presumed to persist during the daytime hours. To remove the trends, the mean hourly increment of energy was computed using the nighttime values and subtracted from both the nighttime and daytime values. Infrequently, but significantly, transient signals caused a spurious, large number of counts. To remove the effect of these transients, only the energy increment less than 100 kJ/m^2 for the PSP or the NIP were used to determine the mean trend. At least two more than half of the nocturnal hourly observations including otherwise missing data were required to compute the mean trend. When there were insufficient data to compute the trend, all hourly data values for that day were considered erroneous and were indicated as missing.

After the nocturnal trends were removed, all nocturnal values were set to zero and all daytime values less than $90/S$ kJ/m^2hr were also set to zero, i.e., for ΔC values generally less than 3. The remaining values were compared with an idealized maximum value for that month and hour. The value was determined as the insolation received through an atmosphere of optical depth 0.92 on the longest day of the month. Low solar altitude was handled by requiring the sine of the solar elevation angle to exceed 0.15 during daylight hours. The maximum UV irradiance was assumed to be 8 percent of the maximum global radiation. Data that exceeded these maximum values were flagged and examined for possible errors. This procedure provided a filter for spurious data resulting from transient signals. It also indicated timing errors that occurred when station operators recorded the wrong time. It was also helpful in identifying count values that may have been entered improperly into the computer. Unusual or extreme values were checked against original records and station logs, and were corrected when possible or designated as missing if there were no rationale for making a correction. Hourly values of incident radiation were plotted for each instrument for each month. Data and time of unusual patterns of insolation were identified and checked against the original records. Discrepancies or defficiencies in data were corrected. The availability of data in percent for each instrument at each station are given in Table 3.

TABLE 3. THE AMOUNT OF DATA AVAILABLE IN PERCENT OF TOTAL AT EACH SITE AND FOR EACH INSTRUMENT BY MONTH. EXPLANATIONS ARE GIVEN FOR MAJOR DATA LOSSES.

Instrument	Location	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	Average
Pyranometers (global insolation)	Onslow Beach	81	36[1]	70	78	74	87	78	39[2]	80[3]	95	98	80	75
	Sloop Point	76	76	98	95	99	95	76	96	81[3]	99	43[5]	79	81
	CFTI	89	29[1]	89	94	97	90	86	96	63[3]	96	92	99	86
	Ellis Airport	85	85	83	79	67[1]	77[1]	90	92	92	52[1]	66	95	80
	Wallace	89	86	86	94	92	91	75[6]	88[2]	98	98	99	94	91
	Clinton	97	96	87	97	99	90	90	98	77	98	94	97	93
Pyrheliometer (direct normal insolation)	Sloop Point	53	83	99	81[7]	94	82	61[4]	34[5]	25[5,3]	40[5]	80	63	66
	Clinton	26[4]	88	88	98	98	94	91	98	80	90	97	99	87
UV Radiometer	Sloop Point	70	69	99	99	–[8]	–[8]	97	95	66[3]	95	44[5]	92	69
	Clinton	97	99	75	97	–[8]	–[8]	99	97	96	98	97	99	80

[1] Integrator malfunctioned
[2] Printer malfunctioned
[3] Instrument down time due to severe weather (hurricane)
[4] Tracking unit malfunctioned
[5] Human factor
[6] Lightening damage to instrumentation
[7] Moisture problem inside lens
[8] Calibration problem

The data were also transferred to magnetic tape in the research-cooperative format of the National Climatic Center (NCC). The following WBAN numbers were assigned to the monitoring stations by NCC.

Clinton	93748
Wallace	93749
Wilmington (CFTI)	93750
Sloop Point	93751
Camp Lejeune (Enslow Beach)	93752
Jacksonville (Ellis Airport)	93753

These data will be available at NCC in that format at the close of this research project. Monthly summaries are presented in Appendix 2.

3.0 Global Insolation In The Coastal-Inland Zone

3.1 Seasonal Analysis

Correlation coefficients were computed using the hourly insolation values across the network for each season of the year (Table 4). The summer season included the months June, July, and August; the fall, September, October, and November; the winter, December, January, and February; and the spring, March, April, and May. Stations in the table are listed in order of their distance from the coast. The correlation coefficients are rather large for all seasons. In the fall, winter, and spring, correlation coefficients are greater than or equal to 0.86. The average correlation coefficient among all station pairs for the fall, winter, or spring was approximately 0.93 for each season. However, in the summer, the correlation coefficient seldom exceeded 0.86. The average correlation coefficient for the summer for all station pairs was approximately 0.84. The relatively high correlation coefficients in the fall, winter, and spring suggests that the insolation over the network had similar trends. The lower coefficients in the summer indicated that the summer data was more independent.

The data were stratified into three classes in order to simplify analysis: the COASTAL class (those stations within 15 km of the coast); the INLAND class (those stations from 16 to 70 km from the coast); and the CLINTON class (stations more than 70 km from the coast). The global insolation for the COASTAL class was defined as the mean of the hourly global insolation at Onslow Beach, Sloop Point, and CFTI sites. For the INLAND class, it was defined as the mean of the hourly global insolation at Wallace and Ellis Airport sites. The CLINTON class, in this case, refers to the measurements made at Clinton, North Carolina. This station was initially chosen as a reference location because it was expected that the site would be independent of coastal influences.

Seasonal mean differences between any two of the three coastal sites were computed for each hour. Statistical analysis indicated that the mean differences were not significantly different from zero. A similar analysis for the Wallace and Ellis Airport data also showed

TABLE 4. CORRELATION COEFFICIENTS CALCULATED USING THE HOURLY GLOBAL INSOLATION DATA FOR EACH STATION PAIR FOR EACH SEASON

Site	Onslow Beach	Sloop Point	CFTI	Ellis	Wallace	Clinton
Onslow Beach		0.86	0.82	0.84	0.81	0.79
Sloop Point	0.95		0.88	0.83	0.84	0.82
CFTI	0.92	0.95		0.86	0.85	0.83
Ellis	0.92	0.94	0.93		0.90	0.85
Wallace	0.89	0.92	0.92	0.96		0.88
Clinton	0.89	0.92	0.91	0.95	0.94	

SUMMER

SPRING

Site	Onslow Beach	Sloop Point	CFTI	Ellis	Wallace	Clinton
Onslow Beach		0.90	0.90	0.86	0.91	0.88
Sloop Point	0.95		0.98	0.92	0.96	0.95
CFTI	0.94	0.96		0.93	0.97	0.96
Ellis	0.91	0.92	0.87		0.93	0.93
Wallace	0.95	0.94	0.93	0.92		0.97
Clinton	0.91	0.91	0.91	0.90	0.95	

WINTER

FALL

that the mean differences were not significant. Results of the analysis indicated that the development of the COASTAL and INLAND classes using combined data were justified.

The normalized variance, D, was computed to quantify the variability of insolation across the network using data in the three defined classes for each season of the year. The parameter D was defined:

$$D = \frac{1}{12} \sum_{hr=7}^{18} \{(INLAND-CLINTON)_{hr}^2 + (COASTAL-CLINTON)_{hr}^2\}/CLINTON$$

When the insolation across the network is uniform for a given day, D is zero. However, when there is a large variability, D will be large. The values of D in Table 5 are ranked from low values to the high values for each season. The summer has the most variability compared to the other seasons across 99% of the rank. The values of D in the spring are not significantly different from that in the fall or winter, which show the least variability, across the first 75% of the rank. In the remaining 25% of the rank, the D-values in the spring are more like those in the summer season, suggesting the possibility that those days in the spring may be influenced by the same phenomena that influences the summer season.

The mean hourly differences of global insolation between the COASTAL and CLINTON classes and between the INLAND and CLINTON classes are shown for each season of the year in Figure 4. In each season, the COASTAL and CLINTON class differences are small and generally positive, and there is no apparent trend from season to season.

On the other hand, large variations are noted in the hourly differences between the INLAND and CLINTON classes. In the summer, the differences are negative (indicating a depletion of radiation at the inland sites) and are greater than those found in the other seasons. The spring differences are also negative and are larger than those found in the fall or winter. In the fall, the trends in both curves are nearly identical indicating that all sites were influenced by the same phenomena. Winter differences are small throughout the day. These data indicated that the principal differences occurring in the network are consistently between the COASTAL and INLAND classes.

TABLE 5. THE RANK DISTRIBUTION OF THE NORMALIZED VARIANCE D FOR EACH SEASON. THE LOWEST VALUE OF D HAS A RANK OF 1; AND THE HIGHEST, A RANK OF 81.

Rank	Winter	Spring	Summer	Fall
1	2.9	1.5	4.9	5.7
11	8.5	9.1	34.3	26.4
21	33.4	23.5	63.7	48.2
31	63.9	72.0	136.5	74.0
41	109.3	109.5	189.0	109.1
51	151.3	178.6	294.1	224.0
61	211.3	242.2	389.8	270.1
71	310.7	529.3	615.9	415.4
81	782.3	1,010.7	1,265.5	746.9

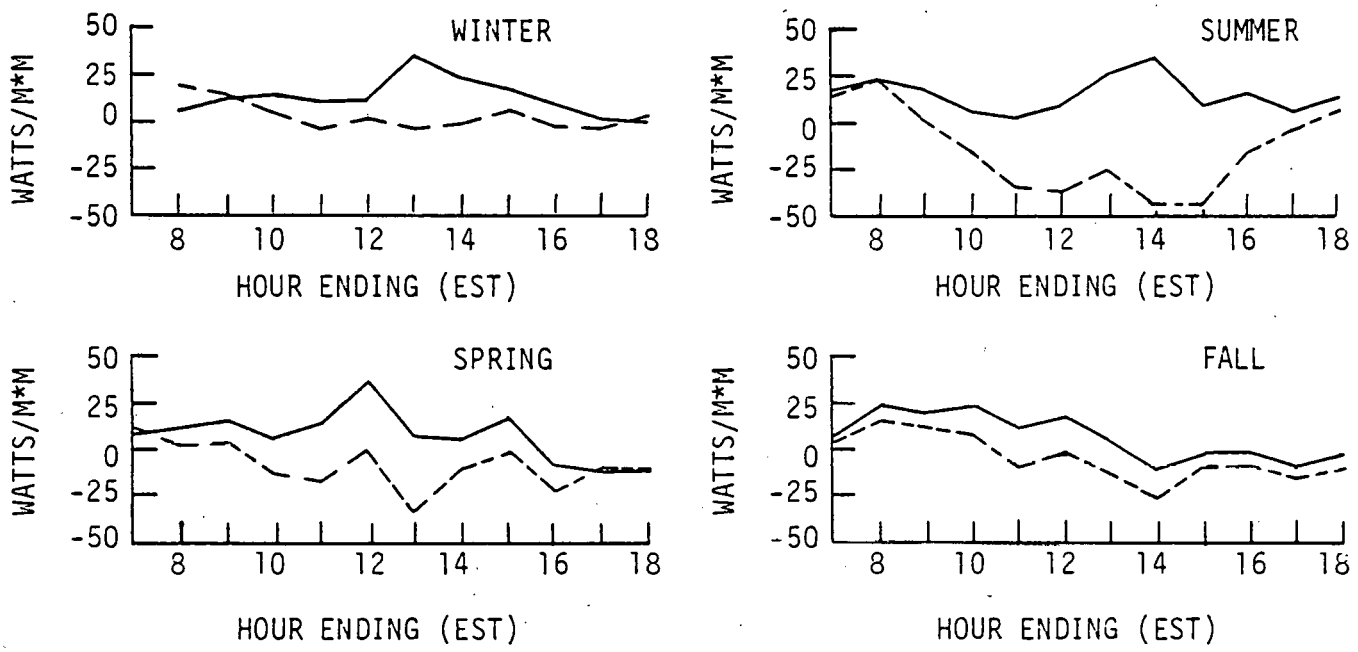


Figure 4. Mean hourly difference in global insolation between the Coastal and Clinton classes (solid line) and the Inland and Clinton classes (dashed line) for each season.

The mean hourly global insolation differences between the COASTAL and INLAND classes for each season are given in Table 6. In this case positive differences indicate a depletion of solar radiation at the inland sites. Systematic diurnal trends are noted in spring, summer and fall, but not in the winter. The winter diurnal pattern is reminescent of random noise. The maximum difference in the summer occurs at around 1400 EST and is the largest compared to all seasons. Spring maximum occurs at 1300 EST and the fall maximum at 1200 EST. The fact that the maximum occurs around mid-day suggests that the differences may be related to the available solar insolation. The Students-t test rejected at the 0.5% level the hypothesis that the mean hourly differences were zero in the summer between 1100 and 1500 EST, and at the 5.0% level, between 1000 and 1600 EST. In other seasons and particularly in the spring and fall, statistical significance at a low percentage level was not found in any time interval, but the hypothesis was rejected at the 1.0% level at 1300 EST in the spring and winter.

The hourly percentage difference between COASTAL and INLAND classes of global insolation relative to the COASTAL class is given in Table 7. Neglecting the values at low sun angle, the largest percentage depletion of global insolation at the inland sites (10.6%) occurs in the summer. The maximum percentage depletion at the inland sites in the winter is 8.2%. Though the winter period has the second largest percentage depletion of global insolation, it is associated with a diurnal difference pattern which does not have a systematic diurnal trend, suggesting that the value, though the difference is significant at the 1.0% level, may have a lower probability of recurrence. Of the seasons with diurnal patterns which were systematic, the spring season had the second largest (5.5%) followed by the fall (4.3%). The average depletion of global insolation in the summer over all hours was approximately 4.9%, that in the spring was 1.2%, and in the fall, 3.4%.

Figure 5 shows the hourly trend of global insolation across the

TABLE 6. MEAN HOURLY GLOBAL INSOLATION DIFFERENCES BETWEEN THE COASTAL AND INLAND CLASSES FOR EACH SEASON AND THE RESULTS FOR EACH HOUR OF THE STUDENTS-T TEST

Hour (EST)	Spring		Summer		Fall		Winter	
	Δ*	P†	Δ*	P†	Δ*	P†	Δ*	P†
0700	- 5.7	.138	1.1	.754	0.3	.768		
0800	9.4	.116	2.9	.670	6.3	.104	- 13.7	.0001
0900	10.6	.184	17.3	.093	4.8	.517	3.7	.474
1000	16.9	.149	31.2	.030	13.0	.214	7.4	.266
1100	27.4	.059	44.6	.0022	21.8	.083	10.6	.257
1200	33.3	.034	51.5	.0017	24.3	.027	3.0	.751
1300	38.0	.006	54.8	.0013	16.9	.125	37.4	.0004
1400	13.4	.292	78.4	.0001	14.0	.153	22.6	.013
1500	13.7	.203	48.6	.0031	7.5	.431	8.8	.221
1600	12.9	.22	30.8	.041	2.1	.762	11.2	.030
1700	- 1.3	.86	9.1	.363	2.9	.340	2.6	.360
1800	- 1.7	.67	3.9	.433	3.6	.050		

*Δ-mean difference, watts/meter^2

†P-probability of exceeding t

TABLE 7. MEAN HOURLY PERCENT DIFFERENCE IN GLOBAL INSOLATION BETWEEN THE COASTAL AND INLAND CLASSES FOR EACH SEASON

Hour (EST)	Spring	Summer	Fall	Winter
0700	-7.3	0.8	1.0	—
0800	4.4	1.0	5.0	-5.5
0900	2.8	3.7	1.8	2.7
1000	3.2	5.1	3.2	2.8
1100	4.3	6.1	4.3	2.9
1200	4.7	6.5	4.3	0.6
1300	5.5	6.9	3.0	8.2
1400	2.1	10.6	2.9	5.4
1500	2.6	7.6	1.9	2.6
1600	3.2	6.1	0.8	5.2
1700	-0.5	2.7	2.5	3.1
1800	-1.6	2.2	10.1	10.1

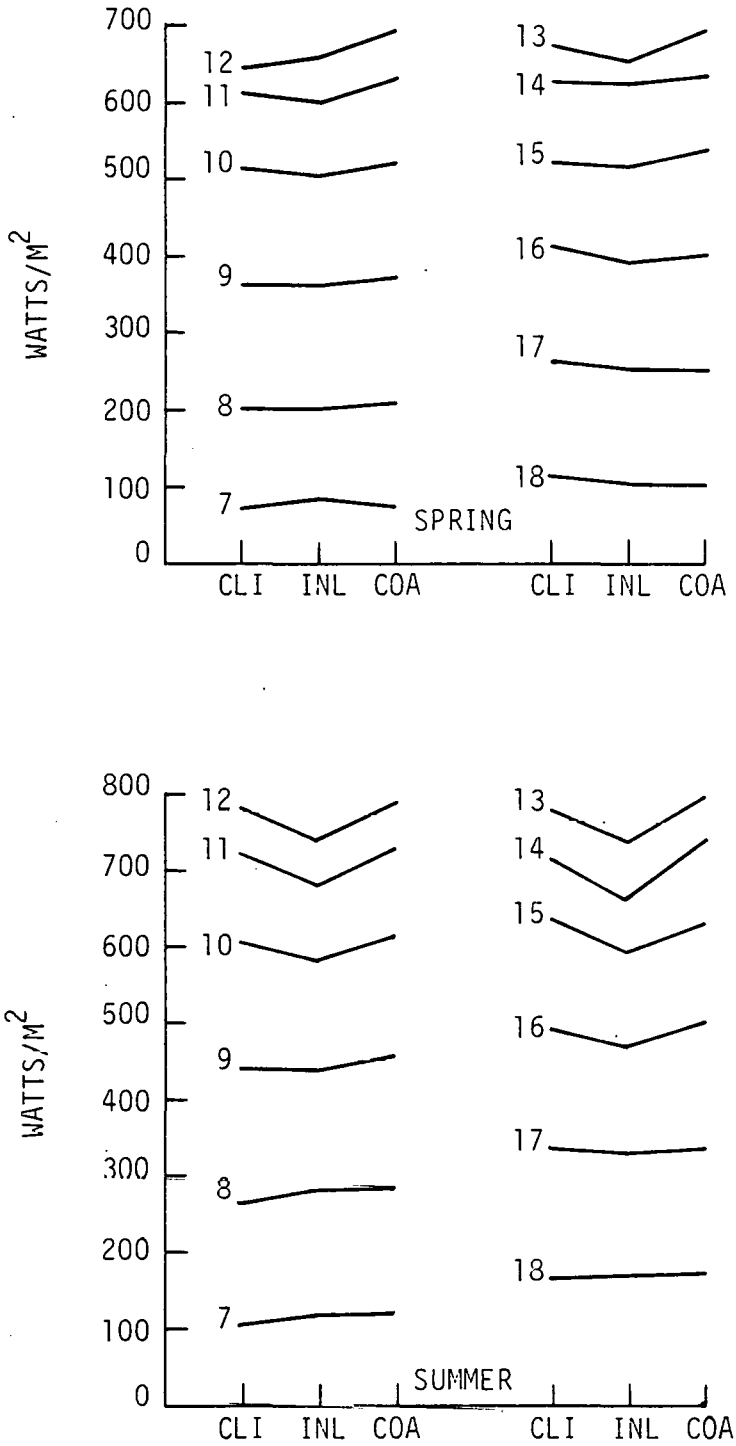
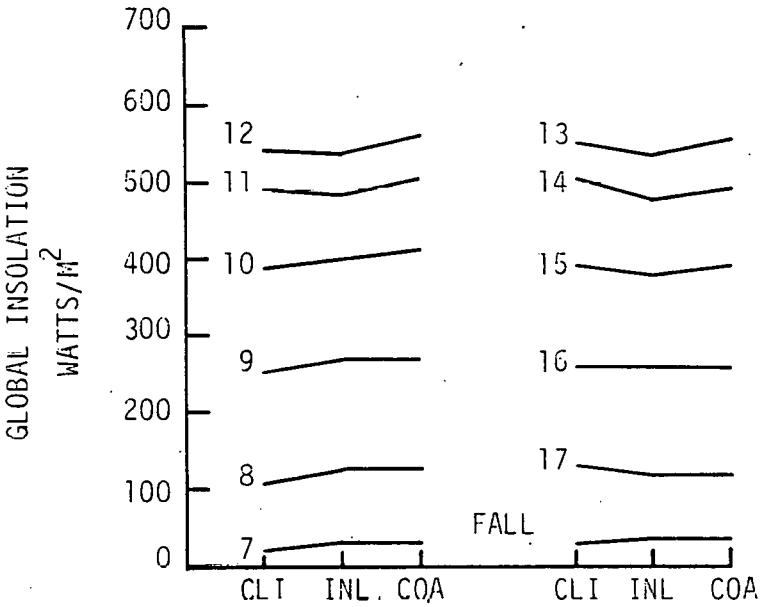


Figure 5. The mean diurnal variation of the trend lines for global insolation for the COASTAL, INLAND, and CLINTON classes for each season.



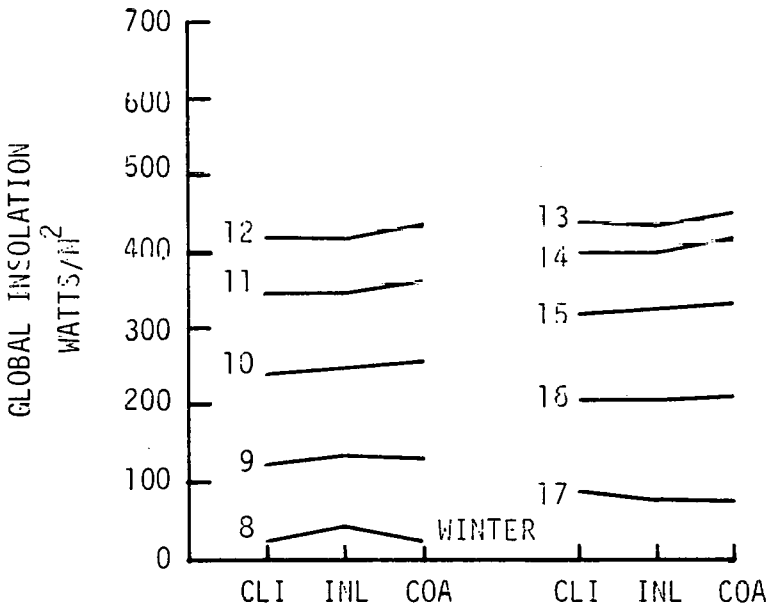


Figure 5. (continued)

three classes in each season. The figure shows that in the summer after 1000 EST, a local minimum develops at the INLAND class. The difference between the INLAND class and the other two classes reaches a maximum at 1400 EST. After 1400 EST, the differences diminish rapidly becoming insignificant after 1600 EST. In the period 1000 to 1600 EST, the average depletion of global insolation at the INLAND class relative to the COASTAL class is 7.0%.

A similar pattern is noted in the spring in the same time period. During the period 1000 to 1600 EST, there was an average 3.7% depletion of global insolation at the INLAND class. In the fall, the pattern was noted during the period 1100 to 1500 EST with an average depletion of global insolation during that period of 3.3%. In the winter, no such pattern was noted. Though the differences in the fall and spring are not statistically significant, the similarity in trends with the summer trend suggests a real effect with a mechanism similar to that found in the summer but having less intensity.

3.2 The Influence of The Sea Breeze Circulation On The Global Insolation

The data presented in the previous section indicate a systematic diurnal trend characterized by a localized minimum in the global insolation at the inland sites relative to the coastal sites and to the Clinton site in the summer, and to a lesser extent in the spring and the fall. As indicated earlier, the sea breeze circulation is a nearly daily occurrence from late spring through the summer and through part of early fall in the North Carolina coastal region. This suggests the potential that cloud systems associated with the sea breeze may be influencing the global insolation received at the inland sites. This section describes the results of a study specifically designed to determine the influence of the sea breeze circulation on the global insolation.

The sea breeze circulation is a circulation induced by the land-sea temperature difference. During the day, the land is heated more than the water due to differences in the specific heat of soil and water. The air over the land is heated through conduction and convection. Continuity demands that the rising air is replaced,

setting up a low level transport of air from the ocean to the land. The warm rising air over the land expands and sets up a localized zone of high pressure in the upper air. This produces accelerations in the the air aloft from the land to the water. The air over the water subsides. If the rising air over the land is moist, the potential exists to develop clouds.

As the circulation develops, it generally moves further inland. The extent of the penetration of the low level air from the ocean, which is generally cooler and more moist, is controlled by the air-sea temperature difference and strength of the prevailing flow. When the boundary between the oceanic cool, moist air and the warm, drier air over the land (the sea breeze front) passes a location, the wind direction changes abruptly to a direction consistent with air coming from the sea, the humidity increases, and the temperature decreases. In the afternoon, terrestrial cooling decreases the temperature difference between the air and the sea and the driving mechanism no longer exists. At this time, the circulation and the cloudiness associated with the sea breeze dissipates.

In order to identify the sea breeze, meteorological data from the National Weather Service Station in Wilmington, from the Ellis Airport, and from the Sloop Point and Clinton sites were examined for abrupt changes in the wind direction, for humidity increases, and for temperature decreases, that would signify the passage of the sea breeze front. Unfortunately, no systematic occurrence of the specific features associated with the passage of the sea breeze front could be identified in these meteorological data. The network needed to identify the sea breeze circulation requires significantly more observing stations then were used by or available to this study. A mesoscale wind, temperature, and humidity sampling network must be established to identify the sea breeze circulation. Because these kind of data were not available, the results of using the available meteorological data were fruitless.

The Wilmington National Weather Service Station has a WSR-57 weather radar which keeps a constant surveillance of 250 km radius about the city of Wilmington. Every five minutes, a 35 mm picture of

the PDI scope is taken. Those pictures were examined to identify the occurrence of sea breeze fronts by locating a line or group of convective cells generally thought to be indicative of that front. Examination of nine months of data did not reveal even a suggestion of the occurrence of the sea breeze.

However, definite sea breeze characteristics were identified on 32 days using GOES satellite data. The GOES satellite is a geosynchronous satellite positioned some 22,000 miles away from the earth. A geosynchronous satellite has an orbital speed identical to the rotation of the earth at the equator. Under these circumstances, the subsatellite point, the position of the satellite relative to a point on the earth, remains constant in time and space. Therefore, the satellite is able to collect synoptic scale data in the same region at essentially the same satellite look angle. The GOES satellite collects visible images from radiation in the 0.55 to 0.70 μm wavelength band and infrared images in the 10.5 to 12.6 μm band. The resolution of the visible data is 0.8 km, and that for the infrared data is 10 km. This satellite provides infrared and visible images for a given region on a half-hourly basis. The visible imagery were used to determine the sea breeze front.

In the imagery, air mass and sea breeze cumulus clouds were classified on the basis of the vertical extent as determined by their relative brightness and by the size of the convective cells. In most cases, cumulus convection over land appears as a pattern consisting of cumulus humulus and the more vertically developed cumulus congestus. In the satellite imagery, sea breeze front was defined as the line between the inland cloudiness and this typically cloud-free area on the seaward side (Figure 6). Generally, the sea breeze front was found inland from the coast. Clouds along the sea breeze front had greater relative brightness in the visible images which generally means they have either greater vertical depth or greater horizontal dimensions than the air mass cumulii found further inland from the sea breeze front.

Diurnal variation of the sea breeze cloudiness was also depicted in the GOES imagery. The cloudiness associated with the sea breeze

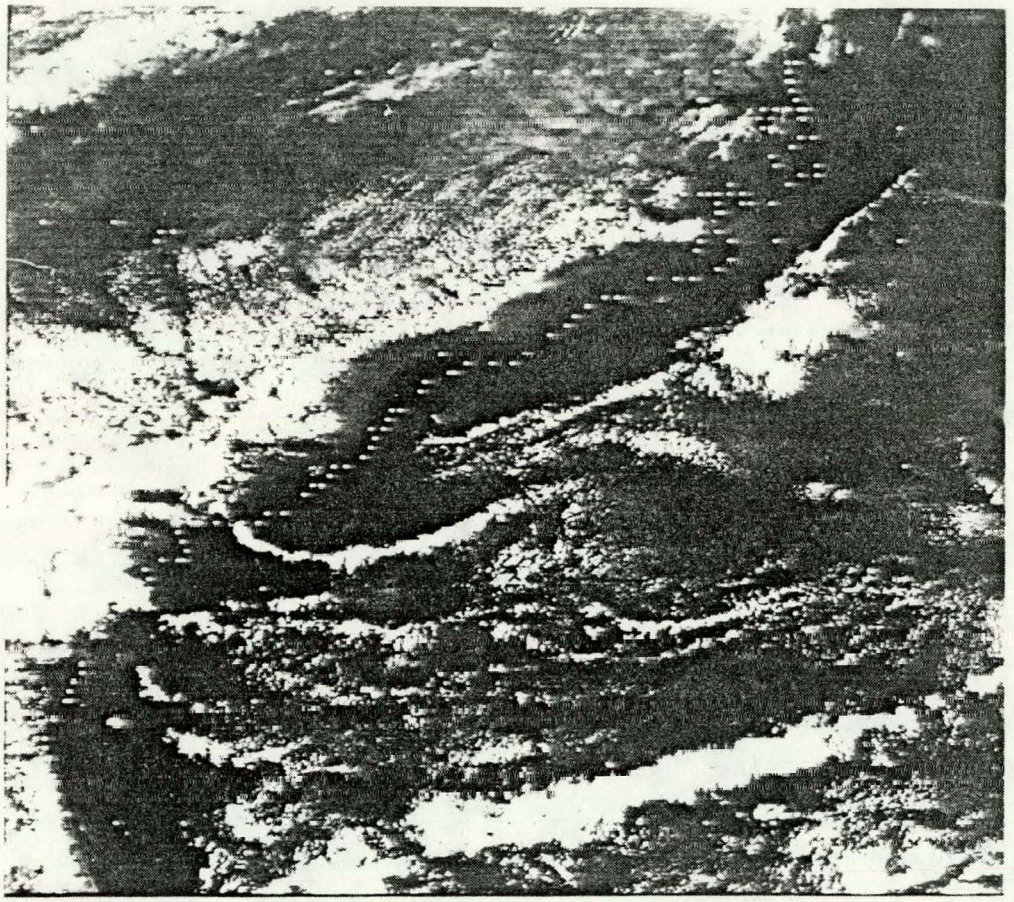


Figure 6. GOES visible image for 17 June 1978 showing the line of demarcation (the sea-breeze front) between the inland cloudiness and relatively clear skies at the coast.

front formed over the land somewhere between 0930 and 1000 EST near the coast. As the day progressed, the cloud cover seemed to increase in depth and horizontal extent, and the front moved further inland. Depending upon the circumstances, the line generally moved inland until about 1500 to 1600 EST in the afternoon. Thereafter, the line dissipated.

The satellite imagery was the sole basis on which the sea breeze front and the cloudiness associated with the sea breeze front could be determined. Only 32 days clearly showed the sea breeze in the period May through September 1978. The following describes the analysis of the satellite data and the global insolation data collected during that period.

3.2.1 Sea Breeze Characteristics

Characteristics of the sea breeze frontal passages were derived from the 32 sea breeze days. Sea breeze frontal passages were defined to occur when the seaward edge of the sea breeze cumulus cloud line passed over a given location and a clearing trend developed. The mean hour of sea breeze frontal passages relative to different locations in the area of the network is shown in Figure 7; and a summary of the time of sea breeze frontal passages and the number of occurrences for all six study sites is given in Table 8. These data indicate that in only about 42% of the cases did a sea breeze frontal passage occur at the inland sites (Wallace and Ellis Airport). Frontal passages generally occurred between 1500 and 1600 hours at the inland sites which is about the time the sea breeze begins to dissipate.

Based on the 32 cases available, the maximum number of sea breeze frontal passages occurred within a 10 km wide area, approximately 20 km inland from the coast (Figure 8). Fewer frontal passages occurred closer to the coast due to frontal development a few kilometers inland from the coast. These data indicate that the inland sites were located inland from the region of maximum sea breeze frontal activity and cloudiness associated with that frontal activity. Furthermore,

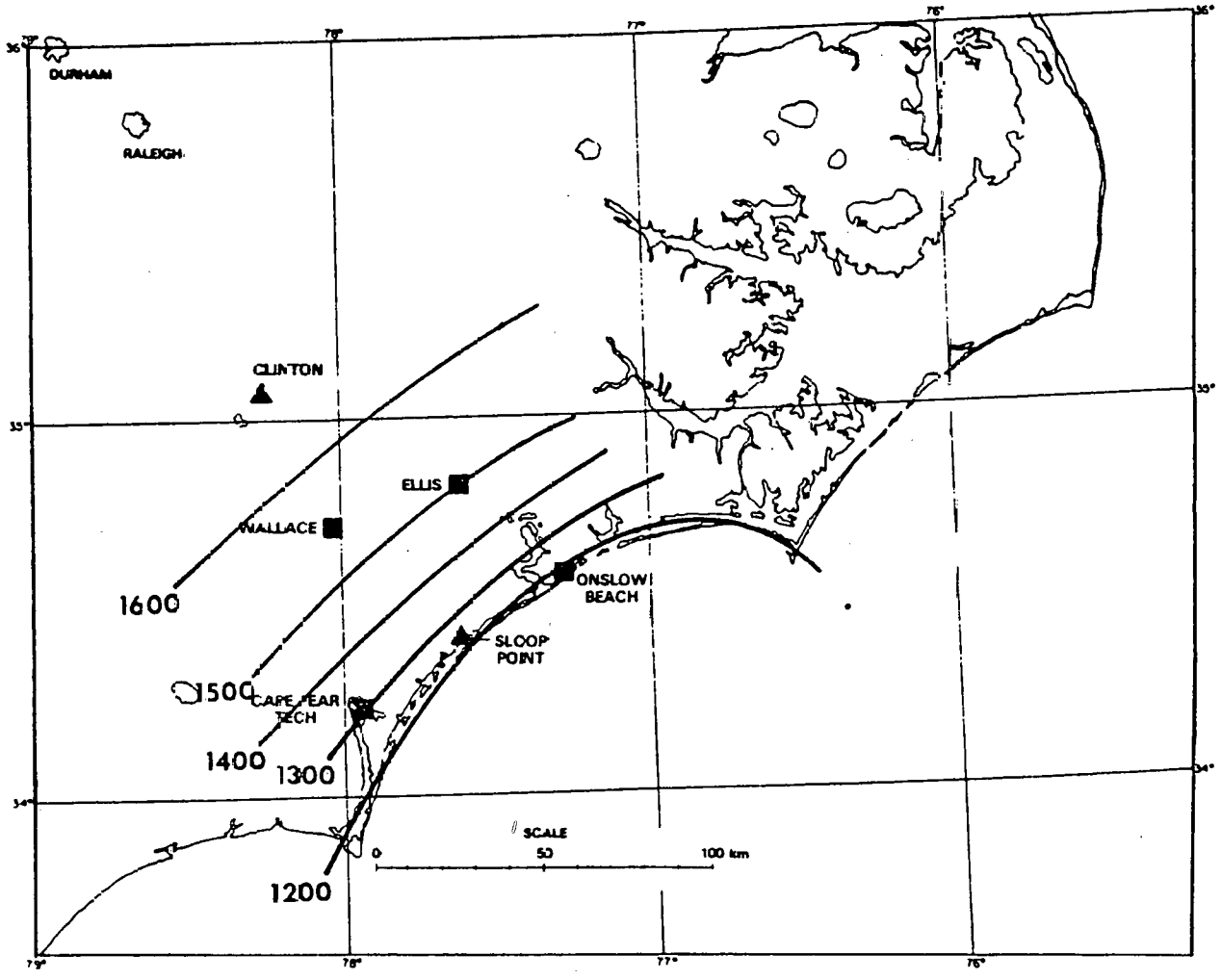


Figure 7. The spatial distribution over the network of the mean hour of sea breeze frontal passage based on the 32 days identified as sea breeze days using GOES data for the period May through September.

TABLE 8. SEA BREEZE FRONTAL PASSAGE TIMES AND NUMBER OF OCCURRENCES FOR SIX STUDY LOCATION SITES ORDERED IN INCREASING DISTANCE FROM THE COAST

Passage time (EST)	Site Location					
	Onslow Beach	Sloop Point	Cape Fear	Ellis	Wallace	Clinton
0600-1100	7	7	3	0	0	0
1100-1400	11	13	16	6	3	0
1400-1800	2	1	5	15	12	0

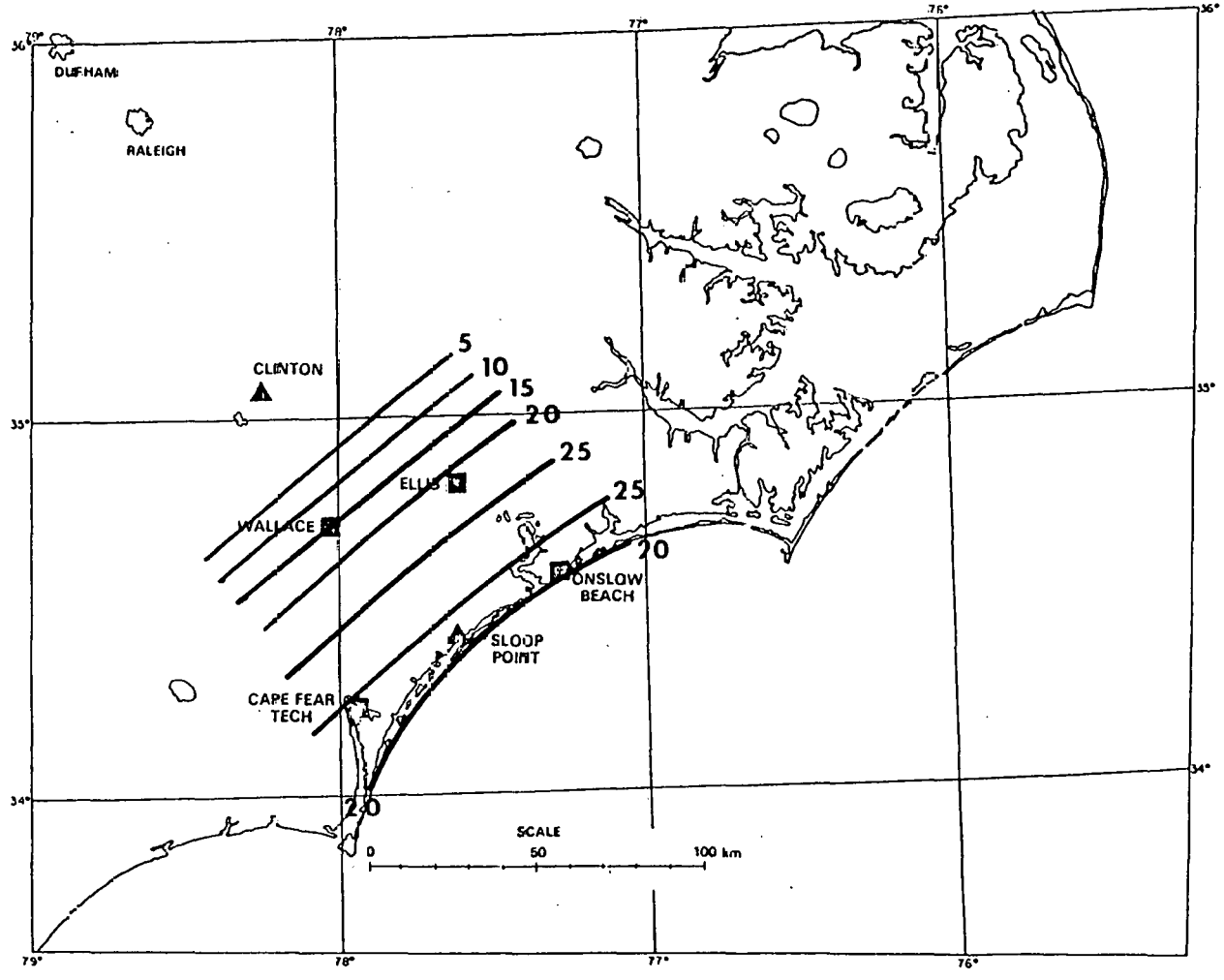


Figure 8. Frequency of occurrence in days of sea breeze frontal passage over the network based on the 32 days identified as sea breeze days using GOES satellite data in the period May through September.

the data suggests that the inland sites experienced sea breeze frontal passage around the time when the sea breeze was in its dissipation stage.

3.2.2 Sea Breeze Cloudiness Versus Global Insolation

Maximum monthly values of global insolation for each daylight hour were determined for clear sky conditions from the available data base on sea breeze days as defined by the GOES imagery. These values were used to produce a dimensionless quantity, Q^*, the ratio of the measured global insolation under a specific cloud amount to the clear sky global insolation for a given month and hour. The GOES imagery were used to determine cloud amounts. Cloud fields centered within a 20 km radius of each study site were used to determine the cloud amounts, a technique formulated by Avaste (1964). Estimates of the percentage of cloud cover over each of the study sites were made using a transparency placed over the imagery. This transparency included reference points for positioning, observation points marking locations of each of the study sites, and a 20 km radii circle centered on each of the observation sites. Visual estimates were made of the cloud amount in tenths of sky cover within these circles. This was done for both air mass and sea breeze cumulus clouds. Hourly cloud cover data were calculated by averaging cloud amounts measured from two half-hourly images taken during a particular hour.

A large number of cloud observations obtained during the late afternoon period made possible the comparison of the quantity Q^* for sea breeze and air mass cumulus. There was a depletion of global insolation by as much as 5 percent at locations under sea breeze cumulus relative to locations under air mass cumulus for cloud amounts ranging from 0.1 to 0.7 (Figure 9). Insufficient data prevented comparisons for cloud amounts greater than 0.7. The difference in Q^* for the two types of cumulus clouds are attributed to the greater vertical extent and horizontal dimensions of the sea breeze cumulus.

The value of Q^* associated with a constant amount of sea breeze cumulus cloud cover decreases with time of day. Increasing thickness of individual clouds in a sea breeze convergence zone with time of day resulted in the reduction of Q^* from 0.858 in the late morning and

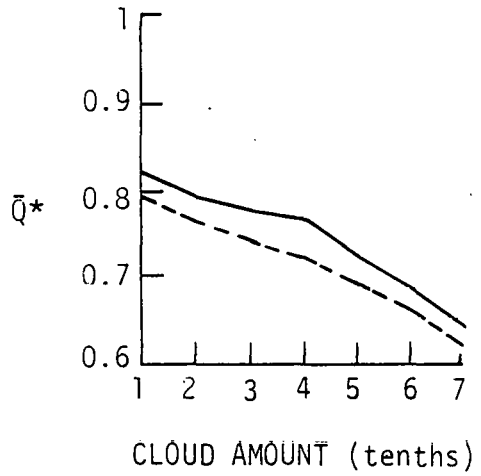


Figure 9. The value of $\bar{Q}^*$ versus cloud amount for air mass cumulus (solid line) and sea breeze cumulus (dashed line).

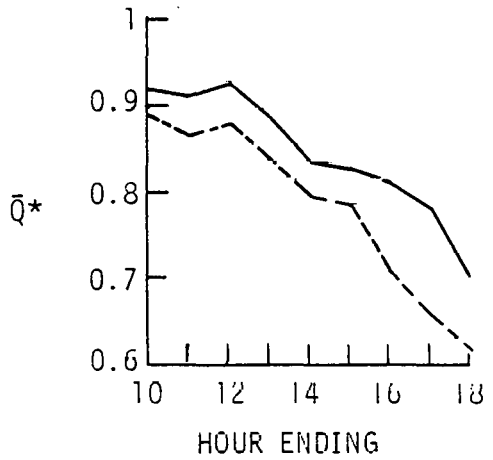


Figure 10. The value of $\bar{Q}^*$ versus hours in the day for locations ahead of (dashed line) and behind (solid line) the sea breeze front.

midday hours to 0.763 during the late afternoon hours for a less than 0.2 sky cover. Air mass cumulus clouds exhibit a smaller diurnal increase in vertical extent for small cloud amounts. The diurnal change in solar elevation angle along with small increases in cloud thickness for air mass cumulus clouds with less than 0.2 sky cover produces a corresponding diurnal change in Q^* from 0.897 in the late morning and midday hours to 0.807 in the late afternoon hours.

3.2.3 Global Insolation and Sea Breeze Frontal Passages

Sea breeze frontal passage was usually characterized by a marked decrease in cloud cover and an increase in global insolation at the sites behind the front. Locations behind the sea breeze fronts consistently exhibit larger Q^* values than those sites ahead of the front during the same hour of the day (Figure 10). The values of Q^* observed ahead of the front range from 0.886 to 0.622, and that behind the front, from 0.923 to 0.699. The difference between Q^* values ahead of and behind the sea breeze front increased with time of day after the midday period. This spatial difference in Q^* increases from 0.043 at 1400 EST to 0.105 at 1700 EST as a result of temporal increases in cumulus cloud amounts and in vertical extent of the cloudiness ahead of the front.

Global insolation values from the six site were distributed into three catgories. The coastal category were those values obtained when the sea breeze front was inland of the measuring site. The frontal category were those values obtained when the measuring site was directly influenced by the sea breeze frontal zone. The inland category included those values obtained from measuring sites which had not yet experienced sea breeze frontal passages. A subset of 14 of the 32 days were chosen which included days in which all three catgories were present. For each of these selected days, the mean global insolation was computed for each of the three categories and for three different time periods (0600 to 1100 EST, 1100 to 1400 EST, and 1400 to 1800 EST). Values of the global insolation for the three categories were then summarized in the form of trend lines for each of the three time periods. Mean global insolation gradients among the

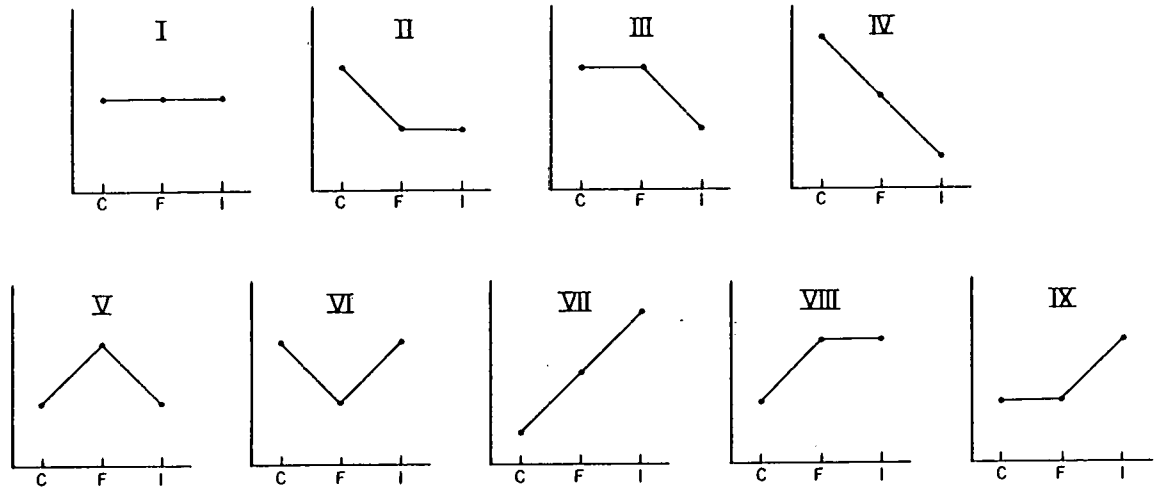
three categories were determined using a 5% threshold value. Nine classifications of trend lines are possible. The trend analysis results are summarized in Table 9.

The major trend occurring during the period 0600 to 1100 EST was classification I, occurring in approximately 60% of the cases. Classification I indicates less than 5% difference in the mean global insolation among the three categories. Between 1100 and 1400 EST, classification VI was most prevalent, occurring 43% of the time; and classification I also occurred in 29% of the cases. Classification VI is characterized by having lower levels of global insolation at the frontal sites. Classification VI occurs as a result of increased cloud cover with greater vertical extent along the sea breeze convergence zone. Classifications II and VI occurred most often (29% of the time) during the period 1400 to 1800 EST, with trend classification IV occurring 21% of the time. Trend classifications II and VI represent cases when the sea breeze front passes frontal sites relatively late in the day. In those cases when classification IV developed in the period 1400 to 1800 EST, the sea breeze front had passed a majority of the sites in the frontal category, and the frontal cloudiness remained close enough to those locations to reduce the global insolation under lower solar elevations.

3.2.4 Diurnal Variations of Global Insolation on Sea Breeze Days

The diurnal variation of the global insolation was examined on days when the sea breeze was definitely identified in the summer season (June, July, and August). This was done in order to compare diurnal trends established in this study with the summer seasonal trends discussed in the previous section. Of the 32 sea breeze days identified using the GOES satellite data, 24 occurred during the summer season. The mean hourly differences between the three previously defined classes-COASTAL, INLAND, and CLINTON-are given in Table 10. Also included is the percentage difference relative to the COASTAL class in the case of the COASTAL and INLAND class differences and the COASTAL and CLINTON class differences, and relative to the CLINTON class in the case of the CLINTON and INLAND class differences.

TABLE 9. TREND CLASSIFICATIONS OF GLOBAL INSOLATION ACROSS A SEA BREEZE FRONT AND THE FREQUENCY OF OCCURRENCE OF EACH TREND CLASSIFICATION BASED ON THE 14 DAYS THE SEA BREEZE WAS IDENTIFIED



	Trend Representations									
HOURS (EST)	I	II	III	IV	V	VI	VII	VIII	IX	Total
0600-1100	8	2	0	1	0	3	0	0	0	14
1100-1400	4	1	1	1	0	6	0	0	0	13
1400-1800	1	4	1	3	0	4	0	1	0	14

TABLE 10. MEAN HOURLY DIFFERENCES (Δ) IN GLOBAL INSOLATION (WATTS/METER^2) AND PERCENT DIFFERENCES (%Δ) FOR THE 24 DAYS IN THE SUMMER WHEN THE SEA BREEZE WAS IDENTIFIED

Hour (EST)	COASTAL minus CLINTON classes		COASTAL minus INLAND classes		CLINTON minus INLAND classes	
	Δ	%Δ	Δ	%Δ	Δ	%Δ
0700	16.8	11.9	3.6	2.6	-9.4	-7.3
0800	21.7	6.6	5.3	1.6	-16.1	-5.3
0900	20.3	3.9	2.8	3.9	-17.4	-3.5
1000	14.3	2.0	9.1	2.0	-5.3	-0.7
1100	-19.2	-2.4	22.5	2.8	41.6	3.1
1200	-15.9	-1.7	40.1	4.5	57.8	6.4
1300	6.5	0.7	60.4	6.8	42.8	4.9
1400	7.0	0.8	85.0	10.2	75.0	9.2
1500	15.8	2.1	49.1	6.8	24.6	4.2
1600	59.2	10.4	65.3	11.4	6.0	1.2
1700	32.4	8.2	46.9	11.9	14.5	4.0
1800	16.1	7.7	16.6	7.8	0.4	0.3

The data indicate that there is a systematic diurnal trend in the COASTAL and INLAND class differences similar to that found in the summer season discussed earlier in this section. The maximum difference occurred at 1400 EST; and the maximum percentage difference was at 1700 EST. The data indicated that the period of 1600 EST through 1800 EST have relatively high percentage differences. These values, to some respect, are influenced by the low sun angle. Overall, there appeared to be approximately a 6.0% depletion of global insolation at the inland sites.

A somewhat similar pattern was noted in the CLINTON and INLAND class differences in global insolation except that the high percentage differences noted late in the day were not apparent in these data. Although the COASTAL and CLINTON class differences do not show a systematic diurnal pattern, they do indicate large percentage differences in the period 1600 through 1800 EST. The data indicate that the phenomena causing large percentage differences in the period 1600 through 1800 EST was affecting the inland sites and Clinton producing a relatively large depletion of global insolation relative to the coastal sites.

The percent differences between the COASTAL and INLAND classes for the 24 summer sea breeze days and the percent difference between the COASTAL and INLAND classes for the remaining summer days are given in Table 11. Both data sets indicate a similar diurnal pattern. The COASTAL and INLAND class differences in global insolation (not the percent difference) were a maximum in both data sets at 1400 EST. However, the data set in which definite sea breeze characteristics were identified has the persistence of high percentage differences between 1600 and 1800 EST which does not occur in the remaining data. The percentage difference in the period 1000 to 1200 EST is about twice as large in the data set containing all the other summer days than that for the definite sea breeze days.

Figure 11 shows the diurnal variation of the trend lines for the COASTAL, INLAND, and CLINTON classes for those days when definite sea breeze characteristics were identified and for all other summer days. In the case where a definite sea breeze characteristics were

TABLE 11. MEAN HOURLY PERCENT DIFFERENCE IN GLOBAL INSOLATION BETWEEN THE COASTAL AND INLAND CLASSES FOR THE 24 DAYS IN THE SUMMER WHEN THE SEABREEZE WAS IDENTIFIED (%Δ) AND FOR ALL THE REMAINING SUMMER DAYS (%ΔR)

Hour (EST)	%Δ	%ΔR
0700	2.6	0.0
0800	1.6	0.0
0900	3.9	0.5
1000	2.0	6.7
1100	2.8	7.6
1200	4.5	7.4
1300	6.8	6.8
1400	10.2	10.6
1500	6.8	8.0
1600	11.4	3.8
1700	11.9	-1.7
1800	7.8	-0.6

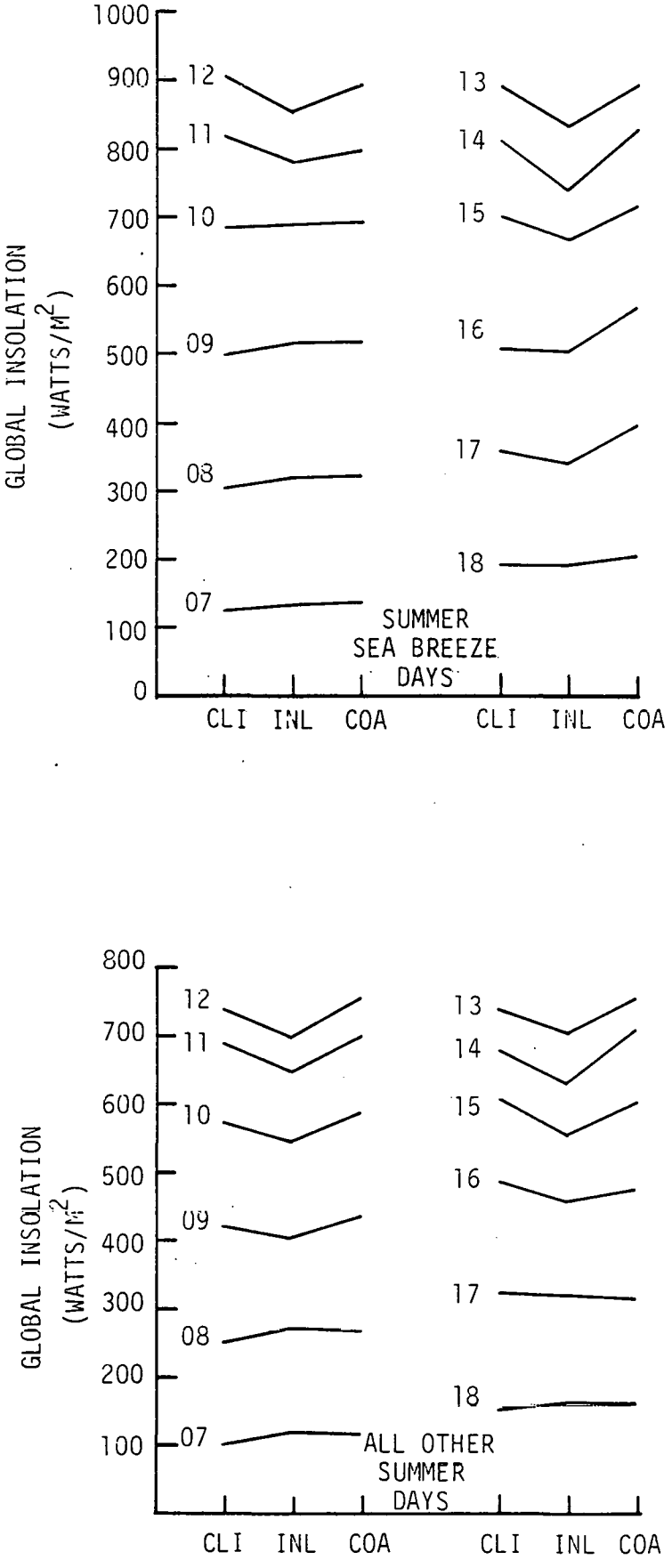


Figure 11. The mean diurnal variation of the trend lines for global insolation for the COASTAL, INLAND, and CLINTON classes based on 24 days with definite sea breeze characteristics in the summer and on all other summer days.

noted, a specific trend of depletion of global insolation at the inland sites begins at 1100 EST and persists to 1700 EST. During that period the average depletion of global insolation for the INLAND class relative to the COASTAL class was approximately 7.8%. On the other hand, the data set containing all other summer days indicate a depletion of global insolation for the INLAND class in the period 1000 through 1600 EST, a circumstance that is similar to that observed in the mean summer season data. The average depletion of global insolation for the INLAND class relative to the COASTAL class in the period 1000 through 1600 EST was 7.2% for the data set containing all other summer days.

The frequency distribution for the global insolation for the 24 definite sea breeze days were compared with that for the remaining summer days across the COASTAL, INLAND, and CLINTON classes. For each class, the Chi-squared test showed that two distributions have statistically different distributions. There is a higher hourly mean for the global insolation throughout the day for the definite sea breeze days; and 22 out of the 24 days are included in the first half of the rank of the D-values in Table 5, those values having the least variability across the network. These three factors indicate that the definite sea breeze days did not characterize the summer season. This may be due, in part, to the fact that the sea breeze was better defined which may be a result of the absence of high clouds, which, in turn, permitted the identification of the sea breeze using GOES data.

4.0 Direct Insolation Measurements in the Coastal-Inland Zone

Direct insolation data were obtained at the Clinton and Sloop Point sites only. The mean hourly direct normal insolation for each season is shown in Figure 12. The differences in the direct normal insolation between the Sloop Point and Clinton site and the percentage difference relative to the Clinton site are given in Table 12. There is a marked depletion of direct normal insolation at the Sloop Point site relative to the Clinton site in the fall and spring. The average percent depletion over the entire daylight hours is 20.5% in the spring (if only the period 1000 to 1600 EST is considered when the solar elevation angle is high, the average depletion is 25.1% in the spring), and is 23.2% in the fall (the average depletion in the hours 1000 to 1600 EST is 28.3% in the fall).

In the winter and summer, there was, on the average, a small depletion of direct normal insolation at the Clinton site relative to the Sloop Point site. In the winter, a systematic diurnal trend in the difference in the direct normal insolation data was not found. Large percentage differences were noted at sunrise and at sunset. In the period with high sun angle (1000 hrs to 1600 EST), the average depletion of direct normal insolation amounted to 3.4%. In the summer, a systematic diurnal trend was noted in the hours 0900 to 1600 EST. Large percent differences were once again noted at the hours around sunrise and sunset. The average depletion of direct normal insolation at the Clinton site in the summer and in the period 1000 to 1600 EST was 7.9%. The Students-t test indicated that in the winter and summer the differences in direct normal insolation were not significant at the 1% level. In the summer, the percent difference found in direct normal insolation is comparable to the percent difference in the global insolation, but the percent difference in direct normal insolation is not statistically significant, whereas it is significant for the global insolation.

The monthly mean percent difference in direct normal insolation between Clinton and Sloop Point relative to the Clinton site is

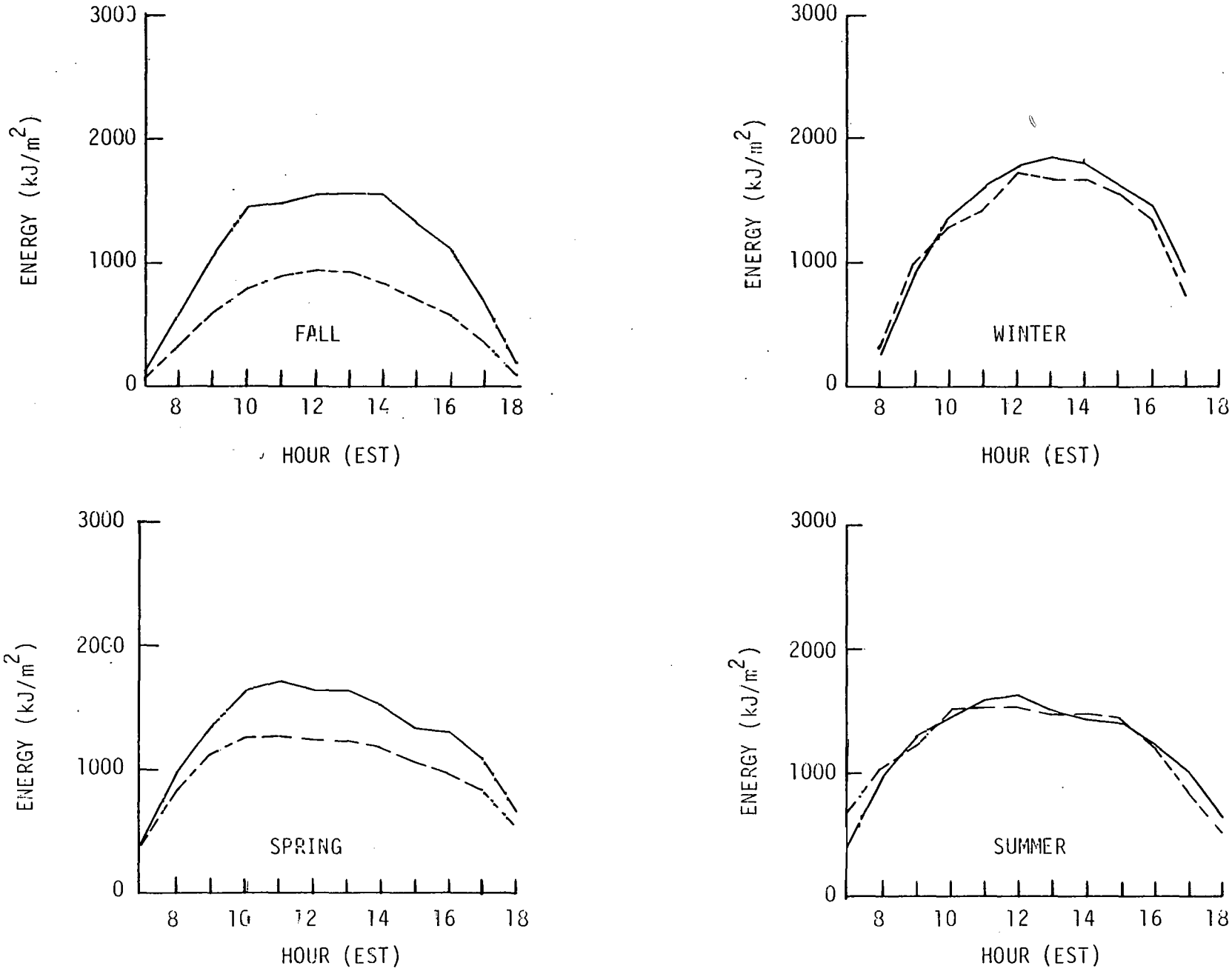


Figure 12. Mean hourly values of direct normal insolation at Clinton (solid line) and at Sloop Point (dashed line) for each season.

TABLE 12. MEAN HOURLY DIFFERENCE (Δ) AND PERCENT DIFFERENCE (%Δ) IN DIRECT NORMAL INSOLATION BETWEEN SLOOP POINT AND CLINTON FOR EACH SEASON. DIFFERENCES ARE IN WATTS/METER^2

Hour (EST)	Spring		Summer		Fall		Winter	
	Δ	%Δ	Δ	%Δ	Δ	%Δ	Δ	%Δ
0700	6.8	6.3	86.1	77.7	-1.9	-5.9	31.0	18.9
0800	-31.8	-11.9	28.3	10.7	-10.6	-6.6	33.3	47.8
0900	-63.1	-17.0	5.6	1.6	-57.5	-19.5	66.9	27.2
1000	-106.2	-23.3	42.2	10.6	-119.4	-30.0	10.0	2.7
1100	-120.8	-25.3	29.1	6.6	-112.7	-27.5	-15.8	-3.6
1200	-116.6	-25.6	26.4	5.8	-144.4	-33.5	-17.6	-3.6
1300	-124.3	-27.1	37.7	8.9	-111.1	-25.7	20.0	3.9
1400	-106.6	-25.2	40.0	10.0	-137.2	-32.0	31.7	6.4
1500	-84.5	-22.6	51.4	13.1	-89.4	-24.4	49.7	11.0
1600	-97.6	-26.7	1.4	0.4	-78.1	-25.2	27.9	6.9
1700	-78.8	-25.7	-33.6	-12.0	-35.0	-17.9	-11.5	-4.6
1800	-40.2	-21.7	-20.3	-11.1	-15.0	-30.0	3.3	11.0

given in Table 13. These data indicate that the large average depletion in the spring and fall seasons are brought about by affects occurring in two of the three months representing each season. In the spring, the months are March and April; and in the fall, they are October and November. Large negative percent difference in August and the large positive percent difference in September are biased by the fact that data were available for only 34% and 25% of the days in the month, respectively, due to instrument difficulties (see Table 3). In October, data were only available for 40% of the days which may also bias the results in that month.

The seasonally averaged ratio between the direct normal insolation and the global insolation were computed and compared with seasonal estimates of the ratio for locations in other coastal zones from data prepared by Boes et al (1978). The data in Table 14 are grouped according to sites which are near the coast and those which are approximately 40 km or greater from the coast. It is noted that both in the spring and in the fall, the Sloop Point site has a lower ratio than any of the other coastal sites. The average difference in the spring is approximately 0.17, and in the fall, 0.47. The Clinton site has a ratio which compares reasonable well with the ratios determined for other inland sites.

In the summer, the Sloop Point site has a ratio that is lower than all the other coastal sites with the exception of Miami. The ratio is, 0.04 less than that computed for Charleston, South Carolina and 0.16 less than that at Cape Hatteras, North Carolina both of which are less than two hundred miles from Sloop Point. The ratio at the Clinton site is considerably lower than that in either Brownsville or Lake Charles in the summer. The average difference is 0.17.

In the winter, the Sloop Point site has a value which, in the average, compares well with the other sites. The Clinton site, however, has a value that is 0.21 greater than that at the other sites, but is comparable to the coastal sites.

TABLE 13. MEAN MONTHLY PERCENT DIFFERENCE (%Δ) IN DIRECT NORMAL INSOLATION BETWEEN SLOOP POINT AND CLINTON

Month	%Δ	Month	%Δ
Jan	7.2	July	1.0
Feb	-3.1	Aug	-19.0
Mar	-30.4	Sept	24.0
Apr	-24.4	Oct	-51.9
May	-1.0	Nov	-47.4
June	4.2	Dec	9.6

TABLE 14. MEAN SEASONAL RATIOS OF THE DIRECT NORMAL INSOLATION TO THE TOTAL HORIZONTAL INSOLATION (GLOBAL INSOLATION) CALCULATED FROM OBSERVED DATA AT SLOOP POINT AND CLINTON AND ESTIMATED AT OTHER COASTAL AND INLAND SITES FROM BOES ET AL'S (1978) DATA

Location	Spring	Summer	Fall	Winter
Sloop Point	0.68	0.67	0.55	1.26
Appalachacola	0.88	0.78	1.07	1.14
Miami	0.76	0.64	0.85	1.08
Boston	0.86	0.79	1.11	1.29
Cape Hatteras	0.91	0.83	1.08	1.29
Charleston	0.82	0.71	1.00	1.19
Clinton	0.76	0.64	1.06	1.24
Brownsville	0.78	0.87	1.00	1.03
Lake Charles	0.76	0.75	0.97	1.03

5.0 Summary and Conclusions

The global insolation data indicated greater variability over the network during the summer season. The summer variability was characterized by systematic diurnal differences in global insolation between the inland sites and the coastal sites. The differences were found to be statistically significant at the 0.5% level in the summer in the principal hours of the day, i.e., 1100 to 1500 EST. The average depletion at the inland sites over the day amounted to 4.9% of the global insolation relative to the coastal sites. However, the most significant depletion occurred between 1000 and 1600 EST and amounted to an average of 7.0%. The maximum depletion (10.6%) occurred at 1400 EST.

A systematic diurnal depletion of global insolation at the inland site was also noted in the spring and fall. However, the differences in those seasons were not statistically significant at the 5% level for most hours in the day. A minimum in the global insolation was noted at the inland site relative to the coastal sites and the Clinton site during the period 1000 to 1600 EST in the spring with an average depletion over that period of approximately 3.7%. The maximum depletion occurred at 1300 EST and was 5.5%. In the fall, the minimum occurred in the period 1100 to 1500 EST with an average depletion over that period of 3.3%. The maximum depletion was 4.3% at 1200 EST. Though the differences in the spring and fall were not statistically significant, the fact that the diurnal trends were similar to that in the summer suggest that these seasons may also be affected by the same phenomena influencing the summer. No systematic diurnal trends of depletion of global insolation was noted at the inland site or at any site in the winter.

GOES satellite data were used to identify 32 days in the period May through September 1978 in which there was a definite occurrence of the sea breeze in the North Carolina coastal regions. The sea breeze front was identified in the GOES imagery as a line separating a zone

of cloudiness on the inland side from a zone of relatively clear skies on the coastal side. Analysis of the global insolation data on those days indicated that the sites behind the front consistently receive more global insolation than those ahead of the front by 5 percent irrespective of the cloud amount. Furthermore, the depletion of global insolation by the cloudiness associated with the sea breeze fronts was more significant by 5 percent than the depletion by air mass cumulus clouds.

Of the 32 days identified as having definite sea breeze characteristics, 24 were in the summertime. Global insolation data on the 24 summer days showed a similar diurnal pattern as found in the summer season. There were, however, some characteristic differences. A definite trend of depletion of global insolation at the inland sites was noted in the period 1100 to 1700 EST in the average of the 24 days. A similar pattern was noted in the summer season and in the data set containing all the remaining summer days which sea breeze characteristics could not be identified, in the period 1000 to 1600 EST. In the respective time periods, 7.8% depletion of global insolation was noted on the definite sea breeze days, 7.2% for the data set noted as all other summer days, and 7.0% for the summer season. Furthermore, there was a depletion of global insolation at the Clinton site after 1600 EST in the average of the 24 definite sea breeze days. This effect was not noted in the data set containing all the other summer days or the summer season data. The sea breeze circulation most probably exists every day during the summer. The 24 days identified in the satellite data which had definite sea breeze characteristics were probably days when the sea breeze circulation was very intense, which is supported by the persistance of the sea breeze late in the day and by evidence that the sea breeze may have even affected the Clinton site. It is expected that only very intense sea breeze circulations would penetrate as far as 100 km inland. The intense sea breeze may be due to development of a large land-sea

temperature difference because there was no middle or high cloud cover. Under those conditions the satellite could detect the sea breeze and the solar insolation would reach the ground with little or no scattering.

Over the 24 days in the summer in which definite sea breeze characteristics were identified, the patterns and trends were qualitatively similar to those in the summer season. This would suggest that the summer seasonal pattern was governed by the sea breeze circulation. The sea breeze circulation most probably existed on many of the summer days in which definite sea breeze characteristics could not be identified because the sea breeze effects were subtle compared to the other localized effects. Sea breeze circulations of little intensity are most often due to small land-sea temperature differences. Middle and high cloudiness (e.g., cirrus overcast) can reduce the land-sea temperature difference by impeding the solar insolation from reaching the ground. Furthermore, on those days when the sea breeze could not be identified, the maximum intensity of the sea breeze circulation on a diurnal basis may, in many circumstances, have been reached earlier in the day. This would explain the rather high percentage differences found in the period 1000 to 1200 EST in the data set noted as all other summer days compared to the data set in which definite sea breeze characteristics were identified.

The inland sites used in this study did not always fall within the realm of the maximum cloud activity associated with the sea breeze front. The analysis of the definite sea breeze days indicated that the maximum frontal activity occurred in approximately a 10 km band centered about 20 km from the coast. Furthermore, frontal passage at the inland sites occurred around 1500 to 1600 EST, a time when the sea breeze normally begins to dissipate. This would suggest that the depletion of global insolation experienced at the inland sites may not be the maximum amount of depletion associated with the sea breeze effect.

The direct normal insolation data indicated a depletion of direct normal insolation at the coast (the Sloop Point site) relative to a far inland site (the Clinton site) in the spring and fall. The depletion amounted to 20.5% in the spring and 23.2% in the fall. The depletion of direct normal insolation was most pronounced in March and April, and in the fall, in October and November. No statistically significant differences in the direct normal insolation between the coastal and inland sites specified above were noted in the summer and winter.

Comparisons of the ratio of the direct normal insolation to the global insolation calculated using the Sloop Point data and data prepared by Boes et al (1978) at other coastal sites indicated that the ratios at Sloop Point were smaller than those estimated for other coastal sites in the spring and fall seasons. The ratio calculated using the Clinton data compared reasonably well with the ratio estimated for other inland sites in the spring and fall; and was smaller in the summer season and larger in the winter.

Examination of meteorological and satellite data revealed no mechanism which could be responsible for the marked depletion in the spring and fall. Furthermore, no significant statistical differences were noted in the global insolation data between Sloop Point and Clinton in the spring and fall; i.e., the diffuse radiation made up for the loss in the direct normal insolation. This suggests that aerosols, water vapor, or thin cirrus may be cause for the loss. To date, no adequate explanation for the cause of the marked depletion of direct normal insolation in the spring and fall have been determined.

6.0 Topics For Further Research

The results of this study indicate that there is a direct effect of the sea breeze circulation on the depletion of global insolation inland from the coast. Though, a magnitude effect was determined from this study, the magnitude effect was most probably not the maximum effect of the sea breeze circulation, because the inland sites were not located in the region of maximum sea breeze frontal activity. Limited data analysis indicated that the sea breeze activity off the North Carolina coast occurred approximately 20 km inland. The inland sites in this study were located approximately 40 to 50 km inland. Because of the potential application of solar energy in coastal regions, it is necessary to determine the maximum effect of the sea breeze circulation on the depletion of global insolation. In order to accomplish this, a high resolution study should be performed along the line from the coast approximately 100 km inland. Stations measuring global insolations should be located approximately 5 to 10 km apart. Since this study indicated that the most significant (i.e., the statistically significant) depletions of global insolations would take place in the summer time in the North Carolina coastal region, high resolution study should only be performed during that season.

Satellite data were used to identify the regions of sea breeze frontal activity. Given the analysis of the estimated frequency of occurrence of sea breeze circulation from satellite data, the results of this study can be used to estimate the depletion of global insolation as a result of sea breeze cloud effects. Of course, better estimates could be accomplished if high resolution estimates of the depletion of global insolation were available. However, before such a technique should be placed in an applied mode, it should be tested. This test could be accomplished by determining a specific region, performing the methodology described above, making estimates of depletion associated with sea breeze cloud effects, and setting up a field program in the region to determine the accuracy of the estimates.

A more than 20% depletion of direct normal insolation at the coastal site was noted in the spring and fall. No physical explanation could be made on the basis of available data. Because of the potential effect this depletion can have on concentrated solar systems, it is necessary to find the reason for this depletion. Studies should be performed in which a very detailed assessment of the meteorology at the coastal sites and inland sites should be made while direct normal insolation measurements are taken during the fall and spring seasons. This should include high resolution measurements of wind, temperature, pressure, turbidity and dew point in the region of interest; temporal assessment of the cloud cover using all sky cameras; measurements of the land and sea temperature difference on a diurnal basis; and the use of applicable satellite data. It is only through a high temporal and spatial resolution study that the mechanism which produces the depletion of direct normal insolation in the spring and fall at the coast can be determined.

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APPENDIX 1

FIELD OPERATOR MANUAL

RESEARCH TRIANGLE INSTITUTE
POST OFFICE BOX 12194
RESEARCH TRIANGLE PARK, NORTH CAROLINA 27709

ENERGY AND ENVIRONMENTAL RESEARCH DIVISION

COASTAL-INLAND

SOLAR RADIATION DIFFERENCE STUDY

OBJECTIVES

- o Collect a year sample of hourly solar radiation and meteorological data in southeastern North Carolina.
- o Analyze those data for differences of direct, diffuse, and UV radiation between coastal and inland areas at the sea breeze scale.
- o Develop methodologies to translate the results to other coastal locations.

INSTRUMENTS

To get high quality data, we have purchased the highest quality instruments available. However, these instruments are no better than the care they are given. Although you have limited experience with these types of instruments, I know you will give them good care.

PRINCIPLES OF OPERATION

The sunshine, directly from the sun, the sunlight scattered by the air, and the clouds and the trees, produce a very small electric current in the instrument. That current is transmitted to the counter which amplifies the current and counts the energy. Every hour, the printer, the time and accumulated counts are printed on the folding tape.

The process is rather simple, but, things can, and do, go wrong.

PRECISION SPECTRAL PYRANOMETER (PSP)

YOUR RESPONSIBILITIES

1. CLEAN THE GLASS DOME DAILY

   Wash the dome with the alcohol and water mixture.
   Wipe the dome with the tissues provided.

2. CHECK THE DESSICANT (BLUE CRYSTALS)

   The crystals should be a bright-dark blue.
   They absorb moisture to prevent water condensing on the inside of the dome. As they turn pink, call RTI.

3. CHECK THE BUBBLE LEVEL

   The bubble should be inside the small circle.
   Slowly adjust the three thumb screws if leveling is needed.

4. RECORD THE TIME YOU DID THESE CHORES

   Press the PRINT button on the printer.
   The current time (hours and minutes since midnight) and counts should be printed. THIS IS IMPORTANT, IT IS OUR RECORD OF YOUR WORK Initial the printer tape and date it. If there has been even a very brief power failure, the clock in the printer will indicate 99:99. It must be reset to the present time. Follow the instructions provided.

5. RECORD YOUR WORK IN THE DAILY LOG

   Add any comments you may wish to make.
   Use more than one line if you wish.

6. RETURN THE DATA

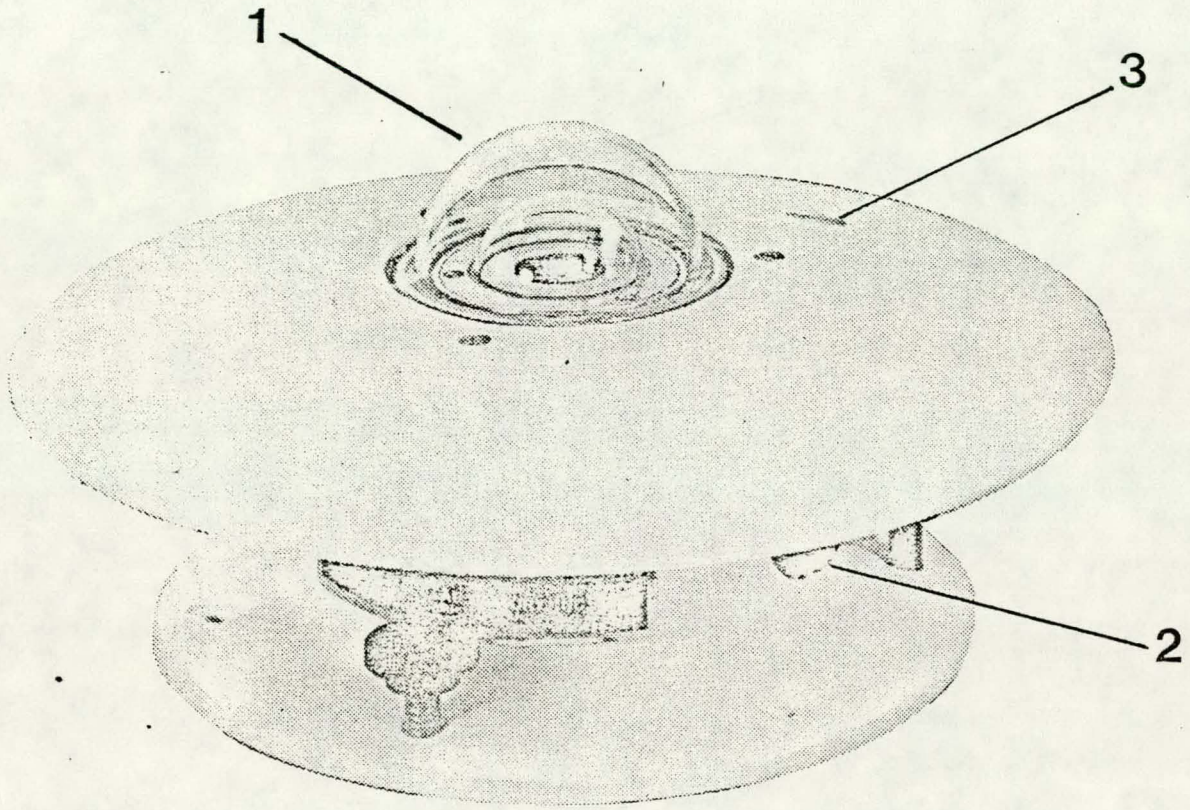
   On the first and fifteenth of each month, return your DAILY LOG and the printed tapes to RTI in the envelope provided.

7. PROBLEMS (?)

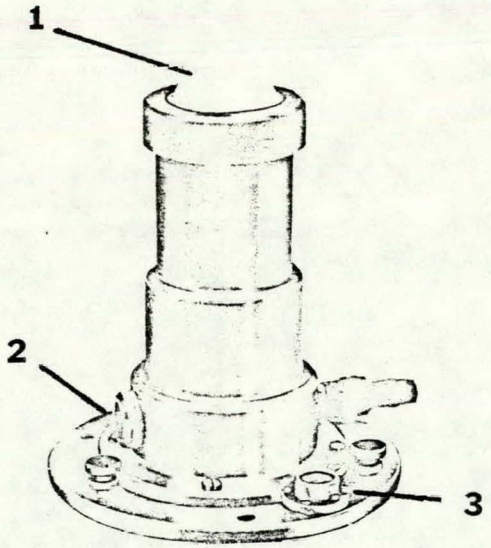
   If you have a problem or suspect a problem with the equipment, call
   Dr. Walter D. Bach, Jr.
   Research Triangle Institute
   (919) 541-5855---COLLECT or (919) 489-8781 (Weekends)
   Research Triangle Park, N. C. 27709

EPPLEY PRECISION PYRANOMETER

Model PSP



ULTRAVIOLET RADIOMETER



YOUR RESPONSIBILITIES

(Same as with the PSP)

SETTING THE CLOCK

The clock may be set to any desired time by using the following procedure:

1. Insert the finger into the top part of the front panel bezel hole and pull the door open.
2. Locate the clock switches in the upper right hand corner. (See Figure 2)
3. Turn the power off then turn on again.
4. Depress the front panel PRINT button. The printout will indicate 99:99.
5. Move the TENS/UNITS switch to the UNITS position. (See Figure 6)

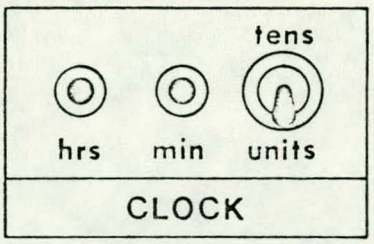


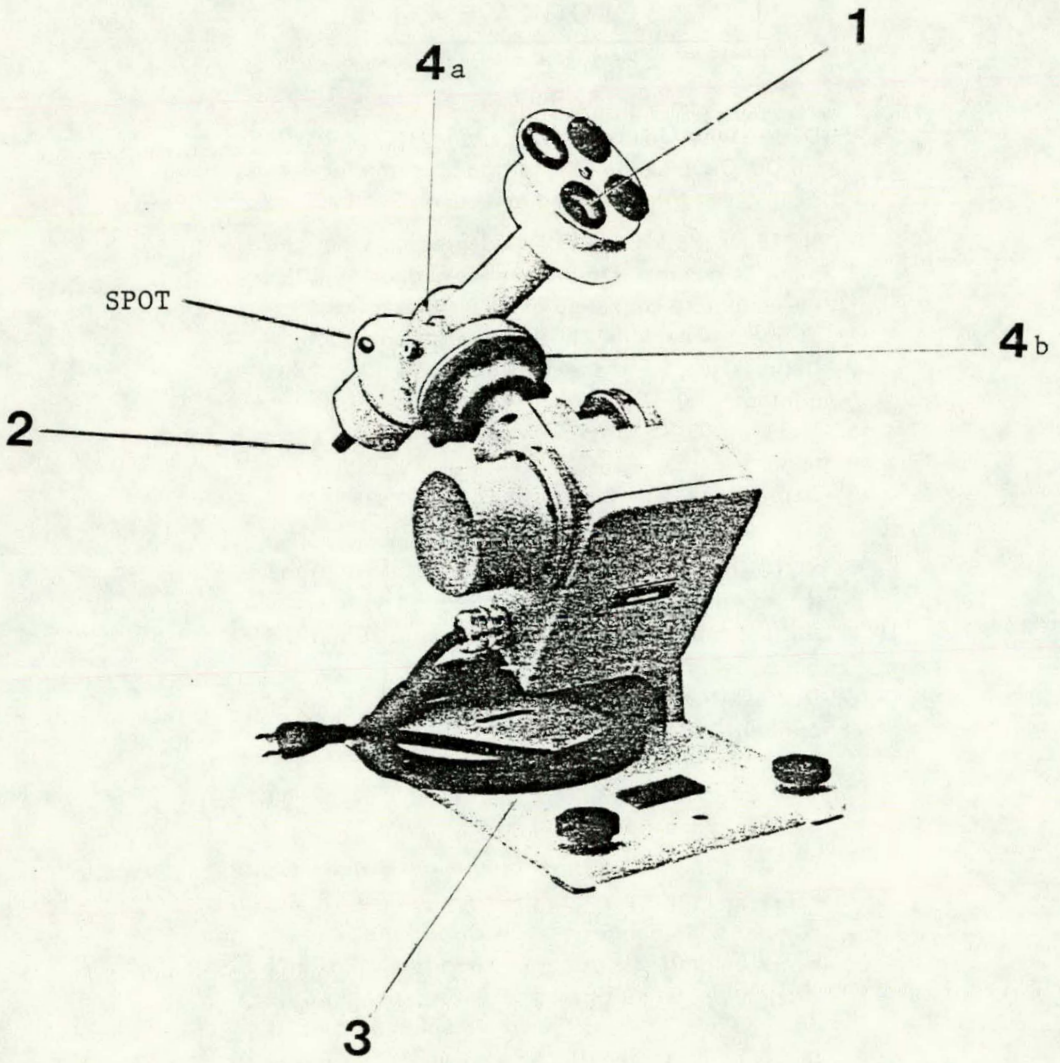
Figure 6
Clock Switches

6. Depress the MIN button once to reset the clock to 00:00. Depress the MIN button one time for each digit desired in the minutes column.

