N.Z. DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH

APIA OBSERVATORY,

APIA, WESTERN SAMOA

ANNUAL REPORT

FOR

1939

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Minister of Scientific and Industrial Research

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May, 1948.

Sir,—

I have the honour to present herewith the Annual Report of the Apia Observatory for the year 1939.

F. R. CALLAGHAN,
Secretary,
Department of Scientific and Industrial Research.

The Hon. T. H. McCombs,
Minister of Scientific and Industrial Research.

APIA OBSERVATORY

Annual Report for the Year 1939

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Professor D.C.H. Florance M.A., M.Sc. (Chairman)

E. Marsden Esq. D.Sc., F.R.S.N.Z. (Secretary)

C.E. Adams Esq. D.Sc., F.R.A.S.

Professor P.W. Burbidge B.A., M.Sc.

E. Kidson Esq. D.Sc., O.B.E., F. Inst. P., F.R.S.N.Z.

H.E. Walshe Esq. Surveyor-General.

Resident Staff, 1939

Acting Director	H.B. Sapsford B.Sc.
Professional Assistants	J.M. Austin, M.A. (until 27th July) C.W. Tremewan, B.Sc. A.B.F. Ayers B.Sc.
Locally recruited staff	Miss V. Hannemann; Siaosi Sumeo; Pele Feagai; Pene Wells; Popo Tanielu; Siaosi Ui; (until 31st. December)

Co-ordinates of Transit Pier

Latitude	13° 48' 26"	South
Longitude	171° 46' 30"	West or 11h 27m 6s west of Greenwich
Altitude	Two metres above mean sea level	

Standards of Time

Greenwich Mean Time is used in terrestrial magnetism and seismology (12h = Greenwich midday). Zone Time (165° west of Greenwich) is used in meteorology and atmospheric electricity.

Apia Observatory, Samoa

Report of the Director for the year 1939

During the year under review the geophysical programme of work at the Apia Observatory comprised the usual activity in terrestrial magnetism, seismology, meteorology, atmospheric electricity and the measurement of tides. In addition, time was devoted to work with a spectrohelioscope which was kindly sent on loan from the Mount Wilson observatory some years ago. On account of the recent development of aviation and the resulting importance of synoptic meteorology improvements and changes were made in this section of the work.

Staff

The enthusiastic cooperation of the whole staff made it possible to maintain a full programme of work notwithstanding one or two strenuous periods. The first occurred in June when a very widespread influenza epidemic affected almost the whole staff at the Observatory. Later, the coping with additional work in the meteorological section just after Mr Austin left for America on July 27th, required an additional effort.

Siaosi Ui, a Samoan clerk, resigned on December 31st in order to commence theological studies and a new handyman, Sua, was appointed to replace Sepelini, who volunteered for military service. These were the only changes to the section of the staff which is recruited locally.

Buildings

General maintenance and repair work was carried out at the Observatory by the Public Works Department. Early in the year the new building providing better facilities for pilot balloon observations, a workshop, and conveniences was completed. Later a new stand for the sunshine recorder was erected and additions, including a bathroom, were made at the small cottage.

Grounds

The grounds were kept clean by contract labour, the cutting, cleaning and burning being done once a month. A permanent handyman also assisted in this direction as well as caring for the offices and doing odd work. In January considerable sea erosion on the northern boundary

of the Observatory property caused some concern for the safety of the buildings and arrangements were therefore made with the Officer-in-charge of Public Works Department to prevent the removal of sand from that part of the shore to the east of the Observatory. Since then periodic measurements of offsets, from fixed points to the shore-line, have shown that sand is now being deposited and that the shore-line is extending seaward.

Time Service

The time service was maintained by means of the standard clock, Strasser and Rohde No 381, while a "Synchronome" clock, which was compared daily with the former, provided time marks for the seismographs and magnetographs. Control was obtained by frequent time signals from station NPG, San Francisco, and NPM, Honolulu. On June 8th a local earthquake stopped the Synchronome clock and slightly affected the rate of the standard one.

The large Gulbransen all-wave radio set which is generally used to receive the time signals had to be repaired at intervals during the year, the small auxiliary short-wave set being used at such times.

The Heyde transit telescope requires standardization and was not used.

Tides

The automatic recording of the tides by means of the portable tide gauge No 11664 was re-commenced on May 9th after an interruption of six months, the driving clock having been sent to America for repairs. The results were tabulated and forwarded to the United States Coast and Geodetic Survey in Washington.

Solar Observations

Final adjustments to the spectrohelioscope were completed in July but the intensity of illumination was very poor due to the state of the grating and the mirrors. This made observations impossible and the defective parts were therefore sent to the Mount Wilson Observatory. The mirrors were re-aluminized but were retained in America pending the completion of negotiations about the grating. It is also suggested that the instrument may be transferred to New Zealand on account of the unsuitable site at Apia. The proximity to the sea renderes it unsatisfactory not only because of the corrosive action on the mirrors and grating but also because of a continuous drift of the Hα line during observations, which is possibly caused by the unequal

effect on the three piers of percolating tidal water and tidal loading on adjacent areas.

The results of observations which have been obtained from autographic records and eye observations, together with a description of the scheme for synoptic weather reports in the South West Pacific Region and some notes on the weather comprise the remainder of this report. Details of instruments and other relevant information in connection with terrestrial magnetism, seismology, meteorology and atmospheric electricity will be found in the preliminary remarks which introduce the respective sections.

Terrestrial Magnetism 1939

The work in terrestrial magnetism consisted of absolute measurements of horizontal intensity, declination, and inclination, together with the continuous recording of the first two elements and of vertical intensity.

All absolute measurements of horizontal intensity and declination were made with the Carnegie Institute magnetometer No.9 which is on loan through the courtesy of the Department of Terrestrial Magnetism, Carnegie Institute, Washington, while the inclination has been measured, as in the past, with the Schulze earth inductor No 2. Eschenhagen variometers and a Godhavn balance were in operation for the continuous recording.

During 1939 the numbers of absolute observations were as follows: Horizontal Intensity 57; Declination 74; Inclination 27. These absolute observations of inclination fall into two groups: 6 observations between January 1st and February 4th, and 21 observations from 10th October to the end of 1939.

The interruption was occasioned by the despatch of the Schulze earth inductor to Washington for overhaul, defects due to the humid conditions in Samoa having developed in this instrument.

The method of observation with C.I.W. magnetometer is the same as that described by D.L. Hazard in "Directions for Magnetic Measurements" (United States Department of Commerce, Serial Number 166). The measurements with it have been reduced to International Magnetic Standard by applying a correction of -28γ to horizontal intensity and -0.2 of a minute to declination. These corrections, which are based on comparisons with the

standard C.I.W. magnetometer No. 3 at Washington, D.C., November 6-10, 1934, have been applied since 1st January 1937. From October (Inclusive) a correction of -0.2 of a minute (reckoning southerly inclination negative) has been applied to the measurements of inclination. This was found by the Department of Terrestrial Magnetism after comparison of Schulze Earth Inductor No. 2 with their C.I.W. inductor No. 48 at Cheltenham in August 1939. Prior to October, when the instrument was returned to Apia, a correction of -0.4 of a minute was applied to reduce values of inclination to I.M.S. This correction was determined at Washington in June 1928 when the Schulze Earth Inductor was overhauled previously. The absolute instruments were all restandardised in June 1937 on behalf of the Carnegie Institution, Washington, but the final results are not yet available for publication. Published values of horizontal intensity and declination in this report are to be considered as reduced to I.M.S. in terms of the 1934 comparison and some amendments may be necessary when the results of the 1937 standardisation are available.

Except for occasional stoppages of the driving clock on the H recording drum the only interruptions of the records occurred in January and September. In the first case the Gauss Haus was flooded by torrential rain and the instruments were removed, the records being lost from 16th to 19th January inclusive. From 26th to 30th September the recording of D and H was interrupted while clock repairs were being made and Helmholtz Coils were being mounted round the variometers.

It is assumed that the temperature coefficients, which were last determined in 1937, remain unchanged. They are as follows: Horizontal Intensity 0.25γ/°C; Vertical Intensity 1.8γ/°C. Since these are not large and the variation of temperature itself inside the magnetograph house is small temperature corrections are not applied to the recorded values of the magnetic elements. Small changes in the coefficients are therefore not important. The H and D variometers were at distances of 128 and 174 centimetres respectively from the recording drum. The distance of the lens on the Godhavn balance was 162 centimetres from its recording drum.

The practice of measuring the ordinates on the magnetograms from the centre of the trace to the nearer edge of the base line has been continued for the three elements, except for the records of vertical intensity on and after 1st. August, which were measured from the centre of the trace to the further edge of the base line. This change was made because the further edge on the vertical intensity records was so much clearer

and more uniform than the nearer one.

The hourly values of horizontal intensity and vertical intensity have been derived from the magnetograms by scaling them first in millimetres and converting the readings so obtained into gamma. The results have been presented in the form of departures of hourly means from the mean of the day which itself appears in the column headed 'Mean'. The departures are based on values of the element over periods of one hour between exact hours of Greenwich Mean Time, the column headings specifying the commencement of the hourly period. Thus column 0 refers to the period 0-1h G.M.T. and so on.

In both horizontal and vertical intensity the tabular values are in gamma while in declination the values are in tenths of a minute of arc. The values of vertical intensity shown in the tables are numerical values of the field strength, the sense of the vertical force being given by the fact that in Samoa the south pole of the magnetic needle dips. Where an hourly value has been based on more than thirty minutes of interpolation it is shown enclosed in brackets.

In the tables of horizontal intensity the values of HRH ÷ 10000 have been given in the column headed w. H is the mean value for the day and RH the absolute range. International quiet days are indicated by a plus sign, thus:- +.

Non-cyclic Change

The values of the diurnal variations of the magnetic elements have not been corrected for non-cyclic change. Values of the correction N have been computed by the short method described in "Journal of Terrestrial Magnetism", Volume 44, page 75, however, and are given at the foot of the appropriate tables.

The non-cyclic change N is the difference between the second and first midnights, $(\bar{a}_{24} - \bar{a}_0)$, of the mean day. Since hourly means are used and not instantaneous values the midnight values have been estimated by taking the means of the two hourly periods centred at the midnights.

Scale Values

Scale values derived by the electrical method with a Helmholtz-Gaugain coil were adopted for vertical intensity throughout the year. Although similar coils were installed round the H and D variometers in September they were not brought into use during 1939 and the scale

value of the H variometer was determined about once a week by the method of deflections using a small auxiliary magnet placed at a fixed distance from the suspended magnet.

Horizontal Intensity

The values of the terms A and B, occurring in the scale-value equation $d\Upsilon/dn = A+Bn$ (where n = ordinate in millimetres), which were adopted during 1939 are as follows:-

Date	A	B
January 1st-16th	1.83	0.0030
January 16th-19th (dismantled)	-	-
January 20th-31st	1.85	0.0030
February 1st - March 31st	1.84	0.0030
April 1st-30th	1.83	0.0030
May 1st - June 7th	1.80	0.0030
June 8th-30th	1.85	0.0030
July 1st-31st	1.86	0.0030
August 1st-31st	1.84	0.0030
September 1st-26th (inclusive)	1.85	0.0030
September 27th-30th Sensitivity adjusted		-
October 1st-31st	2.09	0.0041
November 1st-30th	2.07	0.0041
December 1st-31st	2.13	0.0034

Declination

The scale value remained constant and equal to one minute of arc per millimetre on the recording paper.

Vertical Intensity

January	1.19 Υ/mm
February 1st-March 31st	1.23 Υ/mm
April 1st-May 31st	1.26 Υ/mm
June	1.27 Υ/mm
July	1.22 Υ/mm
August 1st-September 30th	1.21 Υ/mm
October	1.22 Υ/mm
November	1.21 Υ/mm
December	1.21 Υ/mm (assumed)

The milliameter was in New Zealand during December and it was therefore impossible to determine the scale value of the Godhavn balance during that month. Since experience shows that the sensitivity does not change rapidly any inaccuracy, which has been introduced by assuming the scale value to be the same in December as in November, will be very small.

Base Line Values

The base line values of the recording instruments

may be read from the following list in which the dates are given on which the base line assumes a new value.

Horizontal Intensity

January 1st 34806, 3rd 805, 5th 804, 7th 803, 9th 802, 10th 801, 11th 800, 13th 799, 14th 798, 16th 797, 17th 796, 18th 795, 19th 794, 20th 793, 21st 792, 22nd 791, 23rd 790, 24th 789, 25th 788, 26th 786, 27th 785, 28th 784, 29th 782, 30th 781, 31st 779.

February 1st 34778, 2nd 776, 3rd 775, 4th 773, 5th 772, 6th 771, 7th 769, 8th 768, 9th 766, 10th 765, 11th 763, 12th 762, 13th 761, 14th 759, 15th 758, 16th 756, 17th 755, 18th 754, 19th 752, 20th 751, 21st 749, 22nd 748, 23rd 746, 24th 745, 25th 743, 26th 742, 27th 740, 28th 739.

March 1st 34738, 2nd 736, 3rd 735, 4th 734, 5th 732, 6th 731, 7th 730, 9th 729, 10th 728, 11th 727, 12th 726, 13th 725, 15th 724, 17th 723, 19th 722, 22nd 721, 25th 720, 28th 719.

April 1st 34718, 4th 717, 7th 716, 11th 715, 15th 714, 18th 713, 21st 712, 25th 711, 28th 710.

May 1st 34710, 2nd 709, 5th 708, 8th 707, 11th 695, 13th 696, 15th 697, 17th 698, 19th 699, 21st 700, 23rd 701, 25th 702, 27th 703, 29th 704, 31st 705.

June 1st 34705, 2nd 706, 4th 707, 6th 708, 8th 712, 9th 739.

July 1st 34739, 27th 740.
August 1st 34741
September 1st 34741, 27th to 30th not known
October 1st 34757, 7th 758, 15th 759, 24th 760, 31st 761.
November 1st 34761, 9th 762, 19th 763, 29th 764.
December 1st 34764, 7th 765, 16th 766, 28th 767.

Declination

10°+...East

January 1st 23.8', 21st (0200 G.M.T.) 13.7'
February 1st 13.7', 3rd 11.0', 7th 11.1', 12th 11.2', 16th 11.3', 20th 11.4', 24th 11.5', 28th 11.6',
March 1st 11.6', 5th 11.7', 9th 11.8', 13th 11.9', 17th 12.0', 21st 12.1', 25th 12.2', 29th 12.3'
April 1st 12.3', 2nd 12.4', 6th 12.5', 10th 12.6', 14th 12.7', 18th 12.8', 22nd 12.9'
May 1st 12.9'
June 1st 12.9', 8th not known, 9th 34.8', 15th 34.9' 17th 35.0', 18th 35.1', 19th 35.2', 20th 35.4'

June (continued)
21st 35.6', 22nd 35.7', 23rd 35.9', 24th 36.0',
25th 36.1', 26th 36.2', 27th 36.3'

July 1st to September 26th 36.3'
September 27th - 30th not known

October 1st 32.1', 7th 32.0', 8th 31.9', 9th 31.8',
10th 31.7', 11th 31.4', 12th 31.1', 13th 31.0'
14th 30.9', 29th 30.8'

November 1st 30.8', 3rd 30.7', 7th 30.6', 11th 30.5'
14th 30.4', 17th 30.3', 21st 30.2', 24th 30.1'
28th 30.0'

December 1st 30.0'

Vertical Intensity

January 1st 20607, 2nd 20606, 11th 20605, 22nd 20604,
30th 20603.

February 9th 20602, 19th 20601,

March 1st 20600, 13th 20599, 23rd 20598.

April 3rd 20597, 13th 20596, 24th 20595.

May 4th 20594. 15th 20593, 26th 20592.

June 5th 20591, 17th 20590, 27th 20589.

July 8th 20588, 17th 20587, 28th 20586.

August 11th 20585, 20th 20584, 31st 20583.

September 10th 20582, 20th 20581.

October 1st 20580, 10th 20581, 13th 20582, 16th 20583,
19th 20584, 22nd 20585, 25th 20586,28th 20587.

November 1st 20588, 4th 20589,

Mean Values of Magnetic Elements, 1939

All Days

	D	H	X	Y	Z
	East	gamma	gamma	gamma	gamma
January	10°48.3'	34939	34320	6550	20646
February	48.2'	906	287	6543	20649
March	48.7'	888	269	6544	20648
April	49.1'	875	255	6546	20651
May	49.4'	874	254	6549	20648
June	49.9'	898	276	6558	20645
July	50.1'	892	270	6559	20642
August	50.1'	889	267	6558	20640
September	50.8'	902	278	6568	20634
October	51.1'	885	261	6568	20643
November	51.1'	908	284	6572	20645
December	51.7'	911	286	6579	20646
YEAR	10°49.9'	34897	34275	6558	20645

International Quiet Days

	D	H	X	Y	Z
	East	gamma	gamma	gamma	gamma
January	10°48.7'	34953	34333	6557	20646
February	48.3'	922	303	6547	20649
March	48.8'	903	283	6548	20647
April	49.1'	907	287	6552	20648
May	49.6'	896	275	6555	20646
June	49.9'	912	290	6561	20647
July	50.3'	902	279	6563	20642
August	50.2'	928	305	6567	20635
September	50.3'	916	293	6566	20637
October	51.2'	904	280	6572	20644
November	51.1'	919	295	6574	20645
December	51.8'	922	296	6582	20644
YEAR	10°49.9'	34915	34293	6561	20644

Diurnal Variation of Horizontal Intensity

International Quiet Days, 1939
Not corrected for non-cyclic change. Unit: One Gamma.

G.M.T.	Jan.	Feb.	Mar.	Apr.	May.	June.	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year.
0- 1	+45	+38	+34	+34	+13	+12	+11	+29	+26	+34	+30	+35	+28
1- 2	+36	+29	+23	+19	+ 8	+ 9	+ 7	+20	+19	+22	+21	+23	+20
2- 3	+23	+15	+ 9	+ 8	+ 3	+ 5	0	+ 8	+ 7	+ 8	+ 9	+ 6	+ 8
3- 4	+ 9	+ 1	- 4	- 3	- 3	+ 2	- 7	- 2	- 3	- 5	- 3	- 6	- 2
4- 5	- 5	-10	-10	- 8	- 6	- 3	-11	- 9	- 9	-14	-11	-12	- 9
5- 6	-12	-14	-13	-13	- 7	- 7	-11	-11	-11	-16	-13	-15	-12
6- 7	-17	-15	-15	-17	-10	-10	-11	-12	-13	-17	-12	-16	-14
7- 8	-19	-16	-16	-18	-12	-12	-13	-16	-15	-18	-12	-17	-15
8- 9	-19	-16	-15	-18	-16	-10	-15	-19	-18	-20	-12	-18	-16
9-10	-20	-16	-17	-18	-17	- 8	-14	-17	-19	-19	-13	-18	-16
10-11	-20	-16	-18	-16	-16	- 9	-13	-16	-19	-18	-13	-18	-16
11-12	-22	-15	-16	-14	-14	-10	-12	-15	-19	-18	-13	-18	-15
12-13	-21	-16	-16	-14	-13	-11	-11	-14	-17	-17	-14	-15	-15
13-14	-21	-15	-17	-14	-13	-10	- 9	-13	-15	-16	-13	-14	-14
14-15	-22	-13	-15	-12	-10.	- 9	- 7	-12	-15	-15	-11	-11	-13
15-16	-20	-11	-13	-11	- 7	- 6	- 5	-11	-15	-12	-11	- 9	-11
16-17	-18	-11	-11	-11	- 5	- 3	- 3	- 8	-13	-11	-11	- 8	- 9
17-18	-17	-10	-11	- 9	- 1	+ 1	+ 1	- 5	- 9	-11	- 9	- 8	- 7
18-19	-14	- 7	- 8	- 5	+ 9	+10	+ 8	+ 3	+ 3	- 7	- 6	- 5	- 2
19-20	- 3	- 1	+ 4	+ 2	+17	+15	+16	+12	+18	+ 7	+ 4	+ 3	+ 8
20-21	+15	+ 8	+18	+12	+22	+16	+21	+19	+26	+24	+15	+15	+18
21-22	+34	+25	+33	+29	+24	+16	+24	+25	+37	+41	+27	+34	+29
22-23	+50	+39	+43	+45	+27	+15	+28	+31	+41	+50	+37	+46	+38
23-24	+54	+48	+47	+52	+23	+12	+27	+34	+37	+51	+39	+47	+39
R.	76	64	65	70	44	28	43	53	60	71	53	65	55
N.	+ 3	+ 8	+ 9	+14	+ 3	- 6	+14	0	+ 3	+13	+ 4	+ 5	
No. of days.	4	5	5	5	4	3	4	5	2	5	5	5	

Diurnal Variation of Declination

International Quiet Days, 1939

Not corrected for non-cyclic change

Unit: One tenth of a minute of arc.

G.M.T.	Jan.	Feb.	Mar.	Apr.	May.	June.	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year.
0- 1	+32	+18	+13	+ 4	0	- 9	- 6	-12	- 1	+24	+21	+22	+ 9
1- 2	+32	+27	+18	+ 8	+13	+ 2	+ 7	+ 2	+ 9	+25	+20	+30	+16
2- 3	+27	+28	+16	+11	+22	+ 9	+13	+14	+ 9	+20	+14	+30	+18
3- 4	+16	+22	+ 9	+10	+21	+10	+13	+16	+ 6	+11	+ 8	+25	+14
4- 5	+ 6	+13	+ 5	+ 9	+15	+ 6	+ 7	+ 9	+ 3	+ 5	+ 7	+15	+ 8
5- 6	+ 2	+ 8	+ 7	+10	+11	+ 4	+ 5	+ 3	+ 3	+ 8	+ 9	+ 9	+ 7
6- 7	+ 7	+11	+ 8	+ 7	+ 7	+ 3	+ 1	+ 2	+ 4	+ 7	+10	+ 6	+ 6
7- 8	+ 7	+11	+ 9	+ 4	+ 2	0	0	0	+ 3	+ 5	+ 8	+ 5	+ 5
8- 9	+ 3	+ 8	+ 5	+ 2	- 1	- 2	- 2	- 1	+ 1	+ 3	+ 6	+ 3	+ 2
9-10	+ 2	+ 4	+ 2	+ 1	- 3	- 2	- 3	- 2	+ 1	+ 1	+ 2	+ 2	0
10-11	- 1	+ 2	+ 2	0	- 4	- 2	- 3	- 2	+ 1	0	+ 2	0	0
11-12	- 3	+ 1	+ 2	0	- 5	- 2	- 4	- 1	+ 2	0	+ 3	- 2	- 1
12-13	- 3	0	+ 2	- 1	- 6	0	- 3	0	+ 2	+ 1	+ 3	- 3	- 1
13-14	- 4	0	+ 2	- 1	- 5	+ 1	0	+ 3	+ 3	+ 1	+ 4	- 2	0
14-15	- 4	0	+ 2	0	- 1	+ 3	+ 2	+ 4	+ 5	+ 1	+ 4	- 2	+ 1
15-16	- 5	- 1	+ 2	+ 2	+ 2	+ 6	+ 4	+ 6	+ 7	+ 2	+ 4	- 1	+ 2
16-17	- 8	- 1	+ 1	+ 3	+ 3	+ 7	+ 5	+ 7	+ 7	0	+ 2	- 2	+ 2
17-18	-17	- 5	- 3	+ 3	+ 3	+ 7	+ 5	+ 8	+11	-10	-11	-11	- 2
18-19	-30	-19	-15	- 1	+ 5	+10	+ 7	+11	+ 7	-22	-25	-24	- 8
19-20	-34	-35	-26	-13	- 3	+ 3	- 1	+ 4	-10	-31	-37	-35	-18
20-21	-30	-44	-27	-22	-15	- 7	-11	- 6	-17	-31	-35	-36	-23
21-22	-19	-37	-19	-22	-23	-16	-17	-17	-23	-24	-25	-27	-22
22-23	- 1	-16	-11	-13	-25	-18	-17	-24	-21	- 4	- 8	-10	-14
23-24	+22	+ 5	+ 1	- 3	-19	-15	-13	-22	-14	+14	+10	+ 9	- 2
N	- 2	+ 3	- 5	- 2	- 8	- 5	- 0	- 0	- 1	+ 2	- 2	- 1	
No.of days.	4	5	5	5	4	3	4	5	2	5	5	5	52
A-a	-	-	-	12	28	12	17	18	8	25	19	33	19
B-a	-	-	-	4	11	12	11	13	10	2	6	2	3
A-b	66	72	45	33	47	28	30	40	32	56	58	66	41
B-b	-	-	-	25	30	28	24	35	34	33	41	35	25

Diurnal Variation of X, 1939.

International Quiet Days. Unit = One Gamma.

Not corrected for non-cyclic change.

G.M.T.	Jan.	Feb.	Mar.	Apr.	May.	June.	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year.
0- 1	+38	+33	+30	+32	+13	+14	+12	+30	+26	+28	+24	+30	+26
1- 2	+29	+23	+19	+17	+ 5	+ 9	+ 6	+20	+17	+17	+16	+17	+16
2- 3	+18	+ 9	+ 6	+ 6	- 1	+ 3	- 3	+ 5	+ 5	+ 4	+ 6	+ 1	+ 5
3- 4	+ 6	- 3	- 6	- 5	- 7	0	-10	- 5	- 4	- 7	- 5	-11	- 5
4- 5	- 6	-13	-11	-10	- 9	- 4	-12	-11	-10	-15	-12	-15	-11
5- 6	-12	-16	-14	-15	- 9	- 8	-12	-12	-12	-18	-15	-17	-13
6- 7	-18	-17	-17	-18	-11	-11	-11	-12	-14	-18	-14	-17	-15
7- 8	-20	-18	-18	-19	-12	-12	-13	-16	-16	-19	-14	-18	-16
8- 9	-20	-18	-16	-18	-16	-10	-15	-19	-18	-21	-13	-19	-17
9-10	-20	-17	-17	-18	-16	- 8	-13	-17	-19	-19	-13	-18	-16
10-11	-20	-16	-18	-16	-15	- 9	-12	-16	-19	-18	-13	-18	-16
11-12	-21	-15	-16	-14	-13	-10	-11	-15	-19	-18	-14	-18	-15
12-13	-20	-16	-16	-14	-12	-11	-10	-14	-17	-17	-15	-14	-15
13-14	-20	-15	-17	-14	-12	-10	- 9	-14	-16	-16	-14	-14	-14
14-15	-21	-13	-15	-12	-10	-10	- 7	-13	-16	-15	-12	-11	-13
15-16	-19	-11	-13	-11	- 7	- 7	- 6	-12	-16	-12	-12	- 9	-11
16-17	-16	-11	-11	-12	- 6	- 4	- 4	- 9	-14	-11	-11	- 8	-10
17-18	-14	- 9	-10	-10	- 2	0	0	- 7	-11	- 9	- 7	- 6	- 7
18-19	- 8	- 3	- 5	- 5	+ 8	+ 8	+ 7	+ 1	+ 2	- 3	- 1	0	+ 0
19-20	+ 4	+ 6	+ 9	+ 5	+18	+14	+16	+11	+20	+13	+11	+10	+11
20-21	+21	+17	+23	+16	+25	+17	+23	+20	+29	+30	+22	+22	+22
21-22	+37	+32	+36	+32	+29	+19	+27	+28	+41	+45	+32	+38	+33
22-23	+49	+41	+44	+47	+32	+19	+31	+35	+44	+50	+38	+47	+40
23-24	+49	+46	+46	+52	+27	+15	+30	+37	+39	+47	+36	+44	+39
R.	70	64	64	71	48	31	46	56	63	71	53	66	56

2.- Apia Obs.

Diurnal Variation of Y, 1939.

International Quiet Days

Not corrected for non-cyclic change. Unit: One Gamma.

G.M.T.	Jan.	Feb.	Mar.	Apr.	May.	June.	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year.
0- 1	+40	+26	+20	+11	+ 3	- 7	- 4	- 6	+ 4	+31	+27	+29	+15
1- 2	+39	+33	+23	+12	+15	+ 4	+ 3	+ 6	+13	+29	+24	+35	+20
2- 3	+32	+31	+18	+13	+23	+10	+13	+16	+10	+22	+16	+31	+20
3- 4	+18	+22	+ 8	+ 9	+20	+10	+12	+16	+ 5	+10	+ 7	+24	+13
4- 5	+ 5	+11	+ 3	+ 7	+14	+ 5	+ 5	+ 7	+ 1	+ 2	+ 5	+13	+ 7
5- 6	0	+ 5	+ 4	+ 7	+10	+ 3	+ 3	+ 1	+ 1	+ 5	+ 6	+ 6	+ 4
6- 7	+ 4	+ 8	+ 5	+ 4	+ 5	+ 1	- 1	0	+ 1	+ 4	+ 8	+ 3	+ 3
7- 8	+ 3	+ 8	+ 6	0	0	- 2	- 3	- 3	0	+ 1	+ 6	+ 2	+ 1
8- 9	- 1	+ 5	+ 2	- 2	- 4	- 4	- 5	- 5	- 3	- 1	+ 4	- 1	- 1
9-10	- 2	+ 1	- 1	- 3	- 6	- 4	- 6	- 5	- 3	- 3	- 1	- 2	- 3
10-11	- 5	- 1	- 2	- 3	- 7	- 4	- 6	- 5	- 3	- 4	- 1	- 4	- 4
11-12	- 7	- 2	- 1	- 3	- 8	- 4	- 6	- 4	- 2	- 4	0	- 6	- 4
12-13	- 7	- 3	- 1	- 4	- 9	- 2	- 5	- 3	- 1	- 2	0	- 6	- 4
13-14	- 8	- 3	- 1	- 4	- 8	- 1	- 2	0	0	- 2	+ 1	- 5	- 3
14-15	- 8	- 3	- 1	- 2	- 3	+ 1	+ 1	+ 2	+ 2	- 2	+ 2	- 4	- 1
15-16	- 9	- 3	- 1	0	+ 1	+ 5	+ 3	+ 4	+ 4	0	+ 2	- 3	0
16-17	-12	- 3	- 1	+ 1	+ 2	+ 6	+ 4	+ 5	+ 4	- 2	0	- 4	0
17-18	-20	- 7	- 5	+ 1	+ 3	+ 7	+ 5	+ 7	+ 9	-12	-13	-13	- 3
18-19	-33	- 20	-17	- 2	+ 7	+12	+ 9	+12	+ 8	-23	-26	-23	- 8
19-20	-35	-35	-25	-13	0	+ 6	+ 2	+ 6	- 6	-30	-36	-34	-17
20-21	-27	-42	-23	-20	-11	- 4	- 7	- 2	-12	-26	-32	-33	-20
21-22	-12	-32	-12	-16	-18	-13	- 12	-12	-16	-16	-20	-20	-17
22-23	+ 8	- 8	- 3	- 5	-20	-15	-11	-18	-13	+ 5	- 1	- 2,	-7
23-24	+32	+14	+ 9	+ 6	-14	-13	- 8	-15	- 7	+23	+18	+17	+ 6
A -a	-	-	25	17	32	14	19	21	16	33	28	41	24
B -a	-	-	1	5	16	16	15	17	12	4	3	3	4
A -b	75	75	48	33	43	25	24	34	29	59	63	69	40
B -b	-	-	24	21	27	27	20	30	25	30	38	31	20

Diurnal Variation of Vertical Intensity
International Quiet Days, 1939.

Not corrected for non-cyclic change. Unit: One Gamma.

G.M.T.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year
0- 1	+ 3	+ 1	- 2	0	- 7	- 8	- 3	- 2	- 2	0	+ 3	+ 1	- 1
1- 2	+ 3	+ 1	- 2	- 1	- 8	- 8	- 5	- 4	- 4	0	+ 2	- 2	- 2
2- 3	- 1	+ 1	- 2	- 3	- 8	- 6	- 5	- 5	- 5	- 1	- 1	- 4	- 3.
3- 4	- 3	0	- 3	- 5	- 6	- 5	- 6	- 6	- 4	- 4	- 3	- 5	- 4
4- 5	- 4	- 2	- 4	- 5	- 5	- 4	- 6	- 6	- 4	- 6	- 5	- 5	- 5
5- 6	- 5	- 4	- 3	- 4	- 4	- 4	- 6	- 5	- 3	- 4	- 4	- 5	- 4
6- 7	- 4	- 4	- 2	- 4	- 4	- 3	- 5	- 4	- 4	- 4	- 4	- 3	- 4
7- 8	- 4	- 3	- 2	- 3	- 4	- 3	- 4	- 3	- 4	- 3	- 3	- 2	- 3
8- 9	- 2	- 2	- 2	- 2	- 3	- 1	- 3	- 2	- 2	- 2	- 2	- 1	- 2
9-10	- 1	- 1	- 1	- 1	0	+ 1	- 2	- 1	- 1	0	- 2	0	- 1
10-11	0	0	- 1	0	+ 1	+ 2	0	0	0	+ 1	0	0	0
11-12	+ 1	+ 1	+ 1	+ 1	+ 4	+ 2	+ 1	+ 1	+ 1	+ 1	+ 1	+ 1	+ 1
12-13	+ 2	+ 1	+ 1	+ 2	+ 4	+ 3	+ 2	+ 1	+ 2	+ 3	+ 3	+ 2	+ 2
13-14	+ 2	+ 2	+ 2	+ 2	+ 6	+ 3	+ 3	+ 2	+ 4	+ 4	+ 4	+ 2	+ 3
14-15	+ 2	+ 2	+ 4	+ 4	+ 7	+ 3	+ 3	+ 3	+ 5	+ 5	+ 5	+ 3	+ 4
15-16	+ 3	+ 3	+ 5	+ 4	+ 7	+ 4	+ 4	+ 6	+ 6	+ 6	+ 5	+ 3	+ 5
16-17	+ 2	+ 2	+ 6	+ 5	+ 6	+ 4	+ 4	+ 5	+ 6	+ 6	+ 4	+ 4	+ 5
17-18	+ 3	+ 3	+ 5	+ 5	+ 6	+ 4	+ 4	+ 6	+ 7	+ 5	+ 3	+ 3	+ 5
18-19	+ 1	+ 2	+ 3	+ 5	+ 7	+ 5	+ 6	+ 8	+ 6	+ 2	0	+ 1	+ 4
19-20	- 1	+ 1	0	+ 3	+ 7	+ 6	+ 7	+ 8	+ 5	0	- 1	0	+ 3
20-21	0	- 2	- 1	+ 1	+ 4	+ 5	+ 6	+ 5	+ 2	- 1	- 2	- 1	+ 1
21-22	- 1	- 4	- 1	0	+ 1	+ 3	+ 4	+ 2	- 2	- 2	- 2	0	0
22-23	- 1	- 4	0	+ 1	- 3	+ 1	+ 1	- 1	- 5	- 2	0	+ 1	- 1
23-24	- 1	- 2	+ 1	0	- 6	- 3	- 1	- 2	- 8	- 2	+ 1	+ 2	- 2
R	8	7	10	10	15	14	13	14	15	12	10	9	10
N	- 4	0	+ 2	- 1	- 2	+ 3	- 2	- 1	- 7	- 1	- 2	+ 1	
No. of days.	5	5	5	5	5	4	5	5	5	5	5	5	

Diurnal Variation of Horizontal Intensity - All Days 1939

Not corrected for non-cyclic change. Unit: One gamma

G.M.T.	Jan.	Feb.	Maf.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year
0- 1	+41	+39	+36	+22	+13	+19	+19	+25	+36	+36	+35	+35	+30
1- 2	+30	+27	+25	+13	+ 7	+10	+15	+17	+24	+22	+24	+24	+20
2- 3	+19	+11	+ 9	+ 2	- 3	+ 1	+ 6	+ 5	+ 8	+ 6	+11	+ 8	+ 7
3- 4	+ 6	- 3	- 5	- 8	-10	- 5	- 2	- 9	- 4	- 6	- 3	- 6	- 5
4- 5	- 7	-12	-10	-11	-15	-11	- 6	-14	-10	-13	-13	-13	-11
5- 6	-17	-17	-12	-11	-19	-13	-10	-15	-12	-17	-16	-16	-15
6- 7	-18	-17	-15	-15	-21	-14	-15	-13	-17	-17	-17	-16	-16
7- 8	-18	-18	-17	-18	-21	-16	-17	-15	-19	-22	-17	-15	-18
8- 9	-18	-16	-18	-17	-21	-19	-17	-15	-19	-22	-16	-13	-18
9-10	-18	-14	-17	-17	-17	-18	-16	-17	-19	-22	-15	-13	-17
10-11	-18	-12	-17	-14	-12	-17	-14	-17	-19	-18	-15	-14	-16
11-12	-19	-13	-15	-11	- 9	-12	-14	-14	-20	-18	-14	-13	-14
12-13	-19	-12	-13	- 8	- 6	-10	-11	-13	-19	-15	-14	-12	-13
13-14	-17	-10	-11	- 8	- 4	- 9	-10	-14	-17	-13	-12	-11	-11
14-15	-15	- 8	- 8	- 6	- 3	- 7	- 6	-11	-15	-11	-10	- 9	- 9
15-16	-15	- 8	- 6	- 3	0	- 5	- 5	-9	-12	- 9	- 9	- 8	- 7
16-17	-15	- 7	- 5	- 1	+ 3	- 2	- 3	- 6	- 8	- 6	- 9	- 8	- 6
17-18	-15	- 7	- 4	+ 2	+ 6	+ 3	+ 3	- 2	- 5	- 5	- 9	- 9	- 3
18-19	-14	- 8	- 4	+ 4	+13	+12	+ 8	+ 8	+ 2	0	- 6	- 7	+ 1
19-20	- 5	- 2	+ 1	+ 8	+18	+17	+14	+17	+13	+ 9	+ 4	+ 1	+ 8
20-21	+12	+10	+11	+12	+23	+23	+18	+24	+21	+21	+15	+12	+17
21-22	+37	+23	+22	+20	+28	+25	+19	+28	+32	+34	+27	+27	+27
22-23	+52	+35	+33	+31	+28	+25	+23	+30	+40	+42	+38	+38	+35
23-24	+52	+40	+39	+31	+21	+22	+23	+30	+40	+42	+39	+41	+35
R	71	58	57	49	49	44	40	47	60	64	56	57	53
N	0	- 2	0	+ 3	+ 1	- 1	0	- 1	- 1	0	0	0	

Diurnal Variation of Declination - All Days 1939
Not corrected for non-cyclic change. Unit: One tenth of a minute of arc

G.M.T.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year
0- 1	+26	+24	+11	- 2	- 7	- 7	- 9	-11	+ 1	+18	+19	+23	+ 7
1- 2	+25	+27	+14	+ 4	+ 5	+ 4	+ 5	+ 5	+13	+22	+22	+28	+15
2- 3	+23	+23	+14	+10	+15	+11	+13	+15	+17	+21	+20	+29	+18
3- 4	+15	+16	+11	+12	+18	+12	+13	+16	+14	+15	+16	+24	+15
4- 5	+ 7	+ 9	+ 8	+11	+12	+ 6	+ 8	+10	+ 8	+ 9	+11	+15	+ 9
5- 6	+ 4	+ 6	+ 8	+ 9	+ 7	+ 3	+ 5	+ 7	+ 4	+ 9	+ 9	+11	+ 7
6- 7	+ 7	+ 9	+ 8	+ 7	+ 3	0	+ 4	+ 6	+ 4	+ 8	+10	+ 9	+ 6
7- 8	+ 7	+ 9	+ 6	+ 4	+ 1	- 2	+ 2	+ 3	+ 3	+ 5	+ 8	+ 7	+ 4
8- 9	+ 5	+ 6	+ 3	+ 1	- 2	- 3	- 1	+ 1	0	+ 2	+ 4	+ 3	+ 2
9-10	+ 2	+ 3	- 1	- 1	- 4	- 5	- 4	- 1	- 2	0	+ 1	0	- 1
10-11	- 1	+ 1	- 1	- 2	- 4	- 6	- 5	- 3	- 3	- 3	0	- 3	- 3
11-12	- 2	- 1	- 1	- 2	- 4	- 5	- 6	- 3	- 2	- 3	- 2	- 4	- 3
12-13	- 2	- 1	- 1	- 1	- 3	- 3	- 5	- 3	- 2	- 3	- 2	- 3	- 2
13-14	- 2	- 2	0	0	- 1	- 2	- 4	- 1	0	- 1	- 1	- 3	- 1
14-15	- 2	- 2	+ 1	+ 2	+ 2	+ 1	+ 1	+ 2	+ 2	0	0	- 2	0
15-16	- 2	- 2	+ 2	+ 4	+ 5	+ 5	+ 6	+ 4	+ 5	+ 2	+ 1	0	+ 3
16-17	- 4	- 2	+ 2	+ 5	+ 6	+ 7	+ 8	+ 8	+ 6	+ 1	0	- 2	+ 3
17-18	-17	-10	- 3	+ 5	+ 7	+ 7	+ 9	+10	+ 7	- 6	-11	-14	- 1
18-19	-30	-26	-14	+ 1	+ 9	+12	+13	+13	+ 2	-17	-24	-29	- 7
19-20	-32	-37	-24	-11	- 1	+ 8	+ 7	+ 3	-11	-28	-33	-37	-16
20-21	-31	-36	-25	-19	-11	- 1	- 5	- 9	-17	-29	-32	-35	-21
21-22	-18	-24	-16	-18	-19	-11	-15	-20	-19	-23	-21	-24	-19
22-23	+ 3	- 5	- 5	-13	-21	-16	-20	-25	-17	- 8	- 5	- 6	-11
23-24	+21	+13	+ 3	- 6	-16	-15	-19	-23	-10	+ 8	+10	+13	- 2
N	- 1	0	0	+ 1	0	- 1	0	- 1	0	+ 3	- 1	+ 1	
A-a			15	14	22	18	19	19	20	25	24	33	21
B-a			3	7	13	18	19	16	10	5	3	4	6
A-b	58	64	39	31	39	28	33	41	36	51	55	66	39
B-b			27	24	30	28	33	38	26	31	34	37	24

