METEOROLOGICAL SERVICE

SOLAR RADIATION OBSERVATIONS 1971

PART I : VALENTIA OBSERVATORY
PART II : KILKENNY METEOROLOGICAL STATION
PART III : BIRR METEOROLOGICAL STATION

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C O N T E N T S

P A R T 1

SOLAR RADIATION OBSERVATIONS AT VALENTIA OBSERVATORY

P A R T 2

SOLAR RADIATION OBSERVATIONS AT KILKENNY METEOROLOGICAL STATION

P A R T 3

SOLAR RADIATION OBSERVATIONS AT BIRR METEOROLOGICAL STATION

SOLAR RADIATION OBSERVATIONS AT VALENTIA OBSERVATORY

1971

1. Introduction

Solar Radiation observations were begun at Valentia Observatory in September, 1954. At that time a Moll thermopile pyranometer and a recording millivoltmeter were installed, and have, since then, provided a continuous record of Global Solar Radiation. A Linke-Feussner thermoelectric iron-clad Actinometer (Kipp and Zonen) was also brought into use at the same time and a schedule of routine observations on direct sunlight has been maintained, when weather conditions permitted. In 1962, a second Moll thermopile pyranometer, fitted with shading ring, was installed to provide a record of Diffuse Solar Radiation.

Measurements of the Radiation Balance with a Funk type Net Pyrradiometer were introduced on a routine basis as from 1st. January, 1971.

Data derived from the pyranograph and the results obtained from the direct sunlight observations for the period 1954 - 1959 have been published in [1]. The data for 1960 and subsequent years have been published in annual volumes. This volume contains the data for 1971.

2. Site of the Observatory

The Observatory, which is in the extreme south west of Ireland, (Lat. 51° 56' N; Long. 10° 15' W.), is situated on the south east side of the narrow estuary of Valentia River, which runs approximately north east - south west (Fig. 1). It is about 1·2 Km to the south west of the town of Cahirciveen. To the north, across the river estuary, is a range of hills 120 to 360 m. high. To the north east, beyond the town of Cahirciveen. the estaury opens out considerably and the terrain is generally an open boggy basin with only a gentle gradient. To the south east, however, the ground rises rapidly again to a range of hills 270 to 360 m. high, the highest peak (Bentee 375 m.) being only 1·5 Km. from the Observatory. To the south, the country opens out to a distance of nearly 8 Km. from the Observatory, where the Kilkeaveragh range of hills runs east west, varying in height from 120 to 390 m. There is an opening to the sea to the south west between the mainland and Valentia Island. The hills on the island rise to a height of 270 m. North of the island there is another opening to the sea, and the circle of hills is completed by a range to the north west, 120 to 270 m. high, separated by a narrow gulley from the range to the northward.

3. Measurement of Global Solar Radiation

3.1. Exposure of the Pyranometer

The layout of the Observatory is shown in Fig. 2. The instrument is exposed on the roof of the Radiation House and the recording millivoltmeter mounted vertically below it inside the house. The pyranometer is at a height of 4 metres above ground level and 20 metres above Mean Sea Level. The nature of the exposure can be seen in Fig. 3, in which the outline of all obscuring objects is plotted on an Elevation-Azimuth diagram. Apart from one sector, the obscuring objects have an elevation of less than 5°, so that their effect on the Diffuse Radiation is negligible.

In the sector 080° to 150° E. from north, the elevation of the obscuring objects lies between 8° and 10·5° approximately.

The loss of Diffuse Radiation according to Blackwell's formula [2] works out at approximately 1%. This is also very small, so no corrections have been made to the data to allow for this loss. The loss of radiation due to the obscuring of the direct solar beam occurs mainly in the same sector (080° to 150°). During the period, from the end of August to mid-April, the initial 30 to 70 minutes of the direct sun is cut off. This affects the hourly values given for the first and occasionally the second hour but the effect on the total for the day is negligible. No attempt has been made to correct the radiation data for this loss of direct sunlight.

3.2. Pyranograph Used

The instrument used during 1971 is the same as has been used since recordings began in 1954, namely a G_2 Solarimetric Thermopile by Kipp and Zonen, Serial No. 847. Recording millivoltmeter No. 29 (Kipp and Zonen) has been used since recordings began apart from a few months in 1963 when it was being overhauled.

During 1970 Lintronic Integrator No. II 031 combined with a print-out unit was introduced on an experimental basis and adopted for routine measurements as from 1st. January, 1971. This equipment provides a print-out of the integrated radiation for each hour L.A.T.

The recording millivoltmeter was maintained in operation to provide a continuous record and as a check against any mal function of the integrator.

3.3. Calibration of the Pyranograph

The pyranometer, recorder and integrator were calibrated by means of the Actinometer and Millivoltmeter, described in paragraphs 5.1. and 5.2. below. The calibration was done by comparing the intensity of the direct sunlight as measured by the pyranograph with the corresponding intensity as measured by means of the actinometer.

3.4. Timing Control

To facilitate accurate timing, time marks were made on the chart, automatically, by standard clock, at each hour L.A.T. This clock, which also controlled the print-out unit, was adjusted daily to keep it within ½ minute of true L.A.T.

4. Measurement of Diffuse Solar Radiation

4.1. Exposure of the Pyranometer

The Diffuse Pyranometer is mounted on the same site as the Global Pyranometer, at a distance of 3·1 metres north west of the latter. A description of the site is given in 3.1. above.

4.2. Pyranograph Used

The instrument in use is similar to that used for recording the Global Solar Radiation, i.e. a G_2 Solarimetric Thermopile, Kipp and Zonen, Serial No. 1387, and Recording Millivoltmeter (Kipp and Zonen) Serial No. 168. The width of the shading ring is 48 mm. and its diameter is 308 mm.

Lintronic Integrator No. 717A combined with a print-out unit was introduced on a routine basis as from 1st. January, 1971. As in the case of the Global Radiation, the recorder and integrator were both maintained in operation.

4.3. Calibration of the Pyranograph

The shadow ring was displaced below the horizontal position. The pyranograph was then calibrated in exactly the same way as the Global Pyranograph (para. 3.3. above). The calibration was checked by comparing the values recorded during hours when the sky was overcast with the corresponding values as recorded on the Global Solarimeter.

4.4. Shadow-Ring Correction

Corrections have been made to increase the values extracted from the charts to compensate for the diffuse energy intercepted by the ring simultaneously with the eclipse of the sun's disc. Theoretical corrections were computed following the method described by Blackwell [2].

5. Direct Sun Observations

5.1. Instruments Used

The Actinometer used for all direct sun observations was the Linke-Feussner thermoelectric iron-clad actinometer (Serial No. 93) by Kipp and Zonen, provided with red and yellow filters. Millivoltmeter No. 233216, used in conjunction with the Actinometer was replaced in February, 1970, by Sangamo Weston Meter No. BB 56501.

The Actinometer body consists of six massive copper rings, which are made to serve as diaphraghms. The openings of these diaphraghms decrease progressively towards the thermopile, and the chambers formed between them are specially shaped so as to eliminate turbulent air currents within the instrument. Felt lagging around the body shields the instrument thermally.

The detachable filter head consists of a heavy copper core, which is screwed on to the exterior ring and carries a filter disc. Only a small segment of this disc protrudes from the head, so that the filters are kept at actinometer temperature. The Moll Thermopile is divided into two equal sections, connected in opposition and each consisting of twenty constantan-manganin couples. One of the sections is screened from radiation and thus acts as a compensating device for the elimination of thermal effects associated with quasi-adiabatic pressure changes, occurring near the thermopile surface.

A thermometer for reading the temperature of the instrument is set inside the copper parts.

5.1.1. Filters Used

Up to and including 1967 two filters of Schott glass OG_1 and RG_2, received from the Radiation Commission of the International Association of Meteorology, were used for all the observations. These filters were tested at Davos Observatory and a certificate with the reduction factor (DR) supplied.

For Filter OG_1, DR = 1·108

For Filter RG_2, DR = 1·132

As from 1st. January, 1968, a third filter, RG_8 received from the same source was introduced. The Davos reduction factor for this filter is:-

For Filter RG_8, DR = 1·050

5.2. Calibration of the Actinometer

In 1961, an Angstrom Compensating Pyrheliometer (No. 548) was received, with calibration data, from Stockholm. This instrument is reserved as National Reference Standard. It's calibration has been maintained in agreement with IPS 1956 by participation in the W.M.O. Region VI Comparisons of National Standard Pyrheliometers held in Davos in 1964 and in Carpentras, France, in 1969.

The Actinometer and associated meter were calibrated by reference to the Pyrheliometer.

5.3. Observational Routine

All observations were made at a site about 6 metres south east of the Radiation House (Fig. 2) and at a height of 15·5 metres above M.S.L. Observations were made three times daily, when sky conditions permitted, at approximately 1030, 1230 i.e. at approximately the average time of local noon, and at 1430 G.M.T. Each of the observations consisted of a double series of measurements in the order:- Zero - RG_8 - Total - RG_2 - OG_1 - OG_1 - RG_2 - Total - RG_8 - Zero. Observations were made of the time G.M.T. of each of the individual settings, the temperature at the beginning and end of each set of observations, as indicated by the thermometer attached to the Actinometer, the cloud type and amount, visibility and weather.

5.4. Computation of the Sun's Zenith Distance (Z)

The Sun's Zenith Distance for each time of observation was obtained from a special table prepared for Valentia, based on Tables 5, 6 and 11 as given in Linke's "Meteorologisches Taschenbuch" Vol. IV (Lepizig, 1939 edition) and the "Alt Azinuth Tables for Latitude Limits 30° to 64°", prepared by P.L.H. Davis and published by H.M. Stationary Office, London (1918 edition). The values are correct to the nearest tenth of a degree.

5.5. Computation of the Optical Air Mass (m)

The Relative Air Mass (m_h) was obtained from the Sun's Zenith Distance (Z) by using Table 137, page 422 of "Smithsonian Meteorological Tables" (1951 edition). This table is based on Bemporad's formula:-

$$m_h = \frac{\text{Atmospheric Refraction in Seconds}}{58{\cdot}36 \sin Z}$$

The Optical Air Mass (m) was computed from the formula:-

$$m = m_h \frac{P}{1000}$$ where P = the atmospheric pressure in millibars.

6. Radiation Balance

Funk Net Pyrradiometer No. 695 combined with Honeywell Recorder No. 68B/2124 was introduced for routine measurements as from 1st. January, 1971.

The exposure is over a lawn surface adjacent to the Radiation House on the roof of which the other radiation instruments are exposed.

The calibration is checked regularly by reference to the Angstrom Pyrheliometer.

7. Notes on the Tables

(1) All the radiation values given in the following Tables are in the

International Pyrheliometric Scale, 1956.

(2) When record was missing for any hour due to instrument defect or other cause, an interpolated (estimated) value has, where possible, been entered in Tables 1 and 2. Such values are shown enclosed in brackets.

(3) In Table 3, the pressure, temperature and vapour pressure data were extracted from the routine meteorological records kept at the station. The cloud types and amounts were recorded by the observer during the actinometer observations. The amounts of cloud are given in eights of sky covered.

(4) Prior to the 1963 publication the radiation data for the OG_1 and RG_2 filters given in Table 3 were published as observed, i.e. the filter corrections were not applied. As from and including the 1963 publication the data given for all the filters have been corrected by means of the filter corrections given in para. 5.1.1. above.

References

[1] Solar Radiation Observations at Valentia Observatory, 1954 - 1959. (Meteorological Service, Department of Transport and Power, Dublin, 1961).

[2] Five Years Continuous Recording of Total and Diffuse Solar Radiation at Kew Observatory - By M.J. Blackwell. (Meteorological Research Committee, Air Ministry, London. M.R.P. No. 895, 1954).

TABLE 1 GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) JANUARY, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1						6	33	46	68	81	78	47	5						364
2						5	25	39	49	41	41	51	7						258
3						6	28	53	83	81	61	33	11						356
4						1	6	9	9	19	26	14	4						88
5						4	15	19	20	58	59	23	3						201
6						1	2	5	6	8	8	5	1						36
7						3	13	35	24	35	55	22	6						193
8						2	14	21	18	13	9	4	1						82
9						1	5	5	5	5	6	4	1						32
10					1	5	14	29	22	29	34	21	6						161
11						8	13	9	6	7	5	9	11	1					69
12						9	33	58	88	84	38	52	13						375
13						8	14	21	25	91	81	49	10						299
14						5	18	51	69	81	62	25	7						318
15						14	25	34	58	35	48	36	12						262
16						10	29	44	53	65	53	28	12						294
17						4	14	21	25	25	44	35	18	1					187
18						3	7	17	37	52	79	34	13						242
19						5	26	31	55	28	66	29	8						248
20						7	16	15	17	20	11	5	6	1					98
21					1	18	42	41	19	13	9	18	12	1					174
22					1	12	17	20	19	16	10	10	4						109
23						10	20	42	46	39	23	9	10	1					200
24					1	8	19	18	15	15	16	8	7						107
25						16	23	8	9	16	13	10	5	1					101
26						6	13	13	19	26	19	11	10	1					118
27					1	8	13	29	43	20	35	27	8	1					185
28						9	26	48	79	98	105	76	19	1					461
29					1	19	68	96	111	115	64	66	26	1					567
30					2	28	90	98	119	122	114	78	39	4					694
31					2	15	24	99	146	102	48	35	13	2					486
Total					10	256	705	1074	1362	1440	1320	874	308	16					7365
Mean					0·3	8·3	22·7	34·6	43·9	46·5	42·6	28·2	9·9	0·5					237·6

TABLE 1 (Contd.) GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) FEBRUARY, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1					1	22	71	100	121	118	93	46	24	4					600
2					2	11	22	24	29	36	43	27	7	1					202
3					1	14	30	60	74	69	44	25	8	1					326
4					2	11	24	38	49	45	38	30	22	3					262
5					1	8	11	7	9	9	11	15	8	1					80
6					1	7	17	28	37	37	28	25	13	3					196
7					2	19	30	29	29	30	23	14	6	2					184
8					1	6	14	28	95	63	50	35	12	2					306
9					5	24	32	37	62	38	28	18	8						252
10					2	26	89	76	125	115	65	45	29	14					586
11					4	38	79	110	141	81	50	49	29	6					587
12					2	10	27	22	24	38	20	17	7	3					170
13					5	21	43	103	82	107	74	53	26	11					525
14					5	29	32	29	34	46	25	33	11	2					246
15					1	18	34	53	53	59	78	96	28	4					424
16					10	30	63	98	133	88	43	58	24	6					553
17					4	21	21	62	106	116	59	43	34	9					475
18					10	15	19	20	32	25	30	20	13	3					187
19					4	16	34	29	41	49	29	22	16	6					246
20					9	25	76	78	68	98	65	91	65	11					586
21					15	49	77	142	111	126	132	116	69	24					861
22					19	61	86	131	124	66	53	49	39	17	1				646
23					9	28	50	67	84	93	70	43	18	8					470
24					9	25	44	51	53	87	88	72	93	23	1				546
25				1	16	17	54	109	63	45	59	54	27	8	1				454
26					6	19	48	106	128	164	168	67	20	5	1				732
27					4	13	40	69	83	34	33	48	21	9	1				355
28				1	17	49	64	132	153	66	59	56	18	8	1				624
Total				2	167	632	1231	1838	2143	1948	1558	1267	695	194	6				11681
Mean				0·1	6·0	22·6	44·0	65·6	76·5	69·6	55·6	45·3	24·8	6·9	0·2				417·2

TABLE 1 (Contd.) GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) MARCH, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1					1	3	10	12	21	54	40	15	14	13	3				186
2				2	21	59	67	106	125	120	118	95	47	15	1				776
3				1	8	26	30	29	39	52	66	62	26	11	1				351
4				1	5	13	21	23	45	77	77	68	43	17	2				392
5				4	25	67	96	161	180	182	172	110	42	31	3				1073
6				2	16	30	108	164	174	199	174	30	25	8	1				931
7				3	21	43	59	156	148	114	56	47	47	13	1				708
8				2	16	56	104	190	197	196	157	103	58	24	4				1107
9				1	17	61	70	111	195	170	139	56	25	13	7				865
10				3	21	49	80	87	90	132	116	92	54	25	4				753
11				5	20	42	102	124	133	169	107	97	52	29	9				889
12				1	8	14	22	34	37	81	69	43	31	8	2				350
13				1	13	23	35	60	43	57	67	133	83	44	9				568
14				4	43	103	161	141	114	93	124	115	52	71	6				1027
15				8	25	31	71	150	158	135	156	77	83	52	9				955
16				7	46	68	115	108	140	162	136	170	71	25	4				1052
17				5	18	23	18	33	63	51	30	28	18	7	1				295
18				4	8	16	18	27	35	53	20	4	4	7	1				197
19				5	14	52	124	93	129	166	163	122	87	21	10				986
20				8	28	77	136	140	228	237	217	169	109	77	22				1448
21				8	49	130	165	196	198	238	218	184	139	87	24				1636
22				11	49	72	96	91	129	197	209	105	78	36	8				1081
23				2	3	8	27	50	85	58	116	112	37	24	7				529
24				3	9	12	22	30	31	65	69	67	81	56	16	1			462
25			1	16	29	66	103	104	81	45	56	39	27	9	2				578
26				5	13	28	39	72	37	57	43	25	16	9	5				349
27			1	5	24	35	55	62	87	79	121	80	42	19	6				616
28				8	24	38	33	24	21	25	20	16	14	11	5				239
29				10	72	138	120	238	96	107	71	116	92	47	25	2			1134
30			1	24	59	135	184	190	153	165	200	204	158	90	39	4			1606
31				5	28	34	32	74	116	159	124	132	103	37	15	1			860
Total			3	164	733	1552	2323	3080	3328	3695	3451	2716	1758	936	252	8			23999
Mean			0·1	5·3	23·6	50·1	74·9	99·4	107·4	119·2	111·3	87·6	56·7	30·2	8·1	0·3			774·2

TABLE 1 (Contd.) GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) APRIL, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1				5	15	24	49	63	79	63	33	47	24	18	9				429
2			1	11	23	49	57	35	36	40	45	19	10	8	5				339
3				5	31	60	116	227	211	181	187	83	38	23	7	1			1170
4				6	36	89	174	234	237	160	117	68	31	34	34	3			1223
5			5	20	47	61	158	155	178	154	227	178	89	124	39	3			1438
6			3	39	99	158	205	131	143	103	188	55	165	97	34	5			1425
7			3	32	82	148	118	183	262	193	212	169	162	105	43	6			1718
8			4	35	88	128	178	225	257	255	204	190	135	51	24	4			1778
9			4	37	94	154	204	232	262	205	91	68	37	36	18	3			1445
10			4	37	92	151	198	183	260	259	238	203	152	97	42	6			1922
11			5	43	106	159	199	211	243	242	206	189	155	98	47	8			1911
12			5	24	44	68	89	156	250	230	259	228	177	121	58	10			1719
13			5	28	76	131	178	213	215	180	205	192	114	60	26	10			1633
14			6	38	98	144	200	232	244	256	231	200	147	103	43	7			1949
15			5	15	30	37	44	59	66	61	54	50	39	18	18	3			499
16			7	16	25	76	117	209	231	240	261	225	175	53	40	12			1687
17			9	66	84	55	125	144	129	133	87	76	50	25	11	3			997
18			2	10	25	37	55	74	66	74	104	108	76	58	18	3			710
19			8	30	45	65	105	144	169	169	134	98	75	89	74	13			1218
20			7	16	28	46	78	152	150	111	87	71	39	16	6	5			812
21			8	27	41	63	92	97	88	88	69	103	117	59	15	5			872
22			1	6	20	60	59	183	214	225	289	231	151	145	49	20	1		1654
23			14	76	128	182	201	215	249	301	287	256	209	133	79	21	1		2352
24			17	70	104	176	223	264	271	291	248	179	62	89	66	25	1		2086
25			5	9	10	14	40	41	56	98	161	185	192	155	88	29	1		1084
26			8	35	65	91	209	216	132	141	115	96	96	76	39	11	1		1331
27			21	71	130	189	241	236	299	279	295	265	190	152	57	28	1		2454
28			11	38	73	104	119	74	84	99	80	62	79	88	46	13	1		971
29		1	24	78	118	201	270	281	309	280	287	246	174	135	58	17	1		2480
30			1	8	63	158	120	165	155	233	257	223	214	153	66	31	2		1849
Total		1	193	931	1920	3078	4221	5034	5545	5344	5258	4363	3374	2419	1159	305	10		43155
Mean		0·0	6·4	31·0	64·0	102·6	140·7	167·8	184·8	178·1	175·3	145·4	112·5	80·6	38·6	10·2	0·3		1438·5

TABLE 1 (Contd.) GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) MAY, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1		1	26	76	136	184	246	238	326	287	267	239	150	92	55	46	4		2373
2		1	24	73	132	199	236	252	169	233	252	191	115	134	103	29	2		2145
3		1	15	43	53	98	161	195	145	99	74	68	24	21	12	4			1013
4		1	5	27	23	25	56	50	272	123	130	135	120	91	84	20	1		1163
5		3	24	40	48	74	94	101	72	66	47	29	71	74	52	14	2		811
6		1	24	38	73	30	90	225	292	242	125	117	116	104	21	11	2		1511
7		1	6	15	28	73	89	74	121	262	250	216	183	62	23	7	1		1411
8		1	13	43	78	110	82	146	83	91	78	74	61	34	20	15	4		933
9			5	13	16	23	27	54	79	115	210	199	171	120	83	31	6		1152
10		3	26	65	90	143	178	275	216	205	189	176	200	93	35	34	5		1933
11		1	17	28	68	88	189	198	144	265	275	267	202	176	89	48	8		2063
12		6	39	96	153	205	217	208	236	307	249	249	194	133	83	39	6		2420
13		3	14	12	31	43	78	105	146	212	141	122	47	41	31	17	2		1045
14		1	8	15	10	14	28	35	67	87	106	71	49	10	6	5	1		513
15		3	21	53	124	139	192	247	198	245	242	246	215	141	76	35	6		2183
16		3	18	81	86	123	203	121	176	205	239	217	189	122	87	27	5		1902
17		4	17	84	130	141	144	158	197	208	127	171	212	156	51	16	4		1820
18		3	26	50	86	77	168	197	176	282	306	272	216	154	103	51	5		2172
19		7	42	95	151	133	162	232	268	214	267	217	158	116	86	63	14		2225
20		4	11	13	26	53	97	113	93	147	107	91	98	54	40	19	10		976
21		5	27	64	101	125	184	263	320	326	257	150	90	78	36	19	3		2048
22		4	27	106	156	190	232	242	271	326	313	279	233	179	120	64	9		2751
23		8	16	110	95	185	252	240	308	313	240	209	237	161	93	26	5		2498
24		3	20	43	141	173	139	146	136	156	155	196	167	82	47	24	6		1634
25		4	24	40	73	92	164	232	247	176	215	242	207	60	12	6	1		1795
26		2	9	29	55	161	243	214	114	127	65	61	39	24	23	17	5	1	1189
27		8	39	70	129	113	140	183	201	209	222	214	151	59	70	49	15		1872
28		14	39	84	79	149	180	183	160	256	254	281	197	116	113	43	11		2159
29		1	10	45	42	72	50	40	47	49	55	35	52	53	28	13	7		599
30		4	21	91	95	106	117	287	323	325	295	284	230	186	122	26	9		2521
31		6	24	43	73	96	117	123	165	231	277	211	201	156	63	32	9		1827
Total		107	637	1685	2581	3437	4555	5377	5768	6389	6029	5529	4595	3082	1867	850	168	1	52657
Mean		3·5	20·5	54·4	83·3	110·9	146·9	173·5	186·1	206·1	194·5	178·4	148·2	99·4	60·2	27·4	5·4	0·0	1698·6

TABLE 1 (Contd.) GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) JUNE, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1		8	33	73	105	104	135	146	125	183	209	205	66	62	26	9	1		1490
2	1	10	19	38	71	172	170	254	194	138	171	223	84	48	37	13	1		1644
3		10	44	111	136	189	150	232	323	313	283	253	204	89	49	29	12		2427
4		7	44	60	149	296	213	223	295	297	287	257	204	149	79	43	13	1	2617
5		16	57	108	161	215	259	292	313	315	288	267	112	175	121	67	18		2784
6	1	11	16	37	56	137	259	57	15	13	54	47	72	40	25	28	13	1	882
7		8	19	26	30	50	91	208	219	161	281	248	155	163	98	41	6		1804
8		9	34	47	105	99	144	144	116	93	55	68	67	62	42	16	7	2	1110
9	1	2	8	29	50	91	141	124	116	239	206	181	75	54	96	34	15	1	1463
10	1	4	14	17	44	149	172	299	247	323	169	235	150	173	121	48	19	1	2186
11	1	15	25	60	71	152	185	96	225	316	322	220	247	170	146	63	16	1	2331
12		15	68	123	152	138	235	167	208	198	308	248	229	126	110	30	9		2364
13	1	9	18	23	50	75	69	107	95	114	135	224	138	156	74	42	14	2	1346
14	1	26	66	31	31	23	47	51	44	165	288	273	252	201	126	85	35	1	1746
15	2	16	37	54	80	131	197	225	187	174	219	163	182	105	68	35	10	1	1886
16	1	10	45	73	150	182	207	297	293	245	187	253	195	160	73	41	14	1	2427
17	1	11	68	79	168	214	242	220	209	262	315	275	211	158	77	26	7	1	2544
18		1	4	6	14	24	38	43	39	56	89	73	44	16	15	11	7	3	483
19	1	9	21	34	73	83	146	107	92	75	62	58	21	16	24	11	2		835
20		6	18	24	43	90	91	141	193	253	263	258	205	179	100	33	12	1	1910
21	1	3	11	17	18	27	46	86	151	77	111	109	130	148	97	40	18	1	1091
22	2	4	18	35	66	90	142	165	225	229	197	183	85	51	31	37	12		1572
23	3	8	21	48	86	101	160	210	233	239	143	120	120	121	88	33	6		1740
24		5	11	25	76	61	68	74	39	31	40	44	32	34	30	10	4		584
25	1	8	33	93	97	124	130	245	221	119	72	102	39	27	87	38	16		1452
26		9	39	65	103	131	127	300	309	207	286	230	218	129	100	51	20	2	2326
27	1	13	33	86	80	89	94	95	77	120	112	119	54	79	119	66	21	1	1259
28		17	37	95	91	94	93	145	186	124	157	168	162	98	63	40	19	1	1590
29	1	5	10	30	75	72	113	180	95	142	149	116	52	47	42	19	6		1154
30		3	11	39	61	98	108	120	122	136	117	76	68	79	57	20	13	1	1129
Total	21	278	882	1586	2492	3501	4272	5053	5206	5357	5575	5296	3873	3115	2221	1059	366	23	50176
Mean	0·7	9·3	29·4	52·9	83·1	116·7	142·4	168·4	173·5	178·6	185·8	176·5	129·1	103·8	74·0	35·3	12·2	0·8	1672·5

TABLE 1 (Contd.) GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) JULY, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1		4	13	40	73	102	144	146	134	130	156	133	136	102	60	40	12		1425
2	1	15	50	76	118	78	55	78	95	86	71	92	61	35	17	12	3		943
3		3	13	21	30	74	69	103	276	246	182	129	97	86	111	51	10		1501
4		3	16	57	98	93	174	288	324	326	306	274	233	180	125	68	18	1	2584
5		13	59	119	198	161	272	299	317	318	304	274	225	183	116	46	18		2922
6		19	63	113	166	216	263	297	312	313	300	270	228	176	127	45	9		2917
7		21	61	109	158	207	250	280	294	203	257	251	212	163	108	49	12	1	2636
8		5	8	10	21	39	63	122	202	307	233	104	105	64	82	62	28	1	1456
9		20	67	122	177	228	271	303	321	325	310	280	235	183	121	63	18		3044
10		18	63	112	167	218	262	296	313	315	297	273	231	186	135	48	7		2941
11		6	16	33	55	78	100	158	263	320	297	265	233	146	141	69	10		2190
12		17	64	118	174	225	270	302	319	322	307	276	235	178	120	61	17		3005
13		17	60	113	169	224	269	302	319	321	307	278	233	179	120	64	16		2991
14		6	54	113	151	192	249	233	294	287	245	211	144	98	63	28	9		2377
15		19	54	112	163	215	261	299	289	299	313	319	176	59	30	20	9	1	2638
16		10	52	112	153	214	306	309	341	276	323	288	240	183	119	59	15		3000
17		13	63	112	172	229	270	297	322	322	306	276	231	177	118	59	13		2980
18		9	39	98	148	207	258	295	308	322	293	271	226	172	107	59	13		2825
19		6	22	65	164	160	259	271	250	216	168	166	132	94	47	23	5		2048
20		5	24	58	78	66	96	59	86	74	166	145	102	78	90	45	9		1181
21		5	22	48	65	61	88	101	59	83	85	62	51	22	31	9	2		794
22		3	16	48	67	134	192	167	219	110	68	88	100	45	20	14	5		1296
23		4	25	54	47	81	81	79	147	100	102	98	96	79	92	32	6		1123
24		4	20	50	67	96	76	110	124	182	229	136	63	75	44	23	5	1	1305
25		8	30	75	90	195	265	291	278	305	241	259	97	76	39	27	11		2287
26		5	30	49	69	180	222	251	254	318	204	114	132	89	110	30	9		2066
27		2	14	38	82	119	159	260	194	140	159	196	175	148	71	60	9		1826
28		4	8	10	37	21	65	154	187	168	157	139	142	50	37	9	2		1190
29		2	15	33	77	163	227	256	151	204	188	183	128	122	33	30	5		1817
30		3	21	57	61	73	58	64	57	50	54	44	34	54	26	18	3		677
31		2	16	45	80	126	81	184	140	114	86	89	88	95	57	15	3		1221
Total	1	271	1078	2220	3375	4475	5675	6654	7189	7102	6714	5983	4821	3577	2517	1238	311	5	63206
Mean	0·0	8·7	34·8	71·6	108·9	144·4	183·1	214·6	231·9	229·1	216·6	193·0	155·5	115·4	81·2	39·9	10·0	0·2	2038·9

TABLE 1 (Contd.) GLOBAL SOLAR RADIATION -MEAN HOURLY VALUES (J/cm^2) AUGUST, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1		2	23	68	122	169	138	173	157	250	308	185	141	109	106	47	4		2002
2		3	22	67	102	103	126	121	120	78	54	44	48	23	21	8	4		944
3		4	28	40	42	86	106	134	194	85	131	236	201	87	65	37	3		1479
4		1	10	39	42	95	162	181	165	275	253	213	194	102	52	56	16		1856
5		3	46	84	146	96	236	164	235	289	273	249	208	150	41	8	1		2229
6		1	4	16	37	102	139	210	145	106	217	214	53	70	77	11	2		1404
7		3	24	64	102	114	114	67	77	97	106	74	56	48	31	26	3		1006
8			4	7	15	23	30	49	68	68	60	47	37	16	10	4	1		439
9		1	13	22	34	53	101	79	44	27	22	17	10	15	10	6			454
10			11	42	120	99	67	98	238	105	137	139	109	59	44	10			1278
11		2	19	93	74	111	165	196	252	191	103	86	50	35	17	7	1		1402
12		1	5	23	64	106	75	158	227	147	100	53	45	21	16	13			1054
13			8	16	69	54	86	139	98	111	91	76	21	23	13	3	1		809
14			1	3	9	44	65	28	50	83	106	59	45	29	22	8			552
15		1	26	76	130	184	231	266	288	266	244	247	200	144	84	29	1		2417
16		1	23	75	130	194	236	170	236	294	274	239	153	74	52	20	1		2172
17		1	11	31	73	104	81	40	132	114	84	91	78	56	40	13	2		951
18		1	11	57	115	171	206	175	261	271	246	187	161	86	71	22	1		2042
19			14	49	59	164	210	254	247	278	234	221	184	147	52	15	1		2129
20			17	38	42	66	106	131	144	173	129	124	193	137	65	26	1		1392
21			15	63	120	188	149	154	134	178	200	112	155	34	23	23	1		1549
22			4	18	45	68	43	77	71	66	82	100	100	27	10	8			719
23			1	8	13	35	41	79	85	94	58	69	26	17	21	4	1		552
24			4	16	45	64	76	105	80	71	108	85	75	56	35	8			828
25			1	24	44	59	119	172	222	203	207	118	89	72	24	3			1357
26			1	7	21	75	110	195	265	167	185	171	101	81	62	8	1		1450
27			7	30	85	68	110	92	52	50	53	62	44	40	21	5	1		720
28			4	15	23	39	50	83	102	79	64	97	40	20	9	1			626
29			5	25	50	76	156	203	262	261	247	187	159	114	60	7			1812
30			6	26	39	59	109	115	107	180	130	192	69	46	28	8			1114
31			2	21	34	58	98	165	111	94	77	55	86	23	8	2	1		835
Total		25	370	1163	2046	2927	3741	4273	4869	4751	4583	4049	3131	1961	1190	446	48		39573
Mean		0·8	11·9	37·5	66·0	94·4	120·7	137·8	157·1	153·3	147·8	130·6	101·0	63·3	38·4	14·4	1·5		1276·5