   NOTE: If the MIN button is depressed when the minutes column is printing the number nine (9), the number will change to zero (0) and the tens-of-minutes column will advance by one (1).
7. Depress the front panel PRINT button to check printout.
8. Move the TENS/UNITS switch to the TENS position.
9. Depress the MIN button one time for each digit desired in the tens-of-minutes column.

   NOTE: If the MIN button is depressed when the tens-of-minutes column is printing the number six (6), the number will change to zero (0) and the hours column will advance by one (1).
10. Depress the front panel PRINT button to check printout.
11. Move the TENS/UNITS switch to UNITS position.
12. Depress the HRS button one time for each digit desired in the hours column.

    NOTE: If the HRS button is depressed when the hours column is printing the number nine (9), the number will change to zero (0) and the tens-of-hours column will advance by one (1) EXCEPT when the tens-of-hours column contains the number two (2) and the hours column contains the number three (3), depressing the HRS will then reset both the 2 and the 3 to zero.
13. Depress the front panel PRINT button to check printout.
14. Move the TENS/UNITS switch to the TENS position.
15. Depress the HRS button one time for each digit desired in the tens-of-hours column.
16. Depress the front panel PRINT button to check time setting on print.


1
4a
SPOT
4b
2
3

NORMAL INCIDENCE PYRHELIOMETER (NIP)
AND
SOLAR TRACER UNIT

YOUR RESPONSIBILITIES

1. CLEAN THE OPENING DAILY
   Wash the opening with the alcohol and water mixture.
   Wipe with the tissues provided.

2. UNWIND THE LEAD WIRE DAILY

   The wire leading from the NIP to the integrator unit will wrap around the tracker. Unplug the wire from the NIP, pushing the connector in slightly then turning. Unwrap the wire from the tracker. Replace the plug in the socket.

3. CHECK THE BUBBLE LEVEL

   The bubble should be in the center of the small circle. Adjust the leading screws as necessary.

4. CHECK THE ALIGNMENT (requires direct sunlight)

   The sunlight should be on the white disk with the black center dot at the rear of the NIP.

   (a) The elevation angle, or declination, is adjusted by loosening the clamping hand screw in the "U" block, adjusting the angle (between $+23^{o}$ to -23^{o}) for the right date, and retightening the hand screw.

   (b) If there has been a power failure, loosen the three thumb screws under the instrument support plate, rotate the instrument until the sun's image lines up on the black center dot, tighten the thumb screws.

5. RECORD THE TIME AND YOUR WORK

A Table of Solar Declination is on the next page.

EPHEMERIS OF THE SUN[1]

All data are for 0^h Greenwich Civil Time in the year 1950. Variations of these data from year to year are negligible for most meteorological purposes, the largest variation occurs through the 4-year leap-year cycle. The year 1950 was selected to represent a mean condition in this cycle.

The *declination* of the sun is its angular distance north (+) or south (−) of the celestial equator.

The *longitude* of the sun is the angular distance of the meridian of sun from the vernal equinox (mean equinox of 1950.0) measured eastward along the ecliptic.

The *equation of time* (apparent − mean) is the correction to be applied to mean solar time in order to obtain apparent (true) solar time.

The *radius vector* of the earth is the distance from the center of the earth to the center of the sun expressed in terms of the length of the semimajor axis of the earth's orbit.

[1] U. S. Naval Observatory, The American ephemeris and nautical almanac for the year 1950, Washington, 1948.

EPHEMERIS OF THE SUN

Date	Declination		Longitude		Equation of time		Radius vector
	°	′	°	′	m.	s.	
Jan. 1	−23	4	280	1	− 3	14	0.98324
5	22	42	284	5	5	6	.98324
9	22	13	288	10	6	50	.98333
13	21	37	292	14	8	27	.98352
17	20	54	296	19	9	54	.98378
21	20	5	300	23	11	10	.98410
25	19	9	304	27	12	14	.98448
29	18	8	308	31	13	5	.98493
Mar. 1	− 7	53	339	51	−12	38	0.99084
5	6	21	343	51	11	43	.99182
9	4	48	347	51	10	51	.99287
13	3	14	351	51	9	49	.99396
17	1	39	355	50	8	42	.99508
21	− 0	5	359	49	7	32	.99619
25	+ 1	30	3	47	6	20	.99731
29	3	4	7	44	5	7	.99843
May 1	+14	50	40	4	+ 2	50	1.00759
5	16	2	43	56	3	17	1.00859
9	17	9	47	48	3	35	1.00957
13	18	11	51	40	3	44	1.01051
17	19	9	55	32	3	44	1.01138
21	20	2	59	23	3	34	1.01218
25	20	49	63	14	3	16	1.01291
29	21	30	67	4	2	51	1.01358
July 1	+23	10	98	36	− 3	31	1.01667
5	22	52	102	24	4	16	1.01671
9	22	28	106	13	4	56	1.01669
13	21	57	110	2	5	30	1.01659
17	21	21	113	51	5	57	1.01639
21	20	38	117	40	6	15	1.01610
25	19	50	121	29	6	24	1.01573
29	18	57	125	19	6	23	1.01530
Sept. 1	+ 8	35	157	59	− 0	15	1.00917
5	7	7	161	52	+ 1	2	1.00822
9	5	37	165	45	2	22	1.00723
13	4	6	169	38	3	45	1.00619
17	2	34	173	32	5	10	1.00510
21	+ 1	1	177	26	6	35	1.00397
25	− 0	32	181	21	8	0	1.00283
29	2	6	185	16	9	22	1.00170
Nov. 1	−14	11	217	59	+16	21	0.99249
5	15	27	222	0	16	23	.99150
9	16	38	226	1	16	12	.99054
13	17	45	230	2	15	47	.98960
17	18	48	234	4	15	10	.98869
21	19	45	238	6	14	18	.98784
25	20	36	242	8	13	15	.98706
29	21	21	246	11	11	59	.98636

Date	Declination		Longitude		Equation of time		Radius vector
	°	′	°	′	m.	s.	
Feb. 1	−17	19	311	34	−13	34	0.98533
5	16	10	315	37	14	2	.98593
9	14	55	319	40	14	17	.98662
13	13	37	323	43	14	20	.98738
17	12	15	327	46	14	10	.98819
21	10	50	331	48	13	50	.98903
25	9	23	335	49	13	19	.98991
Apr. 1	+ 4	14	10	42	− 4	12	0.99928
5	5	46	14	39	3	1	1.00043
9	7	17	18	35	1	52	1.00160
13	8	46	22	30	− 0	47	1.00276
17	10	12	26	25	+ 0	13	1.00390
21	11	35	30	20	1	6	1.00500
25	12	56	34	14	1	53	1.00606
29	14	13	38	7	2	33	1.00708
June 1	+21	57	69	56	+ 2	27	1.01405
5	22	28	73	46	1	49	1.01465
9	22	52	77	36	1	6	1.01518
13	23	10	81	25	+ 0	18	1.01564
17	23	22	85	15	− 0	33	1.01602
21	23	27	89	4	1	25	1.01630
25	23	25	92	53	2	17	1.01649
29	23	17	96	41	3	7	1.01662
Aug. 1	+18	14	128	11	− 6	17	1.01494
5	17	12	132	0	5	59	1.01442
9	16	6	135	50	5	33	1.01384
13	14	55	139	41	4	57	1.01318
17	13	41	143	31	4	12	1.01244
21	12	23	147	22	3	19	1.01163
25	11	2	151	14	2	18	1.01076
29	9	39	155	5	1	10	1.00986
Oct. 1	− 2	53	187	14	+10	1	1.00114
5	4	26	191	11	11	17	1.00001
9	5	58	195	7	12	27	0.99888
13	7	29	199	5	13	30	.99774
17	8	58	203	3	14	25	.99659
21	10	25	207	1	15	10	.99544
25	11	50	211	0	15	46	.99433
29	13	12	214	59	16	10	.99326
Dec. 1	−21	41	248	13	+11	16	0.98604
5	22	16	252	16	9	43	.98546
9	22	45	256	20	8	1	.98494
13	23	6	260	24	6	12	.98446
17	23	20	264	28	4	17	.98405
21	23	26	268	32	2	19	.98372
25	23	25	272	37	+ 0	20	.98348
29	23	17	276	41	− 1	39	.98334

APPENDIX 2

MONTHLY DATA TABULATION

KEY TO ERROR CODES

-99	Missing Data
-999	Missing Data
-555	Insufficient Data To Establish A Trend
-666	Computed Incident Energy Too Large
-888	> 4000 kJ/m^2

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 2 ELLIS AIRPORT JANUARY 1978
SENSITIVITY 10.99E-6 V/M/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	12	81	192	245	274	245	-99	-99	-99	-99	0	0	0	0	-999
2	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
3	0	0	0	0	29	343	533	861	884	864	1123	805	432	134	0	0	0	0	6008
4	0	0	0	0	0	22	117	62	62	108	379	379	199	101	0	0	0	0	1429
5	0	0	0	0	29	343	533	861	884	864	1123	805	432	134	0	0	0	0	6008
6	0	0	0	0	0	22	117	62	62	108	379	379	199	101	0	0	0	0	1429
7	0	0	0	0	245	304	501	91	1650	1025	1723	1067	743	147	0	0	0	0	7496
8	0	0	0	0	376	949	1431	1840	2011	1988	1706	1284	661	167	0	0	0	0	12413
9	0	0	0	0	321	920	1503	1890	2053	2021	1686	1287	628	144	0	0	0	0	12453
10	0	0	0	0	127	307	435	409	750	416	1405	1008	684	167	0	0	0	0	5708
11	0	0	0	0	304	890	1618	2027	2247	2227	1922	1451	805	-666	0	0	0	0	-999
12	0	0	0	0	-666	-666	1663	2053	2220	2223	1460	890	890	189	0	0	0	0	-999
13	0	0	0	0	13	40	82	233	351	269	233	151	177	53	0	0	0	0	1602
14	0	0	0	0	27	168	535	764	1053	754	345	221	109	44	0	0	0	0	4020
15	0	0	0	0	70	531	1137	1655	1940	1881	1766	1252	738	355	0	0	0	0	11325
16	0	0	0	0	111	799	1274	1736	2100	2008	1733	1409	636	233	0	0	0	0	12039
17	0	0	0	0	25	110	234	676	997	1138	784	129	-99	-99	0	0	0	0	-999
18	0	0	0	0	27	279	1131	1760	2068	2133	1973	1589	1052	299	0	0	0	0	12311
19	0	0	0	0	30	194	443	374	321	131	49	13	0	13	0	0	0	0	1568
20	0	0	0	0	26	124	216	360	304	304	258	157	150	143	0	0	0	0	2042
21	0	0	0	0	28	205	932	1764	2062	2190	2016	1653	1073	405	0	0	0	0	12328
22	0	0	0	0	68	251	451	1037	920	716	530	549	307	94	0	0	0	0	4923
23	0	0	0	0	109	646	1134	1052	1596	1678	1576	1485	1072	469	0	0	0	0	10817
24	0	0	0	0	247	487	804	1535	1892	2288	1951	1476	778	333	0	0	0	0	11791
25	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
26	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
27	0	0	0	0	-99	763	1454	1988	2292	2358	2184	1621	822	314	0	0	0	0	-999
28	0	0	0	0	140	769	1454	1980	2296	2371	2201	1818	1198	465	0	0	0	0	14700
29	0	0	0	0	150	763	1441	1978	2309	2394	2224	1837	1238	-666	0	0	0	0	-999
30	0	0	0	0	144	756	1441	1978	2299	2387	2197	1837	1238	343	0	0	0	0	14620
31	0	0	0	0	255	786	953	1022	1555	1745	2142	1781	1198	537	0	0	0	0	11974
MEAN	0	0	0	0	112	438	848	1153	1409	1386	1372	1049	671	224	0	0	0	0	8136
SD	0	0	0	0	110	308	523	716	784	846	718	598	379	144	0	0	0	0	4638
NUM	31	31	31	31	26	27	28	28	28	28	27	27	26	24	31	31	31	31	22
MAX	0	0	0	0	376	949	1663	2053	2309	2394	2224	1837	1238	537	0	0	0	0	14700
MIN	0	0	0	0	0	22	82	62	62	108	49	13	0	13	0	0	0	0	1429

TABULATED 12/31/79 AT 13:13:00

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 3 CAPE FEAR JANUARY 1978
SENSITIVITY 11.27E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	17	97	218	320	298	352	250	129	119	46	0	0	0	0	1846
2	0	0	0	0	102	517	1089	1504	1903	2015	1699	1389	881	210	0	0	0	0	11309
3	0	0	0	0	44	600	1239	1769	2053	2098	1951	1562	977	338	0	0	0	0	12631
4	0	0	0	0	89	610	1245	1769	2053	2101	1887	1437	801	313	0	0	0	0	12305
5	0	0	0	0	60	418	875	1434	1897	1769	1204	1121	696	210	0	0	0	0	9684
6	0	0	0	0	-99	-99	1194	561	744	888	261	159	207	-99	0	0	0	0	-999
7	0	0	0	0	-99	-99	-99	776	1159	-99	-888	888	642	249	0	0	0	0	-999
8	0	0	0	0	61	378	624	-99	1077	1591	1499	1036	496	144	0	0	0	0	-999
9	0	0	0	0	22	150	923	1076	1974	2188	2050	1606	1098	412	0	0	0	0	11579
10	0	0	0	0	73	568	1261	1788	2121	2200	2063	1673	1073	396	0	0	0	0	13216
11	0	0	0	0	89	626	1284	1814	2105	2172	2002	1625	1050	392	0	0	0	0	13159
12	0	0	0	0	82	564	1180	1698	1931	1877	1650	819	586	206	0	0	0	0	10593
13	0	0	0	0	13	39	138	416	477	205	208	154	106	100	0	0	0	0	1856
14	0	0	0	0	37	312	759	1081	880	673	347	142	56	43	0	0	0	0	4330
15	0	0	0	0	-99	-99	-99	-99	1763	2073	1990	1645	1191	495	0	0	0	0	-999
16	0	0	0	0	334	759	1273	1624	1989	2126	1733	1136	621	318	0	0	0	0	11913
17	0	0	0	0	10	157	365	582	994	1058	272	135	132	256	0	0	0	0	3961
18	0	0	0	0	102	380	926	1661	2117	2159	2012	1590	1018	274	0	0	0	0	12239
19	0	0	0	0	46	276	420	299	228	136	91	59	37	34	0	0	0	0	1626
20	0	0	0	0	47	226	405	619	219	366	347	235	290	159	0	0	0	0	2913
21	0	0	0	0	22	191	517	1252	1539	2117	2006	1664	1082	408	0	0	0	0	10798
22	0	0	0	0	105	408	1063	769	1402	1849	881	603	335	166	0	0	0	0	7581
23	0	0	0	0	172	699	1431	1996	2130	2018	2034	1734	1076	348	0	0	0	0	13638
24	0	0	0	0	138	429	1032	1457	2071	2304	1994	1652	640	250	0	0	0	0	11967
25	0	0	0	0	20	52	49	97	170	266	531	547	311	81	0	0	0	0	2124
26	0	0	0	0	-99	418	1411	2060	2188	-99	-99	-99	-99	-99	0	0	0	0	-999
27	0	0	0	0	-99	-99	1424	1977	2303	2402	2121	1332	645	-99	0	0	0	0	-999
28	0	0	0	0	-99	-99	1450	1999	2328	2421	2271	1891	1296	-656	0	0	0	0	-999
29	0	0	0	0	137	773	1469	2022	2363	2462	2306	1919	1322	-656	0	0	0	0	-999
30	0	0	0	0	146	376	1456	1999	2328	2424	2280	1900	1303	495	0	0	0	0	14701
31	0	0	0	0	137	712	872	923	1466	1708	2137	1807	1300	593	0	0	0	0	11605
MEAN	0	0	0	0	84	412	951	1288	1557	1655	1450	1122	712	254	0	0	0	0	9024
SD	0	0	0	0	68	216	429	613	711	763	777	645	418	193	0	0	0	0	4453
NUM	31	31	31	31	25	26	29	29	31	29	29	30	30	26	31	31	31	31	23
MAX	0	0	0	0	334	773	1469	2060	2363	2462	2306	1919	1322	593	0	0	0	0	14701
MIN	0	0	0	0	10	39	49	97	170	136	91	59	37	34	0	0	0	0	1626

TABULATED 12/31/79 AT 13:13:00

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 4 WALLACE JANUARY 1978
SENSITIVITY 11.00E-6 V/M/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	318	116	165	253	250	230	181	122	89	299	0	0	0	0	2023
2	0	0	0	0	61	516	1105	1596	1880	2014	1831	1455	830	159	0	0	0	0	11447
3	0	0	0	0	81	680	1233	1714	1999	2055	1901	1505	926	301	0	0	0	0	12395
4	0	0	0	0	-666	769	1292	1711	1993	2055	1806	1449	903	278	0	0	0	0	-999
5	0	0	0	0	54	447	918	1337	1674	1393	1494	1353	584	185	0	0	0	0	9439
6	0	0	0	0	420	178	413	498	744	220	191	73	73	292	0	0	0	0	3102
7	0	0	0	0	-666	99	165	227	387	636	413	472	338	178	0	0	0	0	-999
8	0	0	0	0	29	252	716	1306	808	913	510	589	461	101	0	0	0	0	5685
9	0	0	0	0	-666	64	539	1072	2185	2260	2106	1710	1098	418	0	0	0	0	-999
10	0	0	0	0	-666	654	1299	1803	2091	2153	1983	1603	1024	373	0	0	0	0	-999
11	0	0	0	0	98	651	1292	1786	2074	2127	1947	1561	985	350	0	0	0	0	12871
12	0	0	0	0	-666	662	1208	1657	1955	1981	1804	1392	534	171	0	0	0	0	-999
13	0	0	0	0	0	-888	74	198	254	274	198	110	133	61	0	0	0	0	-999
14	0	0	0	0	275	206	523	1142	1060	841	422	157	59	206	0	0	0	0	4891
15	0	0	0	0	-666	524	1081	1588	1919	1536	1212	1480	960	295	0	0	0	0	-999
16	0	0	0	0	-666	777	1245	1707	2044	1704	1828	1118	561	224	0	0	0	0	-999
17	0	0	0	0	-666	72	536	782	896	851	481	46	134	229	0	0	0	0	-999
18	0	0	0	0	328	570	1140	1699	2023	2102	1977	1627	986	318	0	0	0	0	12770
19	0	0	0	0	28	143	385	323	251	90	31	12	22	31	0	0	0	0	1316
20	0	0	0	0	16	98	272	399	268	291	265	187	173	111	0	0	0	0	2080
21	0	0	0	0	-666	239	959	1626	2062	2166	2032	1662	1099	419	0	0	0	0	-999
22	0	0	0	0	38	257	450	787	790	516	466	745	342	139	0	0	0	0	4530
23	0	0	0	0	539	634	1083	985	1649	1528	1685	1358	1093	399	0	0	0	0	10953
24	0	0	0	0	188	365	807	1435	2041	2266	2018	1438	830	280	0	0	0	0	11668
25	0	0	0	0	10	33	72	128	177	281	226	157	419	167	0	0	0	0	1670
26	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
27	0	0	0	0	-666	674	1358	1901	2248	2362	2150	1770	899	402	0	0	0	0	-999
28	0	0	0	0	104	680	1354	1911	2258	2379	2235	1871	1305	-666	0	0	0	0	-999
29	0	0	0	0	-666	755	1361	1904	2261	2392	2267	1907	1341	-666	0	0	0	0	-999
30	0	0	0	0	-666	680	1358	1901	2258	2415	2267	1894	1286	487	0	0	0	0	-999
31	0	0	0	0	467	805	801	913	1282	1832	2081	1888	1315	-666	0	0	0	0	-999
MEAN	0	0	0	0	169	434	840	1209	1459	1462	1333	1090	693	254	0	0	0	0	7122
SD	0	0	0	0	170	262	435	602	752	811	812	681	427	116	0	0	0	0	4449
NUM	31	31	31	31	18	29	30	30	30	30	30	30	30	27	31	31	31	31	15
MAX	0	0	0	0	539	805	1361	1911	2261	2415	2267	1907	1341	487	0	0	0	0	12871
MIN	0	0	0	0	0	33	72	128	177	90	31	12	22	31	0	0	0	0	1316

TABULATED 12/31/79 AT 13:13:00

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 5 SLOOP POINT JANUARY 1978
SENSITIVITY 9.44E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	17	131	268	348	337	268	242	146	104	28	0	0	0	0	1889
2	0	0	0	0	94	525	986	1558	1707	1978	1856	1326	837	223	0	0	0	0	11090
3	0	0	0	0	26	575	1216	1738	2036	2097	1941	1544	961	320	0	0	0	0	12454
4	0	0	0	0	95	613	1227	1750	2040	2112	1918	1487	926	305	0	0	0	0	12473
5	0	0	0	0	45	335	919	1262	1205	1372	1014	911	877	183	0	0	0	0	8123
6	0	0	0	0	0	45	228	777	797	1727	907	209	87	102	0	0	0	0	4879
7	0	0	0	0	20	100	230	322	539	493	440	192	154	66	0	0	0	0	2556
8	0	0	0	0	61	450	626	1194	1850	1861	1388	1003	519	138	0	0	0	0	9090
9	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
10	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
11	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	930	1022	377	0	0	0	0	-999
12	0	0	0	0	118	728	1201	1674	-99	1841	1750	865	591	194	0	0	0	0	-999
13	0	0	0	0	11	22	64	144	-99	442	381	373	202	57	0	0	0	0	-999
14	0	0	0	0	53	381	957	1399	-99	705	514	236	80	38	0	0	0	0	-999
15	0	0	0	0	53	514	968	1544	-99	1792	1929	1460	961	354	0	0	0	0	-999
16	0	0	0	0	179	892	1269	1727	-99	2124	1742	1144	606	247	0	0	0	0	-999
17	0	0	0	0	15	163	568	682	-99	968	388	91	179	190	0	0	0	0	-999
18	0	0	0	0	90	578	1047	1467	-99	2035	1993	1623	1043	407	0	0	0	0	-999
19	0	0	0	0	44	185	521	494	-99	216	29	0	0	14	0	0	0	0	-999
20	0	0	0	0	49	366	404	765	-99	423	343	305	163	156	0	0	0	0	-999
21	0	0	0	0	19	171	503	1224	-99	2143	2013	1666	1117	446	0	0	0	0	-999
22	0	0	0	0	95	404	873	785	-99	1731	781	606	247	171	0	0	0	0	-999
23	0	0	0	0	133	682	1365	1955	-99	2066	2055	1578	1136	385	0	0	0	0	-999
24	0	0	0	0	171	442	854	1540	-99	2166	2005	1697	682	316	0	0	0	0	-999
25	0	0	0	0	11	68	106	102	-99	163	297	385	518	133	0	0	0	0	-999
26	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
27	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	392	499	0	0	0	0	-999
28	0	0	0	0	0	347	1033	1674	-99	2372	2375	-666	-666	-566	0	0	0	0	-999
29	0	0	0	0	0	339	1033	1677	-99	-666	2272	1891	1300	-566	0	0	0	0	-999
30	0	0	0	0	141	766	1437	1985	2314	2417	2269	1883	1296	388	0	0	0	0	14897
31	0	0	0	0	148	743	1022	739	1121	1525	2047	1788	1197	545	0	0	0	0	10875
MEAN	0	0	0	0	64	406	804	1174	1394	1481	1341	974	636	241	0	0	0	0	8832
SD	0	0	0	0	54	242	399	572	655	748	777	637	420	149	0	0	0	0	4197
NUM	31	31	31	31	26	26	26	26	10	25	26	26	27	26	31	31	31	31	10
MAX	0	0	0	0	179	892	1437	1986	2314	2417	2375	1891	1300	545	0	0	0	0	14897
MIN	0	0	0	0	0	22	64	102	337	163	29	0	0	14	0	0	0	0	1889

TABULATED 12/31/79 AT 13:13:00

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 6 CLINTON JANUARY 1978
SENSITIVITY 11.00E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	13	92	131	177	233	229	177	167	102	33	0	0	0	0	1354
2	0	0	0	0	56	475	1140	1568	1938	1994	1824	1392	678	184	0	0	0	0	11249
3	0	0	0	0	78	595	1201	1691	1986	2068	1898	1528	952	320	0	0	0	0	12317
4	0	0	0	0	88	697	1194	1678	1957	2015	1793	1361	811	297	0	0	0	0	11891
5	0	0	0	0	36	523	946	1276	1440	1433	1718	1073	854	291	0	0	0	0	9590
6	0	0	0	0	37	175	279	165	171	175	109	113	83	31	0	0	0	0	1338
7	0	0	0	0	10	102	249	314	527	661	609	566	305	128	0	0	0	0	3471
8	0	0	0	0	40	184	452	1103	871	1201	530	337	223	62	0	0	0	0	5003
9	0	0	0	0	9	172	1141	1698	2005	2100	1930	1570	1000	372	0	0	0	0	11997
10	0	0	0	0	70	601	1232	1730	2034	2109	1949	1579	1016	381	0	0	0	0	12701
11	0	0	0	0	71	602	1243	1718	2029	2114	1940	1590	1037	301	0	0	0	0	12645
12	0	0	0	0	82	572	1158	1616	1944	1954	1747	1384	674	183	0	0	0	0	11314
13	0	0	0	0	0	21	96	217	152	132	207	93	96	63	0	0	0	0	1077
14	0	0	0	0	27	214	453	603	659	1330	741	499	129	24	0	0	0	0	4679
15	0	0	0	0	65	494	1090	1590	1898	1963	1813	1522	1021	392	0	0	0	0	11848
16	0	0	0	0	85	559	1168	1633	1371	2088	1584	1148	533	193	0	0	0	0	10362
17	0	0	0	0	19	107	140	768	1079	889	464	61	297	186	0	0	0	0	4010
18	0	0	0	0	54	408	1105	1678	2011	2100	1831	1550	1013	437	0	0	0	0	12187
19	0	0	0	0	13	154	245	367	226	75	33	13	52	29	0	0	0	0	1207
20	0	0	0	0	10	69	236	308	242	262	285	341	269	148	0	0	0	0	2170
21	0	0	0	0	37	322	1209	1729	2053	2141	1994	580	1101	430	0	0	0	0	11596
22	0	0	0	0	24	135	181	305	384	449	655	325	380	217	0	0	0	0	3055
23	0	0	0	0	49	428	1132	1734	1842	1151	1757	1158	975	428	0	0	0	0	10654
24	0	0	0	0	107	342	715	1269	1920	2008	2159	1278	640	342	0	0	0	0	10780
25	0	0	0	0	0	76	151	200	236	429	223	145	59	50	0	0	0	0	1569
26	0	0	0	0	100	578	1357	1707	2289	2260	2149	1779	1173	-666	0	0	0	0	-999
27	0	0	0	0	106	692	1357	1887	2217	2312	2083	1556	1065	486	0	0	0	0	13761
28	0	0	0	0	-666	703	1387	1917	2241	2317	2150	1754	1207	-666	0	0	0	0	-999
29	0	0	0	0	111	697	1390	2225	2261	2375	2231	1858	1295	-666	0	0	0	0	-999
30	0	0	0	0	117	703	1387	1914	2258	2218	2209	1832	1227	-666	0	0	0	0	-999
31	0	0	0	0	136	476	761	1196	1746	2109	2109	1808	1216	-666	0	0	0	0	-999
MEAN	0	0	0	0	55	386	836	1225	1426	1505	1383	1030	693	231	0	0	0	0	7839
SD	0	0	0	0	38	229	472	652	780	796	780	642	420	147	0	0	0	0	4618
NUM	31	31	31	31	30	31	31	31	31	31	31	31	31	26	31	31	31	31	26
MAX	0	0	0	0	136	703	1390	2225	2289	2375	2231	1858	1295	486	0	0	0	0	13761
MIN	0	0	0	0	0	21	96	165	152	75	33	13	52	24	0	0	0	0	1077

TABULATED 12/31/79 AT 13:13:00

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 7 ONSLOW BEACH JANUARY 1978
SENSITIVITY 10.17E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	49	191	318	407	371	407	261	191	53	35	0	0	0	0	2283
2	0	0	0	0	84	626	1069	1617	1978	2038	1886	1461	941	276	0	0	0	0	11976
3	0	0	0	0	28	576	1242	1755	2038	2113	-99	-99	934	296	0	0	0	0	-999
4	0	0	0	0	212	870	1320	1776	2049	2095	1907	-99	-99	-99	0	0	0	0	-999
5	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	952	208	0	0	0	0	-999
6	0	0	0	0	20	296	767	511	413	883	1627	395	59	69	0	0	0	0	5140
7	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	155	67	0	0	0	0	-999
8	0	0	0	0	41	452	629	480	1276	1970	1790	1124	600	204	0	0	0	0	8566
9	0	0	0	0	20	179	342	862	1485	2144	2030	1687	1128	469	0	0	0	0	10346
10	0	0	0	0	56	573	1238	1791	2120	2223	2077	1702	1132	470	0	0	0	0	13382
11	0	0	0	0	60	576	1246	1787	2109	2198	2046	1649	1122	463	0	0	0	0	13256
12	0	0	0	0	123	803	1164	1646	1978	2063	1837	1571	693	233	0	0	0	0	12111
13	0	0	0	0	0	23	62	105	76	211	168	328	522	66	0	0	0	0	1561
14	0	0	0	0	20	179	522	1053	1106	689	512	271	151	45	0	0	0	0	4548
15	0	0	0	0	42	453	1072	1592	1929	2063	1851	1589	987	442	0	0	0	0	12020
16	0	0	0	0	126	724	1213	1673	2016	-99	-99	1255	816	229	0	0	0	0	-999
17	0	0	0	0	27	133	225	466	303	954	742	158	69	20	0	0	0	0	3097
18	0	0	0	0	63	414	669	1561	2056	2081	1975	1624	1026	407	0	0	0	0	11876
19	0	0	0	0	66	243	671	997	381	257	80	23	0	9	0	0	0	0	2727
20	0	0	0	0	23	409	561	653	756	296	391	260	140	112	0	0	0	0	3601
21	0	0	0	0	10	152	530	1635	2092	2180	2046	1681	1122	449	0	0	0	0	11897
22	0	0	0	0	116	484	877	941	1228	1571	927	552	226	120	0	0	0	0	7042
23	0	0	0	0	134	640	1430	2049	2290	2152	2024	661	1008	315	0	0	0	0	12703
24	0	0	0	0	159	538	817	1592	1858	2212	2053	1631	856	279	0	0	0	0	11995
25	0	0	0	0	13	105	183	253	168	140	55	158	328	151	0	0	0	0	1554
26	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	1015	492	0	0	0	0	-999
27	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	661	481	0	0	0	0	-999
28	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	1274	-666	0	0	0	0	-999
29	0	0	0	0	145	768	1461	1989	2325	2421	2269	1806	1299	-666	0	0	0	0	-999
30	0	0	0	0	155	785	1472	2003	2336	2428	2276	1876	1292	-666	0	0	0	0	-999
31	0	0	0	0	155	764	1412	952	1277	1823	1985	1847	1277	-666	0	0	0	0	-999
MEAN	0	0	0	0	79	459	865	1240	1462	1584	1450	1065	727	246	0	0	0	0	8084
SD	0	0	0	0	57	246	430	596	755	792	778	677	436	165	0	0	0	0	4400
NUM	31	31	31	31	25	26	26	26	26	25	24	24	30	26	31	31	31	31	20
MAX	0	0	0	0	212	870	1472	2049	2336	2428	2276	1886	1299	492	0	0	0	0	13382
MIN	0	0	0	0	0	23	62	105	76	140	55	23	0	9	0	0	0	0	1554

TABULATED 12/31/79 AT 13:13:00

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : MIP # 8 SLOOP POINT JANUARY 1978
SENSITIVITY 8.85E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	485	1490	1538	2210	2022	3109	3161	2291	2132	355	0	0	0	0	18793
3	0	0	0	0	69	2213	2985	3323	3490	3526	3490	3335	2957	1867	0	0	0	0	27255
4	0	0	0	0	790	2470	3080	3373	3491	3532	3296	2698	2421	1632	0	0	0	0	26783
5	0	0	0	0	0	200	1278	900	501	542	326	1066	1453	82	0	0	0	0	6348
6	0	0	0	0	12	32	223	85	0	415	105	0	0	0	0	0	0	0	872
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	10	1332	1767	994	315	51	0	0	0	0	0	4469
9	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
10	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
11	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	3030	2286	0	0	0	0	-999
12	0	0	0	0	398	2038	2794	3018	-99	2115	2750	354	284	0	0	0	0	0	-999
13	0	0	0	0	0	0	0	0	-99	0	0	0	0	0	0	0	0	0	-999
14	0	0	0	0	0	14	168	775	-99	51	0	0	0	0	0	0	0	0	-999
15	0	0	0	0	33	1201	1506	1709	-99	2010	2629	2340	2022	1412	0	0	0	0	-999
16	0	0	0	0	516	2058	2811	2957	-99	3132	2233	1090	557	53	0	0	0	0	-999
17	0	0	0	0	0	0	66	17	-99	25	0	0	0	0	0	0	0	0	-999
18	0	0	0	0	151	1624	733	1274	-99	2771	3190	3035	2604	1538	0	0	0	0	-999
19	0	0	0	0	0	0	0	0	-99	0	0	0	0	0	0	0	0	0	-999
20	0	0	0	0	0	224	17	269	-99	0	0	0	0	0	0	0	0	0	-999
21	0	0	0	0	0	0	0	82	-99	2885	2966	2954	2734	1909	0	0	0	0	-999
22	0	0	0	0	0	45	115	115	-99	525	33	0	0	0	0	0	0	0	-999
23	0	0	0	0	268	1651	2583	2603	-99	2168	2021	2050	1895	431	0	0	0	0	-999
24	0	0	0	0	520	191	162	1106	-99	2379	2095	2066	569	114	0	0	0	0	-999
25	0	0	0	0	0	0	0	0	-99	0	0	0	0	0	0	0	0	0	-999
26	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
27	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	115	0	0	0	0	-999
28	0	0	0	0	65	207	158	110	-99	77	97	134	215	293	0	0	0	0	-999
29	0	0	0	0	32	93	69	44	-99	1822	3437	3307	3030	2335	0	0	0	0	-999
30	0	0	0	0	1049	2554	2985	3238	3380	3417	3384	3250	2941	569	0	0	0	0	26767
31	0	0	0	0	989	2364	1062	0	13	493	2405	2828	2543	1795	0	0	0	0	14492
MEAN	0	0	0	0	206	794	935	1046	1422	1413	1485	1273	1164	599	0	0	0	0	12577
SD	0	0	0	0	317	966	1160	1259	1471	1335	1424	1321	1229	818	0	0	0	0	11040
NUM	31	31	31	31	26	26	26	26	10	26	26	26	27	28	31	31	31	31	10
MAX	0	0	0	0	1049	2554	3080	3373	3491	3532	3490	3335	3030	2335	0	0	0	0	27255
MIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABULATED 12/31/79 AT 13:13:00

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : NIP #10 CLINTON JANUARY 1978
SENSITIVITY 8.29E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
2	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
3	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
4	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
5	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
6	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
7	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
8	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
9	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
10	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
11	0	0	0	0	551	2553	3187	3365	3521	3556	3491	3343	2926	1220	0	0	0	0	27713
12	0	0	0	0	420	2274	2843	3056	3281	2908	2404	1571	407	0	0	0	0	0	19164
13	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
14	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
15	0	0	0	0	195	1328	2166	2579	2662	2657	2288	2080	2336	1593	0	0	0	0	19884
16	0	0	0	0	408	1949	2735	2514	881	2410	729	751	47	13	0	0	0	0	12437
17	0	0	0	0	0	0	0	73	69	86	0	0	182	47	0	0	0	0	457
18	0	0	0	0	121	581	2127	3009	3217	3243	2714	2761	2349	1819	0	0	0	0	21941
19	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
20	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
21	0	0	0	0	0	429	2340	2987	3061	3265	3100	1146	2575	1467	0	0	0	0	20370
22	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
23	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
24	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
25	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
26	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
27	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
28	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
29	0	0	0	0	0	0	0	0	0	0	0	0	2531	2510	0	0	0	0	5041
30	0	0	0	0	416	2562	2088	673	425	264	2714	746	2010	1311	0	0	0	0	13209
31	0	0	0	0	0	0	0	833	1598	2041	2054	1359	812	73	0	0	0	0	8770
MEAN	0	0	0	0	211	1167	1748	1908	1871	2043	1949	1375	1617	1005	0	0	0	0	14898
SD	0	0	0	0	206	1034	1191	1277	1358	1328	1195	1046	1063	860	0	0	0	0	7993
NUM	31	31	31	31	10	10	10	10	10	10	10	10	10	10	31	31	31	31	10
MAX	0	0	0	0	551	2562	3187	3365	3521	3556	3491	3343	2926	2510	0	0	0	0	27713
MIN	0	0	0	0	0	0	0	0	0	0	0	0	47	0	0	0	0	0	457

TABULATED 12/31/79 AT 13:13:01

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : UV #11 CLINTON JANUARY 1978
SENSITIVITY 312.10E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER

DATE	HOUR ENDING 4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	0	4	8	11	14	14	11	10	6	2	0	0	0	0	80
2	0	0	0	0	2	17	41	62	78	81	72	54	29	9	0	0	0	0	445
3	0	0	0	0	2	19	43	65	80	83	75	58	34	11	0	0	0	0	470
4	0	0	0	0	2	19	43	64	78	81	71	53	31	11	0	0	0	0	453
5	0	0	0	0	2	18	37	55	63	63	68	46	32	11	0	0	0	0	395
6	0	0	0	0	1	7	14	10	11	11	8	7	5	1	0	0	0	0	75
7	0	0	0	0	0	6	14	18	29	36	33	30	17	6	0	0	0	0	189
8	0	0	0	0	1	9	25	49	43	58	30	19	12	3	0	0	0	0	249
9	0	0	0	0	0	9	43	66	81	86	78	61	37	13	0	0	0	0	474
10	0	0	0	0	2	20	45	68	83	87	79	61	37	13	0	0	0	0	495
11	0	0	0	0	2	20	45	67	82	87	79	62	38	12	0	0	0	0	494
12	0	0	0	0	2	19	42	63	78	82	74	57	30	10	0	0	0	0	457
13	0	0	0	0	0	1	6	14	11	9	14	6	6	3	0	0	0	0	70
14	0	0	0	0	1	11	23	32	35	62	39	28	8	1	0	0	0	0	240
15	0	0	0	0	2	16	38	59	74	79	71	57	37	14	0	0	0	0	447
16	0	0	0	0	2	20	44	66	63	86	70	52	26	9	0	0	0	0	438
17	0	0	0	0	0	6	8	36	53	45	26	4	11	9	0	0	0	0	198
18	0	0	0	0	3	15	42	66	82	87	77	62	38	16	0	0	0	0	488
19	0	0	0	0	0	7	14	21	14	6	2	1	3	1	0	0	0	0	69
20	0	0	0	0	0	4	14	19	15	16	17	20	15	8	0	0	0	0	128
21	0	0	0	0	1	16	44	68	84	89	82	22	41	17	0	0	0	0	464
22	0	0	0	0	1	7	10	18	23	26	37	19	20	10	0	0	0	0	171
23	0	0	0	0	2	18	41	64	72	56	70	50	36	16	0	0	0	0	425
24	0	0	0	0	2	14	30	52	74	79	81	53	28	14	0	0	0	0	427
25	0	0	0	0	0	4	9	12	14	25	14	9	4	3	0	0	0	0	94
26	0	0	0	0	3	19	47	66	87	89	83	66	41	18	0	0	0	0	519
27	0	0	0	0	4	23	48	72	87	91	83	62	40	17	0	0	0	0	527
28	0	0	0	0	12	23	49	73	88	90	83	63	42	18	0	0	0	0	541
29	0	0	0	0	4	23	48	75	88	93	88	70	45	19	0	0	0	0	553
30	0	0	0	0	4	24	50	75	91	91	88	71	45	19	0	0	0	0	558
31	0	0	0	0	4	18	34	53	73	84	82	66	42	19	0	0	0	0	475
MEAN	0	0	0	0	1	14	32	49	59	63	57	41	26	10	0	0	0	0	358
SD	0	0	0	0	2	6	15	22	28	29	28	23	13	5	0	0	0	0	168
NUM	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
MAX	0	0	0	0	12	24	50	75	91	93	88	71	45	19	0	0	0	0	558
MIN	0	0	0	0	0	1	6	10	11	6	2	1	3	1	0	0	0	0	69

TABULATED 12/31/79 AT 13:13:01

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : UV #12 SLOOP POINT JANUARY 1978
SENSITIVITY 154.40E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	1	9	16	21	21	18	16	10	7	2	0	0	0	0	121
2	0	0	0	0	3	21	41	64	75	83	76	56	34	11	0	0	0	0	464
3	0	0	0	0	3	22	47	70	84	86	79	61	37	13	0	0	0	0	502
4	0	0	0	0	3	23	48	69	83	87	79	60	36	13	0	0	0	0	501
5	0	0	0	0	3	18	42	60	62	63	48	39	6	10	0	0	0	0	351
6	0	0	0	0	3	14	38	42	34	54	48	14	7	5	0	0	0	0	260
7	0	0	0	0	1	7	15	20	29	32	24	13	9	5	0	0	0	0	155
8	0	0	0	0	2	19	32	55	78	42	104	48	27	9	0	0	0	0	416
9	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
10	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
11	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	3	54	28	0	0	0	0	-999
12	0	0	0	0	0	10	34	59	-99	85	82	63	37	20	0	0	0	0	-999
13	0	0	0	0	0	1	3	8	-99	17	32	20	23	6	0	0	0	0	-999
14	0	0	0	0	0	9	29	49	-99	44	40	22	11	4	0	0	0	0	-999
15	0	0	0	0	0	9	29	47	-99	75	79	68	47	25	0	0	0	0	-999
16	0	0	0	0	0	11	36	61	-99	91	87	67	46	23	0	0	0	0	-999
17	0	0	0	0	0	3	18	36	-99	61	40	17	10	6	0	0	0	0	-999
18	0	0	0	0	0	11	31	49	-99	83	86	75	54	30	0	0	0	0	-999
19	0	0	0	0	0	5	17	34	-99	14	9	2	0	1	0	0	0	0	-999
20	0	0	0	0	0	8	14	31	-99	15	29	21	14	11	0	0	0	0	-999
21	0	0	0	0	0	4	17	38	-99	87	88	77	58	-666	0	0	0	0	-999
22	0	0	0	0	0	10	27	45	-99	80	68	37	23	15	0	0	0	0	-999
23	0	0	0	0	0	12	37	65	-99	93	89	81	57	-666	0	0	0	0	-999
24	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
25	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
26	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
27	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	19	27	0	0	0	0	-999
28	0	0	0	0	0	12	39	65	-99	99	98	86	65	-666	0	0	0	0	-999
29	0	0	0	0	0	12	38	65	-99	-666	92	74	48	21	0	0	0	0	-999
30	0	0	0	0	6	29	56	81	97	101	94	75	49	19	0	0	0	0	607
31	0	0	0	0	6	28	42	49	58	73	81	66	42	20	0	0	0	0	456
MEAN	0	0	0	0	1	12	31	49	62	64	65	46	31	14	0	0	0	0	383
SD	0	0	0	0	1	7	12	17	24	28	28	27	19	8	0	0	0	0	151
NUM	31	31	31	31	24	24	24	24	10	23	24	25	26	23	31	31	31	31	10
MAX	0	0	0	0	6	29	56	81	97	101	104	86	65	30	0	0	0	0	607
MIN	0	0	0	0	0	1	3	8	21	14	9	2	0	1	0	0	0	0	121

TABULATED 12/31/79 AT 13:13:01

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 2 ELLIS AIRPORT FEBRUARY 1978
SENSITIVITY 10.99E-6 V/M/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	122	748	1501	1901	1754	1685	1465	1914	1108	574	24	0	0	0	12796
2	0	0	0	0	0	33	75	177	295	613	685	508	315	187	26	0	0	0	2914
3	0	0	0	0	215	994	1404	1954	2213	1948	1702	1132	772	644	74	0	0	0	13052
4	0	0	0	0	162	762	1430	1974	2314	2426	2262	1856	1299	614	80	0	0	0	15179
5	0	0	0	0	139	758	1069	1472	2048	2471	2287	1885	1318	630	63	0	0	0	14140
6	0	0	0	0	55	295	360	779	1556	2342	1667	1765	1202	570	82	0	0	0	10673
7	0	0	0	0	202	863	1564	2085	2419	2504	2331	1764	1279	582	80	0	0	0	15673
8	0	0	0	0	113	615	1551	2085	2403	2492	2148	1430	742	284	41	0	0	0	13904
9	0	0	0	0	57	312	1180	974	967	1681	2304	1953	1397	692	76	0	0	0	11593
10	0	0	0	0	206	520	1293	1893	1949	2466	2112	1644	1179	478	104	0	0	0	13844
11	0	0	0	0	301	979	1641	2171	2509	2597	2420	2008	422	687	98	0	0	0	15833
12	0	0	0	0	357	1035	1588	2073	2397	2466	2286	1929	1349	655	91	0	0	0	16226
13	0	0	0	0	246	856	1354	1553	1103	735	420	472	541	246	53	0	0	0	7659
14	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
15	0	0	0	-99	-99	105	144	478	1729	1985	665	517	806	141	19	0	0	0	-999
16	0	0	0	0	254	857	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
17	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
18	0	0	0	-99	36	91	163	281	691	1267	1824	730	396	94	-99	0	0	0	-999
19	0	0	0	-99	-99	94	268	425	399	602	451	664	376	179	29	0	0	0	-999
20	0	0	0	0	78	255	521	720	901	1032	848	743	435	383	118	0	0	0	6034
21	0	0	0	0	184	813	1727	2035	2199	2455	2595	1816	1600	738	122	0	0	0	16284
22	0	0	0	0	44	611	1191	1322	1600	641	1161	1040	621	454	87	0	0	0	8772
23	0	0	0	0	289	731	1144	2163	2687	2150	1331	882	617	358	63	0	0	0	12415
24	0	0	0	19	442	1146	1850	2371	2702	2777	2597	2184	1254	-666	189	0	0	0	-999
25	0	0	0	18	444	1171	1872	2410	2727	2803	2616	2200	1581	837	182	0	0	0	18861
26	0	0	0	18	431	1125	1849	2190	2635	2563	2386	2134	1564	853	198	0	0	0	17946
27	0	0	0	16	452	1208	1916	2460	2784	2859	2620	2270	1585	815	189	0	0	0	19174
28	0	0	0	19	154	311	675	1015	930	511	340	291	209	111	26	0	0	0	4592
MEAN	0	0	0	3	207	664	1173	1558	1839	1922	1740	1429	958	491	88	0	0	0	12741
SD	0	0	0	7	136	364	589	719	763	785	768	640	454	237	53	0	0	0	4443
NUM	28	28	28	23	24	26	25	25	25	25	25	25	25	24	24	28	28	28	21
MAX	0	0	0	19	452	1208	1916	2460	2784	2859	2620	2270	1600	853	198	0	0	0	19174
MIN	0	0	0	0	0	33	75	177	295	511	340	291	209	94	19	0	0	0	2914

TABULATED 12/31/79 AT 13:12:34

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 3 CAPE FEAR FEBRUARY 1978
SENSITIVITY 11.27E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	136	465	813	1813	1950	2372	2289	1909	1382	411	94	0	0	0	13634
2	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
3	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
4	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
5	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
6	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
7	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
8	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
9	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
10	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
11	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
12	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
13	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
14	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
15	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
16	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
17	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
18	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
19	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
20	0	0	0	225	289	458	666	930	1008	1049	842	749	653	503	228	0	0	0	7608
21	0	0	0	0	471	1343	1644	2222	2595	2742	2589	2180	1621	931	142	0	0	0	18480
22	0	0	0	0	57	418	948	971	884	1165	1028	725	549	533	175	0	0	0	7453
23	0	0	0	0	220	1066	1804	2596	2884	2676	1363	1392	600	399	60	0	0	0	15060
24	0	0	0	0	466	1197	1779	2344	2718	2823	2686	2299	1692	945	249	0	0	0	19198
25	0	0	0	9	360	1095	1827	2494	2986	3095	2775	2255	1670	942	245	0	0	0	19753
26	0	0	0	15	332	1012	1645	1686	1804	2731	2382	2175	1648	932	258	0	0	0	16620
27	0	0	0	12	396	1145	1878	2430	2769	2846	2696	2258	1546	964	223	0	0	0	19161
28	0	0	0	0	80	249	386	514	575	460	258	310	258	118	25	0	0	0	3233
MEAN	0	0	0	26	280	844	1339	1800	2017	2195	1890	1625	1161	667	169	0	0	0	14020
SD	0	0	0	66	144	378	539	712	866	886	879	728	543	294	80	0	0	0	5608
NUM	28	28	28	10	10	10	10	10	10	10	10	10	10	10	10	28	28	28	10
MAX	0	0	0	225	471	1343	1878	2596	2986	3095	2775	2299	1692	964	258	0	0	0	19753
MIN	0	0	0	0	57	249	386	514	575	460	258	310	258	118	25	0	0	0	3233

TABULATED 12/31/79 AT 13:12:34

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 4 WALLACE FEBRUARY 1978
SENSITIVITY 11.00E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	400	537	1339	1775	1856	1640	1807	1693	1172	462	155	0	0	0	12836
2	0	0	0	0	10	523	75	180	360	563	648	631	370	157	196	0	0	0	3713
3	0	0	0	0	517	795	1155	1600	2222	2195	2065	1102	1115	543	163	0	0	0	13472
4	0	0	0	0	121	683	1348	1898	2277	2418	2294	1940	1397	723	121	0	0	0	15220
5	0	0	0	0	-666	557	1254	1185	1961	2478	2305	1945	1395	701	115	0	0	0	-999
6	0	0	0	0	69	204	387	731	1788	1902	1778	1725	1411	698	128	0	0	0	10821
7	0	0	0	0	-666	772	1479	2009	2362	2434	2277	1891	1354	651	127	0	0	0	-999
8	0	0	0	0	142	633	1452	1995	2352	2466	2060	1458	738	296	313	0	0	0	13905
9	0	0	0	0	-666	356	818	883	936	2045	2340	1993	1476	779	114	0	0	0	-999
10	0	0	0	0	503	569	1181	1891	1993	2591	2182	1672	1112	517	127	0	0	0	14338
11	0	0	0	0	706	1194	1835	2081	2415	2549	2405	2035	1485	778	143	0	0	0	17626
12	0	0	0	0	297	769	1433	1973	2320	2431	2320	1983	1423	739	143	0	0	0	15831
13	0	0	0	0	247	525	898	1200	790	548	270	473	650	162	-666	0	0	0	-999
14	0	0	0	0	514	82	180	298	1106	2192	1266	736	700	268	104	0	0	0	7446
15	0	0	0	0	263	1123	1765	1673	1480	2423	2265	1866	1313	668	119	0	0	0	14958
16	0	0	0	0	0	136	97	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
17	0	0	0	0	91	252	396	572	703	942	1679	2094	1525	841	226	0	0	0	9321
18	0	0	0	0	246	57	125	273	492	885	966	413	332	99	263	0	0	0	4151
19	0	0	0	0	35	139	143	306	352	450	391	508	372	172	58	0	0	0	3006
20	0	0	0	0	83	200	436	636	825	1012	760	626	479	456	161	0	0	0	5674
21	0	0	0	0	642	907	1559	2089	2517	2354	2239	2239	1667	940	217	0	0	0	17370
22	0	0	0	0	-666	426	459	881	1048	1127	1395	1290	740	515	177	0	0	0	-999
23	0	0	0	0	-666	404	1504	2250	2397	2142	1429	1147	404	489	93	0	0	0	-999
24	0	0	0	-666	278	1014	1659	2245	2618	2765	2657	2320	1773	-666	327	0	0	0	-999
25	0	0	0	0	474	978	1695	2271	2644	2778	2680	2310	1741	-666	314	0	0	0	-999
26	0	0	0	-99	-99	-99	-99	-99	-99	-99	2214	2201	1632	931	257	0	0	0	-999
27	0	0	0	278	425	1142	1849	2392	2732	2837	2637	2294	1587	873	255	0	0	0	19301
28	0	0	0	9	660	300	535	729	683	414	316	277	185	100	48	0	0	0	4256
MEAN	0	0	0	11	305	565	1002	1385	1662	1868	1764	1516	1094	542	171	0	0	0	11291
SD	0	0	0	53	218	337	606	730	798	804	743	663	496	264	76	0	0	0	5222
NUM	28	28	28	26	22	27	27	26	26	26	27	27	27	25	26	28	28	28	18
MAX	0	0	0	278	706	1194	1849	2392	2732	2837	2680	2320	1773	940	327	0	0	0	19301
MIN	0	0	0	0	0	57	75	180	352	414	270	277	185	99	48	0	0	0	3006

TABULATED 12/31/79 AT 13:12:34

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 5 SLOOP POINT FEBRUARY 1978
SENSITIVITY 9.44E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	129	476	1033	1540	1986	2322	2196	1807	1105	554	45	0	0	0	12993
2	0	0	0	0	0	45	80	194	629	991	674	491	327	217	34	0	0	0	3682
3	0	0	0	0	284	966	1595	1959	2335	2427	2213	1862	1176	520	59	0	0	0	15376
4	0	0	0	0	156	762	1456	2005	2356	2459	2314	1929	1334	644	87	0	0	0	15502
5	0	0	0	0	190	396	736	1902	2086	2333	2326	1952	1380	674	87	0	0	0	14062
6	0	0	0	0	34	244	606	663	1208	2215	2246	1445	1250	629	91	0	0	0	10631
7	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	1182	583	87	0	0	0	-999
8	0	0	0	0	114	591	1468	2017	2356	-99	2135	1513	724	301	45	0	0	0	-999
9	0	0	0	0	38	217	694	705	991	-99	1144	1792	1452	762	129	0	0	0	-999
10	0	0	0	0	194	1136	1319	1578	1708	-99	2097	1990	1231	503	122	0	0	0	-999
11	0	0	0	0	194	865	1559	2089	2440	-99	2509	2196	1685	995	305	0	0	0	-999
12	0	0	0	0	61	575	1266	1838	2261	-99	2410	2108	1597	949	289	0	0	0	-999
13	0	0	0	0	102	617	1117	1651	1342	-99	659	854	720	419	114	0	0	0	-999
14	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
15	0	0	0	0	190	785	1468	2021	-99	2509	2360	1983	1411	724	141	0	0	0	-999
16	0	0	0	0	19	49	76	106	-99	297	270	324	148	53	0	0	0	0	-999
17	0	0	0	0	76	377	518	758	-99	1643	2105	2062	1479	756	148	0	0	0	-999
18	0	0	0	0	15	72	160	343	-99	705	1033	476	472	308	34	0	0	0	-999
19	0	0	0	0	22	202	247	461	-99	663	606	617	499	224	30	0	0	0	-999
20	0	0	0	0	49	221	438	705	-99	903	785	652	476	251	144	0	0	0	-999
21	0	0	0	0	362	1163	1620	2211	-99	2673	2482	2112	1574	739	205	0	0	0	-999
22	0	0	0	0	68	312	739	1277	-99	1681	1288	938	961	430	87	0	0	0	-999
23	0	0	0	0	144	652	1563	2291	-99	2452	1311	1403	724	450	83	0	0	0	-999
24	0	0	0	0	472	1144	1746	2284	2661	2768	2608	2230	1662	958	240	0	0	0	18753
25	0	0	0	0	339	1056	1765	2322	2684	2806	2642	2246	1636	922	232	0	0	0	18650
26	0	0	0	11	324	1006	1521	1754	1876	2722	2536	2177	1609	911	240	0	0	0	16687
27	0	0	0	0	377	1136	1853	2379	2753	2848	2669	2311	1594	926	251	0	0	0	19097
28	0	0	0	0	95	301	610	606	469	362	224	366	198	114	35	0	0	0	3360
MEAN	0	0	0	0	155	591	1048	1447	1890	1888	1763	1532	1096	563	123	0	0	0	13526
SD	0	0	0	2	128	370	566	740	698	874	808	676	486	275	86	0	0	0	5318
NUM	28	28	28	27	26	26	26	26	17	20	26	26	27	27	27	28	28	28	11
MAX	0	0	0	11	472	1163	1853	2379	2753	2848	2669	2311	1685	995	305	0	0	0	19097
MIN	0	0	0	0	0	45	76	106	469	297	224	324	148	53	0	0	0	0	3360

TABULATED 12/31/79 AT 13:12:34

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 6 CLINTON FEBRUARY 1978
SENSITIVITY 11.00E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	147	658	1420	1404	1407	1463	1567	1656	1096	599	72	0	0	0	11489
2	0	0	0	0	11	50	132	240	597	940	574	407	420	384	66	0	0	0	3821
3	0	0	0	0	147	602	1040	1616	1983	2313	1655	1276	1305	638	91	0	0	0	12666
4	0	0	0	0	130	700	1364	1911	2271	2392	2271	1904	1354	674	104	0	0	0	15075
5	0	0	0	0	98	507	736	1532	1836	2268	1973	1921	1381	609	92	0	0	0	12953
6	0	0	0	0	39	186	448	1076	2026	2261	1963	1728	1479	710	121	0	0	0	12037
7	0	0	0	0	159	800	1491	2018	2342	2430	2322	1972	1380	653	106	0	0	0	15673
8	0	0	0	0	157	759	1453	2019	2359	2444	2235	1332	756	317	52	0	0	0	13883
9	0	0	0	0	89	485	744	937	2046	2495	2295	1942	1405	695	50	0	0	0	13183
10	0	0	0	0	121	445	1090	1456	1466	1819	1806	1921	1018	517	144	0	0	0	11803
11	0	0	0	0	294	886	1492	2035	2411	2510	2356	2006	1420	749	127	0	0	0	16286
12	0	0	0	0	224	794	1452	1988	2322	2440	2319	1949	1373	692	123	0	0	0	15676
13	0	0	0	0	189	614	912	804	666	447	300	859	280	45	22	0	0	0	5138
14	0	0	0	0	16	72	121	713	1865	2248	1011	596	475	200	39	0	0	0	7356
15	0	0	0	9	133	427	1331	1966	2316	2427	2293	1923	1360	686	133	0	0	0	15004
16	0	0	0	0	21	60	109	221	558	381	417	240	90	34	14	0	0	0	2145
17	0	0	0	0	84	212	349	546	827	1059	1249	1897	1357	693	153	0	0	0	8426
18	0	0	0	0	21	103	159	286	414	440	506	316	142	64	31	0	0	0	2482
19	0	0	0	0	51	169	264	195	532	431	451	316	303	97	25	0	0	0	2834
20	0	0	0	0	78	294	589	769	998	1175	1142	968	658	487	88	0	0	0	7246
21	0	0	0	0	246	1042	1588	2141	2449	2403	2498	2154	1441	813	132	0	0	0	16907
22	0	0	0	0	119	623	698	999	1055	1611	1353	963	1032	525	165	0	0	0	9143
23	0	0	0	0	183	553	1436	2300	2549	2500	2225	1024	733	726	104	0	0	0	14333
24	0	0	0	0	368	1062	1867	2316	2649	2774	2640	2250	1668	944	241	0	0	0	18779
25	0	0	0	0	344	1074	1768	2311	2661	2773	2629	2233	1647	914	240	0	0	0	18594
26	0	0	0	0	349	1046	2001	2338	2224	1880	2417	2217	1658	967	273	0	0	0	17370
27	0	0	0	8	365	1121	1828	2391	2734	2836	2640	2257	1628	912	224	0	0	0	18944
28	0	0	0	9	84	359	591	762	729	395	444	290	186	110	32	0	0	0	3991
MEAN	0	0	0	0	152	560	1016	1403	1724	1841	1698	1447	1037	551	109	0	0	0	11544
SD	0	0	0	2	107	333	589	739	769	823	785	694	514	283	69	0	0	0	5263
NUM	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
MAX	0	0	0	9	368	1121	2001	2391	2734	2836	2640	2257	1668	967	273	0	0	0	18944
MIN	0	0	0	0	11	50	109	195	414	381	300	240	90	34	14	0	0	0	2145

TABULATED 12/31/79 AT 13:12:34

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 7 ONSLOW BEACH FEBRUARY 1978
SENSITIVITY 10.17E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	184	789	1246	2148	1943	2063	-99	-99	1030	318	53	0	0	0	-999
2	0	0	0	0	16	48	91	168	331	940	1078	668	299	165	34	0	0	0	3838
3	0	0	0	0	247	842	1833	2003	2307	2431	2162	1589	1146	555	86	0	0	0	15203
4	0	0	0	0	138	746	1451	2028	2382	2492	2353	1957	1362	676	102	0	0	0	15687
5	0	0	0	0	92	352	835	1323	2007	2654	2329	1946	1387	686	99	0	0	0	13690
6	0	0	0	0	46	240	488	725	258	1847	2074	1281	1153	661	106	0	0	0	8879
7	0	0	0	0	176	835	1553	2042	2431	2545	2286	1915	1217	562	84	0	0	0	15696
8	0	0	0	0	84	676	1529	2050	2392	-99	-99	-99	-99	-99	-99	0	0	0	-999
9	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
10	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
11	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
12	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
13	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
14	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
15	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
16	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
17	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
18	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
19	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
20	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
21	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
22	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
23	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
24	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
25	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	1571	814	244	0	0	0	-999
26	0	0	0	13	144	384	629	721	664	494	197	345	172	126	23	0	0	0	3912
27	0	0	0	0	62	225	289	692	1167	745	1039	866	381	133	37	0	0	0	5636
28	0	0	0	14	396	1161	1879	2453	2523	1964	-99	-99	-99	-99	-99	0	0	0	-999
MEAN	0	0	0	2	144	570	1074	1492	1673	1817	1689	1320	971	469	87	0	0	0	10317
SD	0	0	0	5	102	326	604	758	851	762	758	592	474	246	59	0	0	0	5000
NUM	28	28	28	11	11	11	11	11	11	10	8	8	10	10	10	28	28	28	8
MAX	0	0	0	14	396	1161	1879	2453	2523	2654	2353	1957	1571	814	244	0	0	0	15696
MIN	0	0	0	0	16	48	91	168	258	494	197	345	172	126	23	0	0	0	3838

TABULATED 12/31/79 AT 13:12:34

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : MIP # 8 SLOOP POINT FEBRUARY 1978
SENSITIVITY 8.85E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	220	167	1018	1290	871	1880	1168	2340	944	13	29	0	0	0	9940
2	0	0	0	0	0	0	0	0	0	71	0	0	0	0	0	0	0	0	71
3	0	0	0	0	821	2229	2392	2660	3262	3230	2526	1940	1326	866	154	0	0	0	21406
4	0	0	0	0	781	2107	2721	3051	3225	3262	3250	3079	2729	2095	533	0	0	0	26833
5	0	0	0	0	0	0	106	1591	1331	2307	3381	3239	2991	2368	623	0	0	0	17937
6	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	1267	1796	1458	347	0	0	0	-999
7	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	798	86	0	0	0	-999
8	0	0	0	0	159	757	2698	2958	3064	-99	2258	916	62	0	0	0	0	0	-999
9	0	0	0	0	0	0	135	0	0	-99	0	1974	2482	2092	700	0	0	0	-999
10	0	0	0	0	558	2201	1209	1087	395	-99	1490	1953	1205	249	90	0	0	0	-999
11	0	0	0	0	-99	-888	2815	2843	2579	-99	3230	3124	2900	2379	1277	0	0	0	-999
12	0	0	0	0	391	1827	2490	2755	2950	-99	2995	2893	2616	2144	1132	0	0	0	-999
13	0	0	0	0	379	912	936	1742	359	-99	0	208	188	111	0	0	0	0	-999
14	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
15	0	0	0	0	505	1445	2071	2437	-99	2600	2519	2368	2096	1575	452	0	0	0	-999
16	0	0	0	0	0	0	0	0	-99	0	0	0	0	0	0	0	0	0	-999
17	0	0	0	0	0	0	0	0	-99	102	786	1774	2230	1591	387	0	0	0	-999
18	0	0	0	0	0	0	0	0	-99	0	25	0	0	0	0	0	0	0	-999
19	0	0	0	0	0	0	0	0	-99	0	0	0	0	0	0	0	0	0	-999
20	0	0	0	0	0	0	0	0	-99	0	0	0	0	0	33	0	0	0	-999
21	0	0	0	0	818	2124	2685	2982	-99	2962	2767	2616	2523	1274	558	0	0	0	-999
22	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	180	497	123	78	0	0	0	-999
23	0	0	0	32	0	390	2074	2977	-99	1521	69	244	32	20	0	0	0	0	-999
24	0	0	0	24	1375	2514	2945	2933	2750	2436	2152	1969	1960	1859	1017	0	0	0	23934
25	0	0	0	66	1681	2612	2824	2592	2136	1664	1339	1189	1278	2352	989	0	0	0	20722
26	0	0	0	29	1193	2096	1408	1282	737	2869	2763	2820	2645	2226	1107	0	0	0	21175
27	0	0	0	90	1742	2755	3161	3320	3422	3422	3194	3210	2437	1831	944	0	0	0	29528
28	0	0	0	0	-99	-99	0	0	0	0	0	0	0	0	0	0	0	0	-999
MEAN	0	0	0	10	482	1097	1403	1604	1692	1573	1496	1511	1343	1015	390	0	0	0	19060
SD	0	0	0	22	561	1053	1208	1277	1302	1330	1316	1198	1120	948	427	0	0	0	8508
NUM	28	28	28	24	22	22	24	24	16	18	24	26	26	27	27	28	28	28	9
MAX	0	0	0	90	1742	2755	3161	3320	3422	3422	3381	3239	2991	2379	1277	0	0	0	29528
MIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	71

TABULATED 12/31/79 AT 13:12:34

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : NIP #10 CLINTON FEBRUARY 1978
SENSITIVITY 8.29E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
2	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
3	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
4	0	0	0	-99	-99	-99	-99	-99	1997	3300	3317	3209	2939	2318	655	0	0	0	-999
5	0	0	0	0	78	330	0	442	403	1320	1068	3343	3026	1315	330	0	0	0	11655
6	0	0	0	0	0	0	0	68	1888	1974	1801	1996	2487	2131	646	0	0	0	12991
7	0	0	0	0	855	2470	2948	3200	3300	3235	3265	3148	2640	1836	447	0	0	0	27344
8	0	0	0	0	741	2291	2856	3234	3364	3347	2743	619	77	0	0	0	0	0	19272
9	0	0	0	0	0	78	21	125	1554	3122	3204	3152	2913	2127	52	0	0	0	16348
10	0	0	0	0	30	0	47	425	1680	629	1120	2609	742	351	425	0	0	0	8058
11	0	0	0	0	1088	2600	3086	3338	3425	3355	3281	3169	2795	2170	663	0	0	0	28970
12	0	0	0	0	788	2156	2725	2981	3094	3146	3111	2968	2612	1965	605	0	0	0	26151
13	0	0	0	0	277	373	755	65	0	0	0	104	0	0	0	0	0	0	1574
14	0	0	0	0	0	0	0	0	1102	2240	220	0	0	0	0	0	0	0	3562
15	0	0	0	0	0	11	896	2230	2477	2547	2547	2382	2078	1461	371	0	0	0	17000
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	20	1644	1618	1119	311	0	0	0	4712
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	21	17	13	0	0	0	0	0	0	51
21	0	0	0	0	440	1700	2473	2820	2846	2581	2920	2825	1943	1717	67	0	0	0	22332
22	0	0	0	0	0	69	13	52	17	347	560	234	477	399	447	0	0	0	2615
23	0	0	0	0	24	180	2112	3333	2968	2312	1543	110	310	710	0	0	0	0	13602
24	0	0	0	0	1161	2505	2992	3226	3309	3400	3413	3300	3078	2570	1285	0	0	0	30259
25	0	0	0	0	1632	2796	3183	3356	3456	3474	3426	3269	2970	2323	972	0	0	0	30857
26	0	0	0	0	1222	2533	2664	2008	1274	583	2690	3041	2855	2494	1326	0	0	0	22490
27	0	0	0	0	1652	2764	3176	3367	3459	3480	3124	3224	2620	2082	731	0	0	0	29679
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MEAN	0	0	0	0	417	944	1247	1427	1664	1776	1735	1774	1527	1163	373	0	0	0	13730
SD	0	0	0	0	557	1149	1363	1489	1584	1418	1390	1418	1275	978	399	0	0	0	11228
NUM	28	28	28	24	24	24	24	24	25	25	25	25	25	25	25	28	28	28	24
MAX	0	0	0	0	1652	2796	3183	3367	3459	3480	3426	3343	3078	2570	1326	0	0	0	30857
MIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABULATED 12/31/79 AT 13:12:34

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : UV #11 CLINTON FEBRUARY 1978
SENSITIVITY 312.10E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	4	-99	77	60	64	67	69	67	43	21	3	0	0	0	-999
2	0	0	0	0	0	3	8	15	34	52	31	22	21	18	3	0	0	0	207
3	0	0	0	0	4	23	45	69	85	87	71	55	46	20	3	0	0	0	508
4	0	0	0	0	5	24	49	73	89	95	89	73	48	22	4	0	0	0	571
5	0	0	0	0	4	21	35	68	81	95	85	77	50	22	3	0	0	0	541
6	0	0	0	0	1	8	21	47	77	81	74	65	47	23	4	0	0	0	448
7	0	0	0	0	6	27	54	79	95	100	94	76	49	23	4	0	0	0	607
8	0	0	0	0	6	28	56	81	98	102	93	60	36	15	2	0	0	0	577
9	0	0	0	0	4	20	36	47	85	101	93	75	50	24	4	0	0	0	539
10	0	0	0	0	5	21	45	64	64	81	79	76	43	22	4	0	0	0	504
11	0	0	0	0	7	29	55	80	95	99	92	76	50	24	5	0	0	0	612
12	0	0	0	0	6	27	52	76	91	96	91	74	49	24	5	0	0	0	591
13	0	0	0	0	6	25	39	39	34	24	18	42	15	3	0	0	0	0	245
14	0	0	0	0	0	3	7	37	85	97	48	31	23	10	2	0	0	0	343
15	0	0	0	0	5	20	49	75	91	97	90	73	49	24	5	0	0	0	578
16	0	0	0	0	1	3	6	14	31	23	25	15	6	2	0	0	0	0	126
17	0	0	0	0	3	11	19	29	43	54	61	76	52	26	6	0	0	0	380
18	0	0	0	0	1	6	10	18	26	27	29	19	9	4	1	0	0	0	150
19	0	0	0	0	2	9	14	11	28	23	24	17	17	5	1	0	0	0	151
20	0	0	0	0	4	14	29	39	50	58	56	48	31	20	4	0	0	0	353
21	0	0	0	0	8	31	57	80	92	96	96	79	52	27	5	0	0	0	623
22	0	0	0	0	5	27	32	47	49	71	63	49	44	27	7	0	0	0	421
23	0	0	0	0	8	28	62	93	105	103	92	48	30	24	4	0	0	0	597
24	0	0	0	0	11	36	65	91	107	113	107	88	62	32	8	0	0	0	720
25	0	0	0	0	11	38	67	92	108	113	105	85	58	29	8	0	0	0	714
26	0	0	0	0	11	35	71	92	95	85	100	87	62	33	9	0	0	0	680
27	0	0	0	0	12	39	69	95	112	117	108	89	61	32	9	0	0	0	743
28	0	0	0	0	4	17	30	40	40	23	26	18	11	6	1	0	0	0	216
MEAN	0	0	0	0	5	21	41	58	73	77	71	59	39	20	4	0	0	0	472
SD	0	0	0	0	3	10	20	26	27	29	28	23	16	8	2	0	0	0	185
NUM	28	28	28	28	28	27	28	28	28	28	28	28	28	28	28	28	28	28	27
MAX	0	0	0	0	12	39	77	95	112	117	108	89	62	33	9	0	0	0	743
MIN	0	0	0	0	0	3	6	11	26	23	18	15	6	2	0	0	0	0	126

TABULATED 12/31/79 AT 13:12:35

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : UV #12 SLOOP POINT FEBRUARY 1978
SENSITIVITY 154.40E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
2	0	0	0	0	0	3	6	14	40	56	40	28	19	13	2	0	0	0	221
3	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	3	0	0	0	-999
4	0	0	0	0	6	29	56	80	95	100	93	75	49	23	4	0	0	0	610
5	0	0	0	0	-99	-99	-99	-99	-99	100	96	79	53	25	5	0	0	0	-999
6	0	0	0	0	2	13	30	34	58	88	80	56	43	-99	-99	0	0	0	-999
7	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	48	24	5	0	0	0	-999
8	0	0	0	0	5	26	58	82	99	-99	91	68	-99	-99	-99	0	0	0	-999
9	0	0	0	0	2	12	37	39	53	-99	61	76	56	28	6	0	0	0	-999
10	0	0	0	0	7	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
11	0	0	0	0	7	31	59	83	99	-99	103	89	65	37	12	0	0	0	-999
12	0	0	0	-99	-99	22	48	72	91	-99	99	85	62	35	13	0	0	0	-999
13	0	0	0	0	3	21	44	67	62	-99	37	44	35	23	7	0	0	0	-999
14	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
15	0	0	0	0	8	30	57	82	-99	103	96	79	55	28	7	0	0	0	-999
16	0	0	0	0	1	3	6	8	-99	20	19	21	10	4	1	0	0	0	-999
17	0	0	0	0	6	21	30	42	-99	82	96	87	60	31	8	0	0	0	-999
18	0	0	0	0	1	5	11	22	-99	42	56	30	28	15	2	0	0	0	-999
19	0	0	0	0	2	12	15	27	-99	39	35	33	26	12	2	0	0	0	-999
20	0	0	0	0	3	13	25	39	-99	49	44	36	27	14	6	0	0	0	-999
21	0	0	0	0	11	36	65	91	-99	110	99	83	60	30	9	0	0	0	-999
22	0	0	0	0	3	15	36	58	-99	74	54	46	39	24	4	0	0	0	-999
23	0	0	0	0	8	31	66	95	-99	106	68	67	38	22	4	0	0	0	-999
24	0	0	0	0	13	41	71	96	113	117	109	90	64	35	10	0	0	0	759
25	0	0	0	1	14	41	71	96	112	117	109	89	62	33	9	0	0	0	754
26	0	0	0	0	13	39	62	79	89	114	105	88	62	34	10	0	0	0	695
27	0	0	0	0	15	44	75	100	116	121	113	94	64	35	10	0	0	0	788
28	0	0	0	0	6	17	34	35	29	24	16	24	13	8	1	0	0	0	207
MEAN	0	0	0	0	6	22	43	60	81	81	74	63	45	24	5	0	0	0	576
SD	0	0	0	0	4	12	21	29	28	33	30	24	17	9	3	0	0	0	235
NUM	28	28	28	24	22	22	22	22	13	18	23	23	23	22	23	28	28	28	7
MAX	0	0	0	1	15	44	75	100	116	121	113	94	65	37	13	0	0	0	788
MIN	0	0	0	0	0	3	6	8	29	20	16	21	10	4	1	0	0	0	207

TABULATED 12/31/79 AT 13:12:35

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 2 ELLIS AIRPORT MARCH 1978
SENSITIVITY 10.99E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	45	183	294	386	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
2	0	0	0	-99	-99	1231	1948	2466	2413	1411	1378	1041	942	382	61	0	0	0	-999
3	0	0	0	-99	30	66	79	70	151	381	509	332	502	361	115	0	0	0	-999
4	0	0	0	-99	-99	1077	940	1811	1343	1700	1768	1667	1329	835	216	0	0	0	-999
5	0	0	0	42	592	1405	2125	2666	-99	-99	2862	2424	1814	1031	278	0	0	0	-999
6	0	0	0	-99	-99	1269	1168	2210	2806	2891	2698	2275	1682	942	244	0	0	0	-999
7	0	0	0	38	392	1214	1980	2455	2776	2891	2698	2246	1509	555	126	0	0	0	18880
8	0	0	0	13	72	173	196	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
9	0	0	0	44	71	152	437	893	755	840	794	428	287	110	44	0	0	0	4855
10	0	0	0	52	98	203	524	419	347	327	311	284	124	55	22	0	0	0	2766
11	0	0	0	75	556	1297	2099	2686	2954	2993	-99	-99	-99	-99	-99	0	0	0	-999
12	0	0	0	82	289	1275	1474	2126	888	803	986	1684	1193	868	177	0	0	0	11845
13	0	0	0	-99	530	871	1729	2502	2653	2640	2424	1729	1198	861	252	0	0	0	-999
14	0	0	0	-99	386	674	1533	1637	812	507	979	265	701	642	239	0	0	0	-999
15	0	0	0	-99	1297	1408	2171	2640	2997	3059	2709	2306	1775	809	242	0	0	0	-999
16	0	0	0	74	146	765	1185	1843	2216	2377	2226	1627	1152	762	195	0	0	0	14568
17	0	0	0	104	490	1221	2095	2659	3219	3222	2112	1840	634	651	215	0	0	0	18462
18	0	0	0	134	799	1625	2335	2892	3217	3275	3043	2581	1923	-99	-99	0	0	0	-999
19	0	0	0	-99	-99	1591	2247	2823	3108	-99	-99	-99	-99	-99	-99	0	0	0	-999
20	0	0	0	-99	-99	1538	2135	2600	2891	3016	2809	2436	1758	991	287	0	0	0	-999
21	0	0	0	100	588	1351	2029	1682	2049	1895	1839	1564	1436	873	362	0	0	0	15768
22	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
23	0	0	0	134	812	1555	2253	2784	3066	3131	2918	2532	1903	1189	425	0	0	0	22702
24	0	0	0	23	59	1055	1949	2686	2994	3024	2395	1536	619	789	246	0	0	0	17375
25	0	0	0	57	306	506	932	1089	1558	962	1335	1109	510	359	136	0	0	0	8859
26	0	0	0	-99	-99	328	0	66	165	515	646	2274	1737	797	66	0	0	0	-999
27	0	0	0	-99	175	352	598	1122	2059	2059	1889	1230	644	339	218	0	0	0	-999
28	0	0	0	206	835	1680	2450	2912	3233	3292	3098	2676	2044	1264	514	0	0	0	24204
29	0	0	0	198	977	-99	2356	2897	3208	3231	3038	2586	1976	1216	453	0	0	0	-999
30	0	0	0	206	884	1759	2427	2961	3265	3318	3092	2663	2142	1195	494	0	0	0	24406
31	0	0	0	246	1176	1687	2368	2876	3194	3223	3001	2568	1949	1219	485	0	0	0	23992
MEAN	0	0	0	96	483	1017	1535	2029	2234	2191	2059	1765	1287	763	244	0	0	0	16052
SD	0	0	0	70	369	543	798	917	1050	1080	897	779	605	339	140	0	0	0	6976
NUM	31	31	31	19	24	29	30	29	27	26	26	26	26	25	25	31	31	31	13
MAX	0	0	0	246	1297	1759	2450	2961	3265	3318	3098	2676	2142	1264	514	0	0	0	24406
MIN	0	0	0	0	30	66	0	66	151	327	311	265	124	55	22	0	0	0	2766

TABULATED 12/31/79 AT 13:19:48

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 3 CAPE FEAR MARCH 1978
SENSITIVITY 11.27E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	53	181	462	746	954	749	1280	1714	717	-99	-99	0	0	0	-999
2	0	0	0	-99	-99	-99	-99	-99	-99	1925	1465	966	663	244	82	0	0	0	-999
3	0	0	0	9	60	150	198	326	258	354	405	329	434	159	80	0	0	0	2762
4	0	0	0	15	283	922	1033	1222	1474	1171	1682	1519	1359	1046	296	0	0	0	12025
5	0	0	0	31	520	1335	2085	2664	3009	3066	2913	2478	1871	1102	338	0	0	0	21412
6	0	0	0	63	475	1073	1648	2501	2839	2941	2772	2331	1728	1006	277	0	0	0	19654
7	0	0	0	35	482	1194	1852	2207	2744	2913	2782	1961	1664	773	195	0	0	0	18802
8	0	0	0	11	117	171	245	200	574	539	551	251	120	50	18	0	0	0	2847
9	0	0	0	3	64	191	527	536	616	536	431	444	354	153	41	0	0	0	3893
10	0	0	0	3	116	308	308	371	394	454	320	266	288	90	33	0	0	0	2948
11	0	0	0	61	530	1223	2076	2667	2993	3076	2910	2494	1887	1105	341	0	0	0	21362
12	0	0	0	67	456	1280	1015	2149	1284	760	2066	1408	1677	824	118	0	0	0	13104
13	0	0	0	73	490	992	1886	1752	2963	2873	2493	2199	1691	986	305	0	0	0	18702
14	0	0	0	33	234	1157	1777	2029	1189	579	786	253	381	175	192	0	0	0	8786
15	0	0	0	73	490	1263	2123	2650	2931	-99	-99	-99	-99	-99	-99	0	0	0	-999
16	0	0	0	-99	-99	-99	-99	-99	1926	1555	1140	1431	987	335	169	0	0	0	-999
17	0	0	0	63	518	1317	2262	2457	3010	3163	2486	1537	659	684	394	0	0	0	18555
18	0	0	0	95	715	1549	2283	2849	3232	3315	3146	2692	2069	1280	453	0	0	0	23678
19	0	0	0	102	721	1526	2220	2766	3104	3187	3018	2600	1977	1225	440	0	0	0	22887
20	0	0	0	94	669	1455	2091	2621	2988	3135	2896	2532	1858	1163	324	0	0	0	21831
21	0	0	0	74	633	1323	1544	1636	1905	1512	1314	1821	1496	1112	416	0	0	0	14786
22	0	0	0	57	437	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
23	0	0	0	-99	-99	-99	-99	-99	-99	3194	2973	2510	1875	1162	405	0	0	0	-999
24	0	0	0	67	354	766	1625	2603	3005	1887	2996	2539	1894	1162	389	0	0	0	19287
25	0	0	0	49	205	247	758	1029	997	742	502	665	387	224	97	0	0	0	5902
26	0	0	0	36	52	17	81	68	292	244	2084	2307	1224	1231	330	0	0	0	7966
27	0	0	0	38	150	549	2137	2839	2686	2402	1996	1102	376	172	113	0	0	0	14565
28	0	0	0	159	737	1542	2370	2890	3248	3312	3108	2660	2031	1181	523	0	0	0	23761
29	0	0	0	182	849	1654	2363	2890	3207	3235	3047	2660	2006	1264	501	0	0	0	23858
30	0	0	0	174	890	1688	2413	2966	3289	3356	3164	2679	2062	1318	522	0	0	0	24521
31	0	0	0	217	875	1622	2335	2871	3159	3210	3034	2628	2022	1274	507	0	0	0	23754
MEAN	0	0	0	67	434	988	1545	1944	2152	2047	2060	1757	1301	803	282	0	0	0	15665
SD	0	0	0	55	262	542	784	975	1080	1158	997	863	678	455	160	0	0	0	7503
NUM	31	31	31	28	28	27	27	27	28	29	29	29	29	24	23	31	31	31	25
MAX	0	0	0	217	890	1688	2413	2966	3289	3356	3164	2692	2069	1318	523	0	0	0	24521
MIN	0	0	0	0	52	17	81	68	258	244	320	251	120	50	18	0	0	0	2762