Diurnal Variation of Vertical Intensity - All Days 1939

Not corrected for non-cyclic change. Unit: One gamma

G.M.T.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year
0- 1	- 1	+ 2	- 1	- 4	- 9	- 8	- 5	- 6	- 6	- 3	+ 1	0	- 3
1- 2	- 2	+ 1	- 2	- 5	- 9	- 9	- 6	- 8	- 7	- 4	- 1	- 1	- 4
2- 3	- 3	- 1	- 4	- 6	- 9	- 8	- 6	- 8	- 8	- 5	- 3	- 2	- 5
3- 4	- 4	- 2	- 5	- 7	- 7	- 6	- 5	- 8	- 7	- 6	- 5	- 3	- 5
4- 5	- 5	- 4	- 6	- 6	- 6	- 5	- 5	- 7	- 5	- 6	- 5	- 4	- 5
5- 6	- 5	- 4	- 5	- 5	- 5	- 5	- 4	- 5	- 4	- 5	- 5	- 4	- 5
6- 7	- 3	- 3	- 4	- 4	- 5	- 4	- 4	- 4	- 4	- 4	- 4	- 3	- 4
7- 8	- 2	- 2	- 3	- 4	- 4	- 4	- 4	- 3	- 3	- 4	- 3	- 2	- 3
8- 9	0	0	- 2	- 3	- 2	- 3	- 3	- 2	- 1	- 2	- 2	- 1	- 2
9-10	0	+ 1	- 1	- 1	0	- 2	- 2	- 1	0	- 1	- 1	0	- 1
10-11	+ 1	+ 1	0	+ 1	+ 2	0	- 1	0	+ 1	+ 1	0	+ 1	+ 1
11-12	+ 2	+ 2	+ 2	+ 3	+ 4	+ 2	0	+ 1	+ 2	+ 2	+ 1	+ 2	+ 2
12-13	+ 3	+ 2	+ 3	+ 4	+ 5	+ 3	+ 1	+ 2	+ 3	+ 3	+ 2	+ 2	+ 3
13-14	+ 4	+ 3	+ 4	+ 5	+ 6	+ 4	+ 2	+ 3	+ 5	+ 5	+ 3	+ 3	+ 4
14-15	+ 5	+ 4	+ 6	+ 6	+ 6	+ 5	+ 4	+ 4	+ 6	+ 6	+ 4	+ 4	+ 5
15-16	+ 5	+ 5	+ 6	+ 7	+ 7	+ 6	+ 5	+ 5	+ 7	+ 7	+ 5	+ 5	+ 6
16-17	+ 5	+ 5	+ 6	+ 7	+ 7	+ 6	+ 5	+ 6	+ 7	+ 7	+ 5	+ 5	+ 6
17-18	+ 4	+ 4	+ 6	+ 7	+ 7	+ 7	+ 6	+ 6	+ 8	+ 6	+ 4	+ 4	+ 6
18-19	+ 1	+ 1	+ 4	+ 6	+ 8	+ 8	+ 7	+ 8	+ 7	+ 5	+ 2	+ 1	+ 5
19-20	- ,1	- 2	+ 1	+ 4	+ 7	+ 8	+ 7	+ 8	+ 5	+ 2	+ 1	- 1	+ 3
20-21	- 1	- 4	- 2	+ 1	+ 5	+ 6	+ 6	+ 6	+ 2	0	- 1	- 3	+ 1
21-22	- 1	- 5	- 2	- 1	+ 2	+ 4	+ 3	+ 4	- 1	- 1	- 2	- 3	0
22-23	0	- 4	- 1	- 2	- 2	0	+ 1	+ 1	- 3	- 1	0	- 2	- 1
23-24	0	- 1	0	- 3	- 7	- 4	- 2	- 3	- 5	- 1	+ 1	0	- 2
R	10	10	12	14	17	17	13	16	16	13	10	9	11
N	- 2	0	0	0	- 1	1	0	1	- 1	+ 1	0	0	

HORIZONTAL INTENSITY

G.M.T. (H = 34000γ + Mean + ...) January 1939

DAY.	W	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
+ 1	304	+38	+32	+28	+20	+ 7	- 3	-12	-17	-16	-16	-18	-24	-22	-30	-33	-28	-22	-20	-18	- 5	+19	+42	+51	+47	951	22 40 +53	14 02 -34	87
2	339	+46	+39	+33	+15	- 3	-16	-17	-19	-18	-20	-29	-25	-28	-20	-20	-21	-19	-15	-16	-13	+15	+43	+60	+47	946	22 30 +61	10 14 -36	97
+ 3																													
4	307	+24	+15	+ 8	+ 2	- 9	-14	-13	-15	-19	-17	-19	-17	-19	-21	-21	-18	-13	-11	-11	- 5	+20	+45	+65	+55	947	23 02 +67	14 00 -21	88
5	258	+43	+41	+39	+36	+ 6	-15	-13	-10	- 7	- 7	- 9	-13	-20	-15	-17	-19	-21	-22	-23	-15	0	+21	+28	+20	946	00 05 +51	12 45 -23	74
6	192	+24	+14	+ 2	+ 1	- 1	- 2	- 9	- 8	- 8	- 7	- 7	- 9	- 9	- 9	-11	-11	-13	-13	-12	- 5	+ 8	+24	+37	+35	930	22 28 +40	16 12 -15	55
7	290	+17	0	0	0	- 7	-19	-21	-19	-16	-18	-11	-14	-15	- 9	- 9	-12	-13	-15	-12	+ 5	+28	+49	+60	+43	933	22 00 +62	06 10 -21	83
8	304	+27	+23	+18	- 2	-10	-20	-19	-18	-18	-18	-16	-16	-16	-14	-14	-14	-14	-18	-17	- 8	+19	+50	+62	+57	926	22 50 +65	05 46 -22	87
9	363	+50	+40	+29	+10	-15	-29	-33	-37	-29	-31	-32	-23	-21	-17	-16	-13	-13	-13	-10	+ 1	+28	+51	+65	+61	914	22 28 +66	07 15 -38	104
10	328	+43	+38	+24	+ 9	-11	-23	-21	-21	-24	-21	-17	-22	-17	-25	-23	-19	-19	-19	-15	- 6	+17	+38	+60	+66	921	23 26 +68	13 20 -26	94
11	304	+55	+37	+21	+ 8	- 9	-18	-19	-18	-18	-20	-21	-24	-23	-21	-18	-15	-14	-15	-15	0	+14	+34	+47	+49	921	00 00 +62	12 24 -25	87
12																													
13	237	+46	+31	+12	- 3	-10	-16	-18	-18	-18	-18	-18	-17	-18	-14	-11	-12	-13	-12	- 8	- 1	+18	+33	+40	+42	932	00 10 +48	12 30 -20	68
14	318	+34	+36	+26	+ 9	- 6	-22	-21	-20	-20	-21	-23	-25	-26	-31	-15	-14	-20	-19	-11	+ 7	+28	+50	+55	+57	935	22 50 +57	13 45 -34	91
15	339	+60	+50	+34	+12	- 8	-17	-22	-21	-25	-23	-25	-27	-27	-25	-25	-21	-21	-21	-19	- 7	+11	+43	+64	+66	930	22 55 +68	12 21 -29	97
16																													
17																													
18																													
19																													
20	335	+34	+17	+ 3	- 7	-22	-30	-30	-24	-20	-18	- 2	- 5	- 7	- 8	- 7	- 3	- 1	- 4	- 9	- 3	+11	+35	+53	+58	929	23 15 +62	06 00 -34	96
21	297	+33	+13	- 6	-10	-12	-13	-11	-12	-12	-21	-23	-20	-15	- 6	+ 1	- 7	-10	-17	-18	- 8	+ 8	+44	+58	+55	937	23 16 +59	10 03 -26	85
22	248	+44	+24	+14	+ 9	- 1	-11	-11	-12	-11	-12	-11	-13	-13	-14	-11	- 7	- 7	-10	-16	-17	-17	+35	+37	+33	941	00 28 +47	19 04 -24	71
23	339	+24	+17	+ 9	- 7	-17	-23	-19	-17	-17	- 8	-15	-17	-14	-11	- 2	- 4	- 9	-14	-12	- 5	+ 1	+27	+60	+69	938	23 27 +71	05 28 -26	97
24	335	+58	+36	+19	+ 8	-10	-25	-29	-25	-15	-15	-16	-14	-11	-11	-11	-13	-14	-15	-19	-10	0	+31	+50	+62	940	00 00 +66	06 00 -30	96
25	314	+43	+40	+32	+17	- 1	-19	-22	-18	-19	-19	-22	-25	-23	-22	-21	-21	-22	-22	-17	- 8	+11	+32	+55	+61	954	23 10 +63	12 01 -27	90
+ 26	314	+51	+43	+20	- 3	-15	-21	-22	-21	-22	-24	-21	-21	-23	-18	-18	-18	-18	-18	-16	- 6	+17	+42	+59	+65	953	23 18 +66	10 00 -24	90
+ 27	272	+54	+41	+25	+ 9	-10	-16	-18	-21	-20	-21	-21	-21	-21	-18	-17	-15	-14	-11	- 8	0	+ 9	+22	+42	+49	959	00 00 +56	10 32 -22	78
28	252	+39	+31	+20	+ 8	- 4	-13	-11	-12	-13	-14	-17	-19	-19	-18	-15	-15	-11	-13	-10	-12	+ 8	+31	+46	+41	962	23 00 +50	12 32 -22	72
29																													
+ 30	272	+37	+29	+21	+11	- 1	- 9	-14	-16	-17	-18	-20	-21	-19	-18	-19	-18	-17	-17	-14	0	+14	+30	+48	+56	949	23 13 +57	11 55 -21	78
31	300	+56	+39	+21	+ 3	- 9	-10	-12	-15	-18	-20	-22	-22	-18	-18	-18	-18	-17	-16	-14	- 6	+10	+28	+41	+43	942	00 00 +61	11 20 -25	86
MEAN.		+41	+30	+19	+ 6	- 7	-17	-18	-18	-18	-18	-18	-19	-19	-17	-15	-15	-15	-15	-14	- 5	+12	+37	+52	+52	939			

HORIZONTAL INTENSITY

G.M.T. (H = 34000γ + Mean + ...) February 1939

DAY.	W	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1	234	+42	+27	+13	+ 1	- 4	-10	- 9	- 4	- 1	0	+ 2	+ 3	- 2	- 4	+ 2	+ 2	+ 6	- 4	- 5	- 7	- 5	- 3	- 5	-15	937	00 00 +50	18 24 -17	67
2	230	+13	+ 8	-15	-20	-19	-16	-18	-19	-12	- 8	-10	-11	-10	- 7	- 7	- 2	0	+ 4	+ 2	+14	+16	+34	+33	+40	898	23 20 +45	07 10 -21	66
3	230	+27	+13	- 2	- 8	-18	-20	-16	-14	-12	-13	-12	- 9	- 8	-12	- 6	- 4	- 5	- 8	-10	+ 1	+25	+36	+44	+37	907	22 03 +46	05 40 -20	66
4	318	+23	+13	+ 2	-11	-15	-18	-18	-16	-15	-14	-14	-12	-17	-16	-15	-15	-15	-15	-15	- 2	+23	+46	+63	+68	913	23 00 +71	06 00 -20	91
5	307	+52	+31	+12	- 6	-19	-26	-20	-20	-15	-12	-14	-20	-10	-11	-12	-11	- 8	- 9	- 9	- 4	+17	+30	+37	+50	916	00 00 +61	05 50 -27	88
6	488	+87	+72	+47	+33	+24	+ 6	- 4	+17	+24	+22	+ 8	-13	-29	-10	- 8	-24	-22	-27	-44	-38	-40	-41	-24	- 6	881	00 12 +90	18 34 -50	140
7	456	+12	- 2	-25	-44	-50	-48	-39	-31	-23	-13	- 3	- 9	- 1	+11	+ 7	+ 8	+ 8	+11	+ 9	+17	+26	+38	+60	+75	862	24 00 +79	04 25 -52	131
8	276	+32	+23	+ 7	- 7	-21	-25	-22	-21	-21	-19	-16	-16	-16	-15	-11	- 9	- 6	- 5	+ 1	+12	+25	+37	+45	+51	905	23 26 +53	05 35 -26	79
9	223	+37	+24	+12	- 6	-15	-17	-13	-11	-10	-12	-17	-13	-19	-19	-17	-11	- 8	- 5	- 3	+ 6	+12	+18	+35	+41	909	00 00 +44	11 04 -20	64
10	255	+34	+31	+13	- 7	-22	-24	-20	-20	-21	-21	-16	-10	-11	-12	+ 3	- 6	- 6	- 4	- 1	+ 4	+ 8	+23	+41	+46	913	23 53 +49	05 33 -24	73
11	248	+40	+32	+ 3	-22	-15	-14	-16	-19	-21	-20	- 6	- 1	- 8	-13	-14	-12	-10	-10	- 8	+ 3	+19	+32	+38	+42	913	00 00 +47	03 23 -24	71
12	241	+26	+16	+ 4	- 4	-12	-14	-13	-13	-15	-17	-18	-17	-18	-18	-17	-12	-11	- 6	- 2	+ 7	+21	+34	+41	+50	926	24 00 +50	13 06 -19	69
13	234	+39	+31	+16	+ 1	- 9	-12	-13	-13	-13	-13	-15	-15	-17	-18	-15	-15	-13	-11	- 5	+ 4	+ 8	+22	+35	+42	935	24 00 +48	13 35 -19	67
14	314	+49	+38	+19	+ 3	- 7	-12	-14	-20	-16	-20	-22	-24	-23	-16	-17	-15	-14	-16	-14	-10	+11	+34	+51	+61	926	23 39 +64	12 11 -26	90
15		+48	+29	+10	+ 1	- 7	- 7	-10	-25	-22	-22	-23	-18	-17	-16	-18	-18	-16	-17	-28	- 7	+32	+43	+54	+50	933			
16		+62	+53	+34	- 1	-36	-36	-29	-31	-24	-23	-22	-21	-21	-19	- 4	- 7	- 9	-10	- 7	0	+13	+31	+45	+51	915			
17	293	+45	+34	+19	+ 4	- 9	-13	-14	-19	-21	-26	-13	-11	- 6	-13	-14	-16	-18	-16	-16	- 5	+10	+35	+42	+42	915	00 00 +50	09 15 -34	84
18	283	+30	+20	+ 8	- 3	-11	-14	-15	-13	-19	-20	-20	-13	- 7	- 9	- 7	- 6	-11	- 9	- 6	- 1	+14	+33	+38	+41	918	24 00 +58	09 04 -23	81
19	286	+50	+41	+24	+ 7	- 9	-24	-23	-26	-19	-18	-14	-14	-15	- 9	-10	-10	-10	- 9	- 8	- 1	+ 3	+20	+30	+35	916	00 46 +52	06 55 -30	82
20	241	+29	+27	+10	- 4	- 7	-10	-12	-12	-12	-12	-11	-12	-12	-12	-15	-16	-10	-11	-14	-11	+ 6	+34	+49	+50	924	23 00 +52	15 13 -17	69
+21	265	+43	+28	+13	- 2	-13	-15	-15	-14	-14	-12	-10	- 9	-10	-10	- 9	-10	-10	-12	-14	-14	- 3	+20	+44	+56	922	24 00 +60	05 45 -16	76
+22	230	+46	+38	+23	+ 8	- 5	-13	-16	-16	-16	-15	-16	-16	-16	-15	-14	-13	-15	- 9	- 8	- 3	+ 4	+18	+30	+46	933	00 07 +49	11 28 -17	66
23	286	+39	+19	+ 4	- 9	-16	-19	-18	-20	-19	-19	-19	-20	-18	- 7	- 7	- 2	- 1	- 5	- 4	+ 1	+14	+25	+44	+56	931	23 50 +61	11 10 -21	82
24	882	+95	+83	+75	+56	+51	+32	+24	+23	+22	+22	+21	+16	+ 1	- 1	- 4	- 5	- 3	+ 6	-18	-40	-65	-115	-120	-149	891	00 02 +101	23 45 -152	253
25	820	-41	-86	-76	-55	-62	-62	-68	-79	-73	-30	- 8	-10	+19	+19	+24	+39	+46	+34	+35	+44	+59	+81	+109	+130	771	24 00 +135	01 53 -101	236
26	300	+37	+31	+16	+ 1	-13	-22	-23	-26	-23	-22	-20	-20	-18	-16	-12	-10	- 7	- 5	- 2	+ 2	+17	+35	+48	+58	870	24 00 +62	05 26 -24	86
+27		+36	+31	+20	+ 3	-12	-16	-18	-22	-23	-24	-21	-20	-19	-12	-11	- 7	- 5	-12	- 8	- 1	+11	+30	+44	+47	894			
28		+47	+41	+29	+17	+ 6	+ 1	- 5	-11	-17	-21	-18	-18	-16	- 8	- 8	-13	-16	- 8	-17	-15	+ 2	+15	+18	+21	896			
29																													
30																													
31																													
MEAN.		+39	+27	+11	- 3	-12	-17	-17	-18	-16	-14	-12	-13	-12	-10	- 8	- 8	- 7	- 7	- 8	- 2	+10	+23	+35	+40	906			

HORIZONTAL INTENSITY

G.M.T. (H = 34000γ + Mean + ...) March 1939.

DAY.	W	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1	192	+25	+17	+ 8	- 1	- 6	- 9	-10	- 5	-20	-22	-14	-12	-10	- 9	+ 7	- 6	+ 4	+ 1	- 3	+10	+14	+19	+16	+ 6	888	00 00 +28	09 00 -27	55
2	425	+30	+22	- 7	-51	-49	-38	-33	-29	-19	-11	- 7	-12	- 8	- 7	+ 3	+ 1	+ 3	+ 2	+ 5	+15	+27	+40	+55	+64	865	23 45 +66	03 37 -56	122
3	220	+38	+33	+25	+ 9	0	-12	-18	- 9	-12	-14	-12	-16	-18	- 3	- 8	-12	-12	-14	- 8	+ 1	+14	+19	+18	+15	887	00 00 +41	06 07 -22	63
4	272	+30	+20	- 1	-17	-33	-31	-26	-15	-17	-15	-19	-19	-14	- 4	+ 4	+15	+13	+13	+ 7	+ 5	+12	+26	+38	+40	865	23 40 +41	05 19 -37	78
5	321	+11	+ 9	- 6	-19	-24	-23	-25	-26	-24	-10	-10	-15	-13	- 2	5	- 3	- 6	- 3	- 2	+ 1	+19	+46	+60	+62	884	22 45 +64	07 36 -28	92
6	335	+59	+46	+26	+ 6	- 8	-10	-12	-10	-20	-24	-28	-15	-17	-13	-14	-13	-12	- 9	-11	- 9	- 1	+16	+32	+49	883	00 00 +64	10 58 -32	96
+ 7	289	+33	+15	+ 3	- 6	-18	-18	-19	-20	-19	-17	-16	-20	-19	-18	-12	-12	-12	-12	- 9	+ 5	+21	+43	+58	+58	899	23 39 +60	11 59 -23	83
8	387	+56	+49	+25	+ 7	-20	-39	-44	-42	-40	-30	-16	-22	-19	-13	-11	-11	- 5	- 1	- 3	+ 9	+22	+40	+51	+58	890	23 54 +65	06 44 -46	111
9	352	+57	+36	+23	- 4	-10	- 6	- 9	-21	-33	-28	-23	-16	-18	-23	-10	- 9	-11	-12	-12	- 4	+11	+27	+38	+47	896	00 38 +60	08 21 -41	101
10	241	+49	+29	+ 8	- 1	- 9	-17	-17	-17	-15	-15	-14	-10	- 8	- 3	- 9	-12	- 9	- 9	- 7	- 1	+12	+13	+30	+40	896	00 40 +51	05 39 -18	69
11	251	+40	+35	+22	+ 8	- 1	- 3	-14	-23	-22	-33	-30	-22	-16	-14	- 8	- 7	-14	- 3	- 4	+ 4	+17	+27	+30	+24	900	01 15 +37	09 40 -35	72
12	227	+23	+23	+14	- 1	-15	-15	-13	-17	-15	-13	-15	-15	-14	-13	-10	- 9	- 7	- 6	- 3	- 2	+ 8	+28	+42	+43	896	22 51 +46	05 00 -19	65
+ 13	272	+39	+37	+25	+ 6	- 7	- 8	- 9	-13	-19	-28	-33	-13	-16	-17	-19	-17	-13	-11	- 7	+ 4	+16	+28	+35	+42	897	23 18 +42	10 29 -36	78
14	213	+34	+28	+19	+13	+ 5	+ 6	- 1	- 5	-10	-15	-20	-15	-21	-20	-16	-16	-10	-12	-12	- 7	+ 1	+ 9	+20	+33	904	00 00 +37	10 44 -24	61
15	276	+34	+28	+15	+ 8	+ 1	- 7	-17	-16	-16	-10	-16	-19	-22	-20	-20	-18	- 9	- 3	-12	- 9	+11	+27	+44	+49	905	23 22 +55	11 00 -24	79
16	349	+56	+41	+18	-13	- 8	- 7	- 6	-13	-21	-22	-36	-27	-16	-12	-14	-12	-10	- 8	0	+ 7	+13	+25	+38	+34	895	00 00 +63	10 26 -37	100
17	251	+16	+ 6	- 2	-14	-11	-14	-19	-22	- 9	-12	-11	-12	- 8	- 6	- 4	- 1	+ 1	+ 1	- 4	- 4	+14	+32	+46	+46	896	22 50 +50	07 32 -22	72
+ 18	220	+28	+16	+ 5	- 2	- 3	- 7	-10	-10	-12	-15	-14	-17	-17	-17	-15	-14	-13	-13	- 9	0	+16	+32	+41	+44	907	22 56 +45	11 48 -18	63
+ 19	227	+34	+24	+ 8	- 5	-11	-13	-14	-14	-13	-13	-13	-14	-13	-17	-14	-13	-13	-12	-10	+ 8	+16	+27	+38	+45	911	23 53 +47	13 45 -18	65
20	230	+37	+24	+ 2	+ 1	+ 1	- 2	- 9	-10	-11	-11	-12	-14	-15	-15	-12	-11	-12	-13	-16	- 9	+ 5	+20	+34	+47	914	24 00 +49	18 12 -17	66
21	457	+74	+65	+45	+33	+27	+13	+ 6	-12	-33	-30	-22	-44	-42	-31	-30	-21	-18	- 9	- 9	-24	-13	+ 4	+24	+37	890	00 13 +78	11 15 -53	131
22	362	+55	+48	+35	+12	0	-10	-28	-25	-23	-28	-26	-14	- 4	- 6	-14	-11	- 9	- 8	-10	- 4	- 1	+ 8	+19	+34	876	00 48 +61	10 04 -43	104
23	297	+27	+18	- 9	-26	-28	-17	-17	-19	-19	- 7	- 4	- 9	- 9	- 9	- 7	+ 7	+ 4	- 5	- 5	+ 7	+16	+27	+40	+48	891	23 03 +53	03 55 -32	85
24	227	+38	+22	+ 2	- 7	- 9	-11	-14	-15	-13	-17	-19	- 7	-11	-13	- 4	- 2	- 1	- 3	- 8	- 6	+ 2	+17	+36	+39	899	23 58 +43	10 25 -22	65
+ 25	241	+34	+23	+ 4	-11	-12	-17	-21	-22	-11	-10	-14	-17	-15	-15	-13	-11	- 6	- 6	- 4	+ 4	+19	+33	+41	+46	902	23 25 +47	07 15 -22	69
26	258	+38	+27	+ 2	- 8	- 6	-11	-13	-18	-21	-18	-20	-20	-19	-16	-12	- 8	- 7	- 6	- 6	+ 7	+18	+32	+41	+46	903	23 31 +51	08 24 -23	74
27	269	+52	+32	- 6	-20	-15	+ 1	- 3	- 6	-15	-22	-16	- 4	- 3	- 2	- 2	- 3	- 2	- 6	- 2	- 5	- 2	+15	+ 8	+15	893	00 05 +54	04 01 -23	77
28	463	+61	+46	+39	+39	+22	+16	+25	+14	- 2	- 6	-23	-11	- 7	- 3	- 2	+ 5	- 1	+ 2	-10	-20	-43	-58	-54	-37	855	00 20 +68	22 07 -65	133
29	321	-15	-31	-45	-45	-33	-10	-33	-36	-23	+ 4	- 6	+11	+11	+ 2	+11	+15	+19	+26	+32	+31	+30	+26	+33	+35	826	24 00 +42	03 12 -50	92
30	251	+ 6	-10	-14	-21	-12	-17	-28	-28	- 7	-11	- 8	- 8	- 2	+10	+10	+ 6	+ 7	+ 8	+19	+15	+11	+13	+29	+39	855	23 50 +42	06 47 -30	72
31	289	+19	+ 6	-16	-32	-22	-17	-17	-17	-17	-16	-13	- 9	- 2	- 6	- 4	+ 5	+ 3	+ 5	+ 9	+12	+20	+35	+35	+46	870	23 28 +48	03 18 -35	83
MEAN.		+36	+25	+ 9	- 5	-10	-12	-15	-17	-18	-17	-17	-15	-13	-11	- 8	- 6	- 5	- 4	- 4	+ 1	+11	+22	+33	+39	888			

HORIZONTAL INTENSITY

G.M.T. (H = 34000γ + Mean + ...) April 1939.

DAY.	W	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1	324	+35	+17	- 5	- 8	-12	-24	-24	-30	-32	-39	-25	-22	-17	-12	- 5	+ 2	+ 9	+ 8	+12	+26	+35	+38	+47	+37	863	22 56 +51	09 12 -42	93
2	265	+17	+ 1	-12	-29	-27	-23	-18	-14	-10	- 7	- 8	- 7	-10	- 2	- 1	- 2	- 2	- 3	+ 3	+13	+19	+30	+42	+39	878	22 48 +44	03 26 -32	76
3	223	+37	+27	+ 8	-11	-19	-15	-12	-15	-20	-20	-13	-11	- 4	- 5	- 7	- 7	- 3	- 4	- 2	+ 9	+18	+18	+27	+24	881	00 02 +41	08 17 -23	64
4	213	+18	+11	+ 2	-13	-20	-22	-20	-17	-17	-17	- 9	- 6	- 3	- 2	- 1	+ 1	+ 4	+11	+20	+16	+19	+ 2	+17	+37	879	23 35 +38	05 00 -23	61
5	286	+20	+ 9	- 8	-18	-17	-13	-16	-16	- 4	- 4	-13	-12	- 9	-14	-13	- 9	-10	- 6	+ 1	+ 9	+18	+30	+45	+58	889	23 31 +60	13 48 -22	82
+ 6	279	+41	+28	+16	0	- 6	-19	-21	-21	-23	-20	-19	-15	-15	-14	-13	-10	- 9	- 8	- 5	+ 1	+10	+23	+40	+52	904	23 54 +56	08 11 -24	80
+ 7	248	+46	+36	+22	+ 7	- 3	-13	-18	-18	-17	-18	-16	-16	-14	-14	-12	-12	-15	-12	- 8	- 2	+ 5	+16	+32	+44	911	00 20 +51	09 17 -20	71
8	216	+41	+27	+17	+ 5	- 9	- 9	-12	-12	-11	-13	-12	-11	- 7	-13	-14	-15	-15	-11	- 6	- 7	+ 7	+ 8	+28	+40	910	00 00 +46	16 36 -16	62
9	241	+44	+30	+ 5	- 4	-11	-11	-12	-18	-17	-20	-20	-18	-17	-13	-13	- 8	- 4	- 4	- 3	+ 8	+17	+22	+27	+31	910	00 39 +46	09 16 -23	69
10	265	+27	+17	+17	+16	- 7	- 7	-15	- 3	- 1	-22	-21	-15	- 9	+ 1	- 6	- 9	- 2	- 2	- 4	- 9	+ 3	+10	+26	+22	893	00 01 +49	10 00 -27	76
11	161	+20	+19	+15	+ 5	- 2	0	+ 1	- 1	-13	- 1	-12	+ 4	- 7	- 8	-11	- 8	- 1	- 6	-12	-12	- 9	+ 6	+21	+23	888	23 30 +27	08 13 -19	46
12	241	+25	+16	+ 7	-15	- 7	-11	-15	-30	-26	-10	-13	-15	- 1	- 3	- 5	- 3	+ 1	+ 3	+ 7	+11	+14	+19	+29	+33	884	23 15 +35	07 42 -34	69
+13	269	+15	+ 8	+ 6	- 3	- 9	- 9	-17	-19	-20	-18	-17	-11	-13	-13	- 6	- 8	- 7	- 4	+ 2	+ 7	+16	+31	+42	+50	899	23 35 +52	07 06 -25	77
14	213	+36	+21	- 3	-13	-10	- 9	-14	-17	-16	-17	-15	-13	-11	-14	-14	-10	- 8	- 3	+ 2	+ 6	+15	+23	+36	+42	905	23 51 +42	09 45 -19	61
15	223	+34	+13	+ 1	-11	-10	-10	-13	-17	-15	-15	- 9	-10	-11	-13	-11	- 9	-10	-10	- 6	+ 5	+15	+29	+40	+46	906	23 30 +46	07 27 -18	64
+16	328	+32	+11	- 4	-10	-12	-14	-16	-16	-17	-17	-17	-17	-15	-17	-18	-18	-16	-10	- 8	- 1	+12	+44	+71	+69	916	22 27 +75	14 13 -19	94
17																													
18																													
19																													
20	307	+22	+ 9	-12	-25	-38	-30	-22	-17	- 7	-19	-22	-22	- 1	- 6	- 2	+ 5	+ 3	+14	+12	+15	+22	+31	+43	+45	847	23 18 +48	04 35 -40	88
21	272	+32	+19	- 2	- 8	-10	-17	-33	-28	-14	-18	-11	- 4	- 2	- 5	- 4	+ 6	+ 9	+ 7	+ 2	+ 5	+12	+21	+25	+23	847	00 00 +39	06 52 -39	78
22	233	+ 4	-13	-23	-24	-13	- 6	- 7	- 8	- 6	- 4	- 4	- 3	- 2	- 4	- 4	+ 2	0	0	- 8	+ 3	+13	+27	+36	+33	862	22 17 +38	03 00 -29	67
23	626	+74	+70	+72	+56	+40	+18	-29	-39	-90	-92	-75	-32	-24	-15	-10	+ 4	- 2	+ 2	+ 4	+10	+18	+29	+39	+32	815	00 05 +83	09 35 -97	180
24	658	+12	+17	+14	+ 9	+ 8	+11	+11	+ 8	+ 7	+10	+19	+13	+13	+15	+21	+30	+32	+40	+48	+ 5	-73	-92	-85	-92	832	18 01 +68	23 57 -121	189
25	577	-81	-72	-57	-34	-26	-23	-20	-23	-24	-29	- 3	-11	+ 4	+ 6	+16	+14	+22	+32	+39	+38	+48	+59	+71	+56	792	22 34 +79	01 01 -87	166
26	216	- 3	- 1	-15	-18	-18	-13	-16	-16	-16	-16	-14	-11	-10	- 9	- 6	- 1	0	+ 3	+10	+16	+25	+36	+42	+41	851	22 13 +43	03 45 -19	62
27	185	+26	+16	+ 2	- 7	- 7	- 4	- 5	- 9	-13	-12	-13	-11	-10	-10	- 9	- 4	- 1	0	- 1	+ 2	+ 9	+31	+31	+11	866	22 00 +37	08 40 -16	53
28	188	+ 9	+ 7	- 2	-13	-12	-21	-25	-26	-17	- 8	- 4	0	0	- 2	0	+ 2	+ 8	+ 9	+ 8	+11	+19	+25	+24	+19	858	22 30 +27	06 55 -27	54
29	199	+ 8	+ 3	- 6	-25	-18	- 5	- 4	- 5	-10	- 2	0	- 6	-12	-14	- 8	- 4	- 1	+ 3	+ 8	+12	+14	+19	+24	+24	868	23 31 +26	03 55 -31	57
30	94	+ 9	0	-10	-12	- 8	- 4	- 2	- 1	- 4	- 3	- 3	- 3	- 2	- 5	- 4	+ 2	- 1	- 1	+ 1	+10	+ 9	+13	+15	+11	876	22 33 +15	03 08 -12	27
31																													
MEAN.		+22	+13	+ 2	- 8	-11	-11	-15	-18	-17	-17	-14	-11	- 8	- 8	- 6	- 3	- 1	+ 2	+ 4	+ 8	+12	+20	+31	+31	875			

HORIZONTAL INTENSITY

G.M.T. (H = 34000γ + Mean + ...) May 1939.

DAY.	W	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1	303	+30	+19	+10	+10	+17	+23	+28	+19	+10	+ 8	+ 1	- 2	+ 4	- 4	0	-18	-18	-16	-14	-21	-20	-18	-19	-31	843	00 00 +37	24 00 -50	87
2	438	-18	-29	-25	-14	-19	-53	-53	-45	-45	-12	- 7	0	+ 9	+15	+13	+13	+11	+15	+29	+33	+33	+42	+54	+54	821	22 55 +58	06 04 -68	126
3	352	+32	+11	- 7	-20	-27	-34	-46	-35	-34	-29	- 7	- 1	- 3	- 5	- 3	+ 6	+ 9	+10	+13	+21	+26	+37	+45	+47	841	23 08 +52	06 40 -49	101
4	265	+ 6	+10	- 1	-11	-21	-20	-18	-19	-16	-18	-11	- 9	- 9	- 9	- 8	- 7	- 5	+ 1	+11	+26	+39	+49	+43	874	22 24 +53	04 48 -23	76
5	474	+23	+19	+ 5	- 8	-19	-30	-39	-43	-33	-28	-20	-17	-14	-15	-16	-13	- 7	- 6	- 3	+ 2	+22	+73	+85	+74	885	22 26 +90	07 15 -46	136
6	397	+75	+64	+53	+35	+16	+ 5	0	- 3	- 5	- 6	-13	-13	- 8	- 9	-23	-21	-13	-16	-19	-13	-17	-22	-20	-24	881	00 13 +80	24 00 -34	114
7		+18	+10	-28	-34	-39	-49	-36	-31	-29	-27	-14	-13	- 8	- 2	+ 8	+12	+14	+18	+24	+29	+36	+48	+52	+53	833			
8	258	+21	+15	+ 3	- 1	- 4	-11	-15	-24	-36	-21	-23	-17	-15	- 7	- 1	+ 1	+ 3	+ 6	+10	+14	+22	+25	+26	+29	851	00 00 +30	08 40 -44	74
9	265	+11	- 6	-15	-30	-26	-19	-20	-16	-14	0	- 3	- 3	- 1	- 7	- 8	- 4	- 1	+ 3	+15	+24	+31	+34	+35	+28	860	22 10 +37	03 49 -39	76
10	181	+ 2	+ 3	- 3	- 8	- 8	-10	-14	-14	-10	-10	-11	-11	- 9	- 6	- 6	0	+ 2	+ 2	+ 8	+13	+19	+25	+27	+30	881	24 00 +36	06 13 -16	52
+11	185	+30	+31	+20	+ 8	- 1	- 5	- 6	- 7	-10	-15	-19	-17	-16	-16	-14	-11	- 9	- 6	- 2	+ 2	+11	+15	+16	+11	890	01 30 +32	11 14 -21	53
+12	181	- 1	- 3	- 7	-10	-10	-10	-12	-12	-12	-13	-13	-14	- 9	- 8	- 7	- 5	- 3	+ 1	+10	+20	+23	+29	+33	+32	895	22 49 +37	09 48 -15	52
+13	202	+19	+13	+11	+ 5	+ 1	- 2	- 8	-16	-29	-26	-19	-15	-19	-16	-10	- 7	- 5	- 1	+13	+23	+24	+19	+24	+17	897	20 02 +25	08 42 -33	58
+14	192	+ 4	- 8	-14	-14	-14	-12	-14	-14	-14	-12	-12	-11	-10	-10	- 8	- 6	- 2	+ 3	+13	+25	+29	+32	+37	+32	901	22 38 +39	06 43 -16	55
15	227	+28	+28	+22	+ 5	- 1	- 6	-11	-17	-21	-28	-29	-22	-16	-18	-13	-10	-10	- 2	+10	+15	+19	+26	+26	+28	894	00 00 +34	09 57 -31	65
16	464	+50	+63	+50	+13	-18	-31	-43	-43	-59	-51	-34	-21	-18	-10	- 8	- 6	- 2	+ 4	+15	+23	+29	+34	+37	+35	871	01 29 +67	09 00 -66	133
17		+10	+ 7	+ 2	- 2	- 1	- 2	- 9	- 9	- 7	- 9	- 9	- 4	0	+ 2	- 2	- 4	- 5	- 2	+ 3	+ 2	+ 8	+12	+ 9	+ 9	889	00 00 +15	06 38 -11	26
18	227	+ 7	-12	-23	-35	-33	-23	-12	- 4	+ 1	+ 4	+ 7	+ 4	+ 7	+ 1	+ 2	+ 4	+ 7	+10	+16	+17	+18	+23	+13	- 8	876	21 33 +26	04 02 -39	65
19	265	-18	-18	-19	-25	-35	-39	-34	-20	- 2	- 2	+ 1	+ 2	+ 5	+ 7	+ 9	+11	+15	+19	+28	+31	+30	+28	+19	+ 9	879	19 30 +32	05 24 -44	76
20	248	+ 5	- 1	- 8	-16	-26	-26	-22	-37	-24	-16	-11	- 4	+ 2	+ 4	+ 3	+12	+15	+17	+21	+19	+19	+21	+28	+27	875	23 15 +32	07 50 -39	71
21	248	+ 8	+11	+ 4	- 5	-18	-29	-33	-23	-13	- 9	- 5	0	- 1	+ 7	+12	+ 7	- 2	- 9	+11	+21	+25	+32	+21	0	887	21 08 +36	06 48 -35	71
22	324	+ 7	-15	-24	- 8	-17	-30	-33	-24	-29	-40	-15	- 8	- 6	- 2	+ 6	+15	+16	+19	+24	+32	+40	+45	+33	+ 9	868	21 00 +48	09 12 -45	93
23	265	+ 4	- 2	-11	-18	-19	-28	-34	-36	-25	-23	-15	+ 1	+ 1	+ 3	+ 4	+10	+13	+17	+23	+26	+30	+31	+26	+13	870	21 35 +34	07 30 -42	76
24	220	+ 7	+19	- 4	-23	-37	-23	-26	-22	-15	- 9	- 5	- 2	+ 1	+ 1	+ 3	+12	+16	+19	+20	+13	+19	+14	+12	+13	876	19 53 +23	04 28 -40	63
25	199	+ 5	-17	-19	-23	- 7	- 9	-15	-11	-11	- 7	- 4	- 1	+ 3	+ 6	+ 7	+ 9	+ 9	+11	+16	+23	+18	+ 8	+ 6	+ 1	881	19 55 +25	03 15 -32	57
26	209	- 4	- 8	-12	-20	-30	-28	-14	-14	-19	- 9	- 1	- 3	- 3	- 1	+ 5	+15	+16	+18	+24	+23	+26	+22	+16	+ 2	874	20 32 +27	04 37 -33	60
27	213	- 9	- 6	- 9	-14	-16	-13	-15	-21	-21	-15	- 6	- 6	- 7	- 5	- 2	+ 1	+ 7	+12	+20	+23	+26	+37	+31	+19	883	20 57 +39	07 38 -22	61
28	391	- 4	-16	-29	-14	- 1	- 3	-18	-31	-36	-19	-19	-24	-16	-14	-12	-10	- 4	+ 4	+21	+35	+50	+59	+59	+43	895	22 19 +70	08 47 -42	112
29	404	+46	+25	+ 7	-15	-35	-45	-40	-30	-39	-35	-22	-12	-15	+10	+ 2	+ 4	+13	+25	+23	+31	+31	+27	+27	+20	866	00 00 +63	05 10 -53	116
30	181	- 8	- 7	- 6	- 8	-12	-10	-11	-15	-18	-19	-14	-11	-10	-12	-10	- 3	0	+ 7	+15	+23	+29	+30	+30	+29	892	21 59 +32	09 19 -20	52
+31																													
MEAN.		+13	+ 7	- 3	-10	-15	-19	-21	-21	-21	-17	-12	- 9	- 6	- 4	- 3	0	+ 3	+ 6	+13	+18	+23	+28	+28	+21	874			

HORIZONTAL INTENSITY

G.M.T. (H = 34000γ + Mean + ...) June 1939.