TABLE 1 (Contd.) GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) SEPTEMBER, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1			2	14	61	142	193	227	226	219	180	97	48	66	8	1	1		1485
2			1	5	13	23	23	31	30	27	20	25	18	13	5	1	1		236
3			2	11	19	35	61	55	53	44	52	46	25	12	6	1	1		423
4			2	15	36	96	58	63	74	113	123	93	71	62	22	5	1		834
5			4	37	90	146	190	227	238	264	226	184	146	93	29	3			1877
6			3	22	47	55	74	93	97	124	75	127	155	82	40	4			998
7			3	32	83	104	166	209	218	232	219	184	147	100	25	3			1725
8			4	42	70	138	195	151	170	224	217	184	141	88	37	4			1665
9			1	21	47	98	104	127	77	35	49	19	21	11	3				613
10			1	11	37	43	57	74	62	133	204	208	159	98	28	3			1118
11			1	8	29	111	117	155	209	227	227	191	149	31	25	4			1484
12			1	15	39	41	33	66	101	94	186	107	119	63	10	1			876
13			1	10	39	89	178	208	219	227	213	172	95	72	23	2			1548
14			1	20	63	112	150	195	213	216	196	179	135	79	29	1			1589
15			1	18	62	116	160	194	218	222	203	168	121	66	26	1			1576
16			1	21	67	119	160	203	187	147	121	118	57	23	9	1			1234
17				12	32	43	56	78	79	64	21	14	9	7	6	3			424
18				7	42	48	79	165	176	192	205	177	131	87	26	1			1336
19			1	16	39	67	90	136	153	247	122	100	52	40	16	1			1080
20				14	48	100	106	148	224	200	163	134	86	25	6	1			1255
21			1	17	55	48	78	112	179	219	203	171	129	74	27				1313
22				9	65	114	162	197	214	212	199	131	63	35	25	1			1427
23			1	6	17	28	38	41	47	51	58	54	70	32	8	1			452
24			1	7	52	82	45	58	110	174	106	125	84	52	24				920
25				4	16	42	108	115	140	192	127	83	66	38	5				936
26				5	18	34	59	54	136	166	169	145	115	61	14				976
27				7	20	45	94	161	162	195	137	122	113	67	9				1132
28				5	37	46	71	95	39	39	74	55	18	6	1				486
29				2	11	13	24	39	51	36	35	24	18	11	3				267
30				1	5	25	44	109	187	237	117	44	29	14	3				815
Total			33	414	1259	2203	2973	3786	4289	4772	4247	3481	2590	1508	498	43	4		32100
Mean			1·1	13·8	42·0	73·4	99·1	126·2	143·0	159·1	141·6	116·0	86·3	50·3	16·6	1·4	0·1		1070·0

TABLE 1 (Contd.) GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) OCTOBER, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1				2	11	21	40	77	189	182	133	74	36	14	2				781
2				8	32	51	108	157	182	171	185	87	47	10	1	1			1040
3				2	13	22	88	126	135	185	170	130	67	21	5				964
4				2	12	19	43	26	43	42	38	29	28	24	6	1			313
5				2	18	23	23	29	22	32	33	21	13	5	2	1			224
6				2	6	17	27	28	32	23	35	50	24	11	5	1			261
7				1	8	19	30	28	43	42	41	35	22	10	1				280
8				1	19	37	37	71	87	72	53	52	25	12	2				468
9				1	13	69	116	132	160	90	91	65	81	29	3	1			851
10				2	12	39	58	80	51	72	62	31	14	6	1				428
11				1	14	64	86	108	119	137	115	112	48	24	3				831
12				3	20	41	87	97	45	46	41	18	9	3					410
13					4	14	34	69	96	54	54	25	24	6	1				381
14				1	18	67	118	154	158	156	130	120	75	30	1				1028
15				1	5	26	49	60	82	125	136	122	59	13	1				679
16				1	17	52	73	88	91	86	78	53	39	19	1				598
17				1	12	41	70	98	91	78	82	53	20	8					554
18				1	13	18	14	11	13	18	16	11	6	3					124
19					10	47	75	53	91	127	78	50	42	19					592
20					12	55	89	61	84	52	44	33	17	10					457
21					4	9	9	14	23	28	30	17	13	6					153
22					10	39	77	83	113	49	45	30	11	4					461
23					3	6	10	13	17	13	14	12	11	2					101
24					9	38	88	128	143	154	140	108	64	21					893
25					10	32	42	45	39	33	52	32	21	9					315
26					7	47	91	130	137	139	125	97	58	10					841
27					8	45	96	132	137	140	131	101	55	7					852
28					6	17	41	69	36	29	10	8	11	8	1				236
29					6	28	82	111	137	132	118	86	59	7					766
30					8	18	61	108	122	139	126	82	52	12					728
31					4	25	34	51	56	58	44	43	20	6					341
Total				32	344	1046	1896	2437	2774	2704	2450	1787	1071	369	36	5			16951
Mean				1·0	11·1	33·7	61·2	78·6	89·5	87·2	79·0	57·6	34·5	11·9	1·2	0·2			546·8

TABLE 1 (Contd.) GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) NOVEMBER, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1					10	39	49	57	78	66	74	44	21	4					442
2					1	6	10	19	49	82	61	37	14	1					280
3					4	16	38	58	68	61	41	24	13	3					326
4					2	18	44	59	78	58	22	15	10	2					308
5					4	13	21	28	40	78	64	68	34	3					353
6					5	16	60	85	104	84	45	38	30	5					472
7					2	5	13	20	34	26	18	11	5	2					136
8					4	20	21	47	37	32	56	57	16	5					295
9					3	21	46	51	88	78	67	32	13	4					403
10					4	17	6	9	15	22	23	14	5	1					116
11					2	13	33	48	67	66	56	46	35	4					370
12					1	11	20	31	26	29	54	34	17	2					225
13					2	12	29	63	59	56	35	16	8	2					282
14					3	16	53	87	98	96	87	52	14	3					509
15					1	6	12	18	18	18	20	17	12	2					124
16					1	5	10	17	20	22	15	13	5	1					109
17					2	11	23	35	50	55	36	15	10	2					239
18					1	9	10	22	30	69	72	66	27	1					307
19					1	18	42	57	66	50	64	35	13	1					347
20						3	10	11	10	12	10	7	2						65
21						6	16	20	33	67	49	39	16	1					247
22						11	27	40	65	45	52	29	10	1					280
23						4	21	50	53	45	37	24	6	1					241
24						10	47	73	96	84	82	42	24	1					459
25						4	15	21	17	19	14	12	7	1					110
26						6	14	27	44	47	32	13	5						188
27						14	27	51	30	89	72	40	12	1					336
28					1	8	45	44	80	85	46	40	9	1					359
29						5	30	53	57	20	6	19	11	1					202
30						10	24	43	55	28	35	25	5	1					226
Total					54	353	816	1244	1565	1589	1345	924	409	57					8356
Mean					1·8	11·8	27·2	41·5	52·2	53·0	44·8	30·8	13·6	1·9					269·5

TABLE 1 (Contd.) GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) DECEMBER, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1						6	21	37	27	20	11	9	4	1					136
2						7	24	66	39	53	42	30	16						277
3						3	17	26	49	28	25	21	4						173
4						4	15	30	33	34	37	20	6	1					180
5						6	18	29	34	29	24	14	4						158
6						3	17	40	39	52	39	24	10						224
7						5	24	65	80	80	68	44	13						379
8						6	31	61	75	82	40	12	3						310
9						2	10	17	25	24	20	9	3						110
10						2	9	20	18	18	13	6	3						89
11						2	5	8	12	11	10	8	2						58
12						3	7	11	13	14	13	9	4						74
13						8	18	30	24	14	11	6	2	1					114
14						3	6	15	35	66	72	29	8						234
15						3	14	21	28	48	35	27	6	1					183
16						3	8	9	9	7	10	7	2						55
17						2	5	8	9	17	30	8	2						81
18						1	3	9	14	20	14	8	5						74
19						5	25	69	40	49	33	18	8						247
20						2	6	11	13	15	13	11	3						74
21						2	8	20	22	22	14	8	2						98
22						2	5	12	14	13	10	6	4						66
23						5	9	14	15	21	18	9	2						93
24						2	10	14	14	19	33	11	7						110
25						6	15	23	18	16	12	9	3						102
26						2	6	13	34	39	11	7	3						115
27						5	20	49	68	77	68	36	6						329
28						4	26	62	38	46	36	30	5						247
29						5	24	67	65	61	72	36	12						342
30						5	35	27	55	89	57	35	8						311
31						5	29	52	42	30	22	14	3						197
Total						119	470	935	1001	1114	913	521	163	4					5240
Mean						3·8	15·2	30·2	32·3	35·9	29·5	16·8	5·3	0·1					169·0

TABLE 2 DIFFUSE SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) JANUARY, 1971

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1						6	21	29	22	39	40	23	5						185
2						5	21	36	45	40	29	16	6						198
3						6	15	26	24	21	27	19	5						143
4						1	6	8	8	19	24	14	4						84
5						4	15	18	20	41	37	20	2						157
6						1	2	5	6	7	7	5	1						34
7						3	13	30	23	26	35	20	6						156
8						2	14	21	17	13	8	4	1						80
9						1	5	5	4	5	6	4	1						31
10					1	5	14	27	22	27	33	19	6						154
11						7	11	8	6	7	5	9	11	1					65
12						7	16	30	24	22	26	29	7						161
13						7	14	21	24	36	17	14	8						141
14						5	16	24	38	47	38	18	7						193
15						14	22	32	42	33	36	30	12						221
16						10	24	40	46	47	40	26	12						245
17						4	14	20	24	23	41	33	18	1					178
18						3	7	16	36	47	43	22	12						186
19						5	15	27	33	20	29	24	7						160
20						7	16	15	17	19	11	5	6	1					97
21					1	17	35	33	19	13	8	17	12						155
22					1	11	16	18	18	15	8	8	3						98
23						10	17	39	40	36	21	8	9	1					181
24					1	8	19	17	15	15	16	8	6						105
25						15	20	7	8	16	13	9	5	1					94
26						6	13	13	18	26	18	11	9	1					115
27					1	7	13	28	39	19	32	26	8	1					174
28						8	24	38	45	34	38	35	12	1					235
29					1	15	21	19	24	22	24	21	11	1					159
30					2	13	23	18	18	20	27	15	13	2					151
31					1	13	20	51	50	26	33	29	12	2					237
Total					9	226	502	719	775	781	770	541	237	13					4573
Mean					0·3	7·3	16·2	23·2	25·0	25·2	24·8	17·5	7·6	0·4					147·5

TABLE 2 (Contd.) DIFFUSE SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) FEBRUARY, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1					1	12	19	21	27	46	60	35	18	3					242
2					2	11	21	23	29	35	41	26	7	1					196
3					1	14	29	54	63	60	42	24	8	1					296
4					2	11	23	38	48	44	38	30	17	2					253
5					1	7	11	7	9	9	11	15	8	1					79
6					1	7	17	28	36	37	28	24	13	3					194
7					2	19	30	29	28	29	22	14	6	2					181
8					1	6	14	28	62	60	48	35	12	2					268
9					5	23	32	37	59	38	27	18	8						247
10					2	23	56	41	42	50	62	44	28	13					361
11					4	15	22	37	45	70	48	46	28	6					321
12					1	9	27	21	24	38	20	17	7	3					167
13					5	20	37	62	56	62	47	44	22	9					364
14					5	29	32	29	34	46	25	29	11	2					242
15					1	18	34	50	46	42	46	54	22	4					317
16					10	23	44	51	48	57	42	53	23	6					357
17					4	21	21	50	68	61	46	42	25	9					347
18					10	15	19	20	32	25	30	20	13	3					187
19					4	16	34	29	41	48	29	22	16	6					245
20					9	20	37	56	48	45	40	35	33	7					330
21					13	28	35	65	68	53	39	33	20	8					362
22					18	43	52	55	70	58	50	48	36	15	1				446
23					8	28	50	67	84	91	66	42	18	8					462
24					9	24	44	51	53	84	80	66	52	15	1				479
25				1	14	17	42	73	61	44	59	54	27	8	1				401
26					6	19	47	92	65	39	45	54	20	5	1				393
27					4	12	40	67	69	34	33	48	21	9	1				338
28				1	14	28	55	64	72	64	57	54	18	6	1				434
Total				2	157	518	924	1245	1387	1369	1181	1026	537	157	6				8509
Mean				0·1	5·6	18·5	33·0	44·5	49·5	48·9	42·2	36·6	19·2	5·6	0·2				303·9

TABLE 2 (Contd.) DIFFUSE SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) MARCH, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1					1	3	10	12	21	53	40	15	14	13	3				185
2				2	19	43	64	92	99	92	92	73	42	15	1				634
3				1	8	26	30	29	39	51	65	62	25	11	1				348
4				1	5	12	20	22	43	73	73	66	43	17	2				377
5				3	20	48	58	37	41	42	51	76	41	29	3				449
6				(1)	15	29	36	100	89	66	73	30	25	(8)	(1)				473
7				3	21	42	59	52	64	82	56	47	47	13	1				487
8				2	16	54	65	58	46	41	70	60	50	24	4				490
9				1	17	55	67	96	98	106	101	56	25	13	7				642
10				3	21	49	79	87	90	107	107	84	54	25	4				710
11				5	20	42	54	80	103	113	99	89	52	29	1				687
12				1	8	14	22	34	37	81	69	43	31	8	1				349
13				1	13	23	35	60	43	57	66	68	39	38	9				452
14				4	19	29	54	50	80	78	66	65	39	34	6				524
15				8	19	31	49	57	88	60	78	43	39	33	9				514
16				7	31	55	86	89	56	101	54	33	35	22	4				573
17				5	18	23	18	33	63	50	30	28	18	7	1				294
18				4	8	16	17	26	35	53	20	4	4	7	1				195
19				5	13	48	82	70	90	95	87	63	18	10	2				583
20				8	23	43	72	80	73	64	52	75	49	29	14				582
21				8	40	90	86	80	74	70	54	42	36	35	16				631
22				11	47	68	93	91	116	135	95	83	74	36	8				857
23				2	3	8	27	50	85	58	112	101	37	24	7				514
24				3	9	12	22	30	31	65	69	67	78	51	16	1			454
25			1	16	29	66	101	103	81	45	56	39	27	9	2				575
26				5	13	28	39	71	37	56	42	25	15	9	5				345
27			1	5	24	35	52	61	79	75	106	80	42	19	6				585
28				8	23	38	33	23	21	24	20	16	14	11	5				236
29				8	19	23	45	57	65	64	63	90	52	27	21	2			536
30			1	16	24	39	39	58	56	73	53	39	57	57	27	4			543
31				5	28	34	32	41	110	124	101	108	86	37	15	1			722
Total			3	152	574	1126	1546	1829	2053	2254	2120	1770	1208	700	203	8			15546
Mean			0·1	4·9	18·5	36·3	49·9	59·0	66·2	72·7	68·4	57·1	39·0	22·6	6·5	0·3			501·5

TABLE 2 (Contd.) DIFFUSE SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) APRIL, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1				5	15	24	49	61	77	61	33	47	23	18	8				421
2			1	11	23	48	55	35	36	40	45	19	10	8	5				336
3				5	29	57	92	77	79	92	101	79	38	23	7	1			680
4				6	36	81	75	50	64	86	96	60	31	34	23	3			645
5			5	17	36	56	110	125	146	135	81	86	80	50	16	3			946
6			3	16	24	31	39	60	88	70	63	53	70	60	26	5			608
7			3	21	43	68	66	87	105	113	91	94	64	47	26	6			834
8			2	19	34	47	70	67	73	68	94	77	62	46	19	4			682
9			2	20	32	40	50	55	59	106	81	64	35	34	16	2			596
10			4	19	33	40	46	73	48	48	55	55	53	46	26	6			552
11			5	18	25	33	44	62	74	103	95	80	70	55	37	8			709
12			5	23	42	62	80	95	82	60	71	39	34	29	22	8			652
13			5	22	47	66	77	89	95	91	112	104	70	46	22	10			856
14			6	25	48	63	77	62	97	95	96	96	77	63	32	7			844
15			5	15	29	37	44	57	64	60	53	50	39	18	18	3			492
16			7	16	25	73	81	81	88	101	97	92	111	51	32	12			867
17			8	28	61	54	90	133	125	129	85	74	50	22	11	2			872
18			2	10	25	37	54	73	65	73	100	104	74	57	18	3			695
19			8	30	45	64	103	138	155	143	126	94	72	76	52	11			1117
20			7	16	26	44	70	125	126	96	84	68	39	16	6	5			728
21			8	27	41	61	90	97	87	87	63	92	85	57	15	5			815
22			1	6	20	58	57	148	156	172	124	72	73	81	45	17	1		1031
23			11	30	39	44	57	60	71	55	54	46	44	41	44	15			611
24			11	28	40	63	65	50	67	63	57	54	57	48	28	14	1		646
25			5	9	10	14	40	40	54	96	137	116	100	57	39	19	1		737
26			8	35	51	78	78	98	117	125	87	90	86	68	35	11	1		968
27			13	27	36	39	50	73	98	88	86	71	74	76	39	20	1		791
28			11	38	69	101	109	74	84	98	80	62	79	80	45	13	1		944
29		1	14	32	45	54	81	48	55	80	40	51	75	52	40	17	1		686
30			1	8	56	107	95	119	121	125	121	68	46	35	30	18	2		952
Total		1	161	582	1085	1644	2094	2412	2656	2759	2508	2157	1821	1394	782	248	9		22313
Mean		0·0	5·4	19·4	36·2	54·8	69·8	80·4	88·5	92·0	83·6	71·9	60·7	46·5	26·1	8·3	0·3		743·8

TABLE 2 (Contd.) DIFFUSE SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) MAY, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1		1	15	27	36	49	55	96	96	89	84	84	114	77	52	33	4		912
2		1	14	27	48	68	60	90	109	106	111	105	73	68	49	18	2		949
3		1	15	43	52	96	130	136	131	99	74	67	24	21	12	4			905
4		1	5	26	23	25	54	50	127	115	130	130	120	82	79	17			984
5		2	14	39	42	74	94	101	69	64	46	29	64	65	38	14	2		757
6		1	20	27	49	30	82	113	83	142	112	111	99	81	21	11	2		984
7		1	6	15	27	69	87	74	120	154	134	119	89	58	23	7	1		984
8		1	13	40	70	95	81	137	82	89	77	73	60	33	19	15	4		889
9			5	13	16	21	26	54	79	112	134	133	115	87	58	29	6		888
10		3	20	42	73	67	71	94	108	116	130	115	110	79	35	32	5		1100
11		1	17	28	67	86	115	132	104	107	90	82	61	61	40	24	7		1022
12		4	18	24	29	32	67	95	97	55	84	73	97	83	53	30	6		847
13		3	14	12	31	43	78	105	132	164	125	115	47	41	31	17	2		960
14		1	8	15	10	14	28	35	67	87	106	71	49	10	6	5	1		513
15		3	19	42	77	101	109	64	110	128	114	89	52	64	42	23	6		1043
16		3	18	40	73	96	102	110	122	109	120	101	91	77	62	24	5		1153
17		4	17	58	97	104	128	134	155	164	120	148	78	66	46	16	4		1339
18		3	23	44	67	77	136	112	125	89	79	54	58	53	35	23	5		983
19		7	24	38	49	76	108	149	185	164	146	108	103	91	67	46	14		1375
20		4	11	13	26	53	96	113	93	143	106	90	98	54	40	19	10		969
21		5	27	61	95	113	150	88	56	62	154	138	89	77	36	19	3		1173
22		4	20	50	61	79	54	64	107	68	50	41	40	35	34	29	8		744
23		7	16	29	54	61	85	74	91	94	94	92	54	70	60	26	5		912
24		3	20	41	85	108	101	112	120	114	115	110	92	68	38	24	6		1157
25		4	24	40	73	90	139	154	187	157	157	134	121	54	12	6	1		1353
26		2	9	29	55	86	89	167	114	126	65	60	39	24	23	17	5	1	911
27		8	27	53	87	92	133	126	122	115	97	90	97	53	53	34	15		1202
28		14	39	64	79	127	138	161	140	138	180	116	94	88	59	34	11		1482
29		1	10	44	42	72	50	40	47	49	54	35	52	53	28	13	7		597
30		4	21	45	81	105	108	86	83	59	113	52	63	42	44	26	9		941
31		6	24	43	73	92	108	122	154	139	90	131	86	73	63	31	9		1244
Total		103	533	1112	1747	2301	2862	3188	3415	3417	3291	2896	2429	1888	1258	666	165	1	31272
Mean		3·3	17·2	35·9	56·4	74·2	92·3	102·8	110·2	110·2	106·2	93·4	78·4	60·9	40·6	21·5	5·3	0·0	1008·8

TABLE 2 (Contd.) DIFFUSE SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) JUNE, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1		8	33	67	86	104	128	143	123	161	165	161	66	62	26	9	1		1343
2	1	10	19	38	71	116	98	154	143	133	139	108	83	48	36	13	1		1211
3		10	28	58	68	98	104	120	105	83	94	86	96	70	44	29	12		1105
4		7	41	53	74	71	93	120	79	70	74	96	67	74	52	29	13	1	1014
5		12	25	35	40	48	53	59	58	58	67	74	77	54	38	25	13		736
6	1	11	16	37	54	115	142	39	15	13	54	47	71	40	25	28	13	1	722
7		8	19	25	30	50	86	171	178	132	155	125	125	103	70	33	6		1316
8		9	34	47	71	97	137	144	116	93	55	68	67	57	42	16	7	1	1061
9		2	8	29	50	91	123	110	110	155	154	143	64	53	57	25	15	1	1190
10		4	13	17	41	105	113	113	156	163	144	145	126	73	48	41	16	1	1319
11	1	13	21	59	71	104	134	88	149	94	88	73	46	56	53	28	15	1	1094
12		10	24	41	58	93	98	69	94	108	106	109	106	94	73	29	8		1120
13	1	9	18	23	50	75	69	107	95	110	132	146	105	103	62	35	13	1	1154
14	1	21	40	28	31	23	47	51	44	120	125	92	61	56	53	44	29	1	867
15	1	13	37	54	80	98	137	162	177	156	162	131	93	94	61	35	10	1	1502
16	1	10	41	68	94	140	119	123	154	151	167	145	123	96	56	35	14	1	1538
17	1	11	47	53	87	122	161	185	189	161	63	68	88	82	58	26	7	1	1410
18		1	4	6	14	24	38	42	39	56	89	73	44	16	15	11	7	2	481
19	1	9	21	34	73	83	142	107	92	75	62	57	21	16	24	11	2		830
20		6	18	24	43	90	91	141	177	204	194	108	120	85	61	33	12	1	1408
21		3	11	17	18	27	46	86	146	77	108	109	121	116	67	40	18	1	1011
22	1	4	18	35	66	90	140	163	197	206	180	163	85	51	31	37	12		1479
23		8	21	48	86	101	137	173	184	173	142	120	119	105	73	33	6		1529
24		5	11	25	76	61	68	74	39	31	40	44	32	34	30	10	4		584
25	1	8	33	54	96	123	127	120	172	119	72	99	39	27	85	38	16		1229
26		9	36	53	90	131	102	76	91	173	111	115	86	71	53	38	18	1	1254
27	1	13	33	71	80	89	94	95	77	119	112	119	54	73	62	30	19	1	1142
28		16	36	59	65	94	93	137	168	124	137	129	102	92	63	40	18	1	1374
29	1	5	10	30	73	72	111	168	95	142	149	116	52	47	42	19	6		1138
30		3	11	39	61	98	108	120	122	136	117	76	68	79	57	20	13	1	1129
Total	13	258	727	1227	1897	2633	3139	3460	3584	3596	3457	3145	2407	2027	1517	840	344	19	34290
Mean	0·4	8·6	24·2	40·9	63·2	87·8	104·6	115·3	119·5	119·9	115·2	104·8	80·2	67·6	50·6	28·0	11·5	0·6	1143·0

TABLE 2 (Contd.) DIFFUSE SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) JULY, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1		4	13	40	73	102	144	146	134	130	156	133	132	91	60	40	12		1410
2	1	15	50	76	111	78	55	78	95	86	71	92	61	35	17	12	3		936
3		3	13	21	30	74	69	98	163	185	151	106	97	86	51	31	10		1188
4		3	16	57	94	93	120	114	48	50	41	35	34	33	30	24	13	1	806
5		11	21	39	73	50	39	34	34	33	34	137	40	34	36	23	17		655
6		12	19	24	28	30	63	36	38	39	41	41	39	38	53	36	9		546
7		11	22	33	45	56	69	92	122	115	99	92	86	74	56	39	12	1	1024
8		5	8	10	21	39	63	122	173	159	169	104	105	63	76	53	23	1	1194
9		11	21	28	31	41	50	52	53	57	48	46	57	36	34	25	16		606
10		11	22	24	27	29	31	36	38	35	42	42	35	45	54	42	7		520
11		6	16	33	55	78	99	157	150	46	47	42	38	46	52	25	10		900
12		11	22	28	31	33	34	36	38	36	39	40	39	38	34	27	13		499
13		11	23	29	34	38	38	39	39	36	38	35	36	35	31	24	12		498
14		6	23	34	64	77	109	149	113	137	140	142	120	91	61	28	9		1303
15		13	23	29	44	39	52	45	88	77	54	119	125	59	30	20	9	1	827
16		10	35	64	96	70	115	108	156	156	116	54	50	40	34	24	12		1140
17		11	28	29	35	40	35	41	46	38	37	37	40	38	31	24	11		521
18		9	31	43	53	47	53	67	102	50	50	36	35	34	34	22	10		676
19		6	22	58	64	133	154	191	199	164	148	130	124	89	47	23	5		1557
20		5	23	54	76	65	95	59	86	74	139	119	101	78	72	41	9		1096
21		5	22	47	58	61	82	96	59	83	85	62	51	22	31	8	2		774
22		3	16	47	65	124	101	137	158	109	68	88	96	45	20	14	5		1096
23		4	24	44	47	64	79	78	139	89	100	79	80	74	86	31	6		1024
24		4	20	46	67	96	76	110	124	150	160	119	63	68	44	23	5		1175
25		8	30	52	73	106	114	98	84	104	92	67	61	59	39	27	11		1025
26		5	30	49	65	65	83	120	113	109	142	113	128	88	53	26	9		1198
27		2	14	38	82	103	121	114	121	139	131	109	124	67	48	29	7		1249
28		4	8	10	37	21	65	138	173	163	155	126	120	50	37	9	2		1118
29		2	15	32	64	106	144	131	146	156	139	118	98	74	32	29	5		1291
30		3	21	56	60	73	58	64	57	50	54	44	34	54	26	18	3		675
31		2	16	44	67	98	81	156	140	114	86	89	85	82	48	15	3		1126
Total	1	216	667	1218	1770	2129	2491	2942	3229	2969	2872	2596	2334	1766	1357	812	280	4	29653
Mean	0·0	7·0	21·5	39·3	57·1	68·7	80·4	94·9	104·2	95·8	92·6	83·7	75·3	57·0	43·8	26·2	9·0	0·1	956·5

TABLE 2 (Contd.) DIFFUSE SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) AUGUST, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1		2	23	56	73	66	97	106	102	60	62	127	95	56	50	28	4		1007
2		3	22	44	46	89	115	113	113	73	52	42	48	23	21	8	4		816
3		4	25	36	39	77	98	117	118	73	124	73	70	57	50	30	3		994
4		1	10	38	40	82	95	95	111	132	101	112	68	69	46	45	16		1061
5		3	25	33	69	74	64	102	105	48	40	38	32	33	35	8	1		710
6		1	4	15	37	80	83	123	109	95	105	88	52	68	56	11	2		929
7		3	19	49	76	96	105	63	71	92	100	70	51	43	26	20	3		887
8			4	7	15	23	30	49	68	68	58	46	37	16	10	4	1		436
9		1	13	22	34	52	98	77	43	26	22	17	10	14	10	6			445
10			11	30	58	85	67	95	81	82	123	96	96	56	38	10			928
11		2	18	44	64	104	129	79	100	114	95	79	50	33	14	7	1		933
12			5	18	62	103	74	113	119	124	95	50	45	19	15	11			853
13			8	14	68	53	81	125	98	105	89	71	21	23	13	3	1		773
14			1	3	8	44	64	28	50	83	94	59	45	29	22	8			538
15		1	14	24	26	30	33	35	37	54	40	42	37	31	25	15	1		445
16		1	12	21	27	44	32	54	51	68	38	40	64	59	38	18	1		568
17		1	11	31	61	74	79	40	117	111	83	87	74	53	35	12	1		870
18		1	11	33	45	61	59	60	58	55	78	92	85	63	42	18	1		762
19			12	26	34	46	55	68	76	72	63	61	79	67	31	11	1		702
20			9	28	41	65	103	124	137	159	124	116	89	37	27	18	1		1078
21			11	26	44	76	87	81	124	109	89	97	116	34	23	23	1		941
22			4	18	44	68	42	76	70	64	81	97	94	27	9	8			702
23			1	8	13	34	41	79	85	93	58	68	26	17	21	4	1		549
24			4	16	44	63	74	103	80	71	105	85	74	55	34	8			816
25			1	23	43	59	111	123	144	135	124	110	84	60	23	3			1043
26			1	7	21	71	103	112	42	104	102	105	83	63	42	8			864
27			7	29	56	66	103	92	52	50	53	61	43	40	21	5			678
28			4	15	23	39	50	81	99	77	63	83	40	20	9	1			604
29			5	25	44	73	80	49	59	48	51	50	62	28	29	7			610
30			6	25	39	55	91	105	105	119	105	108	68	46	26	8			906
31			2	21	34	58	85	103	103	90	75	55	81	23	8	2			740
Total		24	303	785	1328	2010	2428	2670	2727	2654	2492	2325	1919	1262	849	368	44		24188
Mean		0·8	9·8	25·3	43·8	64·8	78·3	86·1	88·0	85·6	80·4	75·0	61·9	40·7	27·4	11·9	1·4		780·3

TABLE 2 (Contd.) DIFFUSE SOLAR RADIATION -MEAN HOURLY VALUES (J/cm^2) SEPTEMBER, 1971.