TABULATED 12/31/79 AT 13:19:48

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 4 WALLACE MARCH 1976
SENSITIVITY 11.00E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	376	203	278	487	464	612	864	566	360	193	124	0	0	0	4527
2	0	0	0	0	380	1110	1791	2308	1703	1581	1611	1032	875	495	220	0	0	0	13106
3	0	0	0	0	-888	51	64	87	172	333	326	457	670	362	149	0	0	0	-999
4	0	0	0	0	342	970	1164	2172	1586	1766	1939	1759	1573	1010	309	0	0	0	14590
5	0	0	0	-888	870	1672	2038	2578	2932	3037	2879	2490	1881	1132	359	0	0	0	-999
6	0	0	0	12	421	1105	1700	2355	2653	2869	2744	2361	1776	1042	296	0	0	0	19334
7	0	0	0	320	379	1132	1839	2408	2742	2860	2732	1980	1155	468	114	0	0	0	18129
8	0	0	0	-666	48	143	139	156	251	287	336	261	146	94	133	0	0	0	-999
9	0	0	0	0	326	136	447	804	729	935	801	427	333	107	-888	0	0	0	-999
10	0	0	0	-666	81	192	372	401	339	405	333	319	156	74	169	0	0	0	-999
11	0	0	0	-666	605	1276	2048	2588	2909	2987	2804	2490	1780	1112	382	0	0	0	-999
12	0	0	0	28	277	1278	1167	2188	424	643	1206	1497	823	450	300	0	0	0	10281
13	0	0	0	480	414	712	1579	2433	2486	2610	2649	1294	1422	823	273	0	0	0	17175
14	0	0	0	546	337	1126	1394	1692	514	301	507	713	1037	514	330	0	0	0	9011
15	0	0	0	175	643	1393	2014	2584	2882	2986	2646	2355	1766	931	244	0	0	0	20619
16	0	0	0	-99	-99	213	563	756	1672	2317	2553	1852	1469	1152	-666	0	0	0	-999
17	0	0	0	-99	-99	1149	1807	-99	-888	2946	2406	2495	969	557	253	0	0	0	-999
18	0	0	0	156	427	1484	2208	2784	3130	3238	3068	2640	1995	1281	453	0	0	0	22864
19	0	0	0	166	677	1456	2156	2706	3037	3118	2961	2549	1940	1210	448	0	0	0	22424
20	0	0	0	88	638	1351	2048	2569	2906	3037	2847	2356	1763	1102	343	0	0	0	21048
21	0	0	0	84	538	1059	1628	1488	1851	1978	1798	1658	1769	460	156	0	0	0	14467
22	0	0	0	411	388	283	309	342	1769	889	1661	2283	1743	1065	388	0	0	0	11531
23	0	0	0	-666	710	1472	2166	2719	3027	3102	2929	2444	1865	1151	376	0	0	0	-999
24	0	0	0	-666	407	780	-99	-99	-99	3021	3028	1892	1104	809	377	0	0	0	-999
25	0	0	0	354	168	266	459	1022	813	911	813	701	603	335	119	0	0	0	6564
26	0	0	0	-666	95	52	36	167	671	769	2088	1571	982	340	115	0	0	0	-999
27	0	0	0	-666	156	355	778	1537	1887	686	886	1039	267	264	130	0	0	0	-999
28	0	0	0	258	870	1659	2336	2863	3177	3249	3076	2654	2035	1286	510	0	0	0	23973
29	0	0	0	211	797	1622	2302	2829	3137	3183	3009	2571	1959	1206	447	0	0	0	23273
30	0	0	0	-666	789	1686	2387	2917	3201	3264	3116	2668	2053	1280	501	0	0	0	-999
31	0	0	0	-666	830	1602	2306	2820	3121	3180	3000	2558	1946	1216	476	0	0	0	-999
MEAN	0	0	0	173	463	935	1384	1819	1937	2035	2052	1739	1297	758	292	0	0	0	16053
SD	0	0	0	172	241	566	802	984	1092	1133	979	815	624	411	128	0	0	0	5958
NUM	31	31	31	19	28	31	30	29	29	31	31	31	31	31	29	31	31	31	17
MAX	0	0	0	546	870	1686	2387	2917	3201	3264	3116	2668	2053	1286	510	0	0	0	23973
MIN	0	0	0	0	48	51	36	87	172	287	326	261	146	74	114	0	0	0	4527

TABULATED 12/31/79 AT 13:19:48

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 5 SLOOP POINT MARCH 1978
SENSITIVITY 9.44E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	49	186	312	793	1140	934	1083	1357	564	228	64	0	0	0	6710
2	0	0	0	11	388	1124	1857	2261	1868	2597	1574	987	804	308	68	0	0	0	13847
3	0	0	0	0	13	150	249	428	375	230	230	356	505	314	97	0	0	0	2947
4	0	0	0	19	388	919	1098	1178	1235	1144	1815	1258	1456	1006	293	0	0	0	11809
5	0	0	0	22	484	1201	2021	2574	2963	3069	2905	2501	1887	1132	354	0	0	0	21193
6	0	0	0	19	373	1174	1872	2402	2783	2886	2726	2326	1742	1002	286	0	0	0	19591
7	0	0	0	19	373	1052	1670	2265	2650	2867	2757	1929	1262	781	152	0	0	0	17777
8	0	0	0	0	152	228	198	183	392	598	579	354	202	45	11	0	0	0	2942
9	0	0	0	0	41	148	549	743	621	678	549	461	392	175	41	0	0	0	4398
10	0	0	0	0	179	244	469	423	369	480	533	377	358	99	30	0	0	0	3561
11	0	0	0	45	388	1079	2024	2581	2978	3066	2902	-99	-99	-99	232	0	0	0	-999
12	0	0	0	110	579	1308	1475	1784	1902	926	1956	1422	1411	755	125	0	0	0	13753
13	0	0	0	106	587	1010	1941	2478	2295	2879	2311	2196	1418	758	171	0	0	0	18150
14	0	0	0	57	324	1178	1887	2044	1151	915	583	270	179	198	95	0	0	0	8881
15	0	0	0	144	659	1338	2162	2616	2905	2848	2570	2223	1349	610	282	0	0	0	19706
16	0	0	0	129	518	831	1140	1719	1773	1914	1178	1243	983	343	141	0	0	0	11912
17	0	0	0	64	503	1330	2311	2429	2993	3218	2284	1872	812	533	255	0	0	0	18604
18	0	0	0	163	361	1662	2372	2894	3195	3249	3001	2528	1880	1086	308	0	0	0	23199
19	0	0	0	171	346	1613	2284	2776	3092	3127	2890	2444	1803	1025	293	0	0	0	22364
20	0	0	0	160	789	1521	2227	2715	3073	3119	2822	2127	1735	911	232	0	0	0	21431
21	0	0	0	122	720	1365	1765	1853	2269	1395	1510	1544	1563	1132	385	0	0	0	15623
22	0	0	0	95	324	1090	2162	2692	3024	3157	3001	2375	1695	1144	404	0	0	0	21363
23	0	0	0	148	560	1372	2208	2761	3096	3203	2993	2558	1944	1166	354	0	0	0	22363
24	0	0	0	99	575	1292	2124	2646	2982	3085	2917	2509	1899	1128	381	0	0	0	21637
25	0	0	0	22	91	279	1063	1521	968	1273	1582	572	659	491	83	0	0	0	8595
26	0	0	0	34	129	205	45	91	80	312	739	2105	1788	1189	358	0	0	0	7075
27	0	0	0	95	343	488	602	2040	2738	1487	640	1792	671	282	118	0	0	0	11296
28	0	0	0	171	789	1605	2318	2902	3195	3287	3104	2658	2024	1182	469	0	0	0	23704
29	0	0	0	175	846	1609	2341	2848	3149	3226	3047	2608	2017	1239	465	0	0	0	23570
30	0	0	0	179	888	1666	2394	2913	3233	3302	3100	2661	2032	1258	488	0	0	0	24114
31	0	0	0	221	785	1616	2333	2029	3123	3203	3008	2581	1960	1227	480	0	0	0	23366
MEAN	0	0	0	83	472	1030	1595	2012	2180	2183	2028	1739	1306	758	242	0	0	0	15516
SD	0	0	0	67	264	514	766	883	1040	1104	984	812	620	405	145	0	0	0	7044
NUM	31	31	31	31	31	31	31	31	31	31	31	30	30	30	31	31	31	31	30
MAX	0	0	0	221	888	1666	2394	2913	3233	3302	3104	2661	2032	1258	488	0	0	0	24114
MIN	0	0	0	0	13	148	45	91	80	230	230	270	179	45	11	0	0	0	2942

TABULATED 12/31/79 AT 13:19:48

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 6 CLINTON MARCH 1978
SENSITIVITY 11.00E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	92	226	265	380	406	612	926	638	363	409	275	0	0	0	4592
2	0	0	0	10	363	1116	1836	2258	1757	1286	1034	920	1018	376	59	0	0	0	12033
3	0	0	0	0	20	66	134	239	311	301	557	946	691	380	118	0	0	0	3763
4	0	0	0	15	391	944	1072	1753	1344	1766	2067	1851	1560	921	319	0	0	0	14003
5	0	0	0	22	500	1302	2025	2591	2938	3023	2870	2470	1865	1115	353	0	0	0	21074
6	0	0	0	20	387	976	1280	2452	2760	2874	2733	2328	1761	1028	289	0	0	0	18888
7	0	0	0	19	441	1171	1917	2434	2797	2938	2535	1059	886	287	81	0	0	0	16565
8	0	0	0	0	34	103	119	149	185	250	322	230	126	93	34	0	0	0	1645
9	0	0	0	0	76	180	465	589	655	583	560	576	249	95	30	0	0	0	4058
10	0	0	0	13	95	147	281	324	533	458	206	242	151	108	56	0	0	0	2614
11	0	0	0	38	493	1324	2018	2571	2892	2911	2685	2168	1779	980	355	0	0	0	20214
12	0	0	0	42	438	890	1580	798	752	1076	1096	1188	1420	347	347	0	0	0	9974
13	0	0	0	49	337	674	1495	2255	2608	2579	2222	1976	1312	713	216	0	0	0	16436
14	0	0	0	24	440	970	1837	1490	210	446	1009	1058	1091	1016	400	0	0	0	9991
15	0	0	0	70	460	1370	2024	2613	2928	3000	2872	2332	1648	892	290	0	0	0	20499
16	0	0	0	31	204	456	983	1549	2007	2335	2076	1500	1582	728	296	0	0	0	13747
17	0	0	0	33	419	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
18	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
19	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
20	0	0	0	-99	-99	-99	-99	-99	-99	3162	2658	2239	1719	979	560	0	0	0	-999
21	0	0	0	51	319	876	1347	1720	1789	2267	2237	1972	1491	856	313	0	0	0	15238
22	0	0	0	74	696	1494	2214	2771	3095	3154	2987	2584	1956	1206	444	0	0	0	22675
23	0	0	0	127	729	1498	2199	2719	3063	3115	2925	2529	1904	1191	438	0	0	0	22437
24	0	0	0	67	414	1210	2126	2666	2970	2738	1975	2506	1858	863	313	0	0	0	19706
25	0	0	0	18	83	234	410	492	351	787	597	545	545	204	142	0	0	0	4408
26	0	0	0	49	59	36	82	556	1149	874	1754	1793	1073	245	16	0	0	0	7686
27	0	0	0	-99	-99	-99	560	642	888	708	1365	1136	384	312	292	0	0	0	-999
28	0	0	0	169	843	1635	2335	2878	3193	3261	3068	2640	2024	1281	522	0	0	0	23849
29	0	0	0	177	829	1608	2311	2841	3152	3192	3012	2589	1971	1140	452	0	0	0	23274
30	0	0	0	191	878	1676	2390	2940	3241	3287	3116	2684	2072	1323	544	0	0	0	24342
31	0	0	0	164	744	1588	2295	2828	3146	3198	-99	2370	1696	966	279	0	0	0	-999
MEAN	0	0	0	54	399	914	1392	1759	1893	2006	1906	1681	1292	716	279	0	0	0	14148
SD	0	0	0	57	257	552	806	996	1143	1135	959	799	623	397	158	0	0	0	7429
NUM	31	31	31	27	27	26	27	27	27	28	27	28	28	28	28	31	31	31	25
MAX	0	0	0	191	878	1676	2390	2940	3241	3287	3116	2684	2072	1323	560	0	0	0	24342
MIN	0	0	0	0	20	36	82	149	185	250	206	230	126	93	16	0	0	0	1645

TABULATED 12/31/79 AT 13:19:48

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 7 ONSLOW BEACH MARCH 1978
SENSITIVITY 10.17E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
2	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	846	431	81	0	0	0	-999
3	0	0	0	0	26	171	238	394	571	295	164	245	539	334	97	0	0	0	3074
4	0	0	0	38	382	966	1228	1192	1224	1550	1571	1079	1423	860	251	0	0	0	11764
5	0	0	0	38	555	1380	2109	2672	2998	3072	2899	2474	1847	1083	315	0	0	0	21442
6	0	0	0	28	375	1189	1596	1932	2598	2803	2711	2293	1699	962	261	0	0	0	18447
7	0	0	0	31	431	1281	1932	2399	2697	2877	2725	1975	1083	644	180	0	0	0	18255
8	0	0	0	9	200	313	338	235	320	441	430	175	129	193	9	0	0	0	2792
9	0	0	0	0	47	196	412	982	946	914	713	482	373	171	36	0	0	0	5272
10	0	0	0	15	153	362	118	557	454	521	525	107	245	72	22	0	0	0	3151
11	0	0	0	74	658	1423	2120	2686	3023	3030	2920	2492	1791	1061	346	0	0	0	21624
12	0	0	0	53	633	934	2063	1674	2736	1631	1603	1851	1136	693	138	0	0	0	15145
13	0	0	0	88	584	1030	1815	2584	2846	2707	2456	1964	1277	842	272	0	0	0	18465
14	0	0	0	37	246	802	1729	2317	1567	689	554	618	122	115	91	0	0	0	8887
15	0	0	0	92	612	1253	2077	2598	2959	2984	2746	2198	1776	785	258	0	0	0	20338
16	0	0	0	87	469	760	1368	2232	1754	1783	1383	940	760	416	197	0	0	0	12149
17	0	0	0	47	291	741	1435	2550	2925	3137	3105	1530	1845	868	426	0	0	0	18900
18	0	0	0	106	761	1596	2315	2877	3214	3295	3086	2637	1985	1210	414	0	0	0	23496
19	0	0	0	109	750	1543	2233	2764	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
20	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
21	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
22	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	399	0	0	0	-999
23	0	0	0	158	694	1457	2260	2816	3131	3209	3025	2575	1945	1195	391	0	0	0	22766
24	0	0	0	95	658	1447	2127	2690	3001	3079	2488	2488	1854	1115	364	0	0	0	21406
25	0	0	0	37	172	883	629	979	1528	1779	1397	1659	1050	806	232	0	0	0	11151
26	0	0	0	115	129	126	66	137	37	52	207	1634	1899	1135	360	0	0	0	5897
27	0	0	0	87	735	997	1846	2066	2802	3259	-99	-99	-99	-99	-99	0	0	0	-999
28	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
29	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
30	0	0	0	169	916	1716	2244	3125	3242	-99	-99	-99	-99	-99	-99	0	0	0	-999
31	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
MEAN	0	0	0	65	451	981	1491	1932	2116	2052	1835	1570	1220	713	233	0	0	0	14221
SD	0	0	0	46	249	476	767	932	1062	1131	1064	853	639	369	132	0	0	0	7088
NUM	31	31	31	23	23	23	23	23	22	21	20	20	21	21	22	31	31	31	20
MAX	0	0	0	169	916	1716	2315	3125	3242	3295	3105	2637	1985	1210	426	0	0	0	23496
MIN	0	0	0	0	26	126	66	137	37	52	164	107	122	72	9	0	0	0	2792

TABULATED 12/31/79 AT 13:19:48

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : NIP # 8 SLOOP POINT MARCH 1978
SENSITIVITY 8.85E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	0	0	0	0	17	0	0	224	0	0	0	0	0	0	241
2	0	0	0	66	1355	2360	2812	2454	302	599	143	0	0	0	0	0	0	0	10091
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	50	904	973	403	159	45	0	407	41	1278	1546	1095	0	0	0	6901
5	0	0	0	223	2164	2973	3295	3388	3429	3286	3160	3095	3042	2770	1700	0	0	0	32525
6	0	0	0	41	904	2210	2295	2486	2494	2295	2108	2043	2031	1827	904	0	0	0	21638
7	0	0	0	42	746	1934	2174	2267	2507	2951	3069	1674	604	571	14	0	0	0	18553
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	106	1652	2702	3003	2966	2767	2592	2584	-99	-99	-99	1030	0	0	0	-999
12	0	0	0	174	605	1809	1577	1333	963	0	519	304	1382	1052	68	0	0	0	9786
13	0	0	0	23	202	287	1679	2110	1329	2309	1410	1675	1170	723	88	0	0	0	13005
14	0	0	0	0	42	750	1665	1157	75	0	0	0	0	0	0	0	0	0	3689
15	0	0	0	482	1958	2552	2772	2829	2756	2369	2170	2316	1462	343	543	0	0	0	22552
16	0	0	0	0	11	15	68	35	190	471	47	186	141	0	31	0	0	0	1195
17	0	0	0	14	26	1006	1983	1141	1401	1450	913	950	266	282	657	0	0	0	10089
18	0	0	0	787	2011	2015	1547	1027	693	575	600	771	1112	1417	1137	0	0	0	13692
19	0	0	0	608	1312	994	551	299	193	197	230	343	563	827	677	0	0	0	6794
20	0	0	0	292	564	332	145	76	56	56	64	88	129	377	694	0	0	0	2873
21	0	0	0	27	621	739	601	438	747	39	104	344	1467	2183	1138	0	0	0	8448
22	0	0	0	26	0	819	2743	2943	3004	3028	2841	2170	2434	2019	1100	0	0	0	23127
23	0	0	0	432	1689	2421	2702	2832	2873	2799	2616	2515	2445	2100	973	0	0	0	26397
24	0	0	0	59	408	1820	2507	2589	2455	2255	2097	2003	1966	1714	872	0	0	0	20745
25	0	0	0	0	0	0	0	116	0	0	46	0	0	0	0	0	0	0	162
26	0	0	0	0	0	0	0	0	0	0	22	205	352	583	254	0	0	0	1416
27	0	0	0	13	0	0	0	188	216	33	0	37	0	0	0	0	0	0	487
28	0	0	0	403	1127	936	485	172	70	54	50	54	50	62	70	0	0	0	3533
29	0	0	0	388	693	339	116	51	51	51	46	852	1120	945	563	0	0	0	5215
30	0	0	0	266	917	1210	1446	1531	1511	1442	1324	1173	1051	880	596	0	0	0	13347
31	0	0	0	168	795	1084	1389	1523	1515	1393	1230	1096	945	775	498	0	0	0	12411
MEAN	0	0	0	151	667	1041	1224	1164	1021	975	896	805	833	766	474	0	0	0	9630
SD	0	0	0	205	685	955	1130	1162	1149	1165	1086	923	873	807	480	0	0	0	9086
NUM	31	31	31	31	31	31	31	31	31	31	31	30	30	30	31	31	31	31	30
MAX	0	0	0	787	2164	2973	3295	3388	3429	3286	3160	3095	3042	2770	1700	0	0	0	32525
MIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABULATED 12/31/79 AT 13:19:48

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : NIP #10 CLINTON MARCH 1978
SENSITIVITY 8.29E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	52	0	0	0	0	-99	0	13	0	16	455	0	0	0	-999
2	0	0	0	17	1150	2336	2835	2258	121	0	0	0	143	0	0	0	0	0	8860
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	25	1041	715	94	524	0	289	1002	785	1254	1701	1275	0	0	0	8705
5	0	0	0	130	2240	3152	3474	3643	3717	3717	3665	3569	3374	2939	1862	0	0	0	35482
6	0	0	0	16	628	1423	637	3021	3038	3260	3247	3116	2964	2400	1084	0	0	0	24834
7	0	0	0	0	1132	2343	2778	2969	3225	3234	2209	55	94	0	0	0	0	0	18039
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0	12
11	0	0	0	79	917	2411	3128	3262	3149	2789	2654	2233	2276	1482	657	0	0	0	25037
12	0	0	0	27	335	218	826	23	0	14	0	70	848	0	678	0	0	0	3039
13	0	0	0	0	42	29	698	1579	1666	1310	1006	1206	641	177	20	0	0	0	8374
14	0	0	0	0	486	759	1302	412	0	0	0	52	629	1276	1276	0	0	0	6192
15	0	0	0	86	451	1858	2462	3144	3230	3204	3139	2718	1984	1359	364	0	0	0	23999
16	0	0	0	0	0	0	0	191	868	1315	864	642	1367	343	30	0	0	0	5620
17	0	0	0	0	728	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
18	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
19	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
20	0	0	0	-99	-99	-99	-99	-99	-99	3035	2314	1971	1962	1446	317	0	0	0	-999
21	0	0	0	0	0	124	329	572	415	923	1375	1536	1405	1106	481	0	0	0	8266
22	0	0	0	176	1843	2668	3050	3250	3346	3311	3280	3176	2907	2486	1609	0	0	0	31102
23	0	0	0	166	1664	2580	2967	3119	3240	3236	3154	3032	2732	2281	1430	0	0	0	29601
24	0	0	0	0	0	981	2657	2848	2913	2479	1241	2275	1758	612	360	0	0	0	18124
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	21	13	0	0	0	91	26	425	807	364	0	0	0	0	0	1747
27	0	0	0	-99	-99	-99	-99	0	0	0	0	0	157	127	0	0	0	0	-999
28	0	0	0	609	2042	2784	3154	3275	3340	3345	3314	3136	3010	2593	1803	0	0	0	32405
29	0	0	0	721	2097	2727	3066	3239	3296	3265	3213	3031	2762	1989	1164	0	0	0	30570
30	0	0	0	749	2130	2864	3172	3337	3359	3307	3285	3176	3016	2646	1860	0	0	0	32901
31	0	0	0	82	746	2271	2766	2979	3083	3070	2952	2770	2457	1993	968	0	0	0	26137
MEAN	0	0	0	107	731	1240	1515	1616	1559	1671	1512	1406	1355	1041	636	0	0	0	15161
SD	0	0	0	214	779	1185	1381	1480	1550	1501	1401	1337	1189	1026	651	0	0	0	12576
NUM	31	31	31	27	27	26	26	27	27	27	28	28	28	28	28	31	31	31	25
MAX	0	0	0	749	2240	3152	3474	3643	3717	3717	3665	3569	3374	2939	1862	0	0	0	35482
MIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABULATED 12/31/79 AT 13:19:48

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : UV #11 CLINTON MARCH 1978
SENSITIVITY 312.10E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	5	12	16	23	25	35	49	33	19	20	9	0	0	0	246
2	0	0	0	0	13	39	70	93	83	65	54	47	46	20	3	0	0	0	533
3	0	0	0	0	1	4	10	17	22	21	36	53	39	19	6	0	0	0	228
4	0	0	0	1	14	34	49	76	67	84	92	80	62	34	11	0	0	0	604
5	0	0	0	1	16	46	79	106	124	128	120	101	72	39	12	0	0	0	844
6	0	0	0	1	13	35	57	100	115	120	112	93	67	36	11	0	0	0	760
7	0	0	0	1	15	42	73	98	114	121	103	53	40	13	3	0	0	0	676
8	0	0	0	0	1	6	8	10	13	16	21	14	8	5	2	0	0	0	104
9	0	0	0	0	4	11	27	34	38	36	33	32	15	6	2	0	0	0	238
10	0	0	0	0	5	8	16	19	31	26	12	14	8	5	2	0	0	0	146
11	0	0	0	1	18	47	77	102	117	120	111	89	67	36	12	0	0	0	797
12	0	0	0	1	14	37	67	40	41	55	56	58	60	19	11	0	0	0	459
13	0	0	0	1	14	31	64	94	109	108	95	80	53	29	11	0	0	0	689
14	0	0	0	1	17	42	76	66	14	27	55	55	50	39	14	0	0	0	456
15	0	0	0	2	18	51	81	107	121	125	119	95	65	35	12	0	0	0	831
16	0	0	0	1	10	22	46	72	91	103	91	66	61	29	11	0	0	0	603
17	0	0	0	2	19	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
18	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
19	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
20	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
21	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
22	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
23	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
24	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	88	58	32	12	0	0	0	-999
25	0	0	0	0	0	8	24	29	22	46	36	33	30	11	7	0	0	0	246
26	0	0	0	1	3	2	5	33	62	48	87	82	50	14	1	0	0	0	388
27	0	0	0	-99	-99	-99	-99	35	49	39	72	60	20	12	14	0	0	0	-999
28	0	0	0	6	29	62	96	122	137	140	130	108	80	47	18	0	0	0	975
29	0	0	0	6	29	61	92	117	131	132	123	102	74	41	16	0	0	0	924
30	0	0	0	6	29	61	93	119	134	136	127	106	78	46	18	0	0	0	953
31	0	0	0	7	28	60	91	117	131	133	117	93	63	34	10	0	0	0	884
MEAN	0	0	0	1	13	32	55	70	77	81	80	68	49	25	9	0	0	0	572
SD	0	0	0	2	9	20	30	38	44	44	36	28	21	12	5	0	0	0	276
NUM	31	31	31	23	23	22	22	23	23	23	23	24	24	24	24	31	31	31	22
MAX	0	0	0	7	29	62	96	122	137	140	130	108	80	47	18	0	0	0	975
MIN	0	0	0	0	0	2	5	10	13	16	12	14	8	5	1	0	0	0	104

TABULATED 12/31/79 AT 13:19:48

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : UV #12 SLOOP POINT MARCH 1978
SENSITIVITY 154.40E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	4	12	20	46	61	52	58	63	29	12	4	0	0	0	361
2	0	0	0	1	16	44	75	96	87	99	78	53	42	17	4	0	0	0	612
3	0	0	0	0	1	11	17	28	25	18	17	23	31	19	6	0	0	0	196
4	0	0	0	1	16	39	55	57	65	62	86	62	61	38	11	0	0	0	553
5	0	0	0	1	19	50	83	109	126	131	123	103	75	42	13	0	0	0	875
6	0	0	0	1	17	46	75	100	117	122	114	94	67	37	12	0	0	0	802
7	0	0	0	1	17	42	69	93	110	118	113	82	54	32	8	0	0	0	739
8	0	0	0	0	8	14	14	13	26	37	36	23	13	3	1	0	0	0	188
9	0	0	0	0	3	10	34	42	38	41	35	29	24	11	3	0	0	0	270
10	0	0	0	0	9	16	27	25	24	29	32	23	20	6	2	0	0	0	213
11	0	0	0	2	21	51	82	107	124	128	120	-99	-99	-99	12	0	0	0	-999
12	0	0	0	4	20	51	68	71	93	47	89	73	60	35	8	0	0	0	619
13	0	0	0	3	22	43	79	101	101	120	98	89	60	34	10	0	0	0	760
14	0	0	0	3	16	46	78	93	64	51	36	19	10	13	6	0	0	0	435
15	0	0	0	4	26	57	86	108	124	124	113	95	63	32	12	0	0	0	844
16	0	0	0	3	20	38	53	76	80	95	64	59	48	20	8	0	0	0	564
17	0	0	0	2	21	51	90	104	125	134	103	86	45	27	11	0	0	0	799
18	0	0	0	5	28	61	93	116	133	136	125	103	74	42	14	0	0	0	932
19	0	0	0	5	29	61	91	113	129	133	122	101	73	41	13	0	0	0	911
20	0	0	0	6	26	55	85	110	126	130	117	92	69	38	13	0	0	0	867
21	0	0	0	6	29	52	22	55	67	47	48	43	-99	-99	17	0	0	0	-999
22	0	0	0	3	18	48	88	111	127	133	124	100	76	44	16	0	0	0	888
23	0	0	0	6	28	59	90	115	130	135	126	105	77	44	15	0	0	0	930
24	0	0	0	6	27	56	85	109	124	126	120	102	75	43	16	0	0	0	889
25	0	0	0	2	6	17	55	75	55	69	83	35	37	27	7	0	0	0	468
26	0	0	0	2	8	7	4	8	7	22	41	98	79	49	17	0	0	0	342
27	0	0	0	6	19	26	33	96	126	72	35	77	36	17	7	0	0	0	550
28	0	0	0	8	32	65	98	122	141	143	133	112	82	47	18	0	0	0	1001
29	0	0	0	8	32	63	95	118	133	137	129	107	80	47	18	0	0	0	967
30	0	0	0	8	33	65	97	122	136	138	129	107	80	47	19	0	0	0	981
31	0	0	0	9	34	64	96	120	134	137	127	107	78	47	18	0	0	0	971
MEAN	0	0	0	3	19	42	65	85	95	95	89	75	55	31	10	0	0	0	673
SD	0	0	0	2	9	18	28	34	40	42	37	30	22	13	5	0	0	0	262
NUM	31	31	31	31	31	31	31	31	31	31	31	30	29	29	31	31	31	31	29
MAX	0	0	0	9	34	65	98	122	141	143	133	112	82	49	19	0	0	0	1001
MIN	0	0	0	0	1	7	4	8	7	18	17	19	10	3	1	0	0	0	188

TABULATED 12/31/79 AT 13:19:48

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 2 ELLIS AIRPORT APRIL 1978
SENSITIVITY 10.99E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	-99	-99	-99	1599	2257	2788	3099	3145	2958	2565	1933	1193	426	33	0	0	-999
2	0	0	0	392	788	1686	2406	2914	3212	3245	3042	2590	1849	1093	457	35	0	0	23709
3	0	0	0	73	400	587	1046	803	1540	947	1553	905	341	587	-99	-666	0	0	-999
4	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	-999
5	0	0	-99	-99	949	1722	2397	2915	3164	3039	2970	2646	1994	1290	546	35	0	0	-999
6	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	-999
7	0	0	8	274	998	1813	2488	3006	3287	3323	3114	2695	2069	1329	539	41	0	0	24984
8	0	0	-99	-99	-99	1917	2608	3106	3371	3411	3217	2729	2094	1331	538	53	0	0	-999
9	0	0	-99	-99	-99	-99	-99	-99	3224	3273	3083	2667	2048	1324	555	60	0	0	-999
10	0	0	0	261	782	1614	1856	2276	3124	2665	2050	1562	-99	-99	-99	-99	0	0	-999
11	0	0	-99	-99	-99	760	1641	-99	-99	-99	-99	2293	1962	1186	288	42	0	0	-999
12	0	0	0	85	451	815	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
13	0	0	-99	-99	55	95	160	272	213	429	360	635	367	331	137	19	0	0	-999
14	0	0	21	449	1236	2039	2723	3218	3487	3510	3280	2812	2163	1384	542	44	0	0	26903
15	0	0	16	370	1058	1919	2604	3079	3387	3429	3233	2460	1919	1343	576	55	0	0	25448
16	0	0	-99	-99	1211	2011	2695	3157	3593	3553	3334	2908	2214	-99	-99	-99	0	0	-999
17	0	0	-99	-99	-99	889	823	1216	1249	954	414	342	538	116	53	0	0	0	-999
18	0	0	-99	-99	-99	120	438	392	801	1561	1840	1774	696	415	97	15	0	0	-999
19	0	0	13	242	233	102	488	858	1130	1517	2293	1700	1209	-99	-99	-99	0	0	-999
20	0	0	-99	-99	-99	2075	2740	3228	3510	3546	3051	2580	-99	-99	549	64	0	0	-999
21	0	0	-99	-99	1041	1958	2620	3036	3167	3436	3082	2201	524	425	370	26	0	0	-999
22	0	0	0	461	1212	2073	2777	3337	3577	3613	3396	2954	2286	1575	717	117	0	0	28095
23	0	0	36	478	1863	2155	2761	3200	3468	3557	3328	2751	2106	1343	484	75	0	0	27605
24	0	0	14	269	911	1865	2608	3047	2677	2910	2752	2615	2019	1252	567	129	0	0	23635
25	0	0	20	499	1177	1567	1904	797	414	594	345	338	217	47	86	37	0	0	8042
26	0	0	0	109	388	754	1469	2799	3316	3120	3005	2035	2114	686	286	-99	0	0	-999
27	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	-999
28	0	0	65	612	1657	2355	2810	3324	3586	3613	3403	2948	2319	1582	773	124	0	0	29171
29	0	0	0	-666	1369	2155	2862	3321	3596	3622	3410	2984	2197	1529	789	134	0	0	-999
30	0	0	-99	-99	697	1365	1745	2089	2944	2414	2640	1654	1287	832	127	19	0	0	-999
MEAN	0	0	12	326	923	1461	2037	2424	2725	2737	2606	2167	1602	1008	431	55	0	0	24176
SD	0	0	17	160	452	687	827	1034	1076	1038	954	801	716	476	217	38	0	0	5986
NUM	30	30	15	14	20	26	25	24	25	25	25	26	24	22	22	21	30	30	9
MAX	0	0	65	612	1863	2355	2862	3337	3596	3622	3410	2984	2319	1582	789	134	0	0	29171
MIN	0	0	0	73	55	95	160	272	213	429	345	338	217	47	53	0	0	0	5000

TABULATED 01/02/80 AT 13:08:53

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 3 CAPE FEAR APRIL 1978
SENSITIVITY 11.27E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	202	831	1588	2278	2818	3131	3214	3045	2639	2051	1294	525	49	0	0	23665
2	0	0	0	189	828	1620	2323	2872	3205	3310	3067	2588	1940	1151	493	42	0	0	23628
3	0	0	0	172	393	897	1127	-99	1479	955	645	594	396	163	96	16	0	0	-999
4	0	0	0	153	428	1405	2204	2526	2958	3063	2105	1472	1083	1154	469	57	0	0	19057
5	0	0	0	229	891	1696	2370	2913	3325	3168	2456	2066	2034	1124	405	38	0	0	22715
6	0	0	0	273	966	1755	2305	2822	3046	3276	2905	1953	1315	605	222	24	0	0	21467
7	0	0	0	245	907	1696	2424	2973	3322	3334	3092	2616	2053	1255	543	57	0	0	24517
8	0	0	0	321	1069	1858	2509	3030	3343	3384	3193	2720	2116	1305	526	59	0	0	25433
9	0	0	0	220	977	1740	2453	2922	3274	3360	3095	2667	2111	1277	597	73	0	0	24766
10	0	0	0	640	1157	1738	2035	2412	2901	3000	2620	2310	1122	1055	442	74	0	0	21506
11	0	0	11	267	369	957	2382	2921	2608	3088	2663	2439	1736	1101	328	50	0	0	21000
12	0	0	-99	-99	-99	-99	1598	1218	2352	3432	3211	2793	1981	1416	621	62	0	0	-999
13	0	0	0	30	113	209	177	90	403	662	611	397	429	397	196	10	0	0	3724
14	0	0	11	401	1209	2040	2723	3250	3531	3567	3327	2886	2260	1493	513	72	0	0	27283
15	0	0	10	368	1314	1940	2582	3096	3342	3396	3240	2786	2179	1403	633	84	0	0	26373
16	0	0	13	368	1125	1355	2435	3198	3514	3546	3348	2863	2259	1496	687	93	0	0	26300
17	0	0	0	111	530	635	693	1325	725	434	217	306	303	92	41	16	0	0	5428
18	0	0	0	52	135	420	1691	1633	1272	1962	1771	1950	1563	782	212	17	0	0	13420
19	0	0	10	199	282	36	154	346	978	1326	1751	1496	732	381	125	39	0	0	7855
20	0	0	25	456	1242	2034	2740	3255	3545	3596	3318	2925	2248	702	418	99	0	0	26597
21	0	0	22	351	881	1782	2660	3127	3609	3580	3306	2549	-99	360	335	99	0	0	-999
22	0	0	31	479	1245	2079	2769	3267	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
23	0	0	-99	-99	-99	-99	-99	-99	-99	3657	3360	2823	1977	875	425	60	0	0	-999
24	0	0	24	340	1046	1838	1679	1813	2212	2675	2586	2174	1493	1059	676	101	0	0	19716
25	0	0	35	466	1226	1658	1824	2578	3664	1635	1118	1073	482	236	124	16	0	0	16129
26	0	0	0	167	282	1863	2936	2547	2211	2790	1956	1384	1148	1266	448	14	0	0	19012
27	0	0	0	68	167	275	489	1001	624	809	582	253	138	112	97	42	0	0	4657
28	0	0	54	555	1348	2127	2814	3373	3638	3686	-99	-99	-99	1616	798	140	0	0	-999
29	0	0	53	558	1353	2145	2854	3314	3579	3589	3193	2921	2040	1749	708	59	0	0	28115
30	0	0	29	384	1010	1815	2272	3035	2914	1952	2741	2584	2093	1288	547	106	0	0	22570
MEAN	0	0	11	294	833	1471	2051	2488	2668	2739	2447	2072	1528	973	422	57	0	0	19788
SD	0	0	16	156	400	617	788	906	1012	1010	970	847	691	480	205	32	0	0	7304
NUM	30	30	28	28	28	28	29	28	28	29	28	28	27	29	29	29	30	30	24
MAX	0	0	54	640	1353	2145	2936	3373	3664	3686	3360	2925	2260	1749	798	140	0	0	28115
MIN	0	0	0	30	113	36	154	90	403	434	217	253	138	92	41	10	0	0	3724

TABULATED 01/02/80 AT 13:08:53

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 4 WALLACE APRIL 1978
SENSITIVITY 11.00E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	696	833	1569	2234	2761	3065	3117	2937	2378	1897	1226	447	64	0	0	23224
2	0	0	0	303	882	1638	2345	2869	3160	3225	3029	2594	1959	1229	463	110	0	0	23806
3	0	0	0	35	257	470	634	1236	1164	886	1845	794	342	179	103	54	0	0	7999
4	0	0	0	233	374	855	1968	2671	3008	2848	2216	1264	1644	1091	534	122	0	0	18828
5	0	0	-666	258	929	1695	2359	2876	3148	2935	2621	2647	1960	1204	595	117	0	0	-999
6	0	0	8	286	961	1707	2352	2594	2914	2977	2777	1635	1416	525	257	113	0	0	20522
7	0	0	196	255	958	1691	2425	2922	3213	3269	3069	2690	2078	1354	562	130	0	0	24812
8	0	0	19	330	1004	1855	2516	3020	3315	3361	3171	2719	2091	1322	559	107	0	0	25389
9	0	0	-666	315	1019	1781	2416	2920	3192	3287	3035	2229	1719	1248	479	164	0	0	-999
10	0	0	-666	191	714	1333	2131	2678	2959	2593	2684	2537	367	672	299	63	0	0	-999
11	0	0	-666	148	233	911	1657	2629	2573	2589	2478	2426	1912	1117	305	115	0	0	-999
12	0	0	8	93	400	993	2295	2341	3342	3405	3189	2766	2138	1398	593	129	0	0	23090
13	0	0	0	30	135	57	132	204	227	489	263	508	744	397	86	266	0	0	3538
14	0	0	-666	330	1063	1973	2660	3154	3433	3459	3256	2827	2166	1377	461	157	0	0	-999
15	0	0	146	326	1078	1867	2535	3003	3337	3386	3278	2672	1599	1393	610	224	0	0	25454
16	0	0	24	380	1140	1948	2652	3165	3476	3444	3296	2750	2279	1493	681	148	0	0	26876
17	0	0	0	250	734	541	819	849	2397	869	289	800	309	93	37	119	0	0	8106
18	0	0	-99	-99	-99	667	523	385	1220	2470	2303	948	673	372	-99	-99	0	0	-999
19	0	0	-99	-99	-99	284	719	880	1698	2140	2536	2195	1891	1351	166	-99	0	0	-999
20	0	0	-99	-99	1073	1849	2539	3076	3351	3167	3056	2742	1737	1489	788	130	0	0	-999
21	0	0	9	258	922	1577	2101	2821	2749	3187	2663	2320	1187	549	147	114	0	0	20604
22	0	0	-888	327	971	1970	2663	3187	3505	3577	3413	2994	2336	1646	821	134	0	0	-999
23	0	0	26	654	1246	1943	2644	3138	3406	3478	3226	2811	2133	1309	435	127	0	0	26576
24	0	0	0	197	907	1729	2462	2432	2419	2390	3159	2249	2108	1434	806	125	0	0	22417
25	0	0	-666	359	562	1763	2404	1282	850	437	323	208	234	84	110	182	0	0	-999
26	0	0	0	225	300	932	1681	2771	1750	2555	1737	1243	-99	-99	-99	-99	0	0	-999
27	0	0	10	484	108	291	229	199	334	1499	1993	1044	608	334	242	-888	0	0	-999
28	0	0	113	499	1324	2093	2764	3261	3543	3585	3396	2950	2348	1599	790	120	0	0	28385
29	0	0	70	493	1344	2122	2685	3258	3513	3507	3320	2878	2227	1461	715	133	0	0	27726
30	0	0	-666	275	553	1400	1253	2372	2706	3171	3001	1911	1472	1076	337	62	0	0	-999
MEAN	0	0	33	304	786	1383	1953	2365	2632	2710	2585	2090	1571	1035	443	128	0	0	21020
SD	0	0	55	155	357	604	815	960	969	929	886	819	683	485	236	45	0	0	7209
NUM	30	30	19	27	28	30	30	30	30	30	30	30	29	29	28	26	30	30	17
MAX	0	0	196	696	1344	2122	2764	3261	3543	3585	3413	2994	2348	1646	821	266	0	0	28385
MIN	0	0	0	30	108	57	132	199	227	437	263	208	234	84	37	54	0	0	3538

TABULATED 01/02/80 AT 13:08:53

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 5 SLOOP POINT APRIL 1978
SENSITIVITY 9.44E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	193	713	1571	2253	2757	3058	3161	2997	2581	1979	1254	484	30	0	0	23028
2	0	0	0	199	819	1609	2333	2852	3157	3237	3035	2597	1967	1205	453	26	0	0	23480
3	0	0	0	91	366	713	701	663	1147	934	537	568	388	163	64	0	0	0	6332
4	0	0	0	148	667	800	1853	2616	2886	2684	2455	1292	1193	1029	465	53	0	0	18141
5	0	0	0	209	705	1418	2295	2902	3134	2940	2276	2474	1613	723	383	38	0	0	21120
6	0	0	0	274	968	1693	2452	2963	3069	3153	2776	2009	1266	685	244	19	0	0	21572
7	0	0	0	243	887	1661	2435	2870	3255	3312	2992	2569	1997	1283	549	44	0	0	24089
8	0	0	0	964	1044	1799	2562	3059	3348	3401	3119	2699	2108	1303	564	49	0	0	26007
9	0	0	0	293	892	1769	2410	2917	3256	3294	3054	2246	1159	949	396	41	0	0	22676
10	0	0	0	247	636	964	1857	2280	2867	3157	2905	2452	1529	442	213	26	0	0	19575
11	0	0	15	305	488	774	2307	2566	2837	2677	2356	2280	1861	1166	434	38	0	0	20104
12	0	0	0	71	311	788	2207	1406	2531	3419	3198	2763	2016	1371	605	52	0	0	20738
13	0	0	0	22	87	194	293	137	95	633	739	396	240	194	122	11	0	0	3163
14	0	0	11	408	1205	1998	2680	3195	3451	3493	3245	2814	2173	1422	583	57	0	0	26735
15	0	0	10	384	895	2107	2535	3007	3324	3419	3187	2763	2104	1385	582	67	0	0	25767
16	0	0	13	810	1134	1756	2625	3151	3437	3506	3270	2854	2022	1466	665	81	0	0	26790
17	0	0	11	160	648	865	1067	1411	2394	835	438	385	430	213	45	0	0	0	8902
18	0	0	0	38	72	724	572	1605	1170	1441	2391	2204	1540	896	202	19	0	0	12874
19	0	0	15	255	347	41	87	301	621	1060	1971	1624	1022	587	122	11	0	0	8064
20	0	0	22	457	1243	2032	2715	3203	3458	3523	3275	2966	2024	1224	579	61	0	0	26782
21	0	0	19	358	892	1635	2684	3199	-99	-99	-99	2772	587	312	240	-666	0	0	-999
22	0	0	30	495	1178	1825	2627	3897	3569	3619	3405	2940	2261	1525	705	106	0	0	28179
23	0	0	41	404	915	1905	2692	3233	3538	3615	3371	2513	1975	953	369	41	0	0	25566
24	0	0	0	270	889	1712	1902	2082	2623	3180	3176	2696	2032	1479	-99	76	0	0	-999
25	0	0	53	430	1006	2002	2394	3138	2024	3474	1822	1403	621	282	106	19	0	0	18774
26	0	0	0	232	655	1689	2169	2715	3211	3550	2875	2375	1826	1250	476	0	0	0	23023
27	0	0	0	61	186	324	423	352	922	2558	-99	-99	-99	-99	-99	-99	0	0	-999
28	0	0	-99	-99	-99	-99	-99	-99	-99	3615	3409	2966	2337	1565	781	125	0	0	-999
29	0	0	53	556	1349	2112	2780	3194	3493	3554	3348	2913	2204	1506	560	61	0	0	27593
30	0	0	11	335	957	1784	2288	2699	3378	3241	2372	2147	1902	1361	568	80	0	0	22123
MEAN	0	0	10	306	763	1388	1972	2424	2687	2885	2642	2250	1599	1006	412	43	0	0	20430
SD	0	0	15	209	339	604	814	935	968	918	836	746	620	452	204	30	0	0	6828
NUM	30	30	29	29	29	29	29	29	28	29	28	29	29	29	28	28	30	30	26
MAX	0	0	53	964	1349	2112	2780	3897	3569	3619	3409	2966	2337	1565	781	125	0	0	28179
MIN	0	0	0	22	72	41	87	137	95	633	438	385	240	160	45	0	0	0	3163

TABULATED 01/02/80 AT 13:08:53

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 6 CLINTON APRIL 1978
SENSITIVITY 11.00E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	19	370	1093	1076	2264	2791	3112	3178	3047	2602	1954	1168	392	42	0	0	23108
2	0	0	0	199	860	1656	2350	2863	3174	3227	3043	2618	1983	1224	494	39	0	0	23730
3	0	0	0	80	247	774	869	1071	1147	1605	1467	1035	574	581	253	18	0	0	9721
4	0	0	0	121	442	962	2095	2782	2887	2772	1807	1937	1757	1325	514	46	0	0	19447
5	0	0	0	247	905	1661	2345	2892	3232	3288	3130	2708	2067	1357	529	38	0	0	24399
6	0	0	0	282	789	1509	2324	2783	3035	3080	2553	1968	1415	613	285	50	0	0	20686
7	0	0	0	236	920	1725	2416	2927	3257	3342	3165	2760	2148	1398	609	60	0	0	24963
8	0	0	0	356	1066	1845	2539	3066	3361	3400	3200	2745	2133	1384	602	62	0	0	25759
9	0	0	10	268	972	1715	2386	2932	3207	3312	2873	2651	2071	1345	563	62	0	0	24367
10	0	0	0	206	461	1037	1914	2759	2876	2389	2572	1145	1780	1211	432	65	0	0	18847
11	0	0	0	72	255	668	1803	2396	3034	2782	2533	2350	1545	979	380	52	0	0	18849
12	0	0	0	72	377	1516	2596	3096	3391	3450	3188	2838	2186	1434	661	56	0	0	24861
13	0	0	0	35	71	140	349	339	336	519	549	729	1118	889	251	58	0	0	5383
14	0	0	12	401	1196	1988	2666	3160	3435	3461	3261	2823	2145	1373	512	74	0	0	26507
15	0	0	13	343	1188	1855	2507	3050	3377	3220	3155	1774	1957	1371	595	75	0	0	24480
16	0	0	16	386	1142	1956	2647	3158	3420	3524	3338	2857	2310	1531	730	98	0	0	27107
17	0	0	0	179	431	555	703	978	1642	595	477	650	467	159	61	0	0	0	6897
18	0	0	-99	-99	-99	75	163	536	857	1531	2310	1007	120	-99	55	12	0	0	-999
19	0	0	10	33	43	494	1241	1444	1826	2906	2203	2026	1830	1106	102	125	0	0	15389
20	0	0	21	453	1222	1997	2675	3172	-99	-99	-99	2135	1961	973	381	73	0	0	-999
21	0	0	25	345	1121	1671	2312	3216	2967	3386	3160	1785	424	-99	162	165	0	0	-999
22	0	0	29	530	1214	2055	2745	3266	3554	3609	3387	2978	2323	1570	769	114	0	0	28143
23	0	0	37	433	1127	2288	2704	3198	3424	3522	3260	2861	2004	1251	531	92	0	0	26732
24	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	-999
25	0	0	73	246	754	1330	1598	1281	1320	1667	318	233	269	246	83	14	0	0	9432
26	0	0	0	48	173	765	1501	2372	-99	-99	3154	1148	1256	-99	42	55	0	0	-999
27	0	0	14	60	158	224	194	253	341	482	1029	1434	1025	548	678	53	0	0	6493
28	0	0	51	532	1376	2096	2918	3284	3576	3621	3428	3003	2361	1612	797	149	0	0	28804
29	0	0	55	448	1247	2186	2814	3305	3570	3577	3354	2912	2291	1518	667	127	0	0	28071
30	0	0	24	155	541	1084	2125	2318	2806	2914	2462	1222	1844	1146	335	53	0	0	19029
MEAN	0	0	14	254	763	1341	1991	2437	2672	2754	2550	2032	1631	1127	429	66	0	0	20448
SD	0	0	19	152	415	648	809	957	1010	977	935	820	669	391	226	38	0	0	7256
NUM	30	30	28	28	28	29	29	29	27	27	28	29	29	26	29	29	30	30	25
MAX	0	0	73	532	1376	2288	2918	3305	3576	3621	3428	3003	2361	1612	797	165	0	0	28804
MIN	0	0	0	33	43	75	163	253	336	482	318	233	120	159	42	0	0	0	5000

TABULATED 01/02/80 AT 13:08:53

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 7 ONSLOW BEACH APRIL 1978
SENSITIVITY 10.17E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
2	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	2651	-99	1274	502	31	0	0	-999
3	0	0	0	219	768	1624	2329	2874	3175	-99	-99	-99	-99	-99	-99	-99	0	0	-999
4	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	1012	962	587	102	0	0	-999
5	0	0	0	191	860	1649	2329	2895	3242	3334	2867	2633	1964	1316	484	81	0	0	23845
6	0	0	0	226	934	1709	2392	2853	2502	3047	2916	2145	1359	938	304	31	0	0	21356
7	0	0	0	205	877	1709	2428	2941	3242	3292	3100	2704	2120	1373	594	67	0	0	24652
8	0	0	0	281	1031	1828	2539	3067	3374	3417	3247	2836	2185	1396	628	75	0	0	25904
9	0	0	0	261	955	1734	2410	2824	3235	3249	3129	2771	2148	1433	633	70	0	0	24852
10	0	0	0	244	817	1302	2003	1801	2410	3189	2966	2513	1748	495	70	63	0	0	19621
11	0	0	0	254	584	785	2141	2307	3040	2272	2559	2477	1918	1299	438	63	0	0	20137
12	0	0	0	60	237	661	2106	2399	1847	3426	3203	2778	2187	1440	722	88	0	0	21154
13	0	0	0	14	35	201	315	343	113	315	-99	-99	-99	-99	-99	-99	0	0	-999
14	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
15	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	2070	1313	534	49	0	0	-999
16	0	0	28	453	1253	2046	2746	3274	3476	3543	3309	2860	2184	1338	594	70	0	0	27174
17	0	0	16	200	668	876	990	1439	1708	1889	558	618	-99	168	37	0	0	0	-999
18	0	0	0	22	36	224	759	1180	1190	582	805	936	1435	769	242	22	0	0	8202
19	0	0	20	306	558	151	126	268	445	1036	1620	1708	922	590	345	20	0	0	8115
20	0	0	38	527	1352	2152	2789	3224	3493	3497	3274	2460	1674	938	463	49	0	0	25930
21	0	0	38	325	1097	-99	-99	3150	3472	3518	3274	2789	1553	396	130	-666	0	0	-999
22	0	0	53	573	1376	2162	2838	3323	3596	3617	3373	2909	2215	1458	651	81	0	0	28225
23	0	0	56	559	1338	2127	2807	3277	3561	3585	3355	2707	1886	1076	357	38	0	0	26729
24	0	0	0	385	980	1815	2566	3196	3373	-99	3199	2775	2084	1338	623	53	0	0	-999
25	0	0	55	395	724	1499	2374	2768	2926	1648	1892	1106	862	494	161	16	0	0	17120
26	0	0	0	82	440	1640	2309	2932	3682	3626	-99	-99	-99	-99	-99	-99	0	0	-999
27	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	269	38	0	0	-999
28	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	-999
29	0	0	63	594	1624	2155	2732	3260	3575	3610	3359	2923	2276	1518	608	77	0	0	28374
30	0	0	14	357	697	1769	1437	2679	3479	3366	2835	1911	1617	718	470	77	0	0	21426
MEAN	0	0	16	292	836	1446	2066	2542	2789	2812	2742	2343	1781	1045	435	54	0	0	21930
SD	0	0	22	168	404	645	791	893	1012	1043	825	674	435	394	195	25	0	0	5917
NUM	30	30	23	23	23	22	22	23	23	21	20	21	21	23	24	23	30	30	17
MAX	0	0	63	594	1624	2162	2838	3323	3682	3626	3373	2923	2276	1518	722	102	0	0	28374
MIN	0	0	0	14	35	151	126	268	113	315	558	618	862	168	37	0	0	0	5000

OVERPRINTING ON PAPER TAPE

TABULATED 01/02/80 AT 13:08:53

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : HIP # 8 SLOOP POINT APRIL 1978
SENSITIVITY 8.64E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	119	497	1062	1339	1408	1347	1302	1193	1050	936	765	452	33	0	0	11503
2	0	0	0	246	884	1491	2084	2381	2300	1710	1491	1271	1035	653	335	10	0	0	15891
3	0	0	0	0	0	921	-99	0	10	0	0	0	0	0	0	0	0	0	-999
4	0	0	0	18	209	34	531	901	909	783	669	79	189	563	360	22	0	0	5267
5	0	0	0	640	1499	1600	1368	1112	1006	970	718	1336	1002	413	246	42	0	0	11952
6	0	0	0	351	379	233	180	200	281	652	867	709	387	212	0	0	0	0	4451
7	0	0	0	74	82	58	54	54	82	229	676	1412	1888	1843	1193	167	0	0	7812
8	0	0	-99	-99	33	50	45	45	45	66	204	717	1429	1453	981	135	0	0	-999
9	0	0	0	347	697	1043	1133	1194	1214	1190	1092	705	331	592	490	91	0	0	10119
10	0	0	0	234	91	120	376	616	901	1145	909	803	465	0	30	0	0	0	5690
11	0	0	0	198	72	43	1451	1109	1129	942	711	967	910	617	178	0	0	0	8327
12	0	0	0	0	0	128	1608	18	884	2434	2324	2150	1718	1572	1104	148	0	0	14088
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	83	1694	2666	2821	2719	2593	2597	2601	2365	2235	2023	1661	807	22	0	0	26887
15	0	0	42	1173	1938	1971	1706	1401	1409	1507	1657	1755	1661	1430	905	144	0	0	18699
16	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
17	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
18	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
19	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
20	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
21	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	2524	83	0	0	404	0	0	-999
22	0	0	94	860	1848	2735	3164	3477	3319	3356	3327	3214	2948	2681	1860	560	0	0	33443
23	0	0	98	998	2235	2698	3044	3135	3214	3310	3160	1831	1631	419	60	0	0	0	25833
24	0	0	0	11	299	1365	1032	957	1124	1861	2399	1915	1311	1520	1074	95	0	0	14963
25	0	0	23	419	1481	2014	2052	2198	527	2214	260	64	0	0	0	0	0	0	11252
26	0	0	0	123	344	1256	3489	2035	2548	2727	1839	1523	1448	1577	694	0	0	0	17603
27	0	0	-555	-555	-555	-555	-555	-555	-555	609	-99	-99	-99	-99	-99	-99	0	0	-999
28	0	0	-99	-99	-99	-99	-99	3306	3364	3381	3356	3169	2844	2573	2060	660	0	0	-999
29	0	0	294	1748	-99	2981	3156	2998	3306	3256	3019	2598	2094	1881	769	64	0	0	-999
30	0	0	0	128	870	1595	403	1782	2632	1978	803	703	690	628	290	36	0	0	12538
MEAN	0	0	30	446	767	1191	1377	1431	1484	1592	1436	1363	1125	960	578	109	0	0	13490
SD	0	0	67	529	817	1005	1018	1127	1141	1093	1062	935	851	806	571	175	0	0	8133
NUM	30	30	21	21	21	22	21	23	23	24	23	24	24	24	24	24	30	30	19
MAX	0	0	294	1748	2666	2981	3164	3477	3364	3381	3356	3214	2948	2681	2060	660	0	0	33443
MIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

CONDENSATE INSIDE LENS AFTER 10
SPARE UNIT INSTALLED 21ST

TABULATED 01/02/80 AT 13:08:53

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : NIP #10 CLINTON APRIL 1978
SENSITIVITY 8.29E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	14	974	2016	1655	2758	2919	3015	3023	3084	2863	2437	1686	578	14	0	0	27036
2	0	0	0	698	1944	2604	2943	3002	3156	-99	-888	2917	2552	2005	902	68	0	0	-999
3	0	0	0	0	0	06	-99	0	0	78	99	17	0	0	0	0	0	0	-999
4	0	0	0	0	0	149	1952	2538	2256	1539	284	892	1179	1735	1044	84	0	0	13652
5	0	0	0	742	1945	2562	2831	2996	3113	3104	3131	3018	2705	2019	1307	60	0	0	29533
6	0	0	0	572	1184	1458	2257	2248	2526	2122	1445	1006	771	55	16	0	0	0	15660
7	0	0	0	690	1897	2592	2892	2739	3087	3178	3157	3083	2887	2466	1737	256	0	0	30861
8	0	0	0	1402	2623	3070	3270	3391	3413	3374	3278	3031	2783	2436	1624	269	0	0	33964
9	0	0	0	888	2078	2468	2677	2959	3007	3111	2551	2803	2716	2360	1556	223	0	0	29397
10	0	0	0	51	0	12	758	2283	1992	689	1262	194	1267	1310	463	55	0	0	10336
11	0	0	0	39	0	21	799	1089	2188	1515	1324	1420	903	603	151	0	0	0	10052
12	0	0	0	0	0	1506	2883	3018	3131	3135	2974	3000	2796	2440	1745	186	0	0	26814
13	0	0	0	0	0	0	0	0	0	0	0	0	21	26	0	0	0	0	47
14	0	0	0	129	1870	3160	3351	3442	3464	3433	3368	3251	2765	2044	485	38	0	0	30800
15	0	0	0	793	2187	2577	2825	3033	3237	2677	2682	502	2052	2130	1348	254	0	0	26297
16	0	0	20	1366	2391	2908	3186	3173	3169	3364	3416	3138	3160	2847	2178	537	0	0	34853
17	0	0	0	0	130	0	0	47	295	0	0	26	0	0	0	0	0	0	498
18	0	0	-99	-99	-99	0	0	0	0	108	308	21	0	-99	0	0	0	0	-999
19	0	0	0	0	0	0	43	30	99	668	451	442	746	521	0	0	0	0	3000
20	0	0	39	594	2149	2979	3187	3265	-99	1150	1467	1398	1889	634	117	0	0	0	-999
21	0	0	0	178	1489	955	1376	3039	1676	2457	2401	690	0	373	95	264	0	0	14993
22	0	0	169	1693	2575	3018	3239	3365	3426	3417	3343	3230	2961	2805	2162	677	0	0	36080
23	0	0	60	647	2067	3070	3070	3152	3013	3187	2692	2466	1737	1120	243	17	0	0	26541
24	0	0	0	563	1401	1597	2114	2484	2956	2531	1732	1679	1315	1632	602	133	0	0	20399
25	0	0	73	0	425	382	360	17	43	52	0	0	0	0	0	0	0	0	1352
26	0	0	0	0	0	13	607	1480	629	1163	1936	686	130	-99	0	0	0	0	-999
27	0	0	0	0	0	0	0	0	0	0	13	138	47	0	790	0	0	0	988
28	0	0	199	1598	2496	2939	3365	3296	3369	3374	3348	3265	3052	2718	2027	703	0	0	35749
29	0	0	130	1393	2601	3152	3261	3365	3395	3239	3309	3009	2670	2201	1124	191	0	0	33040
30	0	0	0	0	0	191	781	594	1142	1272	1103	468	972	612	69	0	0	0	7164
MEAN	0	0	24	517	1223	1582	1958	2096	2096	1964	1867	1621	1550	1384	745	134	0	0	19964
SD	0	0	52	548	1039	1286	1267	1324	1327	1295	1269	1282	1157	998	742	194	0	0	12493
NUM	30	30	29	29	29	30	29	30	29	29	29	30	30	28	30	30	30	30	25
MAX	0	0	199	1693	2623	3160	3365	3442	3464	3433	3416	3265	3160	2847	2178	703	0	0	36080
MIN	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47

TABULATED 01/02/80 AT 13:08:53

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : UV #11 CLINTON APRIL 1978
SENSITIVITY 312.10E-6 V/M/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	12	37	-99	87	109	126	128	122	101	70	38	14	1	0	0	-999
2	0	0	0	7	29	60	90	114	129	131	121	101	72	42	16	2	0	0	914
3	0	0	0	3	11	-666	-99	52	57	74	70	49	28	25	11	0	0	0	-999
4	0	0	0	4	18	40	82	110	121	115	79	78	68	44	17	2	0	0	778
5	0	0	0	8	31	62	92	117	133	135	127	107	77	47	19	2	0	0	957
6	0	0	0	8	31	59	93	113	126	126	104	82	56	25	11	1	0	0	835
7	0	0	0	8	32	65	95	117	133	137	128	109	81	49	20	3	0	0	977
8	0	0	0	10	36	68	99	123	136	136	126	105	78	47	20	3	0	0	987
9	0	0	0	9	34	66	97	123	136	140	121	107	79	49	20	3	0	0	984
10	0	0	0	8	20	44	79	114	117	100	102	56	61	42	17	2	0	0	762
11	0	0	0	2	13	32	77	101	124	115	105	89	55	33	14	2	0	0	762
12	0	0	0	4	19	65	108	132	145	147	134	116	86	53	23	3	0	0	1035
13	0	0	0	1	4	9	22	23	22	32	34	42	56	41	14	1	0	0	301
14	0	0	0	13	41	76	109	134	149	149	139	117	85	52	21	3	0	0	1088
15	0	0	0	12	38	70	100	125	142	138	130	91	78	49	21	3	0	0	987
16	0	0	0	13	40	74	107	134	148	153	143	120	92	57	25	4	0	0	1110
17	0	0	0	8	19	28	37	49	78	34	28	34	25	9	3	0	0	0	352
18	0	0	-99	-99	-99	4	10	31	47	72	106	51	7	-99	3	0	0	0	-999
19	0	0	0	1	2	27	65	74	89	131	102	91	79	47	3	3	0	0	714
20	0	0	1	15	44	79	112	137	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
21	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
22	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
23	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
24	0	0	-99	-99	-99	-99	-99	-99	-99	144	136	99	81	42	21	3	0	0	-999
25	0	0	-99	-99	-99	-99	37	45	62	45	23	23	21	12	1	0	0	0	-999
26	0	0	0	1	1	5	29	23	48	31	22	15	13	7	5	1	0	0	201
27	0	0	0	2	8	15	22	38	67	48	68	55	61	31	20	4	0	0	439
28	0	0	2	18	46	79	112	136	150	151	139	119	102	58	28	6	0	0	1146
29	0	0	2	19	47	79	110	130	145	147	135	110	77	42	17	4	0	0	1064
30	0	0	0	5	32	46	57	71	30	17	31	47	69	30	13	4	0	0	452
MEAN	0	0	0	7	26	50	77	95	106	106	99	80	63	38	15	2	0	0	802
SD	0	0	0	5	14	24	31	38	40	44	40	31	24	13	7	1	0	0	281
NUM	30	30	24	24	24	23	25	26	25	26	26	26	26	25	26	26	30	30	21
MAX	0	0	2	19	47	79	112	137	150	153	143	120	102	58	28	6	0	0	1146
MIN	0	0	0	1	1	4	10	23	22	17	22	15	7	7	1	0	0	0	201

MOVED TO RTI FOR RECOMPARISON AFTE

TABULATED 01/02/80 AT 13:08:53

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : UV #12 SLOOP POINT APRIL 1978
SENSITIVITY 154.40E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	8	30	59	89	112	126	131	123	104	78	47	18	2	0	0	927
2	0	0	0	8	29	60	90	113	127	134	124	103	76	44	17	2	0	0	927
3	0	0	0	5	18	-666	-99	36	57	49	31	32	22	10	4	1	0	0	-999
4	0	0	0	8	28	38	76	103	116	113	104	62	52	41	17	2	0	0	760
5	0	0	0	10	33	63	90	112	124	118	96	94	64	36	17	3	0	0	860
6	0	0	0	10	35	65	94	116	124	127	114	84	55	31	12	2	0	0	869
7	0	0	0	9	31	61	89	111	122	124	112	94	68	40	16	2	0	0	879
8	0	0	0	-666	37	68	96	116	131	134	124	104	76	45	20	3	0	0	-999
9	0	0	0	11	35	67	95	121	138	140	130	98	57	42	19	3	0	0	956
10	0	0	1	11	28	43	78	97	121	130	117	96	62	24	8	2	0	0	818
11	0	0	1	11	21	38	90	107	118	114	102	95	76	44	18	3	0	0	838
12	0	0	0	4	18	42	98	74	117	148	138	117	85	54	23	4	0	0	922
13	0	0	0	2	6	13	20	10	8	40	45	25	16	12	7	1	0	0	205
14	0	0	1	15	45	79	110	133	146	148	138	117	88	55	23	4	0	0	1102
15	0	0	1	15	42	74	102	125	140	145	133	112	82	51	22	4	0	0	1048
16	0	0	0	57	42	72	107	131	145	147	137	117	83	55	24	3	0	0	1120
17	0	0	1	7	31	42	53	69	112	45	28	25	27	14	4	1	0	0	459
18	0	0	0	3	5	39	32	79	62	73	107	97	69	41	12	2	0	0	621
19	0	0	1	12	17	4	6	20	36	58	97	79	51	29	9	2	0	0	421
20	0	0	1	18	48	82	113	136	149	152	139	121	84	50	22	4	0	0	1119
21	0	0	1	16	37	74	111	135	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
22	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
23	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
24	0	0	0	0	0	0	28	22	-99	141	132	97	77	46	21	4	0	0	-999
25	0	0	-99	-99	-99	-99	14	26	62	45	23	24	-99	-99	-99	-99	0	0	-999
26	0	0	0	0	0	0	28	22	48	35	22	16	13	8	7	1	0	0	200
27	0	0	0	6	12	21	35	75	52	66	52	61	30	25	7	2	0	0	444
28	0	0	0	15	43	77	111	150	165	152	143	122	96	64	35	12	0	0	1185
29	0	0	0	16	45	76	103	140	153	143	134	111	79	43	19	4	0	0	1074
30	0	0	0	7	31	44	55	71	32	16	33	47	73	31	47	5	0	0	492
MEAN	0	0	0	10	27	50	74	91	105	106	99	83	63	37	17	3	0	0	793
SD	0	0	0	10	13	24	33	42	43	43	41	33	23	14	9	2	0	0	287
NUM	30	30	27	26	27	26	27	28	26	27	27	27	26	26	26	26	30	30	23
MAX	0	0	1	57	48	82	113	150	165	152	143	122	96	64	47	12	0	0	1185
MIN	0	0	0	0	0	0	6	10	8	16	22	16	13	8	4	1	0	0	200

MOVED TO RTI FOR RECOMPARISON AFTE

TABULATED 01/02/80 AT 13:08:53

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 2 ELLIS AIRPORT MAY 1978
SENSITIVITY 10.99E-6 V/M/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	23	209	298	406	-99	-99	-99	360	367	462	-99	-99	-99	-99	0	0	-999
2	0	0	0	363	684	985	1022	1244	1120	936	1480	1054	2175	1641	848	163	0	0	13715
3	0	0	199	1175	1493	2086	2764	3275	3570	-99	-99	-99	-99	-99	-99	-99	0	0	-999
4	0	0	-99	-99	127	101	379	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
5	0	0	-99	-99	330	412	389	1080	1120	1405	1673	2335	2397	1565	812	173	0	0	-999
6	0	0	0	822	1303	2034	2686	3174	3465	3527	3357	2964	2345	1608	825	183	0	0	28293
7	0	0	117	474	1215	1863	2240	2230	1441	668	-99	-99	-99	-99	-99	-99	0	0	-999
8	0	0	0	91	111	173	272	354	291	321	206	278	209	190	75	23	0	0	2594
9	0	0	20	115	348	626	646	331	214	69	112	325	856	430	505	200	0	0	4797
10	0	0	97	628	1421	2154	2790	3167	3668	2806	-888	2207	-99	-99	-99	-99	0	0	-999
11	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	-999
12	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	-999
13	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
14	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
15	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
16	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
17	0	0	-99	-99	-99	-99	-99	-99	-99	1550	935	2029	1567	1085	355	152	0	0	-999
18	0	0	91	537	1032	1405	1795	2873	2922	2945	3357	1051	1982	639	452	209	0	0	21290
19	0	0	112	633	1367	2022	2710	3188	3466	3542	2831	2425	1688	1373	774	224	0	0	26355
20	0	0	-99	-99	1421	2161	2807	3301	3531	3606	3354	2918	2243	1467	805	265	0	0	-999
21	0	0	54	549	1375	2010	2639	3147	3353	3314	3193	2678	1627	1365	470	149	0	0	25923
22	0	0	131	567	1271	1775	2228	2427	3309	2994	2765	1523	1684	1209	649	161	0	0	22693
23	0	0	87	333	805	1741	1755	2115	2118	2305	2747	2436	1456	1293	706	212	0	0	20109
24	0	0	81	199	513	1044	1339	2672	2839	2695	2859	2394	2020	880	422	120	0	0	20077
25	0	0	138	665	1422	2133	2571	3168	3046	2948	1897	-99	-99	-99	-99	-99	0	0	-999
26	0	0	-99	-99	1048	1732	2597	3069	3419	3455	3026	2997	2342	1755	871	307	0	0	-999
27	0	0	31	601	1213	1999	2664	2120	2235	1537	2278	1999	1338	1112	804	237	0	0	20168
28	0	0	30	79	213	278	1160	1111	1766	2739	3099	2087	1124	1943	177	0	0	0	15806
29	0	0	35	310	821	1984	2668	3019	3540	3553	3061	2963	2341	1758	817	297	0	0	27167
30	0	0	119	568	1223	1908	2494	2982	2985	2605	2523	1210	1455	686	512	469	0	0	21739
31	0	0	105	291	573	1674	1870	3072	3351	3449	3017	2525	1975	1451	940	314	0	0	24607
MEAN	0	0	73	460	901	1446	1934	2414	2580	2318	2292	1945	1727	1234	622	203	0	0	19688
SD	0	0	53	265	467	712	867	949	1085	1163	1056	868	563	467	242	102	0	0	7387
NUM	31	31	20	20	24	24	23	22	22	23	21	21	19	19	19	19	31	31	15
MAX	0	0	199	1175	1493	2161	2807	3301	3668	3606	3357	2997	2397	1943	940	469	0	0	28293
MIN	0	0	0	79	111	101	272	331	214	69	112	278	209	190	75	0	0	0	2594

INTEGRATOR-PRINTER POWER FAILED 10-17

TABULATED 01/02/80 AT 14:53:54

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 3 CAPE FEAR MAY 1978
SENSITIVITY 11.27E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	27	209	78	688	1318	1573	2474	619	337	203	203	264	53	11	0	0	8257
2	0	0	26	202	282	1278	1425	1512	914	515	486	640	1815	1515	758	151	0	0	11519
3	0	0	88	685	1375	2148	2816	3279	3595	3490	3081	2081	1548	375	417	88	0	0	25066
4	0	0	8	47	238	337	347	446	813	1900	1813	1884	1155	254	107	31	0	0	9380
5	0	0	51	322	1018	2133	2980	3366	3366	3414	2839	2731	2360	1533	763	153	0	0	27029
6	0	0	78	577	1308	2033	2663	3145	3442	3499	3317	2889	2219	1391	698	149	0	0	27408
7	0	0	66	407	1184	1937	2362	2736	1398	957	1216	950	1094	720	219	43	0	0	15289
8	0	0	0	37	104	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
9	0	0	-99	-99	635	728	753	648	485	201	47	185	578	533	373	105	0	0	-999
10	0	0	47	632	1536	2271	2913	3366	3568	3258	3389	2977	2360	1798	808	156	0	0	29079
11	0	0	127	606	1293	2204	2826	3325	3545	3644	3370	2906	2274	1520	705	121	0	0	28466
12	0	0	120	657	1397	2222	2487	2250	1842	2458	2675	2250	1656	660	264	59	0	0	20947
13	0	0	142	752	1216	2123	2378	2187	3049	1992	1538	1161	1171	433	165	0	0	0	18307
14	0	0	152	762	101	548	1998	3455	3372	3071	3464	1238	554	385	94	8	0	0	19202
15	0	0	73	479	734	846	894	1360	2137	1414	1079	303	293	750	511	60	0	0	11333
16	0	0	121	705	1526	2073	1724	1951	3127	3066	1677	2485	1776	1108	456	140	0	0	21935
17	0	0	142	695	1196	1899	1864	650	880	2059	1123	912	1113	471	270	46	0	0	13320
18	0	0	114	412	1092	2101	2603	3175	2804	2299	2184	1319	696	530	348	210	0	0	19887
19	0	0	145	583	1155	2142	2762	3225	3554	3669	3583	2595	1691	1014	631	155	0	0	26904
20	0	0	149	634	1433	2238	2899	3368	3643	3666	3365	2915	2107	1513	746	200	0	0	28896
21	0	0	131	616	1459	2210	2766	3239	3459	3453	3200	2769	2146	1274	603	131	0	0	27447
22	0	0	86	655	1235	1935	-99	2130	2316	2715	2379	1613	450	137	92	41	0	0	-999
23	0	0	59	312	823	1069	1663	925	2049	3273	2273	2068	1877	1104	369	110	0	0	17974
24	0	0	73	300	915	1539	1856	2303	2670	2964	2683	2510	2137	1402	367	115	0	0	21835
25	0	0	139	704	1331	2120	2797	3282	3589	3448	2924	2730	861	1372	529	209	0	0	26035
26	0	0	101	513	1013	2059	2612	3164	3503	3573	3059	1650	1711	1615	845	261	0	0	25684
27	0	0	80	300	287	1894	2444	2594	3114	2156	1977	1651	1364	1456	390	163	0	0	19870
28	0	0	38	160	211	652	575	821	1354	2246	2722	1805	1945	1792	537	259	0	0	15117
29	0	0	125	604	1294	2131	2815	3131	3425	2713	2425	2971	1895	1544	828	250	0	0	26151
30	0	0	128	610	1294	2121	2437	3079	2999	2412	2198	607	1067	533	492	482	0	0	20459
31	0	0	122	653	1378	2080	2703	3176	3470	3521	2812	2326	1930	1707	924	269	0	0	27071
MEAN	0	0	91	494	970	1725	2161	2429	2665	2609	2307	1844	1468	1023	478	139	0	0	21066
SD	0	0	44	210	472	609	761	978	985	975	975	894	645	528	250	100	0	0	6254
NUM	31	31	30	30	31	30	29	30	30	30	30	30	30	30	30	30	31	31	28
MAX	0	0	152	762	1536	2271	2980	3455	3643	3669	3583	2977	2360	1798	924	482	0	0	29079
MIN	0	0	0	37	78	337	347	446	485	201	47	185	203	137	53	0	0	0	5000

TABULATED 01/02/80 AT 14

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 4 WALLACE MAY 1978
SENSITIVITY 11.00E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER

DATE	HOUR ENDING 4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	-666	373	805	952	1597	789	301	389	461	432	141	65	137	0	0	0	-999
2	0	0	184	332	688	1258	1009	1081	518	757	1304	2259	1605	806	138	138	0	0	12077
3	0	0	-666	1065	1956	2754	3258	3536	3533	3288	2463	1497	866	358	214	0	0	0	-999
4	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	-999
5	0	0	-99	-99	307	415	405	733	1295	2101	3115	2840	2029	1282	788	130	0	0	-999
6	0	0	118	625	1315	2062	2690	3155	3430	3488	3158	2739	2248	1492	752	131	0	0	27403
7	0	0	-666	495	1267	1827	2593	2796	1555	878	1218	678	1149	567	223	30	0	0	-999
8	0	0	11	67	93	175	211	227	378	257	515	564	335	158	63	80	0	0	3134
9	0	0	84	120	219	304	961	709	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
10	0	0	-99	-99	1489	2205	2824	3266	3537	3583	3347	2961	2176	1498	827	166	0	0	-999
11	0	0	133	457	1072	2077	2777	3291	3553	3566	3363	2918	2296	1520	516	110	0	0	27649
12	0	0	-666	559	1224	1999	2814	2523	2310	2690	2444	2081	1626	756	284	65	0	0	-999
13	0	0	354	708	992	1886	1922	1761	1991	1140	789	1097	714	744	213	83	0	0	14394
14	0	0	121	687	782	1587	2700	3086	3056	3250	2772	1594	242	203	98	0	0	0	20178
15	0	0	-666	518	868	1316	1185	747	1012	1611	825	403	122	177	171	469	0	0	-999
16	0	0	129	525	1252	2194	2126	1186	2849	2240	2116	2986	1828	1556	686	205	0	0	21878
17	0	0	470	581	1170	2129	2767	2604	1641	944	1399	1334	866	892	375	257	0	0	17429
18	0	0	-666	545	1147	1314	1622	2332	3010	2656	1776	2057	1069	657	480	228	0	0	-999
19	0	0	-666	619	1385	2095	2756	3221	3480	3417	3025	1977	1542	1293	740	184	0	0	-999
20	0	0	-665	528	1316	2046	2809	3270	3506	3493	3149	2675	2252	1496	855	148	0	0	-999
21	0	0	121	622	1286	2055	2703	3122	3354	3348	3158	2520	1957	1381	543	160	0	0	26330
22	0	0	239	599	1276	1990	2422	1911	2242	1522	1898	2183	1466	1191	523	127	0	0	19589
23	0	0	77	290	454	1017	2227	1782	2188	3062	2653	1527	1737	1413	578	198	0	0	19203
24	0	0	-666	295	632	956	1718	2556	3296	2664	2373	2271	1960	982	380	190	0	0	-999
25	0	0	-888	678	1388	2105	2697	3133	3224	2707	2105	2390	1784	1336	711	187	0	0	-999
26	0	0	-666	420	1025	1883	2698	3149	3356	3251	2554	2521	2073	1559	819	197	0	0	-999
27	0	0	41	372	1498	2070	1766	2787	2571	2005	1357	1953	1521	938	693	117	0	0	19689
28	0	0	-666	155	354	1052	1529	2069	2190	2194	2400	2573	934	1127	400	89	0	0	-999
29	0	0	163	608	1328	1865	2363	2143	3400	3220	3070	2369	2333	1538	644	209	0	0	25253
30	0	0	150	651	1306	1957	2428	2736	2994	2343	1306	916	353	442	913	242	0	0	18737
31	0	0	393	1369	2053	2704	3136	3385	3175	3244	2923	2036	1532	878	233	66	0	0	27127
MEAN	0	0	174	530	1064	1674	2157	2302	2515	2389	2173	1943	1405	976	482	145	0	0	20004
SD	0	0	124	258	463	646	782	969	1017	1025	890	778	694	479	260	93	0	0	6445
NUM	31	31	16	28	30	30	30	30	29	29	29	29	29	29	29	29	31	31	15
MAX	0	0	470	1369	2053	2754	3258	3536	3553	3583	3363	2986	2333	1559	913	469	0	0	27649
MIN	0	0	11	67	93	175	211	227	301	257	461	403	122	65	63	0	0	0	3134

TABULATED 01/02/80 AT 14:53:54

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 5 SLOOP POINT MAY 1978
SENSITIVITY 9.44E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	56	220	441	670	1410	1101	2073	1196	334	143	155	212	52	395	0	0	8458
2	0	0	11	240	369	270	983	1468	1254	747	655	686	1643	1518	785	133	0	0	10754
3	0	0	80	587	1338	2093	2806	3258	3550	3523	3199	2585	1662	888	171	80	0	0	25830
4	0	0	0	53	148	232	343	526	366	1632	2619	1399	1006	248	114	19	0	0	8697
5	0	0	57	366	1022	1067	1666	2555	3176	3386	3092	2246	1849	1413	686	137	0	0	22716
6	0	0	76	583	1308	2032	2684	3138	3359	3470	3218	2841	2230	1399	732	144	0	0	27214
7	0	0	76	503	1124	1967	2619	3016	3035	1677	1285	892	701	696	129	0	0	0	17714
8	0	0	15	38	118	110	144	143	240	175	171	213	144	102	38	0	0	0	1691
9	0	0	53	160	388	865	537	499	488	213	38	110	400	499	354	106	0	0	4710
10	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	-999
11	0	0	99	457	957	2091	2749	3302	3523	3561	3378	2947	2318	1582	777	141	0	0	27888
12	0	0	91	591	1250	1811	2555	3005	2642	2986	2913	2524	2089	1216	335	99	0	0	24107
13	0	0	80	613	1220	1922	2188	2703	2902	3077	1948	995	579	530	343	30	0	0	19130
14	0	0	87	678	1441	1227	1838	2223	3432	2898	3180	2635	472	926	301	-99	0	0	-999
15	0	0	49	286	926	598	1010	831	2047	2436	1315	858	259	194	476	129	0	0	11414
16	0	0	118	598	1327	2116	1708	1594	2127	2013	1975	2299	2360	1559	781	160	0	0	20735
17	0	0	91	526	1262	2074	2318	2211	705	1330	1121	1178	789	583	217	41	0	0	14446
18	0	0	95	469	1060	2383	2669	3218	2989	2993	2147	2093	1262	179	369	331	0	0	22257
19	0	0	122	549	1319	2055	2699	3130	3481	3363	2921	2086	1841	1365	739	167	0	0	25887
20	0	0	122	587	1266	2131	2795	3237	3436	3500	3355	2974	2253	1517	728	183	0	0	28084
21	0	0	91	556	1315	1990	2608	3138	3363	3348	3153	2734	2002	1422	594	183	0	0	26497
22	0	0	114	518	1182	1395	1567	2444	2162	1979	2753	2143	1349	674	148	61	0	0	18489
23	0	0	45	213	461	1191	911	1460	2768	2780	2898	2421	2108	1395	648	198	0	0	19499
24	0	0	106	350	827	1144	1769	2524	3043	2871	3191	2715	2017	1513	491	144	0	0	22705
25	0	0	99	583	1304	2041	2692	2841	2356	1788	1346	1670	1163	1010	644	179	0	0	19719
26	0	0	118	659	1140	1746	2574	3119	3191	2944	2970	2337	1758	1422	797	186	0	0	24961
27	0	0	22	564	1380	2082	2177	1967	1521	1716	2394	1811	1750	1048	648	137	0	0	19217
28	0	0	45	190	278	377	899	1002	1399	1834	1967	2932	1960	537	465	118	0	0	14003
29	0	0	129	625	1456	2059	2722	3146	3294	2093	2863	2482	2265	1533	861	202	0	0	25730
30	0	0	125	636	1277	1960	2532	2966	3077	3283	2997	1651	1491	419	102	369	0	0	22885
31	0	0	122	240	1712	2017	2623	3058	3272	3279	2928	2421	2139	1517	880	247	0	0	26455
MEAN	0	0	79	441	1020	1524	1959	2297	2475	2403	2277	1900	1467	969	480	148	0	0	19375
SD	0	0	36	188	427	685	816	966	1019	985	1013	873	712	507	268	96	0	0	7165
NUM	31	31	30	30	30	30	30	30	30	30	30	30	30	30	30	29	31	31	29
MAX	0	0	129	678	1712	2383	2806	3302	3550	3561	3378	2974	2360	1582	880	395	0	0	28084
MIN	0	0	0	38	118	110	144	143	240	175	38	110	144	102	38	0	0	0	1691