DAY.	W	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1																													
2	296	+38	+29	+12	- 5	-17	-12	-12	-14	-26	-33	-31	-27	-25	-21	-18	-16	- 9	0	+12	+24	+41	+41	+39	+42	909	21 32 +48	09 16 -37	85
3	244	+37	+22	+ 5	- 4	-14	-16	-14	-18	-24	-17	-16	- 8	-12	-12	-12	-13	-10	- 6	+ 3	+11	+20	+26	+33	+30	911	00 09 +42	08 20 -28	70
4	199	+26	+ 9	- 9	-11	- 9	-18	-11	-16	- 9	- 9	- 9	- 8	- 5	- 5	- 6	- 7	- 9	- 2	+ 6	+10	+16	+20	+25	+21	907	00 02 +32	05 14 -25	57
5	209	+12	+ 4	- 5	-10	-10	-17	-19	-18	-14	-16	-15	- 8	- 4	- 2	- 3	- 6	- 5	- 4	+ 5	+13	+23	+30	+34	+27	910	22 09 +35	06 53 -25	60
6		+15	+ 6	0	-10	-13	-16	-15	-15	-13	-13	-11	- 7	- 8	- 8	- 7	- 6	- 5	+ 2	+11	0	+31	+30	+31	+27	916			
+ 7																													
+ 8																													
+ 9	94	+ 7	+ 6	+ 9	+ 6	- 2	- 6	- 9	-11	-11	- 9	- 9	- 7	- 7	- 6	- 6	- 5	- 3	+ 2	+10	+13	+14	+14	+11	+ 6	914	21 18 +15	08 07 -12	27
10	175	-14	- 8	- 1	- 4	- 8	- 7	- 7	- 7	-10	-13	-14	-15	-10	- 7	- 7	- 5	- 4	+ 1	+15	+22	+25	+31	+30	+27	927	21 49 +34	10 13 -15	50
+11	185	+27	+22	+19	+11	+ 2	- 7	-12	-17	-15	-12	-13	-18	-20	-17	-13	-10	- 6	- 1	+ 5	+11	+13	+17	+23	+19	918	00 00 +32	12 32 -21	53
12	192	+15	+12	+ 6	+ 2	+ 4	- 4	- 8	- 9	-18	-22	-21	-21	-20	-11	-10	- 8	- 5	0	+ 7	+13	+23	+31	+29	+21	918	21 31 +32	09 33 -23	55
13	216	+ 7	- 1	-14	-13	- 6	- 6	-13	-21	-18	-17	-15	-17	-15	-13	- 9	-11	0	+15	+29	+32	+35	+36	+27	+12	922	20 28 +41	11 21 -21	62
14	602	+88	+50	+36	+25	+10	+ 6	+21	+ 6	-55	-74	-71	-20	-27	-33	-33	-28	- 6	- 2	+ 5	+11	+17	+23	+25	+24	847	00 10 +93	10 25 -80	173
15																													
16	334	+33	+19	-10	-20	-27	-23	-32	-39	-48	-26	-14	-11	0	+ 5	+ 6	+ 3	+ 4	+ 5	+11	+20	+26	+38	+45	+45	852	23 03 +46	08 08 -50	96
17	188	+ 1	- 8	-11	-15	-13	-12	-13	-13	-13	-11	- 9	- 7	- 6	- 6	- 5	- 4	+ 1	+ 6	+13	+17	+23	+27	+28	+35	885	23 54 +38	03 07 -16	54
18	314	+41	+24	+ 6	- 5	-23	-18	-28	-27	-41	-41	-29	-25	-18	-17	- 1	+ 4	+ 2	+ 5	+20	+26	+35	+39	+39	+25	877	00 04 +46	09 40 -44	90
19	230	+20	+10	- 7	-17	-23	-28	-37	-23	-17	-12	- 8	- 5	- 2	+ 6	+ 7	+ 7	+ 7	+10	+19	+27	+24	+19	+16	+ 8	876	20 04 +28	06 45 -38	66
20	307	+ 1	+ 4	0	- 7	-26	-32	-30	-36	-34	-24	-13	- 6	- 2	0	+ 1	+ 2	+ 3	+ 6	+15	+25	+30	+36	+41	+47	877	24 00 +51	07 57 -37	88
21	234	+38	+23	+ 3	- 9	-20	-21	-22	- 8	-20	-23	-19	- 8	+ 1	+ 1	+ 1	+ 2	0	+ 3	+11	+13	+12	+16	+14	+12	890	00 20 +41	09 15 -26	67
22	220	+ 6	+ 1	+ 5	0	-19	-32	-29	-24	-18	-17	- 6	- 4	- 2	- 1	0	+ 3	+ 5	+ 6	+13	+20	+24	+25	+21	+17	892	21 14 +27	05 07 -36	63
23	139	+ 9	+ 1	- 7	-10	- 6	- 4	- 7	-12	-15	- 7	-10	-11	- 9	- 7	- 2	+ 2	+ 5	+ 5	+ 9	+11	+12	+13	+19	+15	895	21 27 +28	03 29 -24	40
24	181	+ 9	0	-12	-21	-12	-10	- 8	- 9	-12	- 7	- 4	- 5	- 7	- 8	- 4	- 3	+ 1	+ 5	+12	+15	+20	+26	+24	+15	896	21 27 +28	03 29 -24	52
+25	140	+ 1	- 1	-13	-12	- 8	- 7	- 8	- 8	- 5	- 4	- 4	- 4	- 6	- 7	- 7	- 4	- 1	+ 3	+14	+21	+22	+17	+12	+12	904	19 59 +24	02 52 -16	40
26	286	+ 1	+ 2	-10	- 8	- 9	- 7	- 8	- 7	- 7	-18	-20	-15	-11	- 7	- 5	- 7	+ 2	+ 8	+13	+21	+47	+27	+16	+12	918	21 06 +61	10 49 -21	82
27	223	+28	+30	+27	+22	+ 8	- 3	- 8	-14	-10	-11	-32	-31	-17	-18	-22	-18	-12	+ 1	+10	+12	+11	+12	+20	+26	900	23 38 +28	11 03 -36	64
28	143	+12	+ 5	0	- 5	-10	-10	- 8	-10	-10	-11	-11	- 6	- 3	- 8	- 9	- 8	- 6	- 4	+10	+16	+19	+22	+11	+19	909	21 23 +28	10 21 -13	41
29	223	+33	+22	+11	- 6	-18	-18	-16	-22	-12	-18	-16	-12	- 7	-11	-14	- 4	- 1	+ 5	+13	+18	+18	+20	+22	+19	892	00 31 +38	07 49 -26	64
30	167	+ 5	-15	-12	- 8	- 6	-15	-15	-10	-14	-12	-10	- 7	- 4	- 6	0	0	+ 3	+ 4	+15	+24	+26	+27	+26	+13	896	21 46 +29	09 22 -19	48
31																													
MEAN.		+19	+10	+ 1	- 5	-11	-13	-14	-16	-19	-18	-17	-12	-10	- 9	- 7	- 5	- 2	+ 3	+12	+17	+23	+25	+25	+22	898			

HORIZONTAL INTENSITY

G.M.T. (H = 34000γ + Mean + ...) July 1939.

DAY.	W	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1	147	+ 7	+ 3	- 4	- 8	- 8	- 5	- 9	-14	- 7	-12	- 9	- 3	- 5	- 9	-11	- 9	- 4	- 1	+ 8	+18	+18	+15	+21	+24	901	23 27 +23	07 32 -19	42
2	171	+17	+ 9	- 2	- 7	-13	-21	-19	- 7	- 7	- 7	- 6	- 5	- 7	- 7	- 7	- 7	- 7	- 2	+ 7	+16	+22	+24	+22	+24	907	21 03 +25	05 53 -24	49
3	363	+42	+47	+37	+18	+ 8	+11	+11	+10	-17	-28	-39	-40	-30	-42	-31	-17	-20	-13	0	+ 7	+ 4	+20	+22	+29	890	00 41 +50	11 03 -54	104
4	202	+10	+23	+13	- 3	-10	-14	-15	-15	-19	-22	-22	-11	- 8	- 3	+ 6	+ 5	+ 8	+23	+18	+ 8	+ 8	- 1	+ 4	+20	896	23 08 +34	10 45 -24	58
5	811	+95	+108	+62	+24	+ 1	-19	-61	-80	-80	-82	-36	-63	-55	-43	-25	+ 3	+31	+37	+32	+26	+35	+29	+29	+23	817	01 32 +129	09 13 -104	233
6	324	-19	-27	-38	-41	-29	-29	-37	-36	-25	+ 3	+ 1	+ 1	+ 3	+ 4	+ 7	+ 9	+12	+17	+23	+32	+36	+38	+40	+45	849	23 42 +46	03 43 -47	93
+ 7	139	+ 5	- 1	- 3	- 2	- 4	- 8	- 9	-12	-14	-15	-14	-11	- 8	- 3	- 3	- 2	- 1	+ 1	+ 6	+16	+19	+22	+23	+24	885	23 28 +25	10 30 -15	40
8																													
+ 9																													
+10		+14	+17	+ 8	- 7	-14	-12	-12	-15	-18	-18	-18	-17	-14	-13	-11	- 9	- 6	- 1	+10	+19	+27	+29	+29	+28	915	23 56 +30	09 54 -18	48
11	143	+11	+ 9	+ 2	- 3	- 7	- 9	- 9	- 9	-11	- 9	- 7	- 1	+16	+22	- 5	-10	- 7	- 4	- 1	- 1	0	+ 5	+12	+18	930	13 25 +25	14 59 -16	41
12	154	+29	+24	+16	+ 8	+ 2	- 1	- 2	- 5	- 5	- 2	- 3	- 3	- 5	- 4	- 6	- 8	- 7	0	- 3	- 2	- 2	- 1	- 1	- 7	914	00 00 +31	24 00 -13	44
+ 13	126	+ 1	- 1	- 7	- 9	- 6	- 4	- 4	- 7	- 9	-10	-11	-11	-11	-10	- 6	- 1	+ 2	+ 4	+ 9	+15	+14	+14	+21	+22	901	22 54 +24	12 25 -12	36
14	331	+36	+30	+24	+24	+25	+14	0	-38	-37	-21	-20	- 4	-20	-14	- 2	- 5	-12	-13	- 6	+ 2	+12	+ 8	+ 5	+ 2	886	00 33 +37	07 53 -58	95
15	209	- 6	- 7	- 9	-20	-24	-13	-11	-12	- 8	- 3	- 3	- 7	- 8	- 5	- 4	- 4	- 1	+ 3	+14	+22	+25	+30	+31	+29	890	21 57 +32	04 03 -28	60
16	227	+16	+11	- 4	-14	- 8	- 3	- 1	- 1	+ 2	- 9	-25	-25	-13	-15	- 8	- 1	+ 3	+ 6	+13	+26	+24	+13	+ 7	+ 3	901	20 27 +28	11 02 -37	65
17																													
18																													
19	310	+ 4	- 7	-12	-15	-12	-14	-44	-25	-22	-11	- 7	- 5	- 4	- 4	- 2	- 2	- 1	+ 5	+13	+17	+22	+29	+54	+39	909	22 12 +63	07 27 -26	89
20	369	+43	+33	+31	+23	+ 7	-21	-27	-19	- 9	-20	-36	-39	-19	-16	+15	- 7	-12	- 4	- 3	+ 8	+ 7	+14	+25	+37	873	00 00 +65	11 42 -41	106
21	286	+35	+35	+25	+11	+ 2	+ 1	+ 2	+ 2	+ 2	+ 3	+14	- 6	- 7	-25	- 8	-22	-28	-22	-18	-16	- 2	+ 2	+10	+11	876	01 07 +39	13 25 -43	82
22	258	+ 5	- 3	-16	-26	-29	-21	-24	-27	-16	- 9	- 3	-10	+ 3	+ 4	+ 1	+ 4	+ 9	+11	+12	+17	+25	+27	+29	+34	880	23 30 +35	04 15 -39	74
23	164	+16	+12	- 1	0	- 3	- 8	-10	-12	- 8	-15	-16	-14	-12	- 6	- 3	- 2	- 2	+ 2	+ 4	+13	+14	+13	+21	+26	893	23 34 +27	09 48 -20	47
24	192	+ 3	+ 2	+ 1	+ 2	+ 3	+ 3	- 3	- 6	-12	-13	-11	-13	-14	-19	-16	-14	-11	- 6	0	+ 7	+16	+26	+29	+32	908	23 27 +34	13 51 -21	55
25																													
26	457	+54	+45	+37	+35	+19	-25	-41	-44	-60	-52	-47	-32	-24	-14	-14	- 7	- 1	+ 9	+19	+31	+34	+37	+28	+27	870	00 00 +59	08 52 -72	131
27	150	+12	+12	- 2	-19	-17	-18	- 9	- 3	-13	-11	-12	-11	-11	- 6	0	0	- 2	+ 6	+16	+21	+17	+17	+12	+17	886	19 33 +22	03 45 -21	43
28	154	+ 3	- 3	- 4	- 4	- 3	- 2	-12	-15	- 6	- 2	- 5	-10	-10	- 8	- 6	- 3	+ 2	+ 8	+10	+12	+12	+18	+22	+17	893	22 37 +23	06 52 -21	44
+ 30	213	+23	+13	+ 1	- 9	-18	-19	-20	-19	-18	-14	-11	-10	- 9	- 9	- 9	- 8	- 5	- 2	+ 3	+ 9	+17	+23	+27	+35	+33	903	22 47 +36	07 42 -18	54
31	171	+22	+17	+11	- 4	-11	-16	-21	-19	-16	-12	-10	- 9	- 8	- 8	- 6	- 6	- 4	0	+ 7	+16	+23	+20	+23	+19	907	22 32 +40	06 56 -21	61
																										913	00 00 +26	00 23 -23	49
MEAN.		+19	+15	+ 6	- 2	- 6	-10	-15	-17	-17	-16	-14	-14	-11	-10	- 6	- 5	- 3	+ 3	+ 8	+14	+18	+19	+23	+23	892			

900/3/42—18267

HORIZONTAL INTENSITY

G.M.T. (H = 34000γ + Mean + ...) August 1939.

DAY.	W	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1																													
+ 2	255	+17	+ 5	- 5	-14	-15	-13	-14	-13	-20	-16	-13	-12	-13	-13	-13	-12	-10	- 6	+ 5	+20	+28	+33	+42	+52	922	23 23 +53	08 25 -20	73
+ 3	230	+49	+35	+18	+ 5	- 5	-10	-10	-12	-13	-14	-14	-13	-12	-10	-10	-10	-10	-10	- 5	0	+ 5	+11	+23	+22	922	00 00 +52	09 46 -14	66
4	192	+17	+ 7	- 6	-12	-10	- 8	- 8	- 9	-10	-16	-16	-12	-11	-15	-13	-10	- 8	- 1	+ 9	+18	+22	+27	+27	+33	918	24 00 +38	09 45 -17	55
+ 5	227	+26	+21	+ 7	- 5	-14	-14	-15	-19	-23	-22	-19	-14	-12	-12	-11	- 9	- 6	- 2	+ 5	+13	+20	+28	+36	+39	931	23 27 +41	09 10 -24	65
+ 6	192	+34	+25	+15	+ 4	- 7	-13	-13	-15	-18	-19	-19	-17	-15	-13	-12	-11	- 6	- 3	+ 6	+12	+19	+23	+23	+23	934	00 00 +36	10 50 -19	55
+ 7	189	+21	+15	+ 7	- 2	- 4	- 6	-10	-16	-20	-16	-16	-19	-18	-16	-14	-11	- 8	- 4	+ 5	+15	+22	+28	+33	+33	931	23 08 +34	08 20 -20	54
8	178	+20	+10	+ 2	- 6	-10	- 9	- 9	-11	-15	-17	-15	-15	-15	-13	- 8	- 3	+ 4	+ 4	+ 8	+15	+15	+21	+26	+33	934	23 54 +34	09 25 -17	51
9	230	+38	+27	+ 8	- 2	- 5	- 4	- 4	- 7	-10	-18	-23	-20	-16	-17	-14	-11	- 7	- 4	+ 2	+11	+14	+18	+23	+26	926	00 04 +42	10 20 -24	66
10	262	+29	+20	+ 8	+ 2	+ 2	+ 3	+ 7	+ 7	+ 5	-11	-30	-25	-13	-18	-14	-13	- 6	0	+ 6	+10	+10	+ 2	+ 5	+18	917	00 00 +34	11 00 -41	75
11	282	+17	+12	+ 2	- 7	-11	-13	-15	-18	-19	-20	-20	-21	-17	-16	-13	-11	- 9	+ 4	+23	+32	+40	+45	+26	+19	917	21 22 +60	11 59 -21	81
12	1120	+131	+149	+128	+54	-10	-68	-71	-104	-49	-92	-74	-46	-31	-28	-19	-10	0	+ 8	+14	+21	+22	+16	+16	+32	809	01 41 +198	07 27 -124	322
13	380	-10	-42	-41	-49	-34	-20	-24	- 8	-12	-16	- 5	- 2	+ 2	+ 3	0	+ 4	+ 8	+13	+21	+30	+37	+43	+47	+45	849	22 52 +50	02 59 -59	109
14	248	+22	+ 8	- 9	-13	-20	-26	-16	-17	-14	- 9	-11	-11	- 6	- 7	- 8	- 7	- 5	- 1	+ 7	+15	+22	+30	+40	+36	872	22 43 +41	05 17 -30	71
15	202	+ 9	+ 2	- 7	-14	-15	-13	-14	-16	-15	-13	-10	-10	-11	-11	- 9	- 6	- 1	0	+ 9	+27	+38	+37	+32	+23	892	20 53 +41	07 20 -17	58
16	331	+47	+43	+33	+17	+ 2	- 5	- 4	- 8	- 7	+ 2	+ 1	+ 5	-20	-32	-26	-22	-28	-37	-19	- 4	+14	+22	+16	+ 7	863	00 00 +50	13 51 -45	95
17	376	+ 2	-30	-46	-50	-43	-31	-14	-12	- 2	- 6	-12	- 9	- 8	- 6	- 2	- 2	0	+ 5	+18	+39	+50	+41	+51	+47	853	20 51 +54	03 08 -54	108
18																													
19	237	+19	+ 7	- 6	-17	-20	-16	- 7	- 4	- 8	- 7	- 9	- 7	- 8	- 5	- 9	-17	- 7	-17	- 5	+ 7	+18	+30	+42	+42	901	23 02 +47	04 16 -21	68
20	195	+31	+27	+12	- 6	-12	- 9	-11	-15	-17	-19	-12	-11	-11	-10	- 5	- 7	- 7	- 7	- 2	+ 5	+14	+18	+24	+32	907	00 00 +36	09 00 -20	56
21																													
22	783	+126	+131	+70	-19	+ 6	+ 9	+ 5	+10	+ 4	- 4	+ 8	+ 2	-18	-60	-42	-29	-38	-23	- 8	-14	- 4	-16	-28	-57	817	00 51 +147	14 17 -78	225
23	577	-50	-59	-58	-66	-77	-61	-25	-43	-39	-28	-30	- 9	+ 8	+11	+30	+28	+30	+39	+51	+58	+68	+79	+82	+72	793	22 13 +86	04 40 -80	166
24	209	- 6	-12	- 4	- 4	- 7	- 9	-10	- 7	-12	-22	-15	-17	-13	- 8	- 1	- 4	- 3	+ 5	+12	+24	+30	+31	+34	+25	854	22 08 +36	09 57 -24	60
25	223	0	0	- 4	-12	-13	- 8	-12	-18	-23	-22	-21	- 8	- 7	-14	-10	- 6	- 2	+ 3	+15	+25	+31	+37	+35	+24	863	21 55 +39	08 45 -25	64
26	192	+ 5	0	- 6	-10	-13	-11	- 8	- 8	-12	-15	-21	-18	-10	-10	-10	-10	- 7	0	+13	+25	+31	+31	+33	+31	877	22 32 +33	10 44 -22	55
27	167	+22	+ 9	- 7	-12	-10	- 8	- 7	- 9	- 8	- 8	- 6	-10	-12	-12	-12	-12	-10	- 4	+ 2	+11	+17	+25	+34	+29	883	22 28 +34	13 30 -14	48
28	136	+15	+10	+ 5	0	- 4	- 5	- 6	- 6	-10	-12	- 6	-10	- 9	-12	-13	-12	- 7	- 4	+ 3	+12	+16	+17	+18	+24	887	23 45 +25	09 23 -14	39
29	195	+14	+ 8	+ 1	-11	-15	-17	-14	-13	-13	-13	-17	-15	-15	-13	-11	- 9	- 7	0	+10	+19	+27	+28	+35	+37	894	23 37 +37	10 17 -19	56
30	300	+27	+21	+10	0	- 6	- 8	- 9	-10	-13	-15	-22	-26	-27	-30	-31	-22	-13	-10	0	+13	+27	+38	+46	+50	900	23 24 +53	13 50 -33	86
31	181	+27	+15	+ 7	- 4	-13	-17	-17	-17	-17	-16	-15	-15	-14	-13	- 9	- 7	- 9	- 2	+ 8	+19	+21	+29	+32	+30	919	22 58 +34	06 44 -18	52
MEAN.		+25	+17	+ 5	- 9	-14	-15	-13	-15	-15	-17	-17	-14	-13	-14	-11	- 9	- 6	- 2	+ 8	+17	+24	+28	+30	+30	889			

HORIZONTAL INTENSITY

G.M.T. (H = 34000γ + Mean + ...) September 1939.

DAY.	W	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
+ 1	213	+24	+19	+12	+ 2	- 6	-11	-12	-14	-17	-16	-16	-17	-16	-16	-16	-18	-18	-13	0	+16	+26	+37	+39	+40	919	23 40 +41	16 10 -20	61
2	377	+23	+ 6	- 1	- 5	-11	- 9	-16	-16	-16	-20	-20	-21	-20	-20	-20	-20	-20	-17	- 3	+11	+27	+49	+72	+67	929	22 15 +85	16 15 -23	108
3	551	+100	+77	+25	-33	-40	-23	-24	-35	-25	-11	-23	-35	-21	-16	-12	- 9	-11	- 2	+ 4	+13	+17	+23	+29	+42	878	00 09 +113	11 06 -45	158
4	258	+26	+11	- 7	-17	-18	-21	-23	-24	-24	-24	-23	-18	-14	-12	- 9	- 9	- 7	0	+10	+22	+37	+45	+47	+47	900	22 57 +49	08 03 -25	74
5	230	+28	+18	+ 2	- 7	-11	-12	-14	-17	-19	-22	-22	-20	-19	-15	-14	-11	- 9	- 4	+ 7	+20	+26	+38	+43	+33	912	22 39 +44	10 45 -22	66
6																													
7	262	+44	+33	+10	0	- 5	-10	-13	-16	-16	-12	-17	-21	-21	-24	-22	-18	-15	- 8	+ 3	+13	+20	+26	+32	+31	919	00 46 +50	13 45 -25	75
8	290	+23	+13	0	- 4	- 9	-13	-15	-17	-21	-25	-23	-17	-16	-15	-14	-13	- 9	- 4	+ 8	+21	+30	+35	+43	+49	922	23 47 +53	10 02 -30	83
9	481	+81	+60	+40	+44	+36	+11	-30	-40	-37	-45	-45	-49	-51	-39	-26	-23	-12	- 5	+ 7	+18	+17	+22	+36	+38	892	00 20 +83	06 52 -55	138
10	237	+31	+14	-14	-25	-27	-13	- 5	- 6	- 7	-12	-11	- 9	- 8	-10	-14	-12	- 8	- 3	+ 6	+12	+19	+31	+36	+31	893	22 25 +37	04 21 -31	68
11																													
12	220	+21	+ 8	- 8	-15	-10	- 9	-14	-22	- 8	-14	-14	-10	- 9	-10	-10	- 8	- 5	- 1	+ 6	+14	+22	+25	+34	+37	902	23 09 +40	07 19 -23	63
13	248	+16	+12	+ 3	- 6	-11	-13	-17	-18	-19	-17	-16	-13	-16	-15	-12	-11	-10	- 5	+ 3	+14	+23	+43	+49	+43	910	22 27 +52	08 43 -19	71
14	268	+38	+29	+23	-21	-20	-13	-14	-13	-13	-11	-16	-14	-14	-13	-14	-14	-14	-14	-11	+ 2	+18	+27	+41	+51	906	23 25 +54	03 58 -23	77
15	251	+29	+19	+ 5	- 7	-13	-17	-20	-24	-23	-20	-17	-19	-18	-15	-15	-15	-11	- 4	+ 8	+22	+31	+41	+43	+42	922	23 29 +47	07 33 -25	72
16	262	+32	+24	+10	0	- 9	-19	-22	-24	-22	-20	-21	-22	-18	-12	- 9	- 8	- 7	- 5	+ 1	+10	+20	+33	+46	+48	927	23 53 +51	07 29 -24	75
17	526	+101	+39	+58	+34	+ 4	- 9	-32	- 6	- 4	+ 2	+ 6	+ 7	- 6	-20	-19	0	+ 5	- 7	-33	-37	-31	-37	-31	-29	874	00 00 +104	19 30 -47	151
18	310	-26	-24	-21	-19	-20	-19	-16	-15	-18	-23	-15	-12	-11	- 8	- 7	- 5	+ 4	+ 6	+15	+31	+40	+50	+56	+58	868	23 38 +59	00 38 -30	89
19	397	+55	+43	+27	+23	+13	+ 6	-10	-11	-26	-49	-37	-50	-43	-39	-31	- 9	0	+ 3	+ 8	+14	+18	+30	+33	+20	870	00 11 +58	09 52 -56	114
20	331	+13	- 7	-23	-35	-32	-27	-24	-22	-27	- 6	-21	-24	-14	+ 5	+ 9	+11	+10	+11	+ 9	+21	+32	+43	+50	+51	865	23 16 +54	03 58 -41	95
21																													
22																													
23	230	+34	+24	+14	+ 5	- 5	-12	-14	-16	-17	-17	-16	-18	-19	-17	-16	-16	-14	-11	- 5	+ 7	+16	+22	+37	+44	906	23 46 +46	11 58 -20	66
+ 24																													
25	352	+26	+16	+ 7	- 1	- 8	-11	-14	-16	-13	-14	-20	-26	-25	-22	-21	-22	-16	-12	- 8	+10	+23	+50	+59	+59	919	23 08 +69	11 44 -32	101
26																													
27																													
+ 28																													
+ 29																													
30																													
31																													
MEAN.		+36	+24	+ 8	- 4	-10	-12	-17	-19	-19	-19	-19	-20	-19	-17	-15	-12	- 8	- 5	+ 2	+13	+21	+32	+40	+40	902			

HORIZONTAL INTENSITY

G.M.T. (H = 34000γ + Mean + ...) October 1939.

DAY.	W	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1	321	+12	- 3	-14	-16	-25	-25	-24	-25	-22	-18	-15	-15	-13	-11	-12	-11	-11	- 6	+ 4	+21	+43	+54	+61	+62	917	23 08 +65	05 39 -27	92
2	339	+37	+27	+12	- 2	-19	-26	-27	-30	-25	-24	-23	-23	-21	-21	-19	-19	-14	- 7	+ 5	+21	+33	+48	+62	+63	935	22 46 +66	07 47 -31	97
3	533	+99	+77	+55	+47	+33	+27	+21	+ 7	-14	-34	-36	-33	-34	-38	-33	-29	-25	-19	+ 2	-30	-20	-10	-10	0	888	00 00 +109	10 07 -44	153
4	682	+39	+19	-46	-89	-86	-53	-37	-32	-33	-27	-20	-18	-10	+ 8	+ 8	+ 5	+ 7	+12	+20	+45	+54	+75	+79	+75	836	21 46 +82	03 44 -114	196
5	352	+21	+ 5	-10	-16	-14	-15	-21	-21	-21	-30	-20	-28	-29	-13	-18	-18	-13	- 7	+ 7	+23	+46	+60	+65	+58	876	22 15 +69	09 48 -32	101
6	477	+54	+33	+17	-17	-45	-51	-41	-52	-41	-34	-36	-35	-27	-20	-14	- 4	+ 6	+16	+19	+33	+39	+53	+65	+70	852	00 00 +76	05 29 -61	137
7	160	+29	+11	+ 4	0	- 5	- 5	-10	-12	-12	-10	- 6	- 5	- 5	- 9	- 4	- 3	- 5	- 6	- 5	0	+ 4	+10	+16	+23	889	00 01 +34	07 44 -12	46
8	276	+15	+ 3	-17	-16	-16	-18	-22	-21	-21	-20	-19	-19	-19	-17	- 7	- 3	- 2	+ 9	+17	+22	+37	+45	+52	+41	896	22 37 +54	07 04 -25	79
9	376	+46	+32	+25	+23	+18	+11	-16	-37	-44	-28	-18	-16	-20	- 3	-19	-19	-17	-17	-12	- 3	+ 9	+25	+37	+39	873	00 00 +56	08 10 -52	108
10	265	+15	+ 7	- 4	-11	-13	-14	-12	-12	-15	-14	-14	-16	-14	-16	-14	-12	- 9	- 6	- 1	+12	+25	+42	+48	+54	891	23 37 +57	13 32 -19	76
11	248	+21	+ 8	- 4	+ 2	+ 1	- 4	- 4	- 7	- 9	-11	-16	-20	-17	-18	-18	-20	-18	-17	-11	+ 4	+27	+44	+47	+39	914	21 51 +50	11 07 -21	71
+12	282	+40	+27	+ 9	-12	-19	-21	-23	-24	-23	-19	-17	-18	-17	-17	-16	-12	-11	-10	- 4	+12	+29	+45	+54	+52	910	22 56 +57	07 36 -24	81
13	916	+89	+78	+108	+107	+95	+51	+16	-27	-31	-35	-17	-14	-10	- 7	+ 2	+16	+23	+14	+ 3	-45	-93	-114	-107	-107	866	02 20 +127	22 09 -136	263
14	636	-17	-19	-32	-59	-64	-67	-54	-66	-56	-49	-44	-28	+23	+20	+22	+24	+29	+23	+46	+58	+57	+74	+92	+90	794	23 17 +105	08 00 -78	183
15	543	+41	+ 1	-48	-66	-71	-71	-26	-30	-26	-19	- 6	+ 1	+ 3	+ 3	+ 2	+ 4	+13	+18	+17	+34	+45	+57	+65	+63	828	22 35 +66	05 08 -90	156
16	206	+26	+19	+ 2	- 7	-18	-23	-12	-27	-15	-11	-19	-17	-10	- 2	+ 5	+ 5	+13	+ 2	0	+ 6	+12	+21	+26	+24	864	22 37 +30	07 55 -29	59
17	258	+24	+17	+ 1	-15	-15	-21	-17	-29	-24	-18	- 7	+ 1	- 8	-12	- 8	0	+20	+ 8	- 4	+ 3	+ 7	+17	+35	+41	870	23 53 +43	07 18 -31	74
18	292	+45	+32	+ 8	- 5	-16	-25	-31	-19	-16	-17	+ 4	-10	-16	-17	-10	- 1	- 1	- 3	- 1	+ 1	+ 8	+25	+35	+29	865	00 00 +48	06 21 -36	84
19	310	+23	+18	+12	- 2	- 4	-17	-21	-27	-36	-36	-18	-16	-16	-13	- 7	- 2	+ 7	+ 5	0	+ 7	+23	+34	+43	+46	857	23 21 +49	08 58 -40	89
+20	321	+15	+ 9	+ 5	- 5	-12	-16	-22	-24	-28	-25	-22	-20	-19	-15	-12	- 9	- 7	- 5	0	+15	+33	+50	+60	+61	885	22 43 +62	08 09 -30	92
21	248	+43	+32	+18	+ 5	- 7	-16	-13	- 7	-13	-15	-17	-17	-20	-22	-22	-21	-16	-15	- 9	+ 4	+20	+38	+34	+24	900	00 42 +46	13 15 -25	71
22	342	+24	+18	+ 6	- 6	- 9	-13	-17	-27	-29	-28	-28	-27	-22	-21	-19	-14	-13	-10	- 3	+14	+34	+51	+64	+68	900	22 57 +69	08 47 -29	98
23	373	+66	+52	+35	+22	+16	+10	+ 3	+ 4	-13	-31	-36	-38	-36	-20	-25	-25	-19	-20	-18	- 4	+12	+20	+17	+19	891	00 06 +69	12 00 -38	107
24	269	+ 7	+ 7	0	-13	-16	-21	-22	-21	-20	-17	-17	-16	-14	-12	- 7	- 7	- 6	- 5	0	+14	+36	+48	+53	+53	893	23 20 +54	06 44 -23	77
+25	241	+41	+26	+ 6	- 1	-11	-14	-12	-14	-15	-14	-14	-19	-18	-17	-19	-15	-14	-12	- 8	+ 5	+22	+38	+43	+44	903	00 07 +47	12 03 -22	69
26	241	+30	+14	0	- 6	-10	- 8	- 7	-10	-13	-18	-19	-16	-16	-14	-17	-17	-16	-12	- 5	+14	+29	+36	+41	+47	912	23 32 +49	09 10 -20	69
+27	265	+37	+26	+ 6	- 9	-19	-20	-20	-16	-15	-15	-15	-14	-13	-15	-18	-15	-13	-14	-11	+ 5	+27	+44	+50	+54	920	23 44 +55	06 43 -21	76
28	286	+50	+37	+20	+ 8	- 4	-12	-19	-18	-10	- 9	-10	-14	-24	-24	-23	-24	-25	-20	-11	+ 1	+18	+32	+40	+36	918	00 00 +56	12 57 -26	82
29	290	+52	+34	+ 8	-16	-21	-21	-21	-20	-16	-16	-16	-11	- 9	-10	-12	-11	-10	-11	-10	- 3	+11	+33	+49	+54	898	23 56 +59	05 58 -24	83
30	248	+43	+25	+ 6	- 8	-14	-15	-14	-12	- 9	- 9	- 9	- 9	- 9	-15	-14	-15	-15	-17	-15	- 2	+13	+30	+47	+47	901	00 00 +54	17 36 -17	71
+31	234	+36	+21	+13	+ 3	- 7	-10	- 9	-11	-17	-20	-20	-18	-18	-18	- 8	- 9	-10	-14	-13	- 1	+10	+27	+41	+44	903	23 16 +46	10 20 -21	67
MEAN.		+36	+22	+ 6	- 6	-13	-17	-17	-22	-22	-22	-18	-18	-15	-13	-11	- 9	- 6	- 5	0	+ 9	+21	+34	+42	+42	885			

HORIZONTAL INTENSITY

G.M.T. (H = 34000γ + Mean + ...) November 1939.

DAY.	W	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1	209	+39	+31	+14	+ 1	- 8	-12	-13	-16	-15	-16	-14	-10	-14	-12	-10	-12	-15	-14	-12	- 3	+ 8	+21	+33	+40	902	23 54 +42	09 28 -18	60
2	279	+39	+33	+18	+ 6	- 9	-18	-26	-29	-24	-23	-19	-17	-15	-13	- 9	- 7	- 7	- 7	- 3	+ 4	+13	+27	+41	+49	903	23 43 +50	07 33 -30	80
3	216	+37	+28	+14	+ 3	-10	-16	-18	-20	-20	-16	-18	-17	- 5	- 9	-11	- 9	- 6	- 9	- 5	+ 4	+15	+23	+32	+29	913	00 00 +39	11 22 -23	62
4	234	+20	+16	+ 8	0	- 5	-12	-16	-16	-19	-15	-17	-20	-14	-12	-10	- 9	- 7	- 5	- 3	+10	+19	+34	+42	+37	916	23 00 +46	11 13 -21	67
5																													
6	216	+30	+17	+ 4	0	- 6	- 7	-11	-13	-14	-13	-14	-15	-13	-13	-12	-12	-13	-13	- 8	- 1	+13	+23	+42	+42	915	23 09 +47	11 33 -15	62
7	206	+40	+24	+10	- 2	- 7	- 9	- 9	- 7	- 9	- 9	-10	-14	-13	-10	- 9	- 7	- 7	- 9	-14	- 8	+ 5	+24	+29	+25	909	00 09 +43	18 32 -16	59
+ 8	168	+20	+11	+ 3	- 3	- 6	-10	- 8	- 6	- 6	- 8	- 8	-10	-13	-12	- 9	-11	-12	-12	- 6	+ 9	+16	+24	+33	+35	912	23 04 +35	12 55 -13	48
9	237	+27	+19	+ 8	- 6	-18	-20	-20	-16	-15	- 9	-12	-13	-14	-13	-13	-13	-14	-15	- 8	+ 7	+24	+37	+44	+46	916	23 02 +47	06 09 -21	68
+10	223	+36	+27	+10	- 7	-20	-20	-16	-15	-13	-10	- 9	- 8	- 8	- 8	- 6	- 6	-11	- 8	- 3	+ 6	+16	+21	+28	+28	918	00 00 +42	04 54 -22	64
11	206	+20	+14	+ 5	- 8	-13	-17	-14	-12	-12	-12	-14	-12	-12	-12	-12	-12	-11	-10	- 5	+12	+31	+40	+37	+24	922	22 00 +42	05 15 -17	59
12	286	+24	+16	+10	+ 3	- 6	-10	-10	- 8	- 3	- 3	- 8	- 2	-17	-15	-23	-20	-13	-15	-13	- 3	+10	+21	+39	+50	918	23 24 +55	14 54 -27	82
13	502	+91	+72	+52	+20	- 8	+ 2	- 7	-30	-43	-27	-18	-28	-35	-26	+ 7	- 1	- 3	-12	-13	-13	-13	- 2	+15	+22	865	00 00 +97	08 25 -47	144
14	254	+ 7	- 7	-11	-23	-32	-31	-22	-18	- 9	- 8	- 1	+ 3	- 1	- 1	+ 6	+ 4	+ 6	+ 6	+ 8	+11	+17	+28	+31	+36	879	23 51 +38	04 49 -35	73
15	296	+22	+12	+ 2	-12	-21	-26	-28	-25	-20	-17	-17	-14	-14	- 5	- 9	-10	- 5	- 6	- 1	+ 8	+29	+47	+55	+55	892	22 42 +56	06 51 -29	85
16	314	+33	+23	+10	- 6	-14	-18	-18	-18	-19	-21	-22	-21	-19	-19	-18	-17	-14	-14	- 9	+ 3	+20	+40	+61	+67	907	23 45 +68	11 40 -22	90
17	279	+50	+41	+26	+ 8	- 9	-20	-25	-25	-26	-25	-25	-19	-18	-13	-13	-11	- 9	- 6	- 1	+ 6	+18	+29	+35	+27	921	00 00 +53	07 09 -27	80
+18	248	+24	+18	+12	+ 4	- 7	- 9	-13	-13	-13	-19	-19	-19	-19	-16	-12	-12	- 9	- 9	- 8	+ 1	+17	+34	+46	+47	917	23 17 +49	09 53 -22	71
19	223	+34	+23	+11	0	- 6	- 5	- 5	- 5	- 5	- 5	-10	-10	-10	-13	-19	- 8	-10	-17	-15	- 2	+ 3	+18	+35	+32	923	23 01 +40	14 25 -24	64
20	265	+40	+24	+ 7	- 8	-16	-21	-21	-18	-18	-18	-18	-16	-16	-15	-14	-12	-12	-10	- 8	+ 2	+19	+37	+49	+51	904	23 16 +53	05 56 -23	76
21	251	+42	+32	+15	- 1	-13	-16	-18	-22	-23	-21	-18	-20	-18	-19	-18	-14	-13	-11	- 2	+13	+22	+36	+47	+49	910	23 45 +49	08 35 -23	72
+22	241	+32	+24	+ 9	- 6	-14	-17	-15	-15	-17	-17	-17	-18	-18	-17	-15	-13	-11	- 7	- 5	+ 7	+18	+35	+46	+49	923	22 57 +51	12 00 -18	69
+23	209	+39	+27	+11	- 4	- 9	- 8	- 8	-10	-12	-12	-11	-11	-12	-14	-15	-14	-14	-10	- 6	- 2	+ 8	+22	+34	+38	927	23 20 +44	14 21 -16	60
24	181	+31	+21	+ 7	- 5	-10	-13	-10	- 7	- 5	- 3	- 3	- 4	- 6	- 7	-15	-11	-11	- 9	0	+ 6	+ 7	+10	+12	+16	928	00 00 +35	05 05 -17	52
25	363	+48	+34	+20	+ 4	-13	-31	-44	-29	-20	-26	-28	-26	-18	-11	- 3	0	+ 4	+ 6	+ 8	+33	+39	+22	+15	+17	882	00 00 +58	06 31 -46	104
26	276	+17	+ 5	- 2	-11	-16	-23	-23	-19	-20	-11	-10	- 2	- 5	- 8	- 4	+ 1	+ 2	- 2	- 2	+ 3	+10	+31	+45	+46	885	22 45 +50	06 02 -29	79
27	290	+27	+19	- 1	-15	-28	-26	-24	-24	-20	-18	-18	- 7	- 7	- 8	- 8	- 8	- 7	- 4	- 2	+10	+22	+36	+49	+52	899	23 11 +53	04 46 -30	83
28	254	+43	+29	+13	- 4	-14	-20	-17	-15	-16	-17	-15	-13	-16	- 7	- 5	- 9	-11	-12	-13	- 6	+ 7	+29	+50	+49	903	22 32 +51	05 47 -22	73
29	279	+42	+26	+ 9	- 3	-14	-16	-13	-14	-16	- 9	-16	-20	-21	-18	-18	-15	-16	-16	- 9	+ 2	+17	+31	+44	+54	905	23 54 +57	12 42 -23	80
30	279	+50	+36	+16	- 4	-15	-14	-13	-17	-24	-21	-15	- 9	- 9	- 7	- 6	- 6	- 6	- 6	- 6	+ 3	+11	+19	+21	+25	906	00 00 +56	09 02 -24	80
31																													
MEAN.		+35	+24	+11	- 3	-13	-16	-17	-17	-16	-15	-15	-14	-14	-12	-10	- 9	- 9	- 9	- 6	+ 4	+15	+27	+38	+39	908			

HORIZONTAL INTENSITY

G.M.T. (H = 34000γ + Mean + ...) December 1939.