HOUR I.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1			2	14	48	54	66	63	71	57	87	91	48	30	8	1			640
2			1	5	13	23	23	30	30	27	20	25	18	13	5				233
3			2	11	19	35	61	55	53	43	51	46	25	12	6	1			420
4			2	15	36	87	57	63	74	109	112	91	70	57	22	5			800
5			4	15	20	23	30	34	31	35	41	48	59	55	23	3			421
6			3	21	42	55	73	86	95	96	75	75	64	42	23	3			753
7			3	16	23	32	51	57	53	52	46	48	42	50	23	3			499
8			4	38	53	63	79	84	82	61	55	49	45	36	23	4			676
9			1	21	47	73	86	93	72	35	49	19	21	11	3				531
10			1	10	32	34	56	72	62	101	55	45	24	21	17	3			533
11			1	8	29	86	103	88	65	44	55	57	68	31	22	4			661
12			1	15	39	41	33	65	97	88	122	89	71	31	9	1			702
13			1	10	30	65	78	71	56	49	44	48	48	32	16	2			550
14			1	16	27	39	63	56	57	61	63	46	38	29	16	1			513
15			1	15	32	43	50	53	53	50	55	50	44	32	16	1			495
16			1	17	37	55	64	68	87	106	100	96	57	23	9	1			721
17				12	31	43	55	78	79	64	21	14	8	7	6	2			420
18				7	38	48	75	63	51	49	53	38	32	34	12	1			501
19			1	16	39	65	82	119	98	67	82	96	52	38	15				770
20				14	35	50	78	78	44	78	101	75	72	25	6				656
21			1	16	35	48	78	105	99	35	29	26	24	25	17				538
22				9	23	24	30	41	43	35	34	50	57	34	18				398
23				6	17	27	38	39	44	48	58	54	59	31	8				429
24			1	7	46	67	44	57	84	122	103	79	62	36	15				723
25				4	16	36	89	99	101	66	70	75	55	36	5				652
26				5	18	34	59	54	81	82	70	47	54	32	13				549
27				7	20	44	67	82	50	87	71	62	31	26	8				555
28				5	37	46	70	93	39	39	73	55	18	6	1				482
29				2	11	13	24	39	51	36	35	24	18	11	3				267
30				1	5	24	43	100	91	123	100	44	29	14	3				577
Total			32	358	898	1377	1805	2085	1993	1945	1930	1662	1313	860	371	36			16665
Mean			1·1	11·9	29·9	45·9	60·2	69·5	66·4	64·8	64·3	55·4	43·8	28·7	12·4	1·2			555·5

TABLE 2 (Contd.) DIFFUSE SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) OCTOBER, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1				2	11	21	39	70	90	88	89	68	36	14	2				530
2				8	30	44	55	59	63	86	91	72	40	9	1				558
3				2	13	22	59	54	81	47	58	60	51	21	5				473
4				2	12	19	43	26	43	42	38	29	28	24	6				312
5				2	18	23	23	29	22	32	33	21	13	5	2				223
6				2	6	17	26	28	32	23	35	50	24	11	5				259
7				1	8	19	30	28	30	42	41	35	22	10	1				267
8				1	19	37	37	69	84	72	53	52	25	12	2				463
9				1	13	31	30	50	55	76	81	52	26	19	3				437
10				2	12	39	51	68	51	67	61	31	14	6	1				403
11				1	14	34	40	44	47	52	37	55	45	22	3				394
12				3	20	39	63	86	45	46	41	18	9	3					373
13					4	14	34	55	81	52	45	23	24	6	1				339
14				1	11	18	22	29	41	48	59	41	37	17	1				325
15				1	5	25	45	53	64	52	51	33	25	13	1				368
16				1	14	37	48	68	81	80	70	52	37	19	1				508
17				1	12	32	35	57	70	75	72	51	20	8					433
18				1	13	18	14	11	13	18	16	11	6	3					124
19					10	47	39	37	53	62	51	44	35	15					393
20					12	35	61	58	79	51	44	33	17	10					400
21					4	9	9	14	23	28	30	17	13	6					153
22					10	32	46	65	67	45	45	30	11	4					355
23					3	6	10	13	17	13	14	12	11	2					101
24					9	23	21	24	28	37	31	24	23	11					231
25					10	31	40	45	39	33	52	32	21	9					312
26					7	22	33	55	51	44	44	41	32	8					337
27					8	19	24	30	32	36	40	39	25	7					260
28					6	17	39	47	36	29	10	8	11	8	1				212
29					6	14	22	30	49	35	41	45	27	6					275
30					7	18	34	36	34	36	55	45	20	7					292
31					4	24	34	39	55	57	43	42	20	6					324
Total				32	331	786	1106	1377	1556	1504	1471	1166	748	321	36				10134
Mean				1·0	10·7	25·4	35·7	44·4	50·2	48·5	47·5	37·6	24·1	10·4	1·2				336·6

TABLE 2 (Contd.) DIFFUSE SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) NOVEMBER, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1					9	38	46	55	68	59	67	42	20	4					408
2					1	6	10	19	42	59	56	37	14	1					245
3					3	13	36	53	62	57	39	21	11	2					297
4					2	17	42	55	69	55	17	14	7	2					280
5					4	13	20	26	37	57	44	40	16	3					260
6					2	14	37	54	39	66	29	26	14	3					284
7					1	2	9	19	29	21	16	6	2	1					106
8					3	16	17	38	30	27	36	37	16	4					224
9					3	15	25	34	40	51	46	27	13	3					257
10					4	16	5	6	15	20	21	12	3	1					103
11					2	13	32	46	61	62	53	25	13	2					309
12					1	11	19	29	25	27	38	29	16	2					197
13					2	12	25	40	45	45	34	16	7	2					228
14					3	14	17	27	37	36	26	19	11	2					192
15					1	5	12	17	17	17	19	16	12	2					118
16					1	5	9	16	19	21	15	13	5	1					105
17					2	11	22	34	46	51	36	15	10	2					229
18					1	8	10	22	29	54	44	22	9						199
19					1	16	29	43	53	46	48	34	13	1					284
20						3	9	11	10	12	10	7	2						64
21						6	16	20	29	35	36	23	9	1					175
22						11	25	29	43	42	41	26	9	1					227
23						4	21	42	47	40	36	23	6						219
24						9	25	16	51	53	25	26	13	1					219
25						4	15	21	17	19	14	12	7						109
26						6	14	27	43	45	32	13	5						185
27						14	24	41	28	33	22	24	12						198
28						8	26	33	41	46	29	20	8						211
29						5	24	29	37	20	6	18	11						150
30						9	20	35	41	25	29	20	5						184
Total					46	324	641	937	1150	1201	964	663	299	41					6266
Mean					1·5	10·8	21·4	31·2	38·3	40·0	32·1	22·1	10·0	1·4					208·9

TABLE 2 (Contd.) DIFFUSE SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) DECEMBER, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 te 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1						6	20	36	26	20	11	9	4						132
2						6	20	35	27	33	27	20	15						183
3						3	17	26	48	28	25	21	4						172
4						4	15	29	32	34	35	20	6						175
5						6	18	28	34	29	24	14	4						157
6						3	17	36	24	32	21	16	7						156
7						4	12	16	29	18	17	22	7						125
8						5	14	25	29	35	36	12	3						159
9						2	10	17	25	24	20	9	3						110
10						2	9	20	18	18	13	6	2						88
11						2	5	8	12	11	10	8	2						58
12						3	7	11	13	14	13	9	4						74
13						7	17	28	24	14	11	6	2						109
14						3	6	15	33	44	40	22	7						170
15						3	13	20	26	36	25	24	6						153
16						3	8	9	9	7	9	7	2						54
17						2	5	8	9	17	28	8	2						79
18						1	3	9	14	19	14	8	4						72
19						4	21	44	32	24	26	15	6						172
20						2	6	11	13	15	13	11	3						74
21						2	8	20	22	22	14	8	2						98
22						2	5	12	12	13	10	6	4						64
23						5	9	14	15	21	18	9	2						93
24						2	10	14	14	17	26	11	6						100
25						6	15	22	17	15	12	9	2						98
26						2	6	13	33	36	11	7	3						111
27						5	18	28	42	34	27	16	6						176
28						4	14	24	28	29	25	18	4						146
29						5	13	16	17	17	16	14	6						104
30						5	13	19	22	24	26	21	5						135
31						5	25	39	37	24	20	14	3						167
Total						114	379	652	736	724	623	400	136						3764
Mean						3·7	12·2	21·0	23·7	23·4	20·1	12·9	4·4						121·4

TABLE 3 DIRECT SOLAR RADIATION AT NORMAL INCIDENCES
INSTANTANEOUS VALUES (mW/cm^2) 1971

MONTH AND DAY	TIME L.A.T.	ZENITH DISTANCE (Z)	AIR MASS (m)	RADIATION				PRESSURE	TEMPERATURE	VAPOUR PRESSURE	VISIBILITY	CLOUD	
				CLEAR	RED (RG_2)	YELLOW (OG_1)	RED (RG_8)					TYPE	AMOUNT
				$x10^{-1}$	$x10^{-1}$	$x10^{-1}$	$x10^{-1}$	mb.	^oC	mb.	Km.		Okta
Jan.													
3	1244	75·5	4·02	736	529	629	422	1014	6·5	6·3	40	ScCi	2
28	1330	73·0	3·41	668	462	550	374	1003	9·0	9·6	30	CuCb	3
29	1045	71·9	3·24	674	513	616	405	1014	7·0	6·6	40	Cu	2
30	1027	72·6	3·35	748	525	625	423	1005	2·2	6·6	35	Cu	1
30	1114	70·5	2·99	806	549	658	438	1005	4·6	7·1	35	Cu	1
30	1302	71·0	3·06	783	535	644	431	1003	6·1	6·6	40	Cu	2
Feb.													
1	0956	74·3	3·79	697	503	589	404	1032	2·7	5·1	30	Fc	Tr
1	1042	71·2	3·18	706	496	579	402	1033	3·0	5·2	50	Fc	Tr
11	1117	66·7	2·56	721	526	646	427	1017	8·8	7·9	40	CuCi	4
13	1049	65·6	2·43	580	439	533	339	1008	5·1	6·5	20	CuCb	4
Mar.													
5	1024	61·7	2·17	686	483	573	383	1034	5·8	6·6	15	ScCi	3
5	1052	59·9	2·06	644	508	597	403	1036	7·5	6·3	15	FcSc	1
5	1327	61·1	2·13	683	480	576	387	1033	8·0	6·9	15	ScCi	2
8	1112	57·9	1·93	746	514	614	407	1029	10·0	7·9	25	CuSc	3
20	1257	53·6	1·70	866	558	674	441	1009	9·1	7·2	35	Cb	3
21	1048	54·0	1·73	817	588	718	475	1021	8·0	6·7	50	CuFc	3
30	0946	55·7	1·79	783	534	-	-	1011	10·1	8·3	60	CuAcCi	6
30	1342	52·7	1·67	833	544	660	432	1012	9·8	8·6	60	CuFc	4
Apr.													
5	1340	50·4	1·58	909	578	-	-	1006	9·0	7·8	40	CuScAc	5
6	0956	52·3	1·64	849	559	678	446	1007	9·7	7·4	40	CuFc	4
8	1126	45·4	1·45	713	508	595	408	1017	12·2	8·3	20	Cu	1
9	0946	52·3	1·67	706	489	567	394	1020	10·0	8·2	15	Fc	1
9	1120	45·3	1·45	783	532	598	425	1021	11·3	8·2	15	CuFc	1
10	1006	50·0	1·60	782	533	628	421	1032	12·5	8·4	15	Nil	-
10	1130	44·6	1·45	799	537	642	431	1030	14·3	8·8	15	Nil	-
10	1248	45·2	1·46	788	532	634	425	1029	13·6	10·4	15	Nil	-
10	1412	51·7	1·66	687	484	570	390	1029	13·3	9·1	15	Ci	1
12	1328	47·0	1·49	761	489	596	373	1019	15·7	4·7	15	Ci	3
13	1119	43·9	1·41	344	301	336	250	1019	16·8	11·6	6	Nil	-
14	1115	43·6	1·41	548	432	490	361	1022	14·9	11·7	7	FcCi	3
23	1426	49·2	1·54	877	560	683	455	1005	10·6	8·2	50	CuFcCi	3
23	1502	53·7	1·69	864	558	677	445	1005	10·6	8·0	50	CuFc	3
24	1132	39·6	1·31	871	551	670	444	1010	11·2	8·5	55	CuSc	3
27	1124	38·9	1·30	847	565	680	459	1015	11·1	7·2	40	CuFc	3
29	1011	43·4	1·41	886	577	697	465	1022	11·2	7·8	60	CuFc	2
29	1409	45·4	1·45	799	571	696	468	1022	11·2	8·8	60	CuFcCi	2
30	1442	49·3	1·56	846	546	665	441	1015	11·6	10·2	50	CuFc	3
May													
1	0956	44·5	1·43	835	549	663	441	1019	11·6	11·6	45	CuFcCi	4
1	1114	38·1	1·29	757	544	658	447	1020	12·8	10·5	45	CuFcCi	5
18	1302	34·6	1·23	917	572	701	459	1014	12·5	9·8	40	CuFcSc	3
21	1018	37·6	1·28	919	581	712	465	1013	13·0	9·9	45	FcSc	3
22	1402	39·5	1·30	922	577	706	465	1005	11·4	8·6	60	CuFc	1
30	1446	43·9	1·41	853	530	653	422	1013	13·2	10·9	40	CuFc	1
June													
4	1108	31·2	1·19	721	477	574	385	1015	22·0	15·8	15	Ac	3
4	1342	35·4	1·24	698	465	569	385	1014	21·6	17·4	15	Fc	Tr

TABLE 3 (Contd.)

DIRECT SOLAR RADIATION AT NORMAL INCIDENCES
INSTANTANEOUS VALUES (mW/cm^2) 1971

MONTH AND DAY	TIME L.A.T.	ZENITH DISTANCE (Z)	AIR MASS (m)	RADIATION				PRESSURE	TEMPERATURE	VAPOUR PRESSURE	VISIBILITY	CLOUD	
				CLEAR	RED (RG_2)	YELLOW (OG_1)	RED (RG_8)					TYPE	AMOUNT
				$x10^{-1}$	$x10^{-1}$	$x10^{-1}$	$x10^{-1}$	mb.	^oC	mb.	Km.		Okta
June													
5	0950	38·7	1·30	772	498	632	422	1013	18·6	12·8	20	Cu	1
5	1113	30·9	1·18	831	532	660	435	1013	19·2	13·1	20	Cu	1
5	1506	46·1	1·46	665	450	541	365	1012	19·8	13·4	20	Cu	1
12	1112	30·3	1·17	851	581	729	469	1011	12·9	9·3	60	CuCb	5
17	1336	33·8	1·23	822	500	626	408	1025	13·8	12·0	55	CuScCi	6
July													
4	1125	29·8	1·17	813	555	687	435	1015	17·0	16·2	40	CuScAc	4
4	1356	36·6	1·26	893	543	678	429	1014	17·1	13·9	50	Fc	1
5	1016	35·4	1·26	921	561	700	445	1025	16·8	14·1	60	Fc	1
5	1112	30·6	1·19	928	566	702	446	1026	17·2	14·9	60	Fc	1
5	1452	43·9	1·42	886	547	677	435	1027	17·0	13·8	60	Fc	1
6	1020	35·0	1·26	894	548	679	436	1031	18·6	15·5	60	Fc	Tr
6	1112	30·7	1·20	892	546	678	431	1031	18·9	15·9	60	Fc	Tr
6	1422	39·9	1·34	850	526	655	416	1031	19·0	16·0	60	Fc	Tr
7	0838	48·3	1·54	666	460	550	368	1027	21·2	15·5	60	Nil	-
7	0944	39·3	1·33	709	478	579	383	1027	23·7	16·6	50	Fc	Tr
7	1408	38·3	1·30	621	440	520	360	1024	24·3	19·1	15	Fc	Tr
9	0948	38·9	1·32	868	548	669	442	1027	17·1	11·9	45	Ci	Tr
9	1135	29·9	1·19	885	560	684	443	1028	18·4	13·2	45	Ci	Tr
9	1342	35·5	1·26	900	563	691	446	1028	19·2	13·7	45	Cu	1
10	0930	41·4	1·37	885	535	674	421	1028	16·5	12·5	40	Sc	1
11	1248	31·2	1·20	901	551	685	432	1027	17·9	16·7	40	CuFc	1
11	1436	42·2	1·38	870	532	664	419	1026	18·6	16·6	40	FcCi	2
12	0920	42·9	1·41	915	572	702	453	1030	16·5	12·2	40	ScCi	1
12	0956	38·3	1·31	923	572	707	452	1031	17·7	12·5	45	CuCi	1
12	1230	30·5	1·20	931	574	710	453	1031	19·3	12·5	45	CuCi	Tr
12	1304	32·4	1·22	927	571	706	450	1031	19·3	11·6	45	CuCi	Tr
12	1332	34·8	1·26	910	560	694	443	1031	19·3	11·6	45	CuCi	Tr
12	1348	36·5	1·28	906	559	693	441	1031	18·3	13·1	45	CuCi	3
13	0904	45·2	1·47	877	550	677	434	1033	16·5	11·3	45	FcCi	1
13	0956	38·4	1·32	902	561	693	445	1033	17·4	11·6	50	FcCi	1
13	1130	30·6	1·20	920	567	700	448	1033	18·2	12·6	50	FcCi	Tr
13	1258	32·1	1·22	917	565	698	450	1035	18·8	12·2	50	Fc	Tr
14	0923	42·6	1·40	743	466	576	371	1032	15·7	12·3	40	FcScCi	4
15	1018	36·2	1·27	915	556	696	439	1028	16·6	16·0	60	FsCi	3
15	1409	39·4	1·33	879	539	664	425	1027	17·0	15·1	60	StCi	5
16	1004	37·9	1·30	936	577	715	461	1024	17·0	11·2	50	CuSc	3
16	1400	38·3	1·30	887	547	679	437	1024	17·5	12·0	50	CuScCi	3
17	0846	48·2	1·53	897	566	694	448	1021	15·3	10·0	50	Cu	Tr
17	0932	41·8	1·37	924	576	705	457	1021	15·3	10·0	50	Cu	Tr
17	1119	31·6	1·20	928	582	717	460	1021	16·0	10·0	50	CuCi	1
17	1256	32·5	1·21	931	573	710	454	1020	16·8	10·3	50	Cu	Tr
17	1330	35·2	1·25	918	566	698	448	1020	16·8	10·3	50	Cu	Tr
18	0839	49·4	1·56	746	482	589	384	1019	15·0	11·6	50	Sc	2
18	0923	43·2	1·40	829	520	637	410	1019	16·2	11·9	50	CuCi	2
18	1348	37·3	1·28	903	556	686	439	1019	16·6	12·1	50	CuCi	Tr
18	1432	42·5	1·38	879	542	670	429	1019	16·6	12·1	50	CuCi	Tr
Aug.													
15	1118	38·7	1·31	923	576	709	444	1020	16·8	11·1	40	CuSc	2
15	1402	45·0	1·44	936	576	715	445	1020	17·5	10·5	50	CuSc	4
16	1056	40·2	1·34	921	571	705	445	1023	17·5	11·4	60	CuCi	1
19	1318	42·0	1·37	715	482	583	380	1017	19·3	15·2	15	Ac	2

TABLE 3 (Contd.) DIRECT SOLAR RADIATION AT NORMAL INCIDENCES
INSTANTANEOUS VALUES (mW/cm^2) 1971

MONTH AND DAY	TIME L.A.T.	ZENITH DISTANCE (Z)	AIR MASS (m)	RADIATION				PRESSURE	TEMPERATURE	VAPOUR PRESSURE	VISIBILITY	CLOUD	
				CLEAR	RED (RG_2)	YELLOW (OG_1)	RED (RG_8)					TYPE	AMOUNT
				$x10^{-1}$	$x10^{-1}$	$x10^{-1}$	$x10^{-1}$	mb.	°C	mb.	Km.		Okta
Aug.													
19	1417	47·8	1·51	660	452	540	363	1017	19·9	15·1	15	Ac	2
26	1125	42·1	1·35	912	565	696	439	1003	16·8	12·3	40	CuSc	5
29	1158	42·5	1·37	794	548	676	420	1013	16·0	13·8	50	CuSc	3
Sept.													
5	1120	45·7	1·47	882	549	677	422	1024	21·0	17·8	50	CuAcCi	1
7	1140	45·9	1·47	698	469	567	370	1022	22·0	17·4	20	CuScCi	2
7	1346	50·7	1·61	725	484	592	381	1020	23·5	16·9	20	CuCi	1
8	0927	55·8	1·80	597	414	540	327	1016	18·5	14·9	20	FcCiCs	7
8	1302	47·9	1·51	665	452	542	365	1015	22·2	16·5	15	FcCi	2
8	1350	51·5	1·63	699	465	562	372	1015	22·6	16·1	15	FcCi	1
10	1335	50·8	1·59	901	558	690	429	1007	19·0	16·2	25	CuFc	3
10	1504	60·3	2·03	847	539	661	418	1007	19·0	13·8	55	Cu	1
11	1317	62·2	2·17	897	552	687	427	1015	17·5	15·7	50	CuSc	2
13	1255	49·4	1·57	766	492	606	385	1025	19·8	15·8	30	CuCi	3
14	1141	48·5	1·55	713	486	574	385	1026	18·7	13·9	15	CuCi	3
15	1106	50·0	1·60	705	484	574	386	1028	20·0	14·6	15	Fc	Tr
21	1342	55·4	1·80	838	526	650	410	1023	18·0	15·0	40	CuCi	2
22	0917	61·8	2·16	754	497	602	382	1022	16·7	15·7	40	CuSc	1
22	1120	52·1	1·66	723	452	553	375	1021	17·8	16·4	40	Cu	2
22	1252	52·7	1·68	805	515	632	399	1021	17·8	16·4	40	CuAc	2
30	1136	54·9	1·78	837	524	643	399	1024	18·6	17·5	15	FsFc	5
Oct.													
2	1138	55·6	1·79	733	477	583	365	1016	20·7	12·5	35	ScCi	5
9	0944	64·9	2·39	800	517	637	394	1018	15·0	13·9	40	CuFc	1
11	1148	58·9	1·95	643	430	538	334	1010	15·4	13·9	30	CuCi	3
14	0920	69·0	2·84	667	515	612	395	1025	9·5	9·1	50	Ci	2
24	1126	64·0	2·33	812	527	639	394	1024	13·2	10·9	40	CuFcCi	2+
24	1424	70·8	3·09	680	457	556	343	1024	13·7	10·9	40	CuFc	3
26	1151	64·3	2·36	588	420	496	327	1028	16·4	12·4	16	FcCi	3
26	1404	69·6	2·93	441	330	387	259	1027	17·0	12·5	14	FcCi	2
27	0842	77·3	4·63	510	377	441	293	1027	12·8	10·2	40	CuFc	1
27	0956	69·9	2·97	653	456	554	349	1027	14·0	11·6	40	CuFc	1
27	1138	64·9	2·41	736	495	595	384	1027	15·0	11·3	40	CuFc	1
27	1400	69·7	2·94	610	435	506	344	1026	15·0	11·6	40	CuFc	1
Nov.													
18	1416	77·1	4·47	689	492	583	373	1007	6·6	7·9	35	FcSc	1
24	1136	72·6	3·42	740	508	608	378	1025	8·5	8·7	30	ScCi	2
27	1145	73·1	3·44	694	473	566	362	1003	7·0	7·8	30	CuCb	4
27	1414	78·7	5·04	625	457	532	344	1001	7·5	6·7	30	CuCb	4
28	1350	77·2	4·48	636	453	532	343	1002	4·9	7·1	20	Cb	6
29	1034	75·7	3·99	555	380	454	291	993	9·2	9·4	20	CuFcSc	3
Dec.													
7	0940	80·6	6·22	459	388	441	299	1039	0·7	6·1	30	Ci	2
7	1136	74·7	3·92	601	481	565	374	1040	5·1	7·7	40	Ci	2
8	1000	79·1	5·43	568	437	501	340	1042	0·0	6·0	30	ScCi	Tr
8	1151	74·7	3·92	664	487	570	372	1041	4·3	7·6	30	ScCi	Tr
29	1016	78·6	5·14	602	458	525	354	1030	3·7	5·9	30	CuSc	1
29	1156	75·2	4·01	682	492	574	382	1030	5·4	6·2	30	CuSc	1
30	1002	79·5	5·59	552	425	480	326	1035	3·1	5·2	30	Sc	4
30	1146	75·2	4·02	652	480	564	372	1034	4·7	5·2	30	Sc	4

TABLE 4.

DAILY TOTALS OF GLOBAL SOLAR RADIATION (J/cm^2)

1971.

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Day 1	364	600	186	429	2373	1490	1425	2002	1485	781	442	136
2	258	202	776	339	2145	1644	943	944	236	1040	280	277
3	356	326	351	1170	1013	2427	1501	1479	423	964	326	173
4	88	262	392	1223	1163	2617	2584	1856	834	313	308	180
5	201	80	1073	1438	811	2784	2922	2229	1877	224	353	158
6	36	196	931	1425	1511	882	2917	1404	998	261	472	224
7	193	184	708	1718	1411	1804	2636	1006	1725	280	136	379
8	82	306	1107	1778	933	1110	1456	439	1665	468	295	310
9	32	252	865	1445	1152	1463	3044	454	613	851	403	110
10	161	586	753	1922	1933	2186	2941	1278	1118	428	116	89
11	69	587	889	1911	2063	2331	2190	1402	1484	831	370	58
12	375	170	350	1719	2420	2364	3005	1054	876	410	225	74
13	299	525	568	1633	1045	1346	2991	809	1548	381	282	114
14	318	246	1027	1949	513	1746	2377	552	1589	1028	509	234
15	262	424	955	499	2183	1886	2638	2417	1576	679	124	183
16	294	553	1052	1687	1902	2427	3000	2172	1234	598	109	55
17	187	475	295	997	1620	2544	2980	951	424	554	239	81
18	242	187	197	710	2172	483	2825	2042	1336	124	307	74
19	248	246	986	1218	2225	835	2048	2129	1080	592	347	247
20	98	586	1448	812	976	1910	1181	1392	1255	457	65	74
21	174	861	1636	872	2048	1091	794	1549	1313	153	247	98
22	109	646	1081	1654	2751	1572	1296	719	1427	461	280	66
23	200	470	529	2352	2498	1740	1123	552	452	101	241	93
24	107	546	462	2086	1634	584	1305	828	920	893	459	110
25	101	454	578	1084	1795	1452	2287	1357	936	315	110	102
26	118	732	349	1331	1189	2326	2066	1450	976	841	188	115
27	185	355	616	2454	1872	1259	1826	720	1132	852	336	329
28	461	624	239	971	2159	1590	1190	626	486	236	359	247
29	567		1134	2480	599	1154	1817	1812	267	766	202	342
30	694		1606	1849	2521	1129	677	1114	815	728	226	311
31	486		860		1827		1221	835		341		197
Total	7365	11681	23999	43155	52657	50176	63206	39573	32100	16951	8356	5240
Mean	237·6	417·2	774·2	1438·5	1698·6	1672·5	2038·9	1276·5	1070·0	546·8	269·5	169·0

TABLE 5. DAILY TOTALS OF DIFFUSE SOLAR RADIATION (J/cm^2) 1971.

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Day 1	185	242	185	421	912	1343	1410	1007	640	530	408	132
2	198	196	634	336	949	1211	936	816	233	558	245	183
3	143	296	348	680	905	1105	1188	994	420	473	297	172
4	84	253	377	645	984	1014	806	1061	800	312	280	175
5	157	79	449	946	757	736	655	710	421	223	260	157
6	34	194	473	608	984	722	546	929	753	259	284	156
7	156	181	487	834	984	1316	1024	867	499	267	106	125
8	80	268	490	682	889	1061	1194	436	676	463	224	159
9	31	247	642	596	888	1190	606	445	531	437	257	110
10	154	361	710	552	1100	1319	520	928	533	403	103	88
11	65	321	687	709	1022	1094	900	933	661	394	309	58
12	161	167	349	652	847	1120	499	853	702	373	197	74
13	141	364	452	856	960	1154	498	773	550	339	228	109
14	193	242	524	844	513	867	1303	538	513	325	192	170
15	221	317	514	492	1043	1502	827	445	495	368	118	153
16	245	357	573	867	1153	1538	1140	568	721	508	105	54
17	178	347	294	872	1339	1410	521	870	420	433	229	79
18	186	187	195	695	983	481	676	762	501	124	199	72
19	160	245	583	1117	1375	830	1557	702	770	393	284	172
20	97	330	582	728	969	1408	1096	1078	656	400	64	74
21	155	362	631	815	1173	1011	774	941	538	153	175	98
22	98	446	857	1031	744	1479	1096	702	398	355	227	64
23	181	462	514	611	912	1529	1024	549	429	101	219	93
24	105	479	454	646	1157	584	1175	816	723	231	219	100
25	94	401	575	737	1353	1229	1025	1043	652	312	109	98
26	115	393	345	968	911	1254	1198	864	549	337	185	111
27	174	338	585	791	1202	1142	1249	678	555	260	198	176
28	235	434	236	944	1482	1374	1118	604	482	212	211	146
29	159		536	686	597	1138	1291	610	267	275	150	104
30	151		543	952	941	1129	675	906	577	292	184	135
31	237		722		1244		1126	740		324		167
Total	4573	8509	15546	22313	31272	34290	29653	24188	16665	10434	6266	3764
Mean	147·5	303·9	501·5	743·8	1008·8	1143·0	956·5	780·3	555·5	336·6	208·9	121·4

TABLE 6. RADIATION BALANCE - MEAN HOURLY VALUES (J/cm^2) JANUARY, 1971.

HOUR L.A.T	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	21 to 22	22 to 23	23 to 24	Total for Day
Day 1	-14	-8	1	-10	-6	-4	-4	-4	-4	10	18	31	38	31	17	-3	-4	-8	-5	-1	-9	-5	-6	-2	49
2	-2	0	-1	-1	-1	-1	-1	-2	0	3	15	21	18	6	6	-2	-3	-3	-2	-4	-4	-9	-17	-15	1
3	-24	-13	-9	-20	-22	-5	-5	-5	-6	-3	20	29	24	13	-5	-21	-24	-27	-26	-26	-21	-24	-25	-24	-249
4	-17	-6	-14	-21	-16	-12	-22	-23	-3	0	2	2	9	8	2	-5	-5	-7	-2	-1	0	0	0	0	-131
5	-1	0	0	0	0	1	0	0	0	5	11	10	30	24	5	0	0	-4	-3	-8	-15	-10	-9	-15	21
6	-6	-5	-4	-1	0	0	0	0	1	2	4	5	6	6	5	2	0	0	0	0	0	0	0	-1	14
7	-1	-8	-5	-8	-7	-5	-18	-15	-9	5	16	13	18	21	12	-4	-11	-8	-14	-9	-4	-2	-1	-7	-51
8	-2	-3	-1	-5	-9	-3	0	0	1	9	14	11	9	6	3	1	0	0	-2	0	-2	-8	-5	-5	9
9	-4	-7	-2	-2	0	0	0	0	1	2	4	3	4	5	3	1	0	0	0	0	0	0	0	0	8
10	-3	-1	0	-2	-1	-2	-10	-10	1	7	11	13	12	5	-9	-19	-24	-25	-27	-28	-26	-28	-29	-27	-222
11	-26	-21	-20	-25	-27	-28	-27	-27	-20	-2	3	4	4	4	5	-2	-11	-15	-13	-16	-17	-11	-15	-22	-325
12	-25	-21	-25	-26	-25	-23	-20	-17	-16	-1	15	27	23	0	5	-20	-25	-25	-24	-24	-23	-24	-15	-16	-325
13	-21	-8	-6	-2	-3	-4	-3	-5	-4	5	11	14	35	19	1	-12	-11	-3	-3	-5	-4	-5	-19	-17	-50
14	-13	-3	-3	-5	-17	-20	-17	-25	-15	-10	6	22	34	26	-2	-10	-19	-20	-25	-26	-26	-25	-16	-9	-218
15	-4	-3	-3	-3	-5	-6	-5	-9	-3	7	12	24	16	16	10	2	-6	-8	-9	-5	-1	-4	-2	0	11
16	0	0	-4	-12	-25	-20	-22	-24	-10	-2	6	13	18	13	0	-13	-18	-20	-13	-8	-14	-12	-5	-5	-177
17	-2	-1	-2	-6	-1	-1	-2	-2	0	5	7	10	12	15	8	0	-20	-24	-16	-24	-22	-18	-25	-12	-121
18	-12	-12	-14	-6	-4	-2	-1	0	1	3	12	21	28	34	8	-8	-15	-11	-19	-24	-17	-19	-15	-18	-90
19	-21	-18	-19	-10	-6	-5	-5	-10	-4	-3	8	26	13	19	6	-8	-7	-5	-3	-3	-6	-2	-8	-24	-95
20	-20	-16	-15	-19	-17	-21	-14	-14	-3	5	6	8	11	6	3	3	-1	-6	-7	-16	-7	-4	-2	-2	-142
21	-1	-2	-2	-2	-5	-5	-17	-16	-8	17	18	10	5	4	8	-1	-5	-10	-15	-10	-13	-12	-13	-15	-90
22	-12	-15	-23	-25	-25	-15	-19	-15	-7	4	7	10	7	4	5	2	0	-1	-4	-8	-9	-5	-4	-3	-151
23	-4	-5	-5	-10	-23	-20	-24	-20	-7	0	16	17	18	10	0	0	-13	-16	-14	-9	-5	-12	-15	-13	-154
24	-21	-16	-21	-17	-13	-20	-15	-13	0	6	8	8	9	10	6	0	-1	-2	-3	-4	-3	-3	-5	-9	-119
25	-14	-15	-22	-20	-22	-19	-15	-9	0	7	4	6	10	9	7	2	-2	-10	-16	-20	-25	-15	-13	-13	-205
26	-25	-12	-20	-15	-16	-19	-19	-12	-3	3	4	10	14	10	5	-2	-11	-13	-15	-15	-9	-16	-17	-15	-208
27	-5	-3	-6	-10	-11	-13	-14	-12	0	4	13	23	10	18	9	-12	-12	-5	-13	-21	-18	-19	-20	-13	-130
28	-5	-10	-10	-6	-2	-2	-10	-5	1	11	20	39	37	36	25	-15	-23	-21	-20	-11	-10	-13	-19	-20	-33
29	-5	-6	-13	-17	-6	-5	-10	-6	0	19	32	40	40	12	11	-13	-13	-24	-25	-10	-6	-15	-13	-14	-47
30	-21	-20	-19	-12	-5	-5	-18	-18	-6	19	37	44	42	37	17	-9	-23	-11	-28	-29	-29	-29	-25	-13	-124
31	-9	-9	-6	-9	-7	-15	-3	-15	-5	-1	43	73	35	11	3	0	-20	-22	-23	-27	-28	-29	-30	-29	-122
Total	-340	-267	-293	-327	-327	-299	-340	-333	-127	136	403	587	589	438	179	-166	-327	-354	-389	-392	-373	-378	-388	-378	-3466
Mean	-11·0	-8·6	-9·5	-10·5	-10·5	-9·6	-11·0	-10·7	-4·1	4·4	13·0	18·9	19·0	14·1	5·8	-5·4	-10·5	-11·4	-12·5	-12·6	-12·0	-12·2	-12·5	-12·2	-111·8

TABLE 6 (Contd.) RADIATION BALANCE - MEAN HOURLY VALUES (J/cm^2) FEBRUARY, 1971.