TABULATED 01/02/80 AT 1

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 6 CLINTON MAY 1978
SENSITIVITY 11.00E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER

DATE	HOUR ENDING 4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	19	208	346	487	421	519	601	467	696	991	392	202	58	15	0	0	5422
2	0	0	25	218	382	1151	879	1030	591	627	1468	2725	2205	1553	794	162	0	0	13810
3	0	0	79	655	1375	2370	2799	3280	3499	3607	3349	2540	1670	1045	439	96	0	0	26803
4	0	0	10	49	115	157	252	462	570	1440	799	616	1106	298	121	10	0	0	6005
5	0	0	19	120	382	660	1288	1727	1992	3419	2990	2015	2241	1439	719	123	0	0	19134
6	0	0	73	567	1303	2053	2704	3198	3496	3558	3323	2933	2305	1575	809	171	0	0	28068
7	0	0	83	525	1163	1906	2511	3061	3005	2056	413	246	338	201	40	17	0	0	15565
8	0	0	12	107	101	219	385	615	313	526	474	510	235	251	88	9	0	0	3845
9	0	0	20	128	347	475	1103	871	508	292	1129	1303	622	616	645	246	0	0	6305
10	0	0	101	654	1423	2170	2811	3001	3927	3619	3367	2664	2281	1682	890	203	0	0	28793
11	0	0	109	1228	1097	2092	2786	3251	3575	3581	3417	2976	2380	1637	829	171	0	0	29129
12	0	0	192	660	1285	2162	2823	3062	2709	3180	2961	2630	2054	771	359	68	0	0	24916
13	0	0	124	504	1008	1777	1646	982	1132	1859	1181	779	1364	1158	396	104	0	0	14014
14	0	0	110	666	1210	2162	2594	2561	2853	2938	1809	1020	244	241	189	51	0	0	18648
15	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	-999
16	0	0	116	620	1602	2024	2626	1527	1975	1929	2554	1903	1841	1065	741	228	0	0	20751
17	0	0	64	509	984	2106	2715	2682	1933	1930	1485	1655	434	198	179	221	0	0	17095
18	0	0	88	497	1063	1400	2179	2742	2634	2945	1656	1306	1152	1063	723	258	0	0	19706
19	0	0	119	623	1326	2102	2763	3241	3509	3447	2766	1876	1964	1516	806	236	0	0	26294
20	0	0	99	465	1290	2148	2766	3231	3516	3503	3339	3015	2387	1631	865	141	0	0	28396
21	0	0	122	596	1280	2013	2639	3087	3316	3365	3198	2501	1820	1068	626	223	0	0	25854
22	0	0	117	568	1278	2002	2244	2522	2859	3419	2889	2133	1884	1255	529	107	0	0	23806
23	0	0	66	263	557	993	2148	2953	2672	2884	2953	2056	930	1336	629	129	0	0	20569
24	0	0	80	332	741	865	1873	2861	3097	2560	2760	2217	803	534	469	296	0	0	19488
25	0	0	138	623	1326	1850	2665	3084	2845	2691	2138	2167	2177	1261	750	217	0	0	23932
26	0	0	77	427	1285	2021	2673	3118	3386	3402	3304	2695	2106	1612	912	264	0	0	27282
27	0	0	41	516	1318	2191	2738	3271	2479	2777	2479	1877	1635	1125	411	126	0	0	22984
28	0	0	55	225	467	876	1213	1249	988	1701	3043	2336	1878	660	183	78	0	0	14952
29	0	0	131	677	1430	2081	2739	3325	2651	3803	2850	2268	2372	1662	864	229	0	0	27062
30	0	0	123	581	1216	1864	2499	2977	2947	2584	1674	1707	1975	1684	814	254	0	0	22899
31	0	0	81	447	1069	1725	2673	3134	3383	3311	2915	2911	2414	1602	945	267	0	0	26875
MEAN	0	0	83	475	992	1603	2138	2420	2431	2580	2312	1952	1573	1064	560	157	0	0	20346
SD	0	0	43	237	430	668	814	978	1085	1043	959	778	734	524	288	86	0	0	7238
NUM	31	31	30	30	30	30	30	30	30	30	30	30	30	30	30	30	31	31	30
MAX	0	0	192	1228	1602	2370	2823	3325	3927	3803	3417	3015	2414	1684	945	296	0	0	29129
MIN	0	0	10	49	101	157	252	462	313	292	413	246	235	198	40	9	0	0	3845

TABULATED 01/02/80 AT 14:53:54

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 7 ONSLOW BEACH MAY 1978
SENSITIVITY 10.17E-6 V/M/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	30	355	770	558	1521	1669	2604	1655	1772	222	140	126	83	9	0	0	11525
2	0	0	17	198	346	256	637	725	739	761	-99	-99	-99	-99	-99	-99	0	0	-999
3	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	2718	1706	955	311	53	0	0	-999
4	0	0	13	45	112	165	314	473	597	1202	2629	2009	1375	568	260	48	0	0	9810
5	0	0	56	520	1369	2205	1897	1419	2410	2587	3274	2799	2254	1401	683	113	0	0	22987
6	0	0	88	640	1376	2070	2764	3192	3454	3511	3295	2792	2215	1518	743	148	0	0	27806
7	0	0	123	506	1189	1493	2028	2088	1886	1394	952	453	371	403	113	0	0	0	12999
8	0	0	9	45	98	140	133	363	352	303	236	207	115	105	66	16	0	0	2188
9	0	0	77	346	559	1171	2031	927	145	176	60	67	304	481	392	106	0	0	6842
10	0	0	120	695	1472	2201	2631	3323	3387	3599	1649	2265	1752	1585	838	180	0	0	25895
11	0	0	173	615	1118	1971	2849	3309	3553	3571	3362	2934	2300	1578	778	180	0	0	28291
12	0	0	99	591	1327	2205	2538	2481	2322	2623	1982	2775	1801	1387	442	67	0	0	22640
13	0	0	74	520	1313	1907	2729	3214	3256	3076	2672	1050	874	293	304	42	0	0	21332
14	0	0	106	697	1529	1553	1727	2134	2899	3518	2630	2980	1451	495	318	53	0	0	22090
15	0	0	42	300	669	863	934	1263	2162	2870	2180	1607	431	257	424	169	0	0	14151
16	0	0	127	715	1486	2162	2003	1702	2672	3270	1876	1019	-99	-99	-99	-99	0	0	-999
17	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
18	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
19	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	2492	1964	1359	-666	0	0	-999
20	0	0	0	166	766	1469	2180	2849	3309	3553	3568	3338	2867	2187	562	70	0	0	26886
21	0	0	0	116	686	1405	2084	2651	3189	3440	3316	3111	2654	2038	1164	-666	0	0	-999
22	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
23	0	0	-99	-99	-99	1469	-99	-888	3309	3553	3568	3338	2867	2187	-99	-99	0	0	-999
24	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
25	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	1826	1408	1394	623	180	0	0	-999
26	0	0	84	534	994	1638	2615	3192	3500	3044	2527	2339	2109	1369	743	346	0	0	25034
27	0	0	159	569	1210	1773	1692	1617	1861	1985	2155	1801	1161	962	325	169	0	0	17439
28	0	0	28	134	364	431	755	1189	2067	1784	1281	2463	2155	736	630	208	0	0	14273
29	0	0	113	658	1469	2215	2814	3263	2477	2987	3419	2392	2343	1571	831	223	0	0	26775
30	0	0	148	654	1345	2028	2630	3058	2863	1670	1886	2807	1316	707	180	162	0	0	21454
31	0	0	138	573	1476	1985	2587	3065	3323	3192	3238	2651	2141	1481	711	237	0	0	26718
MEAN	0	0	79	442	1001	1475	1925	2137	2430	2471	2327	2078	1624	1105	536	126	0	0	19356
SD	0	0	52	222	457	695	828	983	1021	1078	1003	1001	841	646	323	86	0	0	7525
NUM	31	31	23	23	23	24	23	23	24	24	23	25	25	25	24	22	31	31	20
MAX	0	0	173	715	1529	2215	2849	3323	3553	3599	3568	3338	2867	2187	1359	346	0	0	28291
MIN	0	0	0	45	98	140	133	363	145	176	60	67	115	105	66	0	0	0	2188

OVERPRINT OF TAPE 16-19 22-25

TABULATED 01/02/80 AT 14[redacted]:54

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : UIP # 8 SLOOP POINT MAY 1978
SENSITIVITY 8.64E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	16	33	50	58	75	37	296	12	0	0	0	0	0	0	0	0	577
2	0	0	0	14	0	0	10	260	0	0	0	0	744	2394	2160	810	0	0	6392
3	0	0	273	1689	2189	2939	3194	3256	3227	3060	2581	1781	756	189	0	0	0	0	25134
4	0	0	0	0	0	0	0	0	0	99	1220	78	124	0	0	0	0	0	1521
5	0	0	0	28	540	15	578	1170	2032	2207	2074	1274	1328	1703	1328	445	0	0	14722
6	0	0	332	1536	2095	2361	2590	2645	2703	2882	2807	2761	2549	1953	1565	478	0	0	29257
7	0	0	39	264	923	1769	2160	1923	1248	139	0	0	0	0	0	0	0	0	8465
8	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	-999
9	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	-999
10	0	0	166	1766	2291	2391	2383	2379	2408	1937	2546	2646	2671	2021	1791	837	0	0	28233
11	0	0	153	195	545	2136	2874	3095	3115	3115	3061	2953	2715	2382	1615	361	0	0	28315
12	0	0	74	870	1395	1253	1624	1715	461	953	1607	1403	1528	886	45	0	0	0	13814
13	0	0	78	924	1011	1440	640	1386	1470	1590	157	11	0	0	82	0	0	0	8789
14	0	0	403	2020	2049	478	653	324	2324	1270	2336	2186	78	315	0	0	0	0	14436
15	0	0	0	0	519	0	0	0	214	794	14	0	0	0	227	89	0	0	1857
16	0	0	73	1602	2181	2044	423	81	335	760	256	735	2414	2094	1423	360	0	0	14781
17	0	0	85	919	1460	1689	977	560	0	69	23	0	60	0	0	27	0	0	5869
18	0	0	0	0	503	1403	1186	1474	865	807	240	382	220	0	132	161	0	0	7373
19	0	0	161	761	1074	1207	1220	1249	1299	1503	1853	1107	1253	1220	1090	265	0	0	15262
20	0	0	137	1108	2041	2512	2775	2825	2816	2929	2866	2762	2216	1712	1204	350	0	0	28253
21	0	0	150	991	1721	1933	2200	2479	2500	2387	2208	2025	1375	1046	408	75	0	0	21498
22	0	0	66	433	921	400	171	608	446	116	704	504	162	29	0	0	0	0	4560
23	0	0	0	0	0	58	0	41	537	512	758	891	1204	883	450	121	0	0	5455
24	0	0	0	0	71	116	229	725	1021	1408	2016	1608	1312	1300	196	0	0	0	10002
25	0	0	112	804	1400	1966	2321	2008	871	408	125	462	396	521	583	191	0	0	12168
26	0	0	0	421	1437	1229	1929	2404	2208	1750	1962	1591	1433	1579	1237	233	0	0	19413
27	0	0	0	246	1500	1746	1337	612	237	146	866	537	529	708	691	100	0	0	9255
28	0	0	0	0	0	0	0	29	271	433	908	2158	1541	104	287	41	0	0	5772
29	0	0	129	1021	-99	-888	2508	2471	2183	854	1679	1546	2012	1696	1146	271	0	0	-999
30	0	0	183	837	1316	1596	1687	1675	1604	1741	1366	508	554	0	0	171	0	0	13238
31	0	0	223	956	1581	1906	2093	2277	2235	2052	1768	1443	1535	1452	1243	556	0	0	21320
MEAN	0	0	98	670	1100	1237	1304	1369	1342	1239	1310	1150	1058	903	651	204	0	0	13418
SD	0	0	166	616	760	924	1034	1049	1032	993	1008	951	885	832	664	233	0	0	8621
NUM	31	31	29	29	28	28	29	29	29	29	29	29	29	29	29	29	31	31	28
MAX	0	0	403	2020	2291	2939	3194	3256	3227	3115	3061	2953	2715	2394	2160	837	0	0	29257
MIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	577

SPARE UNIT INSTALLED ALL MONTH

TABULATED 01/02/80 AT 14:53:54

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : HIP #10 CLINTON MAY 1978
SENSITIVITY 8.29E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	151	0	-99	-99	0	373	2227	2618	2492	1932	699	0	0	-999
3	0	0	178	1641	2640	-888	3196	3300	3369	3317	3031	1598	629	290	34	0	0	0	-999
4	0	0	0	0	0	0	0	0	0	95	56	26	117	0	0	0	0	0	294
5	0	0	0	0	0	0	0	0	529	1975	1433	673	2080	1702	1111	199	0	0	9702
6	0	0	269	1389	2101	2479	2683	2831	2957	2957	2831	2805	2592	2305	1763	655	0	0	30617
7	0	0	0	403	1233	1728	1789	2062	1089	421	0	0	0	0	0	0	0	0	8725
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	91	165	0	0	186	26	0	0	468
10	0	0	238	1936	2670	2948	3074	3239	3282	3196	3100	1980	2119	2388	2023	864	0	0	33057
11	0	0	56	269	712	2470	3009	3100	3226	3196	3204	3122	2952	2570	1724	390	0	0	30000
12	0	0	30	781	1580	2627	2857	2232	3150	2032	1932	1645	1337	21	0	0	0	0	18224
13	0	0	65	160	738	896	390	73	0	156	13	0	603	634	78	0	0	0	3800
14	0	0	729	1493	0	751	1224	955	351	681	833	295	165	0	0	0	0	0	7477
15	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	-999
16	0	0	160	-99	3743	2356	1884	69	-99	555	946	933	1459	1103	1389	738	0	0	-999
17	0	0	0	421	334	2001	2336	1441	538	590	86	373	0	0	43	99	0	0	8262
18	0	0	0	143	191	112	338	573	325	568	47	34	39	82	125	60	0	0	2637
19	0	0	30	746	1728	2297	2631	2757	2779	2449	1341	768	1363	1567	1168	616	0	0	22240
20	0	0	0	13	1563	2486	2761	2861	2909	2761	2727	2874	2544	2166	1459	251	0	0	27377
21	0	0	234	1016	1528	1958	2171	2253	2206	2227	2106	1298	742	451	138	82	0	0	18410
22	0	0	147	677	1220	1598	1003	920	881	1932	868	412	538	495	39	0	0	0	10730
23	0	0	0	0	0	0	651	1202	812	1116	1289	586	104	816	382	39	0	0	6997
24	0	0	0	0	0	13	477	1189	1111	725	1068	920	52	0	212	156	0	0	5923
25	0	0	195	998	1519	1194	1841	1793	1042	1055	759	898	1433	872	716	238	0	0	14553
26	0	0	0	230	1576	1958	2262	2288	2318	2301	2557	2149	1789	1945	1624	668	0	0	23665
27	0	0	0	264	1502	2305	2253	2093	660	1042	1089	812	503	703	30	0	0	0	13256
28	0	0	0	0	0	17	0	13	0	290	1737	1176	1268	0	0	0	0	0	4501
29	0	0	86	977	1376	2045	2336	2214	1406	2635	1606	1506	2236	1889	-888	-99	0	0	-999
30	0	0	112	590	933	1063	1420	1524	1302	846	334	347	994	1237	681	238	0	0	11621
31	0	0	0	434	369	1116	2171	2314	2466	2331	2093	2423	2292	1910	1602	560	0	0	22081
MEAN	0	0	84	502	975	1260	1491	1492	1311	1381	1251	1068	1085	921	636	226	0	0	12869
SD	0	0	146	556	973	1028	1124	1128	1146	1115	1052	943	966	913	725	279	0	0	10085
NUM	31	31	30	29	30	29	30	29	28	30	30	30	30	30	29	29	31	31	26
MAX	0	0	729	1936	3743	2948	3196	3300	3369	3317	3204	3122	2952	2570	2023	864	0	0	33057
MIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABULATED 01/02/80 AT 14

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : UV #11 CLINTON MAY 1978
SENSITIVITY 312.10E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	3	6	11	27	40	75	52	37	24	19	41	26	7	0	0	368
2	0	0	1	10	40	63	66	39	70	138	92	94	78	60	29	7	0	0	787
3	0	0	2	20	49	82	112	134	146	146	138	105	76	45	25	6	0	0	1086
4	0	0	0	3	3	8	7	12	10	10	13	4	5	5	2	1	0	0	83
5	0	0	2	10	22	33	42	56	83	115	104	101	78	52	25	5	0	0	728
6	0	0	2	20	46	78	107	119	109	179	135	116	87	58	29	8	0	0	1093
7	0	0	3	16	30	64	92	100	90	54	43	60	51	18	8	1	0	0	630
8	0	0	0	3	7	11	19	22	28	20	21	24	14	7	4	1	0	0	181
9	0	0	1	7	19	35	88	97	128	111	80	93	83	54	29	6	0	0	831
10	0	0	3	22	50	85	115	140	121	101	107	111	96	61	31	8	0	0	1051
11	0	0	4	23	49	84	112	133	146	148	138	118	92	59	32	10	0	0	1148
12	0	0	3	20	46	79	108	123	116	113	125	93	57	21	10	3	0	0	917
13	0	0	1	9	13	27	14	51	53	37	51	57	23	8	12	10	0	0	366
14	0	0	4	25	56	50	109	114	97	78	59	16	8	8	7	5	0	0	636
15	0	0	3	23	32	61	73	70	69	55	58	34	29	22	12	5	0	0	546
16	0	0	4	22	34	69	103	108	40	32	63	103	83	63	30	9	0	0	783
17	0	0	4	22	50	82	109	108	120	81	98	112	85	52	21	9	0	0	953
18	0	0	4	20	36	54	64	121	114	114	109	102	81	52	31	9	0	0	911
19	0	0	3	21	51	78	105	129	141	131	102	107	72	58	31	9	0	0	1038
20	0	0	4	23	51	83	112	149	102	149	150	115	89	57	25	10	0	0	1199
21	0	0	-666	49	86	59	92	102	112	133	69	61	44	21	-555	-555	0	0	-999
22	0	0	22	-666	59	95	-666	-666	-666	243	190	83	43	28	4	-555	0	0	-999
23	0	0	2	16	33	38	69	93	120	109	100	100	78	45	27	5	0	0	835
24	0	0	4	16	32	61	90	69	102	89	59	46	89	56	31	11	0	0	755
25	0	0	4	23	50	66	97	117	95	107	108	108	82	54	30	11	0	0	952
26	0	0	7	23	49	73	104	122	133	137	123	104	80	-99	-99	-99	0	0	-999
27	0	0	-99	-99	-99	85	61	42	63	124	115	104	52	71	22	15	0	0	-999
28	0	0	10	20	33	44	47	65	77	85	135	119	92	57	39	13	0	0	836
29	0	0	8	28	58	86	119	137	135	141	132	108	77	52	25	11	0	0	1117
30	0	0	5	22	49	80	104	118	114	121	107	103	77	57	31	10	0	0	998
31	0	0	2	15	53	94	113	134	138	119	110	112	95	57	28	10	0	0	1088
MEAN	0	0	3	18	39	61	82	95	100	105	96	85	65	43	22	7	0	0	811
SD	0	0	4	9	17	24	32	38	37	48	39	33	27	19	10	3	0	0	289
NUM	31	31	29	29	30	31	30	30	30	31	31	31	31	30	29	28	31	31	27
MAX	0	0	22	49	86	95	119	149	182	243	190	119	96	71	39	15	0	0	1199
MIN	0	0	0	3	3	8	7	12	10	10	13	4	5	5	2	1	0	0	83

AT RTI ALL MONTH

TABULATED 01/02/80 AT 14:53:54

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : UV #12 SLOOP POINT MAY 1978
SENSITIVITY 154.40E-6 V/M/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	5	11	25	64	78	54	37	26	22	40	29	9	0	0	400
2	0	0	0	8	39	62	68	40	65	134	93	98	78	63	33	9	0	0	790
3	0	0	1	18	48	79	107	130	156	128	134	104	76	47	26	10	0	0	1064
4	0	0	0	4	4	8	8	13	12	12	13	6	6	6	4	2	0	0	98
5	0	0	0	9	21	34	41	52	84	118	107	100	80	54	28	8	0	0	736
6	0	0	1	20	45	76	115	137	138	140	131	114	87	60	31	9	0	0	1104
7	0	0	0	16	26	58	89	98	99	55	43	71	52	20	12	3	0	0	642
8	0	0	0	0	6	10	18	22	27	19	22	23	14	7	2	0	0	0	164
9	0	0	0	7	25	39	102	105	128	114	72	95	82	51	29	6	0	0	858
10	0	0	1	24	51	84	114	138	128	109	110	110	91	63	32	10	0	0	1065
11	0	0	-99	23	69	83	96	130	157	145	135	114	88	119	32	9	0	0	-999
12	0	0	-99	45	76	79	107	122	117	117	118	0	0	0	0	0	0	0	-999
13	0	0	-99	-99	-99	-99	-99	-666	-99	37	51	56	23	9	25	0	0	0	-999
14	0	0	5	27	53	57	109	113	97	77	58	16	8	9	-99	0	0	0	-999
15	0	0	0	-99	-99	-99	87	74	89	62	68	87	62	47	20	9	0	0	-999
16	0	0	13	37	39	56	87	123	115	107	107	92	86	48	26	0	0	0	936
17	0	0	-99	-99	-99	-99	87	74	89	62	68	87	62	47	20	9	0	0	-999
18	0	0	13	37	39	56	87	123	115	107	107	92	86	48	26	0	0	0	936
19	0	0	5	25	53	80	108	129	127	119	103	100	68	56	29	8	0	0	1010
20	0	0	9	29	58	86	111	129	135	127	132	103	91	70	33	9	0	0	1122
21	0	0	6	24	49	81	102	121	130	105	89	64	67	44	7	13	0	0	902
22	0	0	6	26	53	74	105	143	139	126	113	89	56	41	20	6	0	0	997
23	0	0	2	20	25	33	42	75	94	105	105	91	96	78	43	-666	0	0	-999
24	0	0	3	18	35	66	95	71	96	77	48	55	79	49	24	7	0	0	723
25	0	0	3	25	54	65	101	114	105	105	109	104	77	48	27	9	0	0	946
26	0	0	6	33	52	75	98	119	129	130	108	97	75	56	29	9	0	0	1016
27	0	0	6	29	57	85	55	38	60	103	119	94	43	64	17	11	0	0	781
28	0	0	5	24	27	41	43	53	66	84	123	109	76	53	33	9	0	0	746
29	0	0	5	26	57	85	113	118	135	135	129	97	73	47	23	8	0	0	1051
30	0	0	5	22	46	73	98	115	114	116	113	103	77	55	30	10	0	0	977
31	0	0	1	15	53	82	108	129	140	127	119	110	88	51	26	9	0	0	1058
MEAN	0	0	3	21	41	61	84	97	105	98	93	80	63	46	23	6	0	0	838
SD	0	0	3	10	18	24	30	37	34	35	34	32	27	23	9	3	0	0	270
NUM	31	31	27	28	28	28	30	30	30	31	31	31	31	31	30	30	31	31	24
MAX	0	0	13	45	76	86	115	143	157	145	135	114	96	119	43	13	0	0	1122
MIN	0	0	0	0	0	8	8	15	12	12	13	0	0	0	0	0	0	0	98

AT RTI ALL MONTH

TABULATED 01/02/80 A[redacted] :54

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 2 ELLIS AIRPORT JUNE 1978
SENSITIVITY 10.99E-6 V/M/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	134	16	557	920	1752	2375	2633	3302	3357	-99	-99	-99	-99	-99	0	0	-999
2	0	0	-99	412	949	1975	2715	3079	2951	2993	1487	-99	-99	-99	-99	-99	0	0	-999
3	0	0	-99	-99	891	1664	2339	2375	1740	2460	1474	2002	1815	878	89	95	0	0	-999
4	0	0	64	169	264	602	926	1918	2881	2734	2845	2334	2033	1492	850	261	0	0	19373
5	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	-999
6	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
7	0	0	-99	489	981	1040	1980	2311	2858	2379	614	313	1272	1587	804	139	0	0	-999
8	0	0	98	606	1127	2070	2359	2447	2476	2424	966	1821	1910	446	455	56	0	0	19261
9	0	0	35	248	484	625	1031	1431	1624	2417	1804	2213	1421	-666	913	209	0	0	-999
10	0	0	120	585	1316	2007	2672	3193	3402	3445	3268	2741	2305	1637	939	317	0	0	27947
11	0	0	172	726	1473	2200	2855	3199	3441	3579	3350	2442	1898	1338	975	323	0	0	27971
12	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	-999
13	0	0	172	634	850	732	1790	631	2196	3182	3251	2544	1699	1620	847	342	0	0	20490
14	0	0	169	673	1492	1970	2763	3268	3484	3628	3395	3022	2518	1830	1047	342	0	0	29601
15	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	-999
16	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	-999
17	0	0	147	625	1277	1981	2623	2279	2686	2512	2476	2790	1421	1071	802	268	0	0	22958
18	0	0	106	266	679	1855	2507	2382	2376	2749	2720	2592	2169	1540	872	312	0	0	23125
19	0	0	136	614	1269	1961	2586	3074	3431	3323	2950	2868	2321	1495	1014	267	0	0	27309
20	0	0	208	683	1299	1338	2072	2508	3635	3838	2829	2645	2622	1754	847	464	0	0	26742
21	0	0	156	696	-99	-99	-99	-99	2956	3268	3038	2763	2275	1672	837	270	0	0	-999
22	0	0	148	473	1256	2101	2576	2740	2671	2952	2441	2248	1668	1174	348	230	0	0	23026
23	0	0	-99	475	1176	1064	2047	2748	2303	2443	1703	1608	1323	1012	524	150	0	0	-999
24	0	0	106	263	941	1662	1927	2232	2641	2497	1911	1868	1534	1134	427	224	0	0	19367
25	0	0	0	674	1307	2001	2640	3108	2823	2872	2381	2207	1932	1526	802	248	0	0	24521
26	0	0	146	431	1135	1784	2242	2619	2442	2914	2455	1866	1168	221	-99	-99	0	0	-999
27	0	0	-99	-99	-99	-99	2133	2346	2385	2775	2805	2431	1969	1232	633	227	0	0	-999
28	0	0	147	521	1323	1697	2319	2935	3233	3318	3102	2692	2208	1552	462	131	0	0	25640
29	0	0	-99	595	1345	2049	2678	3153	3395	3448	3274	2842	2318	1669	945	277	0	0	-999
30	0	0	162	591	1230	1944	2645	3146	3415	3474	3258	2816	2239	1561	831	251	0	0	27563
MEAN	0	0	127	498	1070	1619	2257	2562	2803	2997	2526	2333	1914	1338	739	245	0	0	24326
SD	0	0	49	186	318	509	496	607	532	438	781	575	407	404	244	90	0	0	3422
NUM	30	30	19	23	23	23	24	24	25	25	25	23	23	22	22	22	30	30	15
MAX	0	0	208	726	1492	2200	2855	3268	3635	3838	3395	3022	2622	1830	1047	464	0	0	29601
MIN	0	0	0	16	264	602	926	631	1624	2379	614	313	1168	221	89	56	0	0	5000

TABULATED 01/02/80 AT 14:44:07

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 3 CAPE FEAR JUNE 1978
SENSITIVITY 11.27E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	132	-99	1247	1598	2601	3122	3224	3272	3115	2806	2278	1854	761	125	0	0	-999
2	0	0	65	407	1164	1640	2553	3007	3428	3208	2119	1212	1473	1189	669	349	0	0	22483
3	0	0	119	537	1208	1841	1336	1492	2476	1866	2489	1342	1694	489	355	97	0	0	17341
4	0	0	51	185	348	540	1150	1332	2264	2964	2587	1897	1709	1431	552	271	0	0	17281
5	0	0	129	647	439	2161	2726	1819	2896	3279	3225	2963	2302	1305	867	190	0	0	24948
6	0	0	103	588	1282	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
7	0	0	-99	-99	625	1332	1638	2798	2919	2245	2296	1766	1674	607	482	86	0	0	-999
8	0	0	80	645	1194	1859	2271	2648	3162	2485	2795	2169	437	1095	246	73	0	0	21459
9	0	0	144	310	441	489	680	987	2127	1696	2533	1712	1773	1409	818	-99	0	0	-999
10	0	0	179	527	1392	2095	2728	3200	3280	3376	3226	2776	2277	1568	872	274	0	0	27770
11	0	0	170	700	1416	2141	2595	2719	3438	3419	3313	-99	-99	-99	-99	-99	0	0	-999
12	0	0	-99	-99	-99	2288	2962	3263	3546	3633	3527	3106	2531	1825	1055	349	0	0	-999
13	0	0	189	508	1301	-99	-99	-99	-99	-99	-99	-99	-99	-99	1068	333	0	0	-999
14	0	0	177	724	1356	2027	2618	3391	3646	3634	3480	2774	2132	1484	986	324	0	0	28753
15	0	0	184	800	1567	2247	2832	3515	3694	3752	3563	3148	2538	1829	998	404	0	0	31071
16	0	0	190	765	1490	2215	2825	3356	3583	3608	3420	2838	2397	1909	976	328	0	0	29900
17	0	0	156	680	1376	2038	2696	3022	3245	3561	2753	3216	1939	1475	527	310	0	0	26994
18	0	0	120	385	1152	1928	2442	1755	2554	2940	3119	2790	2235	1557	861	280	0	0	24098
19	0	0	152	657	1356	2081	2710	3190	3030	3442	3372	2947	2116	1592	896	379	0	0	27920
20	0	0	157	774	1262	2128	1441	3460	2144	3403	3320	2486	2208	1240	1195	355	0	0	25573
21	0	0	185	773	1574	2165	2536	2625	3555	3804	3574	2852	2274	1507	757	300	0	0	28561
22	0	0	120	427	714	1794	2088	-99	2155	2430	2835	2676	1855	772	503	200	0	0	-999
23	0	0	166	559	699	-99	-99	-99	3041	2012	3111	2453	1664	1613	923	239	0	0	-999
24	0	0	115	556	1226	1980	-99	2271	3028	2555	1916	744	894	1543	801	284	0	0	-999
25	0	0	86	530	1178	1760	2358	3082	3440	3536	3405	3053	2370	1750	1028	284	0	0	27840
26	0	0	88	474	1033	1493	2298	2263	2573	3330	2372	2819	1292	554	94	18	0	0	20711
27	0	0	40	101	239	775	1123	2222	3222	2912	2513	2462	1794	896	874	293	0	0	19526
28	0	0	37	331	879	1609	2085	2351	3110	3334	3276	2567	2220	1423	797	331	0	0	24888
29	0	0	64	453	1006	1840	2543	3356	3405	3411	3389	3003	2386	1656	958	188	0	0	27398
30	0	0	77	394	454	227	2004	2937	3387	3259	2684	1965	1972	1774	675	435	0	0	22314
MEAN	0	0	124	537	1058	1714	2223	2682	3056	3084	2975	2464	1942	1387	771	262	0	0	24841
SD	0	0	47	177	379	560	600	698	475	580	468	636	486	401	257	105	0	0	3968
NUM	30	30	28	27	29	27	26	26	28	28	28	27	27	27	28	27	30	30	20
MAX	0	0	190	800	1574	2288	2962	3515	3694	3804	3574	3216	2538	1909	1195	435	0	0	31071
MIN	0	0	37	101	299	227	680	987	2127	1696	1916	744	437	489	94	18	0	0	5000

TABULATED 01/02/80 AT 14:44:07

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 4 WALLACE JUNE 1978
SENSITIVITY 11.00E-6 V/M/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	129	571	898	1956	2698	3117	3373	3013	2741	1504	1344	1494	725	221	0	0	23784
2	0	0	475	298	628	1699	2644	2743	3240	1967	203	605	1113	893	586	200	0	0	17294
3	0	0	178	620	1271	1968	2246	1264	1902	1317	1182	2485	1506	426	99	-99	0	0	-999
4	0	0	-888	181	305	656	1254	2236	3375	3257	2776	2416	1418	1454	796	224	0	0	-999
5	0	0	218	830	1625	2129	2718	2653	2384	1838	2970	1416	1713	1298	601	139	0	0	22532
6	0	0	-666	653	1422	1903	2162	2214	3082	2558	1393	1147	981	1213	297	74	0	0	-999
7	0	0	-666	585	928	1219	2502	2421	1537	1419	755	997	1082	990	853	143	0	0	-999
8	0	0	-888	628	1499	2117	2297	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
9	0	0	-99	288	497	432	1099	1754	1456	2327	1682	1990	2330	1777	1047	262	0	0	-999
10	0	0	330	520	1279	1983	2621	2867	3403	3443	3266	2870	2297	1561	697	330	0	0	27467
11	0	0	-666	666	1389	2119	2744	2810	3441	3435	3098	2067	1789	1203	823	336	0	0	-999
12	0	0	185	748	1471	2204	2810	3317	3569	3648	3481	3022	2496	1851	1075	378	0	0	30255
13	0	0	436	593	714	1061	1333	1523	2436	3427	3486	3054	2331	1814	1058	357	0	0	23623
14	0	0	349	457	1402	2073	2764	3265	3559	3661	3487	3101	2522	1821	1095	385	0	0	29941
15	0	0	-666	676	1543	2260	2908	3340	3441	3386	3415	3036	2446	1769	997	352	0	0	-999
16	0	0	-666	709	1419	2129	2751	3222	3471	3612	2954	3013	1648	1389	908	329	0	0	-999
17	0	0	129	565	1236	1946	2604	2944	2466	2397	2028	2132	1596	1298	787	277	0	0	22405
18	0	0	462	554	1153	1814	1948	1814	3165	3264	2288	2210	1709	1339	717	292	0	0	22729
19	0	0	-666	591	1236	1939	2568	3049	3013	2551	2564	1978	1749	1226	656	303	0	0	-999
20	0	0	172	460	1347	-99	-99	-99	3320	2653	3032	2191	1815	1046	375	-99	0	0	-999
21	0	0	472	773	1464	2138	2773	2989	3404	3787	3457	2900	1922	1303	852	194	0	0	28428
22	0	0	-666	698	1304	2086	2685	2073	3071	2730	2292	3172	2033	1169	724	233	0	0	-999
23	0	0	-99	547	511	639	1045	2249	1935	-99	2393	2763	2193	1732	681	308	0	0	-999
24	0	0	110	385	941	1612	2119	2538	2637	2414	2581	2273	1939	990	693	277	0	0	21509
25	0	0	119	551	1123	1955	2616	3074	3355	3447	2635	1722	1336	1496	757	285	0	0	24471
26	0	0	280	539	941	1805	2568	2398	2974	3042	1933	1887	568	51	38	0	0	0	19024
27	0	0	0	1393	339	902	2057	2047	2198	2666	2872	2630	1998	1416	621	133	0	0	21272
28	0	0	-99	-99	1132	1816	2448	2942	3145	3331	3083	2670	2274	1597	759	265	0	0	-999
29	0	0	-666	545	1203	2001	2626	3121	3428	3435	3304	2885	2394	1694	921	277	0	0	-999
30	0	0	328	469	1110	1827	2560	3044	3349	3323	2969	2406	2305	1611	907	321	0	0	26529
MEAN	0	0	257	589	1111	1737	2350	2608	2935	2905	2562	2294	1822	1342	729	255	0	0	24084
SD	0	0	142	208	360	505	523	564	616	672	836	674	499	404	257	92	0	0	3673
NUM	30	30	17	29	30	29	29	28	29	28	29	29	29	29	29	27	30	30	15
MAX	0	0	475	1393	1625	2260	2908	3340	3569	3787	3487	3172	2522	1851	1095	385	0	0	30255
MIN	0	0	0	181	305	432	1045	1264	1456	1317	203	605	568	51	38	0	0	0	5000

TABULATED 01/02/80 AT 14:44:07

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 5 SLOOP POINT JUNE 1978
SENSITIVITY 9.44E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	118	533	1102	1235	2402	2863	2924	2471	2272	-99	266	1075	854	232	0	0	-999
2	0	0	87	396	793	1937	2505	2947	3329	3371	3218	2368	2242	1227	514	129	0	0	25063
3	0	0	133	526	1132	1742	-99	-888	2055	2158	1674	1880	1205	819	106	57	0	0	-999
4	0	0	68	194	388	472	892	1376	2101	2661	1784	1937	1285	896	423	198	0	0	14675
5	0	0	152	720	1445	2040	2795	3233	3268	2410	2753	2848	2215	1117	552	194	0	0	25742
6	0	0	137	659	1288	1990	2661	2833	3413	3157	2284	1037	2215	1098	697	118	0	0	23587
7	0	0	57	411	1033	1925	2680	2898	3390	1872	1983	1540	1929	1300	522	179	0	0	21719
8	0	0	64	533	1369	1925	1094	2761	3230	2879	3199	2349	3020	617	808	511	0	0	23459
9	0	0	137	339	503	530	667	713	1262	2536	-99	2055	1895	1414	781	263	0	0	-999
10	0	0	129	629	1308	2017	2650	3142	3199	3405	3260	2890	2299	1597	858	274	0	0	27657
11	0	0	152	667	1422	2177	2818	3291	3531	3554	3416	3031	2448	1708	1029	324	0	0	29568
12	0	0	171	713	1494	2234	2898	3378	3626	3619	3477	3092	2505	1803	1037	339	0	0	30386
13	0	0	175	526	1132	1998	1380	1857	907	2715	2120	2230	2330	1266	692	308	0	0	18726
14	0	0	148	674	1422	1727	2352	2989	3287	3321	2867	3024	2482	1708	922	316	0	0	27239
15	0	0	167	777	1536	2280	2940	3447	3702	3672	3451	2898	2425	1815	999	366	0	0	30475
16	0	0	152	736	1464	2169	2896	3264	3504	3527	3355	2444	2288	1632	873	297	0	0	28511
17	0	0	133	663	1182	2017	2658	3096	3443	2936	3134	2848	2211	1304	705	274	0	0	26604
18	0	0	80	320	949	1780	2528	2986	3199	3249	3119	2741	2192	1535	850	263	0	0	25792
19	0	0	125	633	1327	2021	2642	3123	3371	3405	3279	2932	2391	1117	705	308	0	0	27379
20	0	0	156	846	1220	1807	2547	3268	3611	2970	2875	2924	2066	1231	1124	388	0	0	27033
21	0	0	144	743	1513	2322	2841	3333	3470	3424	3340	2947	2375	1716	838	339	0	0	29345
22	0	0	137	484	724	-99	-99	-99	-99	-99	-99	-99	2059	1075	572	217	0	0	-999
23	0	0	175	461	1113	1841	2810	3020	2940	3340	3066	2555	1437	1353	617	148	0	0	24876
24	0	0	91	560	1113	1693	2326	2730	2768	2646	2707	1643	1502	1231	434	240	0	0	21684
25	0	0	-888	667	1380	2021	2631	3085	3355	3394	3249	2825	2204	1498	858	217	0	0	-999
26	0	0	141	522	835	1658	2524	2989	2837	3283	3081	2474	1983	896	156	19	0	0	23398
27	0	0	30	0	167	606	1819	2688	2448	2185	1777	1636	945	880	613	209	0	0	16003
28	0	0	-99	-99	-99	-99	2490	2902	3066	3149	3176	2539	2166	774	667	175	0	0	-999
29	0	0	106	575	1254	1933	2600	3100	3367	3401	3317	2909	2299	1613	907	259	0	0	27690
30	0	0	91	514	1079	747	2219	2948	3020	2856	2249	2040	1090	1334	758	282	0	0	21189
MEAN	0	0	123	552	1127	1631	2363	2865	3021	3019	2838	2451	1998	1287	715	248	0	0	24908
SD	0	0	38	179	339	574	605	593	664	478	564	536	564	322	235	98	0	0	4152
NUM	30	30	28	29	29	28	28	28	29	29	28	28	30	30	30	30	30	30	24
MAX	0	0	175	846	1536	2322	2940	3447	3702	3672	3477	3092	3020	1815	1124	511	0	0	30475
MIN	0	0	30	0	167	472	667	713	907	1872	1674	1037	266	617	106	19	0	0	5000

TABULATED 01/02/80 AT 14:44:07

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 6 CLINTON JUNE 1978
SENSITIVITY 11.00E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER

DATE	HOUR ENDING 4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
2	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	2009	1597	978	549	219	0	0	-999
3	0	0	101	356	1381	1986	2274	1551	1744	1151	860	2277	1636	454	85	26	0	0	15882
4	0	0	62	189	415	962	1777	3040	3253	2153	2618	2510	2212	1561	880	278	0	0	21910
5	0	0	143	644	1394	2087	2709	3004	1803	2012	2991	1384	1256	1531	719	137	0	0	21814
6	0	0	134	438	1011	477	1194	2140	3570	2356	1377	1655	1191	733	307	49	0	0	16632
7	0	0	121	513	674	1328	2487	1878	1305	2061	2029	1538	903	1672	523	127	0	0	17159
8	0	0	71	379	1302	1983	1688	2716	2677	2683	3462	2500	1289	1096	353	19	0	0	22218
9	0	0	68	294	752	1253	1351	1534	2030	3135	3112	2713	2385	1737	431	13	0	0	21608
10	0	0	160	644	1259	2006	2667	3154	3416	3472	3266	2843	2297	1626	916	291	0	0	28017
11	0	0	166	683	1403	2127	2706	3135	3629	3266	2834	2654	2323	1407	775	281	0	0	27389
12	0	0	179	647	1518	2101	2879	3154	3027	2840	3030	2742	2300	1786	893	317	0	0	27404
13	0	0	143	366	-99	1907	1659	3135	3547	3626	3347	3073	2490	1813	1060	346	0	0	-999
14	0	0	-99	-99	762	1703	2968	2961	3629	3668	3472	3073	2503	1786	958	278	0	0	-999
15	0	0	183	1122	1148	2225	2879	3377	3635	3603	3413	3046	2415	1453	929	291	0	0	29719
16	0	0	-666	699	1452	2169	2774	3245	3517	3533	3343	2957	1786	1396	938	267	0	0	-999
17	0	0	143	664	1351	1950	2323	2863	3220	-99	2647	2539	1099	736	549	101	0	0	-999
18	0	0	199	-99	1135	1635	2467	2598	3154	3145	2778	2333	1832	1299	500	222	0	0	-999
19	0	0	121	579	1237	1927	2578	-99	-99	-99	-99	-99	2127	1174	451	327	0	0	-999
20	0	0	147	471	1413	2071	2765	3187	3508	3462	3596	2847	2713	2019	962	359	0	0	29520
21	0	0	176	710	1443	2143	2686	2919	3413	3861	2830	1816	2493	1583	523	193	0	0	26789
22	0	0	176	212	1364	2117	2549	2984	2546	3069	3501	1937	1904	1142	739	284	0	0	24524
23	0	0	-99	-99	690	1138	2084	2464	1894	3249	3089	2359	2156	1577	605	359	0	0	-999
24	0	0	94	412	700	1374	1737	2798	2965	2938	2834	1646	2195	1089	-99	-666	0	0	-999
25	0	0	94	464	1194	1878	2562	3079	3370	3171	3416	2749	2120	1727	873	229	0	0	26926
26	0	0	94	503	1129	1714	1950	2546	3148	2735	1462	634	196	94	255	160	0	0	16620
27	0	0	0	130	399	1472	2320	2457	2821	3331	3164	2552	1868	1551	530	327	0	0	22922
28	0	0	-99	-99	1158	1849	2533	2971	3321	3275	3210	2709	2258	1374	435	382	0	0	-999
29	0	0	94	517	1276	1939	2634	3138	3413	3495	3338	2925	2317	1688	978	265	0	0	28067
30	0	0	111	536	1174	1907	2578	3059	3370	3344	3331	2713	2362	1338	579	333	0	0	26735
MEAN	0	0	123	507	1116	1744	2349	2781	3026	3024	2901	2383	1938	1359	653	231	0	0	23781
SD	0	0	46	206	319	437	473	486	634	620	685	588	573	429	253	109	0	0	4488
NUM	30	30	24	24	27	28	28	27	27	26	27	28	29	29	28	28	30	30	19
MAX	0	0	199	1122	1518	2225	2968	3377	3635	3861	3596	3073	2713	2019	1060	382	0	0	29719
MIN	0	0	0	130	399	477	1194	1534	1305	1151	860	634	196	94	85	13	0	0	5000

TABULATED 01/02/80 AT 14:44:07

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 7 ONSLOW BEACH JUNE 1978
SENSITIVITY 10.17E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER

DATE	HOUR ENDING 4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	145	591	-99	1469	-99	3095	3415	3100	417	116	807	973	-99	269	0	0	-999
2	0	0	138	495	1352	2028	2707	3164	3423	-99	2856	1246	477	835	364	116	0	0	-999
3	0	0	152	-99	-99	-99	-99	-99	-99	-99	2074	2297	1122	725	226	63	0	0	-999
4	0	0	77	180	315	421	856	1093	2138	2538	2322	1922	1214	1316	555	226	0	0	15173
5	0	0	180	757	1500	2208	2665	2874	3476	3479	2619	2046	2297	1359	591	208	0	0	27059
6	0	0	166	700	1498	2138	2739	2909	2640	3553	3274	2856	2003	1599	750	116	0	0	26851
7	0	0	102	484	739	1419	2633	2460	3054	2849	1982	499	378	1146	520	184	0	0	18449
8	0	0	219	322	1444	2162	2771	3242	2817	3281	2095	2024	1918	509	488	88	0	0	23380
9	0	0	106	488	530	828	707	941	1352	1720	2559	2325	2130	1515	799	261	0	0	16261
10	0	0	138	516	1281	2070	2623	3076	3309	3430	3231	2828	2261	1550	853	265	0	0	27431
11	0	0	198	743	1518	2269	2888	3334	3561	3568	3387	2980	2407	1723	980	318	0	0	29874
12	0	0	230	821	1599	2339	2973	3415	3646	3635	3369	3012	2449	1762	1008	332	0	0	30590
13	0	0	212	647	1391	1826	1476	2573	2874	2729	2014	2198	1745	1065	343	17	0	0	21110
14	0	0	184	775	1503	2215	2870	3182	3037	-99	-99	-99	-99	-99	-99	-99	0	0	-999
15	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
16	0	0	180	757	1504	2208	2824	3274	3518	3522	3263	2509	2148	1621	920	293	0	0	28541
17	0	0	162	669	1387	2049	2672	3118	3242	3440	3217	2792	2106	1369	803	251	0	0	27277
18	0	0	60	176	796	1968	2534	2860	3051	3320	3111	2750	2130	1543	821	247	0	0	25367
19	0	0	148	661	1366	-99	-99	-99	-99	-99	-99	2877	2389	1557	824	361	0	0	-999
20	0	0	205	761	1100	1961	2311	3536	3313	3394	2842	2626	2084	1263	923	516	0	0	26835
21	0	0	102	771	1390	2297	2938	3316	3550	-99	-99	-99	2435	1734	994	322	0	0	-999
22	0	0	138	594	906	1706	2318	2892	2842	-99	3185	2778	2311	1242	608	205	0	0	-999
23	0	0	159	686	1192	1851	2343	2049	2215	2343	2396	2640	1107	205	364	180	0	0	19730
24	0	0	113	329	927	1660	1812	2031	2259	2761	2254	2690	1313	665	237	258	0	0	19319
25	0	0	141	630	1299	2014	2647	3104	3334	3398	3189	2750	2219	1504	881	240	0	0	27350
26	0	0	130	449	1235	1900	2499	2973	3157	3178	3093	2761	2244	945	180	21	0	0	24765
27	0	0	14	17	346	888	2102	2690	3246	3069	3104	2576	2031	1408	842	286	0	0	22619
28	0	0	106	509	952	1844	2523	2764	3168	3284	-99	-99	2251	1589	817	134	0	0	-999
29	0	0	46	389	1054	1801	2438	2955	3316	3444	3323	2952	2251	1897	1189	470	0	0	27525
30	0	0	49	364	314	1408	2307	-99	2729	-99	-99	-99	2134	1557	817	215	0	0	-999
MEAN	0	0	137	545	1144	1812	2391	2804	3025	3137	2715	2394	1870	1292	692	230	0	0	24275
SD	0	0	53	294	359	468	572	629	521	464	674	730	595	408	267	115	0	0	4419
NUM	30	30	29	28	27	27	26	26	27	22	24	25	28	28	27	28	30	30	20
MAX	0	0	230	821	1599	2339	2973	3536	3646	3635	3387	3012	2449	1897	1189	516	0	0	30590
MIN	0	0	14	17	314	421	707	941	1352	1720	417	116	378	205	180	17	0	0	5000

TABULATED 01/02/80 AT 14:44:08

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : NIP # 8 SLOOP POINT JUNE 1978
SENSITIVITY 8.70E-6 V/M/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	-99	-99	-99	327	1352	1560	1931	1352	964	-99	0	377	456	127	0	0	-999
2	0	0	0	18	60	1043	1577	1793	2198	2260	2243	1423	1289	668	102	0	0	0	14674
3	0	0	198	302	752	931	643	218	214	168	143	518	252	277	0	0	0	0	4616
4	0	0	0	0	0	0	0	23	127	785	381	602	360	335	39	206	0	0	2858
5	0	0	373	1523	1993	1948	2314	2418	1377	506	1156	2206	1689	593	148	27	0	0	18271
6	0	0	206	827	1314	1627	1981	1518	2048	1752	923	52	1760	510	698	18	0	0	15234
7	0	0	0	56	410	1323	1993	1410	1943	73	202	223	964	893	168	18	0	0	9676
8	0	0	0	639	1852	2356	2627	2706	1377	2127	1198	2727	102	398	235	0	0	0	18344
9	0	0	61	11	0	0	0	0	0	724	-99	694	803	1203	957	390	0	0	-999
10	0	0	56	462	1286	1625	1964	2113	1890	2204	2209	2118	1836	1460	930	359	0	0	20492
11	0	0	314	1208	1932	2354	2607	1494	3985	2793	2838	2793	2590	2300	1825	931	0	0	29964
12	0	0	613	1755	2438	2827	3063	3187	3237	3162	3150	3075	2901	2637	2161	1201	0	0	35407
13	0	0	232	497	696	191	96	423	0	671	679	1399	2132	1288	969	895	0	0	10168
14	0	0	339	1394	1767	604	600	1191	1523	1709	1460	2516	2437	2089	1502	740	0	0	19871
15	0	0	785	2051	2618	-888	3367	3408	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
16	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	1382	716	0	0	-999
17	0	0	328	1139	1362	1979	2223	2277	2260	1532	2045	2103	1710	785	352	295	0	0	20388
18	0	0	0	0	341	1045	1442	1413	1467	1727	1789	1760	1578	1322	825	254	0	0	14963
19	0	0	170	874	-99	-888	2024	2194	2285	2339	2392	2459	2335	812	-888	-99	0	0	-999
20	0	0	253	1586	1337	1627	1871	2421	2827	1110	1751	2508	1072	336	1346	1209	0	0	21254
21	0	0	381	1739	2426	2181	2521	2885	2239	2479	2802	2810	2604	2223	1238	696	0	0	29224
22	0	0	60	156	114	-99	-99	-99	1099	1116	1215	2088	1463	226	40	11	0	0	-999
23	0	0	279	180	387	982	1657	1744	1491	1938	1806	1723	701	734	291	0	0	0	13913
24	0	0	39	494	718	842	1169	1222	1086	920	966	643	672	792	89	27	0	0	9679
25	0	0	122	929	1591	1934	2021	2050	2216	2257	2170	1996	1591	1185	949	151	0	0	21162
26	0	0	69	330	392	652	1368	1724	1120	1931	1794	1364	1037	338	0	0	0	0	12119
27	0	0	0	0	0	0	520	1079	768	392	263	346	110	259	272	90	0	0	4099
28	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
29	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
30	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
MEAN	0	0	194	726	1074	1234	1640	1698	1628	1521	1522	1672	1359	961	678	334	0	0	16494
SD	0	0	198	642	840	822	909	897	963	828	848	908	840	691	612	392	0	0	8284
NUM	30	30	25	25	24	23	25	25	25	25	24	24	25	25	25	25	30	30	21
MAX	0	0	785	2051	2618	2827	3367	3408	3985	3162	3150	3075	2901	2637	2161	1209	0	0	35407
MIN	0	0	0	0	0	0	0	0	0	73	143	52	0	226	0	0	0	0	2858

REPAIRED AND RETURNED TO FIELD ON 9TH

TABULATED 01/02/80 AT 14:44:08

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : MIP #10 CLINTON JUNE 1978
SENSITIVITY 8.29E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER

DATE	HOUR ENDING 4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	130	803	1767	2071	1971	1980	2392	1763	1380	2275	1741	1094	699	351	0	0	20417
2	0	0	0	0	0	43	1406	2006	2206	1871	838	812	468	412	212	95	0	0	10369
3	0	0	0	82	1050	1554	894	82	43	0	21	681	720	0	0	0	0	0	5127
4	0	0	0	0	0	78	408	1871	1862	486	1155	1502	1763	1710	1246	686	0	0	12767
5	0	0	125	864	1715	1745	2054	1776	303	225	1324	321	429	855	321	0	0	0	12057
6	0	0	0	21	160	0	13	382	1767	625	455	716	399	26	0	0	0	0	4564
7	0	0	0	17	0	273	1116	156	0	60	256	117	321	2106	594	0	0	0	5016
8	0	0	0	0	1697	1645	308	1545	1094	1215	2466	1741	690	386	26	0	0	0	12783
9	0	0	0	17	143	208	91	136	1398	1889	1324	1810	2114	2097	434	0	0	0	11711
10	0	0	121	499	803	1337	1767	2014	2140	2219	2058	1941	1832	1619	1211	529	0	0	20090
11	0	0	225	916	1554	1928	2080	1997	2440	1871	1641	1884	1988	1289	972	508	0	0	21293
12	0	0	130	581	1867	2253	2466	2179	1906	1567	1089	2900	2027	2275	1576	1055	0	0	23871
13	0	0	30	52	-99	-99	225	2201	2944	2961	2805	3009	2800	2492	2027	1237	0	0	-999
14	0	0	0	0	0	13	17	17	0	13	0	13	13	0	13	0	0	0	99
15	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	-999
16	0	0	1022	1665	2325	2677	2855	2928	2933	2742	2559	2442	401	935	1517	540	0	0	27541
17	0	0	186	885	1580	1459	1294	1654	1897	-99	-99	-99	-99	-99	-99	-99	0	0	-999
18	0	0	-99	-99	803	1129	1398	659	1493	1376	1020	820	868	690	56	95	0	0	-999
19	0	0	125	716	1155	1545	1875	2080	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
20	0	0	43	208	1572	1971	2410	2557	2483	2301	2935	2496	2974	2648	1506	1120	0	0	27224
21	0	0	351	1732	2366	2627	2579	2340	2427	2770	1823	916	2158	1402	60	0	0	0	23551
22	0	0	251	369	1732	2062	1975	1823	1042	1572	2318	990	1089	885	312	125	0	0	16545
23	0	0	-99	-99	0	0	547	816	277	1459	1611	1159	1259	1168	156	138	0	0	-999
24	0	0	21	47	47	273	395	1507	-888	-99	1146	277	998	199	104	377	0	0	-999
25	0	0	56	334	838	1437	1893	2201	2153	1697	2036	1376	1276	1454	529	60	0	0	17340
26	0	0	17	408	968	929	470	1116	1506	881	21	0	0	0	0	0	0	0	6336
27	0	0	0	0	0	377	868	807	1159	1732	1697	1302	781	781	117	78	0	0	9699
28	0	0	-99	-99	1042	1515	1936	2101	2323	2132	2067	1637	1367	786	0	264	0	0	-999
29	0	0	138	612	1715	2097	2453	2648	2692	2805	2735	2483	2123	1862	1359	395	0	0	26117
30	0	0	117	777	1302	1815	2210	2375	2444	2236	2275	1706	1737	807	169	343	0	0	20313
MEAN	0	0	118	446	1006	1252	1379	1586	1678	1556	1520	1382	1271	1110	563	296	0	0	15219
SD	0	0	202	486	767	853	874	825	696	878	863	863	809	778	609	360	0	0	7960
NUM	30	30	26	26	28	28	29	29	27	26	27	27	27	27	27	27	30	30	22
MAX	0	0	1022	1732	2366	2677	2855	2928	2944	2961	2935	3009	2974	2648	2027	1237	0	0	27541
MIN	0	0	0	0	0	0	13	17	0	0	0	0	0	0	0	0	0	0	99

TABULATED 01/02/80 AT 14:44:08

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : UV #11 CLINTON JUNE 1978
SENSITIVITY 312.10E-6 V/M/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	16	25	56	84	118	133	143	148	130	116	93	65	36	15	0	0	1178
2	0	0	24	31	63	81	109	126	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
3	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
4	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
5	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
6	0	0	-99	-99	-99	-99	130	142	154	158	148	107	51	37	-99	-99	0	0	-999
7	0	0	-99	-99	-99	-99	63	77	46	54	88	85	83	61	26	8	0	0	-999
8	0	0	5	18	41	80	98	83	116	123	123	94	49	22	7	2	0	0	861
9	0	0	1	9	36	54	84	124	144	137	99	96	71	36	25	4	0	0	920
10	0	0	4	19	31	72	114	138	151	152	142	122	96	66	37	13	0	0	1157
11	0	0	13	30	56	77	87	133	147	144	134	83	76	63	35	12	0	0	1090
12	0	0	4	30	53	62	99	128	147	127	117	85	78	60	33	10	0	0	1033
13	0	0	0	6	34	78	111	137	151	152	143	115	99	67	37	13	0	0	1143
14	0	0	5	23	54	88	119	148	155	157	146	129	104	68	41	13	0	0	1252
15	0	0	-666	31	61	85	112	128	140	129	116	86	78	54	32	-666	0	0	-999
16	0	0	11	57	107	81	106	122	109	128	123	102	84	55	28	9	0	0	1122
17	0	0	6	17	53	80	103	129	133	138	132	104	88	59	32	11	0	0	1085
18	0	0	8	25	46	67	94	114	129	131	118	111	78	53	26	6	0	0	1006
19	0	0	-666	-666	72	97	110	136	141	134	113	-99	-99	-99	-99	-99	0	0	-999
20	0	0	-99	-99	-99	75	98	120	147	141	138	123	90	58	33	6	0	0	-999
21	0	0	5	23	53	79	100	132	152	137	82	67	50	51	24	5	0	0	960
22	0	0	6	25	51	82	110	134	123	94	94	49	31	20	1	-99	0	0	-999
23	0	0	-99	-99	9	73	103	121	130	108	132	107	100	66	28	21	0	0	-999
24	0	0	4	17	36	82	94	105	115	122	150	107	74	40	43	21	0	0	1010
25	0	0	3	20	46	78	109	129	130	116	110	81	25	41	46	23	0	0	957
26	0	0	-555	15	29	69	98	107	35	5	34	60	64	49	42	10	0	0	-999
27	0	0	0	10	33	70	88	126	118	120	115	102	75	49	25	12	0	0	943
28	0	0	7	22	45	72	100	126	138	134	125	51	62	61	25	6	0	0	974
29	0	0	11	24	55	80	113	135	149	134	130	110	79	53	27	8	0	0	1108
30	0	0	6	27	50	77	107	107	129	119	120	109	94	66	38	14	0	0	1063
MEAN	0	0	6	22	48	76	102	123	129	124	119	96	74	52	30	11	0	0	1047
SD	0	0	5	16	17	8	12	15	28	31	24	21	20	13	10	5	0	0	99
NUM	30	30	20	22	24	25	27	27	26	26	26	25	25	25	24	22	30	30	18
MAX	0	0	24	57	107	97	130	148	155	158	150	129	104	68	46	23	0	0	1252
MIN	0	0	0	6	9	54	63	77	35	5	34	49	25	20	1	2	0	0	861

AT RTI ALL MONTH

TABULATED 01/02/80 AT 14:44:08

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : UV #12 SLOOP POINT JUNE 1978
SENSITIVITY 154.40E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	5	23	48	79	108	120	137	138	126	106	86	58	33	10	0	0	1085
2	0	0	6	27	53	80	107	129	136	124	107	100	83	59	29	9	0	0	1049
3	0	0	4	24	50	70	87	80	49	31	76	90	77	61	30	10	0	0	739
4	0	0	-99	16	29	67	94	128	119	119	124	97	49	52	32	11	0	0	-999
5	0	0	-99	0	0	0	91	94	77	9	88	119	89	58	21	10	0	0	-999
6	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
7	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
8	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
9	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
10	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
11	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
12	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
13	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
14	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
15	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
16	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
17	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
18	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
19	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
20	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
21	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
22	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
23	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
24	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
25	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
26	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
27	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
28	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
29	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
30	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
MEAN	0	0	5	18	36	59	97	111	103	84	104	102	76	57	29	10	0	0	957
SD	0	0	0	9	19	30	8	20	34	53	19	9	14	3	4	0	0	0	155
NUM	30	30	3	5	5	5	5	5	5	5	5	5	5	5	5	5	30	30	3
MAX	0	0	6	27	53	80	108	129	137	138	126	119	89	61	33	11	0	0	1085
MIN	0	0	4	0	0	0	87	80	49	9	76	90	49	52	21	9	0	0	739

AT RTI ALL MONTH

TABULATED 01/02/80 AT 08

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 2 ELLIS AIRPORT JULY 1978
SENSITIVITY 10.99E-6 V/N/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER

DATE	HOUR ENDING 4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	149	372	1224	1827	2193	2986	2983	3029	3134	2233	330	595	228	182	0	0	21465
2	0	0	123	519	686	205	35	74	136	385	175	578	447	126	149	90	0	0	3728
3	0	0	49	449	766	842	1923	1772	2139	1910	1959	1405	-99	-99	-99	-99	0	0	-999
4	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	859	282	0	0	-999
5	0	0	32	-99	536	759	1047	1807	1126	1139	1830	1492	949	772	595	172	0	0	-999
6	0	0	159	736	1473	2144	2229	2475	2691	2291	1977	1247	1800	1469	680	257	0	0	21628
7	0	0	147	737	1434	2171	2781	3282	3475	3265	2424	2777	1490	1198	900	373	0	0	26454
8	0	0	114	465	1172	1258	2568	2476	2961	2692	2974	2728	2552	1887	917	-99	0	0	-999
9	0	0	-99	0	170	557	1834	2191	2846	3207	3534	2981	3187	-666	-666	-666	0	0	-999
10	0	0	0	555	1292	1744	2445	3006	3179	3094	2629	1908	1361	971	572	215	0	0	22971
11	0	0	121	321	963	1136	1693	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
12	0	0	-99	-99	-99	1362	2119	2777	3292	3606	3649	3482	3088	-666	-666	-666	0	0	-999
13	0	0	127	576	1428	2122	2754	3229	3508	3321	3164	2528	2433	1709	992	245	0	0	28136
14	0	0	71	339	359	408	470	270	1214	1761	1158	1777	1839	1021	490	149	0	0	11326
15	0	0	55	268	1035	1706	2044	1733	1294	1497	1955	2178	1418	576	-99	-99	0	0	-999
16	0	0	0	0	90	339	182	215	-99	772	739	608	235	372	261	199	0	0	-999
17	0	0	0	0	1801	2011	2653	3144	3410	3439	3213	2879	2270	999	596	281	0	0	26696
18	0	0	97	572	1260	1967	2275	2219	2937	2128	2940	2337	2269	1577	853	251	0	0	23682
19	0	0	104	602	1316	1965	2679	2987	3085	3599	3056	2738	2751	1264	920	330	0	0	27396
20	0	0	67	264	297	356	375	798	3071	2396	2164	2527	2383	1699	889	323	0	0	17609
21	0	0	116	627	1332	2043	2658	3163	2747	2590	2668	2983	1908	1708	781	287	0	0	25611
22	0	0	93	539	1378	1993	2606	3006	3248	3055	2531	2396	1705	1551	906	221	0	0	25228
23	0	0	93	523	1292	1964	2619	3097	3431	3448	3192	2891	2033	1545	889	244	0	0	27261
24	0	0	70	463	859	2064	2536	2834	2818	2998	2654	2091	2015	1481	263	-99	0	0	-999
25	0	0	74	533	1404	2099	2685	3068	3291	2947	2367	434	212	959	163	9	0	0	20245
26	0	0	98	383	1005	1844	2791	3194	2843	2823	2113	2666	1762	593	688	259	0	0	23062
27	0	0	77	1007	1623	1554	1961	2839	3051	2976	3002	2144	1256	467	93	8	0	0	22058
28	0	0	107	283	506	853	1554	2219	1630	1993	2576	1751	1152	1368	1060	290	0	0	17342
29	0	0	61	421	1076	1843	2472	2976	3212	3340	3065	2747	1833	1201	506	395	0	0	25148
30	0	0	42	298	992	1775	2430	2987	3239	2922	3000	2502	1910	1441	812	242	0	0	24592
31	0	0	40	384	1013	1714	2346	2867	2972	2919	1825	1259	2176	1576	869	194	0	0	22154
MEAN	0	0	81	437	1026	1487	2031	2403	2708	2604	2471	2147	1741	1158	651	229	0	0	22085
SD	0	0	43	220	435	631	800	939	834	833	791	770	785	473	289	94	0	0	5662
NUM	31	31	28	28	29	30	30	29	28	29	29	29	28	26	26	24	31	31	21
MAX	0	0	159	1007	1801	2171	2791	3282	3508	3606	3649	3482	3187	1887	1060	395	0	0	28136
MIN	0	0	0	0	90	205	35	74	136	385	175	434	212	126	93	8	0	0	3728

TABULATED 01/02/80 AT 14:53:36

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 3 CAPE FEAR JULY 1978
SENSITIVITY 11.27E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	9	67	175	-99	-99	-99	-99	-99	-99	-99	-99	-99	22	0	0	0	-999
2	0	0	-666	-99	-99	-99	-99	32	652	748	115	186	157	16	19	13	0	0	-999
3	0	0	15	194	527	1047	-99	2526	2469	2804	2820	2443	1664	-99	-99	-99	0	0	-999
4	0	0	-99	-99	-99	-99	-99	3102	3328	3463	3169	2779	1441	1370	636	147	0	0	-999
5	0	0	47	155	654	1673	2481	1673	1867	1727	893	516	443	414	238	120	0	0	12901
6	0	0	117	615	1366	2120	2420	2484	2784	3646	2685	2940	2171	1752	979	359	0	0	26438
7	0	0	93	368	582	1451	2384	-99	3233	2943	2991	2489	2492	1748	1103	406	0	0	-999
8	0	0	54	418	1239	1520	2242	1376	2370	1833	3315	2938	2405	1632	747	383	0	0	22472
9	0	0	87	534	1144	1831	2122	2534	2952	3134	3457	3147	1959	1665	917	339	0	0	25819
10	0	0	63	434	964	1839	2379	2778	2934	3062	3257	2835	2254	1088	938	398	0	0	25273
11	0	0	76	456	1162	1776	2488	2654	3197	-99	-99	-99	-99	-99	-99	-99	0	0	-999
12	0	0	-99	-99	-99	2108	2756	3258	3574	3680	3520	3022	2485	1891	1086	396	0	0	-999
13	0	0	104	602	1337	2081	2733	3238	3535	3614	3442	3071	2487	1826	1056	359	0	0	29485
14	0	0	77	601	691	962	783	454	563	783	739	985	1425	1416	588	125	0	0	10192
15	0	0	74	189	742	870	914	758	1576	2317	2365	2077	1496	339	536	173	0	0	14226
16	0	0	25	-99	-99	-99	-99	-99	942	354	96	179	156	243	179	80	0	0	-999
17	0	0	-99	-99	1250	2087	2700	3192	3431	3483	3122	2339	2176	1416	761	208	0	0	-999
18	0	0	136	647	1340	2021	2663	3161	3333	3317	3349	2912	2270	1551	823	235	0	0	27758
19	0	0	126	650	1391	2037	2787	3174	3503	2640	3334	2605	2302	1631	555	146	0	0	26881
20	0	0	43	164	691	1384	1899	2244	2946	3604	3381	-99	-99	-99	-99	-99	0	0	-999
21	0	0	-99	-99	-99	1910	2456	2891	2335	2242	1112	2092	1262	1610	837	252	0	0	-999
22	0	0	106	595	1307	2077	2678	3147	3448	2655	1975	2758	2307	1579	860	253	0	0	25745
23	0	0	112	610	1297	1996	2677	3201	2530	2626	2335	2856	2277	1591	866	252	0	0	25226
24	0	0	103	505	790	1815	2674	2777	2981	2872	1569	2122	809	1294	1154	160	0	0	21625
25	0	0	79	520	925	1896	2478	2669	2717	2765	1708	839	-99	-99	-99	-99	0	0	-999
26	0	0	-99	-99	1160	2013	2639	2764	3393	3336	2288	2032	1547	1363	751	215	0	0	-999
27	0	0	47	500	1321	1989	2586	2941	3337	3525	3308	2842	2343	717	325	155	0	0	25936
28	0	0	124	211	559	1884	1894	2290	1453	2268	1450	1862	2031	1274	933	255	0	0	18388
29	0	0	89	511	1226	1897	2593	3082	3162	3028	2539	2469	1741	1511	580	268	0	0	24796
30	0	0	82	467	1176	1847	1719	2652	3265	2732	2553	1387	1739	1579	796	189	0	0	22163
31	0	0	71	470	1112	1844	2486	2962	3326	3348	3179	2809	2291	1536	898	196	0	0	26628
MEAN	0	0	77	439	1004	1776	2331	2500	2704	2708	2416	2197	1782	1321	703	225	0	0	22886
SD	0	0	33	174	327	345	508	852	861	878	1024	881	688	514	316	111	0	0	5318
NUM	31	31	25	24	26	27	26	28	30	29	29	28	27	26	27	27	31	31	18
MAX	0	0	136	650	1391	2120	2787	3258	3574	3680	3520	3147	2492	1891	1154	406	0	0	29485
MIN	0	0	9	67	175	870	783	32	563	354	96	179	156	16	19	0	0	0	5000

TABULATED 01/02/80 AT 14:53:36

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 4 WALLACE JULY 1978
SENSITIVITY 11.00E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	489	413	888	1598	2348	2773	2645	3313	2982	2796	138	1277	888	178	0	0	22726
2	0	0	-666	390	-99	-99	40	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
3	0	0	-99	251	566	1207	1508	1652	2438	2392	2817	1066	-99	-99	-99	-99	0	0	-999
4	0	0	-99	-99	589	703	1849	3119	2919	3164	2700	1165	1433	1541	730	268	0	0	-999
5	0	0	95	223	278	1008	1669	1116	1316	1548	1944	1561	674	393	340	193	0	0	12358
6	0	0	183	700	1446	2156	2379	2850	2474	2925	2830	2474	1597	1345	654	219	0	0	24232
7	0	0	-99	-99	1366	2165	2509	2964	2741	2784	2404	1700	1776	1092	984	368	0	0	-999
8	0	0	-666	681	1424	2141	2949	3012	3552	3097	2851	2832	2180	1719	996	236	0	0	-999
9	0	0	443	587	940	2004	2599	2959	3277	3028	2838	2622	2190	1519	786	269	0	0	26061
10	0	0	170	569	1129	1698	2075	2749	3312	3331	2991	2441	2058	1322	723	334	0	0	24902
11	0	0	-666	391	899	1432	994	778	702	427	617	434	2188	1170	264	54	0	0	-999
12	0	0	149	676	1393	2109	2770	3255	3559	3654	3474	3075	2489	1370	1026	257	0	0	29256
13	0	0	133	643	1380	2086	2692	3186	3464	3513	3333	2990	2289	1720	948	300	0	0	28677
14	0	0	67	211	346	526	398	1131	1203	1665	1769	2335	1242	1373	549	-99	0	0	-999
15	0	0	-666	508	862	1196	1670	1022	1880	2063	2312	1994	1428	-99	-99	-99	0	0	-999
16	0	0	0	130	-888	781	788	765	1050	421	464	536	496	349	300	107	0	0	-999
17	0	0	500	396	1145	1957	2602	3092	3204	3475	3056	2755	1551	1636	772	121	0	0	26262
18	0	0	-666	478	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
19	0	0	-99	530	1237	1970	2634	3131	3194	3171	3469	2948	2454	1816	1181	363	0	0	-999
20	0	0	-666	316	706	1386	945	1563	3501	2709	3062	2849	2394	1429	1007	388	0	0	-999
21	0	0	-666	609	1300	1977	2485	2639	2527	3018	3336	2328	2197	1349	937	351	0	0	-999
22	0	0	111	435	1040	1950	2575	3083	3413	3181	2945	3007	2143	1708	896	376	0	0	26863
23	0	0	95	563	1256	1970	2595	3060	3331	2847	3014	2746	1813	955	746	271	0	0	25262
24	0	0	-888	449	669	1902	2210	2812	2966	3087	3071	2240	1523	1277	436	152	0	0	-999
25	0	0	385	402	1174	1842	2473	2938	3059	2830	1249	2087	1946	1279	-99	-99	0	0	-999
26	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
27	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
28	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
29	0	0	-99	-99	-99	-99	-99	-99	-99	2925	2362	2012	1917	1161	638	294	0	0	-999
30	0	0	32	389	1054	1695	2350	2775	2965	2945	2746	2143	2071	1453	756	222	0	0	23596
31	0	0	49	370	978	1620	2222	2713	2975	3056	2454	2356	2058	1482	828	147	0	0	23308
MEAN	0	0	193	452	1002	1643	2012	2445	2706	2714	2580	2211	1769	1322	755	248	0	0	24458
SD	0	0	165	152	331	479	771	840	821	825	777	727	597	353	240	93	0	0	4131
NUM	31	31	15	25	24	25	26	25	25	26	26	26	25	24	23	22	31	31	12
MAX	0	0	500	700	1446	2165	2949	3255	3559	3654	3474	3075	2489	1816	1181	388	0	0	29256
MIN	0	0	0	130	278	526	40	765	702	421	464	434	138	349	264	54	0	0	5000

LIGHTNING OUTAGE 25 - 29
SPARE UNIT INSTALLED 29TH

TABULATED 01/02/80 AT 14:53:36

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 5 SLOOP POINT JULY 1978
SENSITIVITY 9.44E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	30	122	358	915	1674	2444	3066	3191	2829	2822	1895	141	499	263	0	0	20249
2	0	0	-99	-99	-99	-99	2966	3390	3211	1841	2642	1929	1517	1567	739	194	0	0	-999
3	0	0	76	526	1140	2291	2318	3428	3493	3622	2940	2814	2215	1491	766	183	0	0	27303
4	0	0	236	751	1182	1521	2303	3142	3558	3439	3195	2741	2093	1376	697	171	0	0	26405
5	0	0	171	716	1411	1861	2330	3123	3226	3333	2986	2047	987	1296	549	175	0	0	24211
6	0	0	133	583	1285	1834	2352	1342	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
7	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
8	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
9	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
10	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
11	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
12	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	3096	2509	1780	842	301	0	0	-999
13	0	0	110	575	1391	2112	2745	3241	3504	3580	3470	3085	2528	1830	1063	347	0	0	29581
14	0	0	45	372	629	896	1071	404	491	423	1025	963	1971	713	308	160	0	0	9515
15	0	0	64	471	636	1369	1674	575	827	2112	2886	2703	2097	655	171	102	0	0	16362
16	0	0	30	133	507	99	819	694	1186	480	-99	244	167	-99	137	76	0	0	-999
17	0	0	64	732	1319	2169	2738	3191	3394	3409	3207	2753	2120	1247	690	167	0	0	27200
18	0	0	148	663	1414	2097	2799	3226	3413	3462	3283	2848	2242	-99	739	179	0	0	-999
19	0	0	11	899	1445	2246	2822	3371	3416	3100	3153	2799	1731	-99	572	133	0	0	-999
20	0	0	137	453	777	1102	1994	3020	2375	2166	2265	2268	2181	-99	640	144	0	0	-999
21	0	0	171	739	1468	1826	2665	3317	3436	3489	-99	-99	-99	1308	598	305	0	0	-999
22	0	0	83	552	1224	1916	2589	3008	3081	3439	3256	2898	2307	1624	896	282	0	0	27157
23	0	0	91	533	1212	1946	2593	3062	3439	3458	3283	2719	2005	1643	892	266	0	0	27144
24	0	0	53	549	1136	1693	2379	2349	3092	2341	3031	2898	1918	785	228	114	0	0	22566
25	0	0	15	259	1086	1636	2333	2806	3161	3237	-99	1780	-99	-99	301	0	0	0	-999
26	0	0	236	697	1613	2299	2719	3260	3283	3413	3172	2593	1967	1136	476	461	0	0	27325
27	0	0	118	827	1460	2154	2463	3068	3367	3443	3165	1616	2349	1574	305	152	0	0	26081
28	0	0	76	442	530	1201	1659	2204	1807	1910	2627	1830	739	451	499	122	0	0	16087
29	0	0	53	488	1147	1609	2490	2997	3279	3439	3149	2787	2215	1525	774	244	0	0	26196
30	0	0	45	423	1083	1792	2284	2802	3172	2734	3020	2654	2192	1372	894	259	0	0	24716
31	0	0	45	427	1063	1758	2387	2913	3191	3275	3138	2776	2238	1582	869	209	0	0	25871
MEAN	0	0	93	541	1104	1681	2285	2656	2894	2847	2939	2404	1921	1255	605	200	0	0	23762
SD	0	0	62	187	342	521	526	894	867	906	503	686	560	453	249	94	0	0	5134
NUM	31	31	24	24	24	24	25	25	24	24	21	24	23	24	25	25	31	31	17
MAX	0	0	236	899	1613	2299	2966	3428	3558	3622	3470	3096	2528	1830	1063	461	0	0	29581
MIN	0	0	11	122	358	99	819	404	491	423	1025	244	167	141	137	0	0	0	5000

POWER OUT 6TH; UNATTENDED TO 12

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 6 CLINTON JULY 1978
SENSITIVITY 11.00E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	68	392	942	1400	1619	2487	2173	2961	2919	-99	-99	-99	-99	-99	0	0	-999
2	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
3	0	0	49	107	425	1551	1773	1106	1619	1858	2379	1583	2065	1574	464	307	0	0	16860
4	0	0	68	477	1178	1845	2474	3037	2968	2176	438	2408	2251	1567	903	304	0	0	22094
5	0	0	22	124	-888	-99	1223	1083	1718	1243	1750	1489	1741	994	687	281	0	0	-999
6	0	0	170	746	1423	2169	2631	3151	3554	2906	2840	3004	2015	1662	703	284	0	0	27258
7	0	0	117	713	1390	2150	2807	3076	3112	2771	3550	3357	1878	1492	-99	-99	0	0	-999
8	0	0	-99	-99	1191	2022	2709	3197	3518	3652	3419	3066	2523	1822	1083	399	0	0	-999
9	0	0	68	222	847	1934	2546	3004	3236	3325	2487	2654	1901	1381	837	255	0	0	24697
10	0	0	68	379	1034	1426	2369	2906	3298	3253	3082	2608	2068	1155	1079	346	0	0	25071
11	0	0	62	366	448	402	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
12	0	0	-99	-99	1367	2130	2781	3275	3583	3635	3315	3046	2598	1413	978	392	0	0	-999
13	0	0	111	549	988	1940	2650	3174	3410	3521	3374	2935	2205	1567	677	215	0	0	27316
14	0	0	13	91	258	762	1531	2222	1989	1947	2948	2267	1508	1407	143	13	0	0	17099
15	0	0	81	418	1102	1639	1462	1417	1675	2984	2549	2258	1161	405	78	65	0	0	17294
16	0	0	49	75	179	199	791	765	409	827	572	1256	664	323	287	45	0	0	6441
17	0	0	85	503	1207	1934	2582	3109	3410	3475	3397	2965	1806	1466	896	238	0	0	27073
18	0	0	68	471	1112	1881	2559	2857	3102	3380	3259	2974	2428	1747	929	301	0	0	27068
19	0	0	104	589	1073	1940	2644	3145	3478	3580	3433	2987	2173	1639	1034	343	0	0	28162
20	0	0	75	510	1302	1777	1708	2182	3017	2598	2002	2035	2533	1515	1037	366	0	0	22657
21	0	0	101	494	1201	1953	2605	1881	3207	1963	1577	2179	2153	1508	958	294	0	0	22074
22	0	0	75	520	1201	2051	2618	3059	3406	2536	3115	2523	2333	1557	916	281	0	0	26191
23	0	0	68	503	1201	1943	2595	3050	3419	3380	3017	2611	2225	1597	909	271	0	0	26789
24	0	0	75	422	356	1390	2104	2605	2742	3311	3017	2834	1957	703	81	49	0	0	21646
25	0	0	42	520	1129	1885	2477	2968	3282	3154	2431	1217	1384	703	35	39	0	0	21266
26	0	0	48	342	1065	1923	2486	2914	3147	2574	2384	1880	1723	1340	466	123	0	0	22415
27	0	0	52	461	1037	2032	2035	2690	3122	3315	2068	2222	2366	1266	903	193	0	0	23762
28	0	0	42	343	899	834	1367	1338	1053	1793	1240	1223	1721	1616	942	261	0	0	14672
29	0	0	71	520	1119	1731	2477	2958	3073	2991	2870	2657	1570	1168	778	232	0	0	24215
30	0	0	55	425	1073	1813	2493	2994	3230	3184	3086	1829	1312	1525	824	251	0	0	24094
31	0	0	35	376	991	1672	2310	2899	3239	2104	566	1017	1315	1413	719	147	0	0	18803
MEAN	0	0	69	416	990	1666	2221	2570	2834	2772	2520	2324	1913	1340	716	233	0	0	22292
SD	0	0	30	166	330	500	534	730	810	736	890	655	458	377	323	110	0	0	4969
NUM	31	31	28	28	29	29	29	29	29	29	29	28	28	28	27	27	31	31	24
MAX	0	0	170	746	1423	2169	2807	3275	3583	3652	3550	3357	2598	1822	1083	399	0	0	28162
MIN	0	0	13	75	179	199	791	765	409	827	438	1017	664	323	35	13	0	0	5000