DAY.	W	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H.	M.	γ	Minimum. H.	M.	γ	Range.
1	279	+21	+18	+ 4	- 5	-15	-23	-19	-10	-10	-12	-10	- 8	-12	-12	- 9	- 8	- 8	-15	-12	+ 3	+16	+35	+45	+45	915	23	10	+51	06	06	-29	80
2	202	+35	+27	+16	+ 4	- 5	- 9	-11	-17	-19	-15	-12	-10	-10	- 8	- 8	- 8	- 5	- 5	- 8	- 2	+ 2	+12	+23	+30	915	00	00	+39	08	08	-19	58
3	164	+28	+20	+ 5	-10	-17	-15	-12	-12	-13	-15	-12	- 9	- 8	- 7	- 5	- 3	- 3	- 3	- 1	+ 6	+16	+24	+20	+20	920	00	27	+30	05	42	-17	47
4	282	+16	+ 6	- 6	-15	-23	-26	-24	-20	-15	-13	-13	-12	-10	- 8	- 7	- 6	- 3	- 3	+ 1	+16	+29	+40	+49	+54	913	23	56	+55	06	09	-26	81
5	276	+55	+45	+26	+10	+ 3	- 1	- 1	- 2	0	- 1	- 1	- 4	-11	-15	-22	-23	-15	-15	-21	-13	- 8	- 4	+ 9	+ 3	914	00	24	+55	14	56	-24	79
6	181	+ 9	+ 5	- 5	-12	-17	-12	- 3	+ 1	- 2	- 3	- 2	- 4	- 2	+ 2	+ 3	+ 5	+ 4	+ 5	+10	+23	+16	- 6	-10	- 5	903	20	09	+35	04	21	-17	52
7	401	+32	+21	-17	-45	-28	-17	-12	- 5	+23	+13	- 9	-14	+ 2	- 1	+ 6	+11	+ 6	+ 2	-10	- 9	- 3	+ 6	+17	+27	881	08	18	+49	03	38	-66	115
8	331	+31	+26	+ 9	-12	-22	-35	-39	-32	- 8	-14	-18	-18	-20	-12	- 7	- 8	+ 4	+10	- 1	+ 1	+21	+37	+49	+47	883	22	46	+50	06	18	-45	95
9	213	+27	+21	+ 8	- 8	-11	-16	-14	-11	- 7	-15	-19	-11	-12	0	- 7	- 9	- 9	- 4	-14	+ 1	+13	+26	+39	+38	894	23	03	+40	10	48	-21	61
10																																	
11	293	+39	+28	+12	- 2	-16	-21	-16	-15	-14	-15	-19	-14	-11	-11	-11	-12	-13	-18	-15	- 4	+14	+32	+49	+61	906	23	30	+62	10	54	-22	84
12	272	+48	+32	+10	- 4	-14	-20	-20	-24	-20	-16	-16	-17	-16	-16	-11	- 7	- 7	-14	-14	0	+19	+39	+39	+41	915	00	00	+53	07	46	-25	78
13	244	+36	+29	+11	- 6	-19	-24	-22	-20	-18	-17	-17	-13	-12	-13	-10	- 8	- 9	-11	- 4	+ 8	+17	+29	+40	+44	910	23	25	+45	05	21	-25	70
+ 14	223	+31	+22	+ 8	- 3	-11	-17	-17	-19	-19	-17	-17	-18	-14	-12	- 7	- 6	- 5	- 5	- 5	+ 1	+12	+27	+39	+42	918	22	47	+44	07	00	-20	64
15	237	+35	+24	+12	+ 2	-11	-19	-17	-20	-18	-13	-12	-11	-10	- 5	- 8	- 8	- 3	- 5	- 4	+ 2	+ 8	+20	+30	+30	910	00	00	+45	07	59	-23	68
16	185	+18	+14	+ 3	- 9	-15	-16	-16	-14	-13	-11	-11	-11	- 9	- 6	- 4	+ 3	0	- 3	+ 3	+10	+18	+27	+29	+16	923	22	28	+35	05	43	-18	53
17	251	+29	+25	+18	+ 4	- 9	-17	-16	-17	-18	-18	-18	-17	-17	-16	-14	-10	-10	-10	-10	- 3	+ 7	+30	+46	+51	910	23	07	+51	10	03	-21	72
+ 18	269	+38	+30	+15	0	- 8	-12	-15	-18	-18	-18	-19	-21	-21	-20	-18	-18	-15	-13	- 6	+ 6	+15	+37	+54	+54	920	22	54	+55	11	34	-22	77
+ 19	234	+43	+28	+ 9	- 6	-15	-17	-15	-14	-15	-17	-17	-16	-14	-13	-10	- 8	- 7	- 8	- 6	0	+11	+29	+41	+43	922	00	00	+48	05	00	-19	67
+ 20	255	+26	+14	- 2	-11	-16	-17	-19	-19	-20	-20	-20	-19	-14	-13	-11	- 8	- 5	- 8	- 2	+11	+29	+45	+50	+49	936	22	15	+53	09	33	-20	73
21	384	+72	+59	+37	+14	+ 7	- 1	- 7	-20	-15	-17	- 9	-14	-16	-23	-29	-25	-20	-16	-10	- 6	- 3	+ 1	+17	+22	909	00	16	+78	14	44	-32	110
22	272	+18	+15	+ 5	- 3	-20	-13	- 9	-10	-26	-20	-13	- 8	-13	- 1	+ 1	- 3	- 5	- 8	-10	- 1	+ 9	+26	+44	+46	894	23	07	+48	08	31	-30	78
23	241	+28	+18	+ 5	- 7	-15	-14	-16	-14	- 9	- 5	- 8	- 9	-12	-14	-12	-13	-12	-14	-13	-11	+ 7	+38	+46	+48	907	23	04	+50	06	33	-19	69
24	269	+33	+20	+10	- 7	-18	-21	-21	-16	-18	-10	- 9	-15	-17	-14	- 9	-15	-17	-15	- 6	+10	+22	+36	+48	+49	909	22	56	+53	06	32	-24	77
25	282	+44	+23	- 4	-20	-22	-20	-15	-17	-19	-20	-15	-15	-13	-13	- 5	- 8	-12	-12	- 4	+10	+22	+38	+53	+52	906	22	51	+56	04	16	-25	81
26	412	+36	+17	0	-10	-18	-24	-22	-21	-18	-17	-21	-23	-23	-21	-18	-16	-18	-17	-13	+ 3	+26	+57	+75	+86	916	23	46	+91	05	40	-27	118
27	384	+76	+50	+24	+ 8	+11	- 9	-14	-14	-19	-22	-23	-22	-19	-21	-23	-17	-19	-23	-22	-15	0	+21	+38	+43	931	00	27	+81	17	46	-29	110
28	304	+56	+36	+17	- 3	-11	-13	-16	-13	-11	-11	-16	-20	-13	- 9	- 2	- 4	- 6	-11	-10	-13	- 2	+11	+34	+34	912	00	00	+63	11	43	-24	87
29	227	+22	+ 8	- 9	-16	-16	-15	-13	-13	-11	-11	- 9	- 6	- 9	- 2	- 4	- 4	- 4	- 8	- 6	- 4	+10	+25	+38	+46	905	23	47	+46	05	55	-19	65
30	251	+28	+16	+ 8	0	-10	-19	-18	-18	-16	-14	-16	-13	- 6	-10	-12	- 9	- 7	- 9	- 7	- 2	+11	+30	+44	+50	913	23	27	+51	05	40	-21	72
+ 31	244	+39	+22	0	-12	-12	-14	-14	-17	-19	-19	-19	-14	-12	-11	-10	- 7	- 7	- 7	- 6	- 3	+ 7	+32	+47	+47	913	23	22	+50	10	06	-20	70
MEAN.		+35	+24	+ 8	- 6	-13	-16	-16	-15	-13	-13	-14	-13	-12	-11	- 9	- 8	- 8	- 9	- 7	+ 1	+12	+27	+38	+41	911							

DECLINATION

(D = 10° + Mean + ... East)

Unit = 0.1 minute of arc

G.M.T.

January 1939.

DAY.		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1	+	+36	+26	+18	+12	+ 9	+ 8	+ 9	+ 8	+ 8	+ 7	+ 3	- 2	- 3	- 7	-10	-11	-11	-17	-24	-27	-29	-23	- 3	+12	480			
2		+13	+21	+23	+16	+ 8	0	+ 1	+ 1	+ 1	0	- 6	- 7	- 7	- 7	- 7	- 7	- 8	-16	-19	-12	- 6	0	+ 4	+11	485			
3	+																												
4		+ 2	- 2	- 5	- 1	+ 3	+ 9	+11	+10	+ 7	+ 3	+ 2	+ 1	0	- 2	- 5	- 7	- 9	-18	-22	-22	-11	+ 3	+26	+34	477			
5		+20	+ 9	+16	+28	+20	+11	+ 8	+ 8	+ 7	+ 6	+ 4	+ 1	- 2	- 4	- 4	- 6	- 8	-20	-30	-22	-23	-18	- 2	+ 7	480			
6		+ 5	- 9	-11	-18	-10	+ 2	+11	+10	+ 9	+ 6	+ 3	0	0	0	+ 1	+ 1	+ 1	-18	-27	-27	-19	+12	+32	+36	477			
7		+31	+17	+11	+ 2	+ 2	+ 6	+13	+13	+11	+ 6	+ 2	+ 3	+ 3	+ 2	+ 1	+ 2	- 4	-22	-37	-36	-27	-16	+ 5	+11	475			
8		+ 7	+17	+16	+ 5	- 4	- 4	- 1	+ 2	- 1	- 2	- 4	- 3	- 2	- 3	- 4	- 4	- 6	-23	-26	-21	-11	+16	+24	+25	482			
9		+25	+24	+19	+ 9	0	+ 4	+ 5	+ 5	+ 5	+ 4	+ 3	+ 1	+ 4	+ 4	+ 3	+ 2	- 4	-24	-31	-33	-28	-13	+ 1	+14	474			
10		+16	+16	+14	+11	+10	+ 6	+10	+ 8	+ 8	+ 6	+ 4	+ 4	- 3	- 3	0	+ 1	- 3	-21	-36	-33	-26	- 9	+11	+20	478			
11		+15	+12	+ 5	+ 4	+ 3	+ 3	+10	+12	+ 9	+ 7	+ 3	+ 2	+ 2	+ 3	+ 4	+ 8	+ 3	- 7	-18	-22	-31	-33	- 9	+13	476			
12																													
13		+31	+30	+37	+31	+ 9	+ 6	+ 7	+ 7	+ 6	+ 2	- 1	+ 1	+ 3	+ 4	+ 7	+ 8	+ 4	- 8	-28	-43	-61	-49	-16	+19	479			
14		+31	+50	+52	+32	+16	+ 6	+ 5	+ 4	+ 2	- 3	- 5	- 8	- 7	- 6	+ 1	+ 2	+ 2	-10	-28	-43	-53	-48	-18	+15	486			
15		+25	+28	+36	+27	+10	+ 3	+ 7	+ 6	+ 5	- 5	- 5	- 5	- 5	- 6	- 4	- 3	- 2	-15	-27	-33	-32	-18	+ 2	+15	483			
16																													
17																													
18																													
19																													
20																													
21																													
22		+43	+40	+39	+31	+11	+ 2	+ 3	+ 2	0	- 3	- 6	- 7	- 7	- 7	- 3	- 3	- 9	-28	-49	-40	-28	-15	+ 7	+31	486			
23		+36	+25	+16	+ 6	+ 4	+ 4	+ 4	+ 5	+ 5	- 4	- 5	- 5	- 3	- 4	0	- 1	- 5	-16	-36	-40	-44	-16	+25	+41	483			
24		+40	+44	+39	+28	+13	+ 5	+ 6	+ 6	- 1	- 4	- 5	- 5	- 5	- 6	- 5	- 2	- 4	-20	-32	-37	-42	-29	- 1	+21	489			
25		+32	+32	+30	+14	+ 7	+ 6	+ 9	+10	+ 4	+ 3	+ 2	0	- 1	0	+ 1	- 2	- 6	-16	-30	-42	-48	-36	+ 3	+33	485			
26	+	+37	+50	+41	+30	+ 9	- 3	+ 1	+ 2	- 4	- 5	- 5	- 6	- 6	- 6	- 6	- 5	-13	-26	-43	-42	-29	-14	+ 5	+27	493			
27	+	+41	+32	+29	+12	- 2	- 1	+10	+ 9	+ 4	+ 3	+ 1	0	- 2	0	+ 1	0	+ 1	- 7	-19	-29	-38	-32	-18	+12	486			
28		+24	+38	+43	+35	+21	+10	+10	+ 8	+ 7	+ 4	0	- 3	- 3	- 4	- 4	- 7	- 8	-20	-36	-45	-49	-35	- 7	+17	490			
29																													
30	+	+13	+19	+22	+11	+ 8	+ 3	+ 7	+ 8	+ 3	+ 2	- 1	- 2	- 1	- 2	- 2	- 3	- 9	-20	-33	-38	-23	- 9	+13	+36	489			
31		+39	+23	+15	+10	+ 9	+10	+10	+ 9	+ 8	+ 7	+ 2	- 1	- 1	- 1	- 1	- 1	- 1	-11	-27	-27	-24	-24	-20	+ 2	488			
MEAN.		+26	+25	+23	+15	+ 7	+ 4	+ 7	+ 7	+ 5	+ 2	- 1	- 2	- 2	- 2	- 2	- 2	- 4	-17	-30	-32	-31	-18	+ 3	+21	483			

DECLINATION

(D = 10° + Mean + ...East)

G.M.T. Unit = 0.1 minute of arc February 1939.

DAY.		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1		+15	+17	+10	+ 4	+ 3	+ 2	+ 5	+ 9	+ 8	+ 6	+ 5	- 1	0	- 5	- 9	- 6	- 8	-16	-34	-37	-19	- 1	+11	+29	492			
2		+32	+17	- 1	-12	-13	- 3	+ 4	+ 2	+ 3	+ 6	+ 4	- 1	- 3	- 3	- 3	- 2	- 1	-20	-24	-14	- 3	+ 4	+17	+19	491			
3		+13	+10	+10	+ 8	- 1	- 2	0	+ 3	+ 7	+ 5	0	+ 3	+ 4	+ 1	+ 2	+ 2	- 1	-21	-39	-35	-19	+ 7	+19	+36	473			
4		+38	+16	- 5	-14	-14	- 8	0	+ 3	+ 5	+ 5	+ 3	- 3	+ 4	+ 4	+ 3	+ 3	+ 2	-14	-35	-36	-16	+ 1	+23	+35	477			
5		+40	+39	+27	+20	- 5	- 9	- 3	+ 3	+ 8	+ 6	+ 2	+ 3	+ 8	+ 5	+ 3	+ 3	+ 2	-12	-37	-49	-53	-30	- 2	+23	480			
6		+40	+40	+38	+28	+18	+ 8	+10	+11	+ 9	+ 1	-19	-19	-18	-15	-12	- 7	- 5	-19	-40	-41	-33	-16	+10	+27	482			
7		+43	+36	+25	+16	+ 5	+ 2	+11	+15	+13	+ 7	+ 5	+ 3	+ 3	0	+ 2	- 1	- 1	-10	-31	-44	-44	-33	-14	+ 3	476			
8		+19	+29	+28	+21	+20	+ 2	+ 6	+ 7	+ 5	+ 2	+ 1	0	+ 1	+ 2	+ 2	+ 2	+ 2	- 5	-27	-39	-45	-22	- 6	+ 7	480			
9		+18	+23	+19	+14	+ 6	+ 3	+ 5	+ 7	+ 5	+ 4	+ 4	+ 3	- 2	+ 2	+ 3	+ 3	+ 4	- 6	-17	-29	-36	-29	-11	+ 5	478			
10		+12	+23	+27	+21	+12	+10	+10	+10	+ 6	+ 6	0	+ 1	0	- 2	- 4	- 5	- 6	- 9	-19	-25	-31	-23	-12	+ 1	481			
11		+13	+27	+37	+32	+13	+11	+13	+11	+ 8	+ 2	- 2	- 6	- 4	- 4	- 5	- 5	- 6	-10	-22	-33	-36	-30	-10	+ 8	482			
12	+	+18	+25	+26	+18	+11	+ 7	+14	+14	+13	+ 9	+ 6	+ 5	+ 5	+ 3	+ 2	0	- 2	- 6	-24	-36	-43	-36	-19	0	478			
13	+	+ 9	+15	+19	+19	+14	+10	+10	+10	+ 9	+ 3	+ 1	- 1	- 1	- 2	- 3	- 5	- 3	- 9	-18	-39	-43	-21	+ 1	+14	483			
14		+23	+24	+20	+10	+ 4	+ 5	+ 7	+ 7	+ 5	+ 2	0	0	- 2	- 2	- 1	- 2	- 8	-18	-37	-45	-39	-22	+17	+42	482			
15		+42	+48	+36	+26	+12	+ 4	+ 5	+ 1	- 3	- 7	- 7	-10	- 9	-10	-13	-13	-11	-20	-39	-34	-15	- 4	+ 6	+ 9	491			
16		+22	+30	+28	+26	+20	+16	+16	+ 9	+ 2	+ 1	- 1	- 2	- 4	- 4	- 3	- 3	- 3	- 8	-22	-39	-41	-31	-10	+ 9	483			
17		+24	+30	+29	+24	+20	+14	+14	+ 9	+ 4	- 1	- 1	0	- 5	- 7	- 6	- 5	- 6	- 7	-26	-42	-40	-28	- 8	+14	481			
18		+29	+32	+24	+13	+ 3	+ 3	+ 9	+ 4	+ 2	+ 1	0	- 1	- 2	- 4	- 3	- 4	- 4	-11	-27	-38	-39	-26	+ 3	+29	482			
19		+40	+42	+34	+26	+14	+ 7	+ 9	+ 7	+ 6	+ 1	- 1	- 2	- 1	- 2	- 3	- 3	- 4	-10	-27	-43	-48	-39	-15	+ 4	484			
20		+19	+23	+22	+13	+12	+ 8	+ 9	+ 9	+ 4	+ 3	+ 2	+ 1	+ 1	- 3	- 1	- 1	- 1	- 7	-29	-46	-39	-19	+ 3	+20	483			
21	+	+31	+36	+27	+16	+ 7	+ 5	+10	+11	+ 7	+ 5	+ 4	+ 3	+ 1	+ 2	+ 3	+ 4	+ 3	- 5	-22	-38	-52	-44	-17	+ 1	481			
22	+	+19	+35	+40	+39	+25	+11	+10	+10	+ 5	+ 2	+ 1	- 1	- 4	- 2	0	0	0	- 5	-10	-38	-52	-56	-27	+ 9	485			
23		+39	+41	+31	+16	+ 7	+ 4	+13	+13	+10	+ 5	+ 4	+ 2	+ 2	+ 3	+ 2	+ 2	+ 3	- 1	-23	-51	-58	-39	-18	0	483			
24		+12	+16	+21	+18	+21	+15	+13	+11	+ 8	+ 4	+ 4	+ 1	- 3	- 2	- 4	- 2	+ 1	- 9	-15	-34	-26	-27	-19	- 5	484			
25		+10	+13	+ 2	+10	+11	+19	+26	+19	+ 6	+ 7	+ 2	+ 2	- 6	- 5	- 9	- 5	-10	-18	-28	-26	-20	-11	0	+15	475			
26		+23	+32	+24	+14	+12	+ 8	+11	+11	+10	+ 5	+ 4	+ 3	+ 3	+ 2	+ 3	+ 3	+ 3	- 2	-17	-36	-46	-45	-24	+ 2	483			
27	+	+14	+24	+28	+20	+10	+ 8	+ 9	+ 8	+ 7	+ 1	- 1	- 1	- 1	- 3	- 3	- 3	- 1	- 2	-11	-22	-31	-28	-17	+ 1	487			
28		+21	+21	+20	+16	+ 8	+ 6	+ 6	+ 6	+ 2	- 1	0	0	0	+ 1	+ 1	+ 2	+ 6	- 4	-20	-38	-39	-21	- 8	+ 8	487			
29																													
30																													
31																													
MEAN.		+24	+27	+23	+16	+ 9	+ 6	+ 9	+ 9	+ 6	+ 3	+ 1	- 1	- 1	- 2	- 2	- 2	- 2	-10	-26	-37	-36	-24	- 5	+13	482			

DECLINATION

(D = 10° + Mean + ...East)

G.M.T. Unit = 0.1 minute of arc March 1939.

DAY.		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1		+14	+15	+17	+19	+17	+11	+10	+ 6	0	-11	- 9	- 4	- 3	- 3	0	+ 1	+ 4	+ 1	-10	-22	-29	-22	- 7	- 1	487			
2		+13	+16	+17	+ 7	+ 3	+ 4	+ 4	+ 4	+ 3	- 5	+ 1	+ 2	+ 1	0	+ 2	+ 1	+ 1	- 7	-24	-33	-26	- 7	+ 5	+13	483			
3		+21	+15	+ 7	+ 4	+ 6	+ 8	+ 9	+ 9	+ 7	+ 2	- 1	0	0	+ 2	+ 3	+ 4	+ 2	- 6	-28	-41	-37	-11	+ 7	+19	480			
4		+18	+17	+15	+13	+ 7	+ 5	+ 7	+ 6	- 3	- 1	- 4	- 4	- 1	+ 4	+ 5	+ 1	+ 1	0	-22	-34	-35	-18	+ 5	+16	481			
5		+16	+16	+14	+ 6	+ 5	+ 5	+ 6	+ 5	+ 4	+ 1	- 1	- 1	+ 4	+ 5	+ 5	+ 5	+ 5	- 4	-20	-35	-36	-24	+ 2	+14	483			
6		+16	+19	+16	+ 8	+ 2	- 1	+ 7	+ 7	+ 5	+ 2	+ 2	+ 2	+ 3	+ 4	+ 5	+ 5	+ 6	- 7	-27	-35	-24	-12	- 4	+ 5	482			
7	+	+12	+23	+23	+15	+ 7	+ 6	+12	+ 9	+ 7	+ 5	+ 3	0	+ 2	+ 3	+ 3	+ 3	+ 3	- 3	-18	-37	-41	-30	-14	+ 3	485			
8		+12	+16	+15	+15	+13	+ 6	+ 6	+ 1	+ 3	+ 1	- 3	+ 1	+ 2	+ 3	+ 3	+ 5	+ 5	- 1	-12	-25	-27	-26	- 7	+ 6	484			
9		+20	+26	+25	+20	+18	+13	+13	+ 9	+ 1	- 4	- 4	- 4	- 7	- 8	- 6	- 7	- 6	-10	-15	-22	-28	-24	-11	+11	490			
10		+32	+35	+27	+14	+ 8	+ 9	+12	+11	+ 9	+ 3	+ 2	+ 1	- 2	- 5	- 6	- 1	- 3	- 5	-19	-31	-37	-29	-15	+ 1	487			
11		+12	+23	+26	+19	+15	+11	+10	+ 9	+ 5	+ 2	- 1	- 2	- 1	- 3	0	- 1	0	0	-15	-30	-37	-30	-15	- 5	489			
12		+ 1	+10	+14	+12	+ 9	+ 8	+11	+11	+ 8	+ 3	+ 1	+ 1	+ 1	0	0	+ 1	+ 2	0	-16	-24	-28	-26	- 3	+15	488			
13	+	+20	+21	+20	+ 8	+ 2	+ 2	+10	+10	+ 4	- 2	- 4	- 1	0	- 1	- 1	0	- 1	- 8	-18	-20	-20	-10	- 7	+ 4	489			
14		+15	+21	+15	+12	+ 7	+ 9	+12	+11	+ 9	+ 5	+ 3	+ 1	- 2	+ 1	0	- 4	- 5	- 9	-19	-25	-20	-15	- 8	- 5	488			
15		+ 2	+ 3	+ 1	- 2	+ 2	+ 7	+13	+13	+ 5	+ 3	+ 4	+ 2	+ 2	+ 4	+ 3	- 3	- 5	-10	-21	-28	-17	- 5	+ 5	+10	486			
16		+10	+14	+20	+12	+ 4	+10	+12	+11	+ 9	0	0	0	0	+ 3	+ 1	0	- 2	- 7	-20	-29	-24	-17	- 9	- 2	489			
17		+ 3	+11	+12	+ 7	+ 3	+ 8	+ 7	+ 5	+ 3	+ 3	+ 2	+ 1	+ 2	+ 1	+ 1	0	- 1	- 6	-17	-25	-21	- 7	+ 2	+ 3	489			
18	+	+10	+13	+10	+ 6	+ 6	+ 7	+ 3	+11	+ 6	+ 4	+ 4	+ 4	+ 3	+ 3	+ 3	+ 3	+ 1	- 4	-17	-26	-27	-20	- 6	+ 5	487			
19	+	+12	+18	+15	+12	+ 4	+ 9	+ 6	+ 7	+ 4	+ 3	+ 2	+ 3	+ 2	+ 2	+ 2	+ 2	+ 2	- 2	-10	-21	-22	-17	-16	- 7	489			
20		+ 3	+13	+14	+11	+ 9	+11	+11	+ 9	+ 7	+ 3	+ 2	+ 2	+ 2	+ 1	+ 1	- 1	+ 2	- 6	-18	-28	-27	-19	-10	- 4	489			
21		+ 8	+12	+11	+11	+ 9	+11	+17	+ 7	+ 3	- 3	-10	- 9	- 3	- 1	+ 2	+ 5	+ 6	- 1	-12	-17	-23	-13	- 3	+ 5	486			
22		+12	+19	+26	+27	+17	+13	0	+ 3	- 5	- 7	- 6	- 4	- 9	- 7	- 3	+ 2	+ 4	0	-13	-24	-20	-15	- 5	+ 2	486			
23		+ 8	+ 7	+ 6	+ 7	+ 9	+ 6	+ 6	+ 6	+ 3	- 4	- 4	- 4	- 2	0	+ 3	+ 9	+ 4	- 2	-13	-22	-22	-12	+ 5	+ 8	485			
24		+ 7	+12	+18	+16	+10	+ 8	+ 8	0	- 2	- 2	- 1	0	- 2	- 5	- 1	0	- 1	- 9	-18	-23	-20	- 9	+ 2	+10	491			
25	+	+13	+14	+11	+ 3	+ 4	+ 9	+ 7	+ 6	+ 2	+ 2	+ 3	+ 3	+ 2	+ 1	+ 1	+ 3	+ 2	0	-10	-24	-26	-19	-10	- 1	491			
26		+ 3	+11	+ 5	+12	+ 9	+ 3	+ 5	+ 2	- 1	- 7	- 3	- 4	- 2	- 1	+ 1	+ 3	+ 4	+ 2	- 2	-19	-19	-10	- 4	+ 2	491			
27		+ 6	+ 9	+15	+12	+15	+16	+10	+ 7	+ 3	- 2	- 4	- 5	- 5	- 5	- 5	- 4	- 3	- 1	- 2	- 6	-12	-17	-13	-19	495			
28		- 5	- 2	+ 4	+11	+15	+12	+15	+ 6	- 6	-10	- 9	- 6	- 5	- 1	+ 5	+ 7	+ 5	+ 7	+ 6	- 5	-12	-14	- 9	-18	488			
29		+ 6	+ 7	+12	+ 8	+ 9	+ 9	+ 5	- 7	- 8	-10	- 3	- 7	- 9	+ 1	+ 2	+ 6	+ 9	+ 3	- 7	- 9	- 7	- 4	0	0	483			
30		+ 2	0	+10	+ 8	+ 6	0	+ 1	0	- 2	- 2	- 1	- 1	+ 1	+ 4	+ 4	+ 6	+ 7	+ 4	- 6	-13	-18	-10	- 1	+ 6	486			
31		+ 6	0	+ 1	+ 6	+10	+ 8	+ 7	+ 1	- 1	- 3	- 4	0	+ 2	+ 3	+ 6	+ 7	+ 5	+ 3	- 1	-19	-21	-11	- 2	+ 3	487			
MEAN.		+11	+14	+14	+11	+ 8	+ 8	+ 8	+ 6	+ 3	- 1	- 1	- 1	- 1	0	+ 1	+ 2	+ 2	- 3	-14	-24	-25	-16	- 5	+ 3	487			

DECLINATION

(D = 10° + Mean + ...East)

G.M.T. Unit = 0.1 minute of arc April 1939.

DAY.		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1		+ 7	+ 3	- 3	- 4	- 2	+ 3	+ 7	+ 4	+ 2	+ 1	0	+ 1	+ 3	+ 4	+10	+ 9	+ 8	+ 3	- 6	-16	-17	-10	- 3	0	481			
2		- 3	+ 1	+ 7	+ 4	+ 6	+ 9	+ 8	+ 4	+ 2	+ 3	+ 2	- 1	0	+ 6	+ 5	+ 6	+ 6	+ 7	- 2	-13	-22	-21	-13	- 7	487			
3		- 1	+10	+17	+11	+ 8	+10	+ 8	+ 4	- 3	- 3	- 2	- 1	+ 1	+ 3	+ 4	+ 6	+ 9	+ 5	- 4	-23	-23	-22	-13	- 7	487			
4		- 4	+ 4	+ 6	+ 6	+ 3	+ 8	+ 6	+ 1	- 2	- 2	- 2	- 1	0	0	+ 1	+ 4	+ 5	+ 5	+ 1	- 5	-11	-18	-12	- 4	489			
5		+ 6	+11	+14	+11	+12	+12	+ 9	+ 5	- 2	- 2	- 2	- 4	- 5	- 5	0	- 1	- 1	+ 1	- 2	- 9	-17	-19	-14	- 8	488			
6	+	+ 2	+ 8	+ 8	+ 6	+ 6	+11	+ 6	+ 5	+ 1	- 2	- 2	- 1	- 2	- 2	- 3	- 1	0	0	- 1	-11	-20	-19	- 7	+ 8	490			
7	+	+15	+16	+15	+ 8	+ 5	+ 9	+ 8	+ 5	+ 1	+ 1	0	0	- 2	- 2	- 1	- 1	0	+ 1	- 3	-14	-20	-15	-10	- 4	490			
8		- 3	- 1	+ 2	+ 7	+ 7	+ 7	+ 7	+ 5	+ 1	0	- 1	- 2	- 3	- 4	- 4	- 4	- 4	- 4	- 5	- 6	-11	- 6	+ 4	+ 6	490			
9		+10	+11	+10	+14	+12	+10	+11	+ 8	+ 3	+ 1	0	0	- 2	- 1	+ 1	+ 2	+ 2	- 1	- 4	-12	-20	-21	-19	- 6	488			
10		+ 4	+ 5	+ 4	+ 9	+10	+ 8	+ 8	+ 1	- 4	- 9	- 8	- 3	- 7	- 2	- 2	0	+ 1	- 2	- 8	-12	-11	- 2	+ 4	+11	488			
11		+ 7	+ 9	+11	+12	+11	+11	+ 9	+ 9	+15	- 3	- 1	0	0	- 1	- 1	+ 1	0	- 1	-10	-23	-24	-22	-15	- 6	489			
12		- 3	+ 8	+14	+21	+15	+ 7	+ 2	- 2	- 6	- 3	- 4	- 5	- 4	- 1	+ 1	+ 1	+ 1	- 2	- 5	-12	-14	- 7	- 2	+ 6	492			
13	+	+11	+14	+15	+15	+14	+10	+ 7	- 2	- 2	- 1	- 2	0	- 1	0	+ 4	+ 4	+ 3	+ 2	- 5	-14	-20	-24	-16	-10	492			
14		- 6	- 4	- 2	+ 6	+ 7	+ 7	+ 9	+ 5	+ 2	0	- 1	- 1	- 1	0	+ 3	+ 4	+ 4	0	- 1	- 8	-11	- 9	- 2	+ 1	491			
15	+	+ 1	+ 8	+ 9	+13	+14	+11	+ 9	+ 7	+ 6	+ 6	+ 1	+ 1	+ 2	+ 1	+ 2	+ 2	+ 4	+ 6	+ 1	-12	-28	-29	-20	-12	491			
16	+	- 7	- 4	+ 6	+ 7	+ 8	+ 7	+ 7	+ 5	+ 5	+ 3	+ 2	+ 1	0	- 1	0	+ 5	+ 6	+ 6	+ 2	-13	-23	-23	-12	+ 2	492			
17																													
18																													
19																													
20		- 3	- 2	+ 5	+12	+ 8	+ 7	+ 7	+ 5	+ 2	- 2	+ 1	- 2	- 2	+ 2	+ 3	+ 7	+12	+13	+ 6	- 9	-17	-21	-17	- 6	487			
21		- 8	- 2	+ 6	+ 8	+ 8	+ 9	+ 8	+ 7	+ 1	0	0	- 4	- 8	- 4	+ 1	+ 6	+11	+12	+ 8	- 1	-14	-22	-22	- 8	490			
22		- 3	+ 1	+ 9	+11	+10	+12	+10	+ 7	+ 5	+ 4	+ 2	+ 2	+ 4	+ 4	+ 5	+10	+ 9	+ 9	+ 2	-15	-27	-29	-22	-18	489			
23		-11	+ 2	+25	+29	+20	+11	+ 2	- 6	-23	-17	-17	-18	- 5	+ 8	+ 9	+27	+15	+18	+ 5	-10	-18	-25	-19	-12	488			
24		-12	+ 2	+16	+22	+16	+10	+ 4	0	- 4	- 4	- 5	- 2	- 1	+ 2	+ 3	+ 3	+ 4	+14	+22	-13	-29	-20	-20	-18	497			
25		- 8	0	+18	+19	+12	+ 7	+ 2	- 6	- 3	- 3	-10	-11	- 2	- 1	+ 2	+ 6	+10	+ 9	+ 2	- 8	-16	-14	- 1	0	491			
26		+ 3	+ 9	+13	+13	+11	+ 5	+ 3	+ 3	+ 3	+ 2	- 2	- 3	- 3	- 3	- 3	+ 2	+ 4	+ 4	+ 1	- 8	-16	-17	-15	-15	496			
27		-11	+ 4	+16	+18	+14	+ 8	+ 5	+ 3	+ 3	0	- 3	- 2	- 1	- 1	+ 3	+ 4	+ 6	+ 6	+ 3	- 6	-14	-17	-17	-19	496			
28		-21	-10	+ 6	+17	+16	+ 8	+ 8	+ 7	+ 2	+ 3	+ 6	+ 6	+ 5	+ 6	+ 8	+ 7	+ 5	+ 5	+ 1	-11	-19	-22	-22	-21	491			
29		-17	- 2	+16	+16	+16	+16	+11	+ 7	+ 7	0	- 2	- 3	- 2	+ 1	+ 5	+ 6	+ 7	+ 8	+ 8	- 7	-22	-25	-23	-15	494			
30		-10	+ 4	+17	+20	+19	+11	+ 4	+ 2	+ 1	0	- 2	- 3	- 3	- 3	0	+ 1	+ 2	+ 3	+ 5	-10	-20	-21	-16	-10	500			
31																													
MEAN.		- 2	+ 4	+10	+12	+11	+ 9	+ 7	+ 4	+ 1	- 1	- 2	- 2	- 1	0	+ 2	+ 4	+ 5	+ 5	+ 1	-11	-19	-18	-13	- 6	491			

DECLINATION

(D = 10° + Mean + ...East)

Unit = 0.1 minute of arc

G.M.T.

May 1939.

DAY.		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1		- 6	+ 1	+11	+14	+13	+ 9	+ 4	- 2	- 6	- 9	- 8	- 9	- 9	-10	- 7	+ 5	+10	+17	+22	+ 6	- 7	- 9	-10	-17	499			
2		0	+ 2	+ 2	+11	+13	+11	- 3	- 2	- 5	- 6	- 7	- 7	- 3	+ 1	+ 2	+ 2	+ 7	+11	+11	- 1	- 8	-13	-16	- 4	488			
3		- 3	+ 2	+12	+24	+23	+15	+12	+ 3	+ 1	- 6	- 7	- 5	- 4	- 4	- 1	+ 1	+ 1	+ 2	+ 3	- 7	-11	-17	-19	-17	496			
4		-18	- 6	+ 7	+13	+13	+ 9	+ 5	+ 4	+ 3	+ 2	0	- 1	+ 1	+ 1	+ 2	+ 3	+ 3	+ 4	+ 8	- 5	-14	-16	-15	- 7	496			
5		+ 1	+11	+20	+20	+13	+ 8	+ 3	+ 1	- 1	- 1	- 3	- 5	- 3	- 4	- 2	+ 1	+ 3	+ 7	+ 9	+ 4	- 8	-18	-21	-23	498			
6		- 9	+ 2	+15	+22	+12	+ 5	+ 3	+ 3	+ 2	+ 1	- 3	+ 1	- 3	- 8	- 3	+ 3	+ 4	+11	+13	+ 2	-14	-19	-27	-19	496			
7		-14	+ 9	+16	+23	+14	+ 9	+ 5	+ 4	- 5	- 5	-13	-16	-11	- 6	- 1	+ 3	+ 4	+ 4	+ 9	+ 3	- 6	- 7	- 6	- 4	495			
8		+ 1	+11	+19	+21	+16	+15	+ 6	+ 2	+ 4	0	- 6	- 7	- 5	- 5	- 5	- 7	+ 5	+ 5	+ 8	- 3	-15	-26	-25	-15	494			
9		- 9	+ 1	+13	+21	+13	+11	+ 4	+ 1	+ 1	+ 1	- 7	- 5	- 7	- 7	- 1	+ 2	+ 2	+ 3	+ 9	+ 3	- 7	-17	-14	- 9	496			
10		- 2	+10	+20	+18	+15	+ 9	+ 6	+ 2	+ 1	0	0	- 2	- 2	0	+ 1	+ 2	+ 2	+ 4	+ 4	- 8	-19	-28	-24	- 8	497			
11	+	+10	+21	+20	+13	+12	+ 9	+ 7	+ 3	+ 2	0	- 2	- 4	- 5	- 5	0	+ 1	+ 1	+ 1	- 2	- 8	-21	-27	-21	-11	496			
12	+	+ 4	+16	+23	+24	+22	+12	+ 7	+ 2	+ 1	- 2	- 4	- 7	- 8	- 7	- 4	+ 2	+ 2	+ 2	+ 4	- 6	-18	-27	-28	-18	497			
13	+	- 7	+10	+20	+21	+12	+10	+ 7	- 2	- 5	- 7	- 8	- 6	- 8	- 5	0	+ 1	+ 2	+ 4	+10	+ 2	- 8	-13	-18	-18	497			
14	+	- 7	+ 6	+25	+26	+16	+11	+ 6	+ 5	0	- 2	- 3	- 3	- 3	- 3	+ 2	+ 5	+ 5	+ 6	+10	+ 2	-15	-27	-33	-29	493			
15		-23	- 7	+16	+22	+15	+ 7	+ 3	- 3	- 5	- 9	- 6	- 3	- 3	+ 2	+ 7	+ 7	+ 8	+ 9	+13	+ 3	- 7	-14	- 8	-13	492			
16		-10	+ 5	+20	+27	+16	+10	+ 5	- 3	- 5	-11	- 8	- 2	+ 1	+ 8	+ 8	+ 9	+ 9	+ 9	+10	+ 1	- 9	-21	-30	-31	490			
17		-25	- 7	+10	+17	+14	+10	+ 5	+ 1	0	- 2	- 3	- 2	+ 3	+ 2	+ 4	+ 7	+10	+11	+11	- 2	-15	-22	-24	-15	494			
18		- 4	+14	+16	+16	+14	+ 7	+ 5	+ 2	+ 1	- 2	- 2	- 4	- 4	- 2	+ 4	+ 6	+ 6	+ 5	+ 3	-10	-19	-23	-24	-16	493			
19		- 5	+ 5	+14	+13	+ 7	+ 3	- 5	- 5	- 5	- 5	- 4	- 1	+ 3	+ 5	+ 5	+ 7	+ 7	+ 6	+ 9	- 2	-10	-17	-20	-15	494			
20		- 6	+ 3	+10	+16	+ 9	+ 6	+ 5	+ 4	- 4	- 4	- 4	- 4	- 3	+ 2	+ 5	+ 7	+ 9	+ 6	+ 8	+ 4	- 6	-15	-23	-26	493			
21		-20	- 3	+17	+19	+12	+ 7	+ 5	+ 3	+ 3	+ 1	- 1	0	+ 4	+ 5	+ 7	+ 7	+ 8	+ 8	+ 9	0	-13	-22	-25	-24	492			
22		-12	+ 1	+ 7	+ 8	+ 4	+ 1	- 3	- 5	-13	-14	-11	- 6	- 3	+ 4	+ 9	+ 9	+11	+ 7	+10	+ 5	- 3	- 7	- 7	+ 1	494			
23		+ 5	+ 9	+16	+16	+ 7	+ 2	- 3	-11	-12	- 8	- 8	- 7	- 5	+ 2	+ 5	+ 8	+11	+15	+ 9	+ 2	-10	-16	-15	-14	494			
24		- 6	+ 2	+16	+16	+ 5	- 5	- 2	0	- 2	- 4	- 3	- 3	0	+ 1	+ 3	+ 5	+10	+ 6	+11	0	- 8	-16	-23	-15	494			
25		- 7	+ 1	+14	+14	+ 6	+ 5	+ 2	- 2	0	- 2	- 3	- 2	- 1	+ 5	+ 7	+13	+ 8	+ 5	+ 7	- 2	-13	-22	-25	-16	494			
26		- 3	+14	+22	+22	+ 7	+ 3	- 2	+ 1	- 4	- 4	- 4	- 3	+ 1	+ 5	+ 8	+12	+ 7	+ 7	+ 7	- 7	-21	-27	-27	-21	492			
27		- 4	+11	+16	+14	+ 7	+ 5	+ 4	+ 2	0	- 2	- 4	- 4	0	+ 3	+ 6	+ 6	+ 6	+ 6	+ 8	- 2	-14	-19	-21	-13	493			
28		- 2	+ 3	+16	+11	+10	+10	+ 8	+ 2	- 3	0	- 3	- 5	- 4	0	+ 3	+ 4	+ 6	+ 7	+11	+ 6	- 4	-19	-30	-30	490			
29		-17	- 7	+ 5	+ 8	+ 1	- 7	- 4	- 1	-11	- 7	- 3	+ 3	0	+ 3	+ 7	+11	+17	+15	+15	+ 3	- 6	-10	- 6	- 7	486			
30		- 7	+12	+23	+27	+21	+11	+ 7	+ 4	0	- 3	- 5	- 5	- 4	- 3	0	+ 1	+ 3	+ 4	+ 5	- 5	-14	-25	-31	-27	496			
31	+																												
MEAN.		- 7	+ 5	+15	+18	+12	+ 7	+ 3	+ 1	- 2	- 4	- 4	- 4	- 3	- 1	+ 2	+ 5	+ 6	+ 7	+ 9	- 1	-11	-19	-21	-16	494			

DECLINATION

(D = 10° + Mean + ...East)

G.M.T. Unit = 0.1 minute of arc June 1939.