HOUR L.A.T.	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	21 to 22	22 to 23	23 to 24	Total for Day
Day 1	-30	-30	-29	-29	-30	-30	-29	-27	-14	16	32	44	41	28	1	-10	-22	-25	-25	-25	-24	-23	-22	-21	-283
2	-22	-13	-5	-9	-6	-3	-3	-1	5	12	14	15	18	21	14	1	-1	-2	-1	-1	-1	0	0	0	32
3	0	0	-1	-2	0	0	-5	0	8	18	35	40	37	25	14	3	0	-1	-2	-1	-1	-1	-2	-2	162
4	-2	-2	-3	-3	-2	-2	-2	-1	4	11	20	27	24	20	12	-6	-21	-21	-21	-21	-20	-14	-10	-16	-49
5	-19	-20	-20	-23	-19	-22	-3	-4	4	5	4	6	4	4	7	3	-1	-2	-2	-2	-1	-2	-2	-2	-107
6	-3	-3	-3	-2	-3	-2	-2	-1	1	7	15	18	17	13	10	3	-2	-4	-4	-5	-4	-4	-3	-3	36
7	-2	-2	-3	-3	-2	-3	-2	-1	7	15	14	15	14	10	6	1	-1	-3	-4	-3	-2	-4	-3	-2	42
8	-2	-2	-2	-2	-3	-3	-2	-1	2	9	17	53	35	29	19	4	0	-1	-1	-1	0	0	1	0	149
9	0	0	-2	-5	-7	-7	-5	0	9	11	20	35	21	18	10	4	0	-1	-1	-1	-1	-1	1	0	98
10	0	0	-3	-4	-4	-5	-10	-10	1	42	24	52	46	26	15	5	-10	-13	-18	-21	-15	-21	-22	-23	32
11	-23	-23	-21	-22	-21	-22	-22	-17	4	32	51	74	35	20	15	5	-12	-14	-6	-5	-5	-4	-3	-2	14
12	0	0	0	-1	-1	-2	-2	0	6	17	15	17	23	15	12	5	0	-9	-5	-5	-10	-12	-13	-19	31
13	-23	-20	-18	-18	-17	-15	-17	-13	0	17	55	37	55	40	19	5	-6	-16	-14	-13	-18	-15	-15	-10	-20
14	-11	-6	-13	-8	-5	-9	-9	-3	8	16	15	18	25	15	17	3	-2	-9	-12	-23	-20	-13	-10	-10	-46
15	-19	-11	-6	-9	-7	-11	-10	-4	-3	2	1	5	8	14	30	10	-10	-3	0	-4	-10	-9	-14	-19	-79
16	-12	-18	-19	-20	-19	-11	-20	-11	0	20	44	63	35	20	25	7	-3	-5	-2	-3	-3	-1	0	0	67
17	0	-2	-4	-3	-7	-5	-3	0	5	12	35	61	58	34	19	11	-5	-14	-17	-16	-21	-20	-15	-16	87
18	-11	-7	-14	-11	-10	-16	-13	-1	3	8	13	17	14	18	11	5	0	0	0	0	-1	-2	-1	0	2
19	0	0	0	0	0	0	0	2	10	20	18	27	31	18	15	8	0	-5	-3	-1	-1	0	0	0	139
20	-2	-20	-16	-22	-24	-23	-22	-10	5	28	40	40	50	29	36	17	-5	-22	-21	-20	-15	-24	-24	-14	-39
21	-19	-11	-19	-18	-14	-13	-13	-9	16	26	68	45	54	48	37	15	-15	-25	-24	-23	-22	-24	-23	-22	15
22	-23	-23	-22	-22	-25	-26	-27	-2	19	32	54	65	36	26	24	7	-11	-16	-10	-6	-5	-5	-5	-5	30
23	-3	-4	-5	-6	-7	-10	-14	-8	11	22	35	45	52	38	20	6	0	-3	-5	-5	-5	-5	-4	-3	142
24	-2	-2	-7	-5	-5	-5	-4	2	11	23	28	28	46	43	35	35	-10	-24	-24	-9	-3	-2	-2	-2	145
25	-2	-2	-4	-5	-10	-22	-25	-15	-11	18	52	34	24	30	28	13	1	-5	-11	-14	-20	-16	-18	-20	0
26	-19	-20	-5	-4	-1	0	0	3	11	28	54	62	76	66	27	10	0	-4	-10	-9	-6	-8	-3	-4	244
27	-1	0	0	0	0	0	0	3	8	22	40	44	19	19	25	10	3	-8	-2	-3	-8	-6	-7	-11	147
28	-4	-5	-10	-14	-13	-11	-4	1	17	28	64	76	32	28	25	4	-1	-7	-6	-4	-3	-5	-4	-2	182
Total	-254	-246	-254	-270	-262	-278	-268	-128	147	517	877	1063	930	715	528	184	-134	-262	-251	-244	-245	-241	-223	-228	1173
Mean	-9·1	-8·8	-9·1	-9·6	-9·4	-9·9	-9·6	-4·6	5·3	18·5	31·3	38·0	33·2	25·5	18·9	6·6	-4·8	-9·4	-9·0	-8·7	-8·7	-8·6	-8·0	-8·1	41·9

TABLE 6 (Contd.) RADIATION BALANCE - MEAN HOURLY VALUES (J/cm^2) MARCH, 1971.

HOUR L.A.T.	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	21 to 22	22 to 23	23 to 24	Total for Day
Day 1	-2	-3	-3	-2	-2	-1	0	0	2	6	9	15	31	25	10	8	5	-5	-4	-10	-20	-20	-20	-22	-3
2	-24	-27	-16	-16	-11	-12	-12	0	22	35	56	66	60	59	44	14	2	-5	-9	-9	-8	-10	-9	-5	185
3	-3	-4	-4	-4	-3	-4	-2	3	15	17	16	23	30	39	36	15	5	-1	-1	-2	-2	-3	-2	-2	162
4	-2	-3	-3	-3	-2	-3	-2	0	5	9	11	24	43	40	35	18	-5	-22	-20	-15	-23	-25	-25	-22	10
5	-21	-25	-24	-24	-23	-22	-20	-8	25	36	66	79	80	75	53	13	4	-3	-2	-2	-1	-2	-3	-5	246
6	-5	-6	-10	-20	-23	-10	-8	2	8	40	80	89	99	85	11	8	0	-8	-14	-25	-25	-25	-24	-25	194
7	-24	-22	-19	-23	-21	-16	-14	0	13	24	65	58	46	25	19	15	2	-5	-5	-5	-5	-15	-23	-24	46
8	-23	-22	-22	-17	-10	-3	-2	5	21	43	88	91	90	71	42	18	0	-16	-21	-24	-25	-23	-10	-13	238
9	-23	-25	-24	-23	-23	-1	-1	6	25	31	60	93	86	71	28	10	3	-20	-21	-20	-17	-12	-8	-12	183
10	-20	-17	-14	-6	-3	-1	-3	5	20	36	42	44	66	55	40	20	5	-6	-9	-13	-22	-13	-13	-6	187
11	-5	-5	-3	-5	-5	-6	-3	7	19	44	57	69	96	55	48	22	9	-5	-8	-6	-11	-11	-10	-9	334
12	-5	-4	-5	-5	-5	-5	-4	-1	4	8	16	18	45	36	22	14	1	-1	-2	-2	-1	-1	-1	-4	118
13	-3	-2	-3	-2	-3	-3	-2	3	8	15	29	20	25	30	55	20	0	-23	-20	-22	-15	-9	-17	-20	61
14	-14	-19	-15	-10	-13	-21	-21	3	35	70	56	63	49	63	53	24	17	-11	-15	-18	-12	-20	-23	-21	200
15	-21	-11	-4	-8	-20	-9	-10	-3	13	40	65	84	68	82	37	28	14	-4	-14	-9	-11	-15	-10	-8	274
16	-6	-6	-9	-13	-12	-11	-12	12	31	55	52	75	94	67	71	20	0	-7	-23	-19	-15	-12	-16	-10	306
17	-16	-22	-23	-21	-17	-11	-5	4	8	8	19	38	29	18	16	10	3	-1	-1	-1	-1	-1	-1	0	32
18	-1	-1	-2	-3	-2	-2	1	4	9	9	15	20	34	12	1	0	2	-1	-2	-4	-4	-3	-3	-3	76
19	-5	-14	-17	-13	-11	-11	-10	-4	23	61	46	68	99	97	59	45	2	-3	-10	-8	-11	-20	-13	-13	337
20	-19	-21	-22	-21	-15	-23	-18	-9	31	70	66	126	124	108	83	45	11	-19	-31	-32	-31	-30	-30	-30	313
21	-28	-28	-27	-25	-23	-24	-15	24	70	87	106	105	118	100	75	46	18	-17	-24	-23	-23	-23	-23	-23	423
22	-23	-19	-17	-20	-19	-13	-3	23	34	53	50	73	101	104	46	35	17	1	-1	-2	-3	-4	-3	0	410
23	0	-1	-1	-5	-4	-2	0	2	5	16	31	48	33	66	68	18	10	1	-4	-3	-2	-2	-2	-2	270
24	-3	-9	-13	-5	-4	-1	2	5	8	15	20	20	40	4	42	43	18	0	-8	-19	-14	-21	-17	-24	79
25	-10	-5	-15	-16	-15	-15	-3	10	30	51	52	45	24	30	20	15	4	-1	0	-3	-5	-3	-3	-11	176
26	-9	-10	-5	-5	-4	-4	0	6	16	23	42	22	37	25	16	9	5	2	-1	-1	-3	-2	-1	-3	155
27	-2	0	0	0	0	0	1	12	17	30	35	50	47	70	47	21	7	0	-3	-3	-4	-4	-4	-5	312
28	-4	-4	-4	-3	-4	-4	1	14	19	17	15	15	16	15	11	8	6	1	-2	-2	-2	-5	-5	-9	90
29	-6	-10	-15	-24	-25	-24	-16	21	59	58	133	32	33	32	46	23	0	-5	-12	-13	-18	-24	-20	-23	202
30	-25	-24	-22	-23	-23	-22	-7	18	55	89	106	100	85	117	95	72	35	0	-12	-10	-4	-3	-3	-4	590
31	-4	-4	-2	-1	-4	-4	-2	11	16	14	42	66	85	65	70	53	16	5	-4	-14	-9	-4	-4	-10	377
Total	-356	-373	-363	-366	-349	-288	-190	175	666	1110	1546	1739	1913	1741	1299	710	216	-179	-303	-339	-347	-365	-346	-368	6583
Mean	-11·5	-12·0	-11·7	-11·8	-11·3	-9·3	-6·1	5·6	21·5	35·8	49·9	56·1	61·7	56·2	41·9	22·9	7·0	-5·8	-9·8	-10·9	-11·2	-11·8	-11·2	-11·9	212·4

TABLE 6 (Contd.) RADIATION BALANCE - MEAN HOURLY VALUES (J/cm^2) APRIL, 1971.

HOUR L.A.T.	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	21 to 22	22 to 23	23 to 24	Total for Day
Day 1	-9	-7	-5	-5	-6	-3	0	8	15	28	39	50	38	23	27	14	9	3	-2	-1	-2	-5	-3	-4	202
2	-4	-3	-5	-3	-3	-5	0	11	25	30	18	18	22	24	9	4	3	0	-5	-7	-8	-6	-5	-6	104
3	-5	-4	-5	-4	-5	-5	-1	15	29	56	118	118	89	107	41	16	7	-2	-5	-7	-7	-8	-8	-7	523
4	-6	-6	-6	-6	-7	-5	-3	15	41	87	122	140	85	58	35	11	8	-2	-15	-11	-13	-19	-23	-20	460
5	-15	-18	-11	-19	-21	-13	5	15	27	85	86	101	81	126	95	39	44	-3	-5	-11	-20	-20	-16	-17	515
6	-23	-23	-21	-23	-20	-15	3	35	69	100	53	58	42	108	22	74	39	-1	-23	-25	-23	-26	-24	-23	333
7	-23	-22	-22	-23	-23	-20	0	28	70	60	109	139	115	114	94	65	27	-6	-23	-25	-24	-23	-23	-23	541
8	-24	-25	-24	-24	-24	-19	2	31	63	92	120	134	131	103	90	65	16	-7	-15	-18	-22	-23	-24	-22	576
9	-23	-24	-23	-24	-25	-22	1	35	71	103	124	138	114	47	35	16	14	1	-16	-25	-24	-22	-23	-23	425
10	-24	-22	-23	-25	-25	-21	0	32	67	97	124	134	128	115	90	56	23	-5	-19	-22	-20	-21	-21	-22	596
11	-23	-23	-22	-22	-22	-19	11	44	75	99	108	127	125	100	88	60	26	1	-14	-18	-13	-12	-14	-10	652
12	-10	-11	-9	-10	-15	-10	3	11	24	37	83	133	114	136	104	68	32	-3	-25	-29	-28	-28	-29	-27	511
13	-26	-23	-22	-23	-22	-16	-2	25	59	87	107	108	84	104	89	44	12	-2	-12	-16	-21	-20	-20	-21	473
14	-20	-19	-20	-20	-19	-14	5	38	67	99	118	128	133	118	94	56	28	1	-10	-19	-19	-16	-15	-16	678
15	-16	-15	-12	-11	-15	-2	7	15	18	22	30	35	31	28	25	19	8	5	-2	-2	-3	-2	-2	-2	159
16	-4	-4	-5	-4	-9	-12	6	12	39	55	120	133	133	135	94	80	24	0	-16	-23	-16	-15	-15	-18	690
17	-23	-22	-20	-20	-21	-14	25	38	26	67	82	72	76	47	42	26	12	3	-2	-4	-4	-4	-4	-4	374
18	-3	-4	-4	-4	-4	-2	2	13	18	31	40	36	41	58	62	39	28	6	-3	-4	-9	-6	-8	-5	318
19	-5	-5	-6	-6	-7	-3	12	20	33	56	80	95	98	71	50	35	42	26	-14	-21	-15	-15	-15	-13	493
20	-8	-7	-7	-7	-9	-3	5	13	23	45	98	95	81	49	39	21	7	3	1	-2	-9	-11	-11	-12	394
21	-12	-14	-19	-13	-14	-8	13	21	33	51	56	50	49	39	54	58	25	5	-3	-2	-2	-1	-1	-1	364
22	0	0	-1	-1	-2	-1	2	10	35	33	114	132	138	171	117	66	60	11	-8	-14	-16	-20	-23	-19	784
23	-19	-24	-26	-26	-20	-16	35	63	94	129	160	170	160	156	125	91	44	25	-16	-26	-18	-21	-27	-19	994
24	-18	-23	-26	-14	-16	-14	26	45	86	123	148	173	172	157	132	19	28	13	-19	-24	-26	-25	-25	-20	872
25	-7	-4	-3	-4	-3	0	3	5	8	28	30	37	65	105	91	97	64	21	-14	-27	-29	-28	-28	-28	379
26	-26	-25	-24	-24	-15	0	12	18	42	122	118	64	73	54	48	44	30	11	-8	-19	-19	-23	-27	-28	398
27	-26	-24	-25	-26	-22	-10	21	59	93	124	125	182	178	163	129	95	68	18	-8	-23	-18	-17	-24	-19	1013
28	-16	-14	-15	-14	-8	0	15	33	52	58	35	41	52	39	29	38	38	14	-10	-10	-18	-22	-24	-24	269
29	-15	-8	-14	-10	-6	0	28	51	109	147	152	170	149	146	110	68	43	5	-8	-8	-10	-10	-14	-8	1067
30	-4	-4	-3	-1	-3	-1	4	34	85	60	85	75	110	134	106	91	50	10	-14	-24	-23	-22	-22	-21	702
Total	-437	-427	-428	-416	-411	-273	240	793	1496	2211	2802	3086	2907	2835	2166	1475	859	151	-333	-467	-479	-491	-518	-482	15859
Mean	-14·6	-14·2	-14·3	-13·9	-13·7	-9·1	8·0	26·4	49·9	73·7	93·4	102·9	96·9	95·0	72·2	49·2	28·6	5·0	-11·1	-15·6	-16·0	-16·4	-17·3	-16·1	528·6

TABLE 6 (Contd.) RADIATION BALANCE - MEAN HOURLY VALUES (J/cm^2) MAY, 1971.

HOUR L.A.T.	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	21 to 22	22 to 23	23 to 24	Total for Day
Day 1	-21	-19	-19	-20	-17	0	25	59	93	125	112	178	143	130	110	72	29	10	-4	-19	-21	-22	-21	-19	884
2	-20	-21	-20	-17	-12	4	24	60	100	127	150	94	120	130	117	47	48	20	-17	-25	-22	-21	-25	-24	817
3	-17	-7	-3	-6	-8	3	21	23	53	83	125	82	55	38	39	15	15	7	1	0	0	0	0	-2	517
4	-3	-4	-1	-1	0	1	17	14	17	31	27	152	53	70	56	62	38	30	1	-2	-4	-1	-1	-21	531
5	-27	-26	-16	-26	-14	-2	13	22	36	50	58	43	37	28	18	43	36	17	-2	-15	-11	-10	-10	-10	232
6	-19	-26	-16	-20	-16	-4	5	26	15	57	126	162	137	67	60	57	47	8	3	-5	-4	-2	-4	-4	650
7	-3	-3	-3	-3	-1	2	9	17	42	54	46	69	153	135	112	87	26	11	4	0	-1	-1	-2	-3	747
8	-1	-1	-1	-1	-1	5	14	48	69	50	95	50	56	45	47	39	22	10	9	2	0	-1	-3	-12	540
9	-17	-8	-7	-4	-1	3	7	10	14	17	34	48	68	122	105	82	54	27	7	-13	-3	-1	-1	-2	541
10	-3	-4	-4	-2	-10	-2	20	44	74	96	147	114	109	102	95	103	46	14	14	-9	-12	-19	-18	-16	879
11	-7	-6	-7	-5	-3	6	13	37	45	114	116	64	124	160	136	97	71	20	-8	-19	-24	-21	-21	-21	861
12	-18	-14	-11	-8	-7	13	39	75	103	136	110	118	164	121	120	100	57	21	-3	-15	-19	-15	-16	-16	1035
13	-15	-15	-15	-12	-7	4	5	20	27	55	63	92	113	103	74	29	32	18	0	-4	-3	-5	-4	-1	554
14	0	0	0	0	0	5	11	8	11	17	22	43	54	75	46	29	5	3	0	0	0	0	0	-5	324
15	-11	-18	-19	-17	-8	-5	18	60	79	118	142	98	147	130	143	108	68	20	-8	-22	-26	-20	-18	-25	934
16	-22	-16	-18	-9	-5	-1	29	45	60	120	72	97	110	140	117	100	66	38	-6	-6	-16	-14	-12	-3	866
17	0	-1	-4	-4	-5	3	45	77	84	86	91	108	122	71	97	107	69	20	4	-9	-11	-13	-10	-5	922
18	-6	-4	-8	-6	-1	8	25	41	42	92	116	107	173	175	150	114	71	33	-1	-21	-16	-17	-20	-18	1029
19	-20	-19	-18	-15	-6	12	36	70	63	94	133	160	112	142	109	76	50	31	13	-15	-22	-20	-19	-19	928
20	-17	-16	-6	-4	-1	5	7	13	29	55	65	54	85	57	51	57	29	18	7	-1	-13	-21	-21	-10	422
21	-6	-11	-17	-12	-4	8	25	50	68	112	169	183	184	165	106	68	46	22	9	1	1	0	-1	0	1166
22	-1	-1	-8	-8	-20	7	52	71	93	135	152	139	176	157	132	105	72	34	3	-21	-22	-25	-13	-13	1196
23	-17	-24	-15	-13	-19	-9	40	45	91	142	132	174	167	120	104	115	63	37	7	-2	-3	0	0	0	1135
24	-1	0	0	0	0	0	9	67	81	76	79	69	85	79	96	75	36	22	6	-2	-6	-8	-11	-17	735
25	-9	-7	-6	-5	-4	9	17	34	42	84	114	128	90	104	119	96	32	3	-2	-4	-5	-6	-10	-6	808
26	-2	-2	-2	-1	-1	2	13	25	67	112	118	61	73	34	35	24	14	14	9	0	-2	-12	-14	-13	552
27	-11	-13	-8	-12	-6	16	39	70	62	76	102	108	105	107	97	74	28	23	12	-9	-12	-12	-19	-23	794
28	-13	-12	-12	-15	-2	14	40	39	82	94	99	84	137	153	140	98	56	38	2	-12	-15	-12	-4	-3	976
29	-3	-3	-3	-3	-2	4	24	22	38	28	25	28	27	32	21	30	29	15	5	1	-3	-2	-2	-3	305
30	-10	-17	-4	-3	-2	10	38	48	56	65	176	188	178	158	141	115	77	39	8	-2	-10	-19	-17	-17	1196
31	-8	-10	-7	-5	-2	8	19	37	47	60	65	87	115	158	99	90	73	27	6	-7	-16	-22	-19	-15	780
Total	-328	-328	-278	-257	-185	129	699	1277	1783	2561	3081	3182	3472	3308	2892	2314	1405	650	79	-255	-321	-342	-336	-346	23856
Mean	-10·6	-10·6	-9·0	-8·3	-6·0	4·2	22·5	41·2	57·5	82·6	99·4	102·6	112·0	106·7	93·3	74·6	45·3	21·0	2·5	-8·2	-10·4	-11·0	-10·8	-11·2	769·5

TABLE 6 (Contd.) RADIATION BALANCE - MEAN HOURLY VALUES (J/cm^2) JUNE, 1971.

HOUR L.A.T.	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	21 to 22	22 to 23	23 to 24	Total for Day
Day 1	-9	-5	-5	-12	-9	2	34	56	56	69	80	70	107	121	114	30	32	11	1	-4	-5	-5	-5	-7	717
2	-7	-10	-15	-14	-3	5	15	35	85	85	146	116	84	105	128	40	27	18	3	-3	-7	-17	-15	-17	784
3	-20	-21	-21	-21	-13	6	48	61	94	79	120	190	173	160	132	105	45	22	7	-9	-10	-14	-15	-14	1084
4	-12	-13	-10	-4	0	16	26	69	98	121	123	162	162	157	132	104	67	26	1	-12	-15	-16	-18	-18	1146
5	-16	-13	-8	-5	0	19	40	72	103	132	154	168	167	152	136	60	76	38	6	-19	-25	-22	-19	-19	1177
6	-12	-5	-5	-9	-9	5	17	28	76	141	25	5	4	24	21	32	17	7	5	-13	-11	-5	-11	-19	308
7	-18	-12	-3	-3	0	5	11	11	24	45	116	130	91	167	127	80	74	45	14	-3	-5	-10	-13	-16	857
8	-14	-11	-6	-10	-16	5	14	55	56	83	78	63	47	28	35	33	32	19	5	-2	-7	-12	-6	-5	464
9	-5	-4	-3	-3	-3	0	11	23	50	75	70	64	147	100	101	34	24	35	1	-13	-19	-17	-26	-22	620
10	-15	-7	-8	-6	-5	0	4	18	77	80	170	138	182	83	131	80	76	40	9	-14	-15	-12	-19	-19	968
11	-10	-15	-17	-8	-13	-2	27	32	77	97	49	130	186	176	129	120	69	57	6	-15	-22	-29	-29	-27	968
12	-17	-23	-25	-25	-18	15	51	63	80	115	84	122	114	167	124	113	65	48	10	-2	-5	-5	-7	-11	1033
13	-14	-14	-8	-3	-3	7	9	23	38	35	59	50	62	72	131	72	80	31	8	-2	-5	-7	-6	-11	604
14	-18	-15	-13	-17	-2	28	14	17	11	25	26	23	109	178	157	123	91	41	21	0	-26	-27	-22	-12	712
15	-7	-8	-7	-6	-10	14	26	40	88	115	122	110	103	120	101	110	51	28	12	-2	-7	-4	-6	-8	975
16	-8	-6	-8	-7	-3	16	34	84	102	121	166	168	138	108	137	111	80	30	9	-3	-7	-15	-10	-7	1230
17	-11	-7	-12	-11	-2	30	36	79	119	134	131	114	147	166	137	95	68	26	7	-5	-7	-5	-3	-2	1224
18	-1	-1	-1	0	1	3	5	10	17	25	29	26	37	58	46	31	11	11	8	5	-2	-3	-3	-2	310
19	-1	-1	-3	0	6	12	20	40	49	95	61	52	43	37	37	14	12	17	8	2	0	0	-1	-5	494
20	-4	-3	-16	-14	-1	8	13	22	48	55	79	134	153	157	146	107	84	40	5	-7	-17	-5	-7	-6	971
21	-3	-3	-2	-2	0	7	11	11	18	28	53	95	46	60	63	73	82	38	10	-1	-3	-6	-3	-3	569
22	-3	-3	-3	-3	-1	8	17	33	46	75	90	132	128	103	96	43	23	14	12	-3	-7	-5	-5	-7	780
23	-7	-9	-6	-3	1	8	23	44	53	78	121	130	134	77	68	67	61	44	15	2	-2	-2	0	0	897
24	-1	-2	-2	-3	2	5	15	43	36	40	44	24	21	25	26	16	19	17	5	3	0	0	0	0	333
25	0	0	0	-3	3	10	47	57	70	75	135	130	68	40	62	26	18	54	20	5	-7	-5	-4	-5	796
26	-11	-10	-16	-10	-3	16	33	57	77	70	175	169	120	155	130	111	60	36	12	-2	-11	-16	-14	-10	1118
27	-11	-9	-17	-9	-3	11	40	41	49	55	56	40	70	63	66	27	43	45	9	-6	-8	-7	-16	-10	519
28	-17	-19	-14	-6	2	13	50	56	69	60	105	115	77	94	107	90	40	29	15	-4	-6	-5	-7	-3	841
29	-12	-10	-6	-6	-5	5	16	46	51	75	114	58	83	91	66	28	28	38	10	2	0	0	0	0	672
30	0	0	0	0	0	5	25	38	60	62	71	72	84	72	46	45	48	30	8	3	-7	-8	-4	-4	646
Total	-284	-259	-260	-223	-107	282	732	1264	1877	2345	2852	3000	3087	3116	2932	2020	1503	935	262	-122	-268	-284	-294	-289	23817
Mean	-9·5	-8·6	-8·7	-7·4	-3·6	9·4	24·4	42·1	62·6	78·2	95·1	100·0	102·9	103·9	97·7	67·3	50·1	31·2	8·7	-4·1	-8·9	-9·5	-9·8	-9·6	793·9

TABLE 6 (Contd.) RADIATION BALANCE - MEAN HOURLY VALUES (J/cm^2) JULY, 1971.

HOUR L.A.T.	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	21 to 22	22 to 23	23 to 24	Total for Day
Day 1	-3	-2	-1	0	0	5	25	40	58	86	83	77	72	90	74	78	55	32	15	1	-6	-3	-3	-3	770
2	-3	-3	-6	-11	-1	23	42	71	47	37	48	58	53	41	53	34	22	11	6	0	0	0	-2	0	520
3	-1	-1	0	0	0	8	15	20	52	41	63	200	175	96	75	58	50	35	6	-10	-12	-13	-12	-11	834
4	-8	-6	-5	-2	-1	6	29	55	50	105	165	183	184	166	141	112	77	43	9	-16	-22	-20	-19	-15	1211
5	-15	-16	-15	-17	-8	19	58	119	80	153	167	178	176	165	141	109	80	39	1	-11	-16	-13	-12	-16	1346
6	-16	-15	-13	-12	-1	24	52	85	118	146	168	178	176	165	137	112	78	45	16	2	-10	-9	-15	-14	1397
7	-17	-10	-8	-5	3	20	49	78	(112)	(140)	(161)	(168)	(135)	(151)	(129)	109	76	37	8	-10	-16	-14	-3	-14	1279
8	-18	-13	-5	-3	1	3	5	10	22	32	71	118	171	128	60	62	34	42	24	1	-21	-26	-28	-25	645
9	-25	-15	-22	-24	-18	10	47	85	119	144	164	177	179	168	143	114	78	36	3	-19	-20	-20	-17	-11	1276
10	-6	-5	-5	-4	5	28	58	84	118	147	169	179	180	168	147	115	84	56	20	1	-2	-1	-1	-1	1534
11	-1	-1	-1	-1	2	8	18	29	43	56	93	167	180	164	141	116	58	50	10	-13	-20	-20	-18	-13	1047
12	-20	-23	-25	-25	-18	12	47	85	118	146	167	176	177	166	146	115	76	38	1	-18	-24	-25	-24	-24	1244
13	-25	-25	-25	-23	-18	7	41	78	116	143	155	159	159	148	129	100	70	32	0	-21	-23	-22	-23	-23	1109
14	-23	-23	-20	-21	-17	8	46	70	118	137	128	155	146	120	103	69	41	20	3	-9	-10	-10	-12	-5	1014
15	-7	-10	-14	-14	-9	11	44	77	105	133	156	153	164	165	169	96	30	15	9	0	-9	-15	-17	-18	1214
16	-15	-20	-22	-22	-17	14	51	73	114	177	172	220	145	168	137	107	70	31	-4	-22	-24	-23	-22	-21	1267
17	-21	-21	-19	-14	-3	16	39	76	106	128	148	162	162	149	128	101	67	29	-4	-22	-23	-22	-17	-16	1129
18	-18	-12	-15	-15	-8	7	38	58	92	123	147	155	157	146	125	98	64	25	-5	-22	-21	-20	-19	-17	1063
19	-14	-12	-12	-9	0	8	28	78	81	140	141	130	118	86	87	65	46	20	7	-3	-5	-5	-5	-5	965
20	-5	-5	-5	-3	-2	10	30	39	37	53	33	46	40	90	79	55	38	35	16	-3	-14	-8	-8	-8	540
21	-8	-9	-9	-7	-8	7	18	28	31	45	55	31	44	44	37	31	15	19	6	1	0	0	0	-1	370
22	-1	-1	-2	-2	-3	6	27	38	79	101	88	150	69	40	52	62	25	10	6	0	-3	-2	-5	-12	722
23	-8	-6	-3	-4	-4	10	29	28	53	49	48	90	60	60	58	56	43	45	7	-16	-20	-9	-6	-10	550
24	-11	-11	-5	-8	-10	0	18	37	56	41	64	75	121	139	79	35	43	24	7	-8	-10	-7	-6	-9	654
25	-11	-11	-11	-16	-7	10	40	50	127	193	209	212	223	160	168	34	35	17	7	-6	-12	-18	-17	-13	1363
26	-7	-16	-14	-11	-6	14	26	33	120	130	147	156	176	136	61	81	50	47	0	-11	-12	-5	-5	-8	1082
27	-3	-3	-2	-2	0	8	20	47	76	100	161	126	84	94	100	100	26	18	8	-19	-22	-22	-19	-13	913
28	-13	-15	-14	-6	0	5	7	27	14	46	116	118	110	110	87	93	34	26	8	0	-1	-5	-2	-1	744
29	-3	-5	-7	-7	-9	0	14	43	90	143	156	94	136	120	113	82	70	17	11	-6	-7	-13	-12	-6	1014
30	-9	-8	-4	-13	-9	5	28	35	44	35	33	33	30	31	26	20	33	16	6	-2	-8	-11	-8	-15	288
31	-14	-21	-18	-10	-9	0	23	42	77	50	124	87	72	53	47	52	56	31	8	-10	-9	-5	-4	-2	620
Total	-349	-344	-327	-311	-175	312	1012	1718	2473	3200	3800	4211	4074	3727	3172	2471	1674	941	215	-271	-402	-386	-361	-350	29724
Mean	-11·3	-11·1	-10·5	-10·0	-5·6	10·1	32·6	55·4	79·8	103·2	122·6	135·8	131·4	120·2	102·3	79·7	54·0	30·4	6·9	-8·7	-13·0	-12·5	-11·6	-11·3	958·8

TABLE 6 (Contd.) RADIATION BALANCE - MEAN HOURLY VALUES (J/cm^2) AUGUST, 1971.