TABULATED 01/02/80 AT 14:53:36

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 7 ONSLOW BEACH JULY 1978
SENSITIVITY 10.17E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	166	615	1253	1631	2003	3019	3249	2339	980	-99	-99	-99	-99	-99	0	0	-999
2	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	2697	1638	198	293	0	0	-999
3	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	155	350	251	123	53	0	0	-999
4	0	0	145	559	1097	1681	1833	2952	2127	3040	2584	63	1769	1667	63	63	0	0	19643
5	0	0	92	492	1313	1953	2318	2562	3168	2290	2074	1104	1939	1447	-99	-99	0	0	-999
6	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	2417	1653	1023	346	0	0	-999
7	0	0	180	683	1430	2226	2874	3299	3550	3546	3023	3076	2350	1355	906	332	0	0	28830
8	0	0	70	392	838	1978	2261	3306	3284	3122	3415	2948	2403	1720	1001	332	0	0	27070
9	0	0	130	654	1536	1999	2669	3129	3479	3507	3338	2941	2343	1596	881	307	0	0	28509
10	0	0	88	552	1246	1929	2109	2994	3203	3196	2771	2842	1706	916	-99	-666	0	0	-999
11	0	0	102	438	1210	1702	2346	1521	368	70	42	92	152	803	435	123	0	0	9504
12	0	0	130	697	1451	2173	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
13	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
14	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
15	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	2389	1861	1359	212	84	0	0	-999
16	0	0	60	191	527	297	488	530	1391	814	176	-99	194	201	141	113	0	0	-999
17	0	0	48	561	1319	2045	2685	3135	3425	3460	3287	2933	2395	1613	866	264	0	0	28036
18	0	0	95	619	1234	1985	2637	3146	3423	3486	3320	2945	2332	1635	892	283	0	0	28082
19	0	0	102	403	934	2074	2711	3168	2771	-99	1306	2913	1345	771	566	141	0	0	-999
20	0	0	116	392	414	552	1706	2421	2449	2244	2651	1808	2431	1624	838	159	0	0	19805
21	0	0	95	612	1348	2038	2686	3178	3444	3440	3171	2899	2017	1536	739	304	0	0	27507
22	0	0	99	569	1277	1985	2623	3125	3387	3419	3249	2870	2343	1624	899	272	0	0	27741
23	0	0	95	562	1253	1950	2637	3107	3412	3465	3263	2870	2329	1635	888	272	0	0	27738
24	0	0	38	525	1107	1823	2552	2934	3316	3217	3058	1493	1384	1327	230	38	0	0	23044
25	0	0	48	551	1043	1843	2583	3011	3245	3294	3043	2657	289	66	367	126	0	0	22166
26	0	0	49	525	1249	1819	2601	3136	3362	3330	-99	2237	1171	810	569	145	0	0	-999
27	0	0	46	378	1320	1978	2346	2998	3359	3426	3263	2895	2368	1667	530	109	0	0	26683
28	0	0	88	654	711	969	1720	2538	3437	-99	-99	-99	881	523	477	329	0	0	-999
29	0	0	49	396	1115	1844	2484	3001	3288	2920	3210	2842	2290	1500	612	212	0	0	25763
30	0	0	42	410	1027	1787	2060	2761	3249	3345	3150	2799	2237	1490	562	261	0	0	25250
31	0	0	38	375	1054	1695	2382	2906	3231	-99	-99	2835	2279	1621	884	247	0	0	-999
MEAN	0	0	88	512	1141	1758	2321	2332	3025	2903	2589	2287	1707	1261	596	208	0	0	24710
SD	0	0	39	119	258	459	492	594	737	896	1026	979	772	504	301	98	0	0	4880
NUM	31	31	25	25	25	25	24	24	24	21	21	23	27	27	25	25	31	31	16
MAX	0	0	180	697	1536	2226	2874	3306	3550	3546	3415	3076	2697	1720	1023	346	0	0	28830
MIN	0	0	38	191	414	297	488	530	368	70	42	63	152	66	63	38	0	0	5000

TABULATED 01/02/80 A 53:36

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : NIP # 8 SLOOP POINT JULY 1978
SENSITIVITY 8.70E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	0	0	12	12	12	12	-99	-99	-99	-99	-99	-99	0	0	-999
2	0	0	-99	-99	-99	-99	-99	0	0	0	0	0	0	0	0	0	0	0	-999
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	719	888	0	0	99	479	372	364	359	177	0	0	0	0	0	-999
5	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
6	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
7	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
8	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
9	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
10	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
11	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
12	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	2803	2253	883	238	0	0	-999
13	0	0	498	1789	2489	2778	2882	2952	3006	3060	3118	3047	2919	2687	2207	1198	0	0	34630
14	0	0	26	150	88	63	34	0	0	0	0	34	580	17	0	0	0	0	992
15	0	0	56	300	27	358	163	0	0	126	991	1156	1020	51	0	0	0	0	4248
16	0	0	0	73	48	0	0	0	11	0	-99	-99	-99	-99	-99	-99	0	0	-999
17	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	-999
18	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
19	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
20	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
21	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
22	0	0	149	902	1688	2143	2520	2491	2189	2693	2660	2615	2309	1965	1469	666	0	0	26459
23	0	0	111	827	1659	2205	2524	2652	2727	2673	2660	2127	1700	2060	1477	678	0	0	26080
24	0	0	62	893	620	869	1733	1167	1754	827	1717	1874	1353	521	74	24	0	0	13488
25	0	0	58	1104	1858	2015	1998	2064	1824	-99	-99	-99	-99	-99	-99	0	0	0	-999
26	0	0	184	1152	1582	2550	2625	2369	2269	2385	2311	2100	2129	1897	875	242	0	0	24650
27	0	0	48	1186	1720	2022	1720	2614	2510	2874	2907	1877	2655	2187	114	0	0	0	24434
28	0	0	219	732	0	107	554	802	844	724	1001	1001	70	78	99	49	0	0	6280
29	0	0	92	795	1288	1424	2119	2248	2285	2322	2119	2111	1838	1436	787	145	0	0	21009
30	0	0	47	614	1177	1628	1351	1586	1938	1392	1744	1831	1831	1272	850	333	0	0	17594
31	0	0	39	577	1102	1400	1620	1922	2013	2042	2083	2157	2091	1959	1442	424	0	0	20871
MEAN	0	0	93	694	959	1149	1285	1276	1325	1264	1578	1485	1467	1148	642	235	0	0	16979
SD	0	0	119	469	815	993	1058	1120	1091	1172	1071	962	1002	982	689	327	0	0	10608
NUM	31	31	17	17	16	17	17	18	18	17	15	15	16	16	16	17	31	31	13
MAX	0	0	498	1789	2489	2778	2882	2952	3006	3060	3118	3047	2919	2687	2207	1198	0	0	34630
MIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABULATED 01/02/80 AT 14:53:36

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : MIP #10 CLINTON JULY 1978
SENSITIVITY 8.29E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	17	39	178	282	147	412	282	647	786	-99	-99	-99	-99	-99	0	0	-999
2	0	0	-99	-99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-999
3	0	0	0	0	0	17	0	0	0	0	52	199	503	416	0	160	0	0	1347
4	0	0	21	221	842	942	1454	1745	1307	473	0	768	1255	1011	668	217	0	0	10924
5	0	0	0	0	0	0	34	0	21	0	30	52	208	21	117	99	0	0	582
6	0	0	755	1993	2592	2974	2714	2722	2601	1524	1845	2462	1667	1598	425	308	0	0	26180
7	0	0	264	1793	2510	2909	3061	2874	2292	1737	3018	2896	959	1215	-99	-99	0	0	-999
8	0	0	-99	-99	2149	2922	2935	3035	3109	3126	3061	2996	2853	2596	2175	1380	0	0	-999
9	0	0	0	0	286	1802	1945	1988	1849	1841	1081	1558	977	799	712	251	0	0	15089
10	0	0	60	338	851	620	1246	1715	1958	1802	1476	1159	864	251	725	182	0	0	13247
11	0	0	0	0	6	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
12	0	0	-99	-99	2227	2705	2909	3057	3191	3161	2774	2926	2657	1111	1237	699	0	0	-999
13	0	0	156	332	373	1637	2240	2475	2379	2362	2236	2210	1737	1285	-888	-99	0	0	-999
14	0	0	0	0	0	0	86	317	78	243	1124	833	217	860	0	0	0	0	3358
15	0	0	0	26	772	664	59	0	13	772	625	629	52	0	0	0	0	0	3592
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	30	490	1354	1741	1780	1632	1420	1233	1068	998	625	786	833	238	0	0	14198
18	0	0	0	347	968	1706	1771	1615	1684	2019	2158	2275	2179	1619	1368	464	0	0	19973
19	0	0	47	616	1003	1667	2275	2601	2757	2861	2692	2462	1689	1893	1867	1024	0	0	25454
20	0	0	43	78	755	833	468	954	1841	1402	620	924	2605	1836	2041	1020	0	0	15430
21	0	0	142	1084	1762	2317	2600	1110	2357	276	724	454	1327	1740	1557	1696	0	0	19146
22	0	0	104	781	1624	2219	2292	2609	2470	1450	2210	1849	2149	1967	1363	555	0	0	23342
23	0	0	82	855	1641	2158	2457	2523	2514	2258	2019	1858	1967	1724	1433	616	0	0	24105
24	0	0	56	204	0	620	1124	1424	1328	1954	1806	2045	1350	356	0	0	0	0	12267
25	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
26	0	0	17	95	942	2041	2175	2075	1949	1315	1137	833	985	1263	347	26	0	0	15200
27	0	0	39	764	1120	2340	1094	1359	1941	2036	555	872	2101	1376	772	99	0	0	16168
28	0	0	0	564	601	0	364	39	13	73	26	91	911	1332	1580	699	0	0	6973
29	0	0	82	834	1363	1415	2019	2179	1984	1767	1758	1784	755	586	937	360	0	0	17623
30	0	0	34	390	512	820	990	1133	1196	1137	1168	560	308	872	751	364	0	0	10237
31	0	0	0	377	890	1311	1606	1828	1980	772	0	125	490	1268	894	82	0	0	11623
MEAN	0	0	72	447	913	1288	1394	1496	1535	1318	1243	1279	1192	1045	834	405	0	0	13306
SD	0	0	146	509	778	997	1044	1024	1028	945	975	961	838	683	669	442	0	0	7752
NUM	31	31	27	27	30	30	30	29	29	29	29	28	28	28	26	26	31	31	23
MAX	0	0	755	1993	2592	2974	3061	3057	3191	3161	3061	2996	2853	2596	2175	1696	0	0	26180
MIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABULATED 01/02/80 AT 14:53:37

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : UV #11 CLINTON JULY 1978
SENSITIVITY 312.10E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER

DATE	HOUR ENDING 4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	4	17	35	67	83	117	139	134	116	90	75	56	33	16	0	0	982
2	0	0	0	6	20	54	85	102	122	92	84	88	61	38	11	8	0	0	771
3	0	0	0	5	18	42	37	43	53	59	87	106	92	64	31	13	0	0	650
4	0	0	7	24	48	78	97	116	136	103	116	108	90	65	34	15	0	0	1037
5	0	0	2	9	17	38	67	89	83	96	95	99	52	67	45	16	0	0	771
6	0	0	6	26	59	95	136	147	161	163	156	133	107	74	44	17	0	0	1324
7	0	0	4	26	64	92	138	119	156	144	137	109	102	70	41	16	0	0	1218
8	0	0	9	27	58	88	115	139	154	157	133	121	94	68	40	15	0	0	1218
9	0	0	3	18	37	74	102	125	139	142	139	106	89	53	32	14	0	0	1073
10	0	0	2	17	43	79	88	117	118	127	111	86	62	47	14	9	0	0	920
11	0	0	1	1	10	40	56	103	75	26	101	103	93	72	36	17	0	0	734
12	0	0	2	24	54	98	120	140	154	158	145	121	88	78	40	15	0	0	1237
13	0	0	2	18	42	70	88	128	101	109	83	84	67	51	28	9	0	0	880
14	0	0	1	12	36	73	98	128	130	121	89	14	14	22	9	5	0	0	752
15	0	0	3	15	29	40	54	95	117	116	98	79	54	24	7	5	0	0	736
16	0	0	0	1	1	25	49	94	84	63	22	43	31	55	32	13	0	0	513
17	0	0	1	21	48	81	108	132	144	144	104	98	90	59	-99	-99	0	0	-999
18	0	0	-99	-99	-99	-99	-99	76	103	127	128	121	82	96	73	-666	0	0	-999
19	0	0	-555	-555	3	19	44	73	103	116	131	144	140	123	-666	-666	0	0	-999
20	0	0	-555	-555	3	21	44	77	114	137	151	155	146	127	-666	-666	0	0	-999
21	0	0	0	0	4	22	23	-99	-99	-99	86	97	90	61	37	13	0	0	-999
22	0	0	4	21	50	84	112	135	149	121	137	112	95	62	35	12	0	0	1129
23	0	0	4	17	53	82	113	135	150	147	135	117	95	64	-99	12	0	0	-999
24	0	0	3	16	19	62	96	116	124	144	128	118	83	34	5	3	0	0	951
25	0	0	3	22	47	80	105	128	144	138	114	71	69	30	2	2	0	0	955
26	0	0	3	19	48	84	113	136	144	127	113	89	74	59	28	10	0	0	1047
27	0	0	3	20	45	87	96	126	146	152	103	104	101	56	35	8	0	0	1082
28	0	0	3	20	40	46	69	72	61	96	66	65	82	68	36	11	0	0	735
29	0	0	3	20	45	72	103	127	136	130	129	114	73	53	31	10	0	0	1046
30	0	0	3	18	43	75	105	129	141	138	132	92	58	57	31	10	0	0	1032
31	0	0	2	17	41	70	104	115	135	96	37	55	58	54	28	9	0	0	821
MEAN	0	0	2	16	35	64	88	112	123	120	109	98	80	61	30	11	0	0	944
SD	0	0	2	7	18	23	29	24	28	30	30	28	26	22	14	4	0	0	200
NUM	31	31	28	28	30	30	30	30	30	30	31	31	31	31	27	27	31	31	25
MAX	0	0	9	27	64	98	138	147	161	163	156	155	146	127	73	17	0	0	1324
MIN	0	0	0	0	1	19	23	43	53	26	22	14	14	22	2	2	0	0	513

RETURNED TO CLINTON ON 21

TABULATED 01/02/80 AT 14:53:37

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : UV #12 SLOOP POINT JULY 1978
SENSITIVITY 154.40E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
2	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
3	0	0	-99	-99	-99	-99	38	44	53	59	86	106	92	65	33	14	0	0	-999
4	0	0	6	25	50	79	96	110	128	97	111	106	86	64	33	16	0	0	1007
5	0	0	2	10	18	34	65	64	78	89	90	94	51	55	41	16	0	0	717
6	0	0	7	28	60	94	124	144	157	160	150	131	105	73	42	17	0	0	1292
7	0	0	5	26	52	87	116	116	152	138	133	101	98	69	40	16	0	0	1149
8	0	0	6	27	57	88	115	137	148	152	129	118	92	65	37	14	0	0	1185
9	0	0	5	21	40	76	104	124	138	140	125	103	89	53	33	16	0	0	1067
10	0	0	1	18	42	70	86	114	115	122	106	82	58	42	14	10	0	0	880
11	0	0	0	21	9	40	56	101	71	22	99	102	91	56	35	15	0	0	728
12	0	0	6	27	56	89	117	139	152	155	143	129	81	59	38	15	0	0	1216
13	0	0	3	21	44	77	85	120	100	106	73	85	67	52	30	11	0	0	874
14	0	0	1	13	38	73	99	124	126	113	84	13	15	24	63	22	0	0	808
15	0	0	3	15	29	40	53	92	114	113	94	77	52	23	7	4	0	0	716
16	0	0	1	2	3	27	73	95	83	62	22	43	31	37	32	14	0	0	545
17	0	0	7	24	52	82	110	127	143	143	101	97	89	81	-99	-99	0	0	-999
18	0	0	-99	-99	-99	-99	-99	76	102	124	124	118	80	94	71	-666	0	0	-999
19	0	0	0	0	3	20	46	73	102	113	129	140	137	118	-666	-666	0	0	-999
20	0	0	0	0	4	22	57	77	112	135	147	150	142	123	-666	-666	0	0	-999
21	0	0	0	0	3	22	50	-99	-99	-99	-99	-99	-99	61	31	13	0	0	-999
22	0	0	4	23	51	93	113	132	142	158	148	129	101	68	37	13	0	0	1202
23	0	0	4	22	51	84	114	136	147	163	148	123	91	69	37	12	0	0	1201
24	0	0	4	23	48	76	105	109	135	113	135	122	85	42	13	5	0	0	1015
25	0	0	10	35	68	97	119	138	143	137	94	-99	-99	-99	-99	1	0	0	-999
26	0	0	4	32	64	101	126	142	152	155	142	115	88	55	23	5	0	0	1204
27	0	0	8	33	61	92	110	137	148	155	143	75	102	68	22	9	0	0	1163
28	0	0	3	15	29	60	82	108	88	96	124	90	38	25	25	11	0	0	794
29	0	0	2	19	46	70	102	126	139	147	135	118	92	61	32	11	0	0	1100
30	0	0	2	19	43	73	94	115	135	122	127	111	90	56	32	11	0	0	1028
31	0	0	2	18	43	71	98	123	138	142	135	119	94	65	35	11	0	0	1094
MEAN	0	0	3	19	39	67	91	112	122	122	117	103	82	62	33	12	0	0	999
SD	0	0	2	9	19	24	25	25	27	33	28	28	27	22	13	4	0	0	203
NUM	31	31	27	27	27	27	28	28	28	28	28	27	27	28	25	25	31	31	22
MAX	0	0	10	35	68	101	126	144	157	163	150	150	142	123	71	22	0	0	1292
MIN	0	0	0	0	3	20	30	44	53	22	22	13	15	23	7	1	0	0	545

RETURNED TO SLOOP POINT ON 21

TABULATED 01/02/80 3:37

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 2 ELLIS AIRPORT AUGUST 1978
SENSITIVITY 10.99E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	18	444	1083	1614	1466	2564	1208	1234	136	133	303	389	330	143	0	0	11065
2	0	0	37	374	1321	830	253	689	2232	1838	754	944	1583	1449	1144	289	0	0	13737
3	0	0	76	548	866	1704	1865	2792	2166	2605	3165	1901	1282	564	391	125	0	0	20050
4	0	0	54	519	1207	1328	2390	2337	3087	3389	3445	2727	1571	1459	572	80	0	0	24165
5	0	0	55	422	1189	1723	475	262	167	750	1153	1248	1091	907	566	157	0	0	10165
6	0	0	97	762	1568	1459	2350	2350	2806	2986	2288	1292	916	749	500	130	0	0	20253
7	0	0	31	529	1306	1325	1892	2616	3130	3117	3058	2855	2423	1630	909	185	0	0	25006
8	0	0	-99	-99	1205	1742	2142	3370	2833	3033	2037	1922	1998	1611	864	180	0	0	-999
9	0	0	-99	560	1244	1981	2686	3036	2617	3360	2296	2571	1732	1080	671	167	0	0	-999
10	0	0	31	529	1099	1569	1699	2098	2419	2157	-99	-99	-99	-99	-99	-99	0	0	-999
11	0	0	-99	303	1116	1669	1656	2642	1030	424	244	591	958	804	323	77	0	0	-999
12	0	0	30	371	368	895	1458	2490	2523	1337	469	2343	1655	1704	748	181	0	0	16572
13	0	0	44	395	827	1459	1997	3140	3327	2249	912	-99	-99	-99	-99	-99	0	0	-999
14	0	0	-99	294	1071	1736	2338	2853	3138	3098	2663	704	176	242	386	85	0	0	-999
15	0	0	31	287	1060	1797	2403	2488	3048	2537	1708	2573	2121	1482	680	31	0	0	22246
16	0	0	-99	321	936	1667	2338	2777	3203	2168	3822	2548	1985	1428	681	121	0	0	-999
17	0	0	31	375	1037	1777	2406	2868	2780	2852	2475	2311	1823	624	67	38	0	0	21464
18	0	0	20	325	892	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
19	0	0	27	322	905	1612	2150	2690	3096	2713	3008	2644	2078	1305	509	20	0	0	23079
20	0	0	28	323	968	1633	2446	2521	3029	2950	3209	2472	1879	841	487	58	0	0	22844
21	0	0	26	403	1104	1857	2525	3049	3341	3436	3253	2820	1844	1438	609	85	0	0	25790
22	0	0	25	411	1001	1921	2527	3015	3291	3327	2956	2671	2105	1423	621	84	0	0	25378
23	0	0	21	392	1161	1912	2449	2288	3258	3399	3182	2724	2115	1414	483	61	0	0	24859
24	0	0	22	347	1058	1806	2496	3115	3308	3311	3108	2689	2099	1320	563	75	0	0	25319
25	0	0	25	264	935	1620	2226	2678	2976	3045	2419	2233	1443	1040	424	41	0	0	21369
26	0	0	14	240	620	1481	1724	2480	2346	2772	2612	2241	1347	666	129	0	0	0	18672
27	0	0	17	197	866	879	1170	2022	2127	980	106	224	718	1082	577	40	0	0	11005
28	0	0	-99	206	1035	671	625	890	2227	2640	2656	1248	-99	-99	-99	-99	0	0	-999
29	0	0	0	245	887	1572	2234	2731	3046	3079	2787	2476	1922	1169	465	36	0	0	22649
30	0	0	12	179	536	1303	1709	2397	2927	3216	2803	2085	1705	1165	480	32	0	0	20549
31	0	0	17	335	744	1501	2395	2500	2009	1291	430	2107	2035	1334	522	56	0	0	17276
MEAN	0	0	31	374	1006	1534	1949	2458	2623	2509	2177	1974	1589	1122	544	95	0	0	20159
SD	0	0	20	125	235	329	623	690	737	861	1116	814	563	391	217	65	0	0	4804
NUM	31	31	25	30	31	30	30	30	30	30	29	29	27	27	27	27	31	31	22
MAX	0	0	97	762	1568	1981	2686	3370	3341	3436	3822	2855	2423	1704	1144	289	0	0	25790
MIN	0	0	0	179	368	671	253	262	167	424	106	133	176	242	67	0	0	0	5000

TABULATED 01/02/80 AT 13:11:49

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 5 CAPE FEAR AUGUST 1978
SENSITIVITY 11.27E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER

DATE	HOUR ENDING 4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	53	516	1037	2037	2398	2925	3037	2724	1321	1404	999	587	449	130	0	0	19617
2	0	0	52	471	1371	1809	1078	1477	2515	2758	2828	2432	1605	1752	832	103	0	0	21083
3	0	0	71	541	1240	1458	2176	2579	2697	3141	2464	1857	1400	1413	854	234	0	0	22125
4	0	0	62	566	1247	1563	2649	2630	3150	3224	3339	2790	2138	1509	538	78	0	0	25483
5	0	0	48	530	770	176	878	476	287	1897	859	2124	1163	176	96	32	0	0	9512
6	0	0	75	535	1312	1762	2145	2372	2081	3362	2775	2190	1593	919	388	85	0	0	21594
7	0	0	52	477	1179	943	1355	1668	2639	2042	3495	3205	2451	1614	876	180	0	0	22176
8	0	0	55	509	-99	-99	-99	-99	-99	-99	2933	2135	2150	1630	761	205	0	0	-999
9	0	0	33	346	953	1917	2748	3189	3476	3333	3480	2611	2419	1560	742	253	0	0	27060
10	0	0	23	336	1135	1266	1997	2531	3224	3537	2515	1282	477	106	23	17	0	0	18469
11	0	0	34	318	954	1465	1091	312	69	210	583	708	1436	478	226	63	0	0	7947
12	0	0	0	24	104	682	1401	2420	360	788	791	1589	1634	1708	740	187	0	0	12428
13	0	0	17	237	1215	1787	2355	2972	3301	2451	1758	969	1767	298	256	87	0	0	19470
14	0	0	26	403	799	790	2099	2358	2387	908	496	2368	553	467	745	49	0	0	14448
15	0	0	20	387	1071	1764	2428	2559	3016	2911	1681	1451	2262	1112	496	189	0	0	21347
16	0	0	18	302	986	1703	2398	2752	2765	3199	2813	1986	2142	1458	829	162	0	0	23518
17	0	0	23	339	1039	1739	2278	2859	2847	2438	2885	2643	1882	956	324	49	0	0	22311
18	0	0	17	282	847	883	1208	2687	2572	2432	2984	2473	1087	1167	585	103	0	0	19327
19	0	0	17	272	895	1655	2323	2853	3198	3029	3032	2687	1972	1192	585	129	0	0	23840
20	0	0	25	218	910	1511	2236	2805	2897	3098	2575	2380	942	255	182	102	0	0	20132
21	0	0	23	314	975	1763	2377	2955	3278	3323	3176	2847	2211	1524	793	148	0	0	25737
22	0	0	19	373	1092	1875	2546	3047	3344	3392	3204	2827	2284	472	287	73	0	0	24835
23	0	0	20	384	1119	1903	2566	3102	3332	3355	3058	2470	2189	1486	723	116	0	0	25828
24	0	0	13	352	1064	1866	2460	3019	3310	3371	3163	2748	2141	1445	684	112	0	0	25748
25	0	0	12	332	900	1654	2328	2808	3057	3092	2894	2443	1753	1035	498	44	0	0	22850
26	0	0	8	245	832	1467	2049	2481	2733	2845	2129	-99	-99	-99	-99	-99	0	0	-999
27	0	0	-99	-99	-99	-99	-99	1090	972	758	2304	1049	333	451	439	30	0	0	-999
28	0	0	12	179	859	1552	1833	2555	3121	2565	2360	2517	1801	501	175	32	0	0	20062
29	0	0	8	277	931	1663	2340	2838	3167	3081	2136	2286	1928	1200	481	37	0	0	22398
30	0	0	24	356	1155	1561	1925	2487	2973	3123	2999	2577	1752	877	436	53	0	0	22201
31	0	0	21	376	1034	1577	1855	2644	3407	3426	2660	2385	2091	1283	523	53	0	0	23335
MEAN	0	0	29	359	1000	1513	2052	2446	2640	2660	2438	2181	1685	1021	518	104	0	0	20888
SD	0	0	19	120	228	422	505	714	934	883	841	614	575	509	240	63	0	0	4647
NUM	31	31	30	30	29	29	29	30	30	30	31	30	30	30	30	30	31	31	28
MAX	0	0	75	566	1371	2037	2748	3189	3476	3537	3495	3205	2451	1752	876	253	0	0	27060
MIN	0	0	0	24	104	176	878	312	69	210	496	708	333	106	23	17	0	0	5000

TABULATED 01/02/80 AT 1[illegible] 49

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 4 WALLACE AUGUST 1978
SENSITIVITY 10.37E-6 V/M/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	427	1083	1843	2274	2093	2274	347	264	250	382	576	330	132	0	0	12275
2	0	0	38	524	1128	781	326	562	951	1389	1229	1503	2385	1809	316	66	0	0	13007
3	0	0	39	477	1185	1792	1771	1876	2205	2504	848	1150	886	1108	688	286	0	0	16815
4	0	0	49	448	1232	2003	2565	2958	3385	3551	2729	2204	2402	771	243	115	0	0	24655
5	0	0	41	475	1221	1311	270	329	402	193	877	1065	1460	725	332	58	0	0	8759
6	0	0	95	439	1269	1994	2501	2688	1536	2032	-99	-99	-99	-99	-99	-99	0	0	-999
7	0	0	0	281	1110	1694	2034	1725	2485	3204	2534	1940	1947	985	808	145	0	0	20892
8	0	0	47	408	1071	1856	1967	2022	2863	3456	3307	3227	2498	1582	853	158	0	0	25315
9	0	0	46	494	1206	2001	2441	3184	3226	3420	3511	2181	1261	529	727	213	0	0	24440
10	0	0	42	514	969	1489	1569	2125	2017	1531	1461	-99	-99	-99	-99	-99	0	0	-999
11	0	0	-99	-99	911	1293	2227	2484	1519	210	224	727	1335	915	269	51	0	0	-999
12	0	0	48	256	454	450	1690	2193	2103	2540	1172	2724	1953	1568	839	145	0	0	18135
13	0	0	37	357	721	1613	2249	2137	2662	2009	947	2169	1471	475	291	277	0	0	17415
14	0	0	30	350	1033	1693	2245	2623	3290	3009	1266	197	127	502	325	68	0	0	16758
15	0	0	23	287	1207	1794	2405	2516	2481	2703	1894	2099	1992	1422	600	34	0	0	21457
16	0	0	24	351	927	1725	2388	2864	2954	2590	2739	2218	1527	1312	684	121	0	0	22424
17	0	0	31	354	972	1767	2340	2749	2836	2513	2590	2687	1569	441	90	49	0	0	20988
18	0	0	36	411	987	1646	2028	2667	1376	2934	2927	2518	1282	869	487	88	0	0	20256
19	0	0	21	177	396	1048	2083	2545	2867	2795	2569	2187	1493	861	458	21	0	0	19521
20	0	0	8	151	1019	1716	2425	2692	2997	3299	2800	2688	1987	1321	536	12	0	0	23651
21	0	0	23	294	1082	1808	2460	2971	3287	3363	3217	2835	2217	1349	690	82	0	0	25678
22	0	0	23	262	998	1769	2477	2981	3255	3390	2821	2727	2116	1404	616	89	0	0	24928
23	0	0	26	391	1144	1877	2547	2665	2748	-99	-99	-99	-99	-99	-99	-99	0	0	-999
24	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
25	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
26	0	0	-99	-99	-99	-99	896	1646	2615	2892	2576	2021	959	361	84	18	0	0	-999
27	0	0	9	127	232	450	1287	1200	790	1599	2419	2245	1537	690	416	16	0	0	13017
28	0	0	0	175	321	425	1605	2119	2678	1800	2057	1102	1335	717	362	40	0	0	14736
29	0	0	0	184	969	1527	2218	2694	3010	2958	2343	2333	1850	1305	517	35	0	0	21943
30	0	0	11	220	799	1331	1990	2591	2771	3039	2816	2101	1976	1261	518	53	0	0	21477
31	0	0	15	220	921	1553	1313	1469	1254	1072	1296	1952	1501	1296	633	63	0	0	15358
MEAN	0	0	28	335	948	1508	1951	2254	2373	2397	2053	1963	1594	1005	488	93	0	0	19329
SD	0	0	20	117	276	460	611	685	807	963	930	769	570	403	213	73	0	0	4602
NUM	31	31	27	27	28	28	29	29	29	28	27	26	26	26	26	26	31	31	24
MAX	0	0	95	524	1269	2003	2565	3184	3385	3551	3511	3227	2498	1809	853	286	0	0	25678
MIN	0	0	0	127	232	425	270	329	402	193	224	197	127	361	84	12	0	0	5000

OUT OF PAPER 23 -25
SPARE UNIT INSTALLED 29 JULY

TABULATED 01/02/80 AT 13:11:49

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 5 SLOOP POINT AUGUST 1978
SENSITIVITY 9.44E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	87	457	1216	1979	2600	3127	3401	3176	3558	1773	941	564	403	106	0	0	23393
2	0	0	15	453	499	545	938	1086	2246	2764	1967	2471	1658	1753	1002	297	0	0	17699
3	0	0	45	408	2452	1967	2608	3047	3352	2909	1754	2566	2265	1273	774	122	0	0	24542
4	0	0	38	472	2292	2009	2673	3146	3378	3481	3291	2913	2318	1525	606	68	0	0	27210
5	0	0	45	381	1025	446	419	312	732	1216	1845	877	1609	691	114	15	0	0	9730
6	0	0	49	499	2121	2002	2612	2989	3317	3451	3130	2707	1708	1525	591	87	0	0	25788
7	0	0	34	537	2086	1765	2593	3069	3336	3397	3226	2844	2291	1493	785	232	0	0	26693
8	0	0	41	488	2186	1986	2669	3092	3359	3455	2879	3073	1544	1624	827	163	0	0	26386
9	0	0	38	488	2147	1662	2284	2856	3382	3348	3184	2863	2242	1616	655	205	0	0	25970
10	0	0	26	278	896	1540	-99	-99	2276	3718	2822	2047	305	30	95	61	0	0	-999
11	0	0	0	183	613	1658	2032	366	72	163	144	594	1086	985	427	118	0	0	8439
12	0	0	0	53	41	354	1197	1777	1983	224	941	1822	1067	1491	1102	286	0	0	12338
13	0	0	0	186	522	1624	2200	2098	3233	3336	3195	1998	-99	-99	232	133	0	0	-999
14	0	0	0	255	858	1357	1033	2730	3249	3447	2105	270	-99	-99	-99	137	0	0	-999
15	0	0	0	297	907	1738	2379	2623	3012	3268	2944	2490	1170	1085	617	175	0	0	22703
16	0	0	0	308	907	1643	2307	2922	2825	2852	2188	2551	2147	1468	732	171	0	0	22921
17	0	0	0	274	938	1674	2318	2802	3184	-888	3058	2345	1513	812	286	45	0	0	-999
18	0	0	15	247	831	911	1773	2188	2947	3123	2802	1666	-888	1052	587	87	0	0	-999
19	0	0	15	259	919	1616	2196	2513	3161	3115	2688	2009	1395	1029	606	80	0	0	21601
20	0	0	15	301	907	1574	2211	2799	2970	2802	3054	2566	1986	1247	602	118	0	0	23152
21	0	0	19	331	991	1792	2494	2970	3241	3325	3127	2802	2215	1502	678	87	0	0	25574
22	0	0	15	331	2060	1834	2494	2970	3245	3321	2791	1437	1826	1390	545	61	0	0	23310
23	0	0	19	457	2208	1822	2513	2894	2917	3249	3222	2768	2162	1372	644	80	0	0	25327
24	0	0	19	366	838	2047	2490	2978	3272	3325	3127	2749	2120	1380	621	83	0	0	25415
25	0	0	11	347	949	1624	2246	2753	2974	3043	2982	1788	1433	907	278	26	0	0	21361
26	0	0	0	232	854	1433	1788	2108	1952	2696	2608	-99	-99	-99	-99	-99	0	0	-999
27	0	0	0	156	171	266	598	1147	2066	2825	2539	2494	1799	1124	303	41	0	0	15527
28	0	0	0	122	674	1502	2108	2650	2658	3146	2879	2494	1777	1224	579	64	0	0	21877
29	0	0	0	186	819	1559	2055	2246	2734	3031	2844	2272	1803	1220	572	83	0	0	21424
30	0	0	0	171	827	1594	2364	2852	3134	3325	2875	2238	1788	1430	667	95	0	0	23360
31	0	0	0	278	873	1647	2108	2673	3024	3115	2921	2608	2013	1285	-99	-99	0	0	-999
MEAN	0	0	17	316	891	1521	2076	2402	2794	2921	2667	2203	1710	1217	569	114	0	0	21739
SD	0	0	20	123	293	406	611	768	762	844	710	678	480	365	233	69	0	0	5148
NUM	31	31	31	31	31	31	30	30	31	30	31	30	27	28	28	29	31	31	24
MAX	0	0	87	537	1452	2047	2673	3146	3401	3718	3558	3073	2318	1758	1102	297	0	0	27210
MIN	0	0	0	53	41	266	419	312	72	163	144	278	305	30	95	15	0	0	5000

TABULATED 01/02/80 AT 1*****49

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 6 CLINTON AUGUST 1978
SENSITIVITY 11.00E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	49	379	1086	1786	2101	2526	2372	376	294	297	634	726	467	157	0	0	13250
2	0	0	52	464	549	1649	2490	2958	1273	1957	1927	2618	1358	373	98	58	0	0	17824
3	0	0	45	435	1129	1521	1593	3174	2362	3125	3285	2686	2359	1142	592	163	0	0	23611
4	0	0	58	435	1096	1449	2608	2837	3452	3164	2140	2277	585	392	317	124	0	0	20934
5	0	0	62	520	1151	1672	1711	448	935	824	464	1613	1606	1014	258	68	0	0	12346
6	0	0	31	283	725	1743	2293	1795	241	-99	-99	-99	-99	-99	-99	-99	0	0	-999
7	0	0	19	359	1201	1767	1930	3125	2346	3635	1099	2392	2421	726	323	117	0	0	21460
8	0	0	32	474	1197	1901	2660	3279	3131	3413	3269	2899	2317	1613	827	199	0	0	27211
9	0	0	32	389	1083	1626	2087	2922	3508	2732	2438	2978	1688	1502	713	222	0	0	23920
10	0	0	42	359	755	762	850	1259	1606	1865	2847	242	29	467	287	101	0	0	11471
11	0	0	0	153	654	1217	1322	2173	2886	2078	988	2382	1907	932	307	45	0	0	17044
12	0	0	16	147	428	399	1181	1809	2997	2444	2621	2840	1534	1439	503	127	0	0	18485
13	0	0	32	304	464	922	1315	2572	3030	3050	2261	2870	1158	618	834	199	0	0	19629
14	0	0	16	304	644	1001	2254	2857	3066	3001	3158	1201	284	225	284	81	0	0	18376
15	0	0	8	192	656	1164	2257	2640	3117	2741	2469	1874	1890	1489	745	159	0	0	21400
16	0	0	16	278	945	1695	2382	2889	2837	3122	3086	2431	1832	1318	785	170	0	0	23786
17	0	0	19	346	955	1672	2281	2807	3184	3053	2935	1855	497	39	98	222	0	0	19963
18	0	0	19	261	870	1626	2267	2755	2994	2690	2713	2497	1950	1217	657	111	0	0	22627
19	0	0	12	175	516	1416	2178	2152	2823	2914	2692	1844	1530	862	254	80	0	0	19448
20	0	0	13	320	821	1662	1960	2389	2981	3259	1917	2536	1060	1165	287	-99	0	0	-999
21	0	0	0	368	1062	1795	2476	2996	3340	3428	3294	2872	2224	1278	676	110	0	0	25919
22	0	0	16	359	1053	1799	2408	2984	3269	3331	3164	2735	2065	1426	651	85	0	0	25345
23	0	0	16	297	1050	1839	2611	2824	2961	3253	3102	2758	2159	1423	654	85	0	0	25032
24	0	0	16	382	939	1400	2451	2935	3203	3472	3092	2287	2068	1374	628	81	0	0	24328
25	0	0	13	255	863	1554	2228	2699	2948	2987	2663	2454	1718	1037	431	65	0	0	21915
26	0	0	0	206	366	782	1813	2647	2945	1623	1407	2032	1446	448	170	0	0	0	15885
27	0	0	9	183	451	890	1073	1875	1695	2719	2533	1734	690	926	373	49	0	0	15200
28	0	0	8	136	421	1301	1936	2545	2947	2083	1723	1880	1556	663	185	67	0	0	17451
29	0	0	0	245	854	1593	2284	2794	3089	3145	2809	2310	1907	1187	330	26	0	0	22653
30	0	0	0	278	880	1525	2225	2241	2621	3253	2863	2461	2025	1161	464	52	0	0	22049
31	0	0	9	202	618	1011	1423	2254	2719	1155	2709	2281	1322	1155	618	52	0	0	17528
MEAN	0	0	21	306	822	1423	2020	2521	2673	2663	2401	2204	1527	977	460	106	0	0	20210
SD	0	0	17	101	255	376	480	590	751	807	819	668	639	417	219	58	0	0	4052
NUM	31	31	31	31	31	31	31	31	31	30	30	30	30	30	30	29	31	31	29
MAX	0	0	62	520	1201	1901	2660	3279	3508	3635	3294	2978	2421	1613	834	222	0	0	27211
MIN	0	0	0	136	366	399	850	448	241	376	294	242	29	39	98	0	0	0	5000

TABULATED 01/02/80 AT 13:11:49

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 7 ONSLOW BEACH AUGUST 1978
SENSITIVITY 10.17E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	619	474	428	162	0	0	-999
2	0	0	14	240	1292	2109	2690	1483	1076	821	948	2460	2279	799	661	307	0	0	17179
3	0	0	53	492	1040	1582	2530	3153	3706	3713	3111	2725	2343	1688	700	116	0	0	27352
4	0	0	49	438	1168	1599	2626	3090	3380	3465	3299	2916	2431	1699	764	88	0	0	27412
5	0	0	70	407	1228	2017	392	254	279	1546	1599	1430	1267	258	293	95	0	0	11135
6	0	0	42	453	1083	1626	2516	3132	3256	3479	3178	2640	1890	1030	446	155	0	0	25126
7	0	0	49	378	930	1745	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
8	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	2923	2407	1617	916	-666	0	0	-999
9	0	0	14	279	952	1086	3210	3008	3330	-99	3302	2959	2463	1762	991	315	0	0	-999
10	0	0	21	84	1313	1943	1069	3107	3479	-99	3249	2920	2297	1709	945	244	0	0	-999
11	0	0	0	220	639	1324	2067	2620	2559	-99	3172	-99	-99	-99	166	28	0	0	-999
12	0	0	10	261	863	1295	1550	934	127	152	254	399	1214	686	244	92	0	0	8081
13	0	0	16	151	62	285	1213	2232	2544	1248	445	1506	1705	866	809	137	0	0	13219
14	0	0	24	315	923	1762	2538	3019	3313	3366	3161	1776	789	941	389	120	0	0	22436
15	0	0	21	364	1015	1692	2523	2024	3214	3359	3079	725	353	555	286	70	0	0	19280
16	0	0	17	343	1026	1886	2481	2959	3263	3292	3047	-99	-99	-99	-99	-99	0	0	-999
17	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	1730	-666	-666	0	0	-999
18	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
19	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
20	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
21	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
22	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
23	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
24	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
25	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
26	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
27	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
28	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
29	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
30	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
31	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
MEAN	0	0	28	316	966	1639	2108	2385	2578	2444	2449	2114	1696	1129	574	148	0	0	19024
SD	0	0	19	113	305	476	774	917	1199	1274	1131	878	733	528	274	85	0	0	6730
NUM	31	31	14	14	14	14	13	13	13	10	13	12	13	14	14	13	31	31	9
MAX	0	0	70	492	1313	2109	3210	3155	3706	3713	3302	2959	2463	1762	991	315	0	0	27412
MIN	0	0	0	84	62	285	392	254	127	152	254	399	353	258	166	28	0	0	5000

OUT OF PAPER 18-31

TABULATED 01/02/80 1:49

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : NIP # 8 SLOOP POINT AUGUST 1978
SENSITIVITY 8.70E-6 V/M/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	100	965	1809	2554	2814	2848	2475	2442	2541	390	0	0	0	0	0	0	18938
2	0	0	0	763	548	14	64	18	573	1260	457	1144	370	697	647	138	0	0	6693
3	0	0	10	519	970	1752	2377	2460	2596	1748	453	1731	1636	647	366	14	0	0	17279
4	0	0	51	974	2162	2546	2882	2637	3010	3043	2944	2356	1417	556	163	14	0	0	24755
5	0	0	60	258	701	89	10	0	0	14	89	0	142	26	0	0	0	0	1389
6	0	0	22	266	523	974	1330	1313	1516	1574	1065	788	229	171	39	0	0	0	9810
7	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
8	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
9	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
10	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
11	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
12	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
13	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
14	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
15	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
16	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
17	0	0	-99	-99	-99	-99	-99	-99	-99	-99	2149	1711	987	333	10	0	0	0	-999
18	0	0	0	102	504	110	570	793	1517	1815	1629	603	-99	-99	-99	-99	0	0	-999
19	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
20	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	253	34	0	0	-999
21	0	0	14	829	1789	2245	2538	2683	2787	2671	1280	453	664	329	60	0	0	0	18342
22	0	0	69	1207	2142	2626	2659	2668	2043	2440	2399	1505	661	172	40	0	0	0	20631
23	0	0	40	690	1741	2283	2440	2593	2618	2279	1674	901	309	73	23	0	0	0	17664
24	0	0	0	252	471	906	1117	1332	1092	831	480	103	33	12	0	0	0	0	6629
25	0	0	0	30	121	170	158	150	63	282	158	-99	-99	-99	-99	-99	0	0	-999
26	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
27	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
28	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
29	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
30	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
31	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
MEAN	0	0	30	571	1123	1355	1579	1624	1690	1699	1332	973	586	274	133	16	0	0	14213
SD	0	0	31	370	714	1040	1108	1104	1022	913	933	697	527	246	190	37	0	0	7147
NUM	31	31	12	12	12	12	12	12	12	12	13	12	11	11	12	12	31	31	10
MAX	0	0	100	1207	2162	2626	2882	2848	3010	3043	2944	2356	1636	697	647	138	0	0	24755
MIN	0	0	0	30	121	14	10	0	0	14	89	0	0	0	0	0	0	0	1389

TABULATED 01/02/80 AT 13:11:49

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : MIP #10 CLINTON AUGUST 1978
SENSITIVITY 8.29E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	26	356	1198	1576	933	1124	790	43	0	0	0	0	0	0	0	0	6046
2	0	0	0	616	334	790	1836	2023	43	321	308	1363	594	0	0	0	0	0	8228
3	0	0	26	603	1693	1498	555	2366	1011	1524	2114	1910	2058	877	178	26	0	0	16439
4	0	0	0	56	1411	1654	2583	2423	2844	2596	1311	1758	208	0	0	0	0	0	16844
5	0	0	69	955	1715	1619	1103	0	0	0	0	208	182	82	0	0	0	0	5933
6	0	0	0	13	521	1928	1545	937	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
7	0	0	21	238	1815	1558	1298	2523	1354	3087	247	1632	1919	347	134	43	0	0	16216
8	0	0	13	946	1919	2440	2688	2740	2479	2818	2879	2800	2601	2253	1050	95	0	0	27721
9	0	0	34	625	1828	1765	1741	2219	2805	1862	1702	2822	1459	1706	964	447	0	0	21977
10	0	0	13	260	277	0	0	13	21	217	1281	0	0	0	0	0	0	0	2082
11	0	0	0	0	21	212	125	794	1094	108	60	1142	1159	86	0	0	0	0	4801
12	0	0	0	0	0	0	499	638	1515	1341	1745	2093	1294	1524	625	186	0	0	11460
13	0	0	13	65	0	39	43	1007	1454	1906	1372	2531	508	60	1237	395	0	0	10630
14	0	0	0	351	442	104	1558	2240	2019	1589	2197	234	0	0	0	0	0	0	10734
15	0	0	0	0	17	321	1285	1849	2314	1671	1307	977	1320	1628	1103	125	0	0	13917
16	0	0	0	221	1181	1845	2284	2392	1750	2106	2314	1771	1558	1606	1589	421	0	0	20838
17	0	0	17	642	1333	1797	1910	2106	2331	2006	2093	1020	0	0	0	238	0	0	15493
18	0	0	0	112	916	1528	1771	1906	1858	1328	1632	1602	1415	946	538	86	0	0	15638
19	0	0	0	0	0	885	1689	1298	1606	1684	1485	920	977	360	21	0	0	0	10925
20	0	0	0	260	985	1919	1558	1480	2114	2297	1003	1019	512	1220	143	0	0	0	15310
21	0	0	0	725	1732	2153	2531	2766	3065	3222	3365	3243	2892	1637	1558	473	0	0	29362
22	0	0	13	768	1763	2353	2518	2709	2822	2783	2718	2675	2327	2097	1320	138	0	0	27004
23	0	0	0	121	1071	2601	2666	2284	2336	2701	2740	2861	2648	2232	1511	286	0	0	26858
24	0	0	0	508	1715	2331	2609	2696	2588	2835	2579	1819	2353	2166	1446	351	0	0	25996
25	0	0	0	160	742	1163	1537	1658	1589	1619	1294	1450	985	594	277	26	0	0	13094
26	0	0	0	0	0	60	547	1159	1393	60	47	599	399	0	0	0	0	0	4264
27	0	0	0	0	0	21	0	191	108	781	807	442	0	243	208	21	0	0	2822
28	0	0	0	0	0	360	1003	1406	1237	573	412	529	677	134	13	34	0	0	6378
29	0	0	0	160	842	1463	2001	2305	2505	2523	2353	1706	1706	1320	306	0	0	0	19270
30	0	0	0	308	916	1272	1819	1307	1285	2153	1997	1489	1884	1346	612	17	0	0	16405
31	0	0	0	0	56	416	799	1593	1967	395	1367	1415	894	1528	1745	243	0	0	12418
MEAN	0	0	7	292	878	1215	1452	1682	1676	1604	1490	1494	1150	856	548	121	0	0	14503
SD	0	0	14	297	716	833	827	804	868	1002	936	882	881	806	596	155	0	0	7685
NUM	31	31	31	31	31	31	31	31	30	30	30	30	30	30	30	30	31	31	30
MAX	0	0	69	955	1919	2601	2688	2766	3065	3222	3365	3243	2892	2253	1745	473	0	0	29362
MIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2082

TABULATED 01/02/80 A[illegible] 11:49

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : UV #11 CLINTON AUGUST 1978
SENSITIVITY 312.10E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	2	18	43	72	85	97	108	20	19	18	35	39	24	8	0	0	588
2	0	0	2	18	26	73	111	133	80	102	98	116	62	25	8	5	0	0	859
3	0	0	3	20	49	73	85	144	117	146	149	122	102	54	31	10	0	0	1105
4	0	0	2	20	50	73	116	133	158	151	110	112	33	24	18	7	0	0	1007
5	0	0	2	19	49	78	84	30	56	51	29	83	83	53	14	4	0	0	635
6	0	0	2	15	38	81	107	87	16	-99	-99	-99	-99	-99	-99	-99	0	0	-999
7	0	0	-99	17	49	78	93	144	112	172	62	118	103	44	23	8	0	0	-999
8	0	0	2	18	46	80	113	136	140	150	142	123	95	64	31	8	0	0	1148
9	0	0	2	18	45	74	99	129	153	130	118	129	80	63	31	10	0	0	1081
10	0	0	1	15	38	40	47	68	86	98	124	16	-99	-99	-99	15	0	0	-999
11	0	0	0	6	31	59	68	107	138	107	58	115	92	49	17	3	0	0	850
12	0	0	1	8	24	23	62	93	141	125	130	125	80	62	28	8	0	0	910
13	0	0	1	14	26	46	68	118	141	146	111	127	61	37	33	9	0	0	938
14	0	0	1	14	31	45	101	127	136	134	139	63	18	14	16	5	0	0	844
15	0	0	1	11	32	56	100	125	144	132	118	92	83	61	29	8	0	0	992
16	0	0	1	14	39	72	105	129	130	141	137	112	85	59	30	8	0	0	1062
17	0	0	1	14	39	69	97	122	141	136	130	86	29	3	5	5	0	0	877
18	0	0	1	12	36	67	95	115	126	112	120	104	80	50	26	7	0	0	951
19	0	0	1	9	24	61	90	99	123	127	114	85	70	38	16	2	0	0	859
20	0	0	1	13	38	69	88	107	128	134	87	106	67	49	16	-99	0	0	-999
21	0	0	-99	15	43	76	109	134	153	157	149	126	93	55	27	6	0	0	-999
22	0	0	1	14	41	74	104	132	146	149	140	118	88	56	25	5	0	0	1093
23	0	0	1	14	44	77	110	126	138	147	138	119	90	56	26	5	0	0	1091
24	0	0	1	14	41	74	104	127	139	147	133	100	83	53	24	5	0	0	1045
25	0	0	0	11	34	64	93	113	124	126	112	98	70	42	19	4	0	0	910
26	0	0	1	8	18	39	80	110	124	79	72	84	64	26	9	0	0	0	714
27	0	0	1	9	24	44	56	91	84	119	112	78	44	37	19	3	0	0	721
28	0	0	0	7	22	59	86	112	123	92	81	84	65	35	14	3	0	0	783
29	0	0	1	11	35	68	98	123	137	140	124	95	74	43	17	3	0	0	969
30	0	0	1	12	36	64	94	101	116	138	125	104	79	48	20	3	0	0	941
31	0	0	1	10	31	51	74	108	126	65	131	107	65	48	24	4	0	0	845
MEAN	0	0	1	13	36	63	91	113	122	122	110	98	71	44	21	5	0	0	916
SD	0	0	0	3	8	14	17	23	29	33	33	27	21	14	7	3	0	0	144
NUM	31	31	29	31	31	31	31	31	31	30	30	30	29	29	29	29	31	31	26
MAX	0	0	3	20	50	81	116	144	158	172	149	129	103	64	33	15	0	0	1148
MIN	0	0	0	6	18	23	47	30	16	20	19	16	18	3	5	0	0	0	588

TABULATED 01/02/80 AT 13:11:49

CLASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : UV #12 SLOOP POINT AUGUST 1978
SENSITIVITY 154.4CE-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	3	20	50	85	115	140	154	150	160	88	51	32	22	7	0	0	1077
2	0	0	2	20	28	31	57	64	113	133	103	115	81	74	41	13	0	0	875
3	0	0	2	17	54	83	115	137	152	138	92	118	99	58	34	9	0	0	1108
4	0	0	2	20	52	86	119	140	156	159	151	132	103	68	33	9	0	0	1230
5	0	0	2	19	45	25	26	22	46	70	98	54	80	39	8	1	0	0	535
6	0	0	2	21	48	85	116	135	151	160	143	123	81	67	28	6	0	0	1166
7	0	0	2	22	49	80	117	141	154	158	147	127	99	64	34	9	0	0	1203
8	0	0	2	19	48	82	113	137	152	157	136	131	77	67	35	9	0	0	1165
9	0	0	2	20	50	75	100	126	151	151	143	127	99	68	30	9	0	0	1151
10	0	0	1	16	44	72	-99	-99	-99	-99	128	174	98	20	3	7	0	0	-999
11	0	0	0	9	32	73	93	23	6	13	11	37	61	53	25	7	0	0	443
12	0	0	0	3	3	23	64	92	97	17	57	95	62	68	45	14	0	0	640
13	0	0	0	10	30	71	96	126	147	153	145	98	-99	-99	-99	-99	0	0	-999
14	0	0	0	9	32	59	50	113	140	148	119	24	-99	-99	-99	10	0	0	-999
15	0	0	0	10	36	68	97	115	127	146	133	114	72	47	31	12	0	0	1008
16	0	0	-99	-99	-99	63	94	119	127	127	109	109	97	67	36	12	0	0	-999
17	0	0	0	10	34	65	94	116	118	225	131	105	71	40	17	4	0	0	1030
18	0	0	1	13	35	47	77	95	126	133	120	79	-666	46	24	5	0	0	-999
19	0	0	1	13	38	66	90	108	133	133	117	89	65	46	25	5	0	0	929
20	0	0	1	12	38	64	90	116	126	119	128	108	81	51	23	5	0	0	962
21	0	0	1	16	42	77	109	131	145	148	138	122	94	60	28	6	0	0	1117
22	0	0	1	16	44	77	108	131	145	147	122	76	79	56	26	5	0	0	1033
23	0	0	1	16	45	78	107	128	132	143	140	118	90	53	24	5	0	0	1080
24	0	0	0	15	43	75	102	125	140	143	133	115	87	54	25	4	0	0	1061
25	0	0	0	14	37	65	92	114	123	126	123	78	63	31	16	3	0	0	895
26	0	0	0	11	34	59	77	91	88	112	108	-99	-99	-99	-99	-99	0	0	-999
27	0	0	0	6	10	18	37	64	97	124	113	105	76	38	19	4	0	0	721
28	0	0	-555	6	28	58	86	109	114	128	120	104	74	48	22	2	0	0	-999
29	0	0	0	9	34	65	89	103	127	137	129	105	82	55	26	5	0	0	966
30	0	0	0	10	33	67	104	133	144	152	134	107	84	60	28	5	0	0	1058
31	0	0	0	11	37	70	91	121	139	142	133	116	88	55	0	0	0	0	1003
MEAN	0	0	0	13	37	64	90	110	125	133	121	103	81	53	25	6	0	0	977
SD	0	0	0	4	11	18	23	30	32	39	28	28	13	12	9	3	0	0	201
NUM	31	31	29	30	30	31	30	30	30	30	31	30	27	28	28	29	31	31	24
MAX	0	0	3	22	54	86	119	141	156	225	160	174	103	74	45	14	0	0	1230
MIN	0	0	0	3	3	18	26	22	6	13	11	24	51	20	0	0	0	0	443

TABULATED 01/02/80 AT ·····:49

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 2 ELLIS AIRPORT SEPTEMBER 1978
SENSITIVITY 10.99E-6 V/M/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER

DATE	HOUR ENDING 4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	18	241	536	1070	1627	2196	2239	3225	2901	2043	1276	-99	-99	-99	0	0	-999
2	0	0	0	61	317	484	444	1732	2341	2613	2246	1771	1090	628	156	32	0	0	13915
3	0	0	12	238	670	1489	1066	1102	1312	1378	1397	1430	1381	844	359	31	0	0	12709
4	0	0	0	218	762	1574	2252	2760	3012	2904	2806	2534	1774	1142	441	38	0	0	22217
5	0	0	0	206	746	1510	1860	2591	2620	2925	2627	2158	1601	622	301	26	0	0	19793
6	0	0	0	209	445	1038	1510	2053	1546	2011	1647	1185	1175	881	494	42	0	0	14236
7	0	0	0	209	887	1749	2358	2725	1840	1788	1300	799	714	569	262	22	0	0	15222
8	0	0	0	222	670	985	1460	2414	2653	3066	2869	2368	1788	1028	399	16	0	0	19946
9	0	0	0	211	834	1528	2193	2688	2992	3032	2816	2364	1787	1073	378	15	0	0	21911
10	0	0	0	214	682	1524	2064	1668	1020	1576	725	620	1514	597	197	0	0	0	12401
11	0	0	0	152	700	1450	1738	2318	2678	2613	2544	2134	1659	1073	225	21	0	0	19305
12	0	0	0	215	1132	1450	2242	2321	2675	2554	2105	1404	1178	955	395	15	0	0	18641
13	0	0	0	172	683	1875	2026	2550	1974	1918	2095	2121	1450	663	185	15	0	0	17727
14	0	0	0	225	883	1630	2282	2780	3048	3042	2845	2380	-99	-99	-99	-99	0	0	-999
15	0	0	0	81	416	1100	1808	2725	2895	2928	2440	1670	1529	678	180	9	0	0	18459
16	0	0	0	169	785	1571	2180	2560	2472	2233	2485	2393	1702	1014	300	0	0	0	19864
17	0	0	0	140	520	1159	2158	2532	2967	2843	2335	1867	1654	789	-99	-99	0	0	-999
18	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
19	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	1312	798	218	0	0	0	-999
20	0	0	0	62	268	1081	2165	2581	2463	1536	1556	2162	799	481	186	0	0	0	15340
21	0	0	0	199	871	1634	2283	2712	2990	3010	2790	2358	1723	917	288	0	0	0	21775
22	0	0	0	152	578	1440	2174	2645	2875	2927	2714	2393	1518	850	261	0	0	0	20527
23	0	0	0	68	143	336	441	510	821	785	490	353	274	130	38	0	0	0	4389
24	0	0	0	69	167	675	1533	2381	2463	2801	2633	1706	527	219	49	0	0	0	15223
25	0	0	0	41	162	395	742	1535	2036	1054	1073	1545	1017	644	152	0	0	0	10376
26	0	0	-666	139	693	1430	2075	2560	2881	2825	2593	2095	1581	863	179	0	0	0	-999
27	0	0	-666	198	709	1384	2131	2023	2331	2265	1525	1600	1043	460	133	0	0	0	-999
28	0	0	0	134	704	1467	2063	2541	2794	2800	2577	1798	1293	655	121	0	0	0	18947
29	0	0	0	136	663	1286	1948	2075	1538	1315	955	991	831	378	113	0	0	0	12229
30	0	0	0	111	507	779	1310	1323	1153	1886	1814	1660	943	327	68	0	0	0	11881
MEAN	0	0	1	160	612	1253	1790	2235	2308	2351	2103	1782	1290	714	233	10	0	0	16392
SD	0	0	4	60	237	402	539	558	654	689	710	570	398	262	120	13	0	0	4348
NUM	30	30	26	28	28	28	28	28	28	28	28	28	28	27	26	26	30	30	23
MAX	0	0	18	241	1132	1875	2358	2780	3048	3225	2901	2534	1788	1142	494	42	0	0	22217
MIN	0	0	0	41	143	336	441	510	821	785	490	353	274	130	38	0	0	0	4389

TABULATED 01/02/80 AT 15:05:45

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 3 CAPE FEAR SEPTEMBER 1978
SENSITIVITY 11.27E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	16	303	1105	1744	2041	2907	2095	2102	3050	2198	1268	335	169	0	0	0	19333
2	0	0	0	80	195	502	1086	2463	2789	2613	1105	1361	581	390	355	13	0	0	13533
3	0	0	10	335	959	1384	1985	828	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
4	0	0	-99	-99	-99	-99	2388	2854	3107	3250	3206	2806	1979	1069	393	40	0	0	-999
5	0	0	0	156	291	329	840	1249	2926	2392	2198	1833	1054	645	281	19	0	0	14213
6	0	0	0	184	-99	-99	-99	628	676	1101	1532	1401	1513	1098	417	37	0	0	-999
7	0	0	0	142	234	487	397	710	1272	1742	1407	830	611	448	250	20	0	0	8558
8	0	0	0	222	820	1561	2196	2602	2490	2985	2768	2311	1682	1120	401	31	0	0	21189
9	0	0	0	217	920	1543	2229	2737	3044	3114	2897	2447	1833	1092	425	32	0	0	22530
10	0	0	10	292	659	759	1304	921	799	90	52	-99	-99	-99	-99	-99	0	0	-999
11	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
12	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
13	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
14	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
15	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
16	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
17	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
18	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
19	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
20	0	0	-99	-99	-99	-99	2238	-99	-99	-99	2257	2088	1813	1075	433	158	0	0	-999
21	0	0	0	51	948	1712	2332	2558	2478	2645	2351	2427	1696	964	274	0	0	0	20436
22	0	0	0	125	654	1414	2337	2803	3021	3078	2845	2286	1657	931	238	0	0	0	21390
23	0	0	0	132	464	587	605	349	349	365	1007	867	506	234	62	8	0	0	5515
24	0	0	0	58	220	698	1741	1885	2594	2332	2405	1402	473	470	147	-555	0	0	-999
25	0	0	0	107	280	328	596	1497	1372	1145	1522	558	538	510	104	0	0	0	8557
26	0	0	0	154	745	1489	1930	2691	2857	2406	1250	1665	927	723	138	0	0	0	16975
27	0	0	0	170	806	1584	2189	2362	2652	1470	1554	1688	1164	554	94	0	0	0	16257
28	0	0	0	219	797	1669	2155	2487	2449	2455	2426	2091	1369	449	101	0	0	0	18667
29	0	0	0	140	718	1158	1769	2111	2335	1919	1293	1360	661	361	147	0	0	0	14002
30	0	0	0	52	324	351	725	809	2071	1876	1598	1078	985	292	129	0	0	0	10328
MEAN	0	0	1	164	618	1069	1654	1872	2177	2056	1936	1721	1174	671	240	19	0	0	15432
SD	0	0	4	81	289	531	674	872	839	874	805	612	502	311	126	36	0	0	5156
NUM	30	30	19	19	18	18	20	20	19	19	20	19	19	19	19	18	30	30	15
MAX	0	0	16	333	1105	1744	2388	2907	3107	3250	3206	2806	1979	1120	433	158	0	0	22530
MIN	0	0	0	51	195	328	397	349	349	90	52	558	473	234	62	0	0	0	5000

TABULATED 01/02/80 AT 15:05:45

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 4 WALLACE SEPTEMBER 1978
SENSITIVITY 10.37E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	10	340	514	687	1684	1663	2885	2552	2864	1798	1413	-99	-99	-99	0	0	-999
2	0	0	-99	-99	233	385	496	677	2052	3010	2531	1264	816	715	45	14	0	0	-999
3	0	0	18	320	827	1674	626	897	2014	716	1560	1976	1528	650	220	22	0	0	13048
4	0	0	11	293	966	1671	2299	2792	3018	2993	2844	2358	1754	1035	359	15	0	0	22408
5	0	0	8	261	775	1563	2077	2768	2931	3035	2848	2112	1244	598	244	15	0	0	20479
6	0	0	9	231	953	1658	1897	1533	1689	1713	1349	1224	1078	929	224	16	0	0	14503
7	0	0	11	202	640	1244	2386	2150	2129	3195	1844	1251	1299	393	178	0	0	0	16922
8	0	0	9	210	918	1453	1418	2304	3119	3029	2734	2293	1696	971	276	0	0	0	20430
9	0	0	8	279	799	1525	2254	2716	2959	3014	2792	2341	1765	1008	300	0	0	0	21760
10	0	0	0	205	847	840	1396	1784	1337	923	371	417	562	323	97	0	0	0	9102
11	0	0	0	157	671	879	2001	2021	2073	2466	2459	1424	1136	727	300	0	0	0	16314
12	0	0	0	170	538	1729	2263	2378	2586	2968	2795	1423	851	719	233	0	0	0	18653
13	0	0	0	229	705	1784	2111	2354	2302	1666	1788	1833	1486	840	257	0	0	0	17355
14	0	0	0	276	960	1693	2321	2779	3040	3026	2727	2120	1641	859	283	0	0	0	21725
15	0	0	0	126	681	1567	1910	1667	2587	2917	2428	2146	1497	431	293	0	0	0	18250
16	0	0	0	259	881	1589	2224	2644	2172	2335	2703	1943	1582	905	256	0	0	0	19493
17	0	0	11	154	570	1348	2185	2560	2445	2966	2594	2192	1671	-99	-99	-99	0	0	-999
18	0	0	-99	197	926	1444	2096	2523	2704	2617	2471	1739	1374	767	194	0	0	0	-999
19	0	0	0	231	741	1488	2109	2529	2786	2804	2526	1866	1425	814	165	0	0	0	19484
20	0	0	0	103	454	620	589	2131	2686	3075	2162	1936	1190	475	103	0	0	0	15524
21	0	0	0	210	964	1519	2272	2744	3001	3008	2783	2321	1693	946	238	0	0	0	21699
22	0	0	0	174	708	1593	2145	2493	2822	2958	2666	2208	1527	767	208	0	0	0	20269
23	0	0	0	85	231	335	283	449	619	845	685	640	269	130	29	0	0	0	4600
24	0	0	0	45	257	774	1611	2295	2833	2680	2076	1930	1239	701	97	0	0	0	16538
25	0	0	0	36	234	324	553	824	1112	983	1233	806	768	338	140	0	0	0	7351
26	0	0	0	182	787	1516	2175	2508	2873	2908	2588	1599	1401	717	99	0	0	0	19353
27	0	0	0	173	784	1524	2089	2666	2509	2339	1891	1610	857	548	121	0	0	0	17111
28	0	0	0	201	659	1652	2128	2558	2791	2787	2502	1211	958	600	86	0	0	0	18133
29	0	0	0	210	516	1304	1786	1880	1425	1002	1078	1026	596	360	172	0	0	0	11355
30	0	0	0	78	658	873	946	1012	1193	1689	1293	1467	721	179	47	0	0	0	10156
MEAN	0	0	3	194	679	1275	1744	2076	2356	2407	2172	1682	1234	658	188	2	0	0	16615
SD	0	0	5	75	223	450	635	682	657	787	691	517	396	246	88	6	0	0	4654
NUM	30	30	28	29	30	30	30	30	30	30	30	30	30	28	28	28	30	30	26
MAX	0	0	18	340	966	1784	2386	2792	3119	3195	2864	2358	1765	1035	359	22	0	0	22408
MIN	0	0	0	36	231	324	283	449	619	716	371	417	269	130	29	0	0	0	4600

TABULATED 01/02/80 AT 15:05:46

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 5 SLOOP POINT SEPTEMBER 1978
SENSITIVITY 9.44E-6 V/M/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
2	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
3	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
4	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
5	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
6	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	1262	1166	507	45	0	0	-999
7	0	0	0	251	808	1330	1998	1033	823	1231	1491	915	533	347	129	0	0	0	10889
8	0	0	0	270	922	1651	2230	-888	2623	3062	2776	2318	1578	1002	350	15	0	0	-999
9	0	0	0	251	926	1601	2253	2730	3005	2970	2810	2314	1723	999	331	11	0	0	21924
10	0	0	0	163	694	1353	919	899	1891	278	83	64	373	602	194	11	0	0	7524
11	0	0	0	179	549	1258	1178	1468	1102	1864	1296	1437	1529	564	148	0	0	0	12572
12	0	0	0	228	644	1367	2330	2802	3180	2612	2829	1967	907	720	392	11	0	0	20189
13	0	0	0	205	732	1552	2143	2612	2837	1925	2051	858	858	373	156	0	0	0	16302
14	0	0	0	247	922	1666	2322	2772	3027	3100	2822	2440	1799	1063	293	0	0	0	22473
15	0	0	0	171	758	1567	2204	2661	2917	2936	2707	1807	1475	903	270	0	0	0	20376
16	0	0	0	110	682	1540	1456	1704	2356	2105	2372	2101	1689	934	274	0	0	0	17323
17	0	0	0	194	720	1517	2139	2524	2879	2928	2722	2261	1624	911	251	0	0	0	20670
18	0	0	0	163	739	1533	2127	2581	2917	2879	2558	2013	1521	793	213	0	0	0	19957
19	0	0	0	205	758	1487	2108	2547	2795	2806	2593	1952	1693	777	183	0	0	0	19904
20	0	0	0	80	400	1605	2227	2413	2413	2139	1510	911	663	251	95	0	0	0	14707
21	0	0	0	171	728	1643	2269	2711	3012	3024	2802	2337	1681	964	263	0	0	0	21605
22	0	0	0	175	701	1571	2230	2665	2963	2966	2726	2280	1624	899	224	0	0	0	21024
23	0	0	0	156	427	552	640	381	522	934	972	488	305	160	72	0	0	0	5609
24	0	0	0	64	270	716	1220	1513	2368	2699	1971	1719	1044	503	129	0	0	0	14216
25	0	0	0	53	228	301	449	1022	1281	1041	835	430	556	251	68	0	0	0	6515
26	0	0	0	152	739	1456	2131	2581	2867	2841	2185	1872	1235	831	102	0	0	0	18992
27	0	0	0	152	774	1498	2124	2581	2482	2417	1922	1048	1025	564	95	0	0	0	16682
28	0	0	0	183	667	1456	2051	2450	2879	2806	2623	2391	1437	598	57	0	0	0	19638
29	0	0	0	175	678	1296	1960	2131	2074	1308	1205	1063	686	369	99	0	0	0	13044
30	0	0	0	102	427	987	1014	1025	1365	2505	2116	1315	1144	415	95	0	0	0	12510
MEAN	0	0	0	170	662	1362	1821	2076	2357	2307	2082	1595	1198	678	199	3	0	0	16288
SD	0	0	0	56	184	355	572	740	764	789	753	700	462	283	113	9	0	0	5017
NUM	30	30	24	24	24	24	24	23	24	24	24	24	25	25	25	25	30	30	23
MAX	0	0	0	270	926	1666	2330	2802	3180	3100	2829	2440	1799	1166	507	45	0	0	22473
MIN	0	0	0	53	228	301	449	361	522	278	83	64	305	160	57	0	0	0	5000

REMOVED HURRICANE 1-6

TABULATED 01/02/80 AT [illegible]:46

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 6 CLINTON SEPTEMBER 1978
SENSITIVITY 11.00E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	209	320	1511	1642	1862	1950	3246	2497	713	605	55	9	0	0	0	14619
2	0	0	0	84	260	643	902	1808	1301	2404	2456	1478	522	581	358	25	0	0	12822
3	0	0	16	193	667	723	664	1744	1243	1148	2081	1561	1354	1083	366	62	0	0	12905
4	0	0	0	296	794	1602	2266	2767	3026	3055	2846	2316	1615	849	352	28	0	0	21812
5	0	0	0	235	850	1557	2267	2804	2775	2366	2824	1937	1724	988	363	22	0	0	20712
6	0	0	9	340	710	1151	1616	2107	1531	1407	1279	1400	1567	998	523	13	0	0	14651
7	0	0	8	394	1059	1995	2391	3134	3343	3127	3042	1933	1082	805	260	25	0	0	22678
8	0	0	0	212	841	1407	1999	2051	2919	3413	2637	2336	1777	1050	369	9	0	0	21020
9	0	0	0	231	787	1488	2221	2731	3055	3111	2911	2440	1818	1105	388	8	0	0	22294
10	0	0	0	198	650	951	1625	1033	1723	1425	1298	345	-99	-99	-99	-99	0	0	-999
11	0	0	-99	-99	484	1453	1963	2428	2120	2706	788	477	670	716	343	16	0	0	-999
12	0	0	0	140	579	1557	2248	2758	2840	3105	2660	2421	1803	1066	389	26	0	0	21592
13	0	0	0	186	710	1377	2002	2483	2470	2366	1593	1721	1606	978	284	13	0	0	17789
14	0	0	0	202	785	1498	2127	2637	2919	2965	2781	2372	1763	1034	343	9	0	0	21435
15	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
16	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
17	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
18	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
19	0	0	-99	-99	-99	-99	-99	-99	-99	2821	2539	2055	1299	716	121	0	0	0	-999
20	0	0	0	101	425	1338	1377	1253	1721	1979	2421	2300	1662	988	265	0	0	0	15830
21	0	0	0	173	680	1849	2150	2673	2925	2945	2735	2300	1669	916	245	0	0	0	21260
22	0	0	0	134	526	1204	2110	2601	2706	2870	2555	2123	1580	877	238	0	0	0	19524
23	0	0	0	31	87	175	244	421	512	502	404	509	228	139	44	0	0	0	3296
24	0	0	0	32	238	608	1564	2546	2559	2781	2654	2058	775	333	134	0	0	0	16282
25	0	0	0	101	323	382	693	896	811	821	1043	1646	513	481	170	0	0	0	7880
26	0	0	0	127	625	1322	2074	2582	2821	2290	2254	2218	1626	805	202	0	0	0	18946
27	0	0	0	160	939	1485	2150	2428	1282	2415	1914	1927	376	353	121	0	0	0	15550
28	0	0	0	127	595	1233	1927	2467	2722	2788	1973	1911	1315	719	124	0	0	0	17901
29	0	0	0	173	579	1292	1737	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
30	0	0	-99	-99	507	1007	1273	1093	1364	1443	1587	837	670	345	78	0	0	0	-999
MEAN	0	0	1	177	600	1232	1729	2137	2193	2379	2150	1733	1234	752	253	10	0	0	17180
SD	0	0	3	85	229	432	566	707	794	795	714	649	523	307	128	14	0	0	4896
NUM	30	30	23	23	25	25	25	24	24	25	25	25	24	24	24	24	30	30	21
MAX	0	0	16	394	1059	1995	2391	3134	3343	3413	3042	2440	1818	1105	523	62	0	0	22678
MIN	0	0	0	31	87	175	244	421	512	502	404	345	228	55	9	0	0	0	3296

TABULATED 01/02/80 AT 15:05:46

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 7 ONSLOW BEACH SEPTEMBER 1978
SENSITIVITY 10.17E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
2	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
3	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
4	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
5	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
6	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	325	35	0	0	-999
7	0	0	0	159	513	1288	2010	1642	1490	2074	1157	1047	665	421	152	14	0	0	12632
8	0	0	0	293	938	1394	1660	2265	2484	2576	2244	2258	1716	1030	346	17	0	0	19221
9	0	0	0	265	888	1607	2276	2739	2976	3023	2778	2357	1713	984	329	14	0	0	21949
10	0	0	0	233	623	849	934	1277	1199	2538	520	184	251	573	251	14	0	0	9446
11	0	0	0	155	530	962	785	1086	2538	2994	2831	2414	1653	1061	297	0	0	0	17306
12	0	0	0	147	781	1538	2257	2798	2947	3223	2774	2091	975	579	271	23	0	0	20404
13	0	0	0	247	803	1568	2198	2637	2707	1957	707	683	1284	612	148	10	0	0	15561
14	0	0	0	223	973	1738	2364	2966	3161	3115	2555	2336	1776	1019	307	0	0	0	22533
15	0	0	0	237	909	1614	2240	2725	3054	3047	2704	2053	1189	750	311	0	0	0	20833
16	0	0	0	116	884	1568	1943	2676	3083	3030	2746	2265	1660	902	251	0	0	0	21124
17	0	0	0	212	853	1578	2258	2803	3129	2980	2729	2247	1575	870	240	0	0	0	21474
18	0	0	0	201	838	1511	2166	2665	3054	2768	2647	2127	1493	789	208	0	0	0	20467
19	0	0	0	208	799	1552	2194	2626	2824	2831	2438	1918	1469	722	148	0	0	0	19709
20	0	0	0	143	829	1690	1934	2773	2875	2748	1658	865	865	351	118	0	0	0	16849
21	0	0	0	152	753	1461	2322	2789	2984	3005	2764	2290	1677	895	244	0	0	0	21336
22	0	0	0	194	941	1656	2410	2884	3033	3012	2764	2311	1667	927	219	0	0	0	22018
23	0	0	0	154	278	551	685	798	997	1053	632	413	250	197	55	0	0	0	6063
24	0	0	0	70	463	1348	2099	2647	2771	2198	1748	1451	874	233	46	0	0	0	15948
25	0	0	0	106	322	361	612	1355	1284	1338	761	449	722	421	88	0	0	0	7819
26	0	0	0	187	810	1568	2201	2686	2920	2913	2552	2141	1366	725	201	0	0	0	20270
27	0	0	0	159	831	1592	2237	2258	2764	2297	1776	1515	906	552	138	0	0	0	17025
28	0	0	0	145	803	1139	2315	2725	2902	2835	2566	2070	1369	540	81	0	0	0	19590
29	0	0	0	168	763	1064	1942	2448	1715	1014	830	781	983	363	73	0	0	0	12144
30	0	0	0	120	513	1199	1812	2003	1893	2272	-99	-99	1610	1249	424	-99	0	0	-999
MEAN	0	0	0	178	734	1349	1910	2344	2532	2535	2038	1663	1237	702	210	5	0	0	17466
SD	0	0	0	52	192	355	548	620	674	631	828	734	453	275	100	9	0	0	4690
NUM	30	30	24	24	24	24	24	24	24	24	23	23	24	24	25	24	30	30	23
MAX	0	0	0	293	973	1738	2410	2966	3161	3223	2831	2414	1776	1249	424	35	0	0	22533
MIN	0	0	0	70	278	361	612	798	997	1014	520	184	250	197	46	0	0	0	5000

REMOVED HURRICANE 1-6

TABULATED 01/02/80 5:46

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : NIP # 8 SLOOP POINT SEPTEMBER 1978
SENSITIVITY 8.70E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
2	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
3	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
4	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
5	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
6	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	337	1061	664	10	0	0	-999
7	0	0	0	56	552	606	1003	14	0	68	93	0	0	0	0	0	0	0	2392
8	0	0	-99	-99	-99	-99	-99	-99	1554	2576	2373	2137	1305	1442	709	18	0	0	-999
9	0	0	0	571	1498	2069	1982	2991	2636	2425	2350	2110	1833	1295	505	0	0	0	22265
10	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
11	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
12	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
13	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
14	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
15	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
16	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
17	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
18	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
19	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
20	0	0	-99	-99	-99	-99	-99	1590	1077	1143	688	0	0	0	0	0	0	0	-999
21	0	0	0	706	1385	2693	2982	3065	3193	3235	3197	3044	2759	2266	1141	0	0	0	29666
22	0	0	0	109	1454	2629	2944	3022	3068	3014	2869	2766	2340	1611	540	0	0	0	26366
23	0	0	0	140	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
24	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
25	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
26	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
27	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
28	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	1622	757	24	0	0	0	-999
29	0	0	0	172	570	926	1550	938	818	119	77	135	28	11	0	0	0	0	5344
30	0	0	0	16	310	289	62	16	103	1328	1274	343	248	12	29	0	0	0	4030
MEAN	0	0	0	252	961	1535	1753	1662	1556	1738	1615	1316	1047	845	361	2	0	0	15010
SD	0	0	0	251	492	966	1036	1283	1195	1171	1164	1234	999	776	385	5	0	0	11325
NUM	30	30	7	7	6	6	6	7	8	8	8	8	10	10	10	10	30	30	6
MAX	0	0	0	706	1498	2693	2982	3065	3193	3235	3197	3044	2759	2266	1141	18	0	0	29666
MIN	0	0	0	16	310	289	62	14	0	68	77	0	0	0	0	0	0	0	2392

REMOVED HURRICANE 1-6

TABULATED 01/02/80 AT 15:05:46

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : HIP #10 CLINTON SEPTEMBER 1978
SENSITIVITY 8.29E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	78	17	790	673	738	846	2140	1706	82	78	0	0	0	0	0	7148
2	0	0	0	0	0	0	0	69	13	564	998	434	0	43	108	0	0	0	2229
3	0	0	0	0	30	43	43	277	30	17	564	759	1133	1367	373	151	0	0	4787
4	0	0	0	273	1302	1806	2062	2284	2336	2336	2193	1780	1289	673	382	43	0	0	18759
5	0	0	0	212	951	1467	1875	2045	1654	942	1641	911	1176	468	95	0	0	0	13437
6	0	0	0	429	673	251	351	807	78	34	21	112	712	625	1198	0	0	0	5291
7	0	0	0	642	1823	2097	2153	2909	2440	1919	2479	1163	447	508	0	0	0	0	18580
8	0	0	0	135	972	1211	929	373	1615	2392	2371	2245	2088	1632	838	56	0	0	16860
9	0	0	0	303	1328	1758	2119	2444	2714	2809	2774	2562	2349	1893	990	69	0	0	24112
10	0	0	0	103	308	191	460	26	99	21	26	-99	-99	-99	-99	-99	0	0	-999
11	0	0	-99	-99	165	916	955	1107	885	1363	121	0	0	17	217	0	0	0	-999
12	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
13	0	0	0	125	759	1202	1532	1598	1120	933	195	716	1259	959	151	0	0	0	10549
14	0	0	0	282	1607	1528	1789	2045	2080	2114	2206	2153	1923	1383	555	0	0	0	19062
15	0	0	0	0	0	0	191	95	147	1706	403	0	26	139	195	-99	0	0	-999
16	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
17	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
18	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
19	0	0	-99	-99	-99	-99	-99	-99	-99	1116	1007	833	403	312	13	0	0	0	-999
20	0	0	0	0	0	238	86	30	26	95	399	620	534	469	173	0	0	0	2661
21	0	0	0	221	1693	2536	2796	2952	2974	2965	2913	2783	2479	1849	746	0	0	0	26907
22	0	0	0	13	21	777	2644	2688	2427	2622	2410	2132	2084	1526	638	0	0	0	19980
23	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
24	0	0	0	0	0	0	295	1637	1294	1980	2266	1962	338	0	0	0	0	0	9772
25	0	0	0	2	0	0	0	0	0	0	13	616	34	143	82	0	0	0	909
26	0	0	0	125	1224	2032	2453	2640	2605	1841	1676	2232	2193	1431	290	0	0	0	20744
27	0	0	0	516	1858	2410	2635	1637	26	2744	1189	916	151	0	0	0	0	0	14082
28	0	0	0	82	555	1671	2036	2193	2314	2344	1350	1446	1072	342	147	0	0	0	16052
29	0	0	0	104	299	907	781	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
30	0	0	-99	-99	130	338	447	0	52	43	147	13	13	0	0	0	0	0	-999
MEAN	0	0	0	166	629	1007	1221	1339	1207	1460	1294	1150	947	707	312	14	0	0	13259
SD	0	0	0	175	629	819	959	1055	1068	1015	973	882	849	646	342	35	0	0	7600
NUM	30	30	22	22	24	24	24	23	23	24	24	23	23	23	23	22	30	30	19
MAX	0	0	0	642	1858	2536	2796	2952	2974	2965	2913	2783	2479	1893	1198	151	0	0	26907
MIN	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	909

TABULATED 01/02/80 AT 15:05:46

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : UV #11 CLINTON SEPTEMBER 1978
SENSITIVITY 312.10E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER

DATE	HOUR ENDING 4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	10	17	67	80	90	99	143	120	46	34	4	1	0	0	0	711
2	0	0	0	4	14	35	48	94	72	116	116	71	30	33	17	2	0	0	652
3	0	0	0	8	30	37	36	88	75	67	109	78	71	50	19	3	0	0	671
4	0	0	0	11	36	68	97	121	133	134	122	93	66	38	17	2	0	0	938
5	0	0	0	10	34	64	95	120	124	111	116	84	71	39	16	2	0	0	886
6	0	0	0	11	33	55	79	98	79	72	66	68	69	42	20	2	0	0	694
7	0	0	0	11	39	77	101	130	138	134	126	84	52	37	12	2	0	0	943
8	0	0	0	10	33	60	83	94	122	126	120	95	70	40	15	2	0	0	870
9	0	0	0	10	34	62	92	117	132	134	124	101	73	43	16	2	0	0	940
10	0	0	0	9	28	46	73	58	83	72	65	22	-99	-99	-99	-99	0	0	-999
11	0	0	-99	-99	23	61	87	107	97	123	54	31	36	34	14	2	0	0	-999
12	0	0	0	9	31	68	99	124	131	137	119	105	76	43	16	1	0	0	959
13	0	0	0	8	30	57	84	105	108	103	83	82	67	39	14	1	0	0	781
14	0	0	0	9	33	65	95	120	134	135	125	104	74	42	15	1	0	0	952
15	0	0	0	5	14	36	77	83	90	127	79	49	47	31	13	1	0	0	652
16	0	0	0	7	28	61	92	113	123	115	112	97	69	39	14	1	0	0	871
17	0	0	0	7	24	54	89	111	109	80	113	98	62	37	12	1	0	0	797
18	0	0	0	7	25	57	82	107	113	96	99	86	60	33	11	1	0	0	777
19	0	0	0	7	28	57	83	106	119	121	105	80	45	27	9	1	0	0	788
20	0	0	0	4	22	58	68	67	87	101	112	101	70	39	12	1	0	0	742
21	0	0	0	7	31	63	93	116	128	128	117	96	66	35	11	1	0	0	892
22	0	0	0	6	24	53	90	111	117	120	107	84	61	33	10	0	0	0	816
23	0	0	0	2	5	10	14	25	30	30	25	31	14	8	3	0	0	0	197
24	0	0	0	2	13	32	74	113	118	125	115	90	47	19	7	0	0	0	755
25	0	0	0	5	17	21	38	49	45	46	54	74	26	22	8	0	0	0	405
26	0	0	0	6	26	55	84	107	117	104	96	86	60	31	8	0	0	0	780
27	0	0	0	6	41	61	88	94	86	108	85	71	38	20	6	0	0	0	704
28	0	0	0	5	25	53	81	101	113	114	85	75	48	27	7	0	0	0	734
29	0	0	0	5	22	50	72	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
30	0	0	-99	-99	20	44	64	60	69	73	78	45	35	17	4	0	0	0	-999
MEAN	0	0	0	7	26	52	77	97	103	106	98	76	54	32	11	1	0	0	765
SD	0	0	0	2	8	14	19	24	26	28	25	22	16	10	4	0	0	0	166
NUM	30	30	28	28	30	30	30	29	29	29	29	29	28	28	28	28	30	30	26
MAX	0	0	0	11	41	77	101	130	138	143	126	105	76	50	20	3	0	0	959
MIN	0	0	0	2	5	10	14	25	30	30	25	22	14	4	1	0	0	0	197

TABULATED 01/02/80 AT 15:05:46

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : UV #12 SLOOP POINT SEPTEMBER 1978
SENSITIVITY 154.40E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
2	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
3	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
4	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
5	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
6	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	61	45	20	3	0	0	-999
7	0	0	0	11	32	59	90	60	51	67	77	51	32	21	9	2	0	0	562
8	0	0	0	11	36	55	91	168	114	128	116	95	66	40	16	1	0	0	947
9	0	0	1	12	36	66	93	114	126	123	117	95	69	40	16	2	0	0	910
10	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
11	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
12	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	35	17	2	0	0	-999
13	0	0	0	11	35	65	92	113	122	89	89	46	39	23	11	1	0	0	736
14	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	-999
15	0	0	0	9	35	69	98	120	132	132	120	86	66	39	14	1	0	0	921
16	0	0	0	8	33	67	70	83	108	98	106	90	70	39	13	1	0	0	786
17	0	0	0	9	35	64	92	109	122	123	116	94	66	36	12	0	0	0	878
18	0	0	0	8	33	63	90	108	124	124	110	86	63	33	10	0	0	0	852
19	0	0	0	5	32	62	89	109	119	118	107	81	70	30	9	0	0	0	834
20	0	0	0	3	20	70	100	111	114	103	77	50	36	15	9	1	0	0	711
21	0	0	0	10	36	70	100	121	135	135	123	101	71	39	12	1	0	0	954
22	0	0	0	10	36	67	96	115	129	130	118	97	67	36	11	1	0	0	913
23	0	0	0	7	22	29	35	23	32	52	53	29	18	10	4	0	0	0	316
24	0	0	0	3	16	39	63	77	109	118	92	76	46	24	8	1	0	0	674
25	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	5	0	0	0	-999
26	0	0	0	7	31	60	89	110	121	121	99	82	54	32	8	0	0	0	814
27	0	0	0	8	33	64	93	115	107	107	91	54	48	29	6	0	0	0	755
28	0	0	0	9	31	65	91	106	122	118	134	100	57	27	6	0	0	0	866
29	0	0	0	7	29	54	82	94	94	66	61	54	37	20	5	0	0	0	603
30	0	0	0	5	20	50	54	58	74	116	99	68	53	22	5	0	0	0	624
MEAN	0	0	0	5	30	60	84	100	108	108	100	75	54	30	10	0	0	0	771
SD	0	0	0	3	6	10	16	29	26	23	21	21	14	9	4	0	0	0	158
NUM	30	30	19	19	19	19	19	19	19	19	19	19	20	21	22	22	30	30	19
MAX	0	0	1	12	36	70	100	168	135	135	134	101	71	45	20	3	0	0	954
MIN	0	0	0	5	16	29	35	23	32	52	53	29	18	10	4	0	0	0	316

REMOVED HURRICANE 1-6

TABULATED 01/02/80 AT 1[illegible]

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 2 ELLIS AIRPORT OCTOBER 1978
SENSITIVITY 10.99E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	51	316	572	464	202	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
2	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
3	0	0	0	-666	608	1460	2046	2521	2763	1935	1411	1768	746	428	45	0	0	0	-999
4	0	0	0	113	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
5	0	0	0	71	601	1043	1364	2226	1102	1623	1076	1394	1348	614	54	0	0	0	12516
6	0	0	0	78	511	1428	2067	2506	2738	2692	2427	1972	1336	622	36	0	0	0	18413
7	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
8	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
9	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
10	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
11	0	0	0	78	874	1500	1821	2456	2263	2017	1955	1326	1123	488	88	0	0	0	15989
12	0	0	0	-666	1205	1503	2017	2443	2666	2646	2410	1575	904	540	55	0	0	0	-999
13	0	0	0	57	359	696	899	1007	1060	1319	1040	857	962	270	21	0	0	0	8547
14	0	0	0	35	444	1355	1738	1669	2059	1794	1512	903	690	398	38	0	0	0	12635
15	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
16	0	0	0	85	687	1382	1988	2230	2194	2119	1772	1139	1126	533	36	0	0	0	15291
17	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
18	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
19	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
20	0	0	0	271	524	1107	1749	2312	2551	2538	2217	1785	1162	481	36	0	0	0	16733
21	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
22	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
23	0	0	0	173	471	1179	1837	2279	2486	2466	2191	1736	1051	402	16	0	0	0	16287
24	0	0	0	0	28	264	1423	2177	2419	2524	2275	1813	1165	457	21	0	0	0	14566
25	0	0	0	58	936	1326	1873	2299	2499	2243	2224	1700	1110	429	16	0	0	0	16713
26	0	0	0	147	432	953	1650	2161	2391	1153	2099	1398	995	343	16	0	0	0	13738
27	0	0	0	36	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
28	0	0	0	15	182	336	575	716	539	539	283	195	215	71	0	0	0	0	3666
29	0	0	0	40	250	577	538	584	512	594	816	469	315	102	0	0	0	0	4797
30	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
31	0	0	0	-666	366	304	609	1467	2325	2292	2047	1608	963	337	0	0	0	0	-999
MEAN	0	0	0	82	517	999	1450	1838	2035	1905	1734	1352	950	407	29	0	0	0	13068
SD	0	0	0	65	281	436	574	734	746	669	622	497	311	152	22	0	0	0	4468
NUM	31	31	31	16	17	17	17	17	16	16	16	16	16	16	16	31	31	31	13
MAX	0	0	0	271	1205	1503	2067	2521	2763	2692	2427	1972	1348	622	88	0	0	0	18413
MIN	0	0	0	0	28	264	464	202	512	539	283	195	215	71	0	0	0	0	3666

TABULATED 01/02/80 AT 13:11:32

COASTAL - ENLAND SOLAR RADIATION DIFFERENCE STUCY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 3 CAPE FEAR OCTOBER 1978
SENSITIVITY 11.27E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	61	144	626	1201	524	1185	2220	1303	1361	1220	760	124	0	0	0	10729
2	0	0	0	165	781	1471	2091	2611	2717	2433	2040	1270	918	558	123	0	0	0	17178
3	0	0	0	145	733	1484	2136	2570	2375	2570	2104	2040	1369	625	113	0	0	0	18264
4	0	0	0	68	456	1060	2006	2552	2012	2440	2207	2095	1303	607	99	0	0	0	16897
5	0	0	0	84	707	790	1566	1614	1090	1764	2361	2026	1403	669	58	0	0	0	14132
6	0	0	0	88	711	1522	2133	2612	2842	2813	2516	2008	1286	529	95	0	0	0	19155
7	0	0	0	152	810	1580	2212	2672	2848	2918	2707	2183	1567	609	110	0	0	0	20368
8	0	0	0	156	511	1485	2172	2648	2900	2919	2664	2130	1469	709	99	0	0	0	19862
9	0	0	0	200	791	1570	2212	2647	2899	2845	2567	2078	1363	638	53	0	0	0	19863
10	0	0	0	73	360	782	1022	2280	2379	2197	1951	1692	1044	632	92	0	0	0	14504
11	0	0	0	69	605	1251	2049	2151	2343	2797	2439	1880	1343	593	75	0	0	0	17595
12	0	0	0	30	720	1436	2049	2519	2714	2599	2212	1679	1155	427	72	0	0	0	17612
13	0	0	0	75	370	677	814	792	789	773	680	648	709	115	0	0	0	0	6440
14	0	0	0	90	321	1420	1577	1864	1778	2302	1641	1046	947	395	82	0	0	0	13471
15	0	0	0	37	701	1493	2123	2580	2723	2829	2519	1963	1334	595	53	0	0	0	18948
16	0	0	0	92	658	1363	1964	2469	2727	2708	2434	2015	795	341	57	0	0	0	17623
17	0	0	0	63	667	1437	2089	2539	2766	2724	2389	1852	1239	552	54	0	0	0	18371
18	0	0	0	89	654	1421	2047	2478	2686	2635	2373	1891	1217	507	41	0	0	0	18029
19	0	0	0	78	599	1308	1883	2356	2164	2273	2353	1842	1168	465	34	0	0	0	16523
20	0	0	0	67	613	1351	1839	2315	2625	2638	2248	1724	1162	475	44	0	0	0	17101
21	0	0	0	76	629	1319	1948	2395	2603	2619	2331	1830	1204	485	28	0	0	0	17467
22	0	0	0	67	469	1488	1683	2303	2491	2475	2223	1731	1098	428	25	0	0	0	16481
23	0	0	0	60	475	1277	1891	2331	2581	2589	2255	1772	1118	431	25	0	0	0	16605
24	0	0	0	24	88	149	334	966	1966	2292	2250	1778	1148	452	24	0	0	0	11471
25	0	0	0	63	590	1312	1926	2335	2517	2481	2341	1903	1143	431	19	0	0	0	17061
26	0	0	0	54	527	1191	1788	2245	2446	2309	2009	1696	1060	388	19	0	0	0	15724
27	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
28	0	0	0	-99	-99	-99	274	642	546	610	421	377	131	48	0	0	0	0	-999
29	0	0	0	11	82	171	321	679	650	753	596	685	366	142	11	0	0	0	4467
30	0	0	0	51	456	1079	1728	2133	2351	2322	1766	1517	919	306	12	0	0	0	14640
31	0	0	0	73	166	361	731	977	1363	2162	1913	1593	955	309	9	0	0	0	10615
MEAN	0	0	0	81	530	1167	1660	2059	2202	2326	2060	1676	1105	473	55	0	0	0	15765
SD	0	0	0	42	208	411	593	670	698	596	579	448	299	168	37	0	0	0	3768
NUM	31	31	31	29	29	29	30	30	30	30	30	30	30	30	30	31	31	31	29
MAX	0	0	0	200	810	1580	2212	2672	2900	2919	2707	2183	1567	760	124	0	0	0	20368
MIN	0	0	0	11	82	149	274	524	546	610	421	377	131	48	0	0	0	0	4467

TABULATED 01/02/80 AT 13:[illegible]:32

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 4 WALLACE OCTOBER 1978
SENSITIVITY 10.37E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	80	351	594	684	548	1986	2503	2583	1649	1444	795	153	0	0	0	13370
2	0	0	0	145	708	1221	2051	2353	2461	2065	1937	1635	1412	690	111	0	0	0	16789
3	0	0	0	103	485	1234	1974	2488	2679	3029	-99	-99	-99	-99	-99	0	0	0	-999
4	0	0	0	-99	336	1284	1371	1499	2194	2686	1767	1985	652	475	97	0	0	0	-999
5	0	0	0	56	406	1186	1868	1798	1694	1989	1937	1986	1392	653	45	0	0	0	15004
6	0	0	0	87	673	1423	2034	2499	2732	2694	2472	2013	1420	604	142	0	0	0	18793
7	0	0	0	128	742	1482	2110	2589	2735	2180	2266	1812	1319	874	114	0	0	0	18351
8	0	0	0	-99	-99	1506	2135	2596	2732	2784	2638	2103	1454	701	93	0	0	0	-999
9	0	0	0	152	798	1548	2159	2634	2749	2818	2565	2072	1433	614	52	0	0	0	19594
10	0	0	0	90	631	1319	2082	2135	1871	1951	1999	1885	1159	583	86	0	0	0	15791
11	0	0	0	69	482	1121	1867	1944	2853	2641	2235	1524	1204	638	48	0	0	0	16626
12	0	0	0	104	621	1353	2003	2447	2659	2565	2235	1798	1395	531	52	0	0	0	17763
13	0	0	0	46	345	518	1115	1605	1265	1653	1022	1070	740	234	15	0	0	0	9628
14	0	0	0	39	372	1202	1768	1730	2403	2278	1869	1520	1008	539	25	0	0	0	14553
15	0	0	0	85	707	1445	2047	2338	2672	2682	2470	1946	1318	575	47	0	0	0	18330
16	0	0	0	111	586	1437	1992	2291	2214	2527	1548	1159	829	479	31	0	0	0	15204
17	0	0	0	86	666	1405	2010	2391	2579	2478	2110	1704	1121	524	41	0	0	0	17195
18	0	0	0	97	663	1385	1989	2426	2652	2631	2374	1888	1239	503	24	0	0	0	17871
19	0	0	0	65	600	1027	1829	1760	2506	1805	1895	1610	1020	392	24	0	0	0	14533
20	0	0	0	93	531	1159	1853	2367	2523	2437	2211	1760	1135	378	34	0	0	0	16481
21	0	0	0	86	541	1263	1905	2312	2589	2523	2253	1780	1142	444	20	0	0	0	16858
22	0	0	0	55	402	1694	2055	2280	2457	2457	2190	1732	1076	409	20	0	0	0	16827
23	0	0	0	42	378	1111	1833	2277	2482	2444	2187	1698	1073	392	10	0	0	0	15927
24	0	0	0	9	71	110	297	408	2019	2491	2255	1807	1161	446	19	0	0	0	11093
25	0	0	0	76	628	1034	1874	2301	2506	2475	2221	1756	1100	402	13	0	0	0	16386
26	0	0	0	40	394	1026	1641	2165	2370	2172	2019	1668	1030	360	12	0	0	0	14897
27	0	0	0	43	418	695	817	1417	2056	1775	1480	1546	1042	317	11	0	0	0	11617
28	0	0	0	17	139	344	559	514	524	299	326	316	337	115	0	0	0	0	3490
29	0	0	0	10	76	267	462	639	833	764	771	528	278	80	0	0	0	0	4708
30	0	0	0	30	401	1061	1686	2127	2342	2321	2033	1370	953	321	9	0	0	0	14654
31	0	0	0	25	202	562	442	699	852	1379	1987	1563	945	310	0	0	0	0	8766
MEAN	0	0	0	71	478	1090	1629	1921	2231	2241	1995	1625	1094	479	44	0	0	0	14682
SD	0	0	0	37	191	408	576	674	599	580	515	404	294	178	42	0	0	0	3918
NUM	31	31	31	29	30	31	31	31	31	31	30	30	30	30	30	31	31	31	28
MAX	0	0	0	152	798	1694	2159	2634	2853	3029	2638	2103	1454	874	153	0	0	0	19594
MIN	0	0	0	9	71	110	297	408	524	299	326	316	278	80	0	0	0	0	3490

TABULATED 01/02/80 AT 13:11:32

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 5 SLOOP POINT OCTOBER 1978
SENSITIVITY 9.44E-6 V/M/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	118	377	186	674	659	785	1384	2108	1620	1491	819	160	0	0	0	10381
2	0	0	0	137	729	1273	1830	2337	2600	2307	1792	1258	1075	625	114	0	0	0	16072
3	0	0	0	129	729	1372	2097	2555	2833	2802	2520	2036	1369	621	76	0	0	0	19130
4	0	0	0	61	583	1334	1944	2459	2745	2818	2524	2002	1327	613	91	0	0	0	18501
5	0	0	0	80	274	1304	1651	1769	1529	1288	1639	1422	1388	682	80	0	0	0	13106
6	0	0	0	91	716	1399	2131	2551	2791	2764	2467	1960	1304	381	57	0	0	0	18612
7	0	0	0	141	758	1533	2177	2631	2875	2924	2558	2002	1506	655	87	0	0	0	19847
8	0	0	0	179	724	1487	2135	2593	2837	2867	2627	2112	1441	686	80	0	0	0	19768
9	0	0	0	137	789	1513	2219	2577	2890	2860	2589	2105	1361	697	45	0	0	0	19782
10	0	0	0	72	274	507	1197	2135	2433	2295	2036	1601	968	591	95	0	0	0	14204
11	0	0	0	72	442	1029	1948	2555	2616	2177	2608	1983	1346	587	53	0	0	0	17416
12	0	0	0	114	563	1315	1956	2479	2734	1319	2242	2658	1132	434	38	0	0	0	16988
13	0	0	0	64	427	911	705	732	575	655	568	362	335	205	15	0	0	0	5634
14	0	0	0	110	377	1212	1643	1891	1841	2177	1868	1033	808	362	68	0	0	0	13390
15	0	0	0	45	709	1498	2131	2579	2612	2749	2486	1944	1224	480	213	0	0	0	18661
16	0	0	0	118	643	1285	1994	2375	2726	2623	2368	1407	30	263	72	0	0	0	15855
17	0	0	0	72	685	1449	2276	2529	2745	2650	2162	1636	945	449	30	0	0	0	17624
18	0	0	0	106	697	1487	2021	2455	2696	2661	2364	1872	1208	488	19	0	0	0	18074
19	0	0	0	148	995	899	1464	2093	1826	2665	2368	1902	1250	545	61	0	0	0	16216
20	0	0	0	19	483	1075	1521	2322	2406	2593	2341	1853	1281	587	61	0	0	0	16547
21	0	0	0	91	433	1132	1868	2345	2616	2631	2398	1941	1311	591	57	0	0	0	17419
22	0	0	0	72	373	927	1788	2242	2516	2551	2314	1857	1235	541	41	0	0	0	16357
23	0	0	0	53	475	823	1563	2203	2463	2535	2295	1818	1174	544	41	0	0	0	15988
24	0	0	0	0	33	160	505	957	1544	2291	2257	1864	1269	564	49	0	0	0	11496
25	0	0	0	26	442	1136	1761	2245	2490	2524	2303	1868	1239	545	45	0	0	0	16625
26	0	0	0	47	371	981	1675	2103	2366	2472	2183	1859	1054	371	13	0	0	0	15495
27	0	0	0	30	488	1014	1716	945	1456	2196	1414	495	449	198	11	0	0	0	10412
28	0	0	0	19	111	251	144	475	491	526	522	301	175	68	0	0	0	0	3087
29	0	0	0	0	49	144	308	619	610	644	671	533	690	209	0	0	0	0	4468
30	0	0	0	32	425	1077	1660	2099	2305	2305	1973	1546	932	314	9	0	0	0	14677
31	0	0	0	27	233	622	916	2060	2430	2353	2090	1522	969	327	0	0	0	0	13539
MEAN	0	0	0	77	497	1038	1603	2017	2205	2245	2085	1624	1073	484	57	0	0	0	15011
SD	0	0	0	46	221	416	577	669	727	677	564	547	374	174	45	0	0	0	4297
NUM	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
MAX	0	0	0	179	995	1533	2276	2631	2890	2924	2627	2658	1506	819	213	0	0	0	19847
MIN	0	0	0	0	33	144	144	475	491	526	522	301	30	68	0	0	0	0	3087

TABULATED 01/02/80 AT 1[redacted]1:32

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 6 CLINTON OCTOBER 1978
SENSITIVITY 11.0CE-6 V/M/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	34	185	542	228	67	882	2646	2528	2060	1272	529	172	0	0	0	10945
2	0	0	0	107	575	1394	1973	2451	2627	2464	2094	1633	1112	713	134	0	0	0	17277
3	0	0	0	83	459	1199	2004	2462	2796	2596	2393	1480	789	524	60	0	0	0	16845
4	0	0	0	41	548	1272	1952	2460	2293	1762	2077	977	692	470	106	0	0	0	14650
5	0	0	0	54	322	1147	1903	1903	2666	2437	2496	1893	1203	630	129	0	0	0	16783
6	0	0	0	133	666	1363	2073	2322	2692	2656	2440	1825	1334	542	77	0	0	0	18123
7	0	0	0	104	703	1453	2094	2497	2785	2254	2218	1060	958	454	117	0	0	0	16697
8	0	0	0	107	683	1433	2133	2559	2021	2382	2644	2159	1466	755	121	0	0	0	19263
9	0	0	0	111	719	1462	2107	2644	2726	2634	2706	2114	1459	729	101	0	0	0	19512
10	0	0	0	75	549	1845	2022	2539	2781	2627	2470	1999	1436	716	150	0	0	0	19209
11	0	0	0	68	304	628	2143	2006	1973	2588	2245	1799	1345	654	81	0	0	0	15834
12	0	0	0	281	592	1158	1930	2362	2546	2542	2271	1891	1233	589	88	0	0	0	17483
13	0	0	0	90	352	725	1023	938	1294	1520	1327	1114	804	224	18	0	0	0	9429
14	0	0	0	55	530	916	1813	2117	2156	2025	1508	998	831	526	58	0	0	0	13533
15	0	0	0	54	617	1353	1971	2495	2361	2531	2528	2027	1343	607	57	0	0	0	17944
16	0	0	0	65	451	1741	1174	1796	2228	1888	2428	1750	1279	399	42	0	0	0	15241
17	0	0	0	57	512	1265	1628	1936	2250	2538	2155	2001	1213	581	61	0	0	0	16177
18	0	0	0	52	487	1263	1904	2605	2641	2637	2408	1934	1289	575	39	0	0	0	17834
19	0	0	0	55	559	1292	2038	2389	2608	2575	2218	1763	1155	510	-99	0	0	0	-999
20	0	0	0	189	592	1276	1911	2212	2470	2434	2189	1760	1129	435	45	0	0	0	16642
21	0	0	0	49	549	1737	1839	2307	2549	2526	2274	1777	1161	477	26	0	0	0	17271
22	0	0	0	45	445	1361	1557	2251	2500	2480	2218	1790	1122	510	22	0	0	0	16301
23	0	0	0	49	454	1119	1698	2241	2461	2441	1868	2146	1014	-99	-99	0	0	0	-999
24	0	0	0	0	71	229	700	1531	2542	2533	2339	1901	1439	497	65	0	0	0	13847
25	0	0	0	13	467	1115	1796	2454	2555	2582	2339	1907	1305	575	45	0	0	0	17153
26	0	0	0	19	209	890	1629	2071	2339	2382	2123	1606	821	435	35	0	0	0	14559
27	0	0	0	13	111	366	1021	1721	2225	2281	1855	1279	890	389	32	0	0	0	12183
28	0	0	0	0	84	313	480	516	525	489	286	656	339	87	0	0	0	0	3775
29	0	0	0	0	94	304	415	899	782	909	1217	772	337	166	29	0	0	0	5924
30	0	0	0	0	271	922	1603	2097	2379	2398	2169	1711	1093	458	39	0	0	0	15140
31	0	0	0	0	91	232	392	556	981	1901	1881	1456	1125	458	32	0	0	0	9105
MEAN	0	0	0	64	427	1058	1585	1980	2239	2279	2126	1652	1096	507	68	0	0	0	14988
SD	0	0	0	58	197	458	580	674	631	502	479	409	288	151	43	0	0	0	3815
NUM	31	31	31	31	31	31	31	31	31	31	31	31	31	30	29	31	31	31	29
MAX	0	0	0	281	719	1845	2143	2644	2821	2656	2706	2159	1466	755	172	0	0	0	19512
MIN	0	0	0	0	71	229	228	67	525	489	286	656	337	87	0	0	0	0	3775

TABULATED 01/02/80 AT 13:11:32

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 7 ONSLOW BEACH OCTOBER 1978
SENSITIVITY 10.17E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
2	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	1741	941	431	81	0	0	0	-999
3	0	0	0	146	711	1507	2106	2569	2814	2796	2523	2038	1408	654	67	0	0	0	19341
4	0	0	0	60	237	1341	2067	2552	2683	2463	2463	1897	1299	608	95	0	0	0	17765
5	0	0	0	102	435	1118	1801	1242	1961	1175	1086	1479	1320	690	99	0	0	0	12508
6	0	0	0	113	661	1394	2102	2586	2792	2753	2477	1968	1345	566	81	0	0	0	18832
7	0	0	0	152	803	1575	2212	2676	2916	2860	2283	1469	1047	789	99	0	0	0	18881
8	0	0	0	159	647	1539	2180	2644	2884	2906	2630	2123	1451	690	88	0	0	0	19941
9	0	0	0	148	796	1575	2187	2626	2874	2757	2594	2099	1430	640	77	0	0	0	19803
10	0	0	0	92	325	421	1504	2092	2396	2336	2116	1599	1005	484	92	0	0	0	14462
11	0	0	0	84	715	1490	1752	2396	2732	2601	1996	2067	1352	584	56	0	0	0	17825
12	0	0	0	113	658	1684	2056	2502	2718	2647	2290	1776	1228	492	53	0	0	0	18217
13	0	0	0	60	428	909	1023	690	484	580	481	279	265	205	35	0	0	0	5439
14	0	0	0	102	421	838	1872	1716	2173	2063	1830	1263	693	508	70	0	0	0	13589
15	0	0	0	45	650	1471	2129	2586	2798	2643	2491	1995	1322	575	48	0	0	0	18753
16	0	0	0	102	686	1401	2007	2435	2672	2651	2056	2049	1249	240	53	0	0	0	17601
17	0	0	0	79	615	1405	2060	2530	2768	2467	2329	1808	1093	548	35	0	0	0	17732
18	0	0	0	99	686	1415	2028	2467	2683	2676	2371	1890	1242	523	42	0	0	0	18122
19	0	0	0	81	566	1161	1851	2324	2081	2576	2290	1805	1129	435	31	0	0	0	16030
20	0	0	0	67	633	1104	1808	2343	2576	2573	2208	1720	1171	421	24	0	0	0	16648
21	0	0	0	81	630	1373	1992	2434	2644	2594	2307	1808	1153	453	28	0	0	0	17501
22	0	0	0	70	463	1327	1915	2353	2576	2538	2283	1798	1157	442	21	0	0	0	16943
23	0	0	0	74	513	1263	1883	2322	2541	2488	2208	1727	1079	414	21	0	0	0	16533
24	0	0	0	10	95	530	1153	1653	1985	2474	2254	1734	1139	442	21	0	0	0	13480
25	0	0	0	67	594	1295	1897	2318	2527	2492	2173	1727	1107	410	14	0	0	0	16621
26	0	0	0	60	477	1081	1720	2201	2410	2375	2130	1667	1044	375	14	0	0	0	15556
27	0	0	0	38	442	1031	1575	2063	2226	2024	1653	842	470	123	0	0	0	0	12493
28	0	0	0	20	264	574	388	413	448	158	324	413	314	33	0	0	0	0	3199
29	0	0	0	28	99	272	442	545	626	506	835	615	697	205	10	0	0	0	4880
30	0	0	0	35	453	1104	1702	2130	2322	2311	2053	1585	948	325	10	0	0	0	14978
31	0	0	0	34	205	502	1228	2053	2421	1837	2081	1614	998	322	0	0	0	0	13285
MEAN	0	0	0	79	514	1155	1746	2108	2335	2252	2028	1619	1069	457	45	0	0	0	15412
SD	0	0	0	39	193	391	469	620	669	712	588	473	302	166	31	0	0	0	4264
NUM	31	31	31	29	29	29	29	29	29	29	29	30	30	30	30	31	31	31	29
MAX	0	0	0	159	803	1684	2212	2676	2916	2906	2630	2123	1451	789	99	0	0	0	19941
MIN	0	0	0	10	95	272	588	413	448	158	324	279	265	83	0	0	0	0	3199

TABULATED 01/02/80 AT 1[illegible] 32

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : EIP # 8 SLOOP POINT OCTOBER 1978
SENSITIVITY 8.70E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	66	0	53	16	0	165	587	1055	2180	2412	910	0	0	0	7444
2	0	0	0	164	1145	1625	1728	1687	1861	1372	1017	710	652	623	152	0	0	0	12736
3	0	0	0	263	1426	2084	2415	2610	2788	2630	2370	2130	1575	764	52	0	0	0	21107
4	0	0	0	0	224	1035	1697	2103	1846	2169	2028	1594	1019	431	63	0	0	0	14209
5	0	0	0	0	0	504	521	517	124	99	289	298	786	397	45	0	0	0	3580
6	0	0	0	16	269	649	885	1109	1270	1216	980	658	343	49	0	0	0	0	7444
7	0	0	0	36	119	206	317	379	350	268	131	23	15	0	0	0	0	0	1844
8	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
9	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
10	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
11	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
12	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
13	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
14	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
15	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
16	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
17	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
18	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
19	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
20	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
21	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
22	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
23	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
24	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
25	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
26	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	2536	2189	1229	41	0	0	0	-999
27	0	0	0	17	638	1350	1577	216	808	1627	745	0	54	50	0	0	0	0	7082
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	74	0	0	0	0	0	74
30	0	0	0	48	814	1674	2126	2353	2407	2378	2121	2051	1662	880	15	0	0	0	18529
31	0	0	0	0	0	19	36	1840	2829	2920	2804	2076	2101	1017	11	0	0	0	15653
MEAN	0	0	0	45	391	762	946	1069	1190	1237	1089	1010	973	604	99	0	0	0	9141
SD	0	0	0	79	475	731	871	956	1074	1062	950	915	836	662	237	0	0	0	6905
NUM	31	31	31	12	12	12	12	12	12	12	12	13	13	13	13	31	31	31	12
MAX	0	0	0	263	1426	2084	2415	2610	2829	2920	2804	2536	2189	2412	910	0	0	0	21107
MIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABULATED 01/02/80 AT 13:11:33

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : NIP #10 CLINTON OCTOBER 1978
SENSITIVITY 8.29E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	0	13	0	0	403	2145	2774	2340	1259	503	920	0	0	0	10357
2	0	0	0	156	985	1554	1954	2101	2093	1819	1567	1294	1224	1224	334	0	0	0	16305
3	0	0	0	434	21	942	2301	2479	2622	1889	1572	620	238	247	0	0	0	0	13365
4	0	0	0	0	638	1628	2149	2358	1524	820	1228	230	13	156	112	0	0	0	10856
5	0	0	0	0	0	781	1472	968	1506	1307	2479	1862	1137	707	191	0	0	0	12410
6	0	0	0	186	1572	2323	2609	1823	2670	2861	2614	2054	1941	751	151	0	0	0	21555
7	0	0	0	584	2102	2768	3472	2864	2694	1882	1808	484	1274	935	514	0	0	0	21461
8	0	0	0	412	2027	2731	3170	3222	3122	2384	3074	3018	2696	2232	768	0	0	0	28856
9	0	0	0	568	2371	2952	3217	1615	3117	2609	3330	3170	2840	2084	590	0	0	0	28463
10	0	0	0	0	699	3222	3026	3135	3157	2492	2631	2414	2301	1528	564	0	0	0	25169
11	0	0	0	160	156	460	2553	920	937	2153	2227	2531	2622	1962	499	0	0	0	17180
12	0	0	0	151	303	2219	2796	2892	2822	2827	2596	2453	1889	1298	260	0	0	0	22506
13	0	0	0	0	0	60	143	30	243	325	173	78	156	0	0	0	0	0	1208
14	0	0	0	117	1033	538	2136	2166	1359	1116	660	334	364	890	95	0	0	0	10808
15	0	0	0	121	2114	2731	2926	3091	2219	3083	2566	2979	3126	1958	30	0	0	0	26944
16	0	0	0	173	1324	1750	65	690	794	547	2853	2045	1689	334	0	0	0	0	12264
17	0	0	0	347	1098	2067	1810	1307	1923	-888	2071	2605	1949	1658	299	0	0	0	-999
18	0	0	0	143	1763	2566	2913	3361	3187	3191	3161	3022	2727	2023	364	0	0	0	28421
19	0	0	0	2041	2705	-888	3170	3213	3031	2358	2353	1949	1363	-99	-99	0	0	0	-999
20	0	0	0	-99	647	1993	2588	2371	2731	2592	2510	2449	1880	1111	269	0	0	0	-999
21	0	0	0	69	885	2622	2900	3083	3174	3152	3061	2813	2453	1719	260	0	0	0	26191
22	0	0	0	60	981	3708	2787	2952	2965	2965	2926	2805	2401	1680	230	0	0	0	26460
23	0	0	0	143	781	2292	2709	2844	2883	2879	2774	2544	2175	-99	-99	0	0	0	-999
24	0	0	0	-99	-99	-99	-99	1076	3170	3235	3230	3096	2779	1967	251	0	0	0	-999
25	0	0	0	60	964	2805	3786	3352	3434	3391	3265	3061	2696	1615	138	0	0	0	28567
26	0	0	0	0	0	1228	2310	2353	2510	2483	2136	1389	1042	581	0	0	0	0	16032
27	0	0	0	13	13	13	455	1406	1797	1836	1502	951	929	508	26	0	0	0	9449
28	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
29	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
30	0	0	0	21	529	1867	3087	2657	2987	2965	2822	2397	1771	1003	39	0	0	0	22345
31	0	0	0	-99	-99	-99	-99	-99	-99	1172	994	1480	2027	1159	56	0	0	0	-999
MEAN	0	0	0	229	955	1839	2314	2161	2324	2231	2308	2029	1757	1179	257	0	0	0	19007
SD	0	0	0	400	798	1032	1028	996	903	840	803	940	860	651	242	0	0	0	7710
NUM	31	31	31	26	27	26	27	28	28	28	29	29	29	27	27	31	31	31	23
MAX	0	0	0	2041	2705	3708	3786	3361	3434	3391	3330	3170	3126	2232	920	0	0	0	28856
MIN	0	0	0	0	0	13	0	0	243	325	173	78	13	0	0	0	0	0	1208

TABULATED 01/02/80 AT 13:11:33

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : UV #11 CLINTON OCTOBER 1978
SENSITIVITY 312.10E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	3	12	21	13	6	55	126	118	92	54	26	8	0	0	0	534
2	0	0	0	6	27	56	84	107	117	109	97	73	52	28	7	0	0	0	763
3	0	0	0	4	23	54	85	106	119	109	92	64	37	20	3	0	0	0	716
4	0	0	0	5	25	54	83	102	99	74	92	45	36	20	5	0	0	0	640
5	0	0	0	3	18	49	78	90	112	107	105	77	48	24	5	0	0	0	716
6	0	0	0	5	26	55	85	100	115	117	101	76	51	23	3	0	0	0	757
7	0	0	0	2	24	55	116	105	119	99	90	53	42	21	2	0	0	0	728
8	0	0	0	5	27	59	104	114	124	114	112	88	57	27	5	0	0	0	836
9	0	0	0	5	27	59	89	56	121	117	114	86	56	25	5	0	0	0	760
10	0	0	0	5	25	69	85	107	120	113	104	81	55	25	4	0	0	0	793
11	0	0	0	4	17	40	97	92	96	114	97	79	53	24	4	0	0	0	717
12	0	0	0	2	26	52	80	97	102	101	92	75	45	20	2	0	0	0	694
13	0	0	0	-666	19	37	52	52	71	75	67	55	36	10	1	0	0	0	-999
14	0	0	0	4	23	41	70	97	97	97	72	51	38	21	3	0	0	0	622
15	0	0	0	3	23	53	82	107	106	112	105	81	51	21	2	0	0	0	746
16	0	0	0	4	24	53	59	86	100	90	101	72	47	18	2	0	0	0	656
17	0	0	0	2	20	49	71	83	100	99	91	77	45	19	2	0	0	0	658
18	0	0	0	1	20	49	78	104	111	108	96	74	46	18	1	0	0	0	706
19	0	0	0	3	22	51	99	101	111	109	92	70	43	18	-99	0	0	0	-999
20	0	0	0	-99	18	48	76	94	107	105	93	71	43	17	0	0	0	0	-999
21	0	0	0	1	19	3	74	95	106	105	92	70	42	17	1	0	0	0	625
22	0	0	0	2	19	72	72	93	103	104	91	71	43	18	2	0	0	0	690
23	0	0	0	6	9	47	74	94	104	103	90	68	41	-99	-99	0	0	0	-999
24	0	0	0	-99	5	16	41	81	112	109	97	74	46	18	2	0	0	0	-999
25	0	0	0	2	20	50	95	101	113	112	98	75	45	16	2	0	0	0	729
26	0	0	0	1	14	43	73	92	103	102	90	62	38	16	2	0	0	0	636
27	0	0	0	2	6	23	54	81	95	94	78	56	35	14	1	0	0	0	539
28	0	0	0	1	6	20	31	24	36	31	22	33	18	4	0	0	0	0	226
29	0	0	0	0	7	18	28	51	43	54	61	33	18	7	1	0	0	0	321
30	0	0	0	2	11	46	9	91	103	102	88	65	37	14	1	0	0	0	569
31	0	0	0	2	6	40	26	35	65	96	84	64	41	15	1	0	0	0	475
MEAN	0	0	0	3	18	44	70	85	99	100	91	68	43	18	2	0	0	0	648
SD	0	0	0	1	7	15	26	25	21	18	17	14	9	5	1	0	0	0	136
NUM	31	31	31	28	31	31	31	31	31	31	31	31	31	30	29	31	31	31	26
MAX	0	0	0	6	27	72	116	114	124	126	118	92	57	28	8	0	0	0	836
MIN	0	0	0	0	5	3	9	6	36	31	22	33	18	4	0	0	0	0	226

TABULATED 01/02/80 AT 13:11:33

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : UV #12 SLOOP POINT OCTOBER 1978
SENSITIVITY 154.40E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER

DATE	HOUR ENDING 4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	6	19	13	40	38	52	80	103	81	65	34	7	0	0	0	538
2	0	0	0	7	31	62	87	106	115	106	84	62	50	26	6	0	0	0	742
3	0	0	0	7	31	61	89	110	124	121	108	86	56	27	6	0	0	0	826
4	0	0	0	3	25	56	84	108	120	122	109	85	55	26	6	0	0	0	799
5	0	0	0	5	19	54	79	85	81	69	81	70	59	29	6	0	0	0	637
6	0	0	0	6	30	62	90	109	120	117	103	80	52	19	4	0	0	0	792
7	0	0	0	2	27	60	89	110	122	122	107	81	55	23	1	0	0	0	799
8	0	0	0	3	25	59	88	110	121	121	109	85	55	25	3	0	0	0	804
9	0	0	0	4	28	59	101	108	122	120	107	84	53	24	2	0	0	0	812
10	0	0	0	4	18	60	59	95	107	101	89	70	43	22	3	0	0	0	671
11	0	0	0	4	24	51	83	110	113	102	109	82	53	23	4	0	0	0	758
12	0	0	0	5	28	58	84	105	116	86	29	49	21	3	1	0	0	0	585
13	0	0	0	-666	40	42	41	33	-99	-99	22	18	12	1	0	0	0	0	-999
14	0	0	0	-666	51	70	84	85	-99	-99	51	35	18	2	0	0	0	0	-999
15	0	0	0	-666	56	84	106	112	-99	-99	79	49	20	14	0	0	0	0	-999
16	0	0	0	-666	63	82	100	114	-99	-99	69	47	13	1	0	0	0	0	-999
17	0	0	0	-666	54	91	104	115	-99	-99	69	40	18	1	0	0	0	0	-999
18	0	0	0	-666	-666	83	104	114	-99	100	77	48	20	-99	-99	0	0	0	-999
19	0	0	0	0	15	55	70	92	79	109	102	82	53	26	6	0	0	0	689
20	0	0	0	0	13	39	62	88	102	108	100	80	55	28	6	0	0	0	681
21	0	0	0	0	35	41	69	93	107	110	102	83	56	28	6	0	0	0	730
22	0	0	0	0	13	46	66	88	103	106	98	79	53	26	6	0	0	0	684
23	0	0	0	13	18	40	67	88	100	104	96	79	53	26	6	0	0	0	690
24	0	0	0	0	2	7	17	52	73	98	98	80	55	26	5	0	0	0	513
25	0	0	0	0	14	41	69	93	107	110	102	83	56	27	5	0	0	0	707
26	0	0	0	10	11	37	63	84	98	102	54	68	42	16	1	0	0	0	586
27	0	0	0	2	19	42	66	49	72	91	61	32	24	10	1	0	0	0	469
28	0	0	0	1	7	16	11	31	33	34	34	21	13	6	1	0	0	0	208
29	0	0	0	0	4	10	20	38	38	39	39	31	33	10	1	0	0	0	263
30	0	0	0	2	19	44	70	89	98	96	83	63	38	14	1	0	0	0	617
31	0	0	0	2	13	34	50	95	108	103	90	66	40	15	1	0	0	0	617
MEAN	0	0	0	3	25	50	71	88	97	99	82	64	41	18	3	0	0	0	648
SD	0	0	0	3	15	20	24	25	25	22	25	20	16	9	2	0	0	0	155
NUM	31	31	31	25	30	31	31	31	25	26	31	31	31	30	30	31	31	31	25
MAX	0	0	0	13	63	91	106	115	124	122	109	86	65	34	7	0	0	0	826
MIN	0	0	0	0	2	7	11	31	33	34	22	18	12	1	0	0	0	0	208

TABULATED 01/02/80 AT :33

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 2 ELLIS AIRPORT NOVEMBER 1978
SENSITIVITY 10.99E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
2	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
3	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
4	0	0	0	-99	40	103	378	352	289	296	224	171	135	44	0	0	0	0	-999
5	0	0	0	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	-555	0	0	0	-999
6	0	0	0	22	-666	832	1729	1913	2191	2175	1899	1451	841	239	0	0	0	0	-999
7	0	0	0	330	-666	497	668	586	1827	1094	678	520	350	58	0	0	0	0	-999
8	0	0	0	0	47	138	194	407	450	279	230	181	230	37	276	0	0	0	2469
9	0	0	0	226	-666	701	1526	1926	1929	1349	1854	1270	651	150	0	0	0	0	-999
10	0	0	0	8	48	225	663	378	490	336	234	316	211	35	0	0	0	0	2944
11	0	0	0	0	113	123	238	297	575	703	844	601	326	97	0	0	0	0	3917
12	0	0	0	0	103	539	1037	1695	1561	1636	1466	1116	568	139	0	0	0	0	9860
13	0	0	0	-666	-666	687	1316	1752	1968	1962	1713	1277	691	140	0	0	0	0	-999
14	0	0	0	16	153	822	1438	1827	1998	1919	1555	1460	740	114	0	0	0	0	12042
15	0	0	0	30	236	626	963	793	1501	1828	1579	-99	-99	-99	-99	0	0	0	-999
16	0	0	0	-99	127	434	1060	1401	1221	1466	1411	1165	539	143	0	0	0	0	-999
17	0	0	0	9	176	412	959	1146	1539	1015	1008	727	330	124	0	0	0	0	7425
18	0	0	0	9	91	376	382	874	1326	615	517	402	186	51	0	0	0	0	4829
19	0	0	0	0	105	514	1415	1717	1933	1998	1805	1320	645	121	0	0	0	0	11573
20	0	0	0	0	229	822	1434	1804	2030	2037	1723	1179	805	186	0	0	0	0	12249
21	0	0	0	0	165	246	282	643	908	1154	1128	1314	584	106	0	0	0	0	6530
22	0	0	0	0	80	375	460	476	296	227	181	296	116	31	0	0	0	0	2538
23	0	0	0	9	97	241	369	585	939	720	556	572	346	94	0	0	0	0	4528
24	0	0	0	0	47	227	218	211	103	136	119	100	34	0	0	0	0	0	1195
25	0	0	0	0	61	169	192	176	199	238	196	101	94	29	0	0	0	0	1455
26	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
27	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
28	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
29	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
30	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
MEAN	0	0	0	36	112	433	804	998	1203	1103	996	776	421	96	13	0	0	0	5968
SD	0	0	0	87	59	237	505	637	696	695	643	489	250	59	60	0	0	0	3865
NUM	30	30	30	18	17	21	21	21	21	21	21	20	20	20	20	30	30	30	14
MAX	0	0	0	330	236	832	1729	1926	2191	2175	1899	1460	841	239	276	0	0	0	12249
MIN	0	0	0	0	40	103	192	176	103	136	119	100	34	0	0	0	0	0	1195

TABULATED 01/02/80 AT 13:10:39

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 3 CAPE FEAR NOVEMBER 1978
SENSITIVITY 11.27E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER

DATE	HOUR ENDING 4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	41	389	824	1619	2293	2475	2421	2108	1562	942	297	0	0	0	0	14971
2	0	0	0	38	434	1146	1823	2156	1945	1932	1466	1009	744	271	0	0	0	0	12964
3	0	0	0	21	423	695	535	954	928	1002	669	315	171	59	8	0	0	0	5780
4	0	0	0	9	77	166	294	268	303	233	140	182	102	16	0	0	0	0	1790
5	0	0	0	23	464	1068	1732	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
6	0	0	0	-99	-99	-99	-99	2044	2207	2184	1820	1137	731	198	0	0	0	0	-999
7	0	0	0	18	340	500	1017	1685	1461	522	385	197	241	104	0	0	0	0	6470
8	0	0	0	0	56	133	679	1024	736	839	449	165	117	34	0	0	0	0	4226
9	0	0	0	16	214	718	1329	2060	2271	2143	1763	1418	466	76	0	0	0	0	12474
10	0	0	0	10	84	212	212	314	339	681	320	550	285	49	0	0	0	0	3056
11	0	0	0	-99	-99	-99	-99	-99	711	692	918	772	487	161	0	0	0	0	-999
12	0	0	0	0	113	321	334	679	1921	1698	1493	1113	676	225	0	0	0	0	8573
13	0	0	0	0	191	725	1095	1702	2022	2053	1817	1383	785	239	9	0	0	0	12021
14	0	0	0	12	290	734	1427	1852	2082	2085	1884	1431	741	194	9	0	0	0	12741
15	0	0	0	11	244	663	1065	835	960	2056	1906	1551	768	184	0	0	0	0	10243
16	0	0	0	8	193	650	1014	1663	1947	1500	1605	1631	938	190	0	0	0	0	11539
17	0	0	0	0	141	729	1256	991	815	640	796	633	327	100	0	0	0	0	6428
18	0	0	0	0	115	524	1255	1245	1718	2092	1418	1172	540	182	0	0	0	0	10261
19	0	0	0	0	59	232	471	650	1062	1439	1813	1414	692	213	0	0	0	0	8045
20	0	0	0	0	152	564	1254	1545	1260	807	925	602	561	174	0	0	0	0	7844
21	0	0	0	0	102	409	948	1249	1226	1204	1137	948	460	169	9	0	0	0	7861
22	0	0	0	0	131	395	1287	1504	1169	830	632	987	690	169	0	0	0	0	7798
23	0	0	0	0	35	361	1041	974	846	1357	1019	565	268	80	0	0	0	0	6546
24	0	0	0	0	187	688	1308	1765	1768	2059	1775	1487	925	315	0	0	0	0	12277
25	0	0	0	0	194	795	1411	1852	2076	2137	1942	1488	875	245	0	0	0	0	13015
26	0	0	0	0	111	245	597	1587	1776	1993	1766	1034	843	239	0	0	0	0	10191
27	0	0	0	0	78	411	449	398	286	206	439	542	359	-99	-99	0	0	0	-999
28	0	0	0	-99	-99	-99	-99	1679	1068	606	488	507	332	86	0	0	0	0	-999
29	0	0	0	0	27	134	149	222	126	168	142	133	104	18	0	0	0	0	1222
30	0	0	0	0	14	75	75	72	120	158	158	91	75	30	0	0	0	0	868
MEAN	0	0	0	7	179	522	950	1237	1297	1301	1144	897	525	154	1	0	0	0	8360
SD	0	0	0	11	128	279	494	632	693	730	646	497	277	86	3	0	0	0	3921
NUM	30	30	30	27	27	27	27	28	29	29	29	29	29	28	28	30	30	30	25
MAX	0	0	0	41	464	1146	1823	2293	2475	2421	2108	1631	942	315	9	0	0	0	14971
MIN	0	0	0	0	14	75	75	72	120	158	140	91	75	16	0	0	0	0	868

TABULATED 01/02/80 AT 13:10:39

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 4 WALLACE NOVEMBER 1978
SENSITIVITY 10.37E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	31	350	1010	1701	2187	2378	2336	2075	1593	954	284	0	0	0	0	14899
2	0	0	0	26	294	1175	1512	2005	1495	1533	1273	950	783	269	9	0	0	0	11324
3	0	0	0	37	502	745	950	1106	793	523	627	516	287	85	0	0	0	0	6171
4	0	0	0	0	43	116	348	345	445	289	230	95	91	29	0	0	0	0	2031
5	0	0	0	30	391	1082	1675	2085	2283	2238	1974	1519	898	252	0	0	0	0	14427
6	0	0	0	27	347	1221	1461	1978	2200	2169	1787	1468	805	204	0	0	0	0	13667
7	0	0	0	9	186	728	1002	1665	1470	1078	415	422	422	144	0	0	0	0	7541
8	0	0	0	0	24	184	444	555	385	226	222	156	73	24	0	0	0	0	2293
9	0	0	0	0	147	532	1518	1480	1258	2292	1459	1154	581	136	0	0	0	0	10557
10	0	0	0	0	42	108	191	187	271	271	184	312	160	69	0	0	0	0	1795
11	0	0	0	0	80	236	434	476	691	982	875	323	233	42	0	0	0	0	4372
12	0	0	0	11	188	383	1015	1594	1605	1525	1313	1133	567	154	0	0	0	0	9488
13	0	0	0	9	252	731	1335	1783	1960	1946	1682	1231	655	103	0	0	0	0	11687
14	0	0	0	17	177	847	1430	1819	2003	1666	1360	1510	774	104	0	0	0	0	11707
15	0	0	0	30	248	616	811	1401	2036	1488	1325	599	429	85	0	0	0	0	9068
16	0	0	0	9	297	1019	1498	1800	1717	1377	1245	1040	307	85	0	0	0	0	10304
17	0	0	0	0	191	479	906	1187	760	739	604	653	354	146	0	0	0	0	6019
18	0	0	0	8	216	532	949	1376	1577	1862	1095	619	421	91	0	0	0	0	8746
19	0	0	0	0	214	707	1377	1682	1849	1842	1297	1075	488	141	0	0	0	0	10672
20	0	0	0	0	187	850	1253	1169	1253	1773	666	350	496	197	0	0	0	0	8194
21	0	0	0	0	107	499	1197	1013	1319	1360	1464	1079	475	152	0	0	0	0	8665
22	0	0	0	0	158	394	971	1151	1481	1345	939	1002	255	82	0	0	0	0	7778
23	0	0	0	0	106	370	512	721	1043	478	498	339	179	47	0	0	0	0	4293
24	0	0	0	0	158	585	1453	1575	1998	1939	1807	1349	432	137	0	0	0	0	11433
25	0	0	0	0	274	836	1416	1829	2016	1631	1652	1353	760	177	0	0	0	0	11944
26	0	0	0	0	141	221	346	644	846	1672	1682	1394	502	113	0	0	0	0	7561
27	0	0	0	0	98	268	449	376	265	241	296	161	206	18	0	0	0	0	2378
28	0	0	0	0	63	223	341	636	782	668	532	543	352	84	0	0	0	0	4224
29	0	0	0	0	43	185	188	84	105	150	157	88	18	8	0	0	0	0	1026
30	0	0	0	0	53	188	185	220	223	251	185	119	91	29	0	0	0	0	1544
MEAN	0	0	0	8	182	569	962	1204	1283	1263	1030	804	434	116	0	0	0	0	7860
SD	0	0	0	11	112	326	493	628	680	701	596	493	253	72	1	0	0	0	4029
NUM	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
MAX	0	0	0	37	502	1221	1701	2187	2378	2336	2075	1593	954	284	9	0	0	0	14899
MIN	0	0	0	0	24	108	185	84	105	150	157	88	18	8	0	0	0	0	1026

TABULATED 01/02/80 AT 13:10:39

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 5 SLOOP POINT NOVEMBER 1978
SENSITIVITY 9.44E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER

DATE	HOUR ENDING 4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	26	339	938	1555	2078	2455	2410	2124	1609	961	312	0	0	0	0	14807
2	0	0	0	33	399	1463	1570	1604	2405	1360	1303	1657	647	174	0	0	0	0	12615
3	0	0	0	29	281	559	452	803	898	933	597	288	132	25	0	0	0	0	4997
4	0	0	0	0	62	184	329	646	829	358	341	230	135	20	0	0	0	0	3174
5	0	0	0	15	415	1109	1689	2131	2333	2251	2036	1590	957	286	0	0	0	0	14852
6	0	0	0	21	372	944	1547	2020	2241	2203	700	1467	834	246	0	0	0	0	12595
7	0	0	0	13	287	531	665	1511	1328	787	428	257	127	66	0	0	0	0	6000
8	0	0	0	0	72	236	278	865	1533	884	777	236	110	41	0	0	0	0	5032
9	0	0	0	0	159	910	1436	1760	1933	2077	1764	1051	544	94	0	0	0	0	11628
10	0	0	0	0	57	350	301	255	377	408	141	278	148	22	0	0	0	0	2337
11	0	0	0	0	129	411	640	1022	1247	1426	1357	1304	564	175	0	0	0	0	8275
12	0	0	0	0	102	221	690	1830	1861	1685	1399	1197	591	171	0	0	0	0	9747
13	0	0	0	11	251	731	1311	1826	2063	2017	1742	1292	697	175	0	0	0	0	12086
14	0	0	0	11	384	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
15	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
16	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
17	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
18	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
19	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
20	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
21	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
22	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
23	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
24	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
25	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
26	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
27	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
28	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
29	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
30	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
MEAN	0	0	0	11	236	658	958	1411	1646	1452	1131	958	495	139	0	0	0	0	9088
SD	0	0	0	11	130	377	558	594	645	690	646	576	315	98	0	0	0	0	4210
NUM	30	30	30	14	14	13	13	13	13	13	13	13	13	13	13	30	30	30	13
MAX	0	0	0	33	415	1463	1689	2131	2455	2410	2124	1657	961	312	0	0	0	0	14852
MIN	0	0	0	0	57	184	278	255	377	396	141	230	110	20	0	0	0	0	2337

TABULATED 01/02/80 AT 13:10

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 6 CLINTON NOVEMBER 1978
SENSITIVITY 11.00E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	281	886	1711	2087	2336	2333	2130	1688	1063	409	19	0	0	0	14943
2	0	0	0	9	143	834	1318	1989	2153	2199	2006	1466	1096	425	26	0	0	0	13664
3	0	0	0	9	229	664	1433	2065	1547	1043	693	559	343	170	13	0	0	0	8768
4	0	0	0	0	91	373	405	418	287	310	124	81	160	68	0	0	0	0	2317
5	0	0	0	67	257	768	1442	1946	2224	2247	2044	1615	1033	385	12	0	0	0	14040
6	0	0	0	0	261	908	1230	1911	2176	2215	2015	1580	1014	382	13	0	0	0	13785
7	0	0	0	85	124	287	841	1603	1921	1619	1217	726	854	287	13	0	0	0	9577
8	0	0	0	0	18	237	182	165	208	254	296	224	120	54	0	0	0	0	1758
9	0	0	0	0	45	553	1011	1030	2055	2235	1675	1384	821	317	29	0	0	0	11155
10	0	0	0	0	35	212	386	255	379	350	261	206	124	62	9	0	0	0	2279
11	0	0	0	0	65	215	392	631	880	710	448	405	314	91	0	0	0	0	4151
12	0	0	0	0	117	451	1119	1420	1714	1734	1534	1168	628	209	9	0	0	0	10103
13	0	0	0	0	147	559	1341	1623	1907	1286	1727	1269	703	130	0	0	0	0	10692
14	0	0	0	0	199	697	1279	1724	1472	1737	1655	1259	667	114	0	0	0	0	10803
15	0	0	0	0	225	546	1063	1603	1593	1381	1266	733	458	134	0	0	0	0	9002
16	0	0	0	0	258	458	831	1318	1174	1027	1315	657	294	114	0	0	0	0	7446
17	0	0	0	0	64	195	401	817	797	663	653	689	339	178	0	0	0	0	4796
18	0	0	0	0	61	588	941	908	1818	1416	921	542	385	70	0	0	0	0	7650
19	0	0	0	0	248	585	1217	1430	1777	1760	1603	1109	566	232	0	0	0	0	10527
20	0	0	0	0	147	841	1142	1043	1132	981	412	651	526	212	0	0	0	0	7087
21	0	0	0	0	81	467	952	1217	1371	1583	1302	769	549	179	0	0	0	0	8470
22	0	0	0	0	124	409	556	713	1498	1135	1417	1043	559	143	0	0	0	0	7597
23	0	0	0	0	85	258	644	1413	782	405	356	281	160	65	0	0	0	0	4449
24	0	0	0	0	119	505	979	1382	2013	1912	1640	1091	515	119	0	0	0	0	10275
25	0	0	0	0	206	772	1358	1799	2009	2051	1626	1230	818	215	0	0	0	0	12084
26	0	0	0	0	88	153	356	991	854	837	1701	1066	445	107	0	0	0	0	6598
27	0	0	0	0	57	211	309	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
28	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
29	0	0	0	-99	-99	137	183	170	251	209	232	68	22	9	0	0	0	0	-999
30	0	0	0	0	30	141	204	305	380	312	266	191	105	24	0	0	0	0	1958
MEAN	0	0	0	6	135	482	869	1213	1382	1283	1161	848	524	175	5	0	0	0	8369
SD	0	0	0	19	80	246	441	593	665	691	647	484	309	117	8	0	0	0	3801
NUM	30	30	30	28	28	29	29	28	28	28	28	28	28	28	28	30	30	30	27
MAX	0	0	0	85	281	988	1711	2087	2336	2333	2130	1688	1096	425	29	0	0	0	14943
MIN	0	0	0	0	18	137	182	165	208	209	124	68	22	9	0	0	0	0	1758

TABULATED 01/02/80 AT 13:10:39

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 7 ONSLOW BEACH NOVEMBER 1978
SENSITIVITY 10.17E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	28	269	623	1461	2562	2456	2407	2109	1599	952	307	0	0	0	0	14773
2	0	0	0	24	421	1069	1755	1430	2392	1720	651	506	148	0	0	0	0	0	10116
3	0	0	0	35	463	750	704	739	860	796	453	315	134	24	0	0	0	0	5273
4	0	0	0	0	69	204	735	891	990	1110	1761	583	246	37	0	0	0	0	6626
5	0	0	0	20	253	1014	1712	2108	2321	2289	2030	1598	986	324	0	0	0	0	14655
6	0	0	0	24	403	1047	1614	2028	2247	2247	1978	1511	870	251	0	0	0	0	14220
7	0	0	0	10	293	771	945	814	750	1277	414	155	84	49	0	0	0	0	5559
8	0	0	0	0	43	197	172	565	1131	1022	9	190	101	55	0	0	0	0	3490
9	0	0	0	9	137	551	1422	1393	2168	1931	1591	1358	437	119	0	0	0	0	11116
10	0	0	0	0	87	423	498	738	462	303	668	448	151	41	0	0	0	0	3819
11	0	0	0	0	155	552	1012	1288	1507	1568	1136	679	630	237	0	0	0	0	8764
12	0	0	0	0	91	452	1248	1584	1701	1429	1191	1174	675	190	0	0	0	0	9735
13	0	0	0	10	251	753	1405	1847	2038	2021	1780	1348	753	169	0	0	0	0	12375
14	0	0	0	-99	-99	-99	-99	1929	2102	2056	1780	1313	715	116	0	0	0	0	-999
15	0	0	0	42	203	736	1284	1054	1978	1709	1745	1330	435	176	0	0	0	0	10772
16	0	0	0	24	315	481	1412	1922	2031	1617	1454	722	470	130	0	0	0	0	10578
17	0	0	0	13	314	795	915	1740	1811	1011	413	724	558	122	0	0	0	0	8416
18	0	0	0	0	151	356	1032	1747	1351	1570	1584	1145	377	87	0	0	0	0	9400
19	0	0	0	14	240	669	1415	1861	1865	1922	1656	1214	615	106	0	0	0	0	11577
20	0	0	0	10	279	580	863	1646	1415	930	1479	520	371	102	0	0	0	0	8195
21	0	0	0	10	205	690	1044	1100	1072	1069	1069	679	322	53	0	0	0	0	7323
22	0	0	0	0	173	318	909	906	1670	1058	934	559	293	88	0	0	0	0	6908
23	0	0	0	0	120	315	732	1079	2024	1649	849	626	315	49	0	0	0	0	7758
24	0	0	0	13	246	724	1468	1361	1963	2023	1754	1259	515	101	0	0	0	0	11427
25	0	0	0	0	322	962	1536	1929	2123	1961	1550	1345	707	134	0	0	0	0	12569
26	0	0	0	10	233	578	339	523	916	1359	1663	1185	707	134	0	0	0	0	7447
27	0	0	0	0	133	498	692	1096	490	377	278	197	94	16	0	0	0	0	3879
28	0	0	0	0	198	343	460	984	1426	633	424	286	258	63	0	0	0	0	5075
29	0	0	0	0	99	297	307	247	180	279	148	116	63	10	0	0	0	0	1746
30	0	0	0	0	35	85	124	96	127	166	181	106	78	18	0	0	0	0	1016
MEAN	0	0	0	10	216	575	1007	1506	1519	1383	1157	826	435	110	0	0	0	0	8434
SD	0	0	0	11	109	259	465	587	667	626	639	485	272	83	0	0	0	0	3670
NUM	30	30	30	29	29	29	29	30	30	30	30	30	30	30	30	30	30	30	29
MAX	0	0	0	42	463	1069	1755	2562	2456	2407	2109	1599	986	324	0	0	0	0	14773
MIN	0	0	0	0	35	85	124	96	127	166	9	106	63	0	0	0	0	0	1016

TABULATED 01/02/80 AT 13:10:39

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : NIP # 8 SLOOP POINT NOVEMBER 1978
SENSITIVITY 8.70E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER

DATE	HOUR ENDING 4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	14	792	2278	2799	3022	3056	2911	2447	1831	829	0	0	0	0	19979
2	0	0	0	23	354	934	1459	983	2171	532	429	1157	218	0	0	0	0	0	8260
3	0	0	0	0	0	19	0	0	28	15	0	0	0	0	0	0	0	0	62
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	40	90	172	276	371	400	363	197	73	23	0	0	0	0	2005
6	0	0	0	0	23	40	44	69	98	114	32	61	36	15	0	0	0	0	532
7	0	0	0	0	0	12	0	37	24	0	0	0	0	0	0	0	0	0	73
8	0	0	0	0	0	0	0	0	30	0	13	0	0	0	0	0	0	0	43
9	0	0	0	0	0	20	33	33	33	41	33	20	0	0	0	0	0	0	213
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	12	20	20	33	12	0	0	0	0	0	97
12	0	0	0	0	0	0	0	28	23	19	19	19	15	0	0	0	0	0	123
13	0	0	0	0	10	18	22	18	22	18	18	18	14	0	0	0	0	0	158
14	0	0	0	0	10	22	27	242	2567	2567	2427	2141	1702	180	0	0	0	0	11885
15	0	0	0	0	254	626	593	279	482	1073	2108	1454	391	432	0	0	0	0	7692
16	0	0	0	0	44	135	1530	2539	2353	963	1165	867	0	0	0	0	0	0	9596
17	0	0	0	11	557	1120	1968	934	85	0	0	0	0	0	0	0	0	0	4675
18	0	0	0	23	793	1318	1463	2638	1290	983	197	0	0	0	0	0	0	0	8705
19	0	0	0	0	364	587	1609	1771	1286	1340	537	12	0	0	0	0	0	0	7506
20	0	0	0	30	680	944	84	833	241	88	92	0	0	0	-555	0	0	0	-999
21	0	0	0	211	62	37	54	120	103	0	0	0	0	0	0	0	0	0	587
22	0	0	0	0	535	513	149	49	37	306	310	0	0	0	0	0	0	0	1897
23	0	0	0	0	70	12	53	153	0	0	0	0	0	0	0	0	0	0	288
24	0	0	0	38	79	154	352	572	758	725	328	55	0	0	0	0	0	0	3061
25	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
26	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
27	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
28	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
29	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
30	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
MEAN	0	0	0	14	161	308	495	598	626	510	458	353	178	61	0	0	0	0	3801
SD	0	0	0	42	241	416	733	887	933	806	815	701	486	184	0	0	0	0	5104
NUM	30	30	30	24	24	24	24	24	24	24	24	24	24	24	23	30	30	30	23
MAX	0	0	0	211	793	1318	2278	2799	3022	3056	2911	2447	1831	829	0	0	0	0	19979
MIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABULATED 01/02/80 AT 13:10:40

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : NIP #10 CLINTON NOVEMBER 1978
SENSITIVITY 8.29E-6 V/M/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	602	2721	2899	3108	3125	3051	2973	2647	2048	1110	42	0	0	0	24326
2	0	0	0	0	0	951	2618	2353	2371	2388	2236	1689	1693	812	21	0	0	0	17132
3	0	0	0	0	169	495	846	660	482	13	0	0	0	0	0	0	0	0	2665
4	0	0	0	0	151	0	0	0	0	0	0	0	0	0	0	0	0	0	151
5	0	0	0	0	1165	2371	2774	2957	3083	3026	2922	2679	2219	1233	34	0	0	0	24461
6	0	0	0	0	473	1550	2562	2813	2892	2909	2783	2549	2075	1115	21	0	0	0	21743
7	0	0	0	47	490	0	560	1793	1506	898	264	290	720	151	0	0	0	0	6719
8	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	13
9	0	0	0	0	216	59	111	350	1974	2144	1432	1123	850	25	0	0	0	0	8284
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	125	920	755	968	1194	1367	751	217	26	0	0	0	0	6323
13	0	0	0	0	203	719	1449	1696	1931	828	1827	1566	1067	146	0	0	0	0	11432
14	0	0	0	0	208	1268	1945	2093	399	1580	1615	1615	1233	130	0	0	0	0	12086
15	0	0	0	0	73	269	542	716	1059	833	751	217	86	0	0	0	0	0	4546
16	0	0	0	0	234	13	230	290	134	160	638	47	0	0	0	0	0	0	1742
17	0	0	0	0	0	0	0	0	39	0	21	269	273	104	0	0	0	0	706
18	0	0	0	0	0	746	468	191	1802	642	264	91	312	0	0	0	0	0	4516
19	0	0	0	0	499	495	1593	1172	1489	1671	1055	560	486	508	0	0	0	0	9528
20	0	0	0	0	38	976	867	272	263	164	0	98	150	120	0	0	0	0	2948
21	0	0	0	0	0	21	416	903	990	1185	642	95	0	0	0	0	0	0	4252
22	0	0	0	0	0	172	0	0	732	94	802	507	441	0	0	0	0	0	2748
23	0	0	0	0	0	0	0	225	26	0	0	0	0	0	0	0	0	0	251
24	0	0	0	0	0	403	1111	1502	2935	2718	2531	1558	1016	616	0	0	0	0	14390
25	0	0	0	0	907	2136	2514	2940	3035	3100	2610	2371	2410	1233	0	0	0	0	23256
26	0	0	0	0	0	0	0	58	54	0	2012	875	367	80	0	0	0	0	3446
27	0	0	0	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
28	0	0	0	-99	-99	0	0	0	0	0	0	0	0	0	0	0	0	0	-999
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MEAN	0	0	0	1	187	516	814	925	1078	986	991	744	609	255	4	0	0	0	7416
SD	0	0	0	8	292	759	982	1057	1125	1126	1051	908	767	415	10	0	0	0	7980
NUM	30	30	30	29	29	30	30	29	29	29	29	29	29	29	29	30	30	30	28
MAX	0	0	0	47	1165	2721	2899	3108	3125	3100	2973	2679	2410	1233	42	0	0	0	24461
MIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABULATED 01/02/80 AT 13:10:40

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : UV #11 CLINTON NOVEMBER 1978
SENSITIVITY 312.10E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	1	16	47	70	91	100	97	85	61	0	1	1	0	0	0	570
2	0	0	0	1	10	35	4	79	87	87	75	56	34	12	1	0	0	0	481
3	0	0	0	1	11	35	62	79	68	51	37	27	16	7	0	0	0	0	394
4	0	0	0	0	8	15	21	31	20	20	9	6	11	4	0	0	0	0	145
5	0	0	0	0	13	38	63	85	95	94	82	60	34	11	0	0	0	0	575
6	0	0	0	1	13	36	61	82	91	91	79	58	34	12	1	0	0	0	559
7	0	0	0	11	14	21	51	84	83	77	56	39	31	11	0	0	0	0	478
8	0	0	0	0	3	16	14	13	13	19	17	13	6	3	0	0	0	0	117
9	0	0	0	0	16	29	49	62	93	95	71	53	30	9	0	0	0	0	507
10	0	0	0	0	3	17	16	18	26	23	17	14	7	4	0	0	0	0	145
11	0	0	0	0	5	14	24	41	47	40	29	26	16	5	0	0	0	0	247
12	0	0	0	0	7	27	55	66	76	75	67	48	26	9	0	0	0	0	456
13	0	0	0	0	10	29	60	71	82	32	66	51	29	9	0	0	0	0	439
14	0	0	0	0	11	33	58	76	69	79	70	53	30	9	0	0	0	0	488
15	0	0	0	0	9	26	49	72	76	68	64	41	22	7	0	0	0	0	434
16	0	0	0	0	8	22	44	63	61	57	63	33	16	6	0	0	0	0	373
17	0	0	0	0	4	11	24	46	48	40	37	38	15	8	0	0	0	0	271
18	0	0	0	0	5	28	43	45	85	70	50	29	18	5	0	0	0	0	378
19	0	0	0	0	9	26	52	65	79	78	70	48	26	9	0	0	0	0	462
20	0	0	0	0	7	30	47	52	59	49	24	32	26	9	0	0	0	0	335
21	0	0	0	0	5	23	44	59	68	73	60	39	24	8	0	0	0	0	403
22	0	0	0	0	7	22	35	40	72	60	65	47	26	8	0	0	0	0	382
23	0	0	0	0	5	14	33	67	42	25	23	17	10	4	0	0	0	0	240
24	0	0	0	0	6	24	45	64	84	82	70	48	25	8	0	0	0	0	456
25	0	0	0	0	8	29	54	75	86	87	71	52	31	9	0	0	0	0	502
26	0	0	0	0	4	10	22	52	47	46	72	49	25	8	0	0	0	0	335
27	0	0	0	0	3	12	19	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
28	0	0	0	-99	-99	9	17	36	49	48	43	30	22	7	0	0	0	0	-999
29	0	0	0	0	2	8	12	12	18	15	16	5	2	1	0	0	0	0	91
30	0	0	0	0	2	9	13	20	25	21	17	13	7	2	0	0	0	0	129
MEAN	0	0	0	0	7	23	38	56	63	58	51	37	20	7	0	0	0	0	371
SD	0	0	0	2	3	9	18	22	25	26	23	16	9	3	0	0	0	0	142
NUM	30	30	30	29	29	30	30	29	29	29	29	29	29	29	29	30	30	30	28
MAX	0	0	0	11	16	47	70	91	100	97	85	61	34	12	1	0	0	0	575
MIN	0	0	0	0	2	8	4	12	13	15	9	5	0	1	0	0	0	0	91

TABULATED 01/02/80 AT 13:10:40

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : UV #12 SLOOP POINT NOVEMBER 1978
SENSITIVITY 154.40E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	2	18	47	76	95	104	101	87	63	38	14	1	0	0	0	646
2	0	0	0	2	19	45	70	73	99	67	60	64	31	10	1	0	0	0	541
3	0	0	0	1	14	30	27	45	48	50	34	18	9	2	0	0	0	0	278
4	0	0	0	0	6	12	23	42	49	26	22	15	10	3	0	0	0	0	208
5	0	0	0	2	18	46	71	92	101	100	87	65	38	13	1	0	0	0	634
6	0	0	0	1	16	39	62	80	91	90	28	55	32	12	1	0	0	0	507
7	0	0	0	1	14	27	38	71	68	45	28	18	10	5	1	0	0	0	326
8	0	0	0	0	5	13	18	50	75	44	41	14	7	2	0	0	0	0	269
9	0	0	0	0	9	38	63	80	86	88	81	50	26	7	0	0	0	0	528
10	0	0	0	1	4	21	19	19	25	27	12	19	11	2	0	0	0	0	160
11	0	0	0	1	9	23	36	55	67	74	68	58	30	11	0	0	0	0	432
12	0	0	0	0	6	25	37	80	82	76	63	51	27	9	1	0	0	0	447
13	0	0	0	1	13	34	58	76	85	83	72	53	30	10	0	0	0	0	515
14	0	0	0	1	13	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
15	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
16	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
17	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
18	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
19	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
20	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
21	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
22	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
23	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
24	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
25	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
26	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
27	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
28	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
29	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
30	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	-999
MEAN	0	0	0	0	11	30	46	66	75	67	52	41	23	7	0	0	0	0	422
SD	0	0	0	0	4	12	20	21	22	25	25	20	11	4	0	0	0	0	153
NUM	30	30	30	14	14	13	13	13	13	13	13	13	13	13	30	30	30	13	
MAX	0	0	0	2	19	47	76	95	104	101	87	65	38	14	1	0	0	0	646
MIN	0	0	0	0	4	12	18	19	25	26	12	14	7	2	0	0	0	0	160

TABULATED 01/02/80 AT 13:10:40

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 2 ELLIS AIRPORT DECEMBER 1978
SENSITIVITY 10.99E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	76	89	427	414	702	640	672	1101	699	171	0	0	0	0	4991
2	0	0	0	0	202	840	1332	1758	1974	1964	1758	1273	706	172	0	0	0	0	11979
3	0	0	0	0	195	781	1057	1450	1545	1499	831	654	624	107	0	0	0	0	8743
4	0	0	0	0	70	388	610	1288	1701	1609	1609	1174	633	155	0	0	0	0	9237
5	0	0	0	0	15	100	156	133	234	356	182	310	342	25	0	0	0	0	1853
6	0	0	0	0	157	714	890	1608	1962	1985	1788	1352	786	183	0	0	0	0	11425
7	0	0	0	0	162	621	1220	1207	1384	1754	1286	1109	356	97	0	0	0	0	9196
8	0	0	0	0	135	230	649	964	1219	1462	1006	843	630	181	0	0	0	0	7319
9	0	0	0	0	194	803	1295	1612	1734	1380	810	885	633	96	0	0	0	0	9442
10	0	0	0	0	124	723	1329	1798	2034	2047	1831	1392	799	196	0	0	0	0	12273
11	0	0	0	0	68	275	497	917	1297	1339	1100	940	366	68	0	0	0	0	6867
12	0	0	0	0	24	328	679	1396	1969	1992	1793	1363	787	197	0	0	0	0	10528
13	0	0	0	0	251	1021	1263	1728	1967	1990	1787	1368	794	188	0	0	0	0	12357
14	0	0	0	0	111	845	1090	1470	1398	1516	1303	1280	795	196	0	0	0	0	10004
15	0	0	0	0	258	1008	1431	1749	2001	2027	1827	1320	841	180	0	0	0	0	12642
16	0	0	0	0	152	333	523	1096	1803	1790	1617	939	523	113	0	0	0	0	8889
17	0	0	0	0	96	656	1295	1750	2002	2028	1835	1406	820	217	0	0	0	0	12105
18	0	0	0	0	54	375	654	984	778	696	1050	722	342	136	0	0	0	0	5791
19	0	0	0	0	23	78	239	373	275	173	259	363	252	29	0	0	0	0	2064
20	0	0	0	0	11	70	253	371	361	407	453	322	358	155	0	0	0	0	2761
21	0	0	0	0	75	150	104	235	353	491	684	1077	157	203	0	0	0	0	3529
22	0	0	0	0	189	985	1218	1686	1945	1981	1795	1369	789	193	0	0	0	0	12150
23	0	0	0	0	121	805	1172	1362	1546	1700	1339	923	416	127	0	0	0	0	9511
24	0	0	0	0	18	28	48	38	35	54	353	172	100	64	0	0	0	0	910
25	0	0	0	0	75	547	1120	1621	1876	1952	1798	1395	828	235	0	0	0	0	11447
26	0	0	0	0	173	746	1159	1628	1903	1939	1768	1359	805	232	0	0	0	0	11712
27	0	0	0	0	52	583	1238	1703	1981	2027	1844	1270	632	160	0	0	0	0	11490
28	0	0	0	0	36	265	638	923	999	1061	825	625	494	124	0	0	0	0	5990
29	0	0	0	0	75	583	1195	1680	1952	2011	1837	1431	845	232	0	0	0	0	11841
30	0	0	0	0	45	298	455	1048	1942	1418	1723	1365	818	248	0	0	0	0	9360
31	0	0	0	0	71	346	739	1630	1515	1361	1590	1233	690	113	0	0	0	0	9288
MEAN	0	0	0	0	106	503	837	1213	1431	1440	1301	1043	601	154	0	0	0	0	8635
SD	0	0	0	0	69	302	420	540	628	623	542	370	218	58	0	0	0	0	3471
NUM	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
MAX	0	0	0	0	258	1021	1431	1798	2034	2047	1844	1431	845	248	0	0	0	0	12642
MIN	0	0	0	0	11	28	48	38	35	54	182	172	100	25	0	0	0	0	910

TABULATED 12/31/79 AT 12:46:10

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 3 CAPE FEAR DECEMBER 1978
SENSITIVITY 11.27E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	40	193	471	312	385	395	462	328	232	62	0	0	0	0	2860
2	0	0	0	0	193	669	1113	1567	1979	2014	1803	1362	787	187	0	0	0	0	11674
3	0	0	0	0	190	692	909	1275	1545	1615	1046	887	641	145	0	0	0	0	8946
4	0	0	0	0	117	366	586	950	1886	1896	1723	1069	605	145	0	0	0	0	9343
5	0	0	0	0	40	53	91	347	465	353	168	628	117	24	0	0	0	0	2286
6	0	0	0	0	99	450	945	1753	2009	2012	1804	1379	788	191	0	0	0	0	11430
7	0	0	0	0	155	666	1225	1315	1292	1909	1423	1027	494	85	0	0	0	0	9591
8	0	0	0	0	144	336	576	968	1211	1361	-99	-99	-99	-99	0	0	0	0	-999
9	0	0	0	0	-99	-99	-99	-99	1449	1772	1375	701	427	85	0	0	0	0	-999
10	0	0	0	0	86	705	1335	1830	2085	2117	1926	1510	907	268	0	0	0	0	12769
11	0	0	0	0	75	359	727	1107	887	998	925	631	372	110	0	0	0	0	6191
12	0	0	0	0	25	172	712	1108	1996	2054	1868	1466	888	278	0	0	0	0	10567
13	0	0	0	0	111	632	1239	1757	1999	2044	1868	1472	884	281	0	0	0	0	12267
14	0	0	0	0	95	520	1175	1625	1983	2073	1843	1373	910	290	0	0	0	0	11887
15	0	0	0	0	191	913	1229	1721	2006	2044	1875	1488	910	293	0	0	0	0	12670
16	0	0	0	0	101	308	605	954	1439	1771	1858	1404	542	216	0	0	0	0	9178
17	0	0	0	0	42	617	1262	1777	2055	2115	1911	1521	927	301	0	0	0	0	12528
18	0	0	0	0	56	423	682	915	637	855	1247	781	433	152	0	0	0	0	6181
19	0	0	0	0	18	139	318	532	670	714	599	535	344	91	0	0	0	0	3960
20	0	0	0	0	24	248	602	847	848	1136	1644	922	654	181	0	0	0	0	7146
21	0	0	0	0	43	347	213	120	152	321	535	676	762	328	0	0	0	0	3497
22	0	0	0	0	41	578	1223	1718	1990	2044	1868	1482	881	268	0	0	0	0	12093
23	0	0	0	0	105	536	1050	1616	1769	1747	1456	1009	453	178	0	0	0	0	9919
24	0	0	0	0	0	15	11	18	24	101	299	75	50	98	0	0	0	0	691
25	0	0	0	0	37	519	1126	1644	1960	2011	1867	1493	925	318	0	0	0	0	11900
26	0	0	0	0	70	552	1149	1651	1938	2025	1868	1504	926	319	0	0	0	0	12002
27	0	0	0	0	54	396	1133	1747	2037	2095	1881	1379	737	198	0	0	0	0	11657
28	0	0	0	0	25	172	507	626	852	1038	776	568	396	172	0	0	0	0	5132
29	0	0	0	0	67	530	1162	1673	1974	2053	1922	1555	967	268	0	0	0	0	12181
30	0	0	0	0	34	353	676	1015	1813	1624	1592	1468	887	324	0	0	0	0	9776
31	0	0	0	0	68	250	870	1036	1767	1869	1655	1269	796	224	0	0	0	0	9804
MEAN	0	0	0	0	78	423	833	1152	1454	1554	1436	1098	654	202	0	0	0	0	8970
SD	0	0	0	0	52	211	369	536	640	625	550	417	261	87	0	0	0	0	3537
NUM	31	31	31	31	30	30	30	30	31	31	30	30	30	30	31	31	31	31	29
MAX	0	0	0	0	193	913	1335	1830	2085	2117	1926	1555	967	328	0	0	0	0	12769
MIN	0	0	0	0	0	15	11	18	24	101	168	75	50	24	0	0	0	0	691