DAY.		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1																													
2		-25	-12	+ 9	+14	+11	+11	+ 8	+ 5	+ 5	- 1	- 8	- 5	- 5	- 5	- 2	+ 3	+ 5	+ 7	+21	+19	+ 1	-17	-29	-21	494			
3		- 5	+ 7	+13	+10	+ 6	+ 9	+ 7	+ 5	+ 5	- 1	- 3	- 5	- 5	- 1	+ 1	+ 4	+ 5	+ 6	+13	+ 5	- 7	-21	-27	-22	494			
4		- 8	+ 3	+ 5	+ 8	+ 6	+ 5	+ 2	+ 1	- 4	- 3	- 4	- 4	- 3	- 2	+ 2	+ 4	+ 6	+ 6	+12	+ 9	+ 2	- 9	-15	-16	497			
5		- 6	+11	+21	+22	+14	+ 7	+ 3	- 3	- 8	-11	-11	- 9	- 7	- 5	- 4	- 1	0	+ 1	+ 7	+ 7	- 1	- 6	-10	-12	501			
6		- 8	+ 1	+11	+11	+ 7	+ 5	+ 4	- 1	- 1	- 2	- 2	- 4	- 3	- 1	- 1	0	+ 2	+ 5	+11	+11	+ 1	- 9	-16	-21	494			
7	+																												
8	+																												
9	+	- 8	+ 4	+10	+15	+12	+10	+ 5	+ 2	- 1	- 1	- 2	- 2	0	+ 2	+ 4	+ 4	+ 6	+ 7	+ 8	- 2	-13	-22	-18	-11	500			
10		- 2	+ 7	+ 9	+16	+10	+ 4	- 2	- 5	- 6	- 7	- 6	- 3	- 2	0	0	+ 3	+ 6	+ 7	+12	+ 8	- 2	-12	-20	-20	500			
11	+	- 7	+ 1	+ 4	+ 5	+ 1	+ 2	+ 2	- 1	- 5	- 6	- 4	- 5	- 1	+ 1	+ 3	+ 6	+ 7	+ 5	+10	+ 7	- 1	- 8	-11	-15	497			
12		- 8	+ 2	+ 5	+ 6	+ 1	+ 1	- 3	- 4	- 4	- 6	- 5	- 3	0	+ 2	+ 3	+ 6	+ 5	+ 5	+12	+10	+ 2	- 7	-13	-18	496			
13		-13	0	+ 2	- 2	- 4	- 3	- 4	- 6	- 6	- 6	- 4	- 1	+ 1	+ 3	+ 6	+10	+10	+12	+20	+19	+12	- 2	-19	-22	498			
14		- 4	+ 7	+10	+10	- 1	+ 5	+ 3	+ 2	- 5	-19	-24	-17	-10	-10	- 1	+ 9	+14	+14	+18	+16	+ 6	- 7	- 9	- 9	488			
15																													
16		0	+ 7	+ 9	+11	+ 1	- 3	- 2	- 3	- 6	- 3	- 7	- 3	- 1	+ 1	+ 2	+ 5	+ 9	+ 8	+11	+ 3	- 7	-13	-15	-11	498			
17		- 9	+ 5	+11	+13	+ 8	0	- 2	- 4	- 3	- 2	- 2	- 2	- 1	- 1	0	+ 2	+ 5	+ 5	+ 9	+ 2	- 6	-13	-15	-12	501			
18		- 5	+ 2	+ 8	+12	+ 1	- 4	0	- 6	- 6	- 8	- 7	- 6	- 4	- 2	+ 8	+11	+11	+11	+14	+ 1	- 8	-15	-12	- 6	497			
19		+ 2	+12	+13	+ 6	+ 2	- 2	- 5	- 5	- 6	- 8	- 8	- 5	- 3	+ 3	+ 3	+ 8	+11	+10	+15	+13	- 2	-14	-18	-17	498			
20		-13	- 3	+ 3	+ 3	- 2	- 2	- 2	- 3	- 3	- 3	- 3	- 3	- 3	- 2	+ 1	+ 8	+12	+11	+17	+14	+ 6	- 7	-13	- 8	497			
21		- 3	+10	+16	+14	+ 7	+ 1	+ 3	- 5	- 3	- 3	- 7	- 4	- 5	0	+ 3	+ 3	+ 3	+ 3	+ 7	+11	+ 4	-13	-20	-20	503			
22		-11	+ 2	+11	+13	+ 8	- 1	- 1	- 3	- 3	- 1	- 1	- 1	0	+ 1	+ 3	+ 7	+ 8	+ 6	+10	+ 3	- 3	-12	-17	-13	498			
23		- 7	+ 1	+ 6	+ 3	- 3	- 3	- 3	- 3	- 3	- 4	- 3	- 3	- 3	0	+ 1	+ 5	+ 7	+ 7	+ 9	+ 7	+ 3	- 3	- 9	-11	502			
24		- 4	+11	+19	+14	+ 6	- 2	- 5	- 3	- 3	- 4	- 3	- 3	- 2	- 1	+ 4	+ 8	+ 8	+ 8	+10	+ 9	- 1	-11	-22	-22	502			
25	+	-11	+ 2	+12	+11	+ 4	+ 1	+ 1	- 1	- 1	0	0	0	+ 1	+ 1	+ 3	+ 7	+ 8	+ 9	+11	+ 5	- 7	-19	-26	-19	500			
26		-20	- 3	+16	+18	+ 7	+ 3	- 1	- 3	- 4	- 6	- 6	- 5	- 4	- 3	- 1	+ 1	+ 6	+ 7	+ 9	+ 6	+ 1	- 3	-10	-10	505			
27		- 6	+ 2	+20	+24	+14	+ 9	+ 1	- 1	- 3	- 6	-10	-11	-11	- 9	- 6	+ 1	+ 1	+ 1	+ 8	+ 6	0	- 7	- 6	0	503			
28		+ 9	+18	+19	+16	+ 7	+ 1	- 2	- 5	- 6	- 6	- 6	- 6	-10	- 8	- 3	- 1	+ 5	+ 7	+ 8	+ 1	+ 1	-14	-15	-18	505			
29		- 6	+ 6	+18	+26	+14	+ 7	- 1	+ 3	- 3	- 6	- 9	-12	-12	-10	-12	0	+ 6	+ 7	+ 9	+ 9	+ 2	- 8	-13	-15	505			
30		-12	+ 1	+15	+20	+12	+ 7	+ 3	+ 2	+ 2	- 6	- 6	0	0	+ 2	+ 3	+ 7	+ 6	+11	+15	+ 9	- 8	-26	-33	-28	500			
31																													
MEAN.		- 7	+ 4	+11	+12	+ 6	+ 3	0	- 2	- 3	- 5	- 6	- 5	- 3	- 2	+ 1	+ 5	+ 7	+ 7	+12	+ 8	- 1	-11	-16	-15	499			

DECLINATION

(D = 10° + Mean + ...East)

G.M.T. Unit = 0.1 minute of arc July 1939.

DAY.		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1		-19	- 5	+ 8	+12	+11	+ 6	+ 8	+ 6	+ 2	+ 1	- 6	- 7	- 7	- 5	+ 2	+ 3	+ 5	+ 9	+12	+ 6	- 4	-12	-18	-13	501			
2		-10	+ 1	+13	+18	+14	+ 8	+ 6	+ 3	- 1	- 3	- 5	- 6	- 7	- 3	- 2	+ 3	+ 3	+ 3	+ 9	+ 9	+ 3	- 9	-22	-23	505			
3		-17	- 6	+ 3	+11	+ 3	0	- 2	+ 1	- 5	- 7	-13	-17	-16	-26	- 4	+ 4	+13	+15	+22	+19	+11	+ 3	+ 2	- 1	510			
4		- 2	0	+ 7	+ 4	- 3	- 3	- 2	- 2	- 2	- 2	- 3	- 4	- 5	- 3	0	+ 7	+14	+17	+20	+19	+ 8	-12	-24	-32	505			
5		-34	-16	+10	+18	+13	+12	+16	+13	+ 3	-15	-27	-35	-22	-16	- 1	+14	+15	+24	+30	+22	+ 4	- 3	- 6	-18	509			
6		- 6	+ 4	+14	+14	+12	+ 5	+ 3	- 1	- 3	- 4	- 5	- 4	- 3	+ 1	+ 4	+ 5	+ 6	+ 6	+13	+ 8	- 5	-22	-23	-13	498			
7	+	- 7	+ 5	+14	+15	+13	+ 8	+ 3	+ 3	+ 1	0	- 1	- 3	- 3	- 1	+ 2	+ 3	+ 4	+ 5	+ 9	0	- 8	-20	-26	-26	500			
8																													
9	+																												
10	+	-11	+ 3	+11	+12	+ 7	+ 5	+ 1	- 1	- 4	- 4	- 5	- 5	- 4	- 2	- 1	+ 2	+ 5	+ 6	+11	+ 7	- 2	-11	-15	-17	504			
11		- 6	+ 4	+12	+ 8	+ 4	+ 3	+ 3	+ 2	0	0	0	+ 3	+ 4	+10	+11	+14	+13	+12	+13	+ 2	-16	-32	-37	-24	499			
12		- 3	+16	+19	+10	0	- 1	- 2	- 3	- 4	- 3	- 2	- 2	0	+ 2	+ 6	+ 8	+12	+10	+11	0	-16	-23	-23	-12	505			
13	+	+ 4	+11	+10	+ 6	- 1	- 2	- 2	- 2	- 2	- 2	- 2	- 2	- 1	+ 2	+ 5	+ 6	+ 4	+ 2	+ 2	- 8	-18	-14	- 5	- 2	505			
14		+ 2	+ 8	+15	+13	+10	+12	+10	+ 8	0	-10	-13	-18	-11	- 7	- 5	- 1	+ 6	+ 9	+11	+ 8	+ 1	- 5	-14	-20	503			
15		-13	+ 2	+13	+ 9	+ 4	+ 3	+ 2	- 1	- 2	- 1	0	+ 1	0	+ 3	+ 3	+ 5	+ 5	+ 9	+15	+13	- 4	-18	-25	-26	500			
16		-17	+ 1	+11	+10	+ 5	+ 3	+ 2	0	- 5	- 5	- 8	- 7	- 4	+ 2	+ 5	+11	+13	+13	+22	+13	- 5	-17	-17	-17	500			
17																													
18																													
19		-19	+ 1	+15	+21	+13	+ 8	+ 3	0	- 1	- 4	- 4	- 2	- 1	+ 1	+ 4	+ 7	+10	+10	+16	+11	- 5	-17	-27	-29	502			
20		-16	- 4	+10	+ 9	+ 6	+ 4	+15	+ 7	+ 3	- 2	- 8	-13	-16	-13	-12	- 1	+ 7	+17	+23	+12	+ 2	- 7	-15	-10	490			
21		- 6	+ 8	+20	+20	+12	+ 7	+ 6	+ 2	+ 2	+ 1	- 1	- 9	-10	-14	+ 1	+ 6	+ 9	+ 9	+14	+ 2	- 9	-13	-22	-29	494			
22		-20	+ 4	+10	+12	+ 2	0	+ 3	0	- 1	- 2	- 4	- 5	- 6	- 4	+ 2	+ 5	+ 6	+ 7	+ 8	+ 7	0	- 2	- 4	- 7	498			
23		- 5	+ 2	+ 6	+ 5	+ 1	- 2	- 2	- 5	- 4	- 3	- 1	- 1	+ 1	+ 3	+ 5	+ 8	+ 6	+ 7	+ 9	+ 5	- 3	- 9	-14	-15	498			
24		- 5	+16	+19	+15	+ 7	+ 4	+ 4	+ 3	+ 3	+ 3	+ 3	+ 3	- 3	- 3	+ 4	+ 9	+13	+ 8	+11	+ 1	-14	-28	-41	-36	499			
25																													
26		- 7	+11	+20	+17	+ 9	+ 4	+ 3	+ 1	- 6	-17	-15	-16	-14	-16	- 6	+ 2	+ 7	+ 8	+17	+19	+10	- 6	-12	-17	502			
27		- 5	+14	+16	+15	+13	+11	+ 9	+ 5	+ 1	- 4	- 6	- 7	- 5	- 5	- 4	+ 1	+ 5	+ 6	+ 6	+ 2	- 5	-16	-21	-22	499			
28		-12	+ 6	+14	+14	+10	+ 5	+ 8	+ 5	+ 3	- 2	- 4	- 3	- 3	- 3	+ 3	+ 3	+ 5	+ 7	+11	+ 4	- 7	-17	-27	-29	500			
29		-14	+ 3	+15	+15	+12	+ 6	+ 4	+ 2	0	- 4	- 3	- 1	+ 2	+ 3	+ 4	+ 6	+ 7	+ 8	+12	- 1	-18	-26	-22	-16	501			
30	+	-10	+ 9	+19	+19	+11	+ 7	+ 2	- 1	- 3	- 4	- 5	- 5	- 2	0	+ 1	+ 6	+ 7	+ 7	+ 7	- 2	-18	-22	-22	- 8	504			
31		+15	+23	+22	+17	+ 9	+ 4	+ 4	+ 1	0	- 1	- 2	- 4	- 2	0	+ 2	+ 6	+ 6	+ 5	+ 5	- 4	-19	-29	-31	-25	504			
MEAN.		- 9	+ 5	+13	+13	+ 8	+ 5	+ 4	+ 2	- 1	- 4	- 5	- 6	- 5	- 4	+ 1	+ 6	+ 8	+ 9	+13	+ 7	- 5	-15	-20	-19	501			

[269/3/42—18267

DECLINATION

(D = 10° + Mean + ...East)

G.M.T. Unit = 0.1 minute of arc August 1939.

DAY.		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1																													
2	+	- 7	+ 6	+15	+15	+11	+ 4	+ 4	+ 3	0	0	- 2	- 1	+ 1	+ 4	+ 4	+ 5	+ 7	+ 6	+10	- 1	-13	-22	-25	-18	500			
3	+	- 8	+ 6	+15	+14	+ 5	+ 2	+ 2	+ 1	- 2	- 3	- 2	+ 2	+ 2	+ 3	+ 4	+ 5	+ 6	+ 6	+11	+ 4	- 6	-17	-23	-17	500			
4		- 3	+13	+19	+16	+ 7	+ 5	+ 4	+ 2	+ 2	0	- 3	- 3	- 2	- 2	+ 1	+ 4	+ 5	+ 6	+11	+ 4	- 7	-17	-27	-24	498			
5	+	-15	+ 9	+19	+18	+10	+ 3	+ 3	- 1	- 2	- 3	- 3	- 3	- 1	+ 1	+ 2	+ 4	+ 7	+ 8	+ 9	+ 3	- 9	-22	-26	-16	502			
6	+	- 4	+ 6	+19	+24	+15	+ 5	+ 1	- 2	- 2	- 4	- 3	- 3	- 2	+ 1	+ 2	+ 4	+ 6	+ 7	+11	+ 4	- 5	-16	-26	-32	507			
7	+	-27	-16	+ 1	+10	+ 4	+ 1	+ 1	+ 1	+ 1	+ 1	+ 1	+ 1	+ 2	+ 4	+ 6	+10	+11	+12	+15	+10	+ 1	-10	-19	-26	503			
8		-26	-14	+ 2	+11	+ 8	+ 4	+ 5	+ 3	+ 2	+ 2	+ 2	+ 2	+ 3	+ 5	+ 6	+ 7	+ 9	+11	+14	+ 9	- 7	-17	-24	-29	502			
9		-15	- 1	+ 4	+ 6	+10	+14	+ 6	+ 5	+ 5	+ 6	+ 6	+ 5	+ 5	+10	+ 7	+ 9	+15	+15	+16	+ 1	-16	-35	-43	-36	498			
10		-20	+ 7	+23	+21	+13	+ 4	+ 2	- 1	- 5	- 7	-18	- 7	- 1	+ 3	+10	+12	+17	+18	+21	+13	- 9	-26	-35	-29	502			
11		-16	+ 2	+17	+16	+12	+ 4	+ 2	+ 2	- 1	+ 1	0	0	+ 2	+ 3	+ 5	+ 9	+15	+16	+20	+ 3	-10	-27	-38	-36	501			
12		-18	+ 4	+17	+19	+ 2	+ 6	+ 3	- 2	-10	- 9	-11	-11	- 8	- 1	+ 5	+ 9	+10	+ 9	+10	+ 8	- 1	- 9	-11	-17	494			
13		-13	+ 3	+23	+22	+ 6	+ 4	- 2	- 5	- 3	- 7	- 6	- 5	- 4	- 2	+ 3	+10	+16	+15	+16	+ 7	- 9	-18	-23	-28	498			
14		-16	- 1	+10	+14	+10	+ 6	+ 6	+ 6	+ 5	- 2	- 2	- 2	- 2	+ 2	+ 5	+ 6	+ 7	+ 8	+13	+ 4	- 8	-14	-22	-28	497			
15		-25	0	+16	+19	+14	+11	+ 8	+ 5	+ 3	+ 3	+ 1	- 1	0	+ 1	+ 3	+ 5	+ 8	+13	+16	+ 7	- 6	-22	-37	-46	500			
16		-33	- 7	+ 6	+15	+18	+18	+18	+15	+ 7	+ 4	- 4	- 9	-15	-16	- 5	- 2	+ 5	+13	+20	+ 7	- 4	-14	-20	-24	499			
17		-17	- 2	+ 7	+ 8	+ 7	+ 8	+ 9	+ 8	+ 6	+ 5	0	- 2	- 6	- 5	- 4	+ 3	+ 6	+10	+18	+ 7	- 2	-14	-25	-27	499			
18																													
19		-20	- 8	+ 3	+ 5	+ 6	+ 4	+ 4	+ 3	+ 3	+ 1	+ 2	+ 2	+ 2	+ 4	+ 5	+ 8	+12	+12	+22	+ 9	- 9	-23	-27	-25	501			
20		-15	+ 6	+12	+10	+ 1	0	+ 2	+ 2	0	0	0	- 1	- 1	0	+ 2	+ 4	+ 5	+ 5	+10	+ 1	- 6	-12	-18	-14	503			
21																													
22		+12	+34	+44	+36	+ 5	+ 4	+ 7	+ 4	- 3	-13	-12	-16	-33	-30	-20	-25	- 9	0	+ 2	+ 2	- 2	- 2	+ 2	+ 8	501			
23		+26	+28	+23	+19	+13	+11	+ 8	+10	+ 3	- 6	-12	-18	-15	- 7	- 5	+ 1	+ 3	+ 4	+ 8	- 7	-15	-20	-22	-20	493			
24		-17	- 6	+ 2	+15	+14	+12	+11	+ 7	+ 4	- 1	- 3	0	- 2	- 2	+ 1	+ 5	+ 8	+11	+ 8	- 3	-13	-16	-18	-14	498			
25		- 7	+ 1	+16	+15	+16	+13	+11	+ 5	+ 1	- 4	- 7	- 6	- 7	- 3	+ 2	+ 5	+ 9	+11	+13	+ 2	-12	-22	-28	-27	502			
26		-11	+ 8	+19	+18	+15	+12	+ 9	+ 5	0	- 5	- 6	- 6	- 5	- 6	- 1	+ 2	+ 6	+12	+16	+ 5	-14	-26	-31	-26	505			
27		-16	+ 1	+12	+19	+17	+11	+10	+ 4	+ 3	+ 1	0	0	- 3	- 3	0	+ 3	+10	+12	+10	- 3	-18	-20	-21	-19	503			
28		- 8	+ 9	+21	+21	+14	+11	+11	+ 8	+ 4	+ 2	- 3	- 2	- 3	- 1	+ 1	+ 2	+ 3	+ 8	+11	0	-18	-35	-36	-15	502			
29		+ 3	+20	+25	+23	+13	+10	+ 8	+ 5	+ 4	+ 2	+ 1	- 1	- 3	0	+ 2	+ 3	+ 3	+ 4	+ 9	- 7	-20	-34	-38	-28	503			
30		- 8	+ 2	+ 6	+10	+ 3	+ 3	+ 6	+ 4	+ 2	+ 1	+ 1	0	- 2	- 1	0	+ 2	+ 6	+10	+11	- 1	-10	-18	-17	- 7	503			
31		+11	+18	+12	+ 9	+ 3	+ 1	+ 2	0	+ 1	- 1	0	+ 1	+ 1	+ 1	+ 4	+ 7	+ 7	+ 8	+ 8	- 3	-11	-21	-30	-25	504			
MEAN.		-11	+ 5	+15	+16	+10	+ 7	+ 6	+ 3	+ 1	- 1	- 3	- 3	- 3	- 1	+ 2	+ 4	+ 8	+10	+13	+ 3	- 9	-20	-25	-23	501			

DECLINATION

(D = 10° + Mean + ...East)

Unit = 0.1 minute of arc

G.M.T.

September 1939.

DAY.		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1	+	- 2	+10	+13	+12	+ 7	+ 5	+ 5	+ 4	+ 3	+ 3	+ 4	+ 4	+ 5	+ 6	+ 6	+ 8	+ 8	+13	+ 9	-11	-21	-30	-32	-24	498			
2		-13	- 3	+10	+11	+ 9	+ 6	+ 4	+ 4	+ 3	+ 3	+ 2	+ 3	+ 4	+ 5	+ 8	+ 9	+11	+11	+11	- 6	-19	-28	-24	-16	502			
3		- 8	+ 6	+25	+19	+15	+11	+ 9	+ 5	+ 3	- 1	- 5	- 4	- 2	0	+ 4	+ 5	+ 4	- 1	- 2	-13	-21	-21	-18	- 9	506			
4		0	+15	+20	+15	+ 6	0	0	+ 2	+ 1	- 2	- 2	- 1	- 2	- 2	+ 2	+ 4	+ 3	+ 4	0	-12	-17	-16	-13	- 4	507			
5	+	0	+ 7	+ 6	0	0	+ 2	+ 3	+ 1	0	- 1	- 2	0	- 1	0	+ 3	+ 5	+ 6	+ 8	+ 6	- 9	-14	-15	-11	- 4	507			
6																													
7		0	+37	+50	+37	+15	+ 2	0	- 2	- 7	-10	-11	-10	-10	- 8	- 3	- 3	0	+ 4	+ 1	-10	-18	-20	-17	- 8	513			
8		+ 5	+17	+26	+20	+10	+ 4	+ 1	- 2	- 5	- 8	- 9	- 8	- 8	- 5	- 3	- 1	+ 1	+ 9	+ 9	- 2	-11	-17	-18	-10	514			
9		+ 9	+21	+29	+29	+18	+ 2	- 8	- 5	- 5	-10	-14	-11	- 9	+ 1	+ 9	+17	+18	+15	+ 2	-15	-22	-27	-25	-13	504			
10		- 2	+16	+26	+28	+18	+ 9	+ 5	+ 4	- 1	- 3	- 2	+ 1	+ 3	- 2	+ 3	+ 6	+ 6	+ 5	- 6	-19	-26	-26	-24	-16	509			
11																													
12		+11	+26	+22	+11	+ 1	- 3	0	- 1	- 7	- 6	- 6	- 3	- 3	- 1	+ 1	+ 4	+ 5	+ 7	+ 1	-11	-16	-15	-15	- 5	512			
13		+11	+13	+12	+10	+ 4	+ 3	+ 4	+ 3	+ 1	+ 1	0	- 1	- 1	+ 1	+ 2	+ 3	+ 3	+ 4	- 3	-14	-18	-18	-15	-10	510			
14		+ 2	+13	+14	+10	+ 4	+ 4	+ 6	+ 7	+ 5	+ 4	+ 1	- 1	- 3	0	+ 3	+ 7	+ 6	+ 5	- 5	-19	-20	-17	-14	- 5	509			
15		+ 3	+12	+13	+ 7	+ 4	+ 4	+ 6	+ 6	+ 4	+ 3	+ 2	+ 3	+ 3	+ 2	+ 4	+ 4	+ 5	+ 6	0	-15	-21	-23	-21	-14	509			
16		- 8	- 6	- 6	- 4	- 2	+ 4	+ 6	+ 4	+ 3	+ 3	+ 2	+ 2	0	+ 3	+ 5	+ 7	+ 7	+ 7	+ 1	-10	-11	-11	- 5	- 2	508			
17		+ 4	+ 9	+ 7	+ 8	+ 5	- 3	+ 3	+ 4	+ 3	0	+ 1	- 2	- 5	- 7	- 7	- 4	+ 1	+11	+15	+ 6	- 3	-15	-17	-15	509			
18		-10	- 2	+ 4	+ 5	- 1	- 2	+ 5	+ 8	+ 7	+ 5	0	+ 3	+ 2	+ 4	+ 5	+ 7	+ 8	+ 7	+ 4	- 7	-12	-14	-13	-11	506			
19		- 6	+10	+20	+23	+18	+11	+ 8	+ 4	- 4	- 5	-15	-13	-12	- 5	- 5	0	- 3	+ 5	- 5	- 6	- 5	- 7	- 2	- 4	509			
20		+ 4	+ 8	+12	+14	+ 7	+ 6	+ 4	+ 5	0	- 6	- 7	- 6	- 2	+ 3	+ 1	+ 4	+ 7	+ 3	- 4	-14	-15	-14	-10	- 5	507			
21																													
22																													
23		+10	+23	+22	+16	+13	+ 7	+ 7	+ 5	- 1	- 1	0	0	+ 1	+ 3	+ 4	+ 5	+ 5	+ 5	- 6	-18	-26	-31	-26	-15	509			
24	+																												
25		+ 2	+18	+20	+15	+ 9	+ 4	+ 3	+ 3	+ 2	0	- 2	- 6	- 2	0	+ 3	+ 5	+10	+ 9	+ 4	-20	-24	-20	-20	-18	515			
26																													
27																													
28	+																												
29	+																												
30																													
31																													
MEAN.		+ 1	+13	+17	+14	+ 8	+ 4	+ 4	+ 3	0	- 2	- 3	- 2	- 2	0	+ 2	+ 5	+ 6	+ 7	+ 2	-11	-17	-19	-17	-10	508			

200/3/42—18267

DECLINATION

(D = 10° + Mean + ...East)

G.M.T. Unit = 0.1 minute of arc October 1939.

DAY.		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1		-14	- 4	+ 3	+ 6	+ 7	+ 6	+ 8	+ 9	+ 7	+ 5	+ 4	+ 2	- 1	- 1	+ 1	+ 2	+ 5	+ 6	+ 2	-12	-15	-15	-14	- 3	506			
2		+ 5	+12	+15	+15	+12	+11	+11	+ 7	+ 5	+ 2	+ 1	0	0	+ 2	+ 1	+ 2	+ 2	+ 3	- 8	-20	-25	-24	-16	- 4	509			
3		+11	+15	+16	+21	+22	+18	+18	+14	+ 6	- 2	- 6	- 7	-15	-15	- 5	+ 2	- 5	-11	-16	-22	-18	-17	-11	- 3	506			
4		+ 5	+23	+23	+16	+ 8	+14	+16	+10	+ 6	+ 4	+ 3	+ 4	+ 2	+ 4	+ 5	+ 9	+12	+ 7	- 6	-30	-41	-43	-36	-24	505			
5		-14	- 1	+ 6	+ 7	+ 7	+ 5	+ 7	+ 8	+ 7	0	- 8	- 4	- 3	- 6	- 2	+ 2	+ 8	+ 7	- 3	-10	-10	- 9	0	+10	511			
6		+18	+26	+23	+18	+16	+ 3	- 4	- 3	- 5	- 5	- 7	- 9	- 5	- 2	- 2	+ 4	+ 5	- 1	-12	-23	-21	-14	-10	+ 7	513			
7		+17	+21	+19	+10	+ 4	+ 1	+ 2	- 3	- 1	- 1	- 4	- 3	- 5	- 5	- 4	- 4	- 2	- 3	- 8	-19	-10	- 5	- 5	+ 5	516			
8		+19	+24	+25	+16	- 1	- 5	- 4	- 3	- 3	- 3	- 2	- 1	- 1	0	+ 1	+ 4	+ 3	- 2	-13	-23	-24	-16	- 7	+ 4	512			
9		+17	+16	+15	+13	+ 9	+ 8	+ 4	-11	-10	0	+ 1	+ 2	+ 2	+ 4	+ 5	+ 9	+ 9	+ 1	-14	-26	-30	-23	- 6	+13	506			
10		+19	+23	+18	+ 7	+ 5	+ 5	+ 8	+ 7	+ 4	+ 3	+ 1	0	0	+ 1	+ 2	+ 6	+ 5	- 1	-12	-25	-32	-27	-13	+ 7	510			
11		+15	+20	+20	+14	+12	+13	+10	+ 7	+ 2	+ 1	- 2	- 2	- 2	0	0	+ 1	+ 2	- 3	-20	-31	-29	-20	- 9	+ 1	514			
12	+	+11	+13	+11	+ 3	+ 2	+11	+11	+ 5	+ 4	+ 4	+ 3	+ 2	+ 3	+ 4	+ 5	+ 5	+ 5	- 2	-16	-25	-27	-27	-10	+11	508			
13		+28	+28	+37	+32	+26	+23	+11	+ 4	- 2	-11	-10	- 6	- 4	- 2	+ 5	+ 3	+ 8	+ 6	- 6	-40	-51	-50	-25	-15	514			
14		+20	+19	+19	+21	+14	+12	+ 2	- 9	-18	-16	-20	-11	- 3	+ 3	+10	+13	+13	+ 1	-16	-28	-29	-20	0	+22	497			
15		+26	+30	+35	+24	+11	+ 1	+ 2	+ 4	0	- 4	- 8	- 8	- 4	- 1	- 2	0	- 1	-14	-28	-31	-27	-13	- 1	+14	511			
16		+27	+30	+24	+13	+ 5	+ 6	+ 7	+ 7	0	- 3	- 5	-10	- 6	- 3	- 5	- 3	- 5	- 3	-11	-24	-30	-21	- 5	+13	512			
17		+23	+29	+28	+16	+13	+11	+ 4	+ 5	+ 3	+ 1	- 5	- 7	- 2	- 1	- 1	0	+ 1	- 8	-12	-20	-24	-28	-15	0	508			
18		+12	+20	+16	+11	+12	+14	+13	+13	+11	+ 5	- 5	- 8	-10	- 9	- 9	- 8	- 8	-10	- 8	-17	-18	-21	- 8	+ 2	507			
19		+12	+20	+24	+22	+14	+14	+14	+ 7	+ 3	- 2	- 8	- 7	- 6	- 3	- 5	- 5	- 7	- 9	-17	-28	-25	-19	- 9	+10	507			
20	+	+20	+21	+21	+16	+16	+14	+11	+ 9	+ 5	+ 1	+ 1	+ 2	+ 2	+ 2	+ 2	+ 3	- 1	-14	-29	-40	-38	-28	- 5	+17	508			
21		+26	+29	+27	+16	+ 7	+ 7	+ 8	+ 9	+ 6	+ 5	+ 3	- 1	- 4	- 2	- 3	- 2	- 4	-13	-27	-41	-39	-25	+ 4	+21	513			
22		+31	+30	+19	+ 9	+ 9	+11	+11	+11	+ 9	+ 4	+ 1	0	- 1	+ 6	+ 5	+ 6	+ 2	-11	-23	-40	-43	-41	-18	+ 9	510			
23		+18	+23	+19	+15	+13	+13	+15	+ 8	+ 5	- 5	- 8	-11	- 8	- 5	- 3	- 3	- 2	-11	-23	-29	-25	-20	+ 4	+29	512			
24		+33	+25	+15	+ 7	+ 4	+ 9	+ 6	+ 6	+ 2	0	- 2	- 1	- 1	+ 2	+ 3	+ 4	+ 4	-11	-24	-35	-42	-28	+ 2	+28	513			
25	+	+37	+38	+29	+18	+ 7	+ 7	+ 2	0	0	- 2	- 2	- 2	- 2	- 2	- 1	0	- 1	-13	-25	-31	-32	-27	- 8	+10	519			
26		+23	+29	+25	+15	+ 9	+ 6	+10	+ 4	+ 1	- 3	- 4	- 1	- 1	+ 1	+ 1	+ 3	+ 3	- 5	-18	-29	-35	-28	-16	+ 6	517			
27	+	+25	+32	+28	+19	+ 5	+ 5	+ 2	+ 1	0	- 1	- 3	- 3	- 2	- 1	- 1	0	0	-10	-22	-28	-28	-20	- 3	+10	517			
28		+19	+31	+33	+23	+11	+ 9	+ 5	+ 3	+ 6	+ 4	+ 4	+ 3	- 4	- 1	0	+ 3	- 1	- 9	-26	-40	-42	-26	- 7	+ 9	513			
29		+21	+28	+25	+16	+ 7	+10	+15	+ 9	+ 9	+ 6	+ 3	- 1	- 1	- 3	+ 3	+ 2	0	-13	-32	-37	-34	-22	- 8	+ 7	511			
30		+17	+24	+23	+15	+ 6	+ 6	+ 8	+ 7	+ 6	+ 4	+ 3	+ 3	- 1	- 2	- 1	+ 4	- 1	-14	-24	-34	-34	-23	- 5	+11	512			
31	+	+25	+19	+10	+ 1	- 3	+ 2	+10	+ 8	+ 7	+ 4	+ 2	+ 1	+ 2	+ 2	0	0	- 3	-11	-20	-31	-30	-19	+ 4	+20	509			
MEAN.		+18	+22	+21	+15	+ 9	+ 9	+ 8	+ 5	+ 2	0	- 3	- 3	- 3	- 1	0	+ 2	+ 1	- 6	-17	-28	-29	-23	- 8	+ 8	511			

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DECLINATION

(D = 10° + Mean + ...East)

G.M.T. Unit = 0.1 minute of arc November 1939.

DAY.		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1		+27	+28	+23	+12	+ 6	+ 7	+10	+ 6	+ 2	- 2	- 3	- 5	- 5	- 3	- 3	- 3	- 5	-12	-20	-22	-23	-17	- 3	+ 8	511			
2		+12	+13	+16	+19	+11	+ 8	+ 8	+ 7	+ 4	0	- 1	- 1	- 2	- 2	- 2	0	0	-10	-22	-32	-33	-20	+ 1	+17	510			
3		+24	+26	+25	+18	+12	+ 8	+ 7	+ 5	0	- 4	- 6	- 7	- 7	- 6	- 6	- 4	- 4	-12	-17	-24	-25	-13	+ 4	+ 8	511			
4		+10	+11	+12	+ 8	+ 5	+ 6	+ 8	+ 2	+ 1	+ 1	- 1	- 3	- 4	- 2	- 2	- 1	- 2	-10	-18	-22	-21	- 7	+ 8	+17	509			
5																													
6		+22	+16	+ 6	+ 4	- 1	+ 1	+ 3	+ 5	+ 4	+ 3	+ 2	- 1	- 2	+ 1	+ 2	+ 2	+ 3	- 4	-12	-22	-24	-15	- 3	+11	511			
7		+13	+15	+14	+11	+ 5	+ 4	+ 4	+ 2	+ 1	0	- 1	- 3	- 3	- 3	- 2	+ 2	+ 3	- 1	-14	-29	-28	-10	+ 3	+16	514			
8	+	+29	+25	+15	+10	+ 7	+ 8	+ 7	+ 6	+ 5	+ 2	0	+ 2	+ 4	+ 5	+ 5	+ 5	+ 4	-13	-31	-42	-36	-24	- 8	+ 6	511			
9		+12	+13	+14	+10	+ 2	+ 1	+ 3	+ 3	+ 1	0	0	0	0	+ 1	+ 1	+ 2	+ 3	- 1	-21	-35	-30	-13	+11	+21	515			
10	+	+26	+22	+ 9	0	0	+ 5	+ 9	+ 7	+ 7	+ 6	+ 3	+ 5	+ 4	+ 4	+ 5	+ 4	+ 1	- 8	-19	-28	-31	-26	-10	+ 4	512			
11		+14	+15	+15	+14	+13	+13	+13	+13	+ 6	+ 4	+ 1	+ 2	+ 1	+ 1	+ 1	+ 1	- 1	-10	-20	-32	-34	-25	- 6	+11	511			
12		+15	+13	+13	+12	+11	+12	+13	+11	+ 7	+ 5	+ 3	- 7	- 9	- 7	- 7	- 4	+ 1	- 7	-17	-22	-25	-17	- 6	+ 7	512			
13		+19	+27	+33	+40	+25	+22	+21	+20	+ 6	0	- 7	-18	-18	-17	-15	- 7	- 9	-27	-33	-34	-28	-16	0	+13	512			
14		+22	+31	+31	+28	+21	+16	+13	+ 9	+ 4	0	- 6	- 6	- 4	- 4	- 1	0	+ 1	- 4	-18	-31	-37	-33	-21	- 5	515			
15		+11	+15	+16	+14	+10	+ 9	+ 5	+ 6	+ 1	0	0	+ 1	- 1	- 2	- 1	0	+ 1	- 4	-18	-22	-23	-18	- 2	+ 8	513			
16		+16	+17	+ 9	+ 5	+ 1	+ 3	+ 9	+ 3	+ 2	0	0	- 1	- 1	- 1	- 1	- 1	- 1	-10	-16	-18	-18	-10	+ 2	+17	514			
17		+30	+37	+38	+28	+14	+ 8	+ 9	+ 9	+ 5	+ 1	- 2	- 3	- 6	- 4	- 3	- 2	- 3	-16	-29	-35	-31	-25	-17	- 6	514			
18	+	+ 7	+ 7	+ 6	+ 7	+ 7	+ 9	+12	+ 7	+ 6	- 3	+ 3	+ 4	+ 4	+ 5	+ 6	+ 6	+ 4	- 9	-23	-31	-28	-18	- 5	+11	509			
19		+23	+26	+23	+16	+11	+ 8	+13	+11	+ 7	+ 5	+ 3	+ 2	+ 1	- 2	- 1	+ 2	- 1	-14	-28	-40	-36	-28	-15	+ 3	509			
20		+ 1	+13	+14	+12	+10	+ 6	+11	+10	+ 6	+ 3	+ 2	+ 2	+ 1	+ 3	+ 4	+ 5	+ 5	- 9	-27	-37	-34	-18	- 6	+14	510			
21		+22	+22	+18	+16	+12	+11	+ 9	+ 4	+ 4	+ 3	+ 2	+ 2	+ 2	+ 2	+ 3	+ 3	+ 2	-11	-28	-37	-36	-25	- 7	+13	510			
22	+	+24	+24	+22	+14	+13	+13	+13	+11	+ 7	+ 6	+ 5	+ 3	+ 3	+ 4	+ 4	+ 4	+ 3	-12	-27	-48	-48	-37	-15	+14	509			
23	+	+20	+20	+16	+11	+10	+ 9	+ 9	+ 7	+ 5	0	0	- 1	- 1	0	- 1	- 1	- 2	-14	-24	-34	-31	-20	- 2	+17	513			
24		+21	+22	+20	+17	+12	+11	+10	+ 8	+ 7	+ 7	+ 5	+ 3	+ 2	+ 3	+ 1	+ 1	0	-11	-27	-42	-41	-30	-11	+10	512			
25		+23	+31	+32	+24	+17	+12	+ 4	+ 5	+ 3	- 3	- 5	- 5	- 4	+ 1	+ 3	+ 1	- 4	-23	-37	-46	-36	-23	+ 4	+22	508			
26		+24	+26	+25	+25	+21	+16	+11	+ 8	+ 4	- 4	- 5	- 5	- 4	- 3	- 3	- 1	- 2	-13	-29	-34	-31	-17	- 5	+ 5	515			
27		+19	+21	+24	+20	+18	+11	+15	+ 8	+ 4	+ 1	- 3	- 4	- 2	- 1	0	- 1	- 3	-19	-23	-36	-35	-24	- 6	+10	513			
28		+24	+25	+23	+20	+13	+ 9	+ 8	+ 5	+ 3	+ 1	0	- 5	- 6	0	+ 2	+ 2	0	-16	-36	-41	-36	-19	- 1	+14	509			
29		+22	+27	+25	+16	+ 9	+ 7	+10	+ 9	+ 8	+ 2	- 1	- 2	- 4	- 2	0	+ 2	+ 1	- 9	-21	-38	-37	-30	-10	+10	510			
30		+29	+40	+41	+31	+18	+13	+13	+ 9	+ 8	+ 4	+ 3	+ 3	+ 1	0	0	+ 3	0	-16	-39	-54	-50	-35	-17	+ 3	510			
31																													
MEAN.		+19	+22	+20	+16	+11	+ 9	+10	+ 8	+ 4	+ 1	0	- 2	- 2	- 1	0	+ 1	0	-11	-24	-33	-32	-21	- 5	+10	511			

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200/3/42—18267

DECLINATION

(D = 10° + Mean + ...East)

G.M.T. Unit = 0.1 minute of arc December 1939.