HOUR L.A.T.	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	21 to 22	22 to 23	23 to 24	Total for Day
Day 1	-3	-2	-3	-4	-2	14	34	74	97	76	113	90	160	188	100	62	40	46	6	-17	-18	-20	-15	-13	1003
2	-9	-5	-6	-8	-5	7	28	47	60	80	78	71	47	32	25	27	14	10	3	-2	-5	-5	-5	-4	475
3	-3	-4	-4	-13	-13	9	18	26	47	61	80	110	49	80	142	122	40	24	8	-6	-6	-2	0	-6	759
4	-15	-8	0	0	0	3	22	27	60	91	106	76	160	154	140	115	54	20	19	-4	-16	-14	-19	-19	952
5	-21	-9	-9	-12	-9	10	40	73	42	146	85	140	182	161	138	109	70	10	0	0	-2	-2	-3	-5	1134
6	-5	-3	-5	-1	-1	2	11	22	60	95	134	95	60	133	137	31	40	36	0	-8	-11	-6	-17	-10	789
7	-4	-16	-20	-18	-16	-2	28	55	68	69	38	42	62	67	47	36	32	19	14	0	-1	-4	-3	-1	492
8	-2	0	0	-1	0	1	4	10	14	20	32	44	44	38	30	25	11	7	3	0	0	0	0	0	280
9	0	-1	-4	-4	-1	5	12	19	30	63	51	28	16	14	11	6	9	5	0	0	-2	0	-6	-16	235
10	-10	-4	-5	-2	-7	-3	12	57	64	38	60	161	53	83	77	62	33	20	0	-5	-8	-9	-9	-7	651
11	-10	-12	-7	-5	-3	-1	33	38	64	101	135	178	112	59	50	27	17	8	1	-2	-2	-1	-1	0	779
12	-1	-1	0	0	-1	2	15	38	62	45	(94)	(138)	91	59	32	28	12	6	3	-14	-17	-5	-5	-3	578
13	-3	-3	-4	-4	-2	5	8	38	30	54	95	64	69	57	44	14	16	8	2	-5	-6	-4	-3	-4	466
14	-5	-2	-2	0	0	1	2	5	27	38	20	31	55	72	34	26	17	11	2	-12	-18	-4	-9	-5	284
15	-5	-16	-23	-23	-22	-4	26	62	100	133	158	170	172	160	136	105	60	20	-11	-24	-23	-22	-23	-21	1085
16	-21	-21	-20	-21	-20	-6	25	57	105	130	92	140	184	155	125	66	33	11	-9	-14	-19	-22	-14	-6	930
17	-10	-15	-15	-11	-6	0	12	35	55	44	19	82	66	50	51	40	24	16	-2	-7	-9	-10	-8	-8	393
18	-19	-21	-10	-9	-11	-10	19	50	87	116	85	151	160	124	98	83	35	25	-5	-17	-13	-13	-19	-19	867
19	-20	-24	-23	-21	-16	-8	12	25	85	117	148	125	164	139	123	97	66	13	-15	-21	-20	-18	-19	-15	894
20	-17	-18	-20	-21	-21	-12	17	26	39	68	85	87	106	78	73	112	57	14	-10	-20	-14	-17	-18	-15	559
21	-17	-15	-10	-9	-18	-8	23	61	107	80	100	82	100	108	65	93	22	10	10	-1	-1	-1	0	0	781
22	0	0	0	0	0	2	10	25	39	27	48	44	41	51	63	60	17	6	4	-1	0	0	0	-3	433
23	-12	-3	0	0	0	1	5	9	21	27	48	54	58	36	40	18	10	10	2	-1	-1	-1	-1	-2	318
24	-2	-1	-1	-2	-1	1	7	24	37	46	61	48	40	63	48	42	28	12	-3	-7	-4	-7	-4	-5	420
25	-4	-6	-1	-12	-1	1	13	25	35	70	98	126	113	117	65	45	28	8	1	0	-3	-3	0	-2	713
26	-2	0	0	-1	-2	1	5	14	46	68	117	164	90	107	92	54	38	27	-2	-8	-18	-12	-16	-13	749
27	-3	-7	-8	-4	-10	-1	16	46	38	68	59	34	32	34	37	28	24	15	2	-3	-11	0	0	0	386
28	0	0	0	0	0	3	11	17	26	31	54	65	47	38	60	24	13	6	2	0	0	0	0	0	397
29	0	0	-1	-1	-2	-3	2	23	48	96	120	160	160	147	108	80	45	14	-8	-8	-7	-3	-3	-4	963
30	-4	-4	-5	-2	-1	-6	5	19	32	60	66	63	112	71	112	38	23	11	-4	-4	-2	-3	-4	-2	571
31	-1	-5	-7	-4	-4	0	11	19	45	59	96	70	57	50	37	58	16	4	0	0	0	0	-2	-6	493
Total	-228	-226	-213	-213	-195	4	486	1066	1670	2217	2575	2933	2862	2725	2340	1733	944	452	13	-211	-257	-208	-226	-214	19829
Mean	-7·4	-7·3	-6·9	-6·9	-6·3	0·1	15·7	34·4	53·9	71·5	83·1	94·6	92·3	87·9	75·5	55·9	30·5	14·6	0·4	-6·8	-8·3	-6·7	-7·3	-6·9	639·6

TABLE 6 (Contd.) RADIATION BALANCE - MEAN HOURLY VALUES (J/cm^2) SEPTEMBER, 1971.

HOUR L.A.T.	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	21 to 22	22 to 23	23 to 24	Total for Day
Day 1	-9	-25	-15	-24	-15	0	9	28	80	114	137	150	148	108	64	32	20	6	-2	-2	-3	-2	-3	-2	794
2	-1	-2	0	0	0	0	2	11	16	16	22	22	21	17	18	15	10	5	0	-1	0	-1	-3	-1	166
3	0	-3	-3	-5	-6	-1	0	8	14	31	32	30	25	29	25	15	6	5	0	-1	-1	-4	-2	-2	192
4	-2	-3	-4	-6	-4	-2	5	19	36	30	35	42	73	77	51	38	25	9	-1	-5	-8	-15	-18	-20	352
5	-20	-16	-16	-21	-17	-18	2	26	62	99	129	132	140	135	94	64	31	3	-12	-16	-14	-16	-17	-18	716
6	-10	-12	-14	-12	-14	-16	4	18	29	38	46	55	74	41	63	77	29	2	-18	-24	-25	-25	-24	-23	259
7	-20	-20	-26	-24	-22	-20	2	34	44	98	131	129	130	118	95	68	42	1	-19	-19	-25	-25	-22	-14	636
8	-22	-19	-18	-19	-19	-19	10	24	67	107	78	100	128	118	95	67	33	8	-10	-18	-18	-15	-10	-16	632
9	-12	-9	-16	-10	-5	-4	6	21	47	59	80	40	22	32	13	15	9	0	-2	-10	-6	-6	-3	-11	250
10	-10	-5	-5	-5	-10	-8	0	10	30	32	43	37	85	120	107	68	28	-10	-20	-19	-10	-5	-2	-4	447
11	-2	-1	-1	-1	-2	-7	0	16	71	70	88	139	138	130	97	73	15	10	-3	-4	-5	-4	-3	-2	812
12	-3	-2	-3	-5	-4	-4	8	20	20	19	38	58	53	112	71	54	16	-15	-12	-11	-10	-7	-4	-4	385
13	-3	-5	-17	-3	-4	-4	-8	8	44	102	121	121	124	111	85	39	20	-11	-22	-21	-18	-14	-12	-20	613
14	-20	-17	-15	-15	-19	-10	-6	21	54	86	115	120	120	105	86	56	19	-10	-22	-20	-21	-22	-18	-18	549
15	-19	-16	-17	-20	-18	-19	-8	20	54	81	103	117	117	103	76	46	13	-10	-24	-20	-20	-19	-22	-21	477
16	-19	-18	-19	-15	-15	-14	-2	26	59	83	114	106	80	63	62	31	10	0	-9	-16	-12	-10	-3	-13	469
17	-16	-11	-14	-12	-9	-10	2	16	23	30	45	49	37	11	6	4	2	1	-2	-8	-5	-5	-15	-15	104
18	-17	-15	-15	-7	-13	-2	3	21	26	48	100	119	125	115	86	57	29	-12	-22	-15	-21	-19	-18	-10	543
19	-9	-16	-12	-12	-6	-16	1	23	39	53	82	90	148	65	59	30	23	0	-2	-2	-2	-4	-4	-8	520
20	-2	-4	-5	-2	-12	-8	3	18	47	60	78	127	116	93	71	42	11	-2	-5	-7	-13	-15	-19	-18	554
21	-15	-15	-13	-7	-10	-5	-3	25	27	44	63	100	120	106	82	54	20	2	-14	-14	-11	-7	-10	-2	517
22	-10	-8	-10	-10	-11	-16	-11	25	53	82	107	121	116	102	56	23	7	-5	-10	-9	-10	-11	-10	-14	547
23	-10	-10	-5	-4	-3	-4	-2	7	15	21	25	30	30	36	38	42	17	1	-5	-6	-8	-6	-2	-4	193
24	-5	-6	-2	-1	-2	-3	0	30	55	25	35	67	114	63	70	42	15	-1	-6	-4	-5	-3	-2	-1	475
25	-1	-1	-1	-1	-1	-1	0	8	23	65	67	91	113	77	47	35	15	1	0	-4	-1	-4	-11	-19	497
26	-18	-25	-11	-17	-13	-5	-6	10	19	36	32	82	110	90	87	52	18	-8	-21	-20	-21	-11	-18	-23	319
27	-17	-24	-19	-18	-17	-13	-7	7	24	50	90	115	148	70	55	47	23	-15	-19	-18	-18	-18	-18	-17	391
28	-16	-16	-15	-18	-16	-6	4	22	28	40	62	25	23	42	35	11	4	0	0	0	0	0	0	0	209
29	0	0	0	0	0	0	2	7	7	17	28	33	24	26	16	14	8	1	0	-1	-1	-1	-2	-2	176
30	-2	-2	-1	0	0	0	1	4	18	28	70	110	150	68	27	17	7	1	-2	-4	-7	-14	-8	-2	459
Total	-310	-326	-312	-294	-287	-235	11	533	1131	1664	2196	2557	2852	2383	1837	1228	525	-43	-284	-319	-319	-308	-303	-324	13253
Mean	-10·3	-10·9	-10·4	-9·8	-9·6	-7·8	0·4	17·8	37·7	55·5	73·2	85·2	95·1	79·4	61·2	40·9	17·5	-1·4	-9·5	-10·6	-10·6	-10·3	-10·1	-10·8	441·8

TABLE 6 (Contd.) RADIATION BALANCE - MEAN HOURLY VALUES (J/cm^2) OCTOBER, 1971.

HOUR L.A.T.	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	21 to 22	22 to 23	23 to 24	Total for Day
Day 1	-3	-2	-2	-2	-2	-2	-1	6	13	22	43	106	100	80	42	18	7	-1	-2	-5	-5	-6	-7	-11	386
2	-20	-18	-16	-11	-14	-17	-11	9	22	51	90	112	110	114	48	20	2	-2	-4	-4	-3	-8	-10	-14	426
3	-20	-20	-18	-14	-8	0	0	6	10	48	73	84	103	86	57	32	-6	-11	-18	-20	-16	-19	-18	-19	292
4	-13	0	-13	-10	-8	-1	-3	3	9	25	16	27	25	23	19	20	15	2	0	0	0	0	0	0	136
5	0	0	0	0	0	0	1	13	17	17	20	16	21	24	15	10	3	1	0	0	0	0	0	0	158
6	0	0	0	0	0	0	1	5	12	19	18	22	17	24	32	16	7	1	0	0	0	0	0	0	174
7	0	0	0	-1	0	0	1	5	12	18	17	27	26	25	22	12	4	-2	-3	-3	-3	-5	-11	-4	137
8	-3	-3	-3	-2	-2	-2	-1	12	22	22	42	55	44	31	30	14	5	-2	-6	-4	-2	-2	-2	-2	241
9	-1	0	-1	-1	-1	-2	0	3	31	64	80	77	56	54	37	24	4	-13	-2	-6	-2	-2	-2	-2	395
10	-2	-4	-9	-2	-3	-4	0	5	22	36	52	31	48	37	19	7	2	0	0	0	0	0	0	0	235
11	0	0	0	0	0	-1	-3	4	25	39	68	78	84	60	56	19	2	-21	-16	-22	-20	-20	-20	-17	295
12	-18	-12	-10	-10	-9	-7	-6	2	20	44	52	24	26	23	7	4	0	-1	-1	-1	-1	0	0	0	126
13	0	0	0	0	-2	-2	-2	1	7	20	49	52	28	30	13	12	0	-4	-4	-10	-13	-18	-23	-25	109
14	-23	-22	-23	-24	-24	-24	-22	-12	23	50	75	78	87	77	50	24	-5	-17	-10	-6	-5	-4	-5	-5	233
15	-4	-3	-2	-1	0	0	0	2	11	19	27	40	80	78	52	19	0	-15	-20	-10	-15	-24	-14	-8	212
16	-13	-22	-14	-13	-16	-15	-22	-10	16	32	43	48	43	40	24	16	0	-9	-5	-4	-16	-9	-5	-6	83
17	-2	-11	-17	-12	-11	-12	-16	-3	10	28	50	46	40	45	25	8	0	-3	-2	-10	-12	-16	-20	-18	87
18	-12	-17	-13	-12	-12	-20	-11	-9	5	6	7	9	12	11	8	4	2	-1	-3	-8	-6	-5	-4	-3	-72
19	-2	-2	-3	-3	-5	-9	-18	-17	13	32	27	36	63	26	20	18	-1	-19	-20	-15	-14	-22	-22	-14	49
20	-17	-12	-10	-10	-12	-11	-12	-10	20	42	39	49	30	25	18	8	1	-3	-3	-6	-6	-6	-4	-5	105
21	-7	-5	-2	0	0	-1	-2	2	6	7	9	16	20	20	10	8	4	-1	-1	-1	-1	-1	-1	-1	78
22	0	0	-3	-14	-19	-21	-21	-11	12	37	47	63	25	29	20	8	3	0	-2	-1	-1	0	0	0	151
23	0	0	-1	-3	0	0	0	2	5	7	10	11	10	11	9	9	1	-9	-22	-25	-23	-12	-12	-3	-35
24	0	0	-2	-5	-7	-2	-15	-14	5	33	63	75	81	65	39	22	-12	-22	-23	-23	-23	-22	-22	-24	167
25	-24	-23	-22	-22	-21	-19	-15	-11	5	19	27	23	20	32	21	15	-2	-10	-15	-15	-4	-10	-10	-8	-69
26	-18	-22	-23	-23	-23	-23	-22	-20	8	37	62	69	69	55	37	19	-5	-12	-15	-7	-11	-17	-24	-25	64
27	-25	-25	-26	-26	-26	-27	-27	-22	7	34	55	65	67	59	37	14	-21	-13	-3	-3	-4	-5	-4	-20	61
28	-5	-3	-13	-9	-3	-9	-16	-14	-4	12	28	20	16	6	5	3	2	-7	-12	-13	-8	-12	-18	-18	-72
29	-18	-14	-20	-25	-22	-25	-23	-13	-5	30	53	72	61	54	35	17	-11	-15	-13	-5	-5	-7	-10	-9	82
30	-3	-3	-3	-3	-5	-3	-12	-5	5	22	47	63	66	60	29	10	-15	-22	-22	-22	-24	-24	-25	-23	88
31	-24	-19	-15	-14	-12	-8	-20	-1	11	14	23	28	32	25	21	10	-2	-8	-5	-3	-3	-10	-6	-6	8
Total	-277	-262	-284	-272	-267	-267	-298	-92	375	886	1312	1522	1508	1329	857	440	-16	-239	-252	-252	-246	-286	-299	-290	4330
Mean	-8·9	-8·5	-9·2	-8·8	-8·6	-8·6	-9·6	-3·0	12·1	28·6	42·3	49·1	48·6	42·9	27·6	14·2	-0·5	-7·7	-8·1	-8·1	-7·9	-9·2	-9·6	-9·4	139·7

TABLE 6 (Contd.)

RADIATION BALANCE - MEAN HOURLY VALUES (J/cm^2)

NOVEMBER, 1971.

HOUR L.A.T.	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	21 to 22	22 to 23	23 to 24	Total for Day
Day 1	-6	-2	-2	-1	0	-1	-4	-6	19	27	32	43	36	41	17	7	-4	-9	-3	-3	0	-1	-2	-1	177
2	-1	-2	-6	-9	-9	-5	-2	0	3	6	11	24	42	34	20	8	0	0	0	0	0	0	0	0	114
3	0	0	-1	-1	-4	-2	-7	-9	-6	5	27	36	35	25	14	6	-2	-2	-2	-4	-6	-5	-3	-3	91
4	-4	-2	-2	-1	-4	-2	-4	-5	7	25	33	43	32	14	7	3	0	-4	-4	-1	-1	0	0	0	130
5	-4	-1	-12	-16	-13	-14	-7	-10	4	7	13	16	38	24	30	1	-13	-12	-13	-15	-14	-12	-13	-11	-47
6	-12	-14	-13	-9	-11	-10	-7	-15	-6	20	45	39	52	20	1	-3	-15	-17	-22	-22	-18	-17	-6	-1	-41
7	-4	-4	-2	-1	0	0	0	0	1	6	12	20	15	11	7	1	-1	-15	-19	-19	-12	-11	-14	-11	-40
8	-7	-8	-11	-6	-7	-16	-15	-17	2	6	22	17	12	21	23	3	-7	-13	-8	-9	-10	-19	-27	-22	-96
9	-14	-17	-12	-4	-10	-15	-16	-17	-3	16	25	47	39	36	16	-6	-7	-5	-10	-6	-13	-12	-6	-6	0
10	-11	-5	-5	-18	-16	-11	-5	-4	7	3	2	8	11	11	6	1	-2	-3	-2	-2	-3	-2	-2	-3	-45
11	-2	-2	-2	-4	-6	-5	-2	-1	5	17	25	37	38	27	9	1	-19	-20	-19	-18	-17	-4	0	-1	37
12	-1	-1	-1	-1	-1	-1	-1	0	6	11	16	16	16	32	19	6	-5	-6	-1	0	-1	0	-5	-4	93
13	-5	-6	-11	-12	-6	-13	-17	-12	0	12	34	34	25	14	5	0	-6	-4	-4	-4	-4	-4	-4	-13	-1
14	-17	-22	-3	-5	-9	-4	-5	-14	-9	14	36	43	38	31	16	-11	-8	-9	-7	-3	-2	-2	-2	-2	44
15	-2	-2	-2	-2	-2	-2	-2	-2	2	4	10	10	10	10	8	5	-2	-2	-2	-3	-4	-4	-2	-1	23
16	-2	-1	-1	-1	-1	-1	-1	-1	2	6	11	12	15	10	8	4	0	0	-1	-3	-2	-2	-2	-2	47
17	-2	-1	-1	0	0	-2	-3	-9	2	10	18	26	33	19	10	4	-1	0	0	0	0	0	0	0	103
18	0	0	0	-1	0	0	-1	-1	4	5	15	19	36	34	17	-19	-17	-13	-10	-10	-5	-5	-16	-14	18
19	-15	-13	-15	-23	-30	-25	-16	-14	-5	11	18	22	22	21	6	-10	-15	-13	-13	-12	-15	-8	-6	-5	-153
20	-5	-4	-4	-3	-2	-2	-2	-1	2	7	10	9	9	7	6	2	0	0	0	0	0	0	0	0	29
21	0	-1	-2	-2	-3	-3	-3	-3	-3	8	7	13	29	22	4	-9	-13	-14	-17	-23	-18	-20	-15	-17	-83
22	-20	-19	-9	-13	-13	-13	-15	-17	-5	4	22	32	22	29	18	-2	-7	-4	-4	-4	-4	-4	-5	-4	-35
23	-4	-4	-9	-9	-5	-6	-3	-3	0	11	32	28	20	17	10	0	-5	-8	-12	-9	-4	-5	-8	-10	14
24	-25	-25	-25	-24	-21	-20	-22	-20	-11	16	25	43	40	25	6	-12	-22	-22	-21	-13	-2	-1	-1	-1	-133
25	-1	-1	0	0	0	0	0	0	3	11	16	11	12	9	8	4	1	0	0	0	0	0	0	0	73
26	0	-3	-2	-3	-2	-1	-1	-1	2	7	13	23	25	17	6	0	-4	-3	-4	-6	-11	-10	-4	-2	36
27	-1	-3	-5	-2	-3	-4	-14	-14	-6	6	20	12	32	20	8	-10	-10	-16	-20	-15	-15	-23	-26	-23	-112
28	-15	-15	-14	-18	-25	-12	-6	-11	-12	15	22	36	39	17	1	-11	-9	-19	-20	-17	-18	-10	-19	-19	-140
29	-12	-12	-11	-5	-6	-3	-1	0	1	8	15	20	8	0	3	-4	-13	-14	-11	-15	-14	-15	-20	-9	-110
30	-14	-16	-15	-12	-13	-9	-13	-10	-10	3	17	29	17	17	2	-3	-6	-6	-8	-14	-18	-20	-16	-22	-140
Total	-206	-206	-198	-206	-222	-202	-195	-217	-4	307	604	768	798	615	311	-44	-212	-253	-257	-250	-231	-216	-224	-207	-147
Mean	-6·9	-6·9	-6·6	-6·9	-7·4	-6·7	-6·5	-7·2	-0·1	10·2	20·1	25·6	26·6	20·5	10·4	-1·5	-7·1	-8·4	-8·6	-8·3	-7·7	-7·2	-7·5	-6·9	-4·9

TABLE 6 (Contd.) RADIATION BALANCE - MEAN HOURLY VALUES (J/cm^2) DECEMBER, 1971.

HOUR L.A.T.	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	21 to 22	22 to 23	23 to 24	Total for Day
Day 1	-24	-18	-16	-15	-13	-12	-20	-5	-4	10	18	15	11	6	6	3	0	-3	-4	-5	-10	-18	-23	-12	-133
2	-8	-10	-11	-7	-6	-7	-8	-9	-14	4	26	15	27	23	5	-2	-19	-18	-19	-19	-21	-15	-13	-15	-121
3	-19	-17	-8	-2	-2	-3	-1	-1	1	10	16	30	19	14	11	2	0	0	0	-4	-7	-3	-5	-5	26
4	-3	-2	0	0	0	0	0	-1	2	7	16	17	18	18	8	0	-4	-4	-5	-4	-4	-3	-3	-2	51
5	-3	-4	-9	-18	-9	-8	-4	-4	-3	7	13	16	15	10	4	-1	-3	-4	-4	-4	-4	-3	-4	-4	-28
6	-3	-4	-16	-15	-5	-4	-13	-6	-1	8	8	3	18	1	-9	-11	-20	-22	-22	-19	-18	-20	-20	-19	-209
7	-19	-20	-20	-21	-20	-20	-20	-19	-18	-2	20	27	27	15	-1	-17	-23	-23	-22	-23	-22	-22	-21	-20	-284
8	-20	-16	-4	-18	-12	-18	-20	-18	-14	3	23	27	28	17	6	0	-1	-1	-1	-1	-1	-1	-1	-1	-44
9	0	-1	-1	-1	-1	-1	-1	-1	-1	7	10	12	11	10	5	-1	-2	-2	-2	-2	-2	-2	-2	-2	30
10	-3	-3	-3	-3	-2	-2	-2	-3	-2	3	10	9	9	6	1	-1	-3	-2	-2	-2	-2	-2	-2	-2	-3
11	-2	-2	-2	-2	-2	-2	-2	-2	-1	1	3	6	5	5	3	-1	-2	-2	-2	-2	-3	-2	-3	-3	-14
12	-4	-5	-4	-3	-2	-3	-3	-3	-2	2	3	6	7	6	4	-3	-4	-5	-1	-1	0	0	0	0	-15
13	0	0	-1	-7	-15	-11	-10	-15	-8	3	14	14	9	7	5	3	1	0	0	0	-1	-4	-2	-1	-19
14	0	-1	-5	-6	-6	0	0	0	1	3	8	16	35	30	8	-10	-26	-25	-13	-18	-8	-18	-25	-18	-78
15	-17	-23	-20	-13	-17	-21	-13	-22	-8	-8	3	14	18	8	12	-2	-1	0	0	0	0	0	0	0	-110
16	0	-2	-4	-2	-3	-2	-1	-3	1	6	7	8	6	8	6	2	1	0	0	-1	0	0	0	0	27
17	-1	-1	-2	-2	-2	-6	-6	-18	-6	2	4	5	9	13	2	0	-1	0	-1	-1	0	-2	-11	-3	-28
18	-12	-7	-2	-2	-3	-4	-1	-2	0	1	5	8	11	9	5	-5	-13	-2	0	0	0	0	0	0	-14
19	0	-3	-4	-9	-16	-14	-16	-21	-22	0	27	25	11	12	3	-10	-11	-19	-10	-11	-11	-14	-6	-2	-121
20	-3	-2	0	0	1	1	1	1	2	5	8	9	10	9	6	2	0	0	0	0	-1	-2	0	0	47
21	-2	-5	-3	-4	-5	-5	-6	-5	-3	0	8	8	9	5	0	-3	-4	-3	-3	-3	-5	-5	-4	-4	-42
22	-4	-3	-5	-3	-4	-4	-4	-4	-2	-1	5	6	8	6	3	1	-7	-20	-9	-9	-24	-23	-16	-15	-128
23	-19	-21	-21	-13	-9	-16	-6	-13	0	5	8	9	12	10	5	0	-2	-3	-1	-2	-2	-1	-1	-1	-82
24	-1	-2	-2	-2	-2	-2	-2	-3	0	5	7	8	12	20	6	2	-2	-1	-3	-4	-2	-3	-2	-2	25
25	-8	-5	-8	-5	-3	-2	-2	-3	-2	5	15	12	10	8	7	1	-2	-1	-1	-2	-1	-1	-2	-2	8
26	-2	-2	-4	-5	-11	-13	-12	-12	-3	3	8	19	20	6	2	-3	-2	-2	-2	-3	-8	-12	-17	-8	-63
27	-13	-19	-20	-13	-12	-11	-9	-11	-8	1	19	29	26	17	-2	-9	-2	-5	-8	-15	-21	-22	-23	-23	-154
28	-22	-24	-23	-19	-23	-23	-22	-11	-21	-7	16	8	13	10	-9	-10	-22	-26	-28	-30	-28	-18	-14	-11	-344
29	-17	-27	-25	-27	-28	-27	-27	-28	-24	-10	14	11	6	8	-9	-18	-16	-27	-27	-28	-29	-28	-28	-29	-440
30	-28	-26	-25	-22	-21	-22	-22	-20	-22	-7	-6	11	26	9	1	-18	-8	-18	-26	-25	-20	-14	-8	-15	-326
31	-26	-23	-22	-14	-15	-3	-2	-2	-5	0	14	17	10	3	0	-3	-5	-2	-2	-2	-3	-2	-2	-2	-91
Total	-283	-298	-290	-273	-268	-265	-254	-264	-187	66	350	420	456	329	94	-112	-203	-240	-218	-240	-258	-260	-258	-221	-2677
Mean	-9·1	-9·6	-9·4	-8·8	-8·6	-8·5	-8·2	-8·5	-6·0	2·1	11·3	13·5	14·7	10·6	3·0	-3·6	-6·5	-7·7	-7·0	-7·7	-8·3	-8·4	-8·3	-7·1	-86·4

TABLE 7. RADIATION BALANCE - DAILY TOTALS (J/cm^2) 1971.

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Day 1	49	-283	-3	202	884	717	770	1003	794	386	177	-133
2	1	32	185	104	817	784	520	475	166	426	114	-121
3	-249	162	162	523	517	1084	834	759	192	292	91	26
4	-131	-49	10	460	531	1146	1211	952	352	136	130	51
5	21	-107	246	515	232	1177	1346	1134	716	158	-47	-28
6	14	36	194	333	650	308	1397	789	259	174	-41	-209
7	-51	42	46	541	747	857	1279	492	636	137	-40	-284
8	9	149	238	576	540	464	645	280	632	241	-96	-44
9	8	98	183	425	541	620	1276	235	250	395	0	30
10	-222	32	187	596	879	968	1534	651	447	235	-45	-3
11	-325	14	334	652	861	968	1047	779	812	295	37	-14
12	-325	31	118	511	1035	1033	1244	578	385	126	93	-15
13	-50	-20	61	473	554	604	1109	466	613	109	-1	-19
14	-218	-46	200	678	324	712	1014	284	549	233	44	-78
15	11	-79	274	159	934	975	1214	1085	477	212	23	-110
16	-177	67	306	690	866	1230	1267	930	469	83	47	27
17	-121	87	32	374	922	1224	1129	393	104	87	103	-28
18	-90	2	76	318	1029	310	1063	867	543	-72	18	-14
19	-95	139	337	493	928	494	965	894	520	49	-153	-121
20	-142	-39	313	394	422	971	540	559	554	105	29	47
21	-90	15	423	364	1166	569	370	781	517	78	-83	-42
22	-151	30	410	784	1196	780	722	433	547	151	-35	-128
23	-154	142	270	994	1135	897	550	318	193	-35	14	-82
24	-119	145	79	872	735	333	654	420	475	167	-133	25
25	-205	0	176	379	808	796	1363	713	497	-69	73	8
26	-208	244	155	398	552	1118	1082	749	319	64	36	-63
27	-130	147	312	1013	794	519	913	386	391	61	-112	-154
28	-33	182	90	269	976	841	744	397	209	-72	-140	-344
29	-47		202	1067	305	672	1014	963	176	82	-110	-440
30	-124		590	702	1196	646	288	571	459	88	-140	-326
31	-122		377		780		620	493		8		-91
Total	-3466	1173	6583	15859	23856	23817	29724	19829	13253	4330	-147	-2677
Mean	-111·8	41·9	212·4	528·6	769·5	793·9	958·8	639·6	441·8	139·7	-4·9	-86·4

PART 2

SOLAR RADIATION OBSERVATIONS AT KILKENNY METEOROLOGICAL STATION

1971

1. Introduction

Measurements of Global Solar Radiation were begun at Kilkenny towards the end of 1968 and the data given in the following pages represent the results for the year 1971.

2. Site of the Observations

The Meteorological Station is situated 2 Km. north west of the centre of Kilkenny at Latitude 52° 40' N; Longitude 07° 16' W. Kilkenny is mainly a marketing town of population about 10,000, in which there are no major industries or sources of atmospheric pollution. To the east of the station the resedential area of the town approaches to within half a kilometre. The surrounding country is flat open grassland. The nearest hills are 10 Km. to the east (See Fig. 4).

The solarimeter is installed on a stand at the southern edge of the flat roof of the station building 5 metres above ground level (Fig. 5).

The exposure is good, all effective obstruction being below 2° elevation except between 57° and 59° azimuth where an anemometer mast obstructs to 65° elevation (See Fig. 6).

3. Pyranograph Used

The instrument in use was a CM_2 Solarimetric Thermopile by Kipp and Zonen, Serial No. 673014, together with Recording Millivoltmeter No. XR4/55016 (Kipp and Zonen).

Lintronic Integrator No. 2 combined with a print-out unit was introduced on a routine basis as from 1st. January, 1971. The recorder and integrator were both maintained in operation.

The instrument is similar to that in use at Valentia Observatory and was calibrated, before installation, against the Valentia Standard.

4. Observing Procedure

The general procedure for maintaining the instrument, time-marking and tabulation of the records is the same as that already described for Valentia Observatory.