TABULATED 12/31/79 AT 12:46:10

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 4 WALLACE DECEMBER 1978
SENSITIVITY 10.37E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	52	187	395	374	666	551	906	1211	645	156	0	0	0	0	5143
2	0	0	0	0	243	676	1277	1648	1954	1954	1725	1270	715	149	0	0	0	0	11611
3	0	0	0	0	201	624	1034	1378	1464	1381	951	1072	433	118	0	0	0	0	8656
4	0	0	0	0	92	509	884	1043	1502	1398	1474	981	596	151	0	0	0	0	8630
5	0	0	0	0	19	78	85	127	294	203	144	561	64	16	0	0	0	0	1591
6	0	0	0	0	190	656	1204	1728	1975	1968	1763	1333	753	166	0	0	0	0	11736
7	0	0	0	0	155	561	755	1123	1713	1564	1484	1161	599	113	0	0	0	0	9228
8	0	0	0	0	68	259	356	419	807	1172	1641	1050	540	130	0	0	0	0	6442
9	0	0	0	0	168	758	1324	1640	1879	1098	612	806	588	36	0	0	0	0	8909
10	0	0	0	0	149	756	1364	1808	2030	2037	1822	1385	788	183	0	0	0	0	12322
11	0	0	0	0	93	371	621	874	1576	1631	1131	975	367	69	0	0	0	0	7708
12	0	0	0	0	41	277	690	1753	1964	1971	1767	1343	756	173	0	0	0	0	10735
13	0	0	0	0	145	760	1291	1742	1954	1964	1773	1357	774	183	0	0	0	0	11943
14	0	0	0	0	124	878	1065	1197	1284	1475	1506	1221	774	187	0	0	0	0	9711
15	0	0	0	0	-666	854	1621	-99	-99	-99	1898	1548	999	-666	0	0	0	0	-999
16	0	0	0	0	152	211	548	1107	1753	1642	1499	847	357	93	0	0	0	0	8209
17	0	0	0	0	104	676	1298	1760	1996	2023	1829	1409	822	215	0	0	0	0	12132
18	0	0	0	0	62	340	739	992	610	722	933	697	319	156	0	0	0	0	5570
19	0	0	0	0	17	138	204	222	166	378	406	472	298	45	0	0	0	0	2346
20	0	0	0	0	9	120	245	408	530	491	377	321	481	158	0	0	0	0	3140
21	0	0	0	0	69	69	118	267	340	465	972	1107	496	211	0	0	0	0	4114
22	0	0	0	0	118	732	1211	1690	1933	1954	1770	1360	777	194	0	0	0	0	11739
23	0	0	0	0	142	1058	1211	1329	1635	1739	1346	836	409	135	0	0	0	0	9840
24	0	0	0	0	0	25	32	77	70	209	227	206	133	77	0	0	0	0	1056
25	0	0	0	0	78	557	1151	1630	1887	1939	1783	1391	825	231	0	0	0	0	11472
26	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
27	0	0	0	0	52	551	1228	1704	1964	2010	1819	1211	635	166	0	0	0	0	11340
28	0	0	0	0	41	246	649	843	975	833	749	989	621	138	0	0	0	0	6084
29	0	0	0	0	69	590	1183	1669	1930	1982	1829	1440	881	208	0	0	0	0	11781
30	0	0	0	0	48	246	416	1055	1350	1350	1749	1367	826	246	0	0	0	0	8653
31	0	0	0	0	68	235	627	1727	1811	1734	1474	1380	759	189	0	0	0	0	10004
MEAN	0	0	0	0	95	466	827	1149	1379	1373	1311	1076	691	148	0	0	0	0	8339
SD	0	0	0	0	60	277	445	575	641	615	538	343	222	57	0	0	0	0	3363
NUM	31	31	31	31	29	30	30	29	29	29	30	30	30	29	31	31	31	31	29
MAX	0	0	0	0	243	1058	1621	1808	2030	2037	1898	1548	999	246	0	0	0	0	12322
MIN	0	0	0	0	0	25	32	77	70	203	144	206	64	16	0	0	0	0	1056

TABULATED 12/31/79 AT 12:46:10

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 5 SLOOP POINT DECEMBER 1978
SENSITIVITY 9.44E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
2	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
3	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
4	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
5	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
6	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	1327	758	167	0	0	0	0	-999
7	0	0	0	0	151	666	1276	1539	1471	1612	1516	1112	666	105	0	0	0	0	10114
8	0	0	0	0	129	434	598	968	1216	1636	1613	1151	640	141	0	0	0	0	8526
9	0	0	0	0	141	655	1193	732	1361	1861	1521	659	369	49	0	0	0	0	8541
10	0	0	0	0	106	755	1372	1826	2059	2074	1857	1414	816	190	0	0	0	0	12469
11	0	0	0	0	87	366	804	1132	968	980	899	633	343	68	0	0	0	0	6280
12	0	0	0	0	19	198	758	1117	2013	2013	1811	1372	797	186	0	0	0	0	10284
13	0	0	0	0	137	690	1277	1727	1941	1983	1796	1365	793	194	0	0	0	0	11903
14	0	0	0	0	99	533	1346	1811	2013	2005	1559	1426	884	194	0	0	0	0	11870
15	0	0	0	0	286	-666	1319	1735	1994	2024	1796	1384	800	190	0	0	0	0	-999
16	0	0	0	0	183	400	568	964	1544	1300	1704	1262	537	141	0	0	0	0	8603
17	0	0	0	0	64	659	1296	1784	2017	2044	1857	1426	835	209	0	0	0	0	12191
18	0	0	0	0	68	442	732	1044	594	736	1128	709	327	160	0	0	0	0	5940
19	0	0	0	0	15	106	320	762	690	888	449	606	324	76	0	0	0	0	4236
20	0	0	0	0	15	190	579	682	636	1029	877	880	449	141	0	0	0	0	5478
21	0	0	0	0	49	316	118	-99	-99	-99	-99	-99	-99	293	0	0	0	0	-999
22	0	0	0	0	61	579	1178	1677	1906	2009	1845	1445	873	255	0	0	0	0	11828
23	0	0	0	0	167	732	1163	1571	1323	1609	1475	1193	461	144	0	0	0	0	9838
24	0	0	0	0	15	22	30	38	34	30	186	80	38	72	0	0	0	0	545
25	0	0	0	0	53	507	1113	1624	1315	1994	1849	1452	884	278	0	0	0	0	11069
26	0	0	0	0	72	396	1330	1624	1540	1990	1822	1437	888	278	0	0	0	0	11377
27	0	0	0	0	43	326	1017	1703	1905	2062	1886	1406	803	162	0	0	0	0	11318
28	0	0	0	0	25	183	453	653	678	880	736	476	461	160	0	0	0	0	4716
29	0	0	0	0	61	507	1132	1643	1239	2044	1876	1491	930	266	0	0	0	0	11189
30	0	0	0	0	25	274	400	899	953	1857	1529	1399	873	308	0	0	0	0	8518
31	0	0	0	0	53	457	480	972	888	1906	1777	1426	682	190	0	0	0	0	8831
MEAN	0	0	0	0	85	433	874	1259	1345	1606	1473	1141	649	177	0	0	0	0	8941
SD	0	0	0	0	63	200	412	477	560	548	482	383	235	70	0	0	0	0	3043
NUM	31	31	31	31	25	24	25	24	24	24	24	25	25	26	31	31	31	31	23
MAX	0	0	0	0	286	755	1372	1826	2059	2074	1886	1491	930	308	0	0	0	0	12469
MIN	0	0	0	0	15	22	30	38	34	30	186	80	38	49	0	0	0	0	545

TABULATED 12/31/79 AT 12:46:10

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 6 CLINTON DECEMBER 1978
SENSITIVITY 11.00E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	55	163	415	467	592	654	1014	1263	713	176	0	0	0	0	5512
2	0	0	0	0	183	618	1315	2074	1691	1960	1701	1299	716	160	0	0	0	0	11717
3	0	0	0	0	176	543	978	1381	1708	1178	1328	1210	549	117	0	0	0	0	9168
4	0	0	0	0	69	416	799	1257	1719	1071	796	757	590	177	0	0	0	0	7651
5	0	0	0	0	8	38	67	100	129	195	257	450	21	15	0	0	0	0	1280
6	0	0	0	0	91	418	749	1505	2015	1973	1770	1361	785	199	0	0	0	0	10866
7	0	0	0	0	104	490	929	985	1822	1865	1407	765	467	121	0	0	0	0	8955
8	0	0	0	0	41	182	414	552	1069	882	578	650	512	113	0	0	0	0	4993
9	0	0	0	0	113	430	1003	1599	1069	372	902	509	77	51	0	0	0	0	6125
10	0	0	0	0	111	693	1295	1750	1989	2015	1803	1390	805	209	0	0	0	0	12060
11	0	0	0	0	88	294	670	1295	975	1322	1030	890	359	98	0	0	0	0	7021
12	0	0	0	0	186	589	1273	1708	1970	1989	1790	1397	814	212	0	0	0	0	11928
13	0	0	0	0	206	1007	1256	1701	1966	1993	1790	1407	818	212	0	0	0	0	12356
14	0	0	0	0	160	474	798	1292	1122	1259	1564	1413	831	206	0	0	0	0	9119
15	0	0	0	0	202	1021	1629	1731	2006	2025	1822	1413	791	232	0	0	0	0	12872
16	0	0	0	0	48	221	633	1065	1658	1936	1599	856	231	110	0	0	0	0	8357
17	0	0	0	0	80	640	1255	1720	1975	2018	1821	1416	836	231	0	0	0	0	11992
18	0	0	0	0	39	294	657	949	795	873	788	533	248	107	0	0	0	0	5283
19	0	0	0	0	8	116	146	182	152	175	172	378	113	18	0	0	0	0	1460
20	0	0	0	0	12	77	277	303	444	378	408	398	372	169	0	0	0	0	2838
21	0	0	0	0	0	70	221	339	414	715	679	728	823	237	0	0	0	0	4226
22	0	0	0	0	134	863	1184	1642	1914	1937	1744	1354	782	206	0	0	0	0	11760
23	0	0	0	0	85	798	1289	1544	1734	1832	1479	1093	602	173	0	0	0	0	10629
24	0	0	0	0	0	23	55	108	95	327	190	262	124	68	0	0	0	0	1252
25	0	0	0	0	57	522	1134	1609	1906	1959	1802	1422	859	260	0	0	0	0	11530
26	0	0	0	0	114	700	1129	1597	1878	1924	1763	1390	844	258	0	0	0	0	11597
27	0	0	0	0	52	507	1174	1675	1957	2006	1826	1341	595	173	0	0	0	0	11306
28	0	0	0	0	32	251	723	1001	1145	945	886	899	736	170	0	0	0	0	6788
29	0	0	0	0	58	543	1165	1642	1930	2009	1835	1449	873	229	0	0	0	0	11733
30	0	0	0	0	-99	-99	572	1577	1813	1898	1701	1302	775	163	0	0	0	0	-999
31	0	0	0	0	61	372	941	1350	1893	1870	1674	833	218	192	0	0	0	0	9404
MEAN	0	0	0	0	85	445	843	1216	1404	1405	1287	1026	576	163	0	0	0	0	8392
SD	0	0	0	0	60	271	414	561	642	658	558	385	270	65	0	0	0	0	3596
NUM	31	31	31	31	30	30	31	31	31	31	31	31	31	31	31	31	31	31	30
MAX	0	0	0	0	206	1021	1629	2074	2015	2025	1835	1449	873	260	0	0	0	0	12872
MIN	0	0	0	0	0	23	55	100	95	175	172	262	21	15	0	0	0	0	1252

TABULATED 12/31/79 AT 12:46:10

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : PSP # 7 ONSLOW BEACH DECEMBER 1978
SENSITIVITY 10.17E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	45	232	310	268	430	423	406	572	268	34	0	0	0	0	2988
2	0	0	0	0	243	767	1531	1829	2020	1991	1740	1262	639	129	0	0	0	0	12151
3	0	0	0	0	229	685	1131	1538	1577	1358	1262	466	352	94	0	0	0	0	8692
4	0	0	0	0	105	260	1160	1496	1843	1846	1701	1053	565	94	0	0	0	0	10123
5	0	0	0	0	20	175	154	243	222	144	398	190	487	34	0	0	0	0	2067
6	0	0	0	0	186	-666	1478	1814	2020	1991	1737	1266	682	137	0	0	0	0	-999
7	0	0	0	0	204	770	1425	1669	1878	1213	1425	1156	519	102	0	0	0	0	10371
8	0	0	0	0	147	501	579	777	961	1468	1627	-99	-99	-99	0	0	0	0	-999
9	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
10	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
11	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
12	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
13	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	1355	775	187	0	0	0	0	-999
14	0	0	0	0	161	781	1531	1829	2091	1758	1478	1128	643	183	0	0	0	0	11583
15	0	0	0	0	-666	1015	1387	1830	2053	2074	1865	1415	792	187	0	0	0	0	-999
16	0	0	0	0	184	470	605	1054	1706	1299	1150	1281	594	120	0	0	0	0	8463
17	0	0	0	0	84	764	1412	1876	2109	2092	1876	1426	814	208	0	0	0	0	12661
18	0	0	0	0	81	495	768	998	785	718	828	722	389	102	0	0	0	0	5886
19	0	0	0	0	27	98	282	540	498	257	317	314	222	27	0	0	0	0	2582
20	0	0	0	0	20	69	299	363	515	731	728	880	554	140	0	0	0	0	4299
21	0	0	0	0	91	519	168	144	175	268	515	678	717	225	0	0	0	0	3500
22	0	0	0	0	109	640	1306	1766	1989	2007	1798	1394	785	194	0	0	0	0	11988
23	0	0	0	0	180	615	1352	1684	1851	1430	1539	1192	502	116	0	0	0	0	10461
24	0	0	0	0	43	43	18	28	46	50	198	74	32	71	0	0	0	0	603
25	0	0	0	0	102	615	1217	1684	1953	1971	1773	1373	807	226	0	0	0	0	11721
26	0	0	0	0	120	658	1231	1706	1971	1996	1752	-99	-99	-99	0	0	0	0	-999
27	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	1387	633	134	0	0	0	0	-999
28	0	0	0	0	52	260	533	820	784	912	809	540	646	158	0	0	0	0	5514
29	0	0	0	0	116	665	1288	1780	2035	2063	1861	1447	877	215	0	0	0	0	12347
30	0	0	0	0	56	283	513	853	1405	1203	1578	1391	824	223	0	0	0	0	8329
31	0	0	0	0	105	685	675	1443	1673	1790	1598	696	540	168	0	0	0	0	9373
MEAN	0	0	0	0	112	502	894	1201	1383	1322	1278	986	586	140	0	0	0	0	7890
SD	0	0	0	0	64	259	500	626	709	682	557	425	205	59	0	0	0	0	3829
NUM	31	31	31	31	24	24	25	25	25	25	25	25	25	25	31	31	31	31	21
MAX	0	0	0	0	243	1015	1531	1876	2109	2092	1876	1447	877	226	0	0	0	0	12661
MIN	0	0	0	0	20	43	18	28	46	50	198	74	32	27	0	0	0	0	603

TABULATED 12/31/79 AT 12:46:12

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : NIP # 8 SLOOP POINT DECEMBER 1978
SENSITIVITY 8.70E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
2	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
3	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
4	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
5	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
6	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	2511	1071	0	0	0	0	-999
7	0	0	0	0	308	1367	2489	1777	1326	1682	1901	1346	1450	0	0	0	0	0	13646
8	0	0	0	0	173	206	94	82	222	2097	2465	1890	1373	338	0	0	0	0	8940
9	0	0	0	0	610	1934	2265	130	1305	2472	2158	366	101	0	0	0	0	0	11341
10	0	0	0	0	822	2792	3255	3462	3549	3541	3458	3247	2800	1223	0	0	0	0	28149
11	0	0	0	0	178	0	33	157	45	111	124	24	0	0	0	0	0	0	672
12	0	0	0	0	0	0	273	546	3355	3393	3331	3115	2681	1162	0	0	0	0	17856
13	0	0	0	0	1133	2598	3078	3293	3335	3351	3293	3107	2664	1167	0	0	0	0	27019
14	0	0	0	0	602	1698	3072	2877	2522	1913	1524	2662	2720	1169	0	0	0	0	20759
15	0	0	0	0	1189	2704	3184	3370	3494	3490	3295	3175	2712	1202	0	0	0	0	27815
16	0	0	0	0	327	115	0	149	1978	1167	2904	2623	1092	140	0	0	0	0	10495
17	0	0	0	0	297	2481	3164	3421	3454	3425	3363	3185	2734	1252	0	0	0	0	26776
18	0	0	0	0	0	140	115	306	0	24	190	62	0	62	0	0	0	0	899
19	0	0	0	0	0	0	0	30	0	42	0	13	0	0	0	0	0	0	85
20	0	0	0	0	0	63	63	0	0	50	67	659	315	179	0	0	0	0	1396
21	0	0	0	0	0	169	0	-99	-99	-99	-99	-99	-99	1105	0	0	0	0	-999
22	0	0	0	0	384	2118	3074	3401	3389	3471	3376	3165	2677	1253	0	0	0	0	26308
23	0	0	0	0	53	2445	2962	2578	1882	1245	1109	1435	62	12	0	0	0	0	13783
24	0	0	0	0	0	0	33	0	0	0	0	0	0	0	0	0	0	0	33
25	0	0	0	0	157	1675	2681	3124	3558	3327	3335	3136	2681	1315	0	0	0	0	24989
26	0	0	0	0	627	2133	2956	3271	2638	3428	3320	3151	2716	1338	0	0	0	0	25578
27	0	0	0	0	111	430	2429	3455	3413	3550	3380	2540	960	0	0	0	0	0	20268
28	0	0	0	0	0	0	13	38	21	30	17	0	83	0	0	0	0	0	202
29	0	0	0	0	420	2000	2915	3250	2865	3515	3415	3233	2803	999	0	0	0	0	25415
30	0	0	0	0	0	0	0	0	418	1320	2284	2826	2495	1241	0	0	0	0	10584
31	0	0	0	0	419	795	0	816	1660	3084	2794	2666	1002	232	0	0	0	0	13468
MEAN	0	0	0	0	312	1114	1525	1647	1851	2072	2129	1984	1545	633	0	0	0	0	14853
SD	0	0	0	0	343	1061	1434	1507	1415	1401	1343	1280	1166	567	0	0	0	0	10179
NUM	31	31	31	31	25	25	25	24	24	24	24	24	25	26	31	31	31	31	24
MAX	0	0	0	0	1189	2792	3255	3462	3558	3550	3458	3247	2803	1338	0	0	0	0	28149
MIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33

TABULATED 12/31/79 AT 12:46:12

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : NIP #10 CLINTON DECEMBER 1978
SENSITIVITY 8.29E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	0	0	0	0	0	0	12	12	0	0	0	0	0	0	24
2	0	0	0	0	12	976	2730	3038	3182	3255	3030	2561	2213	980	0	0	0	0	21977
3	0	0	0	0	263	771	1162	1696	2170	654	1123	880	259	16	0	0	0	0	8994
4	0	0	0	0	0	243	529	1011	1945	499	221	651	1155	282	0	0	0	0	6536
5	0	0	0	0	0	0	0	0	0	0	0	91	0	0	0	0	0	0	91
6	0	0	0	0	0	26	91	2948	3374	3369	3322	3126	2696	1480	0	0	0	0	20432
7	0	0	0	0	124	633	606	685	2144	2921	1914	637	307	98	0	0	0	0	10069
8	0	0	0	0	0	0	0	0	125	65	34	138	486	78	0	0	0	0	926
9	0	0	0	0	0	17	13	17	0	0	0	0	0	0	0	0	0	0	47
10	0	0	0	0	0	212	3187	3421	3513	3526	3452	3248	2800	1558	0	0	0	0	24917
11	0	0	0	0	143	247	82	924	121	577	26	243	0	0	0	0	0	0	2363
12	0	0	0	0	81	1927	3021	3251	3347	3364	3303	3138	2721	1475	0	0	0	0	25628
13	0	0	0	0	277	2084	3048	3256	3374	3378	3291	3144	2683	1359	0	0	0	0	25894
14	0	0	0	0	598	355	276	563	116	563	2535	3034	2765	1249	0	0	0	0	12054
15	0	0	0	0	650	2552	3147	3386	3499	3468	3399	3156	2435	1392	0	0	0	0	27084
16	0	0	0	0	0	0	24	996	1826	2329	2177	458	0	0	0	0	0	0	7810
17	0	0	0	0	560	2579	3152	3382	3465	3482	3417	3217	2809	1585	0	0	0	0	27648
18	0	0	0	0	12	0	137	190	33	72	0	0	0	0	0	0	0	0	444
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	347	421	0	0	0	0	768
21	0	0	0	0	0	0	0	0	0	26	212	1350	2714	1576	0	0	0	0	5878
22	0	0	0	0	380	2386	2990	3220	3341	3324	3224	3016	2568	1457	0	0	0	0	25906
23	0	0	0	0	69	868	2353	2601	2440	2527	1658	1124	634	117	0	0	0	0	14391
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	121	964	2657	3018	3226	3278	3278	3135	2744	1667	0	0	0	0	24088
26	0	0	0	0	180	1708	2851	3133	3250	3189	3185	3033	2638	1583	0	0	0	0	24750
27	0	0	0	0	95	1467	2979	3317	3434	3408	3282	2514	703	65	0	0	0	0	21264
28	0	0	0	0	0	0	246	203	177	51	38	311	732	0	0	0	0	0	1758
29	0	0	0	0	390	2236	2957	3226	3361	3421	3352	3122	2679	1029	0	0	0	0	25773
30	0	0	0	0	-99	-99	-99	1684	1975	3087	3078	2840	2397	964	0	0	0	0	-999
31	0	0	0	0	0	82	929	1602	3057	2483	2514	1189	26	399	0	0	0	0	12281
MEAN	0	0	0	0	131	744	1305	1637	1822	1816	1776	1592	1339	671	0	0	0	0	12659
SD	0	0	0	0	193	899	1354	1391	1488	1519	1473	1347	1206	670	0	0	0	0	10571
NUM	31	31	31	31	30	30	30	31	31	31	31	31	31	31	31	31	31	31	30
MAX	0	0	0	0	650	2579	3187	3421	3513	3526	3452	3248	2809	1667	0	0	0	0	27648
MIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABULATED 12/31/79 AT 12:46:13

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : UV #11 CLINTON DECEMBER 1978
SENSITIVITY 312.10E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	3	9	23	27	34	37	51	51	28	8	0	0	0	0	271
2	0	0	0	0	7	27	51	71	82	84	72	53	29	8	0	0	0	0	484
3	0	0	0	0	6	25	44	62	75	59	61	49	22	6	0	0	0	0	409
4	0	0	0	0	4	18	36	57	77	54	40	36	26	7	0	0	0	0	355
5	0	0	0	0	1	3	5	8	10	14	18	25	2	1	0	0	0	0	87
6	0	0	0	0	5	22	39	71	84	84	74	55	30	9	0	0	0	0	473
7	0	0	0	0	5	24	38	52	74	82	65	41	22	7	0	0	0	0	410
8	0	0	0	0	2	10	25	32	58	48	31	33	22	6	0	0	0	0	267
9	0	0	0	0	5	21	45	69	52	23	47	27	5	3	0	0	0	0	297
10	0	0	0	0	5	25	50	72	84	86	76	55	31	9	0	0	0	0	493
11	0	0	0	0	4	19	37	59	53	64	52	42	20	6	0	0	0	0	356
12	0	0	0	0	0	23	47	68	80	82	72	53	29	8	0	0	0	0	462
13	0	0	0	0	5	23	46	66	78	79	68	51	28	8	0	0	0	0	452
14	0	0	0	0	4	17	36	55	53	60	65	53	29	8	0	0	0	0	380
15	0	0	0	0	4	22	46	67	79	80	71	51	25	8	0	0	0	0	453
16	0	0	0	0	3	12	33	53	69	75	64	40	14	6	0	0	0	0	369
17	0	0	0	0	4	22	46	67	79	81	72	53	30	9	0	0	0	0	463
18	0	0	0	0	3	16	32	46	44	45	42	29	14	6	0	0	0	0	277
19	0	0	0	0	1	7	9	12	11	13	12	21	7	2	0	0	0	0	95
20	0	0	0	0	1	5	16	18	24	22	23	22	17	8	0	0	0	0	156
21	0	0	0	0	0	4	14	21	26	43	31	35	30	9	0	0	0	0	213
22	0	0	0	0	4	21	45	66	78	80	70	52	29	9	0	0	0	0	454
23	0	0	0	0	3	20	43	62	72	76	63	45	25	8	0	0	0	0	417
24	0	0	0	0	1	2	4	8	8	22	13	16	8	4	0	0	0	0	86
25	0	0	0	0	3	20	43	64	77	80	72	55	31	10	0	0	0	0	455
26	0	0	0	0	3	20	44	65	77	80	72	54	31	10	0	0	0	0	456
27	0	0	0	0	3	20	44	66	69	92	73	53	27	9	0	0	0	0	456
28	0	0	0	0	3	15	35	48	55	49	46	42	28	8	0	0	0	0	329
29	0	0	0	0	3	20	44	65	79	82	74	55	32	10	0	0	0	0	464
30	0	0	0	0	-99	-99	31	66	78	81	71	52	29	8	0	0	0	0	-999
31	0	0	0	0	3	17	43	61	79	80	69	44	20	8	0	0	0	0	424
MEAN	0	0	0	0	3	16	35	52	61	62	55	43	23	7	0	0	0	0	358
SD	0	0	0	0	1	7	13	20	23	23	19	11	8	2	0	0	0	0	123
NUM	31	31	31	31	30	30	31	31	31	31	31	31	31	31	31	31	31	31	30
MAX	0	0	0	0	7	27	51	72	84	92	76	55	32	10	0	0	0	0	493
MIN	0	0	0	0	0	2	4	8	8	13	12	16	2	1	0	0	0	0	86

TABULATED 12/31/79 AT 12:46:13

COASTAL - INLAND SOLAR RADIATION DIFFERENCE STUDY
MONTHLY DATA SUMMARY

INSTRUMENT : UV #12 SLOOP POINT DECEMBER 1978
SENSITIVITY 154.40E-6 V/W/SQ.M TREND REMOVED

ENERGY KILOJOULES PER SQUARE METER
HOUR ENDING

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	TOTAL
1	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
2	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
3	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
4	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
5	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	-99	-99	-99	0	0	0	0	-999
6	0	0	0	0	-99	-99	-99	-99	-99	-99	-99	54	29	8	0	0	0	0	-999
7	0	0	0	0	6	27	51	66	68	74	65	49	28	6	0	0	0	0	440
8	0	0	0	0	7	20	31	50	61	75	70	50	28	8	0	0	0	0	400
9	0	0	0	0	7	26	49	38	62	80	68	36	22	3	0	0	0	0	391
10	0	0	0	0	6	28	53	73	85	86	75	56	31	9	0	0	0	0	502
11	0	0	0	0	5	19	40	55	51	53	47	35	20	5	0	0	0	0	330
12	0	0	0	0	1	13	38	54	83	84	74	55	30	8	0	0	0	0	440
13	0	0	0	0	6	27	50	69	78	80	72	53	30	9	0	0	0	0	474
14	0	0	0	0	6	25	52	72	83	83	68	56	31	9	0	0	0	0	485
15	0	0	0	0	6	27	51	71	82	83	71	54	31	9	0	0	0	0	485
16	0	0	0	0	5	15	30	50	70	64	71	52	26	8	0	0	0	0	391
17	0	0	0	0	4	23	48	69	81	81	72	53	29	8	0	0	0	0	468
18	0	0	0	0	4	20	36	50	34	40	53	37	18	8	0	0	0	0	300
19	0	0	0	0	1	7	19	40	38	46	27	33	17	4	0	0	0	0	232
20	0	0	0	0	0	8	28	35	36	51	42	38	23	6	0	0	0	0	267
21	0	0	0	0	3	16	6	-99	-99	-99	-99	-99	-99	8	0	0	0	0	-999
22	0	0	0	0	2	25	49	69	80	80	71	53	30	-666	0	0	0	0	-999
23	0	0	0	0	5	25	48	66	49	69	60	47	21	7	0	0	0	0	397
24	0	0	0	0	1	2	3	4	4	4	14	6	4	5	0	0	0	0	47
25	0	0	0	0	5	23	46	67	57	81	72	54	31	9	0	0	0	0	445
26	0	0	0	0	5	25	48	69	34	83	74	72	16	10	0	0	0	0	436
27	0	0	0	0	5	21	47	70	72	84	74	54	29	8	0	0	0	0	464
28	0	0	0	0	3	12	29	57	58	46	38	26	25	8	0	0	0	0	302
29	0	0	0	0	4	24	48	71	70	84	74	56	32	10	0	0	0	0	473
30	0	0	0	0	3	16	24	51	40	80	68	56	33	11	0	0	0	0	382
31	0	0	0	0	3	16	28	54	49	82	74	56	30	10	0	0	0	0	402
MEAN	0	0	0	0	4	19	38	57	59	69	62	47	25	7	0	0	0	0	389
SD	0	0	0	0	1	6	13	15	20	19	16	12	6	1	0	0	0	0	102
NUM	31	31	31	31	25	25	25	24	24	24	24	25	25	25	31	31	31	31	23
MAX	0	0	0	0	7	28	53	73	85	86	75	72	33	11	0	0	0	0	502
MIN	0	0	0	0	0	2	3	4	4	4	14	6	4	3	0	0	0	0	47

TABULATED 12/31/79 AT 12:46:13

APPENDIX 3

EFFECTS OF THE SEA BREEZE FRONTAL PASSAGE AND ASSOCIATED SEA BREEZE INDUCED CLOUD COVER ON THE GLOBAL INSOLATION OF THE ONSLOW BAY REGION OF NORTH CAROLINA

by

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A thesis submitted in partial fulfillment of the requirements for the degree of Master of Forestry in the School of Foresty and Environmental Studies of Duke University

1979

INTRODUCTION

Practical utilization of solar radiation as an energy source in the United States requires detailed, area-specific solar insolation data. Development of data on the effects of mesoscale climate upon the solar radiation received along the coastal zone of the continental area is important for two main reasons. Sixty percent of the nation's population live within 110 km of the Atlantic, Gulf, Great Lakes, and Pacific coasts. Thus, these coastal regions, with higher population densities, have greater energy requirements than do regions of equal area further inland. Also, sea breeze circulations which frequently develop along this coastal zone influence the spatial and temporal variations in available solar energy.

A major part of a solar resource assessment program is the development of a solar radiation data base over various geographic regions of the country. The State of North Carolina, in particular, has a strong interest in the use of solar radiation as a source of energy. North Carolina has no significant hydro or fossil fuel reserves of its own and imports a major portion of its energy requirements. In response to the national search for alternative energy sources, the Research Triangle Institute of Research Triangle Park, N. C. is conducting a program to analyze the solar energy resources of coastal North Carolina. This program under the sponsorship of the U. S. Department of Energy utilizes a one-year solar data sample to define the coastal-inland solar radiation difference within the state.

The southeastern coastal plain of North Carolina is an ideal area for the investigation of sea breeze circulation effects on global insolation. Sea breezes frequently occur along the Onslow Bay coast beginning in late May and continuing through October. Coastal areas immediately north of Onslow Beach, near Morehead City and New Bern, are less suitable as study locations because of the complexity of their land-water interfaces. In these regions the sea breeze solenoid circulation is frequently poorly defined, resulting in sporadic areas of enhanced convergence or areas of divergence.

The sea breeze convergence zone, commonly referred to as the sea breeze front, associated with these solenoids forms at the boundary between the cool air from the ocean and the air warmed over the land. Strong development of the heating differential during the day initiates the movement inland of the sea breeze front. Fair weather cumulus clouds, frequently accompanied by sea breeze cumulus clouds arranged in a cloud line positioned over the sea breeze frontal zone, often appear over land on sea breeze days. In general, a ground location experiencing a sea breeze frontal passage is initially covered by air mass cumulus, followed by sea breeze cumulus cloud cover, and eventually clearing behind the front.

This paper attempts to describe and quantify the effects of sea breeze frontal passages and their associated cumulus cloud cover on the global insolation received along the Onslow Bay region of North Carolina. Satellite photographs obtained from the National Weather Service office in Raleigh, N. C. and global insolation measured by Research Triangle Institute (RTI) at six study location sites of varying distance from the Onslow Bay coast were used to determine relationships of global insolation versus cloud cover for both air mass and sea breeze cumulus. Similar data were also used to determine the spatial and temporal effects of sea breeze frontal passages on the global insolation measured at study sites in the Onslow Bay region during selected case study days.

BACKGROUND INFORMATION

Sea Breeze Circulations

Sea breeze circulations are most prevalent in late spring and early summer when land and water temperature differences are maximum; their frequency decreases towards the end of the warm season as temperature differences decrease. The sea breeze operates within an area of convergence. This sea breeze convergence zone modeled by Pielke (1974) and Hsu (1967) moves inland during the day as the cooler air from the ocean is advected over the warmer land air (Fig. 1). Sea breeze circulations along Onslow Bay are often dominated by changes in the general wind pattern. Banerjee (1975) observed sea breezes as much as 50 km to 100 km inland from the coast during synoptically undisturbed days. Vertical extention of the sea breeze may vary from as little as 15 m to as much as 1400 m depending on the strength of the onshore flow. Maximum sea breeze flow is normally located between 30 m and 70 m above the ground surface (Anderson, 1974). The rate of advance of the sea breeze front over most coastal regions normally decreases with greater distance inland due to increased friction (hills and forests) and decreased velocity. Oscillatory passages of sea breeze fronts are believed to be due in part to the slow speeds that the fronts advance.

The most extensive research done in the field of sea breeze prediction and air property changes with sea breeze frontal passages for the southeastern United States has been conducted by Williams (1969, 1972, 1974). Williams developed a prediction technique for sea breeze frontal passages based on data collected from portions of coastal Georgia. He determined that temperatures are higher, relative humidity is lower, and wind speeds are less during the early morning hours on days dominated by sea breeze circulations. A sea breeze frontal passage usually results in a drop in the dry bulb temperature, a rise in the dewpoint temperature, an increase in relative humidity, and a significant shift in wind direction. Due to the variability in the development of a sea breeze circulation, sea breeze fronts will not advance to inland stations on some days, while on other days a sea breeze

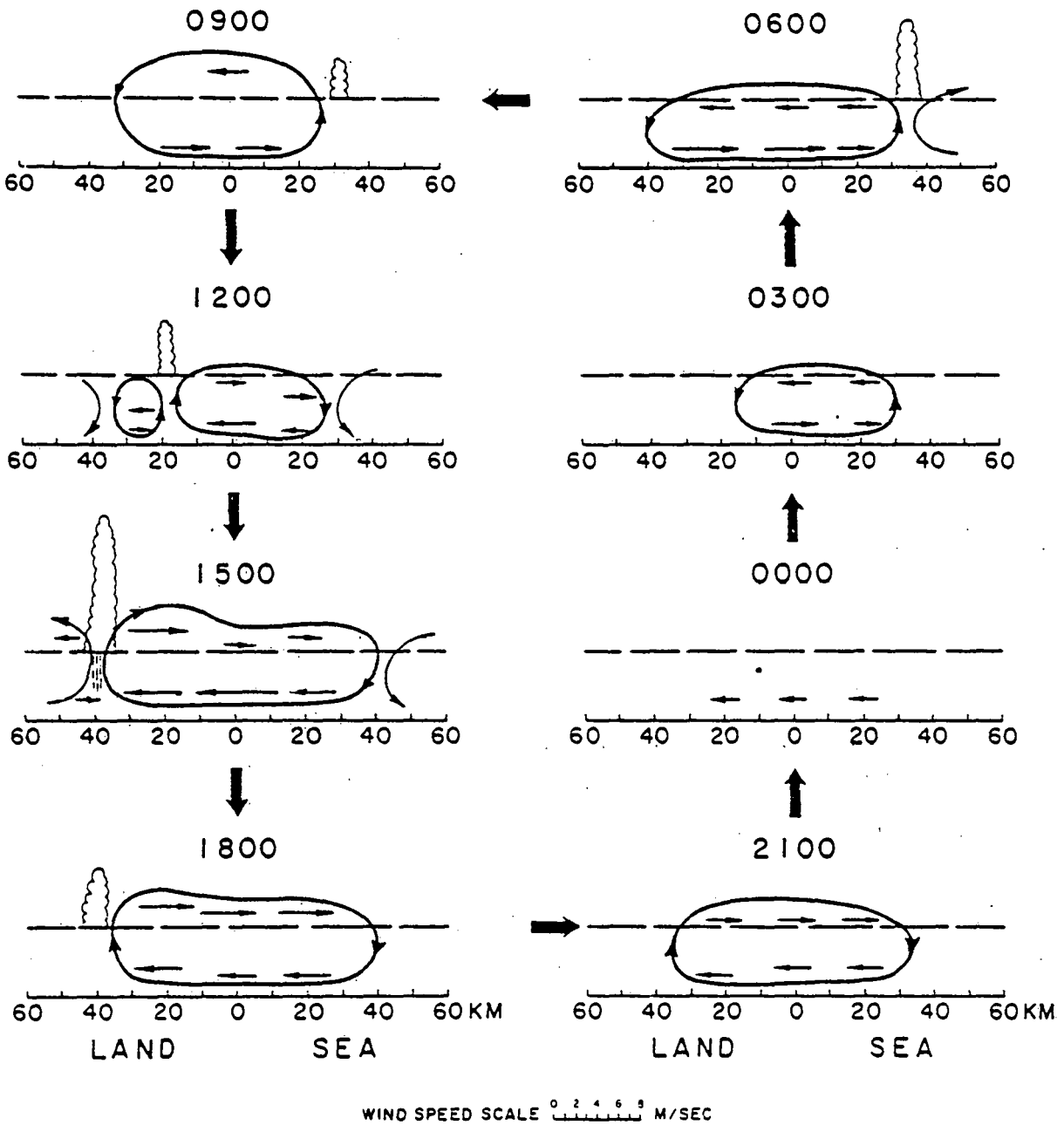


Figure 1. Synthesized empirical model of the land-sea breeze system along the Texas Gulf Coast.

front will form short distances onshore. Passage times of the sea breeze front tend to be later as distance from the coast increases.

Cloud Cover Effect on Insolation

Several variables influence the quantity and quality of shortwave radiation reaching the earth's surface. Absorption and scattering of the solar beam through the gaseous composition of the atmosphere is a function of both height and time (Robinson, 1966). Depletion of the solar beam is relatively small through pure air but increases with the level of contamination, pollution, or turbidity, associated with variable components such as water vapor, dust, and haze. Maritime air over the coastal stations of Onslow Bay frequently has different absorption and scattering properties due to salt spray or maritime aerosols and multiple scattering from the sea surface. Solar radiation received at sites further inland undergoes scattering from smaller particles. Insolation is also a function of the path length of the solar beam through the atmosphere, increasing with greater solar elevation.

On the average, approximately 24 percent of the incident radiant energy is reflected and scattered back into space by clouds, and another 3 percent is lost through absorption by clouds (Sellers, 1965). Several meteorological factors are responsible for the specific cloud cover development over the Onslow Bay coastal zone. Cumulus clouds of variable depths almost always form along the sea breeze frontal convergence zone during the onshore flow of warm season days. Fog conditions are much more common over coastal stations than over sites further inland. Cyclogenesis over the Gulf Stream often influences the development of increased cloudiness over the coastal zone not experienced by inland locations. The effects of the cloud cover over the coastal zone on the reduction of global insolation may be minimal for scattered cumulus clouds but can be significant for thick, unbroken blankets of fog.

The radiation regime of the atmosphere is determined not only by the quantity of cloud cover, but also by the thickness of the clouds and their distribution throughout the sky. All radiation fluxes exhibit a non-linear dependence on cloud cover amount, since individual clouds differ with respect to their thickness and height (Kasten, 1977). However, in specific quantita-

tive intervals of cloud cover for similar cloud types, linear relationships have been found between total hemispheric radiation and the measured sky cover (Pochop, 1968), such that decreasing levels of insolation result from increasing amounts of cloud cover. Other independent studies have revealed that reductions in insolation due to scattered cumulus clouds cannot be represented adequately by the traditional linear relationships developed for other cloud types (Kaiser, 1976 and Pyldmaa, 1964).

The albedo of cumulus clouds depends on the thickness and form of the clouds and also on the solar altitude. Observations by Kondratyev (1969) confirmed an increase of albedo for increasing cloud thickness. This trend is more rapid at smaller cloud thicknesses (up to 300 m) and slows considerably with increasing thickness. Albedo of high density clouds also changes as the cloud form fluctuates (Mironova, 1973).

Cumulus Cloud Characteristics and Effects on Insolation

Cumulus clouds are formed by the condensation of water vapor as heated air from the surface rises and cools by expansion; they are clouds with vertical development. Base heights of cumulus clouds range anywhere from 0 to 3 km. The tops of these clouds rise to heights less than 10 km for cumulus, 10 to 14 km for cumulus congestus (growing stage), and greater than 14 km for cumulonimbus. Cumulonimbus clouds predominate in substantial convective cloud cover, while smaller cumulus clouds predominate in lower fractions of sky cover (Avaste, 1964).

Table 1. Mean albedo for various cumulus cloud types as determined from the brightness of cloud-cover TV pictures Cloud cover more than 80% of the area (from Kondratyev, 1972).

Cloud Type	Albedo (%)
Cumulus humilis clouds--over land	29
Cumulonimbus clouds, small, cloud tops up to 6 km	86
Cumulonimbus clouds, large and thick	92

Kondratyev (1972) measured the mean albedo for different types of cumulus using the brightness characteristic of cloud covers displayed on television pictures (Table 1). Albedo increases as cumulus clouds increase in vertical development. Albedo values for the air mass and sea breeze cumulus clouds developing during sea breeze circulation occurrences are similar to those observed for cumulus humilis and for clouds of vertical development midway between cumulus humilis and small cumulonimbus, respectively.

Solar zenith angles greater than 50° enhance the coverage of the direction of sighting for cumulus clouds having considerable vertical dimensions (Avaste, 1964). Consequently, the duration of sunshine decreases for an unchanged state of cumulus cloud cover and a diminishing solar altitude. Analyses conducted by Galperin (1964) showed that for the same altitude of the sun, shape and quantity of cumulus clouds, and intensity of solar radiation, there is no significant difference in the insolation received at various stations. Considerable research into cloud cover effects on insolation has been pursued by Pyldmaa. The quantity Q*, a dimensionless value representing the ratio of the total radiation received on a plane surface to the average diurnal fluctuation of the possible total radiation of a cloudless sky, was subjected to an intensive analysis. Pyldmaa determined that the average flux ratio $\bar{Q}^*$ increases from clouds of the lower levels to clouds of the middle and upper levels. For cumulus cloud cover greater than two-tenths sky cover, the magnitude $\bar{Q}^* = 1.20-0.08n$, where n is the cumulus cloud cover in tenths. This linear dependence calculated by Pyldmaa is not adequate for cumulus clouds that change in vertical extent as a function of sky cover, a characteristic typically observed in sea breeze cumulus. There is no evidence in the published scientific journals of any research describing the relationship between sea breeze cumulus cloud cover and the quantity $\bar{Q}^*$.

During sea breeze circulation occurrences, cumulus clouds with extensive vertical development frequently form in the sea breeze frontal zone of the Onslow Bay region of coastal North Carolina. Air mass cumulus differ from the above in appearance, being smaller in size and vertical extent. In comparison of the two types of cumulus, sea breeze cumulus cloud cover appears much brighter on a visual spectrum satellite photograph (reflects a greater percentage of incoming solar radiation) than the less vertically developed air mass cumulus (Fig. 2). With the aid of maximum vertical

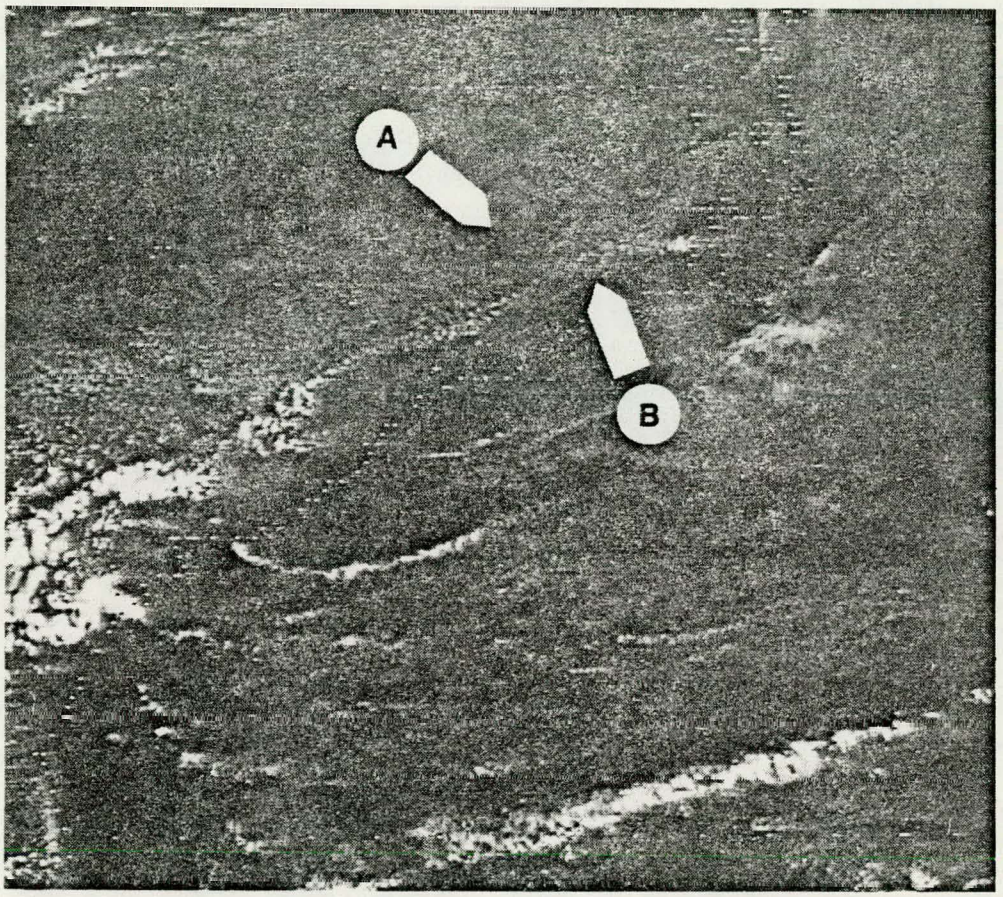
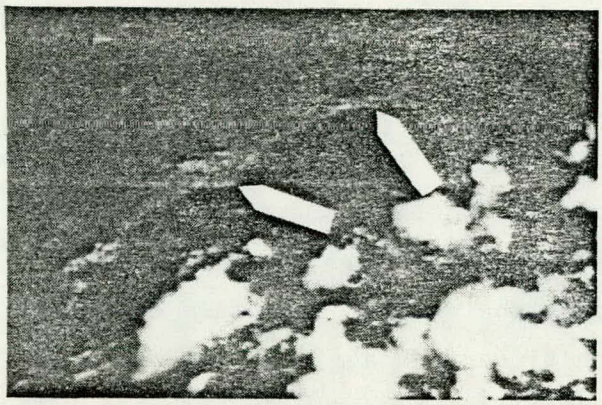


Figure 2. Visual spectrum satellite photograph showing the difference in relative brightness between the sea breeze cumulus along the sea breeze convergence zone and the air mass cumulus ahead of the sea breeze front in southeastern North Carolina.

development, sea breeze cumulus can transform into large and thick cumulonimbus with albedo values in excess of 90 percent (Fig. 3). Thus, the type and amount of cumulus cloud cover could be variables primarily responsible for the differences observed in the global insolation received amongst coastal and inland locations during the sea breeze days.

The foregoing review of the literature has summarized the effects of air mass cumulus cloud cover on global insolation. However, at the present time, no studies were found that determined the effects of sea breeze cumulus cloud cover on global insolation. Since coastal areas are frequently influenced by the sea breeze cumulus associated with sea breeze circulations, research was necessary to describe this mesoscale effect on the incident solar radiation of these areas. This paper evaluates the effects of sea breeze frontal passages on global insolation, the effects of sea breeze cumulus cloud cover on global insolation, and the difference in effects of air mass and sea breeze cumulus on the global insolation measured during sea breeze days in the Onslow Bay region.



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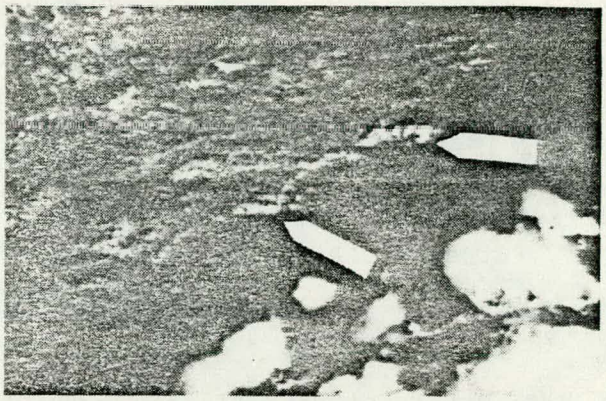

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1131 EST

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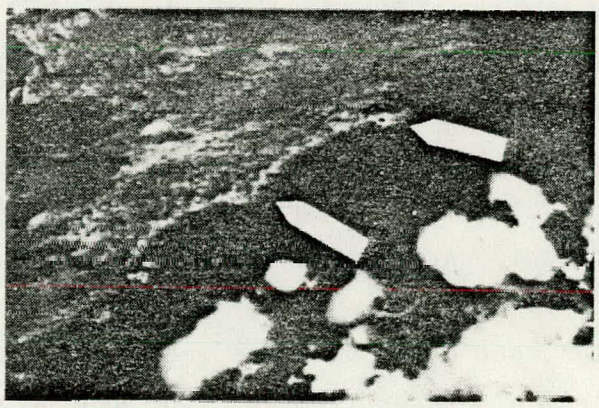

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Figure 3. Time series of visual spectrum satellite photographs showing the development of thunderstorms (cumulonimbus) at the confluence of the sea breeze frontal zone along the Onslow Bay coast.

METHODS AND MATERIALS

The Onslow Bay Region

Land adjacent to Onslow Bay is similar in topography and climate to other locations along North Carolina's coastal plain. The area's elevation is quite low, averaging 30 m of rise for the first 100 km from the coast. Major land use is primarily focused on timber and agricultural production. Centers of population are relatively small and sparsely distributed. The southeast facing coastline of the study location is very uniform, broken infrequently by small inlets separating the coastal islands.

In the summer months, the entire coastal plains region of North Carolina is warm, with little variation of average temperature between locations. An average July temperature of 27° C is typical of the Onslow Bay area. The cooling effect of the summer sea breezes is well illustrated by the differences in temperature between Wilmington and Raleigh, N. C. (Carney, 1955). At Wilmington the temperature reaches 32° C on an average of only 24 days a year, while inland at Raleigh 32° C temperatures occur 41 days a year on the average.

Prevailing winds in the study location are from the northeast from November through February, while they come from the southwest from March through August. The greatest frequency of high winds occur during midwinter. Lighter winds are more common during the summer months when sea breeze circulations frequently develop. Sea breeze solenoid circulations are nearly an every day occurrence along the Onslow Bay coast during the warm season. The inland boundary of this circulation frequently extends greater than 50 km from the shore, dependent upon the land-sea temperature difference and the magnitude and direction of the synoptic winds.

The greatest amount of rainfall occurs in the summer months, averaging 73 cm during the warm season. Most of this warm season rainfall comes principally from thundershowers. Rainfall from this highly developed cumulus convection is usually short in duration, but often heavy and unevenly distributed. Thundershowers occur about 1 out of 3 days from June through August during the late afternoon hours. Thus the effect of clouds associated with

warm season rainfall on the solar radiation received in this area is intermittent and of short duration.

Winter rainfall is ordinarily associated with large, slow-moving, low pressure systems. This precipitation, averaging 58 cm annually, is of the slow, steady type, generally lasting 1 or 2 days. Unlike the summer thundershowers, winter showers often occur in the early morning hours. The effect of cloud cover associated with winter precipitation on the solar radiation received in the Onslow Bay region is more frequent and of longer duration.

Description of Study Sites

Selection of the study site locations in the Onslow Bay region was made by Dr. Walter D. Bach of RTI after a detailed inspection of the area. Sites were distributed so that an analysis of the coastal-inland solar radiation gradient would be possible (Fig. 4). Three stations along the coast were under the influence of sea breeze circulations on nearly all synoptically undisturbed days during the summer months. Two other stations were located a sufficient distance from the coast so that sea breeze circulation occurrences were less frequent than along the immediate coastal region. A sixth site was located approximately 100 km from the Atlantic Ocean, where the effects of sea breeze circulations were nonexistent. Among these six sites two were chosen as primary measurement stations and the others as secondary measurement stations. A summary of Bach's description of each of these study sites follows.

At the two primary sites, one on the Onslow Bay coast and another, approximately 100 km from the ocean, measurements of global, direct, and ultraviolet radiation were recorded. Both installations also had a mechanical weather station to continuously monitor the daily wind, temperature, and rainfall. The primary inland station was located on the Horticultural Crops Research Station of the North Carolina Department of Agriculture near Clinton, N. C. This site had excellent exposure in all directions. The tallest trees are approximately 15 m high and 150 m to the south-southeast of the site. The coastal primary site was located approximately 5 km from the ocean at Sloop Point, beside an unpaved road separating adjacent cornfields. This station had an excellent view of the horizon in all directions. The

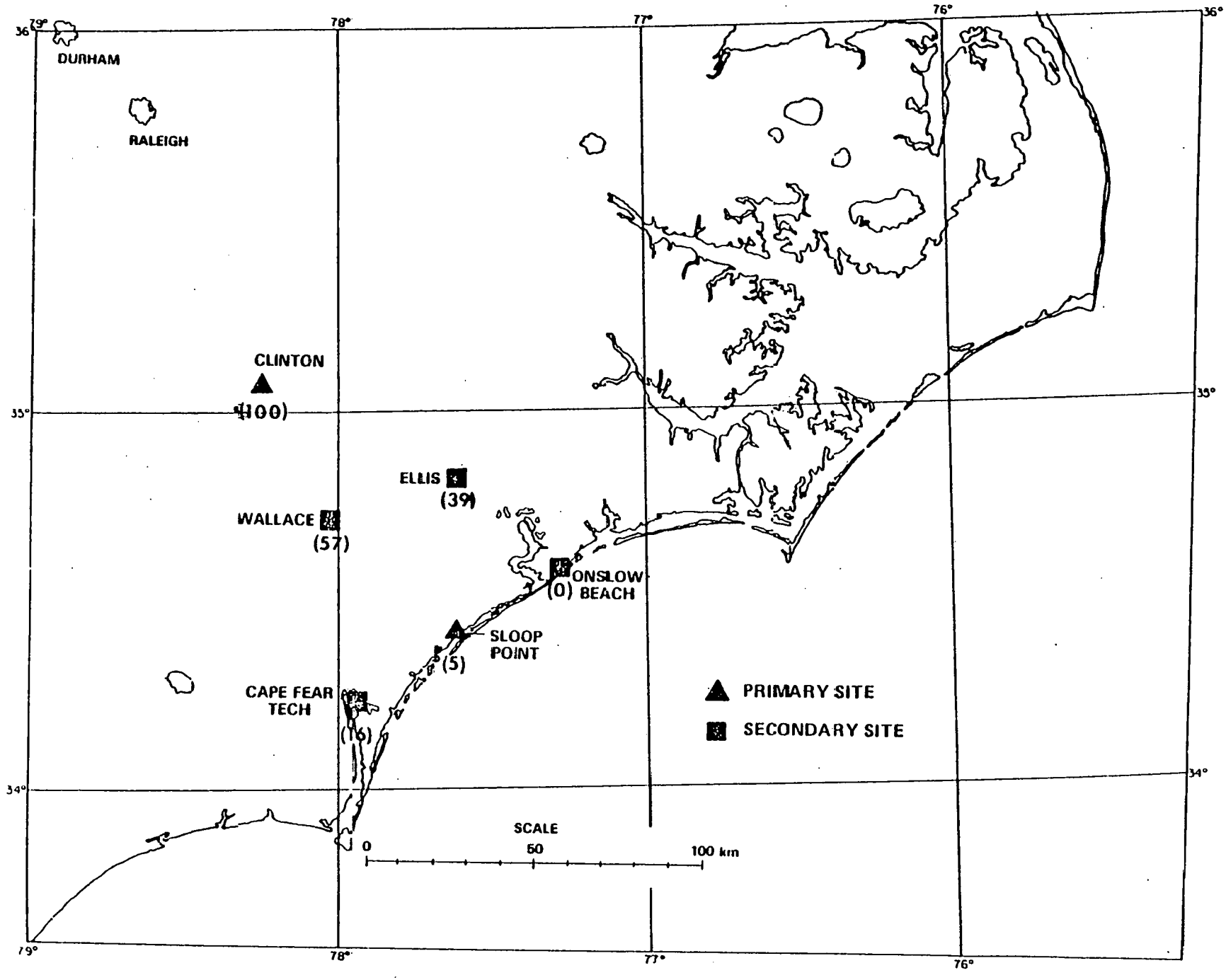

Figure 4. Map of the Onslow Bay study area in southeastern North Carolina and the six study site locations.

corn crop, which never grew more than 1 m high, did not interfere with the instrument exposure. The coastal station was positioned inland from the shore to minimize the accumulation of salt spray on the solar radiation equipment.

Four secondary sites were selected to assess the spatial variability of the solar radiation in the Onslow Bay area. Only the global insolation was monitored at these sites. The Onslow Beach site was located at the sewage treatment plant as part of the U. S. Marine Corps Camp LeJeune base. This site, located only 100 m northwest of the Atlantic Ocean, had excellent exposure to the horizon in all directions. Another secondary coastal site was located on the deck of a moored barge of a marine laboratory at the Cape Fear Technical Institute, adjacent to downtown Wilmington, N. C. To the east and southeast two buildings extend approximately 10° above the horizon. There were no obstructions to the horizon in the remaining quadrants of the Cape Fear station. Natural oscillations of the barge have small periods and do not affect hourly average values. The two remaining secondary sites were located midway between the coastal and inland stations. One of these stations was located atop the one story terminal building of the Henderson Airport, Wallace, N. C. The site, located approximately 57 km from the ocean, had an unobstructed view of the sky in all but the northern quadrant, where a utility pole was located. The other secondary site was located 20 m from the end of the Ellis Airport runway, approximately 40 km from the Onslow Bay coastline. The horizon was obscured in all directions by a pine stand. However, the stand height was not more than 10 m and the trees were no closer than 800 m in any direction.

Global Insolation Measurements

Global insolation was measured at each of the six study location sites using Eppley precision spectral pyranometers and Eppley Model 411-6140 integrator/printers. The radiation detectors operate as differential thermopiles with blackened hot-junction receivers and wire-wound reference coils kept at approximate ambient air temperature. Each instrument was calibrated against a standard and all individual sensitivities were determined before the field study. A prefield check of all the instruments and recorders was conducted

at RTI. Electronic signals from the detecting units were passed through the integrators which provided hourly values printed out on paper tape.

Study site attendants performed daily inspections of all the instruments, and recorded weather information and any instrument problems. The outer glass hemisphere of each radiation instrument was cleaned daily. Printouts of the hourly integrated values were collected daily and mailed to RTI. Qualified personnel made quality assurance field checks on each instrument similar to the intercomparisons made in the prefield checkout at RTI. When pyranometers became unreliable or inoperative, they were replaced by working spare units.

Hourly integrated values of global insolation were entered on disk at RTI's computing facilities. These energy counts were converted to units of KJ/M^2 using the instrument's sensitivity value. After the storage of the global insolation values onto disk, they were easily accessible for data analyses. Missing global insolation data were given specific identification on the disks. Some of the causes of missing data at particular sites were: (1) power failures, (2) instrument failures, (3) quality assurance field checks underway, (4) exhaustion of paper tape in printers, or 5) data was lost by site attendants. Global insolation values were also validated before using them in study analyses. Anomalies in the data were identified by visually examining the outputs of the time series of insolation data. Date and time of unusual patterns of insolation were identified and checked against the original energy counts on paper tape. Spurious signals producing nighttime energy counts were also identified, and such trends were removed from the data.

Determination of Cloud Cover Amount

At the present time there are two basic methods of determining cloud cover--ground or satellite observations. Ground based observations provide measurements of relative cloud amount determined by means of projecting the clouds onto an imaginary hemisphere, the center of which is an observer on the earth's surface. Satellite photographs can be used to measure near absolute cloud cover amounts determined by means of projecting the clouds onto a horizontal surface. The differences between these two methods are

attributed to projection problems by ground base observers, where the sides of clouds are viewed and included in the estimates of total cloud cover.

Satellite photographs were chosen as the sole basis in determining cloud cover amount over the study location sites in order to avoid the effect of cumulus cloud vertical extent present in ground base measurements. Visual spectrum satellite photographs of the study location are produced every 30 minutes by the Geostationary Operational Environmental Satellite (GOES). Timanovskya (1964) analyzed the steady state nature and optimum period of observation for cumulus clouds. Results from this analysis verify that a point of cumulus cloud cover in summer is usually preserved at a constant value for one to two hours. Thus, it was assumed that cloud cover observations taken at 30 minute intervals along with corresponding hourly integrated global insolation measurements would represent an adequate sampling frequency for the development of relationships between cumulus cloud cover and the associated global radiation received at each of the six study location sites.

Cloud amount measurements, using three different sizes of cloud field areas, were evaluated on four sea breeze case study days. Two of the cloud field areas were circular, having radii of 10 and 20 km respectively. The third area was a 40 km wide quadrilateral. All three areas were centered over each of the study site locations. Correlation coefficients for each group of measured cloud amounts and corresponding Q*'s were calculated for both sea breeze and air mass cumulus type cloudiness. As indicated in the Results section, correlation coefficients for sea breeze cumulus decreased significantly from the smaller 10 km radius areas to the quadrilateral sampling areas. Just the opposite trend occurred for the air mass cumulus cloud measurements. To provide adequate cloud measurements for both the air mass and sea breeze cumulus types, intermediate size circular cloud fields with 20 km radii above the observation points were used to determine cloud amount, as previously recommended by Avaste (1964). Measurements of the percentage cloud cover over each of the study sites were made using a transparency placed over the visual spectrum satellite photographs. This transparency includes reference points for positioning, observation points marking locations for each of the study sites, and 20 km radius circles centered on each of the observation points. Within these circles, visual estimates of cloud amount in tenths of sky cover for both sea breeze and air mass cumulus were

made from each satellite photograph. Hourly cloud cover data were calculated by averaging cloud amounts measured from two 30 minute satellite photographs taken during a particular hour.

Determination of Cloud Type

Visible spectrum statellite photographs with slightly less than 1 km resolution were used to measure both cloud amount and cloud type over each of the study location sites. Usually cumulus convection over land appears as a cellular pattern consisting of cumulus humilis and more vertically developed cumulus congestus. Air mass and sea breeze cumulus were classified on the basis of their vertical extent as determined by their relative brightness and, in some cases, the size of their shadows. Sea breeze cumulus cloud cover appears on satellite photographs as cloud lines positioned along the sea breeze front some distance from the coast and accompanied by a typically cloud-free area along the coastline and extending offshore. The air mass cumulus clouds develop inland of the sea breeze front and have lower relative brightness.

Sea Breeze Case Study Days

Daily weather maps published by NOAA were used in the first step of determination of sea breeze circulation days. Surface weather maps and station weather for the East Coast at 0700 EST were analyzed for all days beginning with April 1, 1978. These weather maps were used solely as indicators of synoptically disturbed days. Synoptic disturbances over the study location tend to mask or impede the development of a sea breeze circulation. All days in which cold or warm fronts passed the study location were eliminated from possible sea breeze case study days.

The second step in the sea breeze case study day selection process required the use of temperature and wind data. Surface weather observations recorded along the coast of North Carolina and at inland airfields within the study location were compiled and checked for evidence of two sea breeze frontal passage prediction factors. Possible sea breeze solenoids require that: (1) The dry bulb temperature over the land rises at least 4°C above

the average sea surface temperature (Table 2); and (2) the prevailing wind at mid-morning across the study locations blows in an offshore direction with a magnitude sufficiently light to allow a sea breeze front to move against it (Table 3).

The third criterion used in the sea breeze case study day selection process was evidence of sea breeze cumulus on the visual spectrum satellite photographs. Days in which synoptic cloudiness dominated the sky above the study location were immediately eliminated from consideration. Case study days were then selected from the remaining days which showed evidence of sea breeze cumulus and sea breeze frontal cloud lines. These cloud lines positioned along the sea breeze front will frequently parallel the coastline. A total of 32 case study days from May through September were selected using the previously described methods. The following analyses on these 32 case study days focus on the effects that sea breeze frontal passages and associated sea breeze cumulus have on the global insolation of the Onslow Bay region.

Table 2. Land temperatures required for a sea breeze front along the North Carolina coast south of Hatteras (Williams, 1974)

Month	Dates	Temperature (°C)
January	1-10	14
	11-20	12
	21-31	11
February	1-10	11
	11-20	11
	21-29	12
March	1-10	13
	11-20	15
	21-29	17
April	1-10	18
	11-20	19
	21-30	21
May	1-10	22
	11-20	23
	21-31	24
June	1-10	26
	11-20	27
	21-30	28
July	1-10	28
	11-20	29
	21-31	29
August	1-10	29
	11-20	29
	21-31	29
September	1-10	29
	11-20	28
	21-30	27
October	1-10	26
	11-20	25
	21-31	24
November	1-10	22
	11-20	21
	21-30	19
December	1-10	18
	11-20	17
	21-31	16

Table 3. Land to sea and sea to land wind directions along the Atlantic Coast (Williams, 1974)

Portion of coast	Land to sea	Sea to land
North Carolina north of Hatteras	NW,W,SW,S	N,NE,E,SE
North Carolina south of Hatteras and South Carolina	NNE,N,NW,W,WSW	ENE,E,SE,S,SSW
Georgia	N,NW,W,SW	NE,E,SE,S
Florida southward to Palm Beach	NW,W,SW,S	N,NE,E,SE

RESULTS AND DISCUSSION

Sea Breeze Frontal Passages

Visual spectrum satellite photographs of the study location for all case study days were used to determine the time of passage of a sea breeze front over each of the six sites. Time of passage is defined as that time when the seaward edge of the sea breeze cumulus cloud line passes over the site and a clearing trend develops. In later analyses, sites located seaward with respect to the position of sea breeze frontal zone development were classified as coastal sites. Sites experiencing a sea breeze frontal passage at any time during a case study day were classified as frontal. Sites not affected by a sea breeze frontal passage for a particular case study day due to their distance inland from the coast were classified as inland.

Table 4 summarizes the sea breeze frontal passage times and number of occurrences for all six study location sites and all sea breeze case study days. Sea breeze fronts formed inland of the three coastal sites (Onslow Beach, Sloop Point, and Cape Fear) on one-quarter to one-third of the sea breeze days examined. These three coastal sites experienced the most sea breeze frontal passages during the period of 1100 to 1400 EST. Sites located further inland (Ellis and Wallace) experienced fewer passages, most occurring between the hours of 1400 to 1800 EST. The Clinton station never experienced a sea breeze frontal passage during the 32 days studied because of its greater distance from the coast.

The mean times of sea breeze frontal passage in the Onslow Bay region are shown on Figure 5. The average time of a sea breeze frontal passage increases with distance from the Atlantic Ocean. The horizontal distance separating the isochrones also increases with distance inland from the coast. Mean time of sea breeze frontal passage increases from 1200 EST at Sloop Point and Onslow Beach, 1300 EST at Cape Fear Tech, 1500 EST at Ellis, to 1530 EST at the Wallace station.

The maximum number of sea breeze frontal passages occurred within a 10 km wide area approximately 20 km from the coast (Fig. 6). Fewer passages

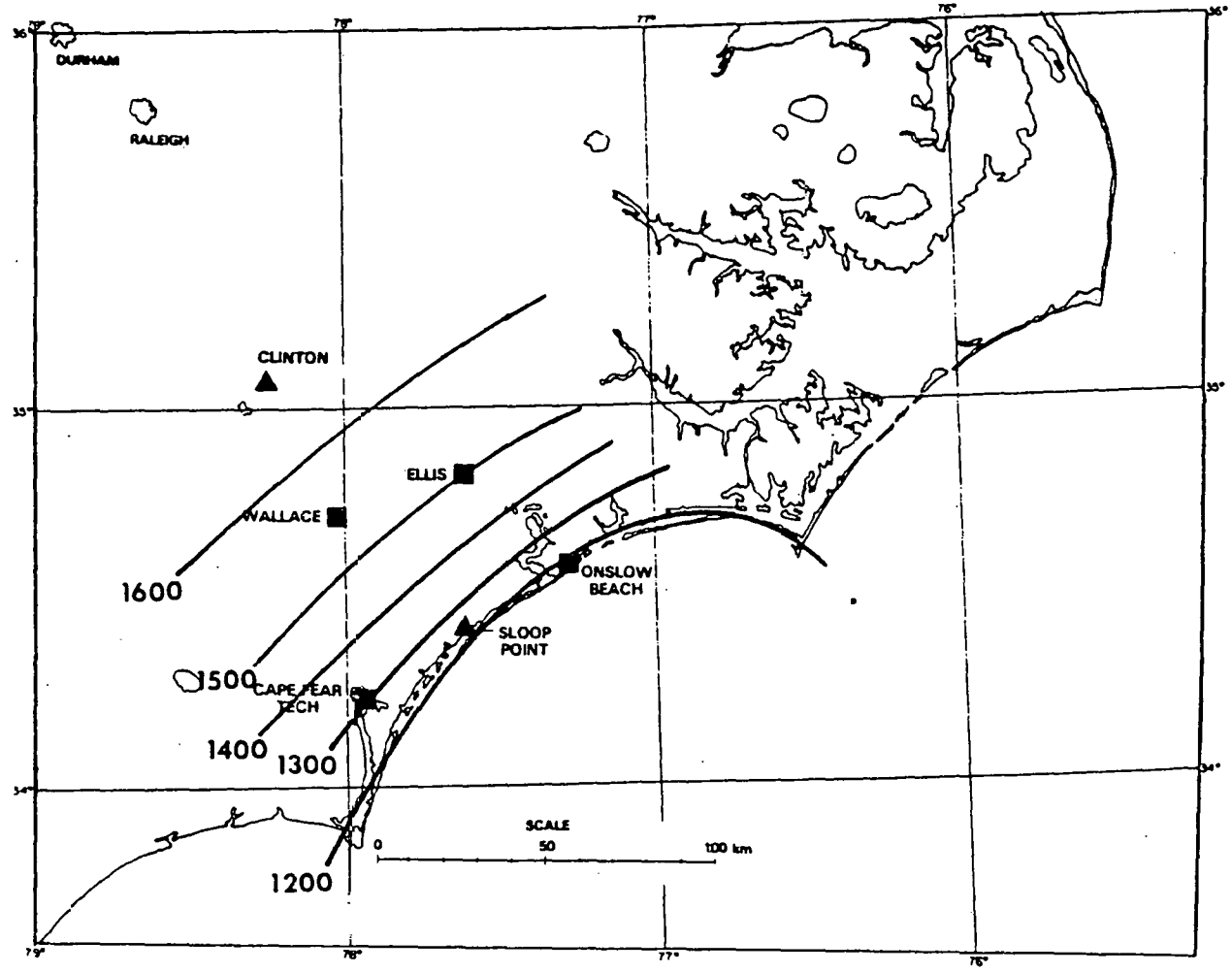

Figure 5. Mean isochrones (EST) of sea breeze frontal passages in the Onslow Bay region determined from 32 sea breeze case study days during the months of May through September 1978.

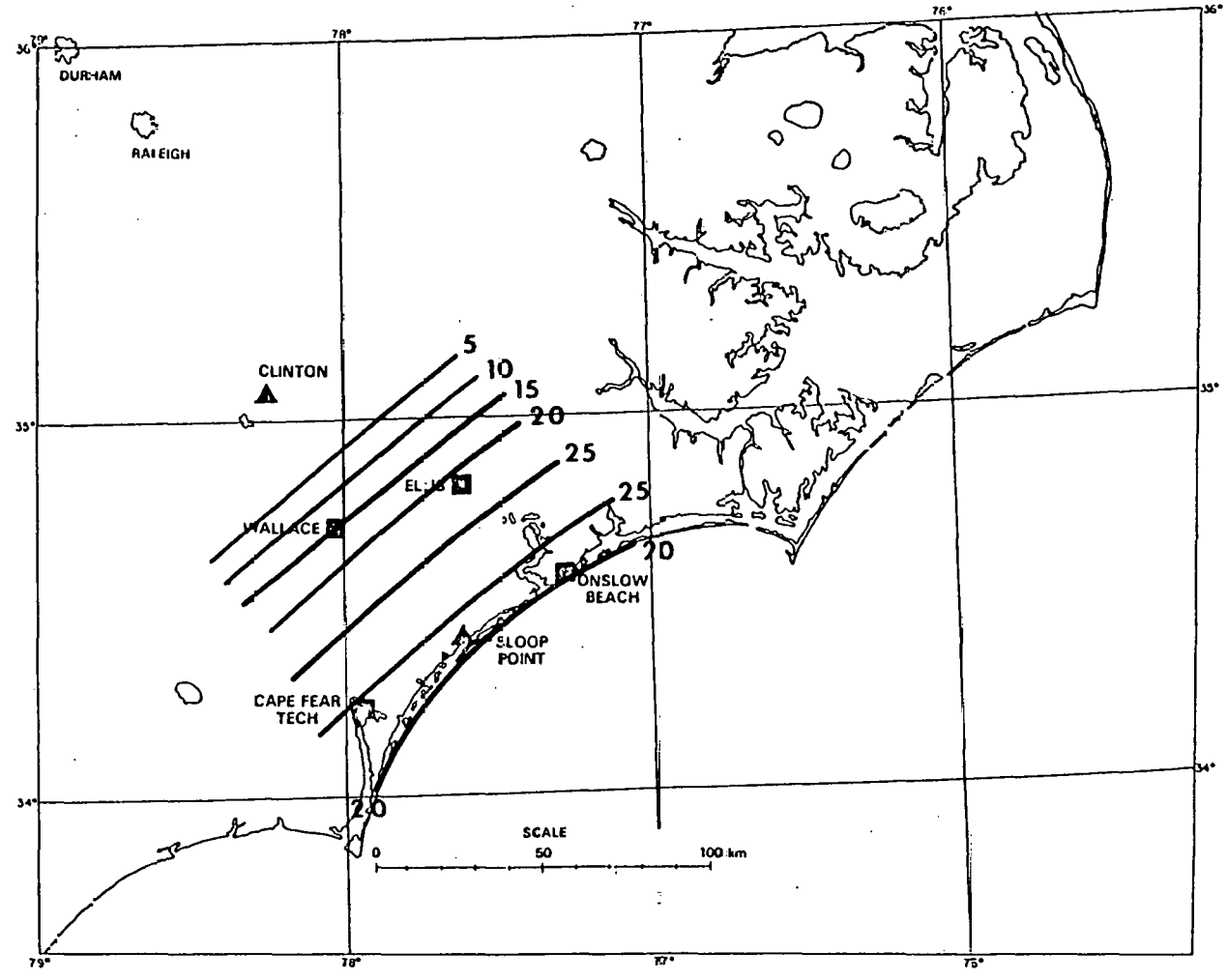

Figure 6. Isopleths of sea breeze frontal passages in the Onslow Bay study location determined from 32 sea breeze case study days during the months of May through September 1978.

Table 4. Sea breeze frontal passage times and number of occurrences for six study location sites ordered in increasing distance from the Onslow Bay coast

	Site Location					
Passage Time	(1)	(2)	(3)	(4)	(5)	(6)
Coastal	12	11	8	0	0	0
0600-1100 EST	7	7	3	0	0	0
1100-1400	11	13	16	6	3	0
1400-1800	2	1	5	15	12	0
Inland	0	0	0	11	17	32

Study location sites are: (1) Onslow Beach, (2) Sloop Point, (3) Cape Fear, (4) Ellis, (5) Wallace, and (6) Clinton

occurred closer to the coast due to occasional sea breeze fronts forming short distances inland from the coastline. Sea breeze fronts passed over the Cape Fear Tech station on 24 of the 32 days studied. Passages occurred on 21 days at Sloop Point and Ellis, 20 days at Onslow Beach, and 15 days at Wallace, N. C.

Earliest, mean, and latest times of sea breeze frontal passage all increased with distance inland (Fig. 7). Greatest separation between earliest and latest times of sea breeze frontal passage occurred at the Cape Fear Tech. The Ellis station experienced the most consistent times of sea breeze frontal passage of all the study location sites. The earliest passage time over Ellis was 1200 EST and the latest occurred at 1630 EST.

Sampling Area Size

The sampling area surrounding each of the study location sites for all cloud cover observations is a critical factor that determines the accuracy of any derived relationship between cloud cover and Q*. Data of cloud cover and global insolation for four case study days during the month of June were initially analyzed using two different sampling area sizes (Fig. 8 and 9). Linear regressions of Q* versus percent of clear sky were developed for air mass and sea breeze cumulus cloud cover and for both sampling area sizes (Fig. 10 through 13).

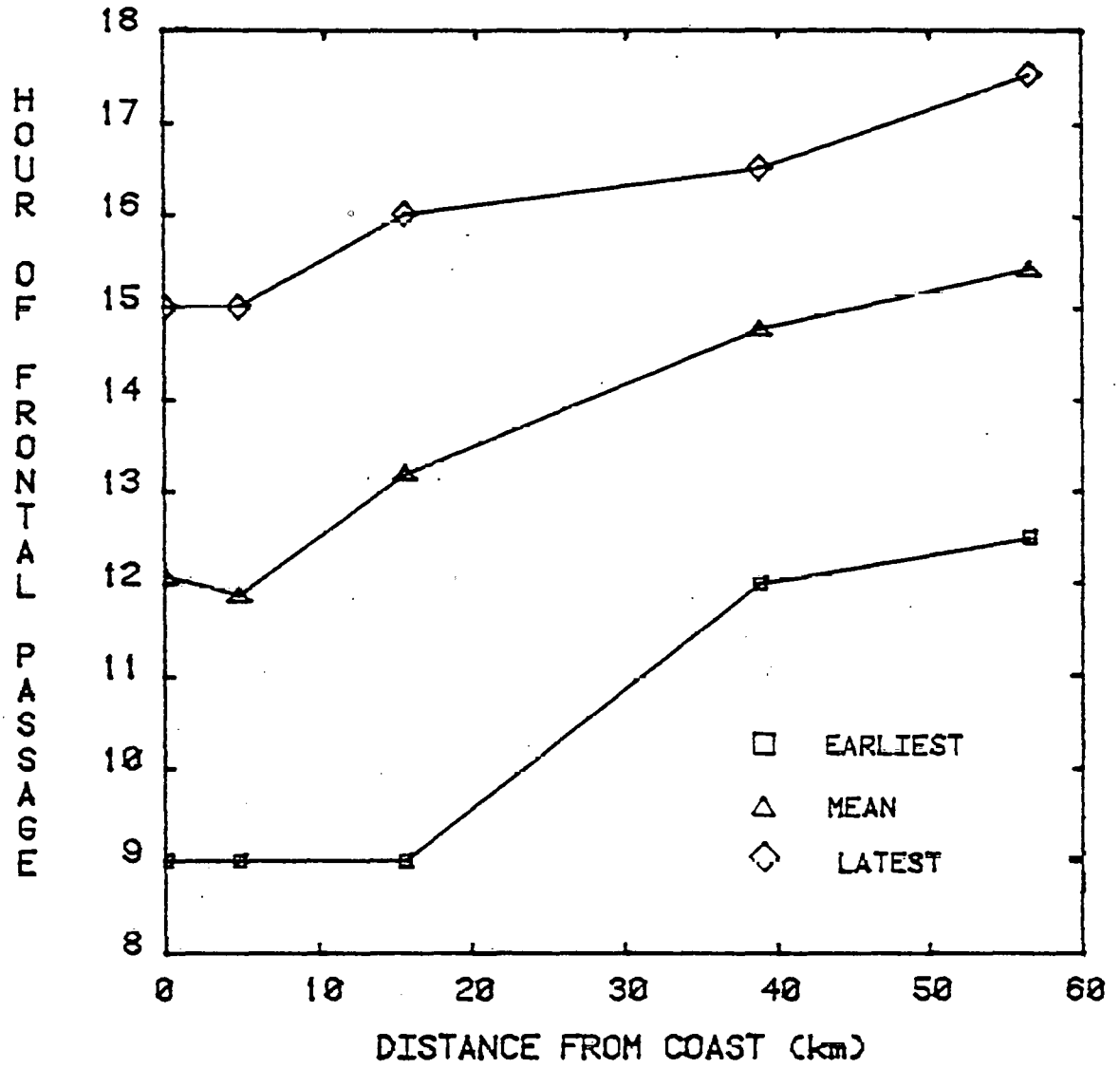

Figure 7. Relationship between the time of sea breeze frontal passage (EST) and the distance from the coast (km).

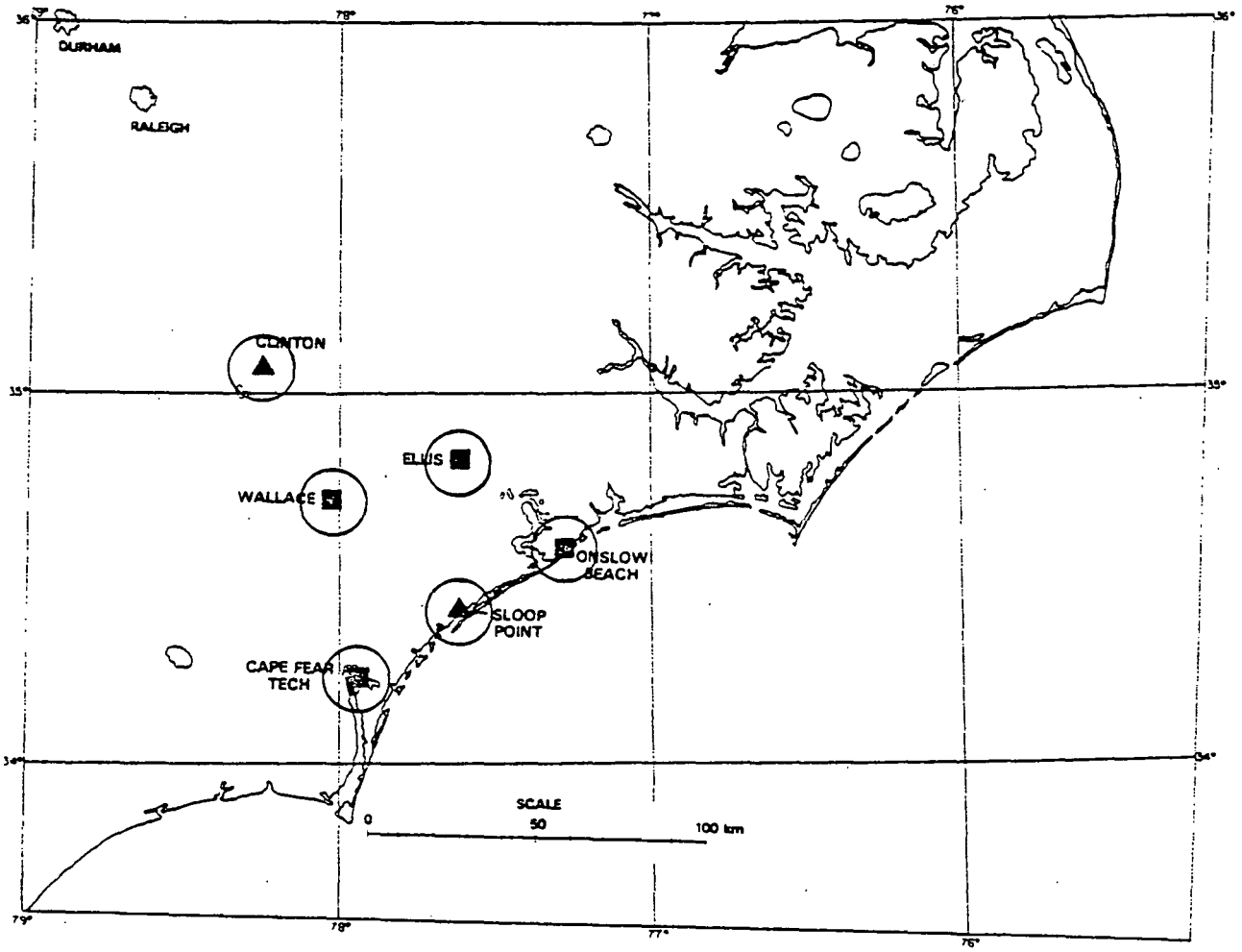

Figure 8. Circular cloud sampling areas with 10 km radii and centered over each of the study sites.