DAY.		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1		+17	+33	+41	+39	+26	+13	+11	+ 9	+ 7	+ 4	- 2	- 4	- 3	- 2	- 1	- 1	- 4	-15	-32	-43	-44	-37	-15	- 1	514			
2		+20	+27	+23	+14	+10	+ 8	+ 9	+ 4	+ 1	0	0	+ 1	+ 2	+ 2	+ 6	+ 8	+ 9	- 3	-21	-38	-33	-28	-16	- 4	510			
3		+ 5	+13	+14	+ 8	+ 4	+ 5	+ 7	+ 8	+ 5	+ 3	- 1	- 2	- 2	- 1	- 1	- 1	- 3	-14	-24	-20	-12	- 5	+ 4	+11	514			
4		+19	+19	+18	+14	+ 8	+ 6	+ 7	+ 7	+ 6	+ 4	+ 1	+ 1	- 1	0	- 1	- 1	- 2	-13	-25	-31	-26	-19	- 7	+ 4	513			
5		+13	+14	+16	+14	+ 6	+ 6	+ 7	+ 7	+ 4	0	- 1	0	- 2	- 4	- 4	- 2	+ 4	- 2	-17	-26	-22	-14	- 2	+13	514			
6		+24	+28	+27	+19	+14	+ 9	+10	+ 8	+ 5	+ 4	0	- 1	- 1	- 2	- 2	- 1	- 1	-10	-21	-30	-29	-31	-14	+ 6	513			
7		+ 9	+19	+36	+39	+40	+39	+29	+12	+ 3	- 8	-13	-16	-17	-17	-15	-11	-12	-21	-31	-29	-23	-15	- 5	+ 7	521			
8		+25	+35	+44	+41	+32	+24	+16	+11	+ 4	+ 1	- 5	-12	-11	-10	- 7	- 7	- 8	-19	-40	-49	-45	-26	- 6	+14	516			
9		+25	+26	+28	+25	+20	+14	+14	+14	+ 4	- 2	- 2	- 5	- 7	- 4	+ 2	0	- 2	-23	-35	-41	-34	-22	- 8	+ 7	515			
10																													
11		+21	+30	+31	+23	+13	+ 9	+ 8	+ 3	0	- 4	- 5	- 5	- 4	- 2	+ 1	0	- 2	-12	-28	-34	-35	-22	- 6	+12	520			
12		+28	+35	+39	+30	+19	+10	+ 7	+ 2	+ 1	- 2	- 3	- 6	- 5	- 5	- 3	- 2	- 2	-12	-21	-35	-38	-32	-17	+10	520			
13		+23	+32	+37	+30	+19	+13	+12	+ 9	+ 6	+ 2	- 2	- 3	- 5	- 5	- 4	+ 1	- 1	-11	-27	-41	-45	-35	-13	+12	520			
14	+	+30	+41	+42	+35	+21	+15	+10	+ 7	+ 2	0	- 4	- 8	- 9	- 6	- 6	- 4	- 4	-11	-24	-40	-44	-35	-16	+ 4	522			
15		+15	+19	+20	+21	+16	+12	+10	+ 8	+ 6	+ 1	- 2	- 3	- 3	- 1	0	0	+ 2	-11	-20	-30	-30	-21	- 8	+ 2	522			
16		+16	+19	+20	+21	+17	+13	+13	+11	+ 9	+ 8	+ 6	+ 3	+ 2	0	+ 1	+ 2	- 2	-10	-24	-37	-41	-33	-11	+ 6	514			
17		+15	+21	+22	+18	+12	+10	+ 9	+ 5	+ 3	+ 1	- 5	- 2	- 1	- 2	- 1	+ 2	+ 2	- 8	-18	-26	-26	-21	-12	+ 2	518			
18	+	+16	+26	+31	+28	+19	+10	+ 7	+ 6	+ 6	+ 5	+ 2	- 1	- 1	0	0	+ 1	- 1	-10	-25	-36	-40	-32	-17	- 3	515			
19	+	+ 6	+13	+16	+16	+ 7	+ 6	+ 6	+ 6	+ 5	+ 5	+ 2	+ 2	+ 1	0	+ 2	+ 2	0	-10	-22	-34	-29	-17	0	+18	515			
20	+	+25	+35	+35	+25	+15	+ 9	+ 4	+ 3	+ 2	+ 1	0	- 2	- 4	- 5	- 5	- 5	- 6	-17	-27	-29	-27	-20	- 7	+ 7	517			
21		+25	+30	+33	+29	+24	+20	+ 5	+ 9	+ 8	+ 2	- 7	- 7	- 2	- 2	- 8	- 3	- 2	-18	-38	-44	-41	-29	- 4	+27	510			
22		+27	+19	+23	+27	+21	+14	+13	+11	+ 3	0	- 4	- 7	- 6	- 1	- 1	0	- 7	-26	-38	-41	-35	-18	+ 3	+22	518			
23		+32	+38	+36	+27	+13	+ 9	+ 6	+ 5	+ 1	- 3	-10	- 6	- 2	- 1	0	- 1	- 6	-24	-40	-45	-39	-20	+ 4	+27	522			
24		+28	+34	+35	+29	+15	+ 6	+ 5	+ 5	- 2	- 8	-10	- 8	- 5	- 4	- 3	- 3	- 5	-25	-42	-44	-32	- 7	+10	+28	523			
25		+39	+39	+33	+19	+ 3	+ 2	+ 3	+ 5	+ 2	+ 1	- 4	- 2	0	0	+ 2	+ 1	- 8	-29	-44	-44	-39	-23	+ 2	+34	519			
26		+43	+44	+39	+30	+20	+12	+10	+ 4	+ 1	- 3	- 6	- 8	- 7	- 6	- 5	- 4	- 9	-21	-37	-42	-39	-30	- 9	+13	520			
27		+23	+24	+18	+14	+12	+ 8	+10	+ 7	+ 1	- 5	- 4	- 2	+ 1	- 1	+ 3	+ 5	+ 4	-12	-31	-37	-33	-21	- 1	+20	514			
28		+27	+28	+27	+17	+ 9	+ 6	+ 8	+ 8	+ 5	+ 1	- 3	- 4	- 3	- 1	0	+ 2	- 1	-14	-31	-43	-42	-24	+ 7	+24	514			
29		+26	+27	+24	+13	+ 3	+ 1	+ 2	+ 1	- 3	- 1	- 2	+ 1	0	+ 3	+ 3	+ 5	+ 4	-13	-29	-35	-34	-18	+ 4	+23	516			
30		+31	+27	+29	+23	+14	+ 8	+ 6	+ 5	+ 3	+ 1	- 2	- 1	0	+ 1	+ 2	+ 3	+ 3	- 7	-27	-46	-51	-35	- 7	+23	517			
31	+	+32	+33	+27	+20	+13	+ 7	+ 2	+ 2	+ 2	0	- 1	- 2	- 1	0	0	+ 1	+ 1	- 9	-21	-34	-40	-29	- 8	+17	519			
MEAN.		+23	+28	+29	+24	+15	+11	+ 9	+ 7	+ 3	0	- 3	- 4	- 3	- 3	- 2	0	- 2	-14	-29	-37	-35	-24	- 6	+13	517			

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VERTICAL INTENSITY

G.M.T. (Z = 20000γ + Mean + ...) January 1939.

DAY.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1	+14	+11	+ 4	+ 1	- 3	- 4	- 5	- 7	- 4	- 3	- 2	- 2	- 1	- 2	- 2	- 1	- 1	- 1	- 2	- 2	+ 1	+ 4	+ 3	+ 2	654			
2	+ 2	- 2	- 1	- 5	- 9	- 9	- 8	- 5	- 3	- 2	- 1	+ 2	+ 3	+ 5	+ 4	+ 3	+ 3	+ 2	+ 1	+ 1	+ 2	+ 7	+ 8	+ 2	653			
3	+ 3	+11	- 5	- 6	- 5	- 5	- 5	- 6	- 5	- 3	- 1	0	+ 3	+ 4	+ 4	+ 4	+ 3	+ 4	+ 1	- 1	- 2	- 2	+ 1	+ 7	651			
4	+ 2	+ 2	+ 1	- 4	- 7	- 6	- 6	- 7	- 7	- 6	- 5	- 3	- 1	0	+ 1	+ 2	+ 2	+ 1	0	- 1	+ 5	+10	+13	+ 8	655			
5	+ 7	0	+ 1	+ 2	- 5	- 7	- 6	- 6	- 5	- 4	- 2	- 1	0	+ 4	+ 5	+ 6	+ 7	+ 5	+ 1	- 4	- 1	+ 1	- 4	- 5	650			
6	- 6	-10	-12	- 6	- 5	- 4	- 2	0	+ 1	+ 1	+ 1	+ 2	+ 4	+ 7	+ 8	+ 9	+12	+ 8	+ 4	- 2	- 4	- 2	+ 1	+ 4	648			
7	- 2	- 8	- 5	- 1	0	0	+ 1	+ 1	0	- 2	- 2	- 1	- 1	+ 1	+ 4	+ 5	+ 5	+ 4	0	- 3	- 2	- 2	+ 1	- 1	651			
8	-12	-11	- 7	- 5	- 2	- 1	+ 1	+ 1	+ 1	+ 1	0	0	0	+ 1	+ 2	+ 4	+ 5	+ 4	0	0	+ 2	+ 7	+11	+ 6	650			
9	- 1	- 7	- 4	- 3	- 4	- 3	- 2	- 1	+ 2	0	0	+ 2	+ 2	+ 3	+ 3	+ 4	+ 5	+ 4	0	- 2	- 1	+ 3	0	- 4	652			
10	- 3	- 7	-10	- 9	- 7	- 5	0	+ 1	+ 2	+ 4	+ 4	+ 3	+ 2	+ 1	+ 3	+ 4	+ 4	+ 3	+ 1	+ 1	0	0	+ 2	+ 7	648			
11	0	- 3	- 6	- 7	- 8	- 6	- 1	+ 1	+ 2	+ 3	+ 3	+ 2	+ 3	+ 3	+ 5	+ 6	+ 6	+ 5	+ 1	- 1	- 3	- 5	- 1	- 3	648			
12	- 9	- 8	- 4	- 1	- 2	- 3	- 1	+ 1	+ 2	+ 4	+ 5	+ 5	+ 7	+ 7	+ 7	+ 5	+ 5	+ 4	+ 3	+ 1	+ 2	+ 1	- 6	-14	646			
13	-14	-14	-17	-13	-11	-10	- 6	- 2	+ 1	+ 5	+ 7	+ 8	+ 7	+ 8	+ 9	+ 8	+ 7	+ 7	+ 7	+ 8	+ 7	+ 3	+ 1	+ 1	642			
14	+ 1	+ 2	+ 1	- 4	- 8	-10	- 8	- 4	- 2	+ 1	+ 2	+ 3	+ 4	+ 4	+ 8	+ 8	+ 8	+ 5	+ 3	+ 3	+ 5	+ 2	- 5	- 5	646			
15	- 1	- 1	- 2	- 4	- 3	- 3	- 2	- 1	- 1	0	+ 1	+ 4	+ 5	+ 6	+ 6	+ 7	+ 7	+ 5	+ 3	0	- 4	- 7	- 9	-13	644			
16																												
17																												
18																												
19																												
20	- 5	- 5	- 6	- 5	- 5	- 4	- 3	- 1	+ 1	+ 1	+ 3	+ 1	+ 2	+ 3	+ 3	+ 4	+ 4	+ 2	- 3	- 6	- 4	+ 2	+ 8	+16	646			
21	+16	+13	+ 9	+ 7	+ 4	+ 2	+ 2	+ 2	+ 1	- 2	- 2	- 1	+ 2	+ 4	+ 7	+ 5	+ 4	+ 1	- 3	- 6	-12	-15	-15	-15	646			
22	- 6	- 4	- 6	- 8	- 8	- 6	- 3	- 2	+ 1	+ 1	+ 2	+ 2	+ 3	+ 5	+ 7	+ 9	+ 9	+ 7	- 3	- 2	- 2	- 4	- 3	0	639			
23	- 3	- 4	- 4	- 5	- 5	- 3	+ 1	+ 3	+ 3	+ 4	+ 3	+ 3	+ 4	+ 7	+10	+ 9	+ 9	+ 7	+ 2	- 4	-10	-11	- 7	- 3	640			
24	- 2	- 5	- 7	- 6	- 6	- 5	- 4	- 1	+ 1	+ 1	+ 1	+ 2	+ 2	+ 3	+ 5	+ 5	+ 6	+ 3	+ 2	+ 2	+ 2	+ 3	+ 2	+ 1	641			
25	- 1	0	+ 1	- 2	- 7	- 8	- 4	0	+ 1	+ 2	+ 2	+ 1	+ 2	+ 3	+ 5	+ 5	+ 6	+ 5	+ 2	- 1	- 2	- 2	- 2	- 1	641			
26	- 1	- 3	- 7	- 9	- 5	- 5	- 3	- 1	+ 1	+ 2	+ 3	+ 4	+ 4	+ 5	+ 6	+ 6	+ 6	+ 6	+ 3	- 2	- 4	- 5	- 4	- 7	638			
27	- 7	- 6	0	+ 1	- 3	- 5	- 3	0	+ 1	+ 2	+ 2	+ 2	+ 2	+ 3	+ 3	+ 3	+ 4	+ 6	+ 6	+ 4	+ 4	- 3	- 9	- 9	640			
28	- 8	- 4	0	0	- 4	- 5	- 1	0	+ 1	+ 1	+ 2	+ 1	+ 2	+ 2	+ 2	+ 3	+ 3	+ 3	+ 2	0	+ 2	+ 3	+ 5	+ 1	641			
29																												
30	+ 5	+ 3	+ 2	0	- 4	- 5	- 5	- 4	- 3	- 1	0	+ 1	+ 2	+ 1	+ 1	+ 1	0	- 1	- 4	- 4	- 1	0	+ 3	+ 3	646			
31	+ 5	- 1	- 4	-10	-12	-10	- 7	- 6	- 3	- 1	+ 1	+ 4	+ 6	+ 6	+ 6	+ 6	+ 6	+ 4	0	- 2	- 2	0	+ 4	+ 6	642			
MEAN.	- 1	- 2	- 3	- 4	- 5	- 5	- 3	- 2	0	0	+ 1	+ 2	+ 3	+ 4	+ 5	+ 5	+ 5	+ 4	+ 1	- 1	- 1	- 1	0	0	646			

1200/3/42—18267

VERTICAL INTENSITY

G.M.T. (Z = 20000γ + Mean + ...) February 1939.

DAY.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1	+4	0	-4	-7	-7	-9	-5	-4	-1	+1	+4	+4	+5	+5	+6	+5	+5	+3	-5	-5	-2	0	+3	+5	646			
2	+1	+2	-2	-5	-5	-6	-6	-5	-2	0	+1	+2	+4	+6	+7	+7	+6	+4	-1	-4	-2	0	+1	+6	651			
3	+8	+3	-7	-11	-7	-4	-2	-2	+1	+2	+3	+4	+5	+7	+10	+10	+9	+5	-2	-6	-8	-7	-8	-13	648			
4	-14	-13	-12	-9	-8	-5	-4	-2	+1	+1	+1	+1	+2	+6	+8	+9	+9	+9	+4	0	0	+3	+6	+9	649			
5	+10	+3	+1	-1	-4	-5	-1	0	+1	+1	0	0	+3	+5	+6	+7	+8	+7	+2	-5	-8	-10	-11	-1	650			
6	+9	+3	-7	-8	-6	-6	-3	+4	+4	+4	-2	-5	-5	+3	+6	+6	+10	+9	+3	0	-5	-8	-6	+2	647			
7	+2	+2	-4	-8	-8	-5	0	+5	+5	+5	+5	+3	+5	+5	+5	+5	+6	+7	+2	-2	-5	-9	-11	-13	655			
8	-3	+5	+6	+2	-3	-4	-1	0	0	0	-1	-1	-3	-3	-1	0	+1	+2	+2	+1	-1	-3	-3	+4	656			
9	+7	+5	+5	0	-2	-2	-1	0	+2	+2	0	0	-1	-2	-1	0	+2	+2	0	-2	-5	-5	+2	+4	652			
10	+6	+6	+1	-5	-9	-6	-4	-2	0	0	+2	+4	+2	+1	+4	+1	+1	+2	+2	0	-1	-1	0	+4	650			
11	+7	+6	+1	-6	-6	-4	-4	-3	-1	0	+2	+2	+2	+1	+1	+1	+1	+1	0	-1	0	0	+3	+6	649			
12	+2	+1	+1	+1	-2	-2	-3	-2	-1	-1	+1	+1	+1	+1	+1	+1	-1	+1	-1	-2	-2	-2	-2	-2	653			
13	+3	+5	+3	-1	-3	-6	-6	-5	-3	-2	-1	0	0	0	+1	+1	+1	0	0	0	-4	-1	+4	+10	651			
14	+11	+7	+3	0	-4	-5	-4	-4	-1	-1	0	+1	+2	+5	+5	+5	+3	0	-5	-9	-9	-8	0	+7	649			
15	+14	+7	+5	+6	+3	+1	-1	-2	-1	0	+1	+4	+5	+6	+6	+6	+6	+4	-4	-10	-12	-12	-12	-11	645			
16	-10	-5	-5	-6	-10	-7	-5	-5	-2	0	+3	+4	+5	+7	+11	+10	+9	+7	+4	0	-4	-6	0	+9	645			
17	+9	+12	+11	+6	+3	0	-1	-3	-5	-5	-1	+1	+3	+1	+1	+3	+1	+1	-2	-8	-12	-10	-6	-2	645			
18	+2	+1	+2	+1	0	-2	0	0	0	0	0	+2	+3	+4	+6	+6	+6	+4	+1	-3	-5	-7	-9	-7	651			
19	0	+2	-1	-2	-2	-3	-3	-2	0	0	0	+2	+4	+6	+6	+8	+9	+8	+4	0	-6	-7	-10	-13	648			
20	-10	-2	-1	-1	-1	-2	-1	-1	-1	0	0	0	+2	+3	+3	+4	+6	+6	+4	-2	-5	-3	+2	+6	645			
21	+7	+9	+7	+7	+5	+1	0	0	0	-1	-1	-1	-1	0	0	+1	+2	+2	0	-2	-6	-10	-14	-15	649			
22	-5	-7	-4	-4	-5	-5	-5	-3	-2	0	0	+1	+2	+3	+6	+7	+7	+9	+8	+6	+2	-4	-8	-4	642			
23	-2	-5	-7	-5	-3	-2	+1	+1	+2	+2	+2	+1	+2	+6	+6	+7	+8	+8	+7	+2	-5	-8	-8	-7	642			
24	-5	-6	-6	-8	-5	-8	-6	-3	-1	0	+2	0	0	0	+3	+4	+8	+9	+9	+5	+8	-1	+3	+7	640			
25	-12	-17	-11	-3	-2	-1	+2	-1	0	+10	+12	+9	+10	+9	+7	+9	+7	+3	0	-3	-7	-8	-8	-9	662			
26	0	-3	-4	-3	-1	-3	-1	0	+1	+2	+4	+2	+4	+4	+4	+4	+5	+5	+5	+1	-3	-4	-5	-4	654			
27	-3	-1	-2	-3	-7	-7	-5	-4	-3	-2	+1	+2	+2	+4	+3	+3	+2	+2	+2	+1	+1	-1	+1	+3	652			
28	+7	+7	+8	+7	-1	-3	-4	-4	-3	-2	0	+3	+4	+5	+4	+3	+4	+4	0	-3	-7	-7	-7	-4	651			
29																												
30																												
31																												
MEAN.	+2	+1	-1	-2	-4	-4	-3	-2	0	+1	+1	+2	+2	+3	+4	+5	+5	+4	+1	-2	-4	-5	-4	-1	649			

VERTICAL INTENSITY

G.M.T. (Z = 20000γ + Mean + ...) March 1939.

DAY.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1	- 1	- 2	- 5	- 9	-11	-11	- 6	- 4	- 5	- 4	+ 1	+ 5	+ 6	+ 6	+10	+ 7	+ 9	+ 6	+ 5	+ 6	+ 4	+ 1	+ 1	0	648			
2	+ 4	+ 4	0	-11	-12	- 9	- 7	- 3	0	+ 2	+ 7	+ 8	+ 9	+ 9	+11	+ 9	+ 8	+ 5	0	- 4	- 7	- 7	- 4	- 2	650			
3	0	- 4	- 5	- 6	- 6	- 9	- 6	- 1	- 1	0	+ 2	+ 3	+ 6	+12	+11	+10	+ 8	+ 6	+ 1	- 4	- 8	- 8	- 6	- 5	647			
4	- 5	- 2	- 3	- 5	- 7	- 7	- 5	- 2	- 3	- 1	0	+ 3	+ 6	+10	+12	+15	+12	+11	+ 5	- 1	- 7	-11	-12	- 5	649			
5	- 3	+ 3	+ 4	+ 3	+ 1	- 1	- 2	- 3	- 3	+ 1	- 1	- 1	+ 3	+ 7	+ 7	+ 7	+ 7	+ 7	+ 3	- 2	- 7	- 9	- 5	- 4	652			
6	0	+ 6	+ 6	+ 4	0	- 2	0	0	- 2	- 3	- 3	+ 1	+ 3	+ 5	+ 6	+ 8	+ 9	+ 9	+ 3	- 3	- 8	-10	-10	-10	649			
7	- 6	- 3	0	+ 1	- 1	0	0	0	- 1	- 1	- 1	- 2	- 1	+ 1	+ 4	+ 6	+ 8	+ 8	+ 5	0	- 6	- 7	- 6	- 2	649			
8	- 1	0	0	- 3	- 8	- 8	- 7	- 4	- 3	0	+ 2	0	+ 2	+ 3	+ 4	+ 5	+ 6	+ 8	+ 7	+ 4	- 1	- 3	- 3	- 3	650			
9	+ 2	- 3	- 4	-12	- 9	- 5	- 3	- 2	- 3	- 2	+ 1	+ 2	+ 1	+ 2	+ 6	+ 6	+ 7	+ 7	+ 6	+ 4	+ 3	+ 1	0	- 2	646			
10	- 1	- 4	- 8	- 6	- 8	- 5	- 3	0	+ 2	+ 3	+ 3	+ 3	+ 3	+ 3	+ 2	+ 3	+ 5	+ 6	+ 5	+ 3	+ 1	- 3	- 1	- 1	647			
11	- 7	- 7	- 6	- 7	- 8	- 7	- 7	- 5	- 1	- 2	0	+ 3	+ 4	+ 4	+ 6	+ 5	+ 4	+ 8	+ 8	+ 5	+ 5	+ 5	+ 1	- 3	649			
12	- 4	+ 2	- 1	- 1	- 2	- 3	- 1	+ 1	+ 2	+ 2	+ 2	+ 2	+ 3	+ 3	+ 3	+ 3	+ 3	+ 3	+ 2	- 1	- 2	- 2	- 2	- 2	651			
13	- 2	+ 1	+ 1	- 2	- 4	- 4	- 2	- 2	- 2	- 3	- 2	+ 4	+ 3	+ 3	+ 2	+ 2	+ 3	+ 2	- 1	- 1	- 1	+ 1	+ 4	+ 6	650			
14	+ 6	+ 5	+ 1	- 1	- 5	- 5	- 5	- 3	- 2	- 1	- 1	+ 1	+ 1	+ 3	+ 3	+ 1	+ 3	+ 1	0	- 1	- 2	- 3	- 2	0	648			
15	+ 1	- 1	- 2	- 4	- 5	- 4	- 4	- 2	- 1	+ 1	+ 1	+ 2	+ 4	+ 5	+ 5	+ 5	+ 5	+ 5	+ 5	- 2	- 5	- 5	- 1	- 4	647			
16	- 6	- 4	- 6	- 6	- 4	- 2	- 2	- 2	- 1	- 1	+ 2	+ 6	+ 9	+ 6	+ 6	+ 6	+ 5	+ 2	0	- 1	- 4	- 4	- 2	- 1	647			
17	- 6	- 6	- 3	- 2	- 1	- 2	- 3	- 3	0	+ 1	+ 1	+ 3	+ 5	+ 6	+ 6	+ 6	+ 5	+ 4	0	- 3	- 5	- 2	- 1	- 2	648			
18	0	- 5	- 5	- 5	- 4	- 4	- 2	0	- 2	0	0	+ 1	+ 3	+ 4	+ 6	+ 6	+ 6	+ 4	+ 2	- 2	- 3	- 2	+ 1	+ 1	645			
19	0	0	- 1	- 4	- 5	- 5	- 4	- 4	- 4	- 2	- 1	0	+ 1	+ 2	+ 4	+ 5	+ 5	+ 4	+ 2	+ 1	0	0	+ 1	0	647			
20	+ 1	+ 1	- 2	- 2	- 3	- 2	- 3	- 3	- 3	- 2	- 2	+ 1	+ 2	+ 3	+ 6	+ 7	+ 7	+ 6	+ 3	0	- 4	- 4	- 2	+ 1	645			
21	+ 1	- 2	- 7	- 7	- 5	- 5	- 3	- 9	-10	- 7	- 4	- 5	0	+ 4	+ 7	+ 9	+11	+11	+ 8	+ 4	+ 1	+ 1	+ 6	+ 7	645			
22	+ 3	0	- 2	- 6	- 8	-10	-11	- 7	- 6	- 5	- 2	+ 1	+ 3	+ 3	+ 4	+ 8	+ 9	+ 9	+ 6	+ 5	+ 4	0	0	0	645			
23	+ 1	- 1	- 8	-10	- 8	- 1	0	0	0	+ 2	+ 2	+ 2	+ 2	+ 3	+ 6	+11	+ 8	+ 7	+ 3	+ 1	- 4	- 8	- 5	- 4	648			
24	- 3	- 5	- 6	- 6	- 5	- 4	- 3	- 3	- 1	- 3	- 1	+ 2	+ 1	+ 1	+ 5	+ 6	+ 7	+ 5	+ 3	+ 1	0	- 1	0	- 1	645			
25	- 2	- 2	- 3	- 4	- 4	- 3	- 4	- 3	0	+ 1	0	0	+ 1	+ 1	+ 2	+ 4	+ 6	+ 7	+ 6	+ 3	+ 3	+ 2	0	- 2	645			
26	- 3	-10	-16	-13	-10	- 7	- 5	- 3	- 2	- 1	+ 2	+ 2	+ 3	+ 3	+ 5	+ 6	+ 6	+ 8	+ 8	+ 8	+ 6	+ 6	+ 6	+ 8	644			
27	- 2	- 6	-11	-12	-10	- 6	- 6	- 5	- 5	- 3	- 2	0	+ 1	+ 1	+ 1	+ 1	+ 3	+ 6	+ 8	+ 9	+11	+10	+11		642			
28	+ 6	- 1	- 2	- 2	- 7	- 8	- 3	- 4	- 8	- 7	- 7	- 2	+ 2	+ 3	+ 6	+ 6	+ 4	+ 6	+ 6	+ 4	- 1	- 3	+ 1	+ 2	647			
29	- 1	- 6	- 9	-10	- 8	- 4	- 8	- 8	- 1	+ 3	+ 5	+ 7	+ 6	+ 6	+ 6	+ 6	+ 6	+ 5	+ 2	+ 1	- 1	- 3	- 1	+ 1	649			
30	+ 1	- 2	- 2	- 4	- 5	- 6	- 6	- 4	+ 1	+ 1	+ 4	+ 5	+ 6	+ 7	+ 6	+ 4	+ 4	+ 2	+ 2	- 1	- 5	- 6	- 5	- 2	656			
31	- 1	- 6	-11	-13	- 9	- 6	- 6	- 6	- 3	- 1	+ 2	+ 5	+ 8	+ 8	+ 9	+ 9	+ 6	+ 5	+ 4	0	- 2	+ 2	+ 4	+ 4	657			
MEAN.	- 1	- 2	- 4	- 5	- 6	- 5	- 4	- 3	- 2	- 1	0	+ 2	+ 3	+ 4	+ 6	+ 6	+ 6	+ 6	+ 4	+ 1	- 2	- 2	- 1	0	653			
																									648			

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[200/3/42—18267

VERTICAL INTENSITY

G.M.T. (Z = 20000γ + Mean + ...) April 1939.

DAY.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1	0	-4	-7	-8	-8	-9	-7	-7	-5	-4	+1	+3	+6	+9	+11	+11	+10	+7	+5	+2	-2	-2	+2	+1	655			
2	-1	-4	-4	-8	-7	-4	-2	-2	-1	+1	+1	+3	+4	+8	+8	+8	+7	+7	+4	+2	-1	-3	-7	-11	654			
3	-4	-4	-4	-5	-4	-2	0	-2	-4	-3	+1	+2	+6	+8	+8	+10	+11	+10	+8	+3	0	-7	-8	-12	649			
4	-12	-9	-5	-4	-4	-3	-2	-2	-2	-2	+1	+3	+5	+6	+8	+8	+10	+10	+10	+5	+1	-8	-5	0	649			
5	-5	-9	-9	-8	-4	-3	-3	-3	0	0	-1	-1	0	+1	+5	+6	+6	+7	+7	+6	+6	+5	+4	+2	650			
6	+2	+2	+2	-1	-3	-3	-3	-1	-1	-1	-1	0	0	+1	+2	+4	+5	+6	+6	+4	-1	-5	-6	-6	650			
7	-4	-2	-2	-4	-6	-5	-2	-1	0	0	0	0	+1	+1	+3	+4	+5	+6	+8	+6	+3	0	0	-1	646			
8	-6	-10	-11	-9	-6	-4	-2	-1	0	0	0	+1	+1	0	0	+1	+1	+3	+6	+9	+6	+5	+8	+4	646			
9	+2	-2	-8	-8	-6	-5	-3	-2	-2	-1	-1	0	0	+2	+2	+3	+3	+3	+3	+7	+7	+3	0	0	647			
10	-4	-6	-4	-4	-6	-6	-6	-2	-1	-2	-1	+3	+4	+6	+5	+4	+4	+4	+3	0	0	0	+1	-1	646			
11	-5	-2	-2	-6	-7	-5	-2	-2	-2	-1	0	+5	+4	+3	+3	+4	+4	+4	+2	0	-1	-1	-1	0	647			
12	-4	-5	-5	-16	-5	-5	-5	-6	-4	+4	+4	+4	+7	+7	+6	+5	+5	+5	+5	+4	+2	+1	-1	-1	650			
13	0	-1	-3	-5	-8	-6	-6	-5	-3	0	+1	+4	+5	+5	+6	+4	+4	+4	+2	+1	0	+1	+4	+6	649			
14	+6	+2	-4	-5	-3	-2	-2	-3	-2	0	+2	+2	+3	+5	+5	+5	+5	+3	+2	-2	-5	-5	-3	-2	648			
15	0	-2	-4	-7	-5	-5	-7	-5	-4	-2	+1	+2	+2	+2	+5	+5	+3	+2	+3	+2	+2	+1	0	+1	648			
16	+1	-3	-7	-7	-4	-3	-4	-3	-3	-2	-1	+1	+3	+3	+4	+4	+6	+6	+4	+2	-1	+4	+6	+2	647			
17	0	-3	+4	-10	-30	-29	-31	-27	-22	-10	+2	+16	+13	+13	+13	+24	+18	+16	+14	+10	+9	+4	+7	+8	646			
18	-1	0	-1	0	0	-1	-3	-5	-5	-5	-4	-1	+6	+6	+5	+4	+6	+4	+5	+5	+1	-3	-4	-6	659			
19	-5	-3	-6	-5	-2	-2	-2	-2	-1	+2	+2	+3	+4	+2	0	+3	+6	+7	+6	+3	0	-1	-3	-6	656			
20	-6	-6	-9	-10	-10	-5	-2	-1	0	-2	-2	-1	+5	+5	+7	+9	+9	+10	+9	+4	+3	0	-2	0	655			
21	-6	-7	-8	-7	-4	-3	-6	-3	-1	-1	+1	+2	+2	+2	+5	+10	+11	+11	+10	+5	+1	-4	-11	-11	657			
22	-7	-7	-6	0	+4	+6	+4	+2	+2	+2	0	0	0	+2	+2	+6	+6	+6	+4	+3	-2	-5	-8	-12	656			
23	-10	-12	-12	-12	-11	-11	-15	-21	-17	-10	-1	+8	+12	+15	+17	+23	+13	+19	+15	+10	+5	+3	0	-4	650			
24	-8	-5	-4	-3	+1	+2	+2	+2	+3	+5	+5	+5	+5	+6	+7	+10	+10	+15	+19	+1	-24	-23	-12	-14	652			
25	-25	-21	-14	-5	+2	+2	+2	0	+3	+3	+5	+4	+9	+8	+8	+8	+9	+9	+7	+3	-1	-5	-5	-12	659			
26	-9	-9	-11	-8	-4	-3	-2	-2	-1	+1	+2	+3	+3	+3	+5	+6	+6	+6	+7	+6	+3	+2	+2	-1	656			
27	+1	-7	-13	-12	-6	-5	-4	-3	-2	+1	+2	+5	+5	+6	+6	+7	+7	+6	+6	+6	+3	+2	-4	-9	652			
28	-8	-7	-9	-12	-9	-9	-7	-5	0	+5	+9	+10	+10	+7	+7	+7	+6	+6	+5	+2	+2	0	-7	-9	653			
29	-7	-7	-6	-7	-4	-2	-2	-2	-1	+1	+3	+3	+4	+6	+7	+7	+7	+7	+7	+4	+1	-3	-3	-2	651			
30	-4	-5	-6	-5	-5	-5	-5	-5	-5	-3	0	+1	+4	+5	+5	+6	+5	+4	+4	+2	+1	+1	+1	-1	653			
31																												
MEAN.	-4	-5	-6	-7	-6	-5	-4	-4	-3	-1	+1	+3	+4	+5	+6	+7	+7	+7	+6	+4	+1	-1	-2	-3	651			

VERTICAL INTENSITY

G.M.T. (Z = 20000γ + Mean + ...) May 1939.