TABLE 1 KILKENNY GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) JANUARY, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1						2	23	35	69	64	46	30	10						279
2						5	21	32	35	35	34	25	10						197
3						4	15	29	39	40	34	20	6						187
4						6	14	20	15	15	14	14	10						108
5						1	2	4	10	8	7	8	3						43
6						3	10	17	18	10	9	8	2						77
7						4	15	23	63	68	60	23	3						259
8						4	13	15	25	46	28	12	2						145
9						1	7	5	11	10	6	2	1						43
10						8	42	75	75	77	69	44	12						402
11						9	39	69	80	85	70	25	8						385
12						5	25	39	52	53	55	34	15						278
13						1	7	33	37	31	21	15	3						148
14							5	10	10	25	30	14	9						103
15						5	20	33	35	22	19	10	3						147
16						5	24	73	88	49	51	35	15	1					341
17						1	12	15	43	47	32	17	8						175
18							1	5	8	9	11	17	10	1					62
19						4	15	40	35	75	55	44	10						278
20						10	48	76	49	45	20	8	3						259
21						6	23	63	49	65	64	42	15	1					328
22						15	50	79	85	57	49	23	7						365
23						13	35	52	61	51	42	28	13						295
24					1	18	48	71	69	56	24	15	7						309
25					1	10	38	26	79	40	30	9	5	1					239
26					1	11	26	47	50	44	29	30	10	1					249
27						11	42	68	65	69	64	34	19						372
28						5	26	60	59	75	65	50	23	1					364
29					1	29	60	89	107	109	91	65	30	3					584
30					1	18	55	99	113	95	89	75	44	5					594
31					1	5	16	31	82	95	108	35	18	6					397
Total					6	219	777	1333	1616	1570	1326	811	334	20					8012
Mean					0·2	7·1	25·1	43·0	52·1	50·6	42·8	26·2	10·8	0·6					258·5

TABLE 1 (Contd.) KILKENNY GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) FEBRUARY, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1						9	20	39	39	75	79	40	15	2					318
2					2	27	35	36	31	31	35	20	15	1					233
3						3	15	27	33	31	34	22	12	1					178
4						5	12	24	33	38	33	24	10	2					181
5					1	3	9	13	19	23	20	13	5						106
6					1	5	15	24	25	26	25	25	11	1					158
7					2	17	31	40	59	72	53	35	26	6					341
8						3	7	10	12	22	34	25	14	3					130
9					2	15	30	49	30	25	18	13	11	3					196
10						5	16	26	21	9	11	5	3	1					97
11					2	13	18	15	31	53	70	62	33	10					307
12					3	10	16	19	24	30	36	34	16	6					194
13					6	49	85	65	106	108	111	75	59	17					681
14					8	50	85	123	90	56	37	29	13	4					495
15					12	58	97	145	133	100	82	104	54	17	1				803
16					6	51	94	130	122	133	110	107	51	7					811
17					12	40	42	81	100	73	94	61	37	15					555
18					12	23	55	89	113	135	94	95	70	18					704
19					3	15	24	30	48	76	60	53	12	10					331
20					16	55	98	130	141	126	95	98	48	15					822
21				1	20	63	105	138	140	150	154	118	69	31	3				992
22					26	73	100	144	155	153	108	108	73	27	3				970
23					21	59	87	130	124	153	94	83	60	15					826
24					11	39	89	123	127	146	139	112	51	22	3				862
25				1	12	23	58	112	125	131	138	105	72	35	2				814
26					15	69	98	131	120	182	95	85	49	21	2				867
27					5	19	19	25	21	22	24	15	17	5	1				173
28				1	16	45	75	90	101	127	83	38	29	17	1				623
Total				3	214	846	1435	2008	2123	2306	1966	1604	935	312	16				13768
Mean				0·1	7·6	30·2	51·3	71·7	75·8	82·4	70·2	57·3	33·4	11·1	0·6				491·7

TABLE 1 (Contd.) KILKENNY GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) MARCH, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1					5	7	13	23	20	16	15	15	11	11	3				139
2				4	34	77	124	157	155	145	124	129	85	36	5				1075
3				2	37	59	105	103	121	142	93	74	54	30	5				825
4				1	9	43	88	148	177	172	164	118	72	43	5				1040
5					14	35	56	45	62	23	34	28	19	8	2				326
6				1	5	13	59	94	115	70	40	52	23	14	7				493
7				2	20	38	47	50	46	39	42	35	29	20	2				370
8				3	22	72	144	161	106	86	118	116	80	36	6				950
9				1	11	20	32	47	61	61	96	135	49	35	7				555
10					7	36	65	122	93	145	149	101	57	10	5				790
11				5	30	50	62	119	75	80	129	104	43	30	10				737
12				1	11	34	55	71	53	60	66	75	64	25	6				521
13				1	15	36	36	35	30	41	51	35	21	15	8				324
14				5	39	106	149	191	211	167	207	114	83	63	18				1353
15				8	46	70	119	95	65	48	44	23	72	25	9				624
16				5	35	136	192	176	148	192	138	68	64	61	15				1230
17				14	79	100	137	110	96	85	70	54	25	10	1				781
18				5	16	22	30	38	43	34	25	25	22	10	3				273
19				4	25	45	64	91	99	108	78	59	51	33	10				667
20				10	55	117	152	125	157	169	200	173	131	62	22				1373
21				22	76	131	176	199	182	171	189	138	115	72	30	1			1502
22				20	81	135	180	216	235	225	166	124	76	37	41	2			1538
23				3	18	29	48	74	60	70	56	24	21	13	8	1			425
24				4	45	74	83	58	80	50	35	43	71	61	24	1			629
25				21	81	134	183	184	187	151	141	112	70	36	13				1313
26			1	19	53	85	74	74	46	49	45	58	46	33	15	1			599
27				7	26	33	30	38	50	65	63	36	25	19	10				402
28				3	15	23	41	49	85	48	45	84	64	15	6	1			479
29				11	38	79	124	156	162	158	159	151	91	41	7	2			1179
30				10	56	84	85	70	64	59	30	22	21	34	15	2			552
31				11	39	67	132	210	184	232	199	115	72	50	16	1			1328
Total			1	203	1043	1990	2885	3329	3268	3161	3011	2440	1727	988	334	12			24392
Mean			0·0	6·5	33·6	64·2	93·1	107·4	105·4	102·0	97·1	78·7	55·7	31·9	10·8	0·4			786·8

TABLE 1 (Contd.) KILKENNY GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) APRIL, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1			3	22	67	44	36	79	87	107	62	36	27	22	10	2			604
2			2	11	18	11	20	32	58	125	69	62	12	15	8	3			446
3			4	32	62	65	74	63	75	57	63	60	44	38	18	4			659
4			4	50	110	126	81	91	95	93	107	86	57	20	8	3			931
5			1	6	16	32	50	96	75	131	128	88	92	49	20	2			786
6			6	51	103	154	200	263	229	205	125	123	80	57	21	4			1621
7			5	19	47	72	96	206	237	215	219	192	128	52	31	5			1524
8			4	20	75	158	214	159	134	99	96	99	124	100	52	10			1344
9		1	6	25	45	101	115	111	93	87	86	122	126	94	54	10			1076
10			11	34	111	172	219	249	265	257	241	210	142	110	64	13			2098
11			11	54	112	163	192	221	239	219	206	132	108	65	31	6			1759
12			8	45	102	161	207	244	266	262	252	220	175	117	60	12			2131
13			14	64	127	170	219	254	272	268	249	213	166	111	57	12			2196
14		1	12	49	100	163	206	241	261	256	243	206	156	98	34	12			2038
15			12	36	64	98	164	240	246	262	238	200	106	99	44	12			1821
16			7	21	80	118	198	226	211	275	240	137	125	92	57	10			1797
17			21	62	87	117	164	105	90	75	108	100	63	33	22	8			1055
18			7	23	40	66	91	85	105	171	193	185	200	88	34	8			1296
19			11	19	71	91	145	194	136	201	166	93	100	53	34	13			1327
20		1	24	63	72	109	203	239	142	86	101	125	67	25	10	9			1276
21		1	16	49	100	127	209	262	276	128	63	39	32	27	13	4			1346
22			6	33	59	31	22	20	19	24	38	34	41	23	5	1			356
23			15	39	73	112	119	144	115	92	59	77	37	31	21	6			940
24		1	14	44	102	134	177	192	244	186	286	162	226	151	85	30	2		2036
25		2	27	95	154	146	138	243	156	76	87	44	25	23	15	6			1237
26			7	14	16	55	133	235	118	130	158	114	61	43	27	19	2		1132
27		2	31	87	148	204	243	218	175	103	85	79	82	26	40	19	2		1544
28		3	33	91	147	197	238	256	267	156	196	153	88	68	25	11	1		1930
29			10	24	44	64	101	144	170	86	59	150	106	52	34	15	1		1060
30		1	12	39	59	123	64	84	52	55	97	81	44	30	38	16	1		796
Total		13	344	1221	2411	3384	4338	5196	4908	4487	4320	3622	2840	1812	972	285	9		40162
Mean		0·4	11·5	40·7	80·4	112·8	144·6	173·2	163·6	149·6	144·0	120·7	94·7	60·4	32·4	9·5	0·3		1338·7

TABLE 1 (Contd.) KILKENNY GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) MAY, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1		2	31	83	146	205	247	297	281	188	190	134	90	76	36	14	2		2022
2		3	23	62	95	146	249	287	239	168	179	126	81	100	84	28	4		1874
3		4	20	50	93	133	193	246	247	289	266	193	164	156	78	36	3		2171
4		5	36	83	152	207	254	294	300	303	290	261	208	151	88	36	4		2672
5		6	36	88	142	200	226	173	168	102	114	112	56	26	10	5	2		1466
6		2	17	40	118	158	118	118	239	145	20	23	12	24	93	35	2		1164
7		4	19	51	106	104	46	50	79	136	147	107	96	75	27	22	6		1075
8		3	31	58	102	152	134	138	131	124	122	105	164	94	65	20	2		1445
9		8	40	32	36	99	61	44	43	26	44	37	30	40	49	24	8		621
10		3	8	20	54	212	257	278	305	315	260	229	211	169	101	24	8		2454
11		6	19	36	62	83	99	87	134	125	125	125	98	45	84	31	9		1168
12		9	52	112	170	225	170	225	280	252	197	137	180	160	94	46	9		2318
13		8	35	87	122	176	169	239	258	256	250	239	194	138	84	37	7		2299
14		2	6	22	88	180	214	239	270	262	213	191	100	67	66	19	4		1943
15		8	29	104	112	166	285	306	240	249	233	183	188	131	122	53	8		2417
16		13	45	48	99	138	150	116	182	197	119	175	67	145	50	28	8		1580
17		16	57	97	102	115	112	131	185	203	270	164	213	125	55	25	9		1879
18		10	37	73	110	172	204	219	215	228	177	90	82	66	32	19	7	1	1742
19	1	14	64	123	182	239	240	285	340	314	285	265	207	131	75	23	8		2796
20		7	20	30	60	101	106	87	119	101	83	88	82	79	25	19	3		1010
21		5	17	41	66	111	118	116	139	116	98	100	122	90	47	39	9		1234
22		10	16	18	44	102	92	153	136	170	143	252	164	113	72	30	12		1527
23		6	24	45	122	93	57	92	87	115	123	46	40	33	17	8	5		913
24	1	6	19	55	52	58	146	210	204	304	301	251	221	169	75	31	10		2113
25		5	19	48	62	81	69	87	188	161	215	218	221	143	67	26	13		1623
26	2	10	28	114	153	221	214	131	177	158	123	171	92	53	16	7	6		1676
27	1	23	78	129	159	162	160	225	310	253	196	137	199	148	118	60	19	1	2378
28	1	12	60	69	135	233	228	220	145	118	112	156	75	57	45	44	12		1722
29		12	36	74	137	132	85	78	45	81	84	108	91	56	41	14	5		1079
30		6	16	30	76	120	128	136	180	163	276	159	117	105	127	75	19	1	1734
31	1	16	34	96	166	176	175	142	206	304	187	136	109	81	53	33	12	1	1928
Total	7	244	972	2018	3323	4700	5006	5449	6072	5926	5442	4718	3974	3046	1996	911	235	4	54043
Mean	0·2	7·9	31·4	65·1	107·2	151·6	161·5	175·8	195·9	191·2	175·5	152·2	128·2	98·3	64·4	29·4	7·6	0·1	1743·3

TABLE 1 (Contd.) KILKENNY GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) JUNE, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1	3	24	50	132	108	98	133	167	172	161	167	231	169	98	106	69	22	1	1911
2	2	12	37	67	171	94	127	90	168	165	223	131	88	111	111	61	18	1	1677
3	2	12	37	54	106	224	232	156	265	318	272	141	112	99	72	47	19	2	2170
4	2	12	48	120	174	224	265	297	311	312	298	267	227	176	121	68	23	2	2947
5	3	19	46	99	143	132	140	179	225	258	283	288	244	186	134	68	15	1	2463
6	1	4	13	51	140	126	159	160	151	137	144	171	144	58	32	18	5	1	1515
7		9	20	43	130	148	180	110	95	194	132	72	50	26	24	22	6	1	1262
8		5	24	24	72	64	96	130	155	166	178	218	80	44	115	42	9	1	1423
9		3	10	23	71	88	173	229	248	275	252	177	105	23	12	6	3		1698
10		7	15	25	70	167	147	125	230	204	193	109	131	71	91	54	28	3	1670
11	2	10	23	68	79	112	156	212	278	109	91	110	169	53	8	13	7	1	1501
12	1	11	25	28	50	92	115	152	172	219	168	206	87	157	136	94	31	2	1746
13	3	14	43	79	173	235	262	180	114	86	87	88	63	40	78	30	9	2	1586
14	3	16	54	66	151	115	146	204	173	266	149	244	188	86	44	25	13	2	1945
15	3	14	29	52	195	172	137	173	128	131	133	134	123	137	85	33	13	2	1694
16	3	16	47	119	148	120	172	219	164	309	178	200	89	96	52	39	17	4	1992
17	2	23	63	90	124	152	152	195	332	230	134	175	106	81	65	26	9		1959
18		4	11	18	20	27	44	44	34	33	50	66	69	44	31	18	5	1	519
19	1	12	36	58	101	87	167	190	153	144	72	85	39	19	21	13	4	1	1203
20	1	8	37	92	130	105	198	212	212	285	220	288	138	142	56	31	8		2163
21	1	6	18	19	30	36	38	65	63	49	28	54	183	181	102	64	28	1	966
22	4	28	90	117	142	195	252	297	294	337	194	168	168	79	48	35	10	2	2480
23	3	12	26	41	62	130	190	192	212	231	242	248	251	127	126	72	26	2	2193
24	3	10	24	44	56	102	116	149	160	187	98	108	53	28	24	12	7	1	1182
25	1	7	23	21	87	124	125	175	156	189	234	205	168	137	82	31	9	1	1775
26	2	23	84	130	130	180	165	202	262	220	177	167	103	72	73	30	24	3	2047
27	4	19	58	105	198	211	138	149	185	141	116	133	105	88	112	39	19	3	1823
28	3	29	87	88	180	201	217	323	274	296	320	206	224	186	96	41	15	3	2789
29	1	10	30	40	62	171	228	199	196	237	234	126	68	44	31	26	5	1	1709
30	1	5	14	27	40	59	46	80	78	174	255	265	212	176	98	73	23	2	1628
Total	55	384	1122	1940	3343	3991	4716	5255	5660	6063	5322	5101	3956	2865	2186	1200	430	47	53636
Mean	1·8	12·8	37·4	64·7	111·4	133·0	157·2	175·2	188·7	202·1	177·4	170·0	131·9	95·5	72·9	40·0	14·3	1·6	1787·9

TABLE 1 (Contd.) KILKENNY GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) JULY, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1	1	9	21	32	60	93	99	89	85	92	93	173	226	158	107	48	20	1	1407
2	2	10	28	40	49	66	100	126	105	112	68	74	61	50	25	22	7	1	946
3	1	6	19	42	79	178	114	158	219	152	177	147	95	102	48	12	4	1	1554
4	3	11	30	45	52	113	118	231	233	259	191	111	65	56	44	37	29	2	1630
5	2	29	71	71	159	292	212	256	221	302	291	226	187	198	142	76	24	1	2760
6	3	12	75	136	189	238	279	301	296	260	326	259	231	187	126	72	25	2	3017
7	3	24	69	121	170	220	266	244	287	278	270	253	223	169	115	56	18	1	2787
8	3	19	38	87	110	175	248	262	265	219	217	178	152	44	18	9	11	3	2078
9	2	6	29	49	80	147	229	305	323	322	306	279	237	187	131	75	25	1	2733
10	3	32	79	139	194	244	285	313	325	325	305	275	234	183	126	72	20	2	3156
11	1	7	18	40	81	119	163	182	221	238	242	225	248	154	131	63	20	1	2154
12	2	9	75	139	189	224	273	313	326	330	314	283	239	190	134	75	25	1	3141
13	2	24	75	137	196	248	287	316	331	327	311	282	235	179	132	71	22	1	3176
14	1	7	25	45	57	83	131	174	239	172	174	160	137	100	65	27	19	2	1618
15	2	9	31	44	103	194	275	306	319	319	307	278	225	195	108	62	19		2796
16	1	9	29	86	150	179	283	266	340	244	226	263	228	169	131	81	22	1	2728
17	1	25	78	137	193	246	270	280	263	256	271	283	231	96	81	46	17		2774
18	1	11	28	55	99	124	178	294	214	124	148	187	110	91	43	30	12		1749
19	1	10	51	98	138	129	150	137	209	270	122	115	93	77	57	39	11	1	1708
20		19	73	65	61	100	89	87	126	99	135	110	53	40	53	26	9		1145
21		7	29	37	35	28	37	65	150	293	237	238	209	139	97	26	4		1631
22		9	19	31	42	59	84	91	65	43	48	61	36	28	25	21	7		669
23		6	25	57	122	106	105	90	172	95	31	16	27	38	46	14	5		955
24	1	10	24	45	51	43	30	94	83	113	131	72	156	45	20	41	5		964
25		8	54	125	176	137	112	241	182	294	258	215	128	98	40	21	10		2099
26	1	6	22	43	60	96	268	282	324	308	134	69	50	19	46	29	9		1766
27		4	11	35	82	110	97	140	124	143	195	225	128	140	116	59	11		1620
28		13	66	87	174	213	231	223	206	231	171	144	119	63	43	45	8		2037
29		13	25	69	75	119	236	195	183	257	248	218	224	167	113	37	7		2186
30		6	40	97	126	121	118	187	225	224	214	206	187	156	87	20	2		2016
31		5	38	27	74	106	156	192	174	231	163	143	148	38	37	16	5		1553
Total	37	375	1295	2261	3126	4550	5523	6440	6855	6932	6324	5768	4922	3576	2487	1328	432	22	62553
Mean	1·2	12·1	41·8	72·9	110·5	146·8	178·2	207·7	221·1	223·6	204·0	186·1	158·8	115·4	80·2	42·8	13·9	0·7	2017·8

TABLE 1 (Contd.) KILKENNY GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) AUGUST, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1		2	6	6	32	104	71	45	44	44	85	81	21	39	63	57	10		710
2		6	46	100	171	225	269	205	195	141	187	156	99	70	34	14	2		1920
3		3	9	9	15	26	36	35	79	51	94	98	70	74	58	18	4		679
4		6	41	98	94	78	57	140	223	172	206	258	148	120	51	22	4		1718
5		7	44	118	164	181	247	238	212	283	157	239	46	20	27	20	4		2007
6		2	6	11	29	73	140	121	170	93	63	124	53	47	56	17	2		1007
7		9	34	57	140	126	189	194	163	142	101	112	88	102	40	19	4		1520
8		3	21	42	41	75	74	60	53	82	106	99	126	73	48	31	2		936
9		2	19	35	39	59	94	92	119	95	52	42	30	13	6	4	1		702
10		1	5	11	30	94	93	110	174	255	243	115	178	42	32	16	3		1402
11		3	17	52	86	149	142	198	227	161	163	87	57	59	35	10	1		1447
12		1	8	27	40	77	112	90	200	156	139	143	109	47	36	19	1		1205
13		8	20	41	69	164	236	215	87	151	44	71	55	51	40	20	2		1269
14		2	10	23	28	40	33	49	99	158	163	83	49	42	63	21	3		866
15		4	30	98	153	209	224	123	169	138	165	184	185	108	52	26	2		1870
16		3	37	97	153	209	255	293	334	229	214	254	142	151	85	34	2		2492
17		3	23	81	99	107	133	107	153	223	223	203	122	96	64	23	3		1663
18		1	19	70	120	212	245	183	189	256	171	113	69	63	40	13	2		1766
19		2	11	32	39	61	103	204	144	228	200	82	37	18	35	13	1		1210
20		2	13	33	68	69	94	178	256	280	265	212	158	143	63	11	2		1847
21			12	30	48	78	99	93	112	144	180	235	183	132	70	15			1431
22			9	31	93	144	181	142	86	79	63	55	67	75	28	6			1059
23			4	11	20	31	26	21	16	19	34	46	28	10	7	6			279
24			5	11	23	45	87	70	56	90	88	67	46	47	39	14			688
25			11	32	58	81	103	108	172	197	161	126	117	90	50	12			1318
26			9	37	59	83	71	47	45	50	82	146	161	86	42	14	1		933
27			23	30	106	161	181	206	172	116	106	85	104	56	20	7			1373
28			8	48	19	57	108	125	93	117	104	45	55	66	30	3			878
29			4	12	30	49	82	137	150	236	159	145	127	105	68	12			1316
30			6	20	37	49	56	44	157	223	236	154	94	31	40	7			1154
31			6	25	34	34	92	126	171	137	214	183	137	110	30	7			1306
Total		65	516	1328	2137	3150	3933	3999	4520	4746	4468	4043	2961	2186	1352	511	56		39971
Mean		2·1	16·6	42·8	68·9	101·6	126·9	129·0	145·8	153·1	144·1	130·4	95·5	70·5	43·6	16·5	1·8		1289·4

TABLE 1 (Contd.) KILKENNY GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) SEPTEMBER, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1			7	35	62	142	165	215	250	263	184	228	111	90	52	10			1814
2			13	45	42	61	63	189	170	82	37	26	21	21	7	3			780
3			1	7	21	36	67	82	141	66	46	31	19	13	7	1			538
4			13	60	128	138	218	251	240	280	266	215	173	113	39	8			2142
5			7	30	89	155	215	243	255	236	213	145	136	79	39	6			1848
6			11	52	108	141	107	239	243	234	222	186	147	106	47	7			1850
7			7	41	83	109	124	185	219	244	225	183	154	79	43	5			1701
8			6	18	87	145	175	209	267	259	226	189	147	96	42	5			1871
9			6	25	67	99	60	77	95	116	169	141	123	52	26	4			1060
10			3	18	48	46	79	77	102	107	106	57	35	30	14	3			725
11			2	5	12	69	123	125	164	109	75	89	64	27	7	1			872
12			5	24	94	146	165	140	151	177	154	108	93	37	18	1			1313
13			2	18	46	79	152	209	229	223	210	177	106	77	26	3			1557
14			3	34	65	129	134	202	226	221	197	168	123	74	27	2			1605
15			3	26	80	131	173	202	224	222	208	158	117	75	28	2			1649
16			2	15	42	92	152	198	206	205	178	113	69	49	18	1			1340
17			1	19	72	106	128	157	163	82	96	91	74	49	29	2			1069
18			2	25	75	128	176	212	256	271	220	157	123	71	25	2			1743
19				14	46	99	132	200	228	201	189	127	56	27	15	1			1335
20			2	21	55	94	150	160	164	194	192	150	124	49	26	1			1382
21				12	37	70	90	97	134	160	114	27	15	16	8				780
22			1	19	69	116	123	101	146	143	148	99	52	21	7				1045
23			1	10	39	44	89	87	81	74	55	81	88	47	9				705
24				10	31	43	58	82	112	101	55	25	19	14	3				553
25				11	37	122	131	160	176	144	117	52	55	44	15				1064
26				10	70	123	168	135	73	41	18	113	86	47	9				893
27				8	36	91	90	124	160	189	194	164	114	64	21				1255
28				12	48	91	143	175	195	135	107	90	69	30	6				1101
29				6	12	26	53	36	44	61	66	69	38	25	8				444
30				13	34	61	80	92	155	204	175	157	91	57	14				1133
Total			98	643	1735	2932	3783	4661	5269	5044	4462	3616	2642	1579	635	68			37167
Mean			3·3	21·4	57·8	97·7	126·1	155·4	175·6	168·1	148·7	120·5	88·1	52·6	21·2	2·3			1238·9

TABLE 1 (Contd.) KILKENNY GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) OCTOBER, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1				4	53	126	98	117	180	185	165	144	102	50	9				1233
2				10	27	84	132	166	183	186	154	93	45	32	6				1118
3				6	22	31	48	73	89	70	122	52	47	48	7				615
4				3	19	37	50	44	41	38	28	57	30	17	6				370
5				5	10	22	43	73	56	74	42	49	27	9	2				412
6				1	4	13	90	88	125	137	131	54	16	7	2				668
7				2	19	44	72	73	86	77	60	47	30	27	4				541
8				2	19	50	57	54	67	116	138	75	38	10	2				628
9				3	11	51	94	112	114	85	102	78	31	20	5				706
10				3	23	74	113	96	114	89	97	85	41	18	2				755
11				2	13	22	50	108	155	171	131	85	57	29	4				827
12				3	12	55	119	63	50	89	122	84	40	12					649
13				1	5	9	21	31	41	37	27	52	25	16	1				266
14				3	36	80	119	150	167	146	107	122	70	28	3				1031
15					3	7	17	20	16	28	44	62	48	10					255
16				3	22	53	115	119	136	151	107	65	42	14	2				829
17				2	21	44	89	127	132	145	109	76	38	20	2				805
18				3	24	51	87	70	67	28	32	25	18	10	1				416
19					13	35	99	132	123	81	100	30	63	16	1				693
20				1	15	56	70	139	183	118	72	42	30	9					735
21					10	19	33	36	53	33	42	27	21	12	1				287
22					19	57	94	122	137	138	121	90	53	18	2				851
23				2	12	18	28	80	89	79	119	87	44	17	1				576
24					8	25	61	40	62	74	106	62	32	11					481
25				1	23	52	112	125	133	147	138	86	44	10					871
26					5	20	31	37	53	40	63	45	19	9	1				323
27					6	12	25	54	63	53	44	26	20	9					312
28					2	10	16	17	26	48	51	30	12	5					217
29					12	48	89	120	134	131	119	88	37	12					790
30					4	9	12	41	74	103	104	83	43	11					484
31					12	42	80	107	102	109	100	52	26	8					638
Total				60	484	1256	2164	2634	3051	3006	2897	2053	1189	524	64				19382
Mean				1·9	15·6	40·5	69·8	85·0	98·4	97·0	93·5	66·2	38·4	16·9	2·1				625·2

TABLE 1 (Contd.) KILKENNY GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) NOVEMBER, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1					14	41	73	115	86	88	68	37	25	5					552
2					7	42	58	104	50	31	45	60	37	7					441
3					8	26	52	87	125	125	86	78	43	7					637
4					13	31	40	68	92	95	60	45	17	4					465
5					4	41	50	91	95	104	84	49	26	7					551
6					6	34	49	104	121	96	89	54	37	7					597
7					2	12	22	37	77	51	15	20	12	5					253
8					6	24	39	69	110	98	74	29	24	6					479
9					6	32	43	50	54	67	82	57	33	5					429
10					1	7	12	26	25	34	41	34	12	1					193
11					1	7	19	31	77	89	52	34	13	2					325
12					2	10	25	45	53	51	53	24	15	3					281
13					4	22	60	84	99	53	79	49	16	2					468
14					4	17	45	87	98	79	50	52	19	1					452
15					1	6	15	25	22	31	17	15	5	1					138
16					2	14	51	66	31	34	26	16	9	1					250
17					1	10	12	25	51	59	25	17	12	1					213
18					2	10	20	25	40	61	36	44	19	2					259
19					2	23	57	85	101	99	82	51	12	1					513
20						7	12	7	9	12	12	7	5						71
21					2	6	29	70	51	70	73	53	19	3					376
22					2	19	36	50	62	59	71	26	14	2					341
23					1	13	15	31	37	22	25	12	6	1					163
24					2	17	33	72	88	84	71	46	17	1					431
25					1	10	27	54	60	53	32	19	7						263
26					1	12	25	42	49	43	28	21	6						227
27						12	18	33	40	59	64	26	12	1					265
28					1	18	67	70	56	78	70	41	12	1					414
29					1	9	17	19	11	9	11	18	11	1					107
30					1	11	43	66	75	78	56	44	13	1					388
Total					98	543	1064	1738	1945	1912	1577	1078	508	79					10542
Mean					3·3	18·1	35·5	57·9	64·8	63·7	52·6	35·9	16·9	2·6					351·4

TABLE 1 (Contd.) KILKENNY GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) DECEMBER, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1					1	13	17	41	70	84	44	22	7						299
2						8	20	52	31	26	31	24	8	1					201
3						9	17	32	38	43	44	39	13	1					236
4						4	12	26	33	49	40	22	8						194
5					1	6	28	66	71	69	35	23	10						309
6						6	21	57	27	15	25	28	10						189
7						6	20	35	43	40	34	21	7	1					207
8						12	30	49	59	63	44	28	9						294
9						6	31	42	28	33	17	12	5						174
10						5	13	25	21	31	33	18	8	1					155
11						5	13	23	26	22	15	7	3						114
12						4	11	18	27	19	16	9	3						107
13						8	27	40	50	56	37	18	3						239
14						3	5	7	18	12	18	15	8						86
15						8	29	49	63	50	37	21	8						265
16						6	14	32	27	23	12	7	1						122
17						3	9	10	22	37	31	17	3						132
18						3	12	17	26	12	7	7	4						88
19						11	24	45	68	29	33	24	6						240
20						4	8	8	44	29	23	8	5						129
21						6	12	20	30	26	22	12	3						131
22						2	8	13	16	16	12	5	1						73
23						7	29	55	69	39	51	19	8						277
24						2	12	21	23	17	16	10	3						104
25						3	7	19	28	19	17	10	3						106
26						6	17	16	25	19	9	3	3						98
27						6	31	73	75	56	66	25	6						338
28						6	34	55	69	56	44	22	7						293
29						6	26	51	67	47	59	22	6						284
30						4	9	16	25	32	19	19	5						129
31						1	3	4	8	10	10	9	2						47
Total					2	179	549	1017	1227	1079	901	526	176	4					5660
Mean					0·1	5·8	17·7	32·8	39·6	34·8	29·1	17·0	5·7	0·1					182·6

TABLE 2 KILKENNY DAILY TOTALS OF GLOBAL SOLAR RADIATION (J/cm^2) 1971.

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Day 1	279	318	139	604	2022	1911	1407	710	1814	1233	552	299
2	197	233	1075	446	1874	1677	946	1920	780	1118	441	201
3	187	178	825	659	2171	2170	1554	679	538	615	637	236
4	108	181	1040	931	2672	2947	1630	1718	2142	370	465	194
5	43	106	326	786	1466	2463	2760	2007	1848	412	551	309
6	77	158	493	1621	1164	1515	3017	1007	1850	668	597	189
7	259	341	370	1524	1075	1262	2787	1520	1701	541	253	207
8	145	130	950	1344	1445	1423	2078	936	1871	628	479	294
9	43	196	555	1076	621	1698	2733	702	1060	706	429	174
10	402	97	790	2098	2454	1670	3156	1402	725	755	193	155
11	385	307	737	1759	1168	1501	2154	1447	872	827	325	114
12	278	194	521	2131	2318	1746	3141	1205	1313	649	281	107
13	148	681	324	2196	2299	1586	3176	1269	1557	266	468	239
14	103	495	1353	2038	1943	1945	1618	866	1605	1031	452	86
15	147	803	624	1821	2417	1694	2796	1870	1649	255	138	265
16	341	811	1230	1797	1580	1992	2728	2492	1340	829	250	122
17	175	555	781	1055	1879	1959	2774	1663	1069	805	213	132
18	62	704	273	1296	1742	519	1749	1766	1743	416	259	88
19	278	331	667	1327	2796	1203	1708	1210	1335	693	513	240
20	259	822	1373	1276	1010	2163	1145	1847	1382	735	71	129
21	328	992	1502	1346	1234	966	1631	1431	780	287	376	131
22	365	970	1538	356	1527	2480	669	1059	1045	851	341	73
23	295	826	425	940	913	2193	955	279	705	576	163	277
24	309	862	629	2036	2113	1182	964	688	553	481	431	104
25	239	814	1313	1237	1623	1775	2099	1318	1064	871	263	106
26	249	867	599	1132	1676	2047	1766	933	893	323	227	98
27	372	173	402	1544	2378	1823	1620	1373	1255	312	265	338
28	364	623	479	1930	1722	2789	2037	878	1101	217	414	293
29	584		1179	1060	1079	1709	2186	1316	444	790	107	284
30	594		552	796	1734	1628	2016	1154	1133	484	388	129
31	397		1328		1928		1553	1306		638		47
Total	8012	13768	24392	40162	54043	53636	62553	39971	37167	19382	10542	5660
Mean	258·5	491·7	786·8	1338·7	1743·3	1787·9	2017·8	1289·4	1238·9	625·2	351·4	182·6

PART 3

SOLAR RADIATION OBSERVATIONS AT BIRR METEOROLOGICAL STATION

1971

1. Introduction

Measurement of Global Solar Radiation were begun at Birr towards the end of 1970 and the data given in the following pages represent the results for the year 1971.

2. Site of the Observations

The Meteorological Station is situated in flat pasture land, fairly well wooded, about 1½ Km. east of the town of Birr at Latitude 53° 05' N; Longitude 07° 54' W. The surrounding country is gently undulating. About 16 Km. to the east lie the Slieve Bloom mountains, the main axis of which runs northeast-southwest. The highest peak of this range is 518 metres. About 10 Km. to the north of the station, there is an extensive area of bog (See fig. 7).

The solarimeter is installed on a stand at the southern edge of the flat roof of the station building 5 metres above ground level (Fig. 8).

The exposure is generally good, all effective obstruction being below 2° elevation, except for a few isolated buildings which obstruct the horizon above 2° and between 37° and 39° azimuth where an anemometer mast obstructs to 64° elevation (See Fig. 9).

3. Pyranograph Used

The instrument in use was a GM_6 Solarimetric Thermopile by Kipp and Zonen, Serial No. 690246, together with Recording Millivoltmeter No. XR4/188730-13 (Kipp and Zonen).

Kipp and Zonen Integrator No. 680076 combined with a print-out unit was introduced on a routine basis as from 1st. January, 1971. The recorder and integrator were both maintained in operation.

The instrument is similar to that in use at Valentia Observatory and was calibrated, before installation, against the Valentia Standard.

4. Observing Procedure

The general procedure for maintaining the instrument, time-marking and tabulation of the records is the same as that already described for Valentia Observatory.