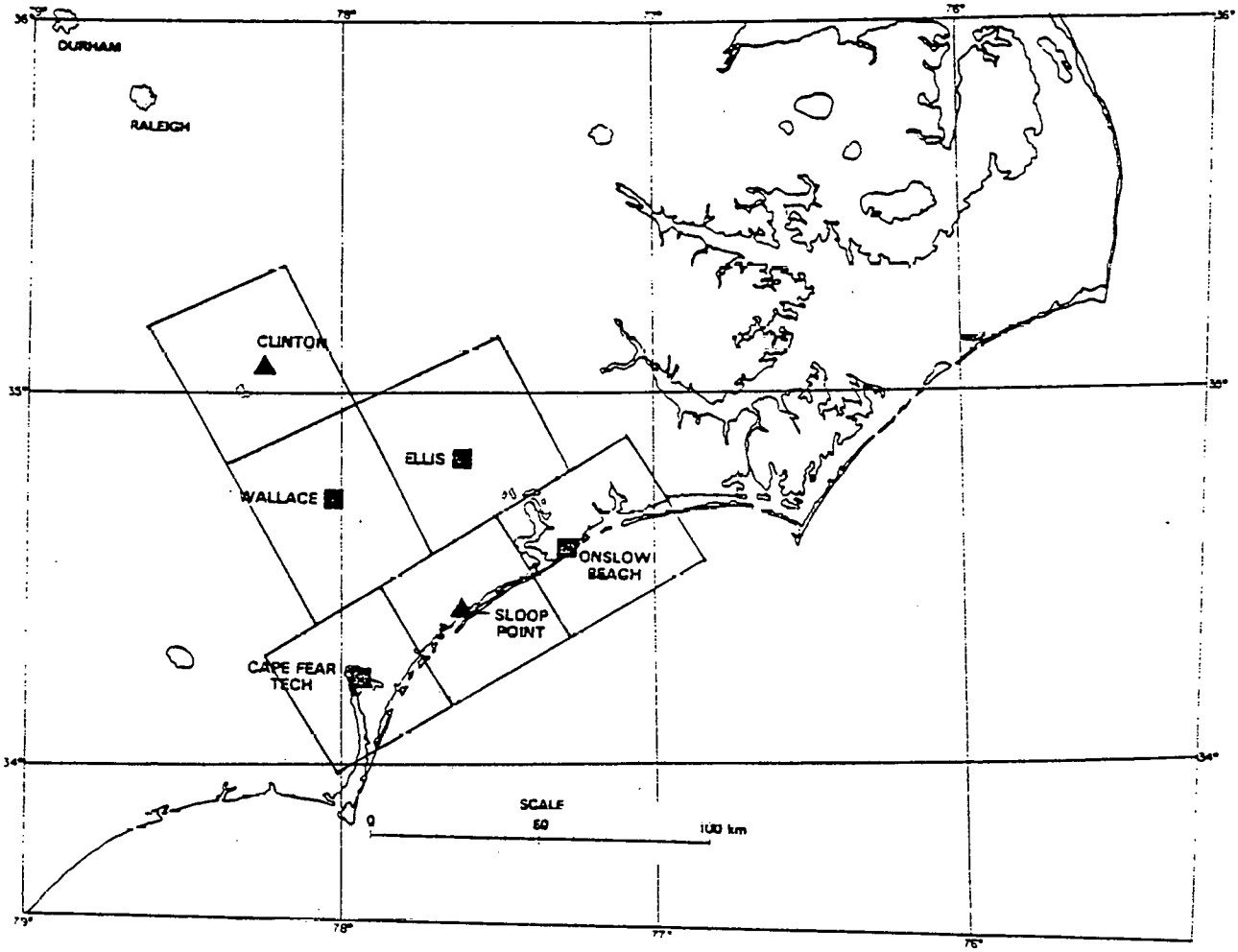

Figure 9. Contiguous 40 km wide quadrilateral cloud sampling areas approximately centered over each of the six study sites.

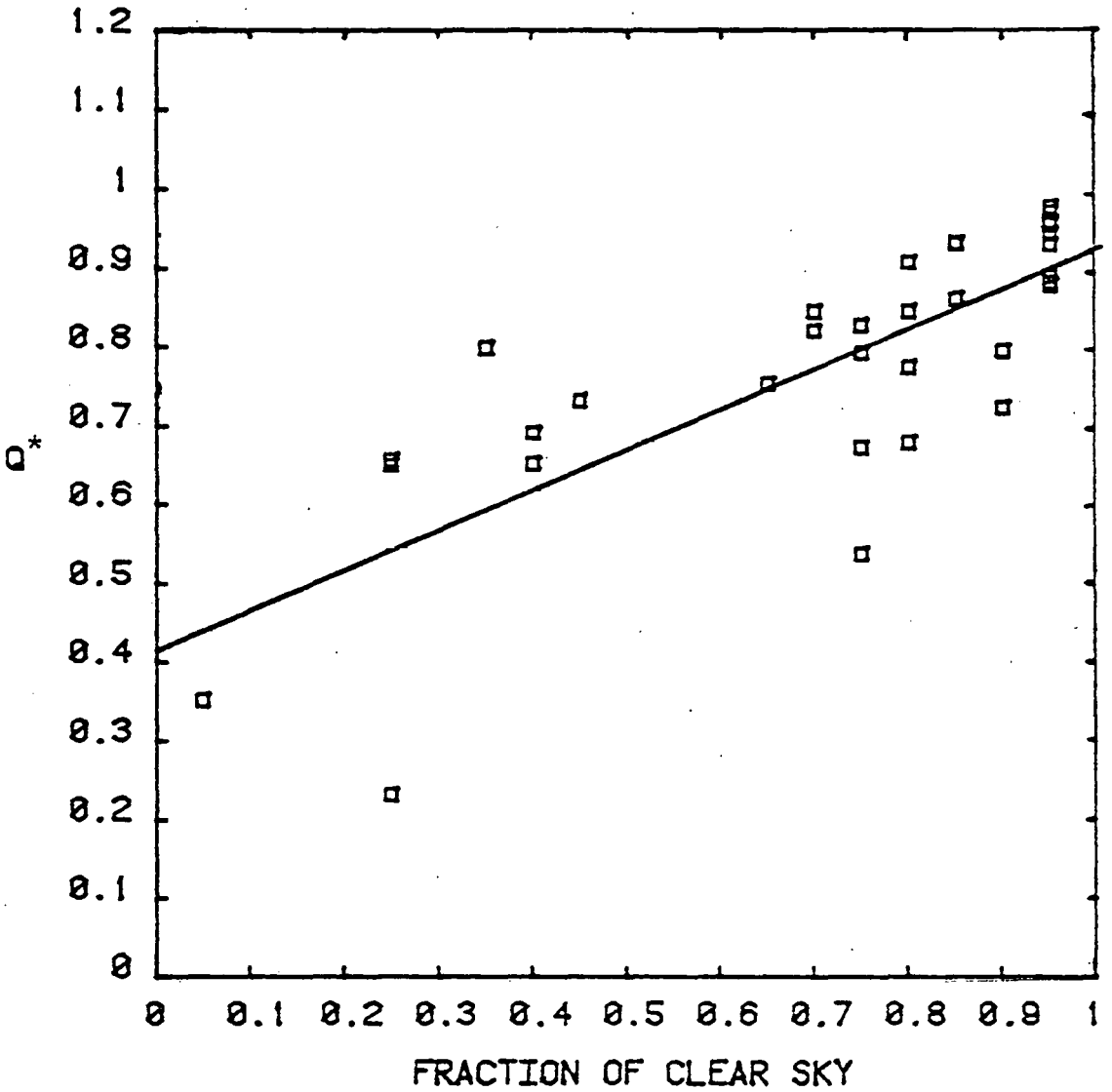

Figure 10. Scatter diagram and linear regression line for Q* versus percent of clear sky under sea breeze cumulus cloud cover measured with 10 km radius circular areas over the Onslow Bay study location.

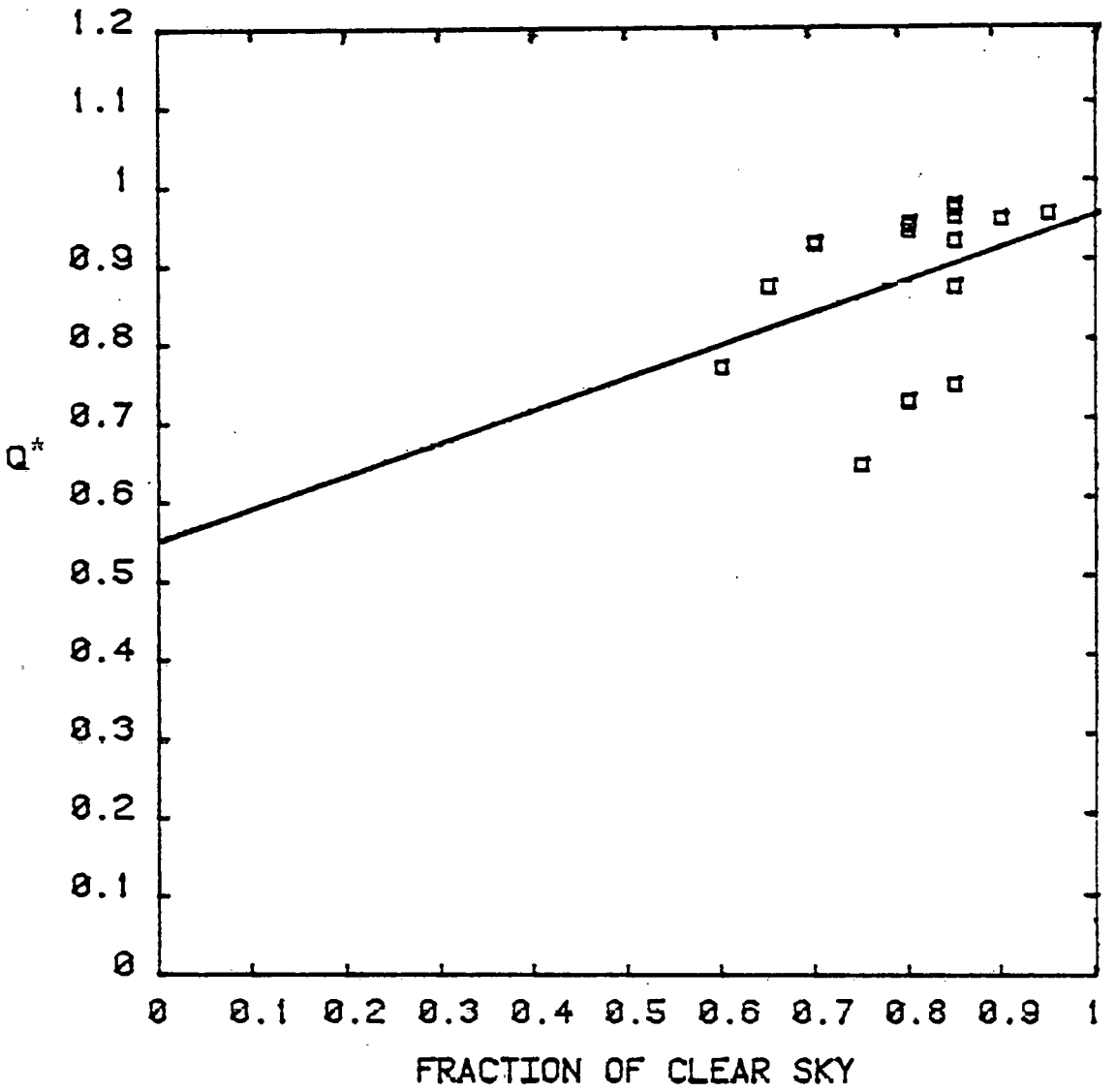

Figure 11. Scatter diagram and linear regression line for Q* versus percent of clear sky under sea breeze cumulus cloud cover measured with 40 km wide quadrilateral areas over the Onslow Bay study location.

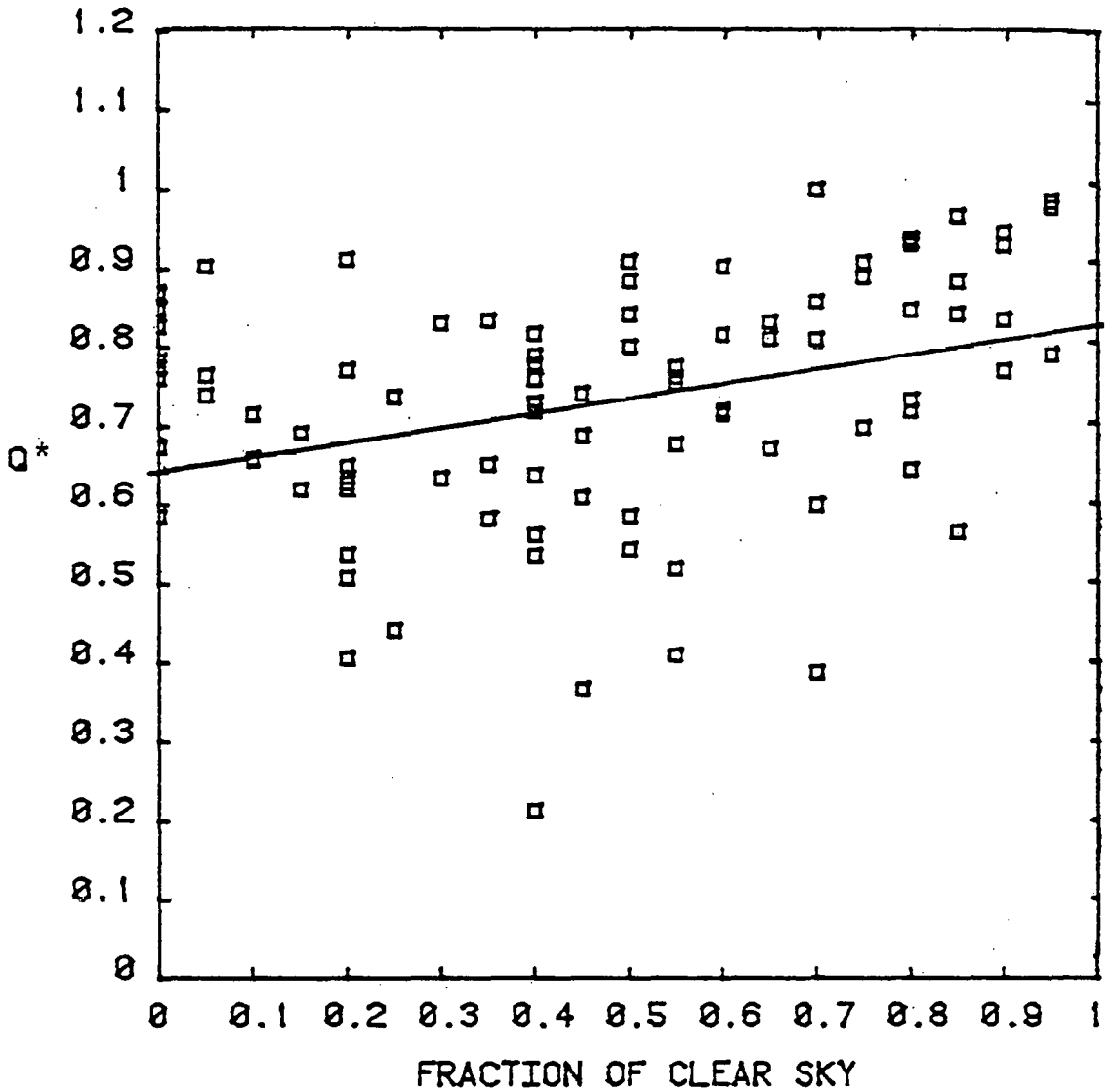

Figure 12. Scatter diagram and linear regression line for Q* versus percent of clear sky under air mass cumulus cloud cover measured with 10 km radius circular areas over the Onslow Bay study location.

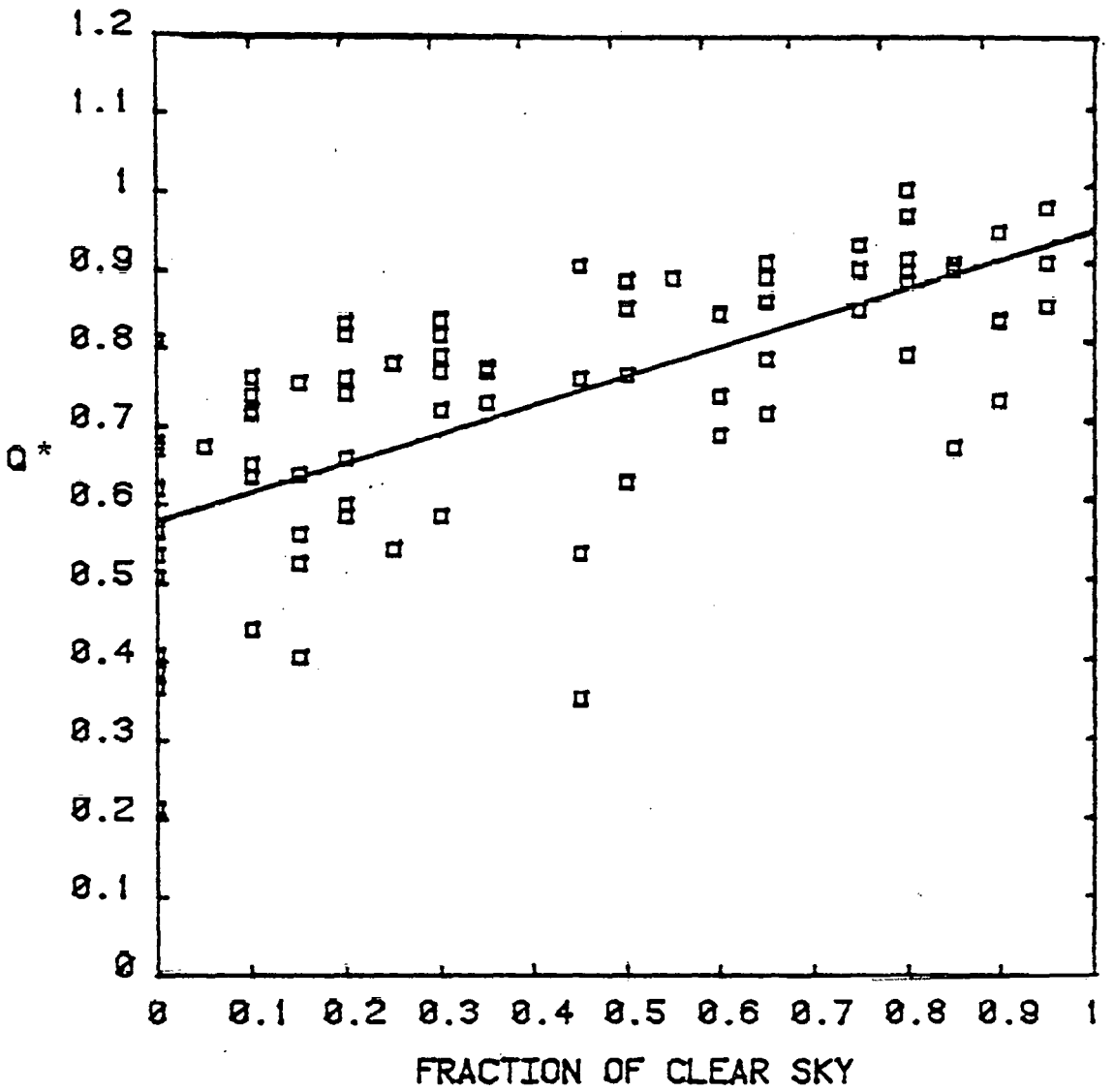

Figure 13. Scatter diagram and linear regression line for Q* versus percent of clear sky under air mass cumulus cloud cover measured with 40 km wide quadrilateral areas over the Onslow Bay study location.

Measured sea breeze cumulus cloud covers using a 10 km radius sampling area fit a linear regression line with a correlation coefficient of 0.7762. For the same cloud type, but using a 40 km wide quadrilateral area, the linear regression line has a correlation coefficient of 0.3775. The use of a smaller sampling area gives better estimates of the effects of sea breeze cumulus cloud cover on the value of Q*. In contrast, air mass cumulus cloud covers measured with a 10 km radius sampling area are fit poorly by a linear regression line having a correlation coefficient of 0.3173. However, the correlation coefficient of the linear regression fit using the quadrilateral sampling area increased to 0.6772. Based on the magnitude of correlation coefficients, the use of a larger sampling area gives better estimates of the effect of air mass cumulus cloud cover on the global insolation received in the Onslow Bay region.

Air mass cumulus convection represents a larger scale (synoptic) than the smaller (mesoscale) sea breeze cumulus convection zone. Since neither small sampling areas for air mass cumulus nor larger sampling areas for sea breeze cumulus are adequate for measuring cumulus cloud amounts, a sampling area size in the midrange between the two areas previously discussed was determined. A 20 km radius circle was finally chosen as an adequate sampling area size for measurement of both types of cumulus cloud cover in the Onslow Bay Region (Fig. 14). This sampling area size was specifically recommended by Avaste (1964). Linear regressions performed on the cumulus cloud cover measured with 20 km radius circles versus Q* produced correlation coefficients of 0.542 for sea breeze cumulus and 0.636 for air mass cumulus (Fig. 15 and 16). Correlation coefficients for air mass cumulus cloud cover versus Q* increase in magnitude with increasing sampling area size. Magnitudes of correlation coefficients for the cloud cover versus Q* relationship decrease as the sampling area size for sea breeze cumulus is increased.

Solar Elevation Effect

To analyze the solar elevation effect on global insolation under cumulus cloud cover, all measured global insolation values were converted to a dimensionless quantity Q*. The quantity Q* is the ratio of the measured global insolation Q for a particular day and hour to the monthly maximum global insolation Q_o for the study location. Q_o was calculated by averaging the

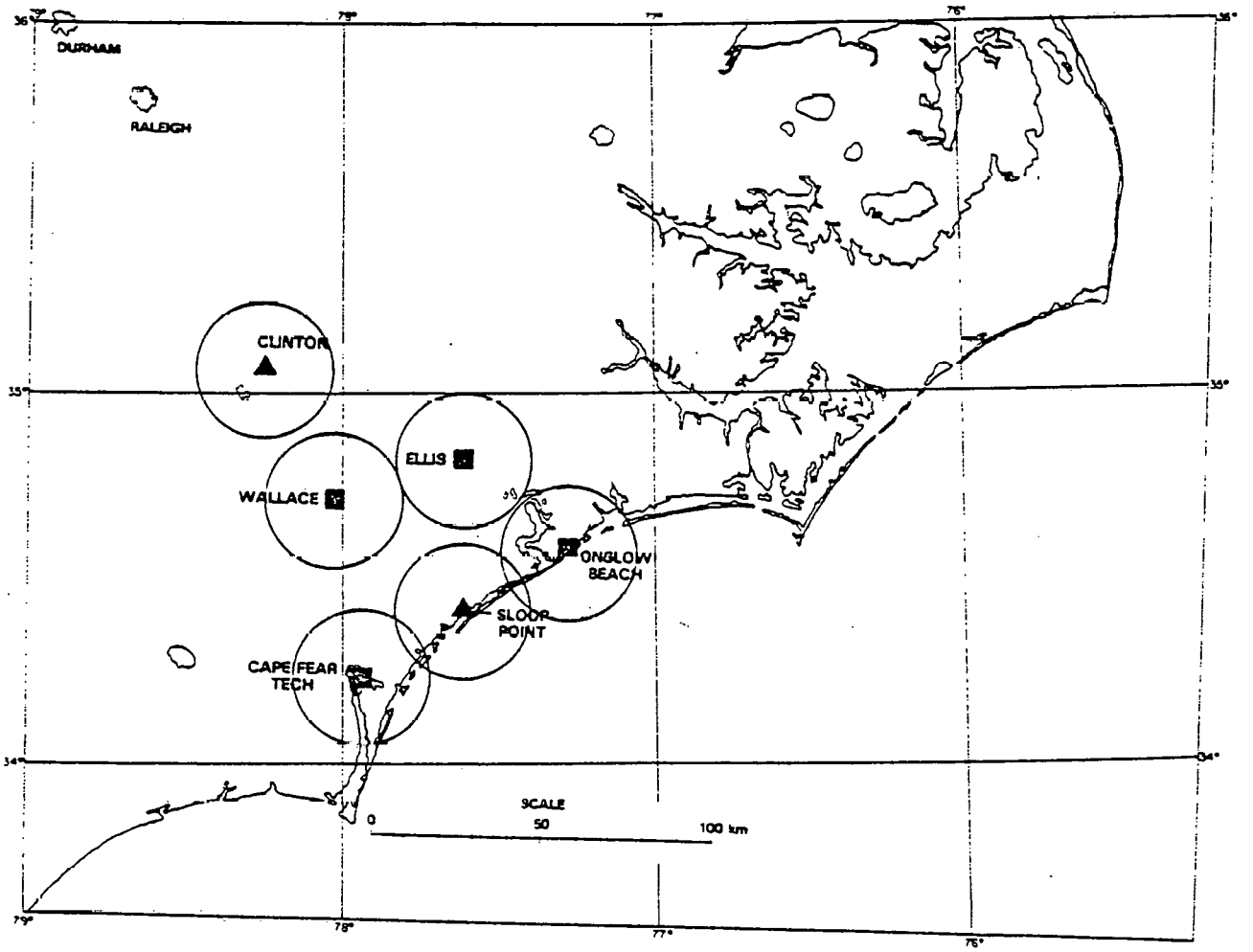

Figure 14. Circular areas with 20 km radii used to determine both air mass and sea breeze cumulus cloud cover over the six study sites in the Onslow Bay region.

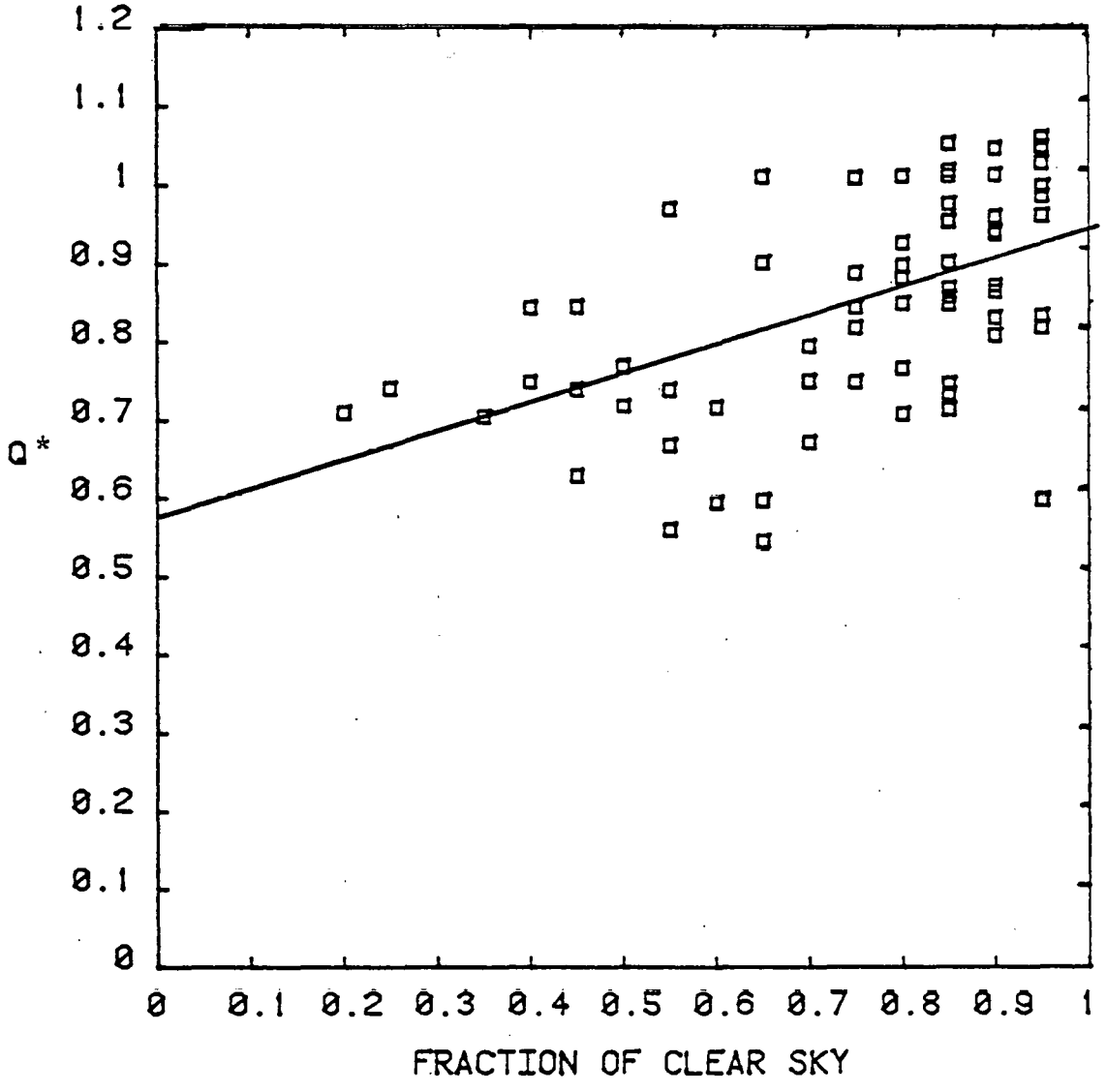

Figure 15. Scatter diagram and linear regression line for Q* versus percent of clear sky under sea breeze cumulus cloud cover measured with 20 km radius circular areas over the Onslow Bay study location.

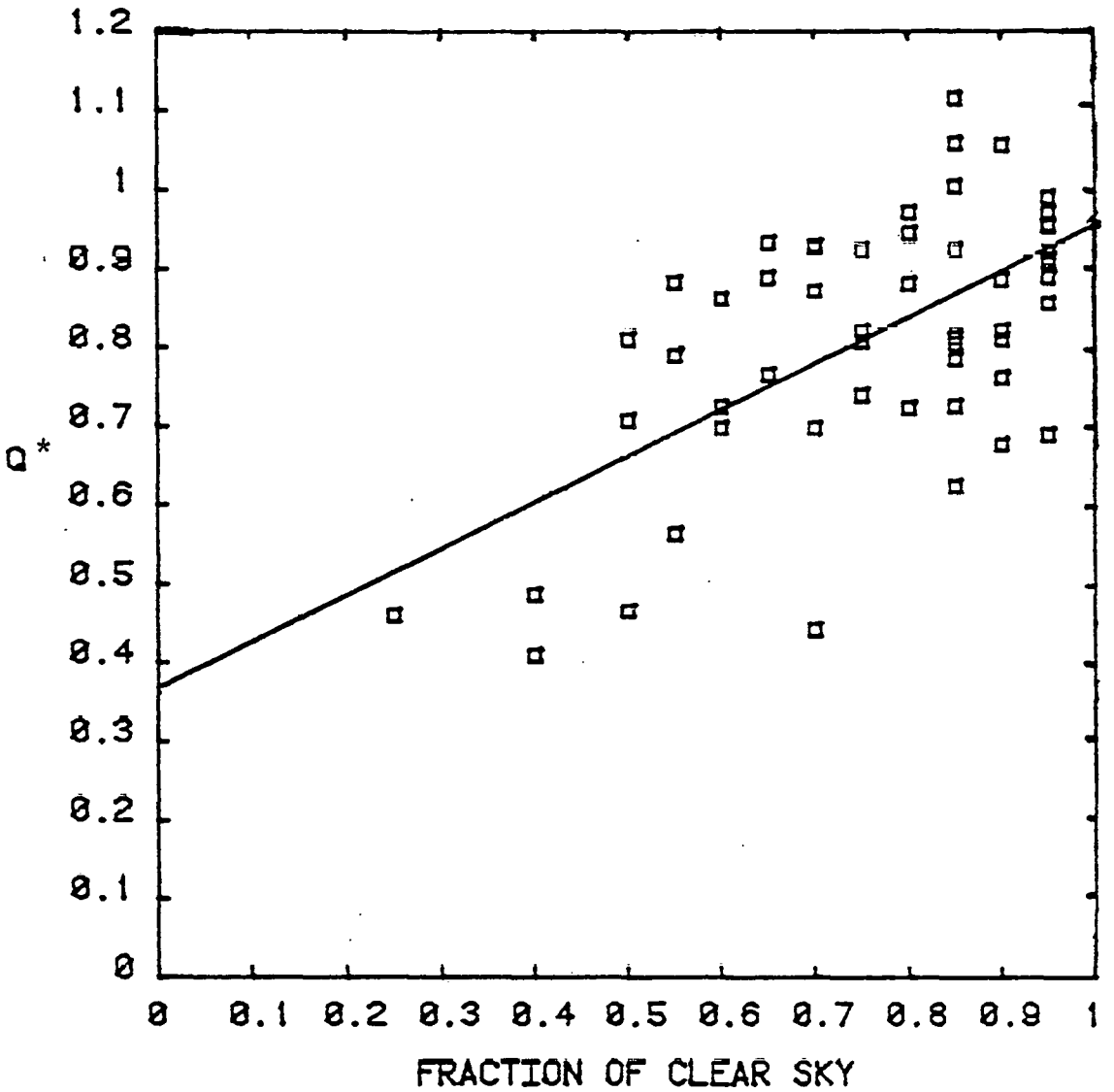

Figure 16. Scatter diagram and linear regression line for Q* versus percent of clear sky under air mass cumulus cloud cover measured with 20 km radius circular areas over the Onslow Bay study location.

maximum measured global insolation of all six study location sites for a particular month and hour.

Scatter diagrams of solar elevation versus Q* for the Onslow Bay study location show that the solar elevation effect on relative amount of shortwave radiation received at the ground surface through cumulus cloud cover is almost negligible for both sea breeze and air mass cumulus (Fig. 17 and 18). These plots reveal no evidence of solar elevation effect for angles greater than 40°. On the average, for any given amount of sea breeze or air mass cumulus cloud cover, the decrease in Q* values for solar elevaton angles less than 40° is less than 10 percent. Therefore, solar elevation is not a major influence on differences in Q* for the same cloud cover type and amount. Further analyses on the global insolation received under similar cloud types and amounts will not be significantly influenced by solar elevation since only a small number of the data used fall into the lower solar elevation range.

Cumulus Cloud Cover and Global Insolation

The dimensionless ratio Q* of measured to maximum global insolation is nearly a linear function of cloud cover for air mass cumulus cloud amounts up to 50 percent of total sky covered. For air mass cumulus cloud cover greater than 50 percent, the rate of decrease in the magnitude of Q* increases slowly with rising cloud cover amount. The vertical extent of air mass cumulus clouds observed over the Onslow Bay region did not change significantly for cloud amounts up to 50 percent. As air mass cumulus cloud amounts increased from 50 percent, the clouds also increased in thickness and corresponding values of Q* decreased at an increasing rate. Values of Q* range from 0.93 for scattered air mass cumulus, to approximately 0.62 for up to 90 percent sky cover (Fig. 19).

The trendline for sea breeze cumulus cloud cover versus Q* reveals changes in the effect of cloud amount on Q* as cloud amount increases (Fig. 20). Small variations in values of Q* result from increases in sea breeze cumulus up to 20 percent sky cover. A considerable fraction of the global radiation received at the Onslow Bay study sites and influenced by scattered

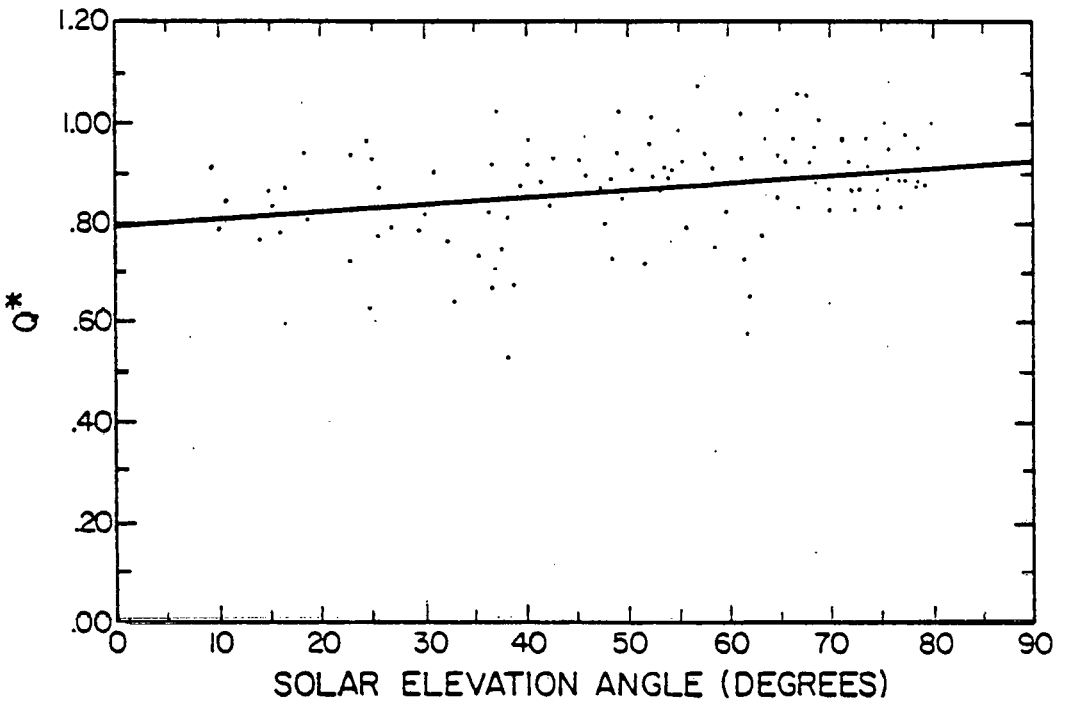

Figure 17. Scatter diagram of Q* versus solar elevation angle for two-tenths sea breeze cumulus cloud cover over the Onslow Bay study location.

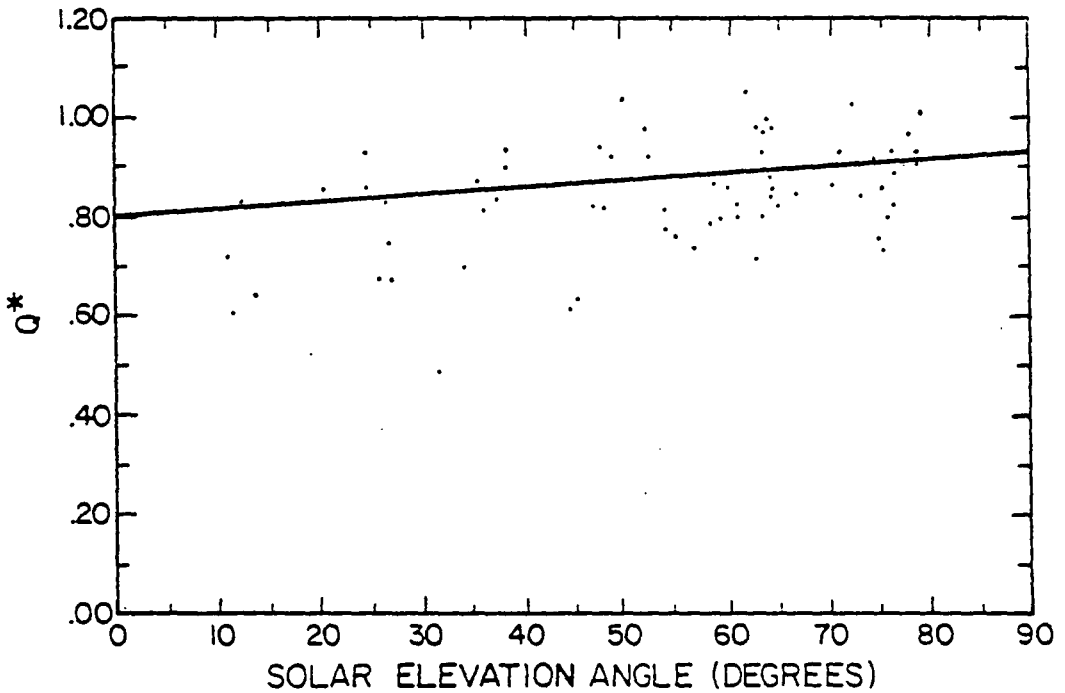

Figure 18. Scatter diagram of Q* versus solar elevation angle for two-tenths air mass cumulus cloud cover over the Onslow Bay study location.

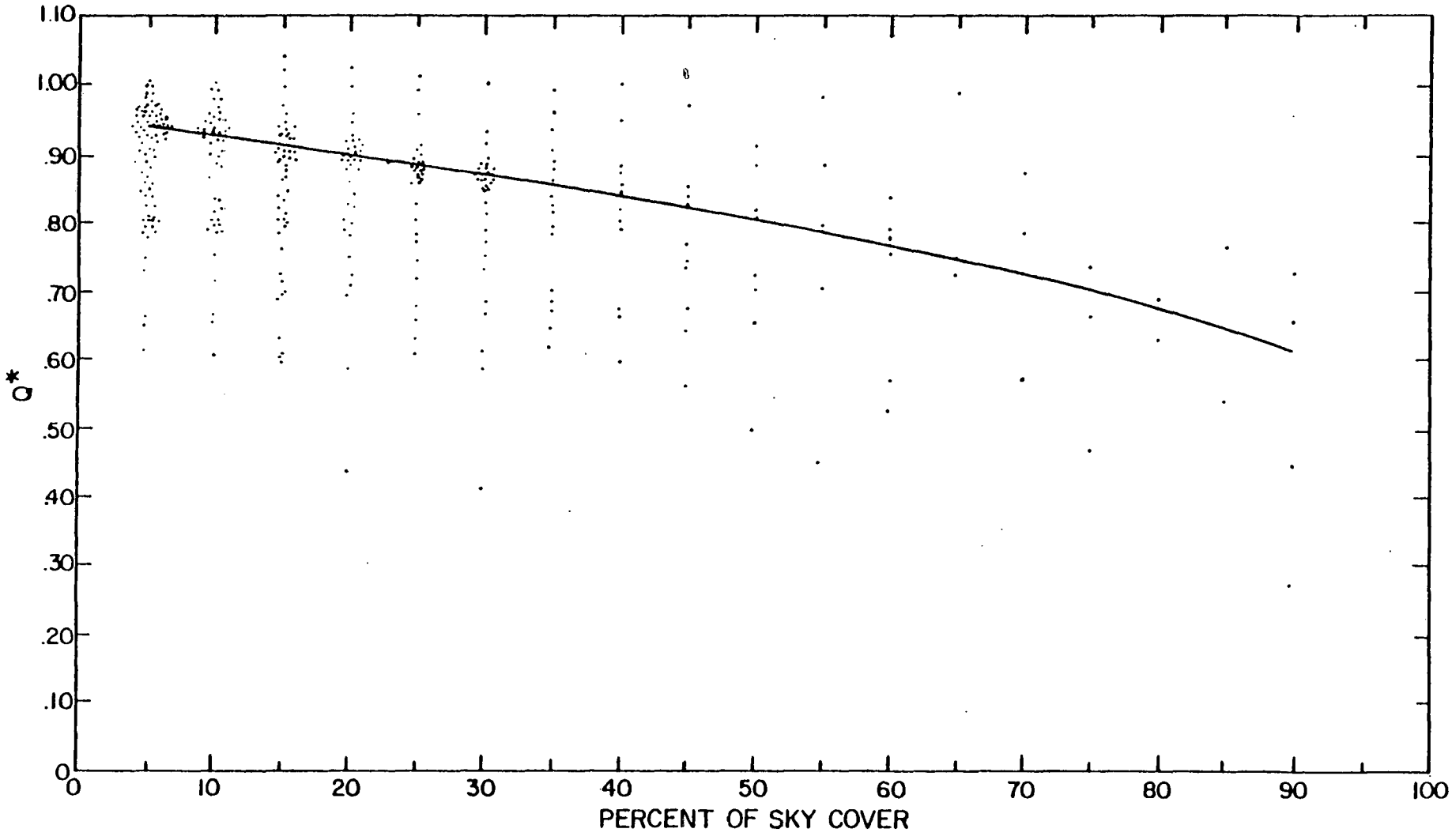

Figure 19. Scatter diagram and a visually approximated trend lire showing the relationship between Q* and amount of air mass cumulus cloud cover.

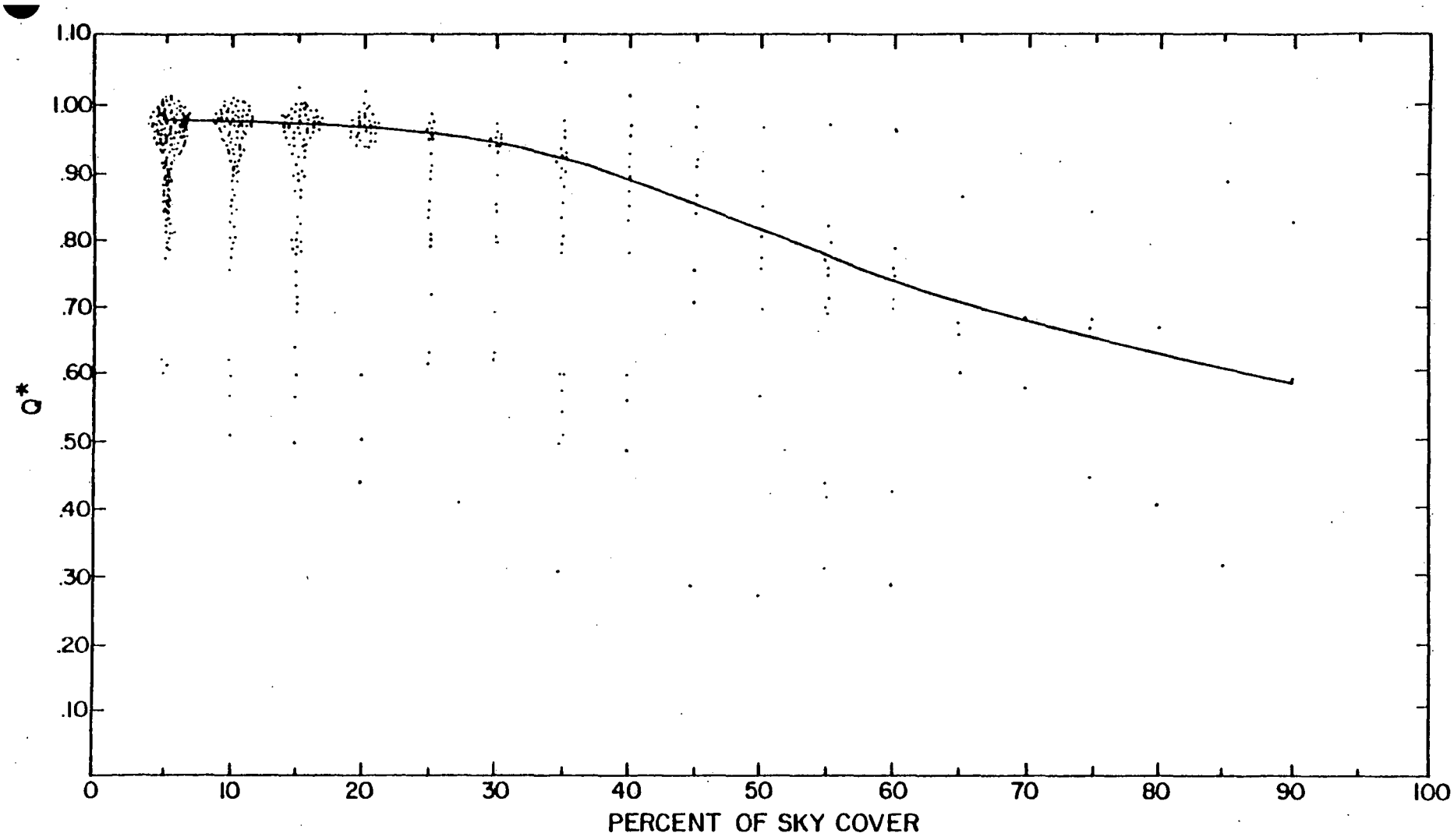

Figure 20. Scatter diagram and a visually approximated trend line showing the relationship between Q* and amount of sea breeze cumulus cloud cover.

sea breeze cumulus cloudiness consisted of reflected radiation from the sides of these relatively thick clouds. Values of Q* greater than 0.95 were received at sites influenced by scattered sea breeze cumulus cloud cover. The magnitude of Q* decreased significantly for fractions of sky cover greater than 20 percent as the vertical extent of the sea breeze cumulus increased. Values of Q* dropped below 0.60 for locations beneath a 90 percent sea breeze cumulus cloud cover.

The difference between the effects of air mass and sea breeze cumulus on the global radiation received at the Onslow Bay region is directly related to the vertical extent of each of these cloud types. Sea breeze cumulus clouds reduce a greater amount of global radiation than do air mass cumulus clouds due to their larger relative vertical extent.

Mean Effect of Cloud Cover and Time of Day

The quantity Q* is a function of the cloud amount present but is also dependent on the diurnal variations in cloud thickness and solar elevation angles. As a consequence of the complex diurnal effects of cloud cover on the magnitude of Q*, no attempt was made to relate quantity of cumulus cloud cover to corresponding values of Q* using linear or nonlinear models. Instead, values of the mean Q* for both sea breeze and air mass cumulus clouds and for specific intervals of cloud amount were calculated from observations made during sea breeze days in the Onslow Bay region.

The value of $\bar{Q}$* associated with a constant amount of sea breeze cumulus cloud cover decreases with time of day for three-tenths or less sky covered (Fig. 21). Increasing thickness of individual clouds in the sea breeze convergence zone with time of day resulted in a reduction of $\bar{Q}$* over the Onslow Bay region from 0.896 in the morning hours to 0.763 during the late afternoon hours for a constant 1 to 2 tenths sky cover. Air mass cumulus clouds exhibit a much smaller diurnal increase in vertical extent for small, constant cloud amounts. The diurnal change in solar elevation angle along with a small increase in cloud thickness for constant amounts of air mass cumulus cloud cover influence the corresponding diurnal change in the magnitude of $\bar{Q}$* (Fig. 22). Maximum values of $\bar{Q}$* for given air mass cumulus cloud cover amounts were obtained during the midday hours of the sea breeze case

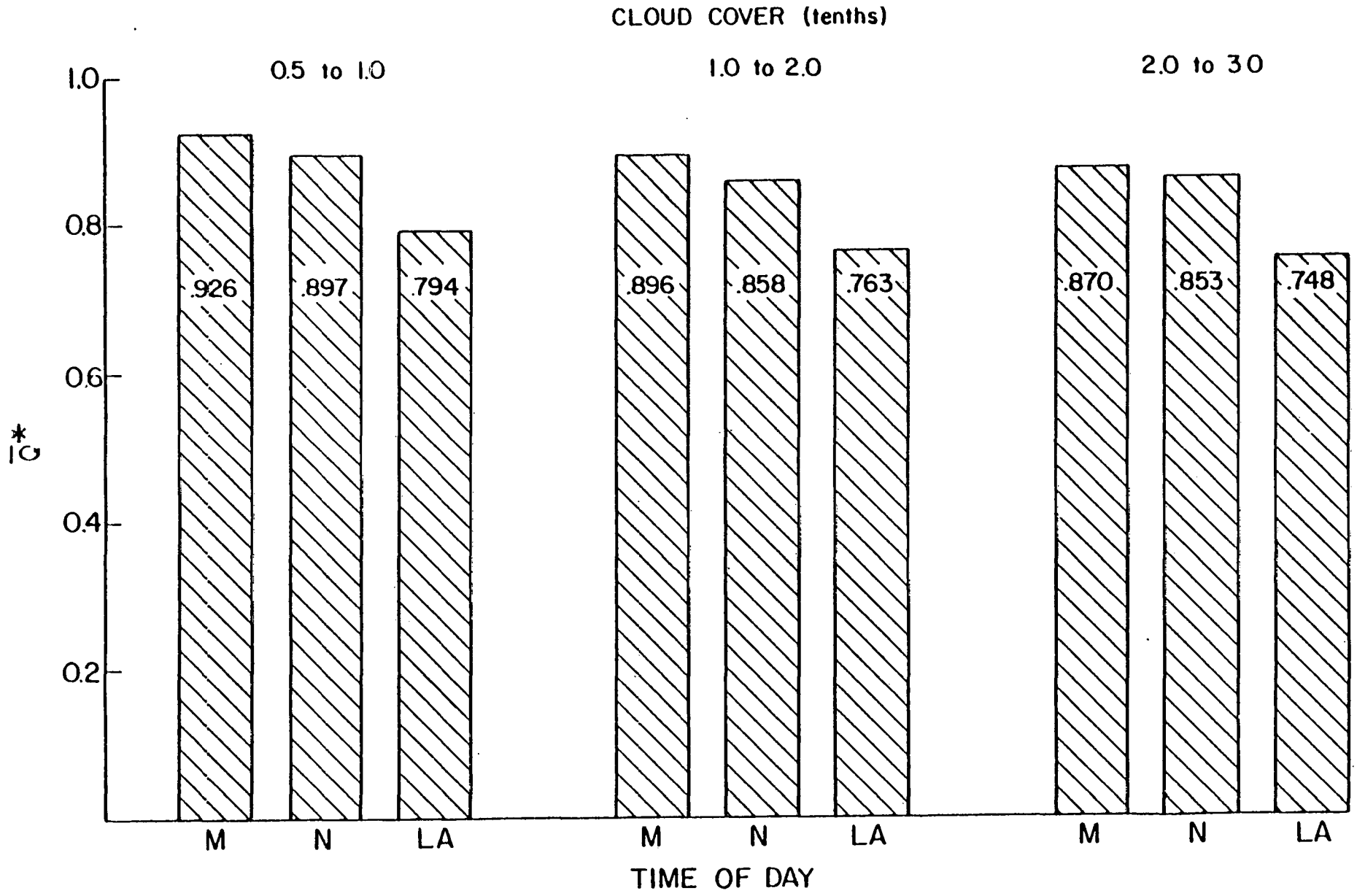

Figure 21. Histogram of the mean global insolation ratio, $\bar{Q}^*$, under specific amounts of sea breeze cumulus cloud cover.

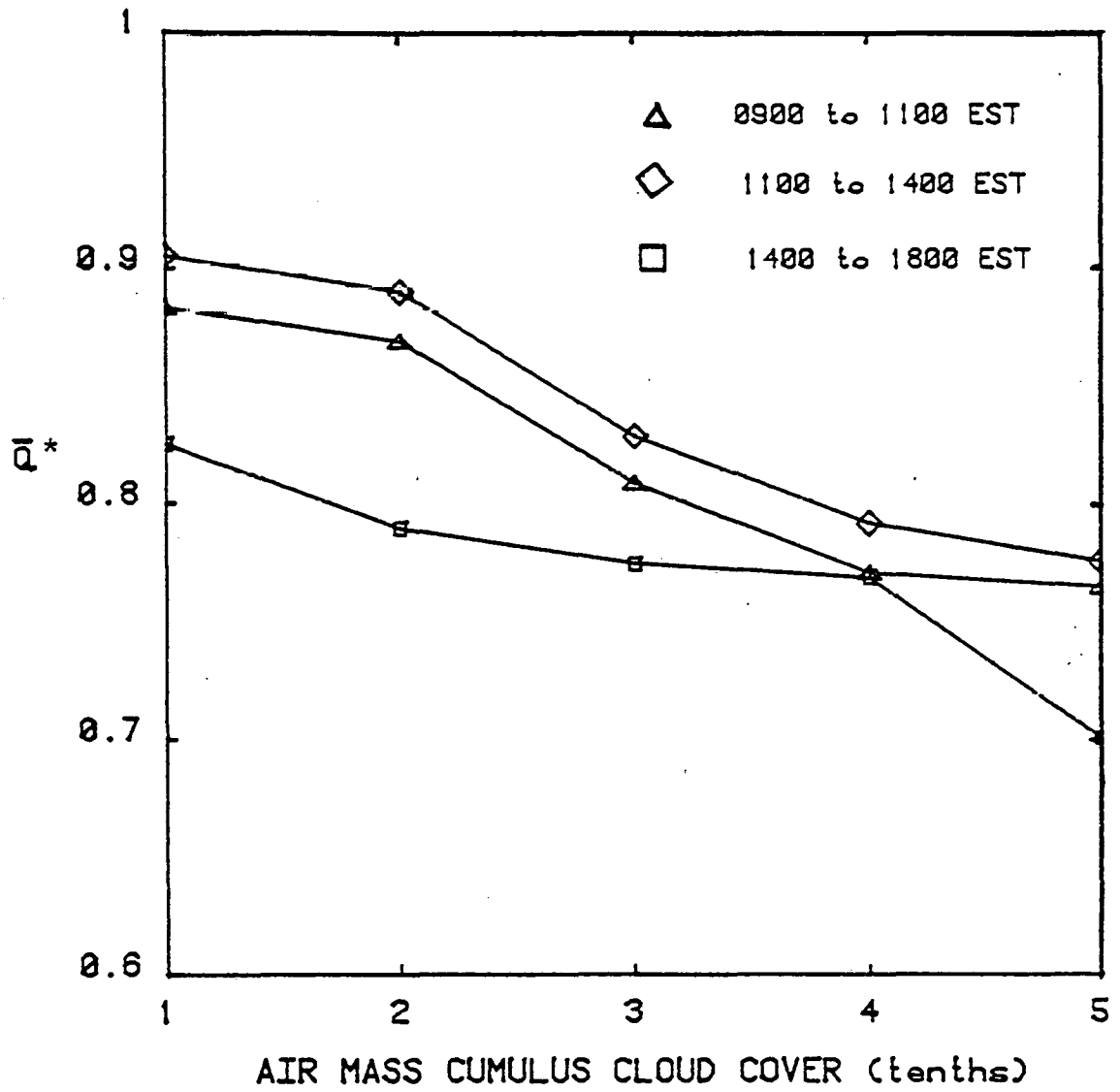

Figure 22. Relationship between the mean global insolation ratio and the amount of air mass cumulus cloud cover observed on sea breeze case study days, Summer 1978.

study days. For a constant cloud amount ranging from 1 to 5 tenths sky cover, magnitudes of $\bar{Q}^*$ consistently decreased from the midday, to morning, and finally to late afternoon hours. Midday values of $\bar{Q}^*$ were greater than at other times of the day because the reduction of global radiation by the sides of clouds is minimal with large solar elevation angles. $\bar{Q}^*$ is consistently less under similar air mass cumulus cloud amounts during the late afternoon hours than during the morning hours as a consequence of the minor influence of diurnal increases in cloud thickness.

A significant number of cloud cover observations taken during the late afternoon period made it possible to analyze and compare the quantity $\bar{Q}^*$ for both sea breeze and air mass cumulus. Values of $\bar{Q}^*$ corresponding to specific amounts of sea breeze cumulus were consistently smaller than values of $\bar{Q}^*$ existing under the same amount of air mass cumulus (Fig. 23). The decrease in $\bar{Q}^*$ with increasing amounts of either air mass or sea breeze cumulus cloud cover observed in the Onslow Bay region is noticeably less than that observed by Pyldmaa. Pyldmaa suggests that $\bar{Q}^*$ is linearly dependent upon the quantity of cumulus cloud cover. He obtained $\bar{Q}^*$ values of 0.98 and 0.64 for corresponding cumulus cloud amounts of 3 tenths and 7 tenths, respectively. For equal cloud cover amounts, air mass cumulus reduced $\bar{Q}^*$ from 0.774 to 0.638 and sea breeze cumulus reduced $\bar{Q}^*$ from 0.748 to 0.618. Pyldmaa's estimate of the $\bar{Q}^*$ versus cumulus cloud amount relationship probably differs from the one found in the Onslow Bay region because of dissimilar times of observations and differences in the specific types of cumulus clouds under analysis. The difference in $\bar{Q}^*$ for the two types of cumulus clouds observed in the Onslow Bay region during the late afternoon hours corresponds directly to the difference in cloud thickness between the shallow air mass cumulus and the more vertically developed sea breeze cumulus.

Temporal Effect of Sea Breeze Frontal Passage

Passage of a sea breeze front is usually accompanied by a marked decrease in cloud cover and an increase in Q^* over study location sites behind the passing front. This change in Q^* is dependent upon the amount of cloud cover ahead of the front, the time of passage, and the orientation of the sea breeze convergence zone paralleling the coast. Cloud amount and

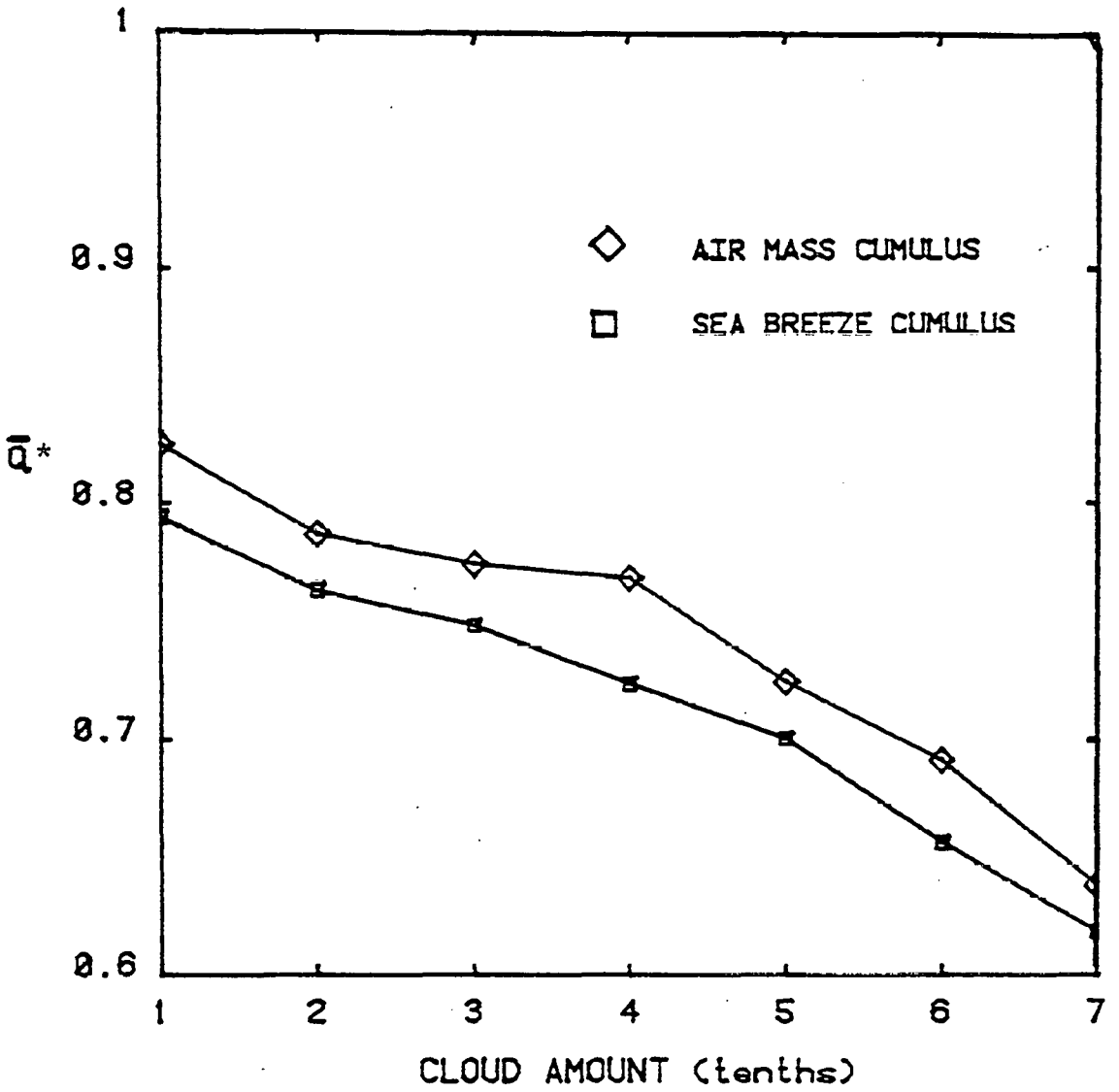

Figure 23. Dependence of mean global insolation ratio on the amount of air mass and sea breeze cumulus cloud cover observed from 1400 to 1800 EST on sea breeze case study days, Summer 1978.

global insolation measurements taken at all the study location sites in the Onslow Bay region were grouped together according to whether or not a sea breeze front had passed a particular location and also according to the hour which the observation was made. Hourly mean values of Q* were calculated for sites ahead and behind the sea breeze front between the hours of 0900 and 1800 EST (Fig. 24). Study location sites behind the sea breeze front consistently exhibit larger $\bar{Q}^*$ values than for sites ahead of the front observed during the same hour of the day. $\bar{Q}^*$ values observed ahead of the front range from 0.883 in the morning to 0.622 in the late afternoon. Values of $\bar{Q}^*$ behind the sea breeze front range from 0.923 at 1000 EST to 0.699 at 1800 EST.

The difference between $\bar{Q}^*$ values ahead and behind the sea breeze front increases with time of day after the midday period. This spatial difference in $\bar{Q}^*$ increases from 0.043 at 1400 EST to 0.105 at 1700 EST. A major influence on this noticeable temporal increase in the difference of $\bar{Q}^*$ values ahead and behind the sea breeze front is the significant increase of cumulus cloud cover amount and cloud thickness of individual sea breeze cumulus. Values of $\bar{Q}^*$ received at stations ahead of the sea breeze front diminish with time after solar noon as a consequence of this strong cumulus convection. Values of $\bar{Q}^*$ for locations behind the front also experience a decrease in magnitude from solar noon on, but this trend is likely a function of the position of the individual sites with respect to the sea breeze front and also a function of the solar elevation. Given these assumptions, $\bar{Q}^*$ will decrease for sites along east coasts close to and behind the coastal edge of a sea breeze frontal zone as the solar elevation of the afternoon sun diminishes. For sites located along west coasts under similar sea breeze conditions, a decrease in $\bar{Q}^*$ for locations close to the coastal edge of the frontal zone is unlikely since cumulus clouds ahead of the front would not obstruct the direct radiation from an afternoon sun. Cumulus clouds in the sea breeze frontal zone could in fact increase $\bar{Q}^*$ values of sites for the latter situation during late afternoon hours resulting from their high albedo.

Total daily global radiation received at any study location site is also a function of the sea breeze frontal passage time. Observations of frontal passages for all sites and case study days were grouped into three major

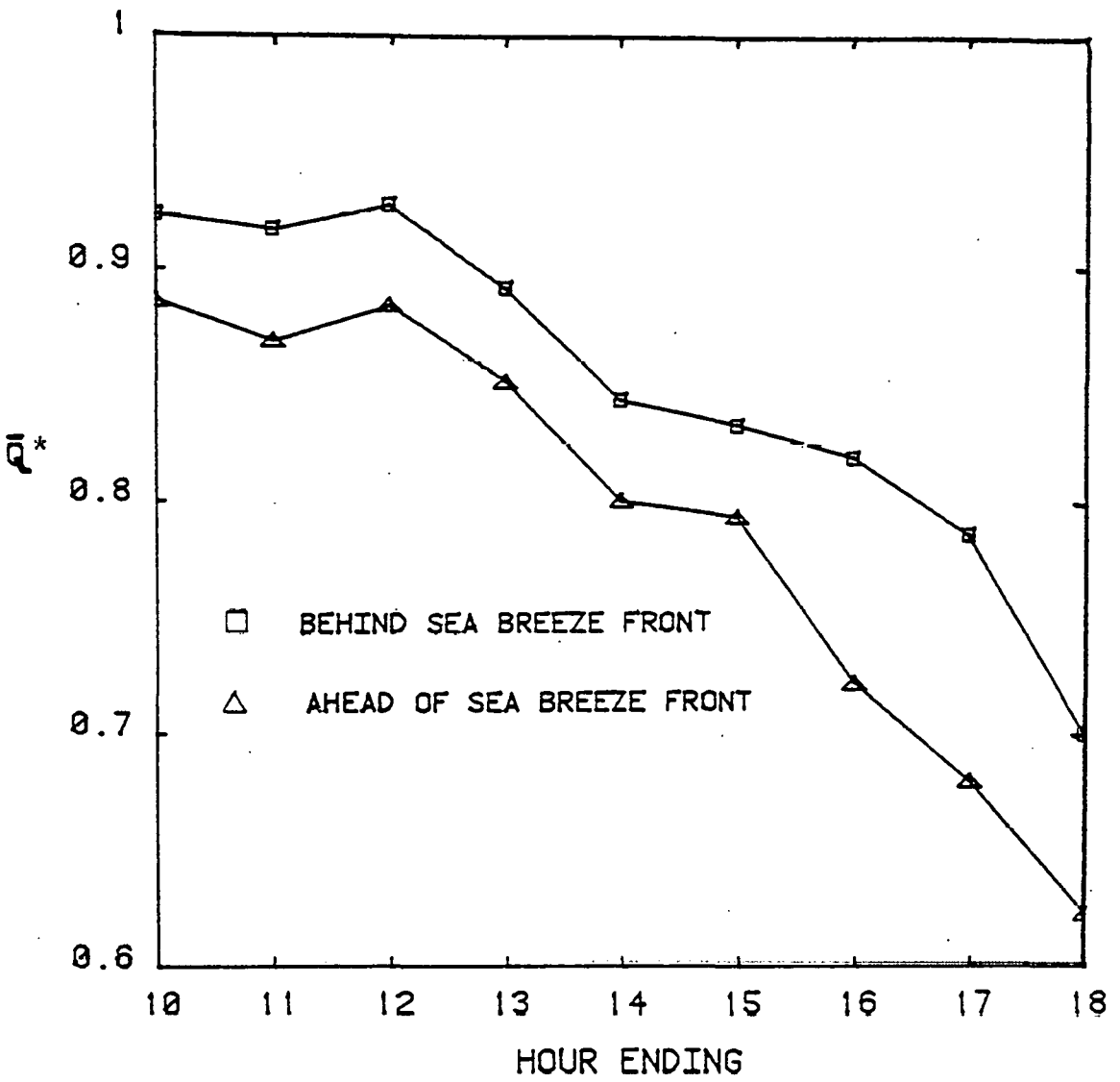

Figure 24. Mean global insolation ratio for locations ahead and behind sea breeze fronts in the Onslow Bay region during hours ending 1000 through 1800 EST, Summer 1978.

categories: (1) The front forms inland with respect to the site (coastal), (2) the frontal passage over the site occurs during daylight hours (frontal), and (3) the front's location is coastal with respect to the site for the duration of daylight hours (inland). The mean of the daily global insolation measured at all sites for these three classifications was calculated for the months of June and July (Table 5).

Sites not experiencing a sea breeze frontal passage because of their coastal location had the highest mean daily global insolation values, followed in decreasing magnitude by sites experiencing a frontal passage and, finally, inland sites not experiencing a sea breeze frontal passage. This gradient of mean daily global insolation occurs for both the months analyzed. Total global insolation received at coastal locations in the Onslow Bay region exceeded values measured at inland sites an average of 10.3 percent during the month of June and 9.8 percent in July, 1978. The results of this analysis suggest that the daily global radiation received at any study location site will, on the average, decrease with increasing delay of the sea breeze frontal passage. Since sea breeze frontal passages usually occur later in the day for locations further inland from the coast, daily global insolation will decrease with increasing distance from the Onslow Bay coast on synoptically undisturbed days dominated by sea breeze solenoids and associated cloudiness.

Table 5. Mean daily global insolation for coastal, frontal, and inland site classifications.

Month	Site Classification	Mean Global Insolation (KJ/M^2/day)
June	Coastal	28264
	Frontal	26056
	Inland	25632
July	Coastal	27240
	Frontal	25940
	Inland	24802

Trends for Horizontal Gradients of Global Insolation

Sea breeze study location sites were separated according to the time of the sea breeze frontal passage. The classifications used are similar to those described in the previous analysis. Coastal sites are defined as

locations which experienced a frontal passage before 1100 EST. This classification would also include sites not experiencing a sea breeze frontal passage because of their close proximity to the coast. Frontal sites experienced a sea breeze frontal passage after 1100 EST. Sea breeze fronts did not pass over locations classified as inland sites.

A subset of the sea breeze case study days was chosen to include all days for which coastal, frontal, and inland sites exist. For each of these select days the mean global insolation of three time periods was calculated for each of the three site classifications, derived from measured values obtained from all six study location sites. Values of global insolation for the three site classifications were then summarized in the form of trend lines. The inland site classification was used as a reference for the global insolation values. The mean global insolation value for frontal sites was considered significantly higher or lower in magnitude than the reference value using a threshold of ± 5 percent. The mean global insolation for coastal sites was defined as significantly greater in magnitude than for frontal sites if their difference exceeded a threshold of 5 percent. Given the defined threshold values, there are nine possible trend representations (Fig. 25).

Fourteen days were selected for this trend analysis. A summary of the trend analysis results is shown in Table 6. The major trend occurring during the period from 0600-1100 EST was I, indicating an insignificant difference in mean global insolation amongst the three site classifications for sea breeze days. Trend classification I's dominance decays during the midday period as trend VI increases in frequency. Between the hours of 1100 and

Table 6. Number of days represented by particular horizontal gradients of global insolation for morning, midday, and late afternoon periods

	Trend Representations									
HOURS (EST)	I	II	III	IV	V	VI	VII	VIII	IX	Total
0600-1100	8	2	0	1	0	3	0	0	0	14
1100-1400	4	1	1	1	0	6	0	0	0	13
1400-1800	1	4	1	3	0	4	0	1	0	14
Total	13	7	2	5	0	13	0	1	0	41

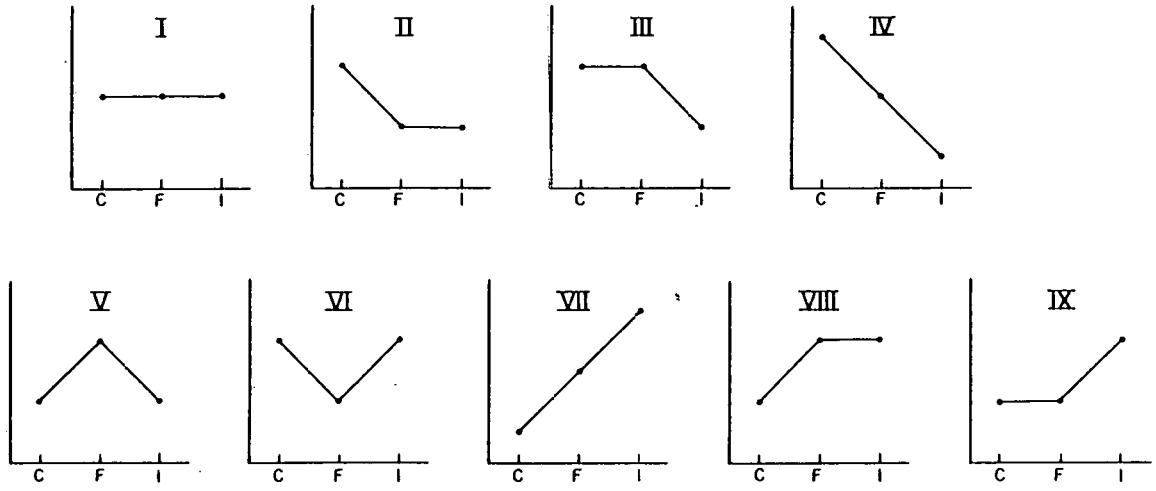

Figure 25. Nine possible global insolation gradients for the Onslow Bay region.

1400 EST frontal sites received significantly lower levels of global insolation than either coastal or inland sites on 6 of the 14 days studied resulting from increased cloud cover with greater vertical extent along the sea breeze convergence zone. Trend classifications II, IV, and VI dominate during the late afternoon hours. Trends II and VI occurring in the late afternoon represent cases when the sea breeze front passes frontal sites relatively late in the day. Trend II will most likely occur when the sea breeze cumulus convection along the front is not maximally developed. Trend VI will occur when sea breeze cumulus along the front are more vertically developed than the air mass cumulus above inland sites. A positive global insolation horizontal gradient from the inland reference is represented by trend IV. This trend develops between the hours of 1400 and 1800 EST on those days when a sea breeze front has passed a majority of the frontal sites. The frontal cloudiness, however, remains close enough to these locations to reduce their global insolation values under lower solar elevation angles.

Effect of Cloud Cover Ahead of Sea Breeze Front

The variation in amount of cumulus cloud cover ahead of the sea breeze front is a major factor contributing to the differences in global insolation ahead of and behind the front. A relationship was determined between the amount of cumulus cloud cover ahead of the sea breeze front and the calculated value of $\bar{Q}^*$. No discrimination was made between the air mass and sea breeze cumulus cloud types for this particular analysis. $\bar{Q}^A$ determined from all clear sky observations behind the front was used as a reference value for analyzing the effect of increased cloud cover ahead of the sea breeze front on $\bar{Q}^*$.

The effect of a sea breeze frontal passage on the change in $\bar{Q}^*$ received at sites in the Onslow Bay region increases as the amount of cumulus cloud cover increases (Fig. 26). On days when little or no cloudiness forms ahead of the sea breeze front, the change in $\bar{Q}^*$ at locations after a sea breeze frontal passages is small. A change in $\bar{Q}^*$ from 0.859 to 0.924 was observed for sites experiencing a sea breeze frontal passage with two-tenths cumulus cloud cover ahead of the front. When the cumulus cloud cover ahead of the

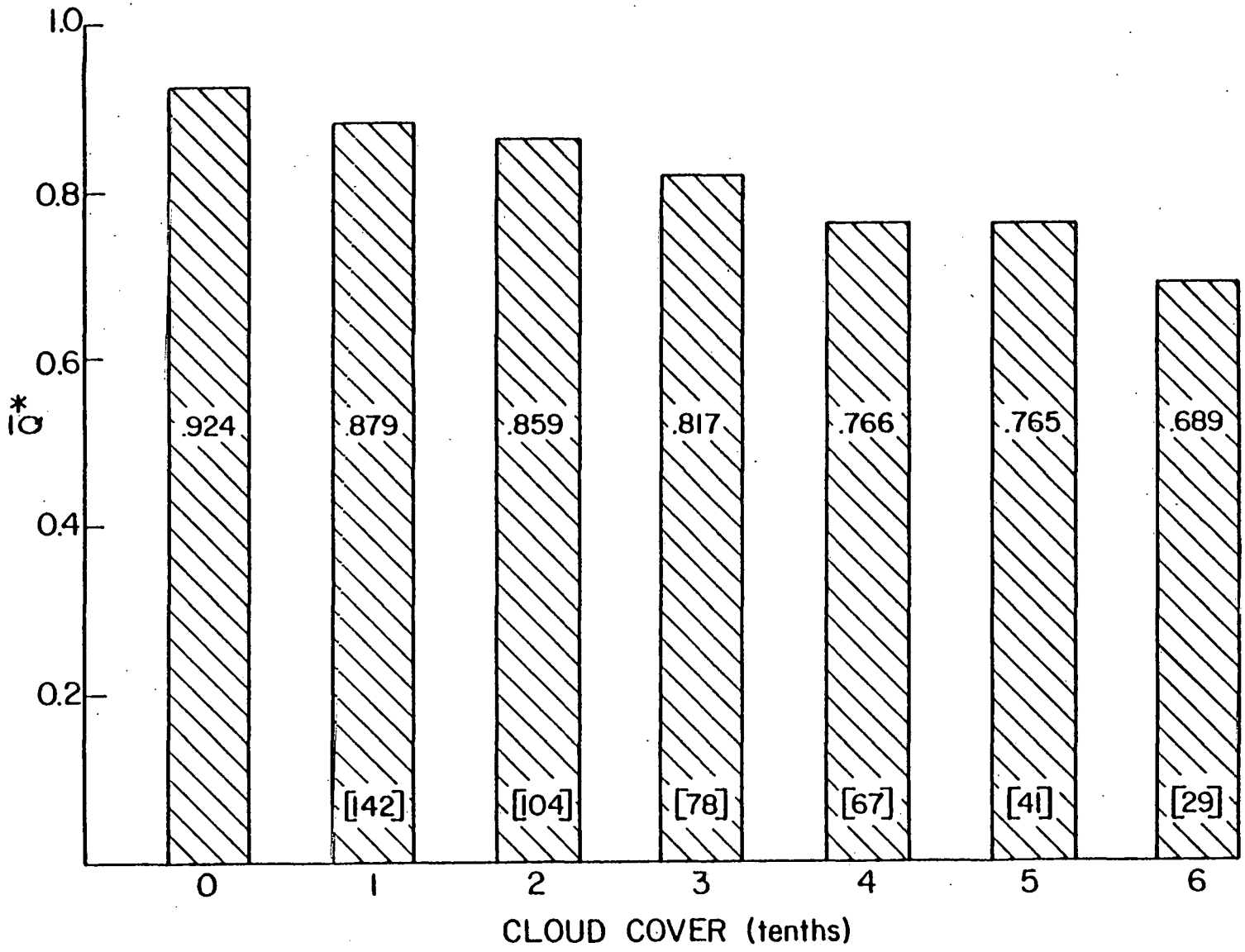

Figure 26. Relationship between the mean global insolation ratio and the cloud amount ahead of sea breeze fronts over the Onslow Bay region, Summer 1978.

sea breeze front increased to six-tenths, an increase in $\bar{Q}^*$ of 34.1 percent was observed at locations in the Onslow Bay area experiencing a sea breeze frontal passage. In general, the ratio of $\bar{Q}^*$ at locations ahead of and behind a sea breeze front rose significantly as the amount of cumulus cloud cover ahead of the front decreased.

SUMMARY AND CONCLUSIONS

Distinct differences in the physical characteristics of sea breeze and air mass cumulus clouds influence the spatial variation in global insolation values measured within the Onslow Bay region. Sea breeze cumulus clouds located along the sea breeze convergence zone exhibit greater horizontal and vertical development than do the air mass cumulus clouds that form beyond this zone. Global insolation, or more specifically, the normalized insolation $\bar{Q}^*$ is more significantly reduced at locations under sea breeze cumulus than air mass cumulus for any specific cloud amount. The reduction of global insolation by sea breeze cumulus cloud cover exceeds the reduction attributed to air mass cumulus by as much as 5 percent in the Onslow Bay region. $\bar{Q}^*$ is a nonlinear function of cumulus cloud amount; its value is also a function of the changing cloud vertical extent with increasing cloud amounts. The diurnal changes in calculated $\bar{Q}^*$ values for specific amounts of sea breeze cumulus cloud cover is also related to the increase of the cloud's vertical extent with time of day. Increasing thickness of sea breeze cumulus for a constant cloud amount of 1 to 2 tenths decreased the quantity of $\bar{Q}^*$ by 14.8 percent between the hours of 0900 and 1800 EST.

The clearing effect produced after the passage of a sea breeze front in the Onslow Bay area is unquestionably reflected in the increase of $\bar{Q}^*$ values behind the front. The absolute change in $\bar{Q}^*$ following a frontal passage is determined by the amount and type of cumulus cloud cover that develops ahead of the sea breeze front. $\bar{Q}^*$ values increased by 34.1 percent after a sea breeze frontal passage at locations under the influence of 6 tenths cumulus cloud cover before the passage. Average summer values of daily global insolation were reduced significantly (up to 10.3 percent) with an increasing delay of the sea breeze frontal passage over the Onslow Bay region. For most of the sea breeze case study days there were only minor differences (less than 5 percent) in the global insolation values amongst sites of unequal distance from the sea breeze front before the hour of 1100 EST. Later in the day, as the sea breeze front moves inland and convective type cloudiness

increases, coastal-inland global insolation differences exceeding 10 percent frequently develop during sea breeze circulation days. Frontal stations received in excess of 5 percent less global radiation than was received at either coastal or inland sites between the hours of 1100 and 1400 EST on over a third of the sea breeze days studied. After 1400 EST values of global insolation measured at coastal and frontal stations in the Onslow Bay region were significantly higher (in excess of 5 percent) than those measured at inland sites on sea breeze case study days.

More detailed investigations of the sea breeze frontal passage and sea breeze cumulus cloud effects on global insolation will require several years of data aquisition and a significant increase in the number of measuring sites to insure a sufficient number of observations required for many of the desired analyses. Increased resolution and magnification of the satellite photographs in both the visible and infrared spectrum will improve the accuracy and precision of any analysis incorporating variables such as cumulus cloud cover amount or cumulus cloud vertical extent. The relationships developed between sea breeze frontal passages and the values of global insolation or Q* for the Onslow Bay region can be applied equally well to other regions along the southeastern coast of the United States having similar mesoscale climates. Further research investigating the effects of sea breeze circulations upon global insolation in coastal regions, where orographic features have major influences on the mesoclimate, will become increasingly urgent as this country depends more heavily upon solar radiation as a source of energy.

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