DAY.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1	- 6	- 8	- 5	- 1	0	- 1	- 3	- 8	- 9	- 6	- 5	- 3	0	0	+ 2	+ 4	+ 4	+ 5	+ 6	+ 6	+ 9	+ 9	+ 5	+ 1	653			
2	- 2	- 2	- 1	+ 4	+ 3	- 6	-10	- 9	- 7	0	+ 2	+ 4	+ 5	+ 8	+ 7	+ 5	+ 5	+ 4	+ 4	0	- 2	- 4	- 6	- 7	659			
3	- 1	- 4	- 6	- 6	- 3	- 4	- 6	- 6	- 5	- 3	+ 2	+ 5	+ 5	+ 6	+ 8	+10	+10	+ 9	+ 8	+ 2	0	- 4	- 8	- 9	653			
4	-11	- 5	- 6	- 5	- 4	- 3	- 3	- 3	- 3	- 1	+ 1	+ 1	+ 2	+ 4	+ 5	+ 6	+ 8	+ 8	+ 9	+ 9	+ 6	+ 5	0	- 9	652			
5	-11	-13	-14	-11	- 8	- 7	- 6	- 4	- 2	+ 1	+ 3	+ 4	+ 4	+ 4	+ 6	+ 7	+10	+10	+10	+ 7	+ 7	+ 7	- 1	- 6	650			
6	- 2	-10	-11	- 8	- 8	- 7	- 6	- 5	- 3	- 2	- 2	- 2	0	0	+ 2	+ 5	+ 8	+ 9	+12	+12	+ 7	+ 3	- 1	- 1	644			
7	-10	- 9	-15	-10	- 7	- 7	- 2	- 1	- 1	0	+ 1	0	+ 3	+ 4	+ 7	+ 7	+ 7	+ 7	+ 8	+ 8	+ 7	+ 5	- 1	-10	653			
8	-14	-11	-11	-10	- 6	- 4	- 4	- 4	- 3	+ 1	0	+ 2	+ 4	+ 5	+ 6	+ 8	+ 9	+ 9	+10	+ 9	+ 8	+ 1	- 5	-10	652			
9	-15	-15	-12	-12	- 8	- 4	- 2	+ 1	+ 2	+ 6	+ 3	+ 6	+ 5	+ 3	+ 5	+ 5	+ 6	+ 6	+ 9	+ 9	+ 7	+ 6	+ 2	- 4	651			
10	- 7	- 8	- 6	- 5	- 3	- 3	- 2	- 1	0	+ 3	+ 3	+ 3	+ 3	+ 4	+ 4	+ 5	+ 5	+ 5	+ 7	+ 8	+ 7	+ 2	- 5	- 8	649			
11	- 6	- 6	- 8	- 6	- 6	- 5	- 4	- 3	- 1	0	+ 1	+ 4	+ 4	+ 4	+ 5	+ 5	+ 5	+ 5	+ 6	+ 5	+ 4	+ 1	- 4	- 8	647			
12	- 7	- 8	-10	- 8	- 6	- 3	- 3	- 2	0	+ 2	+ 3	+ 4	+ 5	+ 7	+ 7	+ 8	+ 7	+ 7	+ 8	+ 7	+ 4	- 1	- 3	- 7	644			
13	-12	-11	- 9	- 8	- 7	- 6	- 6	- 6	- 6	- 3	+ 2	+ 4	+ 4	+ 6	+ 7	+ 7	+ 6	+ 6	+ 9	+ 9	+ 8	+ 5	+ 4	+ 4	645			
14	+ 1	- 2	- 4	- 1	- 2	- 4	- 5	- 6	- 4	- 2	- 1	+ 1	+ 3	+ 3	+ 4	+ 4	+ 4	+ 3	+ 4	+ 5	+ 1	- 1	- 4	- 6	648			
15	- 6	- 6	- 3	- 4	- 7	- 8	- 8	- 8	- 8	- 7	- 3	+ 1	+ 4	+ 4	+ 7	+ 6	+ 6	+ 6	+ 7	+ 7	+ 7	+ 7	+ 4	- 1	644			
16	- 3	- 1	- 5	-12	-17	-14	-14	-12	-11	- 6	+ 2	+ 7	+ 9	+12	+12	+12	+11	+11	+ 9	+ 7	+ 4	+ 3	+ 1	- 3	644			
17	- 7	- 8	- 4	- 3	- 2	- 1	- 3	- 3	- 2	- 2	+ 1	+ 3	+ 6	+ 7	+ 7	+ 7	+ 7	+ 6	+ 6	+ 2	- 2	- 6	- 9	-12	644			
18	-19	-19	-16	-13	- 8	- 6	- 2	0	+ 3	+ 3	+ 4	+ 4	+ 7	+ 7	+ 8	+ 9	+10	+ 9	+ 9	+ 7	+ 4	+ 2	- 2	- 5	643			
19	- 8	- 6	- 3	0	- 1	- 3	- 3	+ 1	+ 4	+ 4	+ 4	+ 5	+ 5	+ 6	+ 7	+ 9	+ 9	+ 9	+ 7	+ 5	- 3	-10	-19	-25	646			
20	-24	-18	-14	-10	- 8	- 4	- 1	- 3	- 1	+ 1	+ 2	+ 4	+ 6	+ 6	+ 7	+11	+11	+10	+10	+ 9	+ 7	+ 5	+ 2	- 1	646			
21	- 6	- 8	- 3	0	- 1	- 3	- 3	0	+ 1	+ 2	+ 1	+ 2	+ 2	+ 4	+ 5	+ 4	+ 4	+ 2	+ 7	+ 6	+ 4	+ 2	- 3	-10	646			
22	-14	-19	-17	- 5	- 3	- 3	- 2	+ 2	0	0	+ 5	+ 6	+ 6	+ 7	+10	+11	+11	+10	+10	+11	+ 7	- 3	-10	-17	645			
23	-17	-15	-11	-10	- 7	- 7	- 6	- 6	- 1	+ 1	+ 3	+ 4	+ 4	+ 5	+ 5	+ 8	+ 9	+10	+12	+12	+12	+ 8	0	- 9	647			
24	-11	-11	-15	-17	-15	- 8	- 3	+ 2	+ 4	+ 5	+ 7	+ 5	+ 5	+ 4	+ 5	+ 7	+ 9	+ 8	+ 9	+ 3	+ 3	+ 4	- 1	- 3	648			
25	- 8	-13	-14	-12	- 4	- 4	- 4	- 3	0	+ 2	+ 3	+ 5	+ 5	+ 5	+ 5	+ 5	+ 5	+ 3	+ 2	+ 5	+ 6	+ 6	+ 5	0	- 4	650			
26	- 8	- 9	- 6	- 8	- 8	- 8	- 4	- 1	- 1	+ 4	+ 6	+ 6	+ 6	+ 6	+ 6	+ 8	+ 5	+ 5	+ 6	+ 5	+ 4	0	- 5	-11	650			
27	-11	- 9	-12	-12	-11	- 7	- 6	- 4	- 2	+ 2	+ 4	+ 6	+ 7	+ 7	+ 5	+ 6	+ 4	+ 4	+ 6	+ 7	+10	+11	+ 5	- 1	648			
28	- 5	-10	- 9	- 5	- 2	- 4	- 9	-10	- 7	0	+ 1	+ 1	+ 4	+ 6	+ 6	+ 5	+ 5	+ 5	+ 8	+ 9	+ 8	+ 5	+ 1	- 4	646			
29	- 7	-12	-18	-19	-18	-17	-12	- 7	- 7	0	+ 5	+10	+10	+14	+12	+11	+14	+12	+10	+ 8	+ 6	+ 3	+ 5	+ 2	644			
30	- 2	+ 1	+ 1	- 3	- 5	- 5	- 5	- 4	- 4	- 3	0	+ 2	+ 5	+ 5	+ 6	+ 7	+ 7	+ 6	+ 5	+ 3	+ 1	- 2	- 5	-10	649			
31	-10	-12	- 9	- 5	- 4	- 4	- 4	- 5	- 2	+ 1	+ 2	+ 5	+ 6	+ 8	+10	+11	+10	+10	+10	+ 7	+ 2	- 2	- 7	-14	644			
MEAN.	- 9	- 9	- 9	- 7	- 6	- 5	- 5	- 4	- 2	0	+ 2	+ 4	+ 5	+ 6	+ 6	+ 7	+ 7	+ 7	+ 8	+ 7	+ 5	+ 2	- 2	- 7	648			

VERTICAL INTENSITY

G.M.T. (Z = 20000γ + Mean + ...) June 1939.

DAY.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1	-13	-10	- 5	- 1	- 1	- 3	- 4	- 4	- 4	- 4	- 4	- 1	0	+ 1	+ 4	+ 4	+ 7	+ 7	+10	+ 9	+ 7	+ 5	+ 4	+ 1	643			
2	- 6	- 5	- 4	- 4	- 6	- 5	- 6	- 6	- 6	- 6	- 6	- 2	0	+ 3	+ 4	+ 5	+ 6	+ 8	+12	+14	+13	+10	+ 3	- 6	649			
3	- 6	- 8	-11	- 8	- 7	- 6	- 3	- 2	- 2	- 1	+ 1	+ 2	+ 2	+ 4	+ 4	+ 6	+ 7	+ 8	+ 9	+ 9	+ 8	+ 4	- 1	- 6	646			
4	- 9	-10	-12	- 6	- 5	- 5	- 3	- 3	0	0	+ 1	+ 1	+ 2	+ 4	+ 5	+ 5	+ 6	+ 7	+ 9	+ 9	+ 5	+ 4	- 4	- 9	648			
5	-13	-16	-14	- 6	- 1	- 2	- 2	- 1	0	0	0	+ 3	+ 3	+ 4	+ 4	+ 5	+ 6	+ 6	+ 8	+ 9	+ 9	+ 6	+ 3	- 4	648			
6	-13	-12	- 9	- 8	- 8	- 6	- 4	- 2	- 1	+ 1	+ 1	+ 2	+ 1	+ 2	+ 3	+ 3	+ 4	+ 7	+10	+11	+12	+ 8	+ 2	- 2	650			
7	- 6	-12	-12	- 7	- 3	- 3	- 3	- 2	- 1	0	0	+ 2	+ 3	+ 3	+ 3	+ 4	+ 4	+ 5	+ 7	+ 7	+ 7	+ 7	+ 4	- 2	649			
8	- 7	- 9	- 6	- 4	- 2	- 1	- 1	0	+ 1	+ 1	+ 3	+ 3	+ 3	+ 3	+ 4	+ 4	+ 4	+ 4	+ 5	+ 5	+ 4	+ 1	+ 1	- 4	649			
9																												
10																												
11	-12	- 7	- 3	- 6	- 8	- 8	- 7	- 6	- 4	0	+ 1	+ 1	+ 2	+ 3	+ 5	+ 5	+ 5	+ 5	+ 6	+ 7	+ 7	+ 5	+ 5	+ 2	641			
12	- 2	- 4	- 5	- 5	- 5	- 5	- 6	- 5	- 5	- 4	- 1	0	+ 3	+ 5	+ 5	+ 4	+ 4	+ 4	+ 5	+ 5	+ 5	+ 5	+ 3	0	643			
13	- 5	- 8	- 9	- 8	- 5	- 5	- 6	- 8	- 5	- 2	+ 1	+ 1	+ 4	+ 5	+ 6	+ 6	+ 6	+ 8	+ 9	+ 9	+ 6	+ 3	- 4	-10	643			
14	- 9	-15	-14	-13	-13	-10	- 6	- 8	-16	-16	-10	+ 5	+ 6	+ 5	+ 9	+11	+15	+14	+14	+14	+14	+13	+ 9	+ 6	643			
15	- 2	0	+ 1	+ 2	- 2	- 2	- 3	- 4	- 3	- 2	0	0	+ 2	+ 3	+ 5	+ 5	+ 3	+ 3	+ 3	+ 3	+ 1	- 2	- 2	- 5	651			
16	- 5	- 9	-13	- 7	- 7	- 6	- 7	- 9	- 9	0	+ 3	+ 5	+ 8	+ 9	+ 9	+ 9	+ 8	+ 6	+ 6	+ 5	+ 4	+ 3	- 1	- 5	648			
17	- 8	- 8	- 5	- 4	- 2	0	0	- 2	- 2	- 2	0	+ 2	+ 3	+ 5	+ 7	+ 8	+ 8	+10	+ 8	+ 6	+ 1	- 3	- 7	- 8	645			
18	- 7	- 9	- 9	- 5	- 6	- 3	- 3	- 3	- 5	- 5	- 1	+ 2	+ 5	+ 5	+13	+13	+12	+10	+12	+ 9	+ 5	- 1	- 7	-12	643			
19	-16	-15	-12	-10	- 9	- 6	- 6	- 1	- 1	0	0	+ 3	+ 3	+ 7	+ 7	+ 8	+ 9	+ 8	+ 9	+10	+ 9	+ 5	+ 2	+ 2	643			
20																												
21																												
22	- 6	-10	- 6	- 7	-11	-10	- 6	- 3	+ 1	+ 2	+ 4	+ 4	+ 3	+ 3	+ 3	+ 4	+ 4	+ 6	+ 7	+ 7	+ 6	+ 3	+ 1	- 3	644			
23	- 7	-10	-11	-10	- 6	- 3	- 1	- 1	+ 1	+ 3	+ 3	+ 3	+ 3	+ 3	+ 4	+ 4	+ 6	+ 6	+ 7	+ 6	+ 4	+ 2	- 3	-12	644			
24	-18	-17	-15	-13	- 8	- 6	- 3	- 1	+ 1	+ 3	+ 6	+ 6	+ 6	+ 6	+ 6	+ 6	+ 6	+ 6	+ 8	+11	+11	+11	+ 2	- 7	644			
25	- 8	- 3	- 3	- 5	- 3	- 3	- 3	- 2	0	+ 2	+ 3	+ 3	+ 3	+ 3	+ 2	+ 2	+ 2	+ 3	+ 4	+ 5	+ 4	0	- 5	- 7	648			
26																												
27	- 3	- 3	- 3	- 3	- 4	- 7	- 9	- 8	- 5	- 3	- 4	- 2	+ 3	+ 5	+ 5	+ 6	+ 6	+ 7	+ 7	+ 7	+ 5	+ 1	0	- 3	644			
28	- 6	- 5	0	0	- 2	- 2	- 3	- 2	- 2	- 1	+ 2	+ 4	+ 5	+ 5	+ 5	+ 5	+ 5	+ 5	+ 5	+ 4	0	- 3	- 7	- 6	642			
29	- 3	- 4	- 3	- 3	- 7	- 7	- 7	- 7	- 5	- 7	- 4	- 2	+ 1	+ 2	+ 3	+ 7	+ 6	+ 6	+ 6	+ 7	+ 6	+ 3	+ 2	+ 3	644			
30	+ 1	- 6	- 4	- 3	- 2	- 2	- 2	- 2	- 2	- 2	- 2	+ 1	+ 2	+ 3	+ 6	+ 6	+ 6	+ 6	+ 7	+ 8	+ 4	+ 1	- 3	-10	643			
31																												
MEAN.	- 8	- 9	- 8	- 6	- 5	- 5	- 4	- 4	- 3	- 2	0	+ 2	+ 3	+ 4	+ 5	+ 6	+ 6	+ 7	+ 8	+ 8	+ 6	+ 4	0	- 4	645			

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VERTICAL INTENSITY

G.M.T. (Z = 20000γ + Mean + ...) July 1939.

DAY.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1	-10	-10	- 9	- 5	- 2	- 1	- 2	- 2	- 1	- 2	- 1	+ 1	+ 1	+ 1	+ 4	+ 5	+ 6	+ 6	+ 7	+ 7	+ 5	+ 2	+ 1	- 1	639			
2	- 3	- 6	-11	-10	- 6	- 6	- 4	0	0	0	0	+ 1	+ 1	+ 3	+ 3	+ 6	+ 6	+ 6	+ 7	+10	+ 7	+ 5	+ 1	- 4	638			
3	- 7	- 4	- 3	- 3	- 2	- 1	- 2	- 2	- 7	- 8	- 9	- 8	- 4	- 7	+ 2	+ 7	+ 7	+ 7	+ 9	+12	+ 9	+ 9	+ 6	+ 6	642			
4	- 1	- 4	- 4	- 4	- 4	- 3	- 1	- 3	- 4	- 4	- 4	- 1	- 1	+ 1	+ 2	+ 4	+ 7	+11	+10	+ 8	+ 8	+ 2	- 3	- 4	644			
5	-10	- 7	-16	-16	-15	-15	-15	-12	-10	-10	- 2	- 6	0	+ 4	+11	+17	+22	+21	+20	+16	+15	+11	+ 7	- 4	645			
6	-12	-10	- 7	- 5	0	0	- 2	- 1	+ 1	+ 6	+ 4	+ 3	+ 3	+ 3	+ 3	+ 3	+ 4	+ 5	+ 5	+ 6	+ 8	+ 5	+ 1	- 3	- 8	651		
7	- 8	- 8	- 4	- 1	- 2	- 4	- 3	- 2	- 2	- 2	- 1	+ 1	+ 1	+ 3	+ 3	+ 4	+ 5	+ 5	+ 8	+ 8	+ 4	+ 2	- 1	- 6	647			
8	- 9	- 9	- 6	- 7	- 6	- 5	- 3	- 3	- 2	- 1	- 1	- 1	0	0	0	+ 2	+ 3	+ 4	+ 5	+ 9	+10	+ 9	+ 9	+ 8	645			
9	+ 7	+ 2	- 3	- 8	- 6	- 6	- 5	- 4	- 3	- 2	0	+ 1	+ 1	+ 1	+ 1	+ 1	+ 2	+ 2	+ 5	+ 6	+ 7	+ 5	0	- 4	642			
10	- 8	- 9	-10	-13	-13	-10	- 8	- 5	- 4	- 2	+ 1	+ 2	+ 2	+ 2	+ 2	+ 2	+ 3	+ 3	+ 7	+ 9	+11	+11	+ 9	+11	642			
11	+ 8	+ 2	+ 1	+ 1	- 1	- 2	- 2	- 2	- 2	+ 1	+ 1	+ 3	+ 7	+ 6	- 2	- 2	- 2	- 2	- 1	+ 1	+ 1	- 1	- 4	- 9	641			
12	-11	-16	-13	-11	- 9	- 6	- 4	- 3	- 1	+ 2	+ 3	+ 5	+ 6	+ 6	+ 6	+ 6	+ 7	+ 8	+ 7	+ 6	+ 5	+ 2	+ 2	+ 2	637			
13	+ 2	+ 1	- 2	- 4	- 5	- 4	- 4	- 4	- 3	- 2	- 1	+ 2	+ 3	+ 4	+ 4	+ 4	+ 3	+ 2	+ 2	+ 2	- 1	- 1	- 1	- 1	641			
14	0	+ 3	+ 1	+ 1	- 1	- 5	- 7	-14	-11	- 7	- 5	+ 1	0	+ 4	+ 6	+ 5	+ 4	+ 3	+ 4	+ 6	+ 6	+ 5	+ 1	0	639			
15	- 4	- 2	+ 3	+ 1	- 1	0	- 2	- 4	- 4	- 2	- 2	- 1	0	+ 3	+ 3	+ 3	+ 4	+ 4	+ 5	+ 6	+ 4	0	- 6	- 8	644			
16	- 5	- 3	- 3	- 1	+ 2	+ 2	- 1	- 2	- 3	- 5	- 8	- 4	+ 1	+ 2	+ 7	+ 8	+ 8	+ 7	+ 8	+ 8	+ 3	- 4	- 9	-13	641			
17	-10	-11	-11	- 6	- 3	- 2	- 2	- 5	- 2	0	+ 1	+ 1	+ 4	+ 5	+ 8	+ 9	+ 9	+ 9	+ 9	+ 8	+ 4	- 1	- 2	- 7	638			
18	-10	-12	-12	- 8	- 3	+ 1	+ 3	0	- 1	- 1	- 1	0	0	+ 3	+ 4	+ 6	+ 9	+10	+11	+11	+ 6	+ 1	- 6	-10	638			
19	-12	-14	-11	- 7	- 2	- 1	- 3	- 3	- 3	- 1	- 1	- 1	0	+ 2	+ 3	+ 5	+ 7	+ 9	+10	+ 9	+ 8	+ 3	+ 2	- 3	639			
20	-14	-15	-12	- 8	- 8	- 8	- 4	- 2	+ 1	- 2	- 5	- 4	- 1	+ 2	+ 8	+ 6	+ 7	+10	+12	+12	+10	+10	+ 9	+ 8	641			
21	+ 3	- 1	- 3	- 6	- 6	- 2	- 1	0	0	+ 2	+ 3	- 3	- 2	- 7	+ 2	- 1	- 1	+ 2	+ 5	+ 8	+ 6	+ 6	+ 6	0	644			
22	- 6	-11	-11	- 7	- 7	- 5	- 2	0	+ 3	+ 4	+ 3	+ 2	+ 4	+ 3	+ 2	+ 2	+ 3	+ 3	+ 4	+ 6	+ 6	+ 3	+ 2	0	644			
23	- 3	- 3	- 7	- 8	- 9	- 8	- 6	- 3	- 1	- 1	+ 1	+ 2	+ 2	+ 3	+ 3	+ 2	+ 2	+ 2	+ 2	+ 4	+ 5	+ 5	+ 9	+ 5	645			
24	- 1	- 1	+ 3	+ 3	0	- 2	- 4	- 4	- 2	- 1	0	0	- 1	- 1	0	0	0	0	+ 3	+ 4	+ 4	+ 3	0	- 2	643			
25	- 2	- 1	- 6	- 7	- 8	-11	-14	-12	- 8	- 2	+ 3	+ 5	+ 5	+ 7	+ 7	+ 7	+ 7	+ 7	+ 8	+ 7	+ 7	+ 4	+ 3	+ 2	639			
26	- 2	- 2	- 4	- 2	- 5	-12	-16	-13	-12	-11	- 5	0	+ 3	+ 4	+ 5	+ 7	+ 7	+ 7	+ 9	+10	+ 7	+ 6	+ 5	+ 3	643			
27	- 1	- 2	- 5	- 5	- 3	- 3	- 1	0	- 1	- 1	- 1	0	+ 3	+ 4	+ 5	+ 6	+ 5	+ 6	+ 6	+ 5	+ 2	0	- 2	- 5	645			
28	- 5	- 5	- 2	+ 1	0	0	- 3	- 3	0	+ 1	+ 1	+ 1	+ 2	+ 3	+ 6	+ 6	+ 6	+ 6	+ 6	+ 3	0	- 4	- 9	-11	640			
29	-15	-17	-15	- 9	- 4	- 3	- 3	- 4	- 2	0	+ 1	+ 2	+ 3	+ 5	+ 6	+ 6	+ 6	+ 6	+ 7	+ 6	+ 5	+ 5	+ 5	0	640			
30	- 6	-11	- 8	- 6	- 6	- 6	- 6	- 4	- 4	- 3	- 1	0	+ 3	+ 4	+ 5	+ 7	+ 7	+ 7	+ 8	+ 9	+ 7	+ 3	- 3	- 7	638			
31	- 5	- 1	- 1	- 2	- 4	- 4	- 4	- 4	- 2	- 2	- 1	0	+ 2	+ 4	+ 5	+ 6	+ 7	+ 7	+ 7	+ 7	+ 4	0	- 2	- 6	636			
MEAN.	- 5	- 6	- 6	- 5	- 5	- 4	- 4	- 4	- 3	- 2	- 1	0	+ 1	+ 2	+ 4	+ 5	+ 5	+ 6	+ 7	+ 7	+ 6	+ 3	+ 1	- 2	642			

VERTICAL INTENSITY

G.M.T. (Z = 20000γ + Mean + ...) August 1939.

DAY.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1	-11	-11	-11	- 8	- 7	- 6	- 4	- 4	- 2	- 2	- 1	0	+ 1	+ 2	+ 4	+ 5	+ 5	+ 6	+ 7	+10	+10	+ 9	+ 6	+ 1	638			
2	- 1	- 6	- 6	- 7	- 5	- 3	- 2	- 2	- 2	- 1	- 1	0	+ 1	+ 1	+ 3	+ 4	+ 5	+ 6	+ 9	+10	+ 4	0	- 1	- 1	639			
3	0	- 6	- 8	- 8	- 6	- 5	- 3	- 2	0	0	0	+ 1	+ 2	+ 3	+ 3	+ 6	+ 6	+ 7	+ 8	+ 9	+ 7	+ 3	- 2	- 4	636			
4	- 9	- 9	- 7	- 6	- 4	- 3	- 1	0	+ 1	0	0	+ 1	+ 2	+ 2	+ 3	+ 5	+ 6	+ 7	+10	+ 7	+ 5	+ 1	- 4	- 4	637			
5	- 1	- 4	- 3	- 4	- 5	- 4	- 3	- 2	- 2	- 1	+ 2	+ 3	+ 3	+ 3	+ 4	+ 5	+ 7	+ 8	+ 8	+ 7	+ 3	- 2	- 7	- 9	635			
6	- 8	- 6	- 6	- 8	-11	-10	- 6	- 5	- 2	- 1	+ 1	+ 2	+ 2	+ 4	+ 4	+ 5	+ 7	+ 7	+10	+ 8	+ 8	+ 6	+ 1	0	632			
7	+ 1	+ 2	- 1	- 4	- 5	- 4	- 4	- 4	- 3	- 2	- 1	- 1	- 1	- 1	+ 1	+ 9	+ 2	+ 3	+ 4	+ 5	+ 5	+ 5	+ 5	+ 4	635			
8	+ 1	- 3	- 7	- 5	- 5	- 4	- 4	- 3	- 3	- 3	- 2	- 1	+ 1	+ 1	+ 2	+ 3	+ 3	+ 3	+ 4	+ 4	+ 2	+ 1	+ 2	+ 1	635			
9																												
10																												
11	- 8	-12	-12	-11	-11	-10	- 8	- 7	- 4	- 2	0	+ 1	+ 4	+ 5	+ 6	+ 5	+ 6	+ 7	+11	+12	+13	+12	+ 7	+ 4	637			
12	- 1	+ 3	- 4	-17	-30	-31	-24	-24	- 8	-11	- 2	+ 7	+12	+15	+16	+16	+16	+13	+12	+12	+11	+ 7	+ 4	+ 3	643			
13	- 4	-11	-11	- 8	- 3	- 1	- 3	- 1	- 1	- 2	+ 2	+ 4	+ 5	+ 6	+ 5	+ 8	+ 8	+ 5	+ 4	+ 3	0	- 3	- 6	- 8	650			
14	- 2	- 5	- 7	- 6	- 6	- 6	- 3	- 3	- 2	- 2	- 1	0	+ 3	+ 4	+ 5	+ 5	+ 5	+ 5	+ 6	+ 5	+ 3	0	- 2	- 6	644			
15	- 6	- 7	-10	- 7	- 5	- 5	- 5	- 6	- 7	- 5	- 4	- 2	- 1	0	+ 3	+ 4	+ 6	+ 5	+ 7	+11	+10	+ 9	+ 6	- 2	643			
16	- 3	- 3	0	- 1	- 2	- 1	- 1	- 2	- 2	- 1	- 2	- 5	- 5	- 3	+ 4	+ 6	+ 8	+ 8	+ 9	+10	+ 8	+ 1	- 7	-12	638			
17	-22	-31	-30	-19	-11	- 3	+ 2	+ 3	+ 6	+ 4	+ 2	+ 2	+ 1	+ 3	+ 4	+ 6	+ 8	+ 9	+14	+16	+15	+12	+ 8	+ 2	640			
18	- 5	- 8	- 6	- 5	- 5	- 3	0	+ 1	+ 1	+ 1	+ 1	0	0	+ 1	+ 3	+ 3	+ 5	+ 6	+ 9	+11	+ 7	+ 3	- 4	- 8	641			
19	-15	-15	-15	-12	-10	- 6	- 1	+ 1	- 1	- 1	- 1	0	0	+ 2	+ 1	+ 1	+ 6	+ 5	+11	+12	+11	+10	+ 8	+ 2	642			
20	- 4	- 8	-10	-11	- 8	- 5	- 2	- 1	+ 1	+ 1	+ 2	+ 2	+ 2	+ 2	+ 3	+ 2	+ 2	+ 2	+ 4	+ 6	+ 8	+ 6	+ 3	+ 2	639			
21	- 4	-11	-10	- 7	- 6	- 6	- 4	- 2	- 2	- 1	0	0	+ 1	+ 2	+ 2	+ 2	+ 2	+ 2	+ 4	+ 4	+ 4	+ 9	+ 9	+ 2	636			
22	+ 3	+ 5	- 4	-21	-20	-13	- 9	- 5	- 3	- 3	+ 2	+ 1	- 6	-11	- 1	+ 1	+ 2	+ 8	+12	+13	+14	+14	+10	+ 6	635			
23	-12	-15	-11	- 9	- 7	- 5	0	- 3	- 1	+ 2	+ 2	+ 5	+ 8	+ 9	+ 9	+ 8	+ 6	+ 6	+ 7	+ 6	+ 3	+ 1	- 1	-10	652			
24	-11	- 9	- 4	- 1	0	- 1	- 2	- 1	- 2	- 2	0	+ 3	+ 4	+ 5	+ 5	+ 4	+ 4	+ 4	+ 4	+ 3	+ 2	0	- 1	- 7	649			
25	- 4	- 1	+ 1	- 2	- 1	- 1	- 2	- 2	- 2	- 1	+ 2	+ 5	+ 5	+ 5	+ 7	+ 7	+ 7	+ 5	+ 5	+ 3	- 1	- 3	- 9	-13	644			
26	-12	-16	-11	- 4	- 3	- 3	- 3	- 3	- 3	- 3	- 1	+ 1	+ 5	+ 5	+ 6	+ 6	+ 6	+ 7	+10	+10	+ 7	+ 1	- 4	- 9	641			
27	- 7	- 7	- 9	- 7	- 3	- 2	- 3	- 3	- 2	- 1	0	+ 2	+ 4	+ 4	+ 5	+ 7	+ 8	+ 9	+ 8	+ 5	+ 2	0	- 3	- 8	638			
28	-12	-14	-12	- 8	- 6	- 5	- 3	- 3	- 3	- 1	+ 1	+ 4	+ 5	+ 5	+ 8	+ 9	+ 9	+ 9	+10	+ 9	+ 5	- 1	- 6	-11	637			
29	-14	-12	-10	- 6	- 3	- 2	- 2	- 2	- 2	0	0	+ 2	+ 3	+ 5	+ 6	+ 7	+ 7	+ 7	+ 8	+ 6	+ 2	0	- 2	- 2	640			
30	- 6	- 7	- 5	- 2	- 2	- 2	- 2	- 2	- 2	- 2	- 2	- 2	- 1	0	+ 1	+ 5	+ 7	+ 6	+ 7	+ 7	+ 5	+ 1	- 5	- 8	642			
31	-12	-11	-11	- 6	- 6	- 6	- 6	- 5	- 2	- 4	- 2	- 1	+ 1	+ 3	+ 4	+ 5	+ 5	+ 6	+ 9	+10	+ 7	+10	+ 9	+ 5	641			
MEAN.	- 6	- 8	- 8	- 8	- 7	- 5	- 4	- 3	- 2	- 1	0	+ 1	+ 2	+ 3	+ 4	+ 5	+ 6	+ 6	+ 8	+ 8	+ 6	+ 4	+ 1	- 3	640			

VERTICAL INTENSITY

G.M.T. (Z = 20000γ + Mean + ...) September 1939.

DAY.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1	+ 1	- 1	- 2	- 1	+ 1	0	- 1	- 2	- 2	- 2	- 2	- 1	0	+ 1	+ 3	+ 3	+ 4	+ 5	+ 7	+ 9	+ 6	0	- 8	-14	641			
2	- 6	- 9	- 9	- 8	- 6	- 3	- 3	0	+ 1	+ 1	+ 1	+ 1	+ 2	+ 3	+ 4	+ 4	+ 6	+ 7	+ 8	+ 7	+ 3	+ 1	- 4	-10	633			
3	-11	-14	-17	-19	-16	- 6	- 3	- 3	0	+ 4	0	- 1	+ 4	+ 6	+ 7	+10	+10	+11	+12	+11	+ 7	+ 5	+ 4	0	630			
4	- 5	- 9	-11	-11	- 8	- 5	- 4	- 2	+ 1	+ 2	+ 3	+ 4	+ 5	+ 5	+ 7	+ 7	+ 8	+ 9	+ 9	+ 7	+ 4	+ 1	- 4	- 5	632			
5	-10	-13	-15	-11	- 9	- 6	- 4	- 4	0	+ 1	+ 1	+ 2	+ 2	+ 3	+ 3	+ 5	+ 6	+ 7	+ 8	+ 7	+ 5	+ 5	+ 5	+ 1	634			
6	- 1	- 2	0	0	0	- 2	- 4	- 5	- 4	- 1	0	+ 1	+ 1	+ 2	+ 2	+ 4	+ 5	+ 5	+ 6	+ 4	+ 4	- 2	- 7	-14	635			
7	-10	-13	-17	-11	- 7	- 7	- 6	- 5	- 2	+ 1	+ 2	+ 4	+ 4	+ 5	+ 6	+ 6	+ 7	+ 8	+10	+ 8	+ 7	+ 7	+ 7	+ 6	629			
8	+ 2	0	- 2	- 2	- 2	- 3	- 3	- 4	- 3	- 3	0	+ 2	+ 3	+ 3	+ 3	+ 3	+ 3	+ 4	+ 7	+ 6	+ 3	0	- 4	- 3	633			
9	+ 1	- 4	- 7	- 4	- 5	-11	-18	-15	- 7	- 6	- 2	0	+ 4	+10	+12	+13	+13	+13	+12	+ 8	+ 5	0	- 4	-11	629			
10	-18	-24	-25	-17	-10	- 4	- 1	0	+ 1	+ 2	+ 6	+ 8	+11	+11	+11	+12	+12	+10	+ 8	+ 4	+ 1	+ 1	+ 1	- 2	628			
11	-10	- 9	- 2	+ 2	+ 1	0	- 3	- 2	0	+ 2	+ 4	+ 7	+ 8	+ 9	+11	+11	+ 9	+ 8	+ 6	0	- 5	-10	-15	-16	632			
12	-15	-11	- 8	- 3	0	- 2	- 4	- 5	- 2	0	+ 1	+ 3	+ 6	+ 7	+ 8	+ 9	+ 9	+ 9	+ 8	+ 3	0	- 5	- 6	- 5	632			
13	-12	-10	- 8	- 4	- 1	- 1	- 3	- 3	- 4	- 4	- 3	- 2	- 1	+ 3	+ 4	+ 7	+ 8	+ 8	+ 8	+ 8	+ 4	+ 3	0	+ 3	636			
14	- 6	- 6	-10	-10	- 5	- 2	0	0	0	0	0	0	+ 1	+ 3	+ 6	+ 8	+ 9	+ 9	+ 8	+ 4	+ 1	- 4	- 5	- 6	632			
15	- 9	-11	-11	- 8	- 5	- 3	0	0	0	+ 1	+ 1	+ 1	+ 2	+ 3	+ 4	+ 7	+ 8	+11	+ 9	+ 3	0	- 3	- 4	- 3	632			
16	- 5	- 6	- 6	- 6	- 4	- 4	- 1	0	0	0	- 1	- 1	0	+ 2	+ 5	+ 6	+ 6	+ 7	+ 9	+ 6	+ 4	+ 1	- 2	- 4	634			
17	- 5	- 5	- 9	- 9	-10	-10	-10	- 2	+ 1	+ 3	+ 3	+ 2	- 3	- 5	- 3	+ 3	+ 6	+ 8	+ 6	+ 6	+ 8	+ 6	+ 7	+ 4	637			
18	- 4	- 6	- 3	- 2	+ 1	- 1	+ 3	+ 4	+ 4	+ 3	+ 3	+ 3	+ 2	+ 2	+ 2	+ 3	+ 4	+ 4	+ 5	+ 4	+ 1	- 3	- 7	-10	642			
19	- 7	-10	-13	-12	- 8	- 7	- 7	- 6	- 6	- 6	- 2	- 2	0	+ 4	+ 5	+11	+11	+13	+13	+11	+ 9	+ 8	+ 5	0	636			
20	- 6	-10	-11	-12	- 9	- 5	0	+ 2	+ 2	+ 7	+ 4	+ 5	+ 7	+11	+10	+ 8	+ 7	+ 6	+ 4	+ 1	0	- 1	- 4	- 5	638			
21	- 4	- 4	- 6	- 5	- 4	- 5	- 3	- 2	+ 1	+ 1	+ 2	+ 3	+ 5	+ 6	+ 5	+ 5	+ 5	+ 5	+ 5	+ 3	+ 1	- 2	- 4	- 5	637			
22	- 2	- 2	- 3	- 3	- 3	- 3	- 2	- 2	- 3	- 2	0	+ 5	+ 5	+ 5	+ 5	+ 5	+ 6	+ 5	+ 5	+ 1	- 2	- 5	- 5	- 3	634			
23	- 2	- 1	- 1	- 1	- 3	- 4	- 4	- 4	- 3	- 1	+ 2	+ 3	+ 4	+ 5	+ 7	+ 5	+ 5	+ 5	+ 4	+ 2	- 2	- 6	- 4	- 1	635			
24	+ 2	+ 3	- 2	- 5	- 7	- 7	- 9	- 8	- 4	- 2	- 1	+ 2	+ 4	+ 6	+ 6	+ 6	+ 6	+ 6	+ 4	+ 2	- 1	- 2	- 3	- 5	636			
25	- 6	- 6	- 5	- 5	- 5	- 5	- 6	- 6	- 2	- 2	- 1	- 1	+ 3	+ 4	+ 6	+ 6	+ 8	+ 9	+ 8	+ 5	+ 1	0	- 2	- 8	634			
26	- 7	- 9	-11	-15	-13	- 9	- 5	- 3	- 1	+ 2	+ 3	+ 6	+ 8	+10	+11	+11	+10	+10	+ 7	+ 3	+ 2	0	- 1	- 3	632			
27	- 8	- 8	- 7	- 5	- 5	- 5	- 5	- 4	- 3	- 2	- 1	+ 1	+ 3	+ 3	+ 4	+ 6	+ 6	+ 6	+ 8	+ 7	+ 2	- 1	- 2	- 1	636			
28	- 1	- 4	- 3	- 3	- 3	- 3	- 3	- 5	- 3	- 1	- 1	0	+ 1	+ 4	+ 5	+ 6	+ 7	+ 7	+ 7	+ 4	0	- 4	- 5	- 6	638			
29	- 2	- 3	- 2	- 2	- 1	- 1	- 1	- 1	0	+ 1	+ 1	+ 1	+ 4	+ 5	+ 8	+ 9	+ 9	+ 8	+ 6	+ 3	- 2	- 8	-13	-18	634			
30																												
31																												
MEAN.	- 6	- 7	- 8	- 7	- 5	- 4	- 4	- 3	- 1	0	+ 1	+ 2	+ 3	+ 5	+ 6	+ 7	+ 7	+ 8	+ 7	+ 5	+ 2	- 1	- 3	- 5	634			

VERTICAL INTENSITY

G.M.T. (Z = 20000γ + Mean + ...) October 1939.

DAY.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1	-15	-15	-14	- 9	- 8	- 5	- 3	- 2	+ 1	+ 3	+ 2	+ 3	+ 3	+ 5	+ 6	+ 7	+ 8	+11	+11	+ 8	+ 6	+ 2	0	- 4	634			
2	- 8	- 7	- 5	- 3	- 3	- 3	- 2	- 1	+ 2	+ 3	+ 3	+ 3	+ 3	+ 4	+ 6	+ 7	+ 8	+10	+ 9	+ 3	- 2	- 4	- 7	- 8	633			
3	-10	-11	-10	- 6	- 6	- 5	- 4	- 6	- 7	- 9	- 6	- 4	- 4	- 1	+ 5	+ 7	+ 7	+ 8	+11	+ 4	+11	+15	+13	+13	635			
4	- 4	- 8	-19	-24	-19	- 5	+ 1	+ 3	+ 4	+ 6	+ 6	+ 6	+ 7	+ 8	+ 8	+ 8	+ 8	+ 9	+ 8	+ 7	+ 4	+ 2	- 3	- 9	644			
5	-14	-15	-15	-14	-11	- 8	- 6	- 3	- 1	- 2	0	0	+ 2	+ 4	+ 3	+ 4	+ 5	+ 8	+ 9	+10	+11	+13	+14	+14	643			
6	+ 6	+ 3	+ 1	- 4	- 6	-10	-10	- 8	- 4	0	+ 1	+ 1	+ 4	+ 5	+ 4	+ 5	+ 6	+ 6	+ 3	0	- 2	- 2	- 2	- 2	647			
7	+ 2	- 4	- 5	- 5	- 5	- 5	- 5	- 4	- 2	0	+ 2	+ 4	+ 4	+ 2	+ 2	+ 1	0	0	+ 1	0	+ 1	+ 2	+ 2	+ 2	641			
8	+ 3	- 3	- 7	- 6	- 6	- 6	- 6	- 4	- 2	+ 2	+ 4	+ 5	+ 5	+ 5	+ 8	+ 7	+ 5	+ 5	+ 2	- 3	- 4	- 4	- 2	- 3	638			
9	- 4	- 6	- 6	- 4	- 1	- 3	- 9	-12	-10	0	+ 6	+ 7	+ 7	+12	+ 8	+ 7	+ 7	+ 6	+ 2	0	0	+ 1	+ 2	+ 1	635			
10	- 2	- 1	- 1	- 5	- 5	- 5	- 3	- 3	- 3	- 2	0	+ 2	+ 4	+ 5	+ 6	+ 8	+ 6	+ 5	+ 4	+ 2	- 1	- 2	- 7	- 7	638			
11	-10	- 9	- 5	- 2	- 2	- 2	- 3	- 4	- 4	- 4	- 3	0	+ 2	+ 4	+ 6	+ 6	+ 6	+ 6	+ 3	+ 1	+ 1	+ 1	+ 1	+ 3	640			
12	+ 1	+ 3	+ 3	0	- 1	- 1	- 2	- 3	- 3	- 2	- 1	0	+ 3	+ 5	+ 6	+ 8	+ 8	+ 5	+ 1	0	- 3	- 6	- 6	- 6	643			
13	- 5	- 6	+ 6	+ 4	+ 1	- 6	-12	-17	-13	-11	- 3	0	+ 5	+ 9	+12	+16	+20	+17	+15	- 3	-13	-10	0	+ 1	644			
14	- 3	- 4	- 8	-13	-13	-10	- 8	-10	- 6	- 2	0	+ 7	+17	+17	+15	+14	+14	+11	+ 9	+ 2	- 4	- 5	- 6	- 9	658			
15	- 9	-16	-18	-15	-11	-10	+ 4	+ 4	+ 6	+ 4	+ 6	+ 6	+ 6	+ 7	+ 6	+ 7	+ 9	+ 8	+ 6	+ 4	+ 2	+ 1	+ 1	+ 1	652			
16	+ 2	- 1	- 4	- 4	- 6	- 4	- 1	- 2	+ 1	+ 1	- 1	- 1	+ 1	+ 4	+ 4	+ 5	+ 8	+ 8	+ 7	+ 4	+ 1	- 2	- 4	- 6	652			
17	- 4	- 6	- 5	- 6	- 5	- 5	- 3	- 3	0	+ 2	+ 2	+ 3	+ 2	+ 2	+ 2	+ 6	+11	+ 6	+ 3	+ 6	+ 2	0	0	+ 1	648			
18	+ 1	- 2	- 8	- 9	- 7	- 5	- 5	- 1	+ 2	+ 2	+ 6	+ 3	+ 2	+ 2	+ 4	+ 7	+ 7	+ 6	+ 7	+ 3	+ 1	- 1	- 2	- 4	647			
19	- 6	- 8	-10	-11	- 8	- 8	- 5	- 5	- 3	- 1	+ 5	+ 6	+ 6	+ 6	+ 8	+ 8	+ 9	+ 8	+ 5	+ 4	+ 4	+ 3	+ 3	0	646			
20	- 1	- 1	0	- 5	- 8	- 7	- 6	- 2	- 1	+ 3	+ 5	+ 5	+ 5	+ 5	+ 5	+ 5	+ 5	+ 3	- 1	- 2	- 1	- 1	- 3	- 5	646			
21	- 1	- 2	- 3	- 6	- 7	- 7	- 2	+ 2	+ 2	+ 3	+ 4	+ 5	+ 5	+ 5	+ 5	+ 6	+ 6	+ 5	+ 2	0	- 3	- 3	- 3	- 2	641			
22	+ 2	+ 3	- 1	- 5	- 6	- 6	- 6	- 5	- 3	- 1	+ 2	+ 4	+ 5	+ 6	+ 8	+ 8	+ 6	+ 4	+ 2	- 3	- 5	- 7	- 7	- 7	642			
23	- 4	- 5	- 7	- 9	- 7	- 6	- 5	- 4	- 5	- 7	- 4	- 1	+ 2	+ 8	+ 7	+ 8	+10	+ 8	+ 5	+ 4	+ 4	0	- 3	0	640			
24	- 1	+ 2	0	- 2	- 2	- 2	- 2	- 1	- 1	+ 2	+ 4	+ 5	+ 6	+ 8	+ 9	+ 9	+ 8	+ 6	+ 2	- 3	- 7	-11	-13	-11	642			
25	-12	-13	-14	-12	-11	- 7	- 5	- 2	0	+ 3	+ 5	+ 5	+ 6	+ 8	+ 9	+10	+10	+ 9	+ 6	+ 5	+ 4	+ 2	0	+ 2	643			
26	- 2	- 5	- 5	- 4	- 4	- 4	- 2	- 2	- 2	- 1	0	+ 1	+ 4	+ 5	+ 6	+ 6	+ 7	+ 6	+ 5	+ 5	- 1	- 6	- 6	- 1	647			
27	+ 3	+ 4	0	- 3	- 5	- 5	- 4	- 4	- 4	- 3	- 3	- 2	+ 1	+ 2	+ 3	+ 4	+ 6	+ 3	+ 1	- 2	- 2	+ 1	+ 2	+ 6	645			
28	+ 5	+ 4	+ 3	+ 2	- 2	- 6	- 8	- 7	- 4	- 3	- 2	- 3	- 4	- 1	+ 2	+ 3	+ 4	+ 5	+ 3	- 1	- 2	+ 1	+ 2	+ 1	645			
29	0	0	- 5	- 8	- 8	- 6	- 3	- 2	- 1	- 1	- 1	0	+ 2	+ 3	+ 4	+ 6	+ 8	+ 5	+ 3	0	0	- 1	0	+ 6	644			
30	+ 4	0	- 2	- 4	- 5	- 2	- 1	0	0	0	0	0	0	0	+ 3	+ 4	+ 5	+ 4	+ 3	- 1	- 2	- 4	0	+ 6	643			
31	+ 9	+ 7	+ 4	- 1	- 3	- 2	- 2	- 2	- 3	- 3	- 2	- 2	- 1	+ 1	+ 3	+ 3	+ 3	+ 3	+ 3	+ 1	- 2	- 4	- 4	- 6	645			
MEAN.	- 3	- 4	- 5	- 6	- 6	- 5	- 4	- 4	- 2	- 1	+ 1	+ 2	+ 3	+ 5	+ 6	+ 7	+ 7	+ 6	+ 5	+ 2	0	- 1	- 1	- 1	643			

VERTICAL INTENSITY

G.M.T. (Z = 20000γ + Mean + ...) November 1939.