TABLE 1 BIRR GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) January, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1						4	25	34	38	35	37	19	4						196
2						5	23	38	40	37	28	17	4						192
3						10	42	73	79	78	71	38	9						400
4						2	6	11	17	16	9	6	3						70
5						2	14	30	31	33	28	24	11						173
6						2	7	15	14	19	17	9	3						86
7						3	18	52	33	60	51	15	7						239
8						9	13	18	29	23	17	10	7						126
9						3	6	10	16	34	12	10	2						93
10						12	32	51	72	78	66	16	5						332
11						13	47	68	77	80	69	21	10						385
12						10	40	68	60	79	60	41	12						370
13					3	6	13	26	44	71	61	14	4						242
14					1	5	10	19	24	(28)	(43)	(25)	(5)						160
15						10	20	22	29	32	29	15	6						163
16						7	32	77	69	53	49	35	11						333
17						6	20	22	28	26	19	9	1						131
18							6	20	30	(38)	(33)	(14)	11	1					153
19						10	7	36	35	37	77	43	10						255
20					1	16	38	63	44	36	17	10	4						229
21					1	17	55	85	101	109	79	42	15						504
22					1	24	68	87	86	56	36	17	4						379
23						10	34	39	50	64	49	19	10						275
24					1	20	52	81	68	42	22	15	10						311
25					1	24	61	91	108	43	39	48	26	1					442
26					2	15	34	53	60	72	54	36	12	1					339
27					1	24	26	36	39	26	61	31	19	2					265
28					2	9	22	46	35	40	35	27	11	1					228
29					1	16	66	99	119	117	101	43	14	2					578
30					2	52	(95)	117	70	54	32	21	9	1					453
31					2	7	29	50	68	112	70	66	17	2					423
Total					19	353	961	1537	1613	1628	1371	756	276	11					8525
Mean					0·6	11·4	31·0	49·6	52·0	52·5	44·2	24·4	8·9	0·4					275·0

TABLE 1 (Contd.) BIRR GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) FEBRUARY, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1					2	15	34	59	125	95	72	47	18	2					469
2					2	11	15	21	31	32	22	21	7	1					163
3					1	12	22	25	33	38	30	16	7	1					185
4						7	17	25	26	26	26	18	8	1					154
5					2	12	10	13	17	20	19	15	7	1					116
6					1	9	14	17	17	24	24	18	8	1					133
7					2	8	13	29	53	49	53	42	41	7					297
8						4	12	37	33	29	45	28	15	2					205
9					5	19	78	98	83	29	22	10	5	2					351
10					1	6	23	36	46	54	41	31	18	3					259
11					1	9	(25)	(98)	(120)	(125)	(121)	65	20	4					588
12					1	6	11	17	50	27	12	9	7	4					144
13					6	18	54	120	116	124	84	71	36	6					635
14					10	42	59	71	54	59	45	24	14	6					384
15					17	54	97	105	107	76	69	55	54	10					644
16					9	42	87	91	124	70	70	54	38	7					592
17					10	42	41	35	68	122	74	87	37	6					522
18				1	9	20	46	45	66	82	112	66	63	13					523
19					7	23	28	30	38	38	23	19	20	9					235
20					18	62	91	124	109	124	111	77	49	18					783
21				1	17	69	117	142	124	148	131	114	60	19					942
22					28	71	118	152	164	162	145	92	52	20					1004
23					17	42	95	126	89	73	60	55	36	12					605
24					10	29	59	91	117	144	116	104	36	7					713
25					9	18	70	129	131	138	128	125	64	26	1				839
26				1	23	38	78	113	107	48	34	33	21	10					506
27					5	15	20	33	46	32	36	23	23	10	1				244
28				1	15	36	58	85	83	120	76	53	30	12					569
Total				4	228	739	1392	1967	2177	2108	1801	1372	794	220	2				12804
Mean				0·1	8·1	26·4	49·7	70·3	77·8	75·3	64·3	49·0	28·4	7·9	0·1				457·3

TABLE 1 (Contd.) BIRR GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) MARCH, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1					3	10	12	12	18	19	24	16	14	8	4				140
2				2	30	83	123	121	118	97	87	32	47	10	1				751
3				3	14	40	55	65	95	105	94	77	41	14	1				604
4				3	35	80	127	160	176	138	109	126	89	38	3				1084
5				2	17	25	39	33	32	32	26	21	10	6	1				244
6				2	18	46	103	103	83	58	91	75	44	21	3				647
7				1	14	27	44	54	59	59	59	39	32	16	3				407
8				5	23	41	71	91	146	136	165	88	63	11	2				842
9				1	9	22	44	50	57	115	136	46	39	28	5				552
10				4	32	96	101	145	95	148	147	35	23	26	4				856
11				3	11	32	66	69	101	76	83	101	46	24	5				617
12				4	19	36	69	59	67	86	103	60	39	13	2				557
13				2	17	35	39	27	33	36	48	44	28	13	4				326
14				9	51	102	139	204	165	240	107	164	49	14	5				1249
15				12	63	98	50	30	25	20	50	98	108	40	8				602
16				13	36	121	156	139	117	127	154	151	98	62	9				1183
17				36	98	116	151	122	107	94	67	67	43	14	3				918
18				3	7	16	21	19	19	17	19	31	17	11	3				183
19				5	26	54	65	89	138	145	113	92	75	57	22	1			882
20				13	55	134	150	193	195	210	206	186	119	65	15				1541
21				23	79	137	183	190	204	171	144	133	128	74	13				1479
22			1	31	113	89	165	215	215	154	109	72	61	81	13				1319
23				4	17	24	33	39	30	35	42	19	24	30	7				304
24				8	24	13	34	26	35	22	45	52	30	54	18	1			362
25				17	79	108	175	175	177	146	110	65	62	29	9				1152
26				19	44	82	67	49	41	41	53	61	42	27	13	1			540
27				8	17	20	33	38	45	40	38	48	27	29	11				354
28			2	6	27	52	75	158	117	99	77	34	31	16	9	1			704
29			1	13	36	64	83	146	171	75	71	142	106	61	35	3			1007
30			1	24	53	92	71	106	95	96	72	79	38	17	6	1			751
31				7	14	66	94	196	154	155	169	125	73	50	11	1			1115
Total			5	283	1081	1961	2638	3123	3130	2992	2818	2379	1646	959	248	9			23272
Mean			0·2	9·1	34·9	63·3	85·1	100·7	101·0	96·5	90·9	76·7	53·1	30·9	8·0	0·3			750·7

TABLE 1 (Contd.) BIRR GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) APRIL, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1			2	22	47	33	50	50	67	88	61	53	37	36	12	1			559
2			1	14	44	67	76	71	100	140	90	65	34	22	14	3			741
3			3	38	96	139	101	97	89	73	43	51	45	26	19	1			821
4			5	53	109	166	210	203	227	173	150	126	87	46	17	2			1574
5				5	16	19	21	54	106	64	94	137	142	91	25	3			777
6		1	4	25	71	115	201	130	248	175	231	213	171	105	44	6			1740
7			1	7	22	49	131	166	220	198	206	172	129	51	32	5			1389
8			6	31	72	124	206	233	225	166	129	196	129	89	26	5			1637
9			4	14	27	58	108	216	90	136	174	200	160	105	45	7			1344
10			6	26	99	172	213	246	263	259	243	208	163	105	43	8			2054
11			11	59	118	168	206	246	245	238	166	176	132	56	31	6			1858
12			10	44	88	142	190	217	148	125	196	207	173	118	58	7			1723
13			13	61	121	175	219	253	266	264	248	213	167	108	51	10			2169
14			7	30	58	83	105	164	249	255	236	201	159	93	42	8			1690
15			11	47	87	117	201	234	251	244	193	169	129	103	52	10			1848
16			3	28	50	159	170	206	203	250	204	162	99	80	33	14			1661
17			18	51	108	99	85	59	59	70	57	49	53	35	13	4			760
18			3	12	18	58	66	122	114	85	104	103	86	52	20	5			848
19			7	16	74	142	156	204	109	106	101	140	120	49	29	10			1263
20			14	26	43	92	169	179	95	125	105	99	31	26	17	11			1032
21			9	59	62	119	178	177	172	267	234	216	186	116	22	11			1628
22			1	6	10	22	35	40	16	21	21	32	20	8	6	1			239
23			6	24	47	71	94	102	99	79	94	51	50	36	22	5			780
24			17	42	76	117	128	142	175	152	194	216	150	69	72	29	1		1580
25		1	20	83	147	208	158	225	277	135	68	73	28	14	6	3			1446
26			13	36	75	140	129	117	132	95	107	112	76	60	47	17	1		1157
27		1	27	85	139	197	234	224	192	90	163	70	98	75	24	14	1		1634
28		1	29	84	142	199	240	267	222	151	165	216	115	57	37	15	1		1941
29			11	35	104	133	187	231	151	202	220	180	96	49	50	8	1		1658
30			7	23	48	45	46	54	78	71	166	142	69	58	37	16	1		861
Total		4	269	1086	2218	3428	4313	4929	4888	4497	4463	4248	3134	1938	946	245	6		40612
Mean		0·1	9·0	36·2	73·9	114·3	143·8	164·3	162·9	149·9	148·8	141·6	104·5	64·6	31·5	8·2	0·2		1353·7

TABLE 1 (Contd.) BIRR GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) MAY, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1		3	27	88	147	201	241	289	250	254	201	83	66	32	21	13	2		1918
2		3	30	85	144	197	235	269	248	292	153	157	86	118	44	17	2		2080
3		3	32	85	143	199	239	220	259	282	256	239	184	90	50	17	2		2300
4		4	33	86	145	202	249	271	303	301	281	233	208	157	94	39	4		2610
5		3	33	77	136	195	237	220	186	140	67	78	54	22	9	8	2		1467
6		4	26	60	126	93	116	95	91	87	105	27	35	12	11	15	4		907
7		4	37	87	161	163	190	194	127	125	160	129	110	62	50	16	6		1621
8		4	36	96	108	168	210	142	185	150	91	63	45	43	30	21	4		1396
9		12	20	26	43	106	76	122	85	93	53	99	147	112	34	26	10		1064
10			13	49	88	135	225	260	244	221	298	253	206	103	84	26	6		2211
11		8	18	41	75	84	99	161	126	127	135	185	213	137	54	33	8		1504
12		5	26	55	138	219	261	298	246	174	264	221	194	129	91	42	11		2374
13		5	32	83	120	171	184	270	246	279	256	229	188	134	81	34	5		2317
14		6	25	32	26	37	82	84	155	170	107	167	86	63	17	1	1		1059
15		7	44	98	176	205	233	236	282	296	212	175	154	118	111	42	11		2400
16		7	33	76	72	79	78	119	99	166	135	142	164	96	52	9	3		1330
17		8	34	55	35	81	150	272	121	174	166	196	218	145	65	32	6		1758
18		6	27	79	96	168	159	173	262	246	234	198	70	68	55	38	6		1885
19		11	53	116	166	217	153	191	179	241	234	155	113	58	39	19	5		1950
20		5	11	19	45	66	74	95	91	117	72	113	121	34	15	17	4		899
21		6	15	33	52	53	63	52	73	81	145	172	163	104	52	21	6		1091
22		2	14	39	70	97	90	113	128	134	223	133	117	52	41	25	5		1283
23		7	21	46	108	95	94	111	78	70	78	45	25	15	10	6			809
24		11	29	92	124	127	159	150	132	140	130	116	27	56	74	50	15		1432
25		10	32	64	81	65	90	124	180	186	250	197	187	161	113	55	14		1809
26		7	20	43	25	23	85	125	140	202	195	121	53	24	14	10	2		1089
27		17	54	125	133	166	196	254	198	158	166	233	217	143	79	66	15	1	2221
28	1	10	28	47	87	111	111	115	160	122	191	77	102	114	68	31	18		1393
29	1	12	34	81	91	130	94	98	112	117	131	115	51	85	68	23	7		1250
30		3	13	52	89	109	133	177	232	176	171	249	138	172	99	59	9		1881
31	1	20	66	126	190	224	265	148	180	187	235	180	72	31	21	23	12		1981
Total	3	213	916	2141	3240	4186	4871	5448	5398	5508	5395	4780	3814	2690	1646	834	205	1	51289
Mean	0·1	6·9	29·5	69·1	104·5	135·0	157·1	175·7	174·1	177·7	174·0	154·2	123·0	86·8	53·1	26·9	6·6	0·0	1654·5

TABLE 1 (Contd.) BIRR GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) JUNE, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1	1	13	66	125	186	128	190	146	159	130	169	183	132	139	78	53	30		1928
2		12	36	60	110	109	190	101	81	127	237	174	97	125	73	58	17	1	1608
3	1	18	60	114	167	181	233	291	227	237	293	278	193	137	82	19	14	1	2546
4	1	12	26	62	188	216	256	287	306	306	294	264	227	180	126	70	24	1	2846
5		6	19	35	70	151	210	250	312	323	310	280	232	147	82	54	22	1	2504
6	1	12	30	58	155	167	177	96	93	135	155	91	180	95	107	52	8		1612
7		13	22	53	87	72	126	143	76	184	125	171	175	88	48	13	2		1398
8		5	9	24	117	64	82	147	159	132	115	95	103	72	18	9	8	1	1160
9	1	21	53	62	38	51	113	128	161	210	236	219	175	135	74	14	6		1697
10	1	20	57	127	177	180	147	139	160	176	191	127	171	109	61	25	5		1873
11	1	13	28	46	41	79	93	76	187	120	55	151	117	40	9	9	3		1068
12	1	11	17	49	56	62	69	99	103	139	174	173	181	104	136	105	14	1	1494
13	1	13	37	90	125	175	253	276	192	151	102	113	99	77	56	38	21	1	1820
14	1	9	16	41	110	75	78	102	244	202	193	97	76	56	47	28	8	1	1384
15	1	12	43	101	62	99	149	160	96	149	145	144	109	117	51	24	12	1	1475
16	2	27	63	127	161	189	270	246	237	215	236	168	136	94	75	73	22	3	2344
17	2	11	31	62	96	94	129	152	112	151	171	163	104	127	54	37	14	1	1511
18		4	8	18	26	29	47	45	56	45	40	55	41	33	22	11	4		484
19		7	19	31	48	69	99	179	128	92	55	53	64	36	28	13	7		928
20	2	13	49	41	144	114	89	130	145	162	273	242	187	126	69	20	9		1815
21		5	7	13	29	33	24	25	26	46	191	138	135	160	114	58	16	1	1021
22	3	33	76	134	187	197	230	230	291	278	352	209	172	101	54	35	9	1	2592
23		11	22	52	115	234	233	291	256	244	199	191	207	173	123	61	12	1	2425
24		7	15	60	87	94	75	111	118	87	88	55	48	24	18	16	7		910
25	1	8	26	48	66	140	158	176	235	204	156	153	100	85	36	17	7		1616
26	1	23	59	56	134	173	177	216	238	223	181	155	157	100	86	39	17	3	2038
27	2	16	61	108	136	155	152	164	223	140	138	103	86	63	88	61	28	3	1727
28	2	20	76	120	175	197	180	258	266	242	212	247	200	181	72	43	17	2	2510
29		10	37	58	113	142	191	118	166	206	189	158	91	36	68	33	12	2	1630
30		6	12	17	29	29	42	71	119	143	174	260	194	71	58	31	12		1268
Total	26	391	1080	1992	3235	3698	4462	4853	5172	5199	5449	4910	4189	3031	2013	1119	387	26	51232
Mean	0·9	13·0	36·0	66·4	107·8	123·3	148·7	161·8	172·4	173·3	181·6	163·7	139·6	101·0	67·1	37·3	12·9	0·9	1707·7

TABLE 1 (Contd.) BIRR GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) JULY, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1	1	7	14	39	50	80	90	104	89	98	106	72	153	67	30	27	10	1	1038
2		10	21	42	60	77	92	99	113	111	75	50	33	23	24	14	10	1	855
3	1	14	32	30	29	43	100	119	94	49	31	45	21	15	43	28	10		704
4		9	26	85	126	147	166	217	222	231	187	242	230	188	135	85	23	2	2321
5	2	21	55	136	153	137	170	257	262	270	209	261	224	135	126	74	21	1	2514
6	1	20	72	127	178	229	269	300	312	315	297	266	225	176	121	73	23	1	3005
7	2	25	70	119	171	217	256	275	297	268	263	213	172	164	110	60	17	1	2700
8	1	14	37	70	74	70	110	112	111	67	65	57	86	125	28	32	6		1065
9	1	14	63	134	179	234	268	309	325	326	308	276	235	184	129	75	26	1	3087
10	1	17	68	127	179	229	269	300	313	314	297	269	227	178	123	75	30	1	3017
11	1	6	19	35	46	56	109	225	237	202	194	226	202	166	98	19	13		1854
12		22	70	130	184	218	234	292	301	315	302	271	235	182	120	72	23	1	2972
13	1	18	69	127	180	182	269	280	300	317	296	247	219	182	85	31	10		2813
14		9	29	38	63	99	141	139	103	155	167	95	69	56	51	49	8		1271
15		4	18	39	105	217	266	291	283	266	233	155	133	151	123	54	20		2358
16	1	14	45	97	111	170	207	265	300	294	239	208	158	170	126	53	19	1	2478
17		15	47	123	168	161	242	302	326	282	255	271	249	89	63	35	22		2650
18		9	30	62	117	187	270	276	180	169	157	181	224	163	111	63	14		2213
19		9	22	58	105	201	147	181	173	175	107	75	108	103	74	29	9		1576
20		12	38	66	104	124	65	82	132	119	61	56	46	56	40	20	7		1028
21		10	31	54	67	84	131	77	133	116	173	56	37	42	79	33	6		1129
22		8	10	19	31	58	77	108	83	88	91	72	94	33	34	12	1		819
23		8	20	53	92	121	146	148	183	148	87	36	31	63	66	11	9		1222
24		8	50	44	98	135	237	70	206	155	121	88	99	17	47	22	10		1407
25		7	26	108	132	172	207	162	252	139	112	130	110	133	55	11	4		1760
26		9	37	62	86	176	202	190	149	279	184	194	173	86	132	34	17		2010
27		3	14	29	49	63	91	103	116	146	125	52	72	122	97	37	3		1122
28		12	54	86	159	213	187	137	153	159	103	121	50	105	40	36	11		1626
29		9	28	40	68	132	230	196	171	225	254	231	183	167	105	34	8		2081
30		7	31	62	118	150	126	31	25	72	147	154	114	95	45	26	1		1204
31		3	13	35	58	131	160	249	226	182	131	170	118	66	42	19	5		1608
Total	13	353	1159	2276	3340	4513	5534	5896	6170	6052	5377	4840	4330	3502	2502	1243	396	11	57507
Mean	0·4	11·4	37·4	73·4	107·7	145·6	178·5	190·2	199·0	195·2	173·5	156·1	139·7	113·0	80·7	40·1	12·8	0·4	1855·1

TABLE 1 (Contd.) BIRR GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) AUGUST, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1			7	19	93	39	91	117	132	189	201	82	50	72	61	35	6		1194
2		6	31	109	151	205	131	208	311	267	147	147	89	34	27	16	2		1881
3		1	9	18	27	77	72	97	47	84	71	55	47	50	25	20	3		703
4		3	28	88	155	157	90	155	234	171	152	118	94	64	14	24	7		1554
5		4	28	84	144	171	224	147	195	223	249	183	141	95	72	21	2		1983
6		1	6	25	79	136	144	151	153	95	95	78	93	43	22	13	3		1137
7		4	24	54	108	153	180	128	122	107	134	136	124	68	23	10	1		1376
8		4	16	23	30	46	42	73	97	56	55	54	31	16	9	6	1		559
9		2	14	32	37	60	86	188	184	135	70	57	60	25	11	5			966
10		1	11	29	38	81	111	97	97	109	143	168	74	56	45	9	1		1070
11		2	22	44	91	146	153	143	103	157	159	89	33	47	21	10			1220
12		1	9	23	37	130	75	159	196	257	232	92	92	55	32	10			1400
13			13	28	63	83	158	217	162	159	76	17	8	14	21	10			1029
14			7	11	20	29	51	42	76	108	99	107	125	113	91	9	2		890
15		2	20	65	94	109	74	117	148	218	218	170	163	79	92	37	2		1608
16		2	26	85	149	197	253	259	183	208	223	136	162	57	29	26	1		1998
17		1	17	45	76	101	99	118	101	138	296	237	106	58	32	10	1		1436
18		1	15	58	111	158	200	240	260	259	242	157	177	115	57	21	2		2073
19		1	18	66	112	125	119	261	197	141	176	148	127	101	53	28	1		1674
20			13	40	43	90	167	262	272	130	121	55	66	32	9	6			1306
21			7	22	53	75	94	135	129	238	253	217	206	130	82	29			1670
22			7	24	52	65	97	121	124	142	76	44	63	65	19	3			902
23			7	11	12	22	27	32	37	58	55	22	19	16	9	3			330
24			7	14	20	50	58	75	71	85	80	42	31	25	11	3			572
25			14	53	106	158	194	236	224	209	183	190	136	60	39	8			1810
26			3	10	24	35	27	29	79	157	180	163	75	68	27	21			898
27			8	39	57	147	156	166	143	113	108	95	60	36	17	4			1149
28			3	10	25	38	58	88	109	97	102	70	76	59	15	3			753
29			2	16	33	50	194	169	190	204	203	213	178	126	59	12			1649
30			4	17	30	36	108	111	157	125	178	167	78	87	19	6			1123
31			4	16	23	36	75	130	99	173	191	163	56	26	11	3			1006
Total		36	400	1178	2093	3005	3608	4471	4632	4812	4768	3674	2840	1892	1054	421	35		38919
Mean		1·2	12·9	38·0	67·5	96·9	116·4	144·2	149·4	155·2	153·8	118·5	91·6	61·0	34·0	13·6	1·1		1255·5

TABLE 1 (Contd.) BIRR GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) SEPTEMBER, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1			4	21	75	92	155	155	90	192	243	159	112	96	38	9			1441
2			2	18	22	67	66	45	34	27	28	39	28	18	6	2			402
3			2	11	24	36	72	60	81	62	56	45	21	16	5				491
4			7	30	60	147	199	214	177	253	204	197	162	109	53	7			1819
5			7	56	119	167	209	238	255	258	234	193	145	112	41	7			2041
6			6	21	85	143	144	218	240	237	216	186	142	97	44	5			1784
7			6	45	87	79	164	166	232	240	229	192	148	94	30	4			1716
8			4	38	89	142	188	223	237	249	238	193	148	94	41	5			1889
9			4	37	69	132	161	155	129	123	192	167	123	42	23	3			1360
10			4	33	77	152	(148)	(145)	(155)	(150)	(125)	80	65	32	16	1			1183
11			3	18	37	51	98	142	139	137	76	42	21	22	8				794
12				6	15	21	32	69	103	109	85	73	47	36	12	1			609
13			1	20	74	131	175	204	220	223	204	180	123	73	39	3			1670
14			1	19	109	166	177	209	222	223	200	173	132	79	33	1			1744
15			1	27	82	129	173	207	227	225	209	171	130	77	27	1			1686
16			2	26	83	129	171	193	203	202	155	131	76	29	14				1414
17			1	19	76	137	191	105	105	193	118	162	82	36	16	1			1242
18			1	22	67	126	143	226	91	179	203	115	83	58	23	1			1338
19			1	27	77	81	85	100	75	81	73	66	78	39	12	1			796
20				10	87	89	184	187	182	237	138	102	59	31	12				1318
21			1	24	52	31	58	66	58	82	74	50	35	9	8				548
22				25	79	140	169	200	217	212	199	171	71	30	8				1521
23				12	27	38	67	71	56	75	103	86	77	28	3				643
24				6	19	27	29	76	63	54	55	48	46	16	4				443
25				9	32	46	121	138	148	113	79	59	55	27	7				834
26				13	73	120	165	110	58	20	43	102	56	29	13				802
27				8	29	46	121	183	207	214	193	165	96	44	9				1315
28				14	68	109	155	195	139	141	74	56	56	22	4				1033
29				6	19	43	40	18	27	47	34	37	24	19	3				317
30				8	26	60	114	161	215	180	186	150	106	53	10				1269
Total			58	629	1838	2877	3974	4479	4385	4738	4266	3590	2547	1467	562	52			35462
Mean			1·9	21·0	61·3	95·9	132·5	149·3	146·2	157·9	142·2	119·7	84·9	48·9	18·7	1·7			1182·1

TABLE 1 (Contd.) BIRR GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) OCTOBER, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1				7	43	104	70	99	216	155	121	147	99	45	6				1112
2				9	37	96	134	168	191	191	171	128	81	42	3				1251
3				3	15	72	133	157	169	178	179	124	98	40	6				1174
4				4	19	46	88	110	58	72	84	72	42	16	3				614
5				3	23	60	151	112	115	93	74	40	30	15	3				719
6				3	13	39	88	138	47	39	43	35	20	11	3				479
7				2	15	40	60	68	79	55	35	25	31	11	1				422
8				2	22	40	37	73	70	31	28	17	12	7	1				340
9				2	18	71	72	93	67	129	42	43	51	39	4				631
10					14	60	120	129	65	80	61	55	32	14					630
11				1	16	54	105	150	142	144	129	117	68	28	2				956
12				2	15	55	59	52	39	52	32	28	20	6					360
13					10	26	18	24	24	68	34	30	28	9	1				272
14				2	44	93	130	158	173	151	176	101	68	24	1				1121
15					10	25	18	17	43	122	69	119	55	24	1				503
16				1	27	47	82	110	123	129	102	67	37	11					736
17				1	13	55	70	114	132	145	143	94	33	14					814
18				1	17	52	109	82	64	22	27	25	12	3					414
19				1	10	37	107	145	111	99	61	65	49	17					702
20					18	63	70	94	122	89	71	21	16	8					572
21					9	24	24	35	32	48	37	35	16	6					266
22					7	36	94	125	142	142	127	95	56	17					841
23				1	9	19	18	15	23	14	33	44	21	9					206
24					11	26	44	44	84	64	65	73	48	16					475
25					16	51	105	119	108	131	133	103	42	9					817
26					10	39	68	65	94	88	72	77	29	10					552
27					5	13	43	60	73	39	37	37	15	6					328
28					6	19	29	19	20	78	60	40	13	2					286
29					12	54	94	125	141	121	93	94	49	12					795
30					5	13	47	103	90	74	98	92	48	15					585
31					11	50	90	121	143	111	84	54	22	3					689
Total				45	500	1479	2377	2924	3000	2954	2521	2097	1241	489	35				19662
Mean				1·5	16·1	47·7	76·7	94·3	96·8	95·3	81·3	67·6	40·0	15·8	1·1				634·3

TABLE 1 (Contd.) BIRR GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) NOVEMBER, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1					7	37	45	53	61	99	91	50	40	10					493
2					7	32	23	32	24	55	84	36	16						309
3					6	35	51	115	96	110	112	63	33	7					628
4					6	12	16	19	30	27	23	16	7						156
5					7	22	66	123	132	124	75	39	17	3					608
6					3	35	81	115	99	112	100	88	33	5					671
7					1	5	24	16	17	21	15	11	13	3					126
8					3	6	28	81	86	82	88	61	26	3					464
9					1	10	28	80	88	78	66	59	22	3					435
10						4	7	17	48	58	82	43	13	1					273
11						7	16	29	43	56	42	23	9	1					226
12					1	13	32	45	46	40	44	27	19	1					268
13					2	18	56	74	65	117	94	62	18	1					507
14					2	18	39	96	88	77	87	49	21	1					478
15					1	9	20	30	32	37	24	22	6						181
16						7	14	22	30	22	33	19	12	1					160
17						5	12	23	51	37	32	19	5						184
18						8	29	39	42	32	57	63	23	1					294
19					1	45	64	94	111	109	86	57	10						577
20						4	6	8	11	14	8	4	1						56
21					1	9	35	80	75	81	81	42	16						420
22					1	12	27	45	54	46	59	35	11						290
23						11	21	32	63	73	50	25	9						284
24					1	10	35	61	65	64	49	35	13						333
25						5	15	21	33	18	19	14	6						131
26						5	23	27	33	27	18	12	5						150
27						6	19	58	77	55	37	17	7						276
28						17	40	47	96	88	79	51	13						431
29						9	20	10	11	27	34	24	8						143
30						12	45	61	68	38	55	48	10						337
Total					51	428	937	1553	1775	1824	1724	1114	442	41					9889
Mean					1·7	14·3	31·2	51·8	59·2	60·8	57·5	37·1	14·7	1·4					329·6

TABLE 1 (Contd.) BIRR GLOBAL SOLAR RADIATION - MEAN HOURLY VALUES (J/cm^2) DECEMBER, 1971.

HOUR L.A.T.	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18	18 to 19	19 to 20	20 to 21	Total for Day
Day 1						12	46	63	72	54	29	24	6						306
2						8	25	31	21	20	35	11	4						155
3						7	13	27	51	57	45	20	6						226
4						3	17	27	26	35	35	24	7						174
5						5	29	67	80	83	43	23	7						337
6						5	10	9	25	40	49	36	9						183
7						9	41	58	77	87	69	37	9						387
8						12	42	62	52	54	42	24	6						294
9						5	19	34	35	25	18	12	4						152
10						1	7	12	20	26	30	16	6						118
11						2	8	14	21	17	16	10	1						89
12						4	14	22	21	20	15	9	2						107
13						8	37	39	63	35	25	10	2						219
14						1	6	21	42	24	24	31	6						155
15						8	32	63	75	76	58	33	7						352
16						3	12	18	44	50	49	12	1						189
17						3	16	25	46	78	35	10	2						215
18							10	5	9	14	11	11	4						64
19						6	14	54	46	63	50	16	4						253
20						1	6	9	11	24	11	22	1						85
21						2	14	22	23	23	30	11	2						127
22						1	6	13	12	9	7	5							53
23						7	32	31	24	45	21	13	3						176
24						4	20	21	18	30	26	13	4						136
25						2	12	20	27	23	21	12	2						119
26						5	12	17	21	29	13	4	1						102
27						2	16	21	31	27	36	31	7						171
28						3	29	60	76	78	60	29	5						340
29						9	41	65	64	41	27	22	4						273
30						4	16	40	42	40	37	29	8						216
31							4	9	9	7	6	4							39
Total						142	606	979	1184	1234	973	564	130						5812
Mean						4·6	19·5	31·6	38·2	39·8	31·4	18·2	4·2						187·5

TABLE 2 BIRR DAILY TOTALS OF GLOBAL SOLAR RADIATION (J/cm^2) 1971.

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Day 1	196	469	140	559	1918	1928	1038	1194	1441	1112	493	306
2	192	163	751	741	2080	1608	855	1881	402	1251	309	155
3	400	185	604	821	2300	2546	704	703	491	1174	628	226
4	70	154	1084	1574	2610	2846	2321	1554	1819	614	156	174
5	173	116	244	777	1467	2504	2514	1983	2041	719	608	337
6	86	133	647	1740	907	1612	3005	1137	1784	479	671	183
7	239	297	407	1389	1621	1398	2700	1376	1716	422	126	387
8	126	205	842	1637	1396	1160	1065	559	1889	340	464	294
9	93	351	552	1344	1064	1697	3087	966	1360	631	435	152
10	332	259	856	2054	2211	1673	3017	1070	1163	630	273	118
11	385	588	617	1858	1504	1068	1854	1220	794	956	226	89
12	370	144	557	1723	2374	1494	2972	1400	609	360	268	107
13	242	635	326	2169	2317	1820	2813	1029	1670	272	507	219
14	160	384	1249	1690	1059	1384	1271	890	1744	1121	478	155
15	163	644	602	1848	2400	1475	2358	1608	1686	503	181	352
16	333	592	1183	1661	1330	2344	2478	1998	1414	736	160	189
17	131	522	918	760	1758	1511	2650	1436	1242	814	184	215
18	153	523	183	848	1885	484	2213	2073	1338	414	294	64
19	255	235	882	1263	1950	928	1576	1674	796	702	577	253
20	229	783	1541	1032	899	1815	1028	1306	1318	572	56	85
21	504	942	1479	1828	1091	1021	1129	1670	548	266	420	127
22	379	1004	1319	239	1283	2592	819	902	1521	841	290	53
23	275	605	304	780	809	2425	1222	330	643	206	284	176
24	311	713	362	1580	1432	910	1407	572	443	475	333	136
25	442	839	1152	1446	1809	1616	1760	1810	834	817	131	119
26	339	506	540	1157	1089	2038	2010	898	802	552	150	102
27	265	244	354	1634	2221	1727	1122	1149	1315	328	276	171
28	228	569	704	1941	1393	2510	1626	753	1033	286	431	340
29	578		1007	1658	1250	1630	2081	1649	317	795	143	273
30	453		751	861	1881	1268	1204	1123	1269	585	337	216
31	423		1115		1981		1608	1006		689		39
Total	8525	12804	23272	40612	51289	51232	57507	38919	35462	19662	9889	5812
Mean	275·0	457·3	750·7	1353·7	1654·5	1707·7	1855·1	1255·5	1182·1	634·3	329·6	187·5

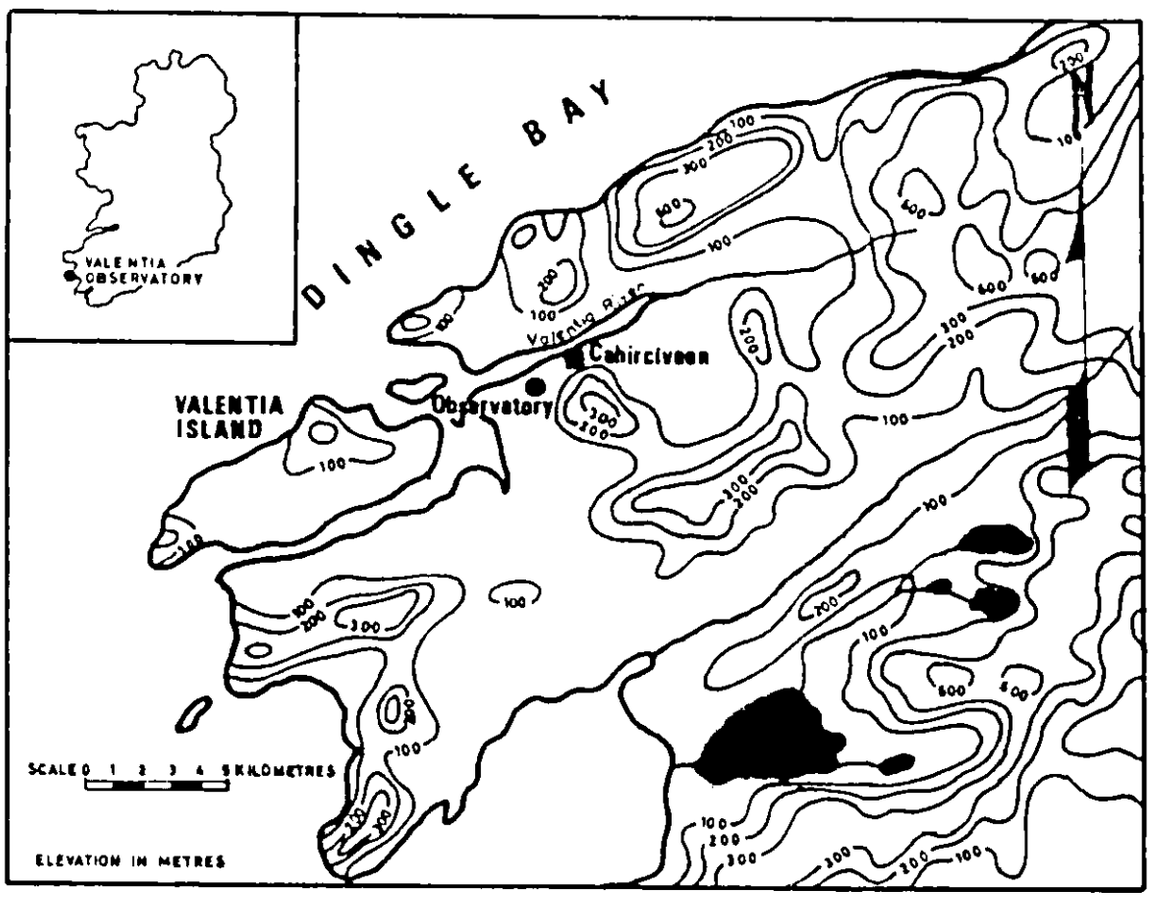


Fig. 1 Map showing the site of Valentia Observatory and its environs.

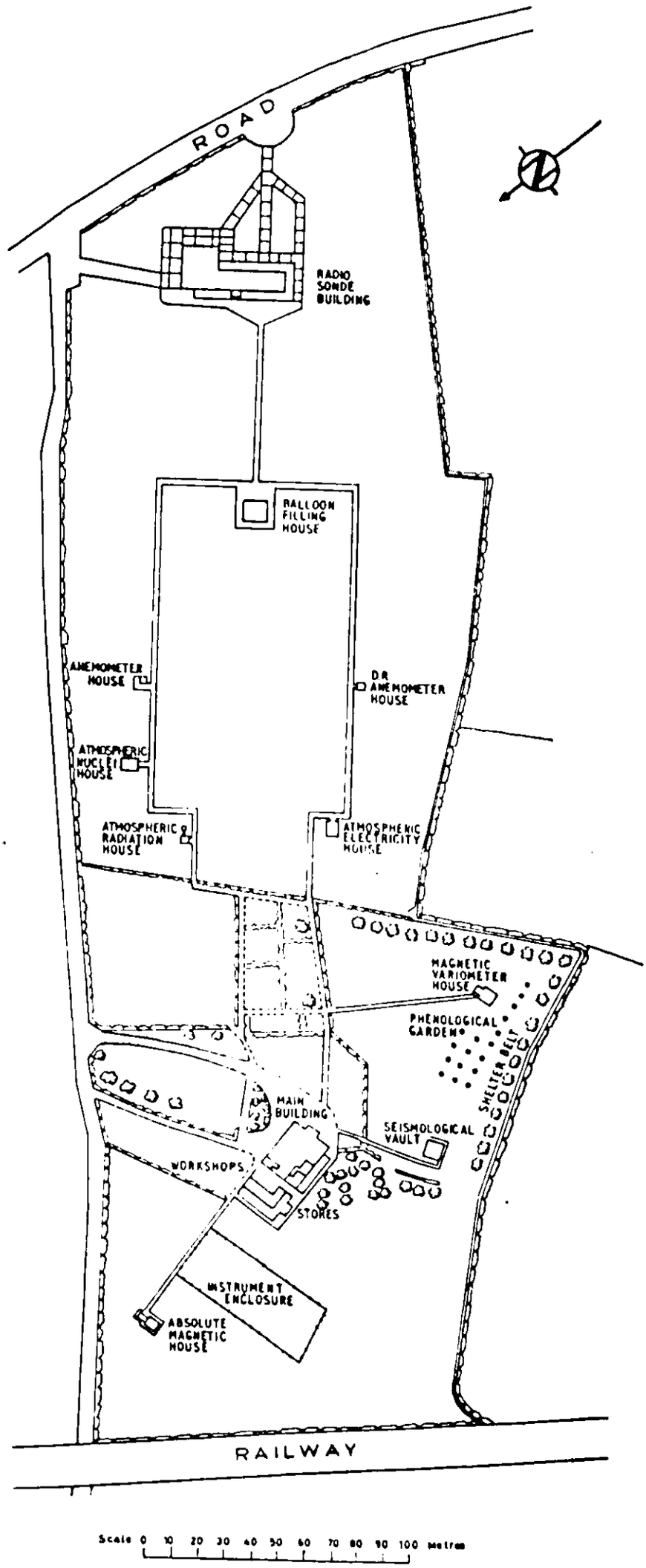


Fig. 2. General layout of Valentia Observatory.

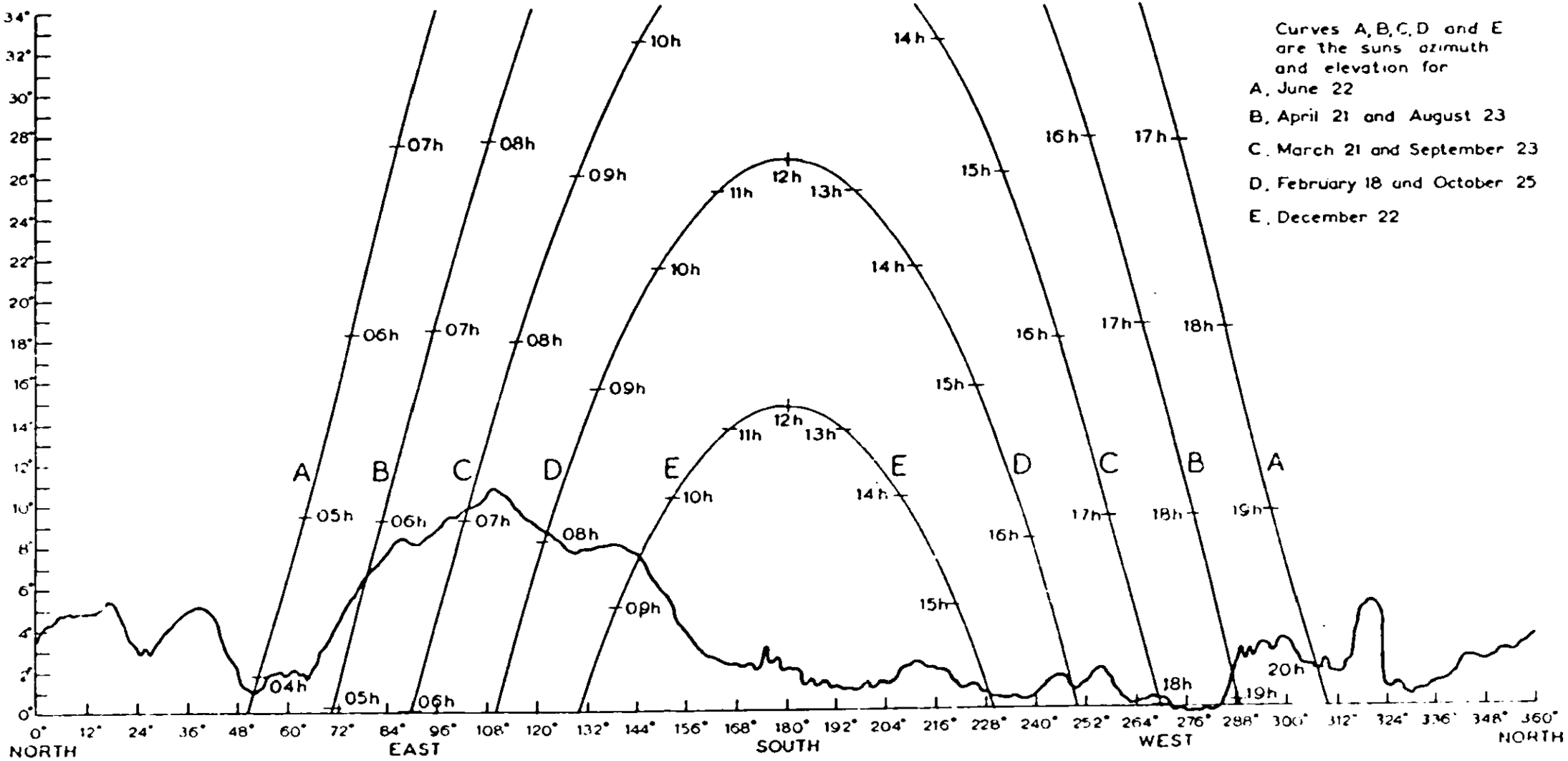


Fig 3 Exposure diagram showing Azimuth and Elevation of all objects which obscure the Solarimeter, together with Elevation and Azimuth of the sun at different times of the year

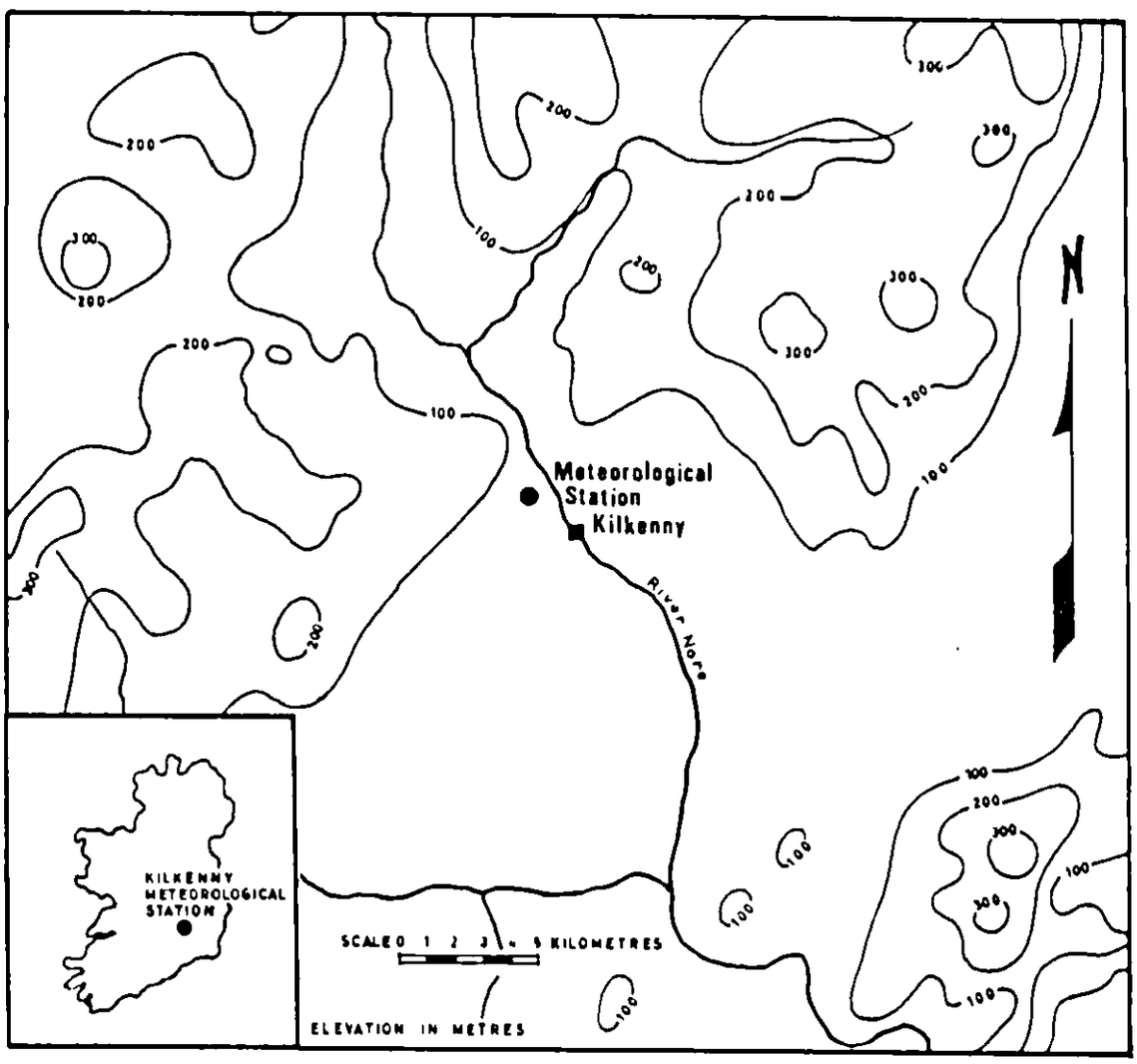
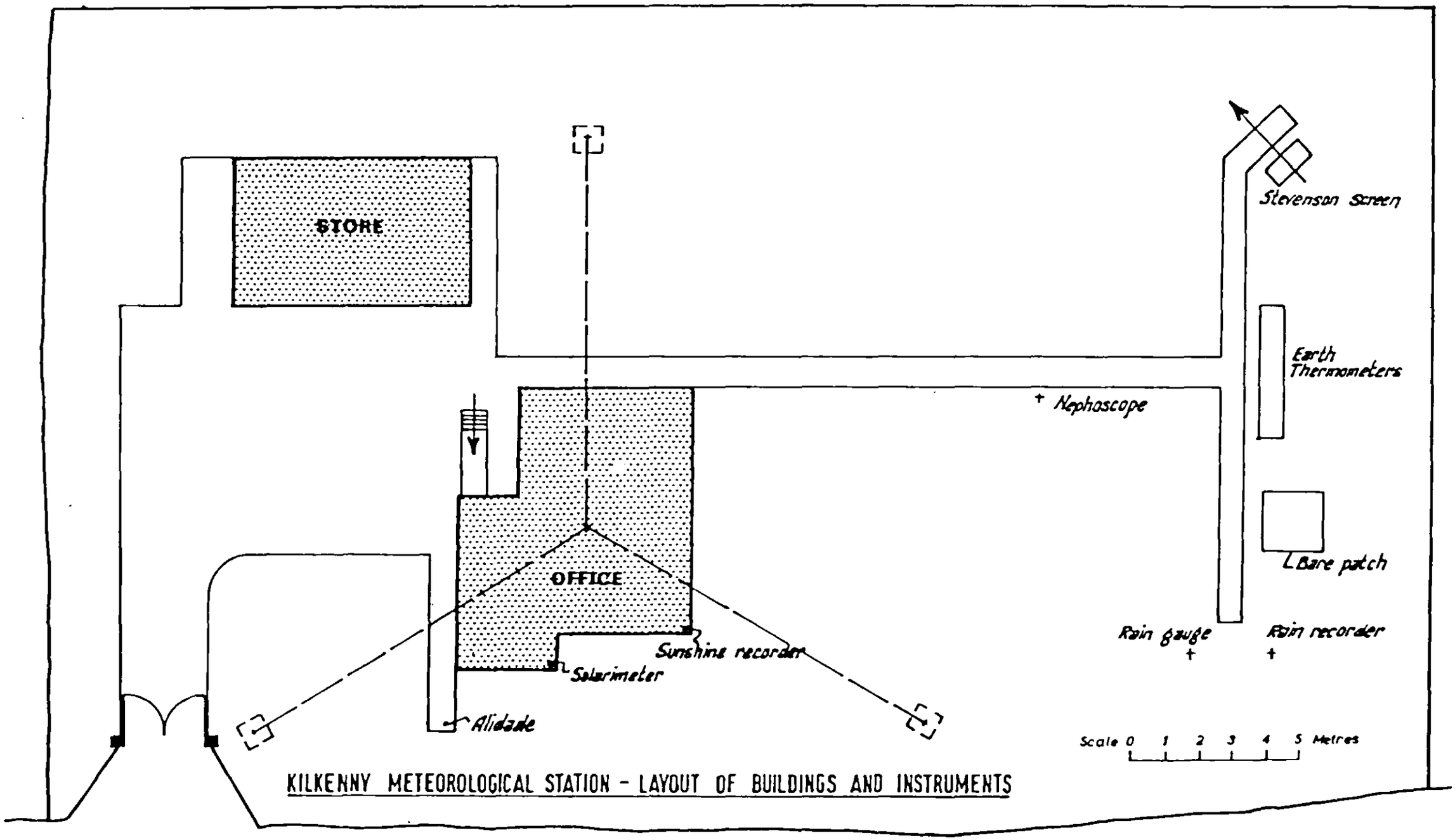
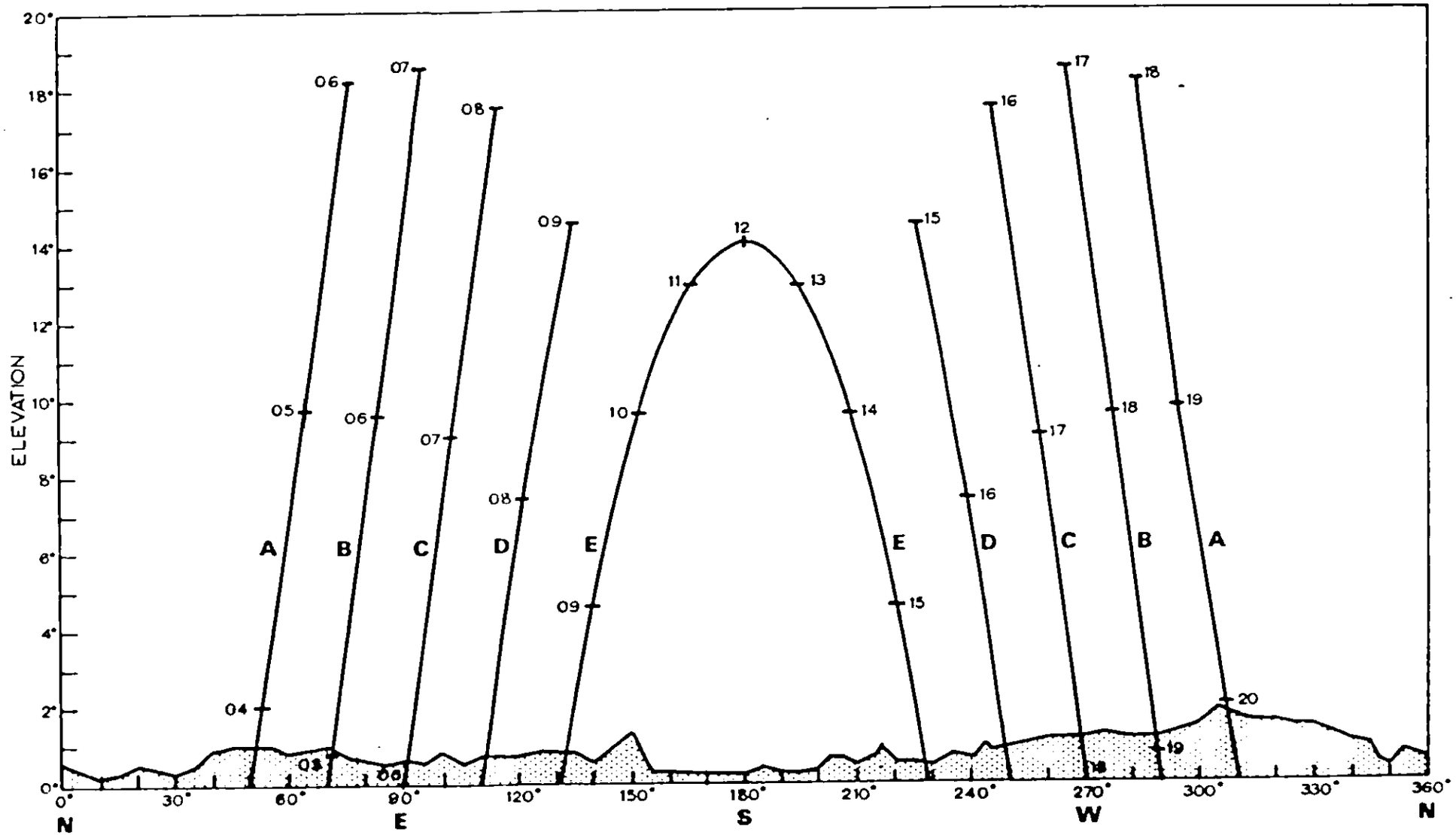


Fig. 4. Map showing site of Kilkenny Meteorological Station.



KILKENNY METEOROLOGICAL STATION - LAYOUT OF BUILDINGS AND INSTRUMENTS

Fig. 5.



KILKENNY

Fig. 6. Exposure diagram showing (1) azimuth and elevation of all objects which obscure solarimeter
(2) azimuth and elevation of Sun at various times of year as follows; (A) June 22. (B) April 21. August 23. (C) March 21. September 23. (D) February 18. October 25. (E) December 22

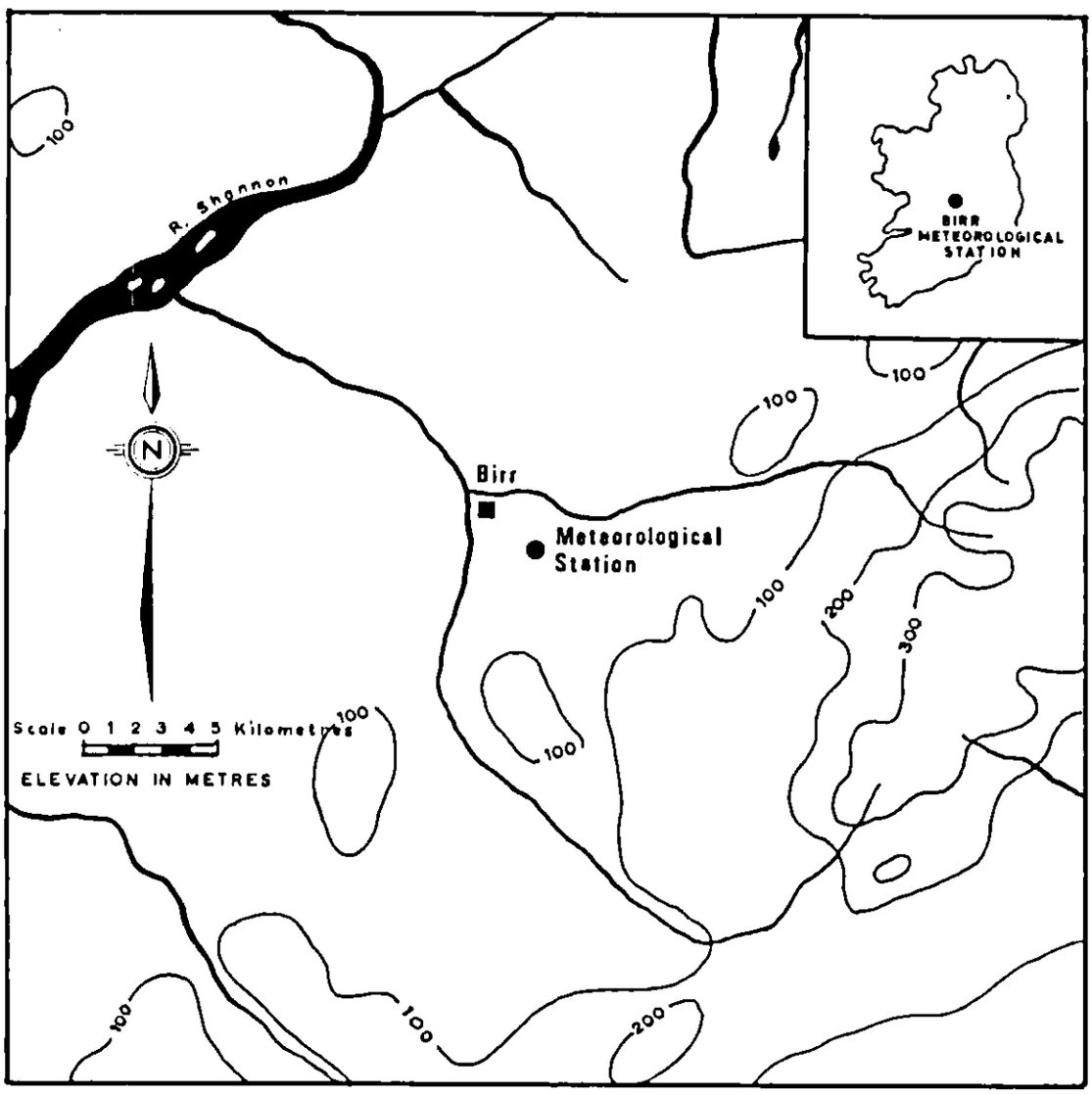
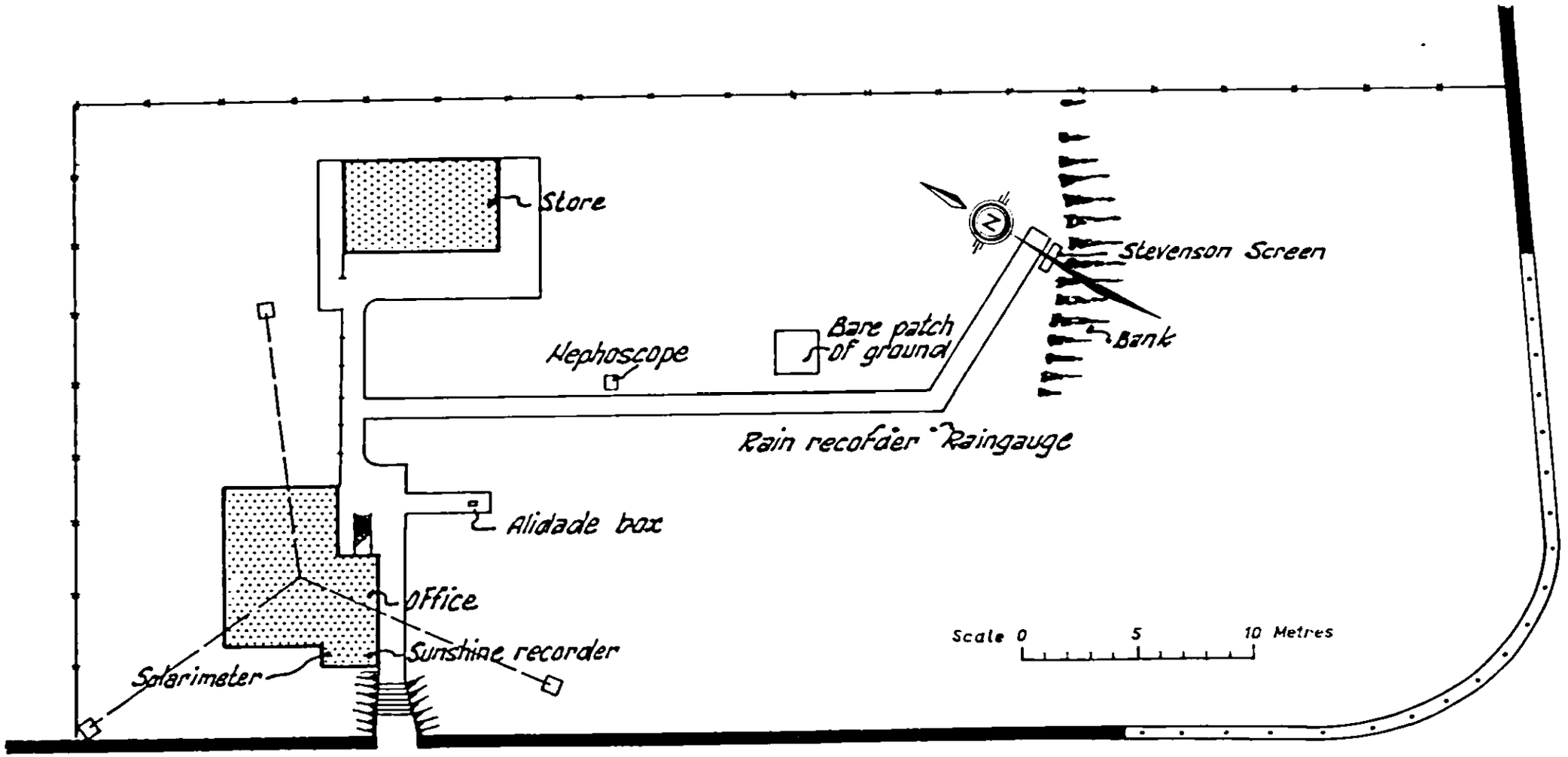


Fig. 7. Map showing site of Birr Meteorological Station.



BIRR METEOROLOGICAL STATION – LAYOUT OF BUILDINGS AND INSTRUMENTS

Fig. 8

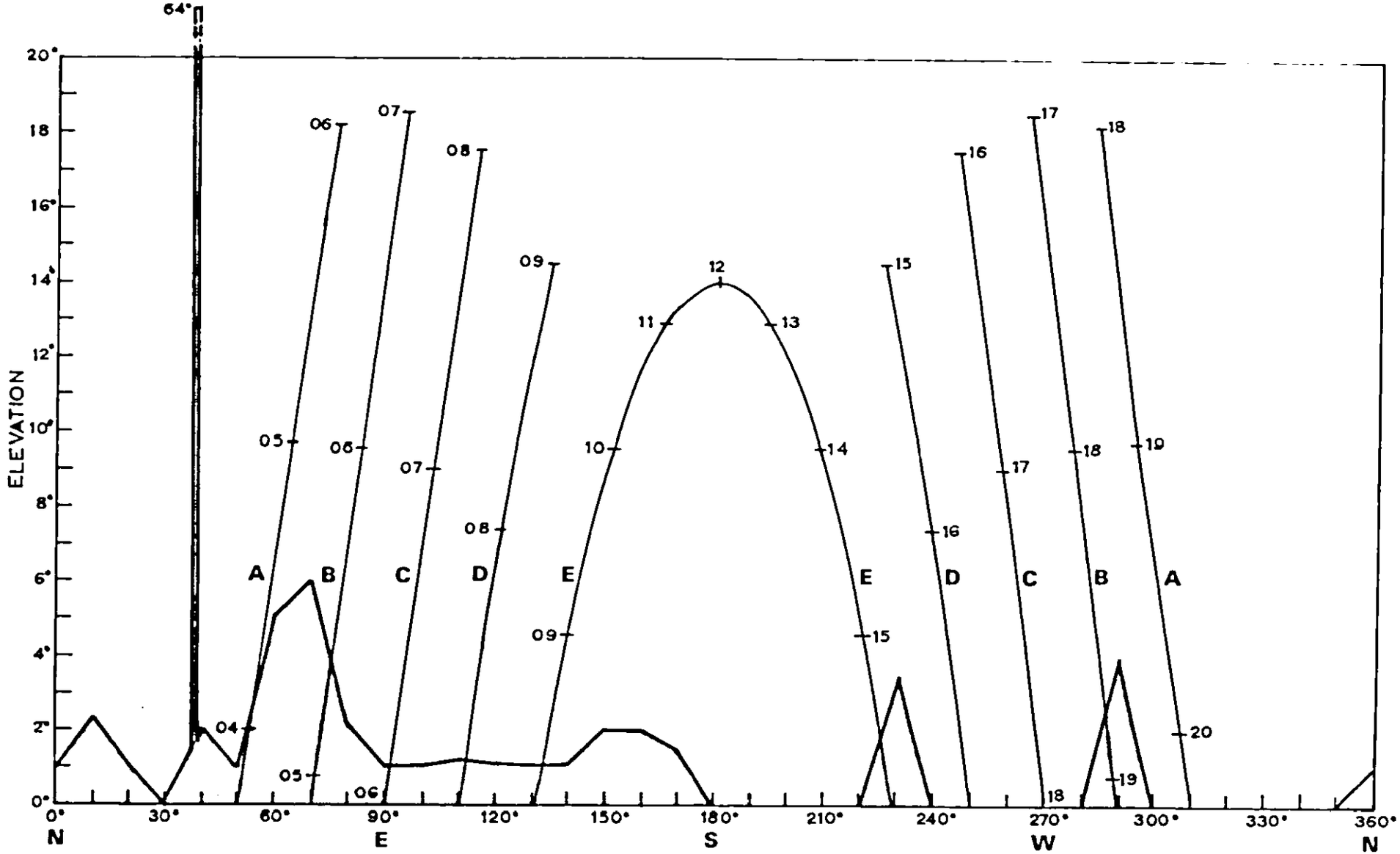


Fig. 9. Exposure diagram showing (1) azimuth and elevation of all objects which obscure solarimeter.
(2) azimuth and elevation of Sun at various times of year as follows (A) June 22 (B) April 21, August 23 (C) March 21, September 23 (D) February 18, October 25 (E) December 22.