DAY.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1	- 5	- 6	- 6	- 8	- 8	- 5	- 4	- 3	- 2	- 2	- 2	- 2	- 2	0	+ 1	+ 1	+ 2	+ 2	+ 2	+ 5	+ 7	+ 9	+13	+13	644			
2	+11	+ 5	- 2	- 4	- 5	- 5	- 4	- 3	0	0	+ 1	+ 1	+ 1	+ 1	+ 2	+ 2	+ 3	+ 5	+ 5	+ 2	- 3	- 4	- 2	0	644			
3	+ 2	- 1	- 3	- 4	- 4	- 4	- 3	- 1	0	0	0	0	+ 2	+ 2	0	+ 2	+ 3	+ 3	+ 2	+ 2	0	0	+ 2	- 2	642			
4	- 7	- 4	- 4	- 4	- 4	- 4	- 4	- 3	- 1	+ 1	+ 1	+ 1	+ 2	+ 2	+ 2	+ 2	+ 2	+ 2	+ 1	+ 2	+ 3	+ 4	+ 3	+ 2	644			
5	- 1	- 3	- 4	- 4	- 6	- 4	- 3	- 2	- 1	- 2	- 1	+ 2	+ 4	+ 4	+ 4	+ 4	+ 4	+ 3	+ 2	0	- 1	- 1	+ 5	+10	643			
6	+ 8	+ 2	- 1	- 3	- 6	- 6	- 6	- 5	- 3	- 1	0	+ 1	+ 2	+ 2	+ 1	+ 1	+ 1	0	0	- 1	- 1	0	+ 6	+ 7	646			
7	+ 7	+ 3	- 2	- 4	- 4	- 5	- 5	- 4	- 2	+ 1	+ 2	+ 2	+ 4	+ 4	+ 6	+ 6	+ 6	+ 3	- 1	- 4	- 5	- 4	- 2	- 2	644			
8	+ 2	+ 3	+ 1	0	- 3	- 4	- 4	- 3	- 3	- 2	0	+ 2	+ 5	+ 6	+ 7	+ 6	+ 5	+ 2	- 3	- 5	- 6	- 8	- 5	- 4	645			
9	- 8	- 8	- 8	- 9	- 8	- 7	- 6	- 3	- 3	- 1	0	+ 3	+ 4	+ 5	+ 6	+ 6	+ 6	+ 5	+ 3	0	- 1	0	+ 5	+ 9	648			
10	+ 5	+ 3	0	- 4	- 5	- 5	- 4	- 3	- 3	- 3	- 3	0	+ 1	+ 2	+ 5	+ 5	+ 3	+ 2	+ 1	0	- 3	- 4	- 1	0	651			
11	+ 2	0	- 2	- 4	- 3	- 4	- 3	- 3	- 3	- 4	- 4	- 2	0	+ 1	+ 3	+ 3	+ 4	+ 3	+ 2	+ 3	+ 3	+ 1	- 2	+ 1	650			
12	+ 4	+ 1	+ 3	+ 3	+ 3	+ 1	+ 1	+ 1	+ 1	+ 1	- 1	- 1	- 2	+ 1	+ 1	+ 5	+ 7	+ 5	+ 1	- 1	- 5	-10	-10	-10	647			
13	-10	-10	-11	-10	-10	- 5	- 4	- 5	- 5	0	+ 1	- 2	0	+ 5	+13	+14	+13	+ 9	+ 7	+ 2	0	0	+ 3	+ 2	645			
14	- 4	- 2	- 2	- 4	- 2	- 1	0	0	+ 1	0	0	0	0	0	+ 2	+ 4	+ 5	+ 6	+ 6	+ 5	0	- 2	- 7	- 7	652			
15	- 4	- 5	- 5	- 4	- 2	- 2	- 2	0	+ 1	+ 1	0	0	+ 1	+ 2	+ 1	+ 2	+ 4	+ 4	+ 2	+ 1	- 1	- 4	- 1	+ 1	652			
16	+ 2	+ 5	+ 2	+ 1	0	0	0	0	0	- 1	- 1	- 1	- 1	- 1	- 1	0	0	0	0	0	- 1	- 1	0	0	652			
17	+ 6	+ 6	+ 5	- 1	- 4	- 5	- 5	- 4	- 2	- 1	- 1	0	0	0	+ 1	+ 1	+ 1	+ 1	- 1	- 2	- 1	+ 1	+ 5	+ 5	647			
18	+ 5	+ 3	+ 1	0	- 3	- 3	- 3	- 2	- 2	- 2	0	0	+ 1	+ 1	+ 2	+ 2	+ 2	+ 1	0	- 2	- 2	0	+ 2	+ 3	645			
19	+ 6	0	- 4	- 6	- 7	- 6	- 2	- 1	0	+ 1	+ 1	+ 2	+ 2	+ 1	+ 1	+ 4	+ 4	+ 4	+ 2	- 1	- 4	- 2	+ 1	+ 1	641			
20	- 2	- 8	-13	-16	-14	-12	- 7	- 4	- 1	+ 1	+ 4	+ 5	+ 5	+ 6	+ 6	+ 6	+ 7	+ 6	+ 4	+ 1	+ 2	+ 4	+ 5	+10	641			
21	+10	+ 7	+ 1	- 3	- 4	- 4	- 4	- 4	- 2	- 1	+ 2	+ 2	+ 3	+ 4	+ 4	+ 4	+ 4	+ 3	+ 3	+ 1	- 3	- 5	- 4	- 2	645			
22	0	+ 2	0	- 4	- 6	- 4	- 3	- 3	- 2	- 1	+ 2	+ 3	+ 3	+ 4	+ 5	+ 5	+ 5	+ 4	+ 2	- 1	- 2	- 1	0	+ 2	643			
23	+ 1	- 2	- 7	- 8	- 7	- 5	- 4	- 4	- 2	- 1	+ 1	+ 2	+ 5	+ 5	+ 5	+ 5	+ 5	+ 4	+ 2	+ 1	+ 1	+ 2	+ 4	+ 5	641			
24	+ 1	- 2	- 7	-12	-12	- 9	- 7	- 5	- 2	0	+ 1	+ 3	+ 4	+ 5	+ 4	+ 5	+ 6	+ 6	+ 6	+ 4	+ 1	+ 1	+ 3	+ 5	642			
25	+ 2	- 1	- 2	- 4	- 5	- 8	-10	- 5	- 2	- 1	+ 1	+ 3	+ 7	+10	+13	+13	+13	+ 9	+ 4	+ 1	- 5	-14	- 9	- 2	644			
26	- 2	- 2	- 1	- 1	- 1	- 3	- 3	- 2	- 2	- 1	+ 1	+ 3	+ 3	+ 4	+ 7	+ 8	+ 8	+ 4	+ 1	- 3	- 3	- 3	- 3	- 2	649			
27	+ 3	- 2	- 6	- 9	- 9	- 6	- 3	- 2	0	+ 1	+ 1	+ 3	+ 5	+ 6	+ 7	+ 8	+ 7	+ 6	+ 5	+ 3	- 2	- 3	- 3	- 3	645			
28	+ 4	+ 3	0	- 5	- 6	- 6	- 3	- 1	- 1	0	0	+ 1	+ 3	+ 8	+ 9	+ 9	+ 9	+ 9	+ 5	- 1	- 5	- 7	- 7	-14	642			
29	-15	-15	-13	-12	-11	- 8	- 6	- 5	- 3	- 1	- 1	- 1	0	+ 1	+ 5	+ 8	+ 9	+10	+11	+12	+11	+ 8	+ 9	+ 9	642			
30	+10	+ 8	+ 3	- 1	- 2	- 1	0	+ 1	- 1	0	+ 1	+ 4	+ 4	+ 5	+ 5	+ 8	+ 9	+ 8	+ 1	- 6	-12	-12	-12	- 8	643			
31																												
MEAN.	+ 1	- 1	- 3	- 5	- 5	- 5	- 4	- 3	- 2	- 1	0	+ 1	+ 2	+ 3	+ 4	+ 5	+ 5	+ 4	+ 2	+ 1	- 1	- 2	0	+ 1	645			

VERTICAL INTENSITY

G.M.T. (Z = 20000γ + Mean + ...) December 1939.

DAY.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean.	Maximum. H. M. γ	Minimum. H. M. γ	Range.
1	- 4	- 4	- 5	- 5	- 6	- 6	- 4	+ 1	+ 2	+ 2	+ 2	+ 2	+ 2	+ 2	+ 4	+ 5	+ 6	+ 5	+ 5	+ 4	+ 4	+ 2	0	- 4	641			
2	- 7	- 7	- 6	- 6	- 6	- 3	- 3	- 1	0	+ 2	+ 3	+ 3	+ 3	+ 3	+ 3	+ 4	+ 5	+ 4	+ 2	- 1	- 3	- 1	+ 4	+ 7	643			
3	+ 4	+ 2	- 2	- 4	- 5	- 4	- 1	+ 2	+ 2	+ 2	+ 3	+ 3	+ 4	+ 3	+ 3	+ 3	+ 3	+ 2	+ 2	- 2	- 4	- 3	- 3	- 2	644			
4	- 1	- 2	- 4	- 6	- 6	- 6	- 4	- 1	+ 2	+ 3	+ 4	+ 4	+ 4	+ 4	+ 4	+ 4	+ 4	+ 4	+ 2	- 1	- 2	- 2	- 2	- 2	643			
5	- 2	- 4	- 4	- 5	- 4	- 4	- 3	- 2	- 1	+ 1	+ 2	+ 3	+ 2	+ 2	+ 1	+ 1	+ 4	+ 4	+ 3	+ 1	+ 2	+ 2	+ 3	+ 2	644			
6	- 3	- 1	- 2	- 3	- 4	- 4	- 3	- 2	- 1	+ 1	+ 2	+ 3	+ 4	+ 4	+ 4	+ 3	+ 2	+ 1	- 2	- 1	- 2	- 8	- 3	+ 5	649			
7	+11	+14	+ 8	0	+ 2	+ 2	- 1	- 2	+ 4	0	- 2	- 3	+ 2	+ 2	+ 3	+ 4	+ 3	- 1	- 4	- 6	- 8	- 9	-11	-11	654			
8	- 3	- 1	- 2	- 3	- 6	- 8	- 7	- 4	+ 1	+ 1	+ 1	+ 3	+ 4	+ 8	+ 9	+ 9	+10	+ 9	- 1	- 6	- 3	- 2	- 1	- 1	649			
9	- 1	+ 2	+ 2	- 2	- 3	- 6	- 6	- 3	- 2	- 2	- 1	+ 3	+ 4	+10	+10	+10	+10	+ 8	+ 3	- 1	- 6	- 6	- 7	- 6	649			
10	- 8	- 9	-10	-10	- 8	- 4	- 1	+ 1	+ 2	+ 2	+ 3	+ 3	+ 5	+ 8	+ 8	+ 9	+ 9	+ 8	+ 5	+ 2	- 2	- 3	- 4	- 2	649			
11	- 1	- 2	- 3	- 6	- 7	- 7	- 6	- 3	- 2	- 2	- 2	+ 1	+ 3	+ 4	+ 5	+ 7	+ 7	+ 5	+ 4	+ 7	+ 4	- 1	+ 1	+ 2	649			
12	+ 2	- 1	- 3	- 6	- 6	- 6	- 6	- 5	- 3	- 2	- 2	- 2	- 1	+ 2	+ 3	+ 5	+ 6	+ 5	+ 5	+ 5	+ 4	+ 4	- 1	0	648			
13	- 1	+ 1	+ 1	- 1	- 2	- 2	- 1	- 1	- 1	- 1	- 2	+ 1	+ 1	+ 1	+ 3	+ 4	+ 5	+ 4	+ 2	- 1	- 3	- 4	- 3	- 2	649			
14	0	0	+ 2	+ 2	0	- 1	- 1	- 1	- 1	- 1	- 2	- 2	- 1	0	+ 2	+ 3	+ 4	+ 4	+ 3	- 1	- 2	- 2	- 3	- 1	648			
15	- 2	- 3	- 5	- 5	- 6	- 5	- 2	- 2	0	0	+ 2	+ 2	+ 2	+ 3	+ 3	+ 4	+ 5	+ 5	+ 4	+ 3	+ 2	0	- 2	- 6	648			
16	- 4	- 4	- 3	- 3	- 3	- 2	+ 1	+ 2	+ 3	+ 3	+ 3	+ 2	+ 3	+ 3	+ 3	+ 5	+ 5	+ 5	+ 5	+ 2	0	- 4	- 5	- 8	645			
17	- 4	- 4	- 3	- 3	- 4	- 4	- 2	- 2	0	+ 1	+ 2	+ 3	+ 3	+ 3	+ 3	+ 5	+ 5	+ 5	+ 3	+ 3	+ 1	- 2	- 3	- 2	645			
18	0	0	- 2	- 3	- 4	- 4	- 3	- 2	0	0	+ 1	0	+ 1	+ 1	+ 2	+ 2	+ 2	+ 1	+ 1	+ 1	- 2	0	+ 1	+ 2	645			
19	+ 2	- 2	- 3	- 4	- 5	- 5	- 4	- 2	- 1	- 1	+ 1	+ 1	+ 2	+ 3	+ 3	+ 3	+ 2	+ 1	- 1	- 1	- 3	- 3	+ 1	+ 4	644			
20	+ 5	+ 3	- 2	- 4	- 3	- 4	- 4	- 3	- 2	- 1	0	+ 2	+ 3	+ 3	+ 3	+ 3	+ 3	+ 2	- 1	- 2	- 2	- 1	0	- 1	643			
21	+ 1	- 3	- 5	- 9	- 7	- 7	- 6	- 6	- 1	+ 1	+ 3	+ 5	+ 6	+ 5	+ 3	+ 5	+ 6	+ 5	+ 3	0	- 3	- 1	+ 2	+ 5	640			
22	- 5	- 5	- 1	+ 2	- 1	- 1	- 1	- 1	- 3	0	+ 6	+ 6	+ 4	+ 6	+ 8	+ 6	+ 4	0	- 3	- 7	- 8	- 5	- 1	0	648			
23	+ 5	+ 4	+ 2	- 1	- 4	- 4	- 4	- 3	0	+ 1	+ 2	+ 5	+ 6	+ 7	+ 8	+ 7	+ 7	+ 4	- 1	- 9	-12	-12	-11	- 6	646			
24	- 6	+ 2	+ 6	+ 5	- 1	- 4	- 4	- 4	- 4	- 3	- 3	- 1	0	+ 2	+ 3	+ 2	+ 1	- 1	- 5	- 8	- 6	+ 2	+ 8	+ 9	651			
25	+10	+ 9	+ 5	+ 1	- 2	- 2	- 2	- 2	- 2	- 1	+ 2	+ 2	+ 4	+ 4	+ 7	+ 7	+ 4	+ 1	- 6	- 9	-12	-10	- 4	+ 2	649			
26	+ 2	0	- 2	- 3	- 4	- 4	- 4	- 3	- 2	- 2	- 2	0	+ 1	+ 3	+ 5	+ 6	+ 6	+ 5	0	- 2	- 2	0	+ 3	+ 7	645			
27	+11	+ 5	+ 2	+ 2	+ 3	- 3	- 3	- 3	- 5	- 5	- 4	- 2	0	+ 1	+ 3	+ 6	+ 7	+ 5	+ 1	0	- 2	- 6	- 8	- 6	645			
28	- 5	- 5	- 3	- 5	- 3	- 5	- 2	- 1	0	- 1	- 1	- 2	+ 1	+ 3	+ 5	+ 6	+ 8	+ 6	+ 5	0	- 3	- 3	+ 3	+ 6	642			
29	+ 2	+ 1	- 2	- 2	- 3	- 1	+ 1	+ 1	+ 1	+ 1	+ 1	+ 1	- 1	+ 2	+ 2	+ 3	+ 4	+ 4	+ 2	- 2	- 3	- 1	- 1	+ 2	645			
30	+ 5	- 1	- 2	- 3	- 3	- 3	- 1	- 1	0	0	0	0	+ 2	+ 2	+ 2	+ 3	+ 5	+ 5	+ 3	- 1	- 3	- 6	- 7	- 7	643			
31	- 4	-10	-16	-15	-13	- 9	- 4	- 3	- 2	+ 1	+ 2	+ 3	+ 4	+ 4	+ 4	+ 5	+ 7	+ 7	+ 5	+ 4	+ 2	+ 5	+ 8	+ 5	638			
MEAN.	0	- 1	- 2	- 3	- 4	- 4	- 3	- 2	- 1	0	+ 1	+ 2	+ 2	+ 3	+ 4	+ 5	+ 5	+ 4	+ 1	- 1	- 3	- 3	- 2	0	646			

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SEISMOLOGY, 1939

The following summary of earthquakes recorded at Apia is based on the quarterly bulletins which have already appeared in print. The preliminary identification of phases given in the quarterly bulletins has sometimes been revised after comparison with reports received from other observatories. As a general rule, the positions of epicentres given by the Jesuit Seismological Association or the United States Coast and Geodetic Survey have been used; but in some cases the position of the epicentre has been calculated at the Observatory.

The lithological foundation is coral sand on volcanic rock. The instruments in use are a Wiechert 1000 kilogram horizontal seismograph for the east and north components and a Wiechert 80 kilogram seismograph for the vertical component. During April an overhaul of the instruments was carried out and their constants were improved considerably. Time breaks on the records at the commencement of minute intervals are put on by electrical contact from a Synchronome clock. The clock is rated daily and its correction known to 0.1 second. On the seismograph rollers there is a device which assists in smooth running between the minute breaks. It is considered that cumulative errors may result in final times being in error by an amount not exceeding one second.

Maximum and minimum temperature conditions in the seismograph room were observed over the period from 11th-25th January 1938 and the following results were obtained :-

Average daily range	0.4°C
Maximum daily range	0.8°C.
Minimum daily range	0.1°C.

It is considered that temperature conditions in the room do not vary greatly from those observed. To secure these uniform conditions the main walls are of concrete with an inner wooden lining, while outside the concrete, at a distance of three feet, runs a louvred, wooden protection. The outermost roof is of corrugated iron, while below is a cement ceiling, with a wooden lining.

Towards the close of the year the sorting of past records and fumigation with methallyl chloride of those infested with termites was commenced. The work of sorting is still in progress and when completed will render back records more readily accessible and facilitate their periodical examination for signs of further

attacks by termites or other pests.

In deducing epicentral distances the following tables and charts have been in use:-

H. Jeffreys and K.E. Bullen, Revised Travel-Time Tables (1935)
H. Jeffreys, Tables of P and S (1932)
J.B. Macelwane, Preliminary Table of Observed Travel Times (1933)
B. Gutenburg and C.F. Richter, Materials for the Study of Deep-focus Earthquakes (1936)
G.J. Brunner and J.B. Macelwane, The Brunner focal depth-time-distance chart.
U.S.C.G.S., Notes on the Interpretation of Seismograms.

The total number of earthquakes recorded during 1939 was 234. They were distributed as follows:

145 originated within three degrees of Apia; 20 between three and six degrees; 5 between six and nine degrees; 26 between nine and forty-five degrees; 14 beyond forty-five degrees. The origins of 24 were indeterminate.

Thirteen shocks were reported as having been felt locally during the year

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Abbreviations

USCGS = United States Coast and Geodetic Survey

JSA = Jesuit Seismological Association

M(E), M(N), M(Z) refer to the maxima in the east, north and vertical components respectively.

H = Hypocentral time
RF = Rossi-Forel scale of intensity

Other symbols have their usually accepted meanings: see page 500 of Volume 25, Part II, Handbuch der Experimentalphysik (Wien-Harms),"Seismik" by O. Meisser and G. Krumbach-Leipzig 1931.

In naming the phases in near earthquakes the notation of H. Jeffreys has been used.

The Seismograph Constants were as follows:-

December 31st, 1938

E-W Free period = 7.7 seconds; static magnification 148; coefficient of friction (r/T^2) = 0.0015 cms/sec^2; damping ratio 5.1; total friction = 0.9 dynes

N-S Free period = 8.1 seconds; static magnification 173; coefficient of friction = 0.0009 cms/sec^2; damping ratio 6.6; total friction = 0.6 dynes

Z Free period = 4.6 seconds; static magnification 53; coefficient of friction = 0.002 cms/sec^2; damping ratio 2.1; total friction = 2.1 dynes

February 24th, 1939

E-W Free period = 8.1 seconds; static magnification 146; coefficient of friction = 0.0016 cms/sec^2; damping ratio 5.7; total friction = 3.1 dynes

N-S Free period = 8.0 seconds; static magnification 171; coefficient of friction = 0.0009 cms/sec^2; damping ratio 4.7; total friction = 1.3 dynes

Z Free period = 4.5 seconds; static magnification 55; coefficient of friction = 0.0015 cms/sec^2; damping ratio 2.1; total friction = 1.6 dynes

March 27th, 1939

E-W Free period = 6.3 seconds; static magnification 138; coefficient of friction = 0.002 cms/sec^2; damping ratio 2.6 ; total friction = 4.2 dynes

N-S Free period = 7.9 seconds; static magnification 166; coefficient of friction = 0.001 cms/sec^2; damping ratio 6.5; total friction = 1.4 dynes

Z Free period = 4.8 seconds; static magnification 26; coefficient of friction = 0.0006 cms/sec^2; damping ratio 2.3: total friction = 4.1 dynes

April 15th, 1939

E-W Free period = 10.8 seconds; static magnification 159; coefficient of friction = 0.0022 cms/sec^2; damping ratio 8.1; total friction = 3.5 dynes

N-S Free period = 10.7 seconds; static magnification 172; coefficient of friction = 0.0012 cms/sec^2; damping ratio 4.5; total friction = 1.6 dynes

May 6th, 1939

E-W Free period = 10.7 seconds; static magnification 163; coefficient of friction = 0.002 cms/sec^2; damping ratio 7.7; total friction = 3.7 dynes

N-S Free period = 10.7 seconds; static magnification 163; coefficient of friction = 0.001 cms/sec^2; damping ratio 4.6; total friction = 1.6 dynes

Z Free period = 4.5 seconds; static magnification 52; coefficient of friction = 0.001 cms/sec^2; damping ratio 2.1; total friction = 2.6 dynes

May 25th, 1939

E-W Free period = 11.2 seconds; static magnification 157; coefficient of friction = 0.0010 cms/sec^2; damping ratio 4.1; total friction = 1.7 dynes

N-S Free period = 10.8 seconds; static magnification 170; coefficient of friction = 0.0011 cms/sec^2; damping ratio 5.6; total friction = 1.5 dynes

Z Free period = 4.5 seconds; static magnification 52; coefficient of friction = 0.0015 cms/sec^2; damping ratio 2.0; total friction = 3.9 dynes

June 26th, 1939

E-W Free period = 11.4 seconds; static magnification 160; coefficient of friction = 0.0013 cms/sec^2; damping ratio 5.9: total friction = 2.0 dynes

N-S Free period = 11.2 seconds; static magnification 174; coefficient of friction = 0.0015 cms/sec^2; damping ratio 5.8; total friction = 2.0 dynes

Z Free period = 4.5 seconds; static magnification 51; coefficient of friction = 0.0015 cms/sec^2; damping ratio 2.0; total friction = 4.1 dynes

August 1st, 1939

E-W Free period = 11.3 seconds; static magnification 158; damping ratio 4.9; coefficient of friction = 0.0012 cms/sec^2; total friction = 1.9 dynes

N-S Free period = 10.6 seconds; static magnification 184; damping ratio 6.1; coefficient of friction = 0.0013 cms/sec^2; total friction = 1.5 dynes

Z Free period = 4.6 seconds; static magnification 52; damping ratio 2.1; coefficient of friction = 0.0011 cms/sec^2; total friction = 3.0 dynes

August 21st, 1939

E-W Free period = 11.1 seconds; static magnification 161; damping ratio 5.3; coefficient of friction = 0.0011 cms/sec^2; total friction = 1.7 dynes

N-S Free period = 10.9 seconds; static magnification 172; damping ratio 5.6; coefficient of friction = 0.00092 cms/sec^2; total friction = 1.3 dynes

Z Free period = 4.5 seconds; static magnification 34; damping ratio 2.1; coefficient of friction = 0.0010 cms/sec^2; total friction = 2.4 dynes

September 15th, 1939

E-W Free period = 11.3 seconds; static magnification 156; damping ratio 5.0; coefficient of friction = 0.0014 cms/sec^2; total friction = 2.3 dynes

N-S Free period = 11.0 seconds; static magnification 174; damping ratio 5.9; coefficient of friction = 0.0014 cms/sec^2; total friction = 3.2 dynes

Z Free period = 4.5 seconds; static magnification 55; damping ratio 2.1; coefficient of friction = 0.0010 cms/sec^2; total friction = 2.3 dynes

October 7th, 1939

E-W Free period = 11.4 seconds; static magnification 134; coefficient of friction = 0.0015 cms/sec^2; damping ratio 5.2; total friction = 3.4 dynes

N-S Free period = 10.9 seconds; static magnification 177; coefficient of friction = 0.0025 cms/sec^2; damping ratio 6.6; total friction = 3.2 dynes

Z Free period = 4.5 seconds; static magnification 53; coefficient of friction = 0.0015 cms/sec^2; damping ratio 2.1; total friction = 1.3 dynes

November 6th, 1939

E-W Free period=11.3 seconds; static magnification 163; coefficient of friction = 0.0014 cms/sec^2; damping ratio 5.8; total friction = 2.1 dynes

N-S Free period = 11.0 seconds; static magnification 171; coefficient of friction = 0.0014 cms/sec^2; damping ratio 7.9; total friction = 1.9 dynes

Z Free period = 4.5 seconds; static magnification 51; coefficient of friction = 0.0015 cms/sec^2; damping ratio 2.3; total friction = 4.1 dynes

December 5th, 1939

E-W Free period = 11.4 seconds; static magnification 160; coefficient of friction = 0.0013 cms/sec^2; damping ratio 5.5; total friction = 2.0 dynes

N-S Free period = 10.9 seconds; static magnification 182; coefficient of friction = 0.0018 cms/sec^2; damping ratio 7.8; total friction = 2.2 dynes

Z Free period = 4.5 seconds; static magnification 55; coefficient of friction = 0.0015 cms/sec^2; damping ratio 2.1; total friction = 3.5 dynes

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Earthquakes

1939

January

1st eP 16h 6m 2s (gap) eS 45s Distance 3.8°
2nd eP 7h 44m 21s iS 47s distance 2.3° R-F 4
5th iP 3h 26m 10s iS 27m 9s Dilatation Azimuth SW Distance 5.2°

9th e 14h 5m 9s e 34s
10th eP 11h 8m 42s eS 9m 52s i 12m 7s Distance 6.2°
14th iP 13h 54m 44s S 55m 1s ?(time gap) Dilatation Azimuth S.W. Distance 1.5° Epicentre 14.7°S 173.0°W.

17th iP 18h 12m 32s iS 56s Compression. Distance 2.1°
23rd eP 10h 13m 24s iS 53s Distance 2.5°

25th (i) eP 3h 45m 07s ipP 45s sP 46m 02s i 48m 32s PPN 46s ipPPz 49m 20s eSE 55m 43s? Distance 90° Focal depth 150km. H 3h 32m 19s Epicentre (J.S.A.) 36.4°S 72.1°W
(ii) eP 20h 27m 41s iS 28m 44s Distance 5.6°

28th eP 8h 23m 22s iS 58s Distance 3.2°

30th (i) iP 2h 25m 2s PP 26m 6s PPP 28s e 30m 8s eS 19s SS 32m 10s Compression. Azimuth 290° Distance 33° Epicentre (U.S.C.G.S.) 7°S 155°E
(ii) iP 23h 57m 56s ipP 59m 20s isP 38s PPP? Oh 0m 38s (31st) isPP 1m 13s (strong) eS? 4m 6s esS 6m 2s SS? 7m 32s Compression. Distance 42° Focal depth probably 300 km. Epicentre (Roseneath Bulletin) 7°S 147½°E.

Slight Tremors

3d 10h 34m; 8d 3h 27m; 13d 6h 59m; 14d 14h 27m, 14d 17h 7m; 17d 8h 47m, 17d 20h 21m; 18d 8h 8m; 19d 6h 53m; 24d 18h 2m; 30d 12h 54m.

February

2nd iP 9h 31m 32s iS 32m 5s Distance 2.9°
3rd (i) eP 5h 32m 15s i 33m 20s i 37m 30s i 39m 11s Distance about 28° Epicentre (U.S.C. G.S.) 10°S 159°E
(ii) iP 20h 15m 43s iS 17m 34s L 18.3m Distance 10°

14th iP 3h 27m 24s iS 56s Distance 3° ca. R-F 2
17th iP 15h 29m 41s iS 30m 2s (time gap) S.W. dilatation Distance 1.8° R-F 4
21st eP 22h 20m 49s iS 21m 28s Distance 3.4°

22nd eP 9h 30m 46s iS 31m 26s Distance 3.5°
26th Pn 13h 54m 15s P+ 31s Pg? 43s Sn 55m 31s S+ ? 53s Sg 56m 13s Distance 6.6°
27th iP 6h 31m 22s iS 42s Compression Distance 1.7° R-F 3

Slight Tremors

17d 14h 4m; 18d 17h 5m; 25d 18h 39m; 26d 9h 53m; 28d 5h 46m.

March

2nd iP 23h 20m 16s iS 39s Distance 2.0°
10th eP 0h 37m 16s iS 38m 19s Distance 5.6°
13th iP 5h 12m 31s S 14m 22s e 53s i 15m 30s Compression. Azimuth N.W. Distance about 10°
14th eP 16h 3m 2s? (time gap) iS 31s ?

21st (i) iP 7h 59m 44s sP? 8h 0m 17s iS? 7m 25s SSS? 13m 41s Dilatation. Azimuth 280° Distance 56° Focal depth probably 100 km.
(ii) Weak trace of distant disturbance commencing about 9h 8m. Possibly an aftershock of (i)

22nd eP 7h 23m 3s iS 24m 42s Distance 9° Azimuth probably S.W. Focal depth about 100 km. H 7h 21.0m.

23rd eP 16h 24m 14s ePP? 21s eS 27m 11s eSS 18s
Distance 16°. Weak.
30th eP 0h 15m 44s iS 16m 7s Distance 2°

Slight Tremors

7d 10h 52m, 7d 18h 23m; 8d 14h 24m, 8d 21h 14m, 8d 22h 5m, 8d 23h 14m; 9d 19h 11m, 9d 20h 58m, 9d 21h 31m; 11d 1h 5m, 11d 16h 22m, 11d 21h 48m, 11d 21h 55m; 14d 7h 40m, 14d 8h 31m; 16d 11h 42m
18d Intermittent minute tremors 20h 30m - 22h;
19d Intermittent minute tremors 4h 50m - 5h 8m;
20d 6h 59m; 23d 4h 5m; 24d 11h 33m, 24d 17h 49m; 26d 11h 20m; 27d 6h 21m; 29d 3h 1m, 29d 6h 27m, 29d 23h 48m.

<u>April</u>

1st (i) e 2h 2m 3s ? (in time gap) e 5m 0s
(ii) iP 12h 5m 12s iS 35s distance 2.0°
(iii) iP 21h 38m 10s iS 47s distance 3.3°
Azimuth SW. Compression.

5th eP 16h 47m 11s ipP 22s PP 49s iS 51m 09s
distance 22.6° depth 100km. H 16h 42.2m
Epicentre probably W of the New Hebrides.

8th-11th Large microseisms
11th-14th Horizontal Seismographs undergoing overhaul.
No earthquakes were recorded by the vertical instrument during this period.

18th (i) ePn 0h 45m 9s iSn 56s Sg? 46m 20s
L 47m 8s Distance about 4.0°
(ii) eP 6h 35m 47s eSKS? 46m 37s iS 47m 8s
eSS 53m 18s Distance 95° H 6h 22.4m.
(iii) eP 18h 7m 2s (in time gap) iS 32s
distance 2.6°

20th eP 12h 9m 43s iS 10m 17s distance 3.0°
25th iP 13h 39m 55s iS 40m 31s distance 3.2°

27th eP 23h 1m 21s iS 49s Distance 2.5°
30th iP 3h 1m 30s Sz 6m 8s i 7m 0s Lz 09.3m
Distance about 30°. Epicentre (USCGS) 10.8°S 158.5°E

Slight Tremors

3d 16h 21m; 7d 16h 3m; 27d 22h 11m.

May

1st Weak trace of distant earthquake 6h-7h Epic. (J.S.A.) 39°N 137.5°E.
2nd eS 13h 35m 32s e 49m 11s Epic.(J.S.A.) 29.4°N 113.5°W
6th Weak trace of distant seismic disturbance on N-S Compt. Earliest recorded waves about 20h 16.8m.

10th eS? 8h 3m 49s L 14m Epic.(J.S.A.) 51.0°N 177.2°W
14th ePN 12h 5m 35s ePE 41s? 1S 6m 7s Distance 2.8°
15th eP 6h 10m 33s 1S 11m 18s 1S ? 31s Distance 4.0°

16th eP 23h 24m 24s? i 25m 50s? i 26m 22s
17th eP 18h 40m 44s? e 55½m. Epic.(J.S.A.) 29°N 143.5°E
20th iP 10h 34m 40s iS 35m 0s Distance 1.7° Rossi-Forel 3

21st eP 20h 24m 23s iE 25m 13s iN 23s iS 26m 21s iZ 40s Distance 11.5° Deep. Epicentre in Tongan region.
26th eL 18h 17m

Slight Tremors

6d 5h 51m, 6d 17h 51m; 7d 9h 3m; 13d 14h 35m, 13d 16h 26m; 14d 10h 46m; 16d 3h 50m; 20d 20h 22m; 27d 8h 46m; 30d 9h 25m.

June

4th ePN 11h 59m 14s eE 30s iN 12h 00m 37s iSN 57s Distance about 9°
8th iPZ 20h 47m 36s iPNE 37s iSZ 48m 04s Distance 2.5° Compression. H = 20h 47m 00s Rossi-Forel 5 Pens thrown from horizontal instrument by the P impulse Epicentre (J.S.A.) 14.5°S 174.3°W Depth about 100 km.

17th iP 12h 3m 4s iP+? 7s iS 25s i 33s i 44s Distance 1.8° Azimuth 200° Dilatation
22nd eP 14h 58m 27s i 59m 20s eS? 15h 00m 22s i 6m 25s Distance 10.3° ?

23rd eP 23h 14m 9s iS 40s i 49s Distance 2.7°
27th S 23h 23m 39s L? 35m 30s Earlier phases obscured by microseisms. Epicentre (J.S.A.)

7.8°N 126.3°E

Slight Tremors

6d 11h 2m; 7d 11h 0m; 12d 3h 27m; 17d 16h 23m; 19d 18h 32m; 21d 11h 0m, 21d 15h 12m; 22h 1h 54m; 24d 9h 30m, 24d 11h 15m; 28d 14h 33m; 29d 4h 16m, 29d 4h 44m.

July

5th eP 22h 43m 39s eN 44m 13s 1E 38s 1S 45m 36s
Distance about 11° H 22h 41m 10s h = 600 km.
8th eP 10h 38m 13s 1S 33s i 37s 1L 52s
Distance 2.1°

12th eP 23h 7m 11s i(PcP)E 8m 31s S 14m 12s i 14m 30s SSN 17m 23s Distance 48.5° H 22h 58m 32s Epicentre (Wellington) 4°S 140°E (New Guinea)

17th eP 18h 47m 26s eSE 48m 12s? Distance 4.1°
18th Very weak trace of distant seismic disturbance
e 3h 56m 16s e 4h 02m 11s e 03m 43s

20th eP 2h 25m 26s 1S 27m 20s i 25s Distance 10.3° H = 2h 22m 58s h about 700 km.
Epicentre (J.S.A.) 22.6°S 177°W
22nd iP 9h 7m 49s 1S 8m 5s Distance 1.4° R-F 2

23rd (i) eP 11h 9m 16s 1S 46s Distance 2.6°
(ii) e 16h 41.3m

Slight Tremors

3d 10h 10m, 3d 18h 38m; 7d 18h 29m; 11d 12h 57m; 14d 15h 30m; 22d 15h 14m; 23d 0h 14m; 26d 5h 24m; 31d 13h 9m, 31d 23h 9m

August

2nd iPZ 05h 00m 04s 1SNE 02m 36s Distance 13.5°
Depth about 60 km. H 04h 56.9m
3rd ePNE 02h 30m 15s iPP?N 32m 10s iE 34m 00s?
(in time gap) eS?N 37m 33s Z 38m 30s iN 32s
Distance 51.3° H 02h 21.2m Doubtful

9th (i) Long waves commencing about 01h 35m
(ii) ePN 12h 34m 08s ePE 12s eS 35m 18s
Weak trace. Distance about 6°

12th eP 02h 11m 44s 1S 15m 13s 1SS 42s 1N 16m 22s 1N 35s 1E 17m 07s 1E 14s Compression. Assuming a depth of 150 km. and taking the J.S.A. epicentre, 14.2°S 168.9°E, gives a measured distance of 18.7°. Distance P-H 18.5° Distance S-H 19.1°

15th 1P 06h 28m 35s 1S 55s Distance 1.7° R-F 2

18th (i) 1P 02h 13m 45s 1S 14m 05s Distance 1.7°
(ii) eP 22h 20m 33s 1PPE 42s eS 24m 05s L 26m Distance 20° H 22h 16.2m

19th ePZ 00h 52m 00s PPN 52m 22s SE 55m 55s 1E 57m 19s Distance 22°

23rd (i) 1P 02h 46m 36s 1S 40s Distance 0.4° R-F 2
(ii) ePNE 04h 37m 47s 1PPNE 38m 56s 1N 40m 07s 1E 37s 1E 42m 06s eZ 39s 1SE 43m 41s 1SN 42s 1SSNE 45m 39s Distance 36°? Doubtful.

26th (i) 1PZ 07h 56m 02s 1SZ 21s 1SNE 22s Distance 1.7° Dilatation. R-F 3
(ii) eL 22h 44m

Slight Tremors

1d 3h 30m, 1d 8h 52m; 2d 3h 03m; 21d 3h 50m; 24d 8h 48m.

<u>September</u>

2nd 1PE 9h 3m 34s ePN 36s ePZ 37s 1E 4m 13s 1SE 7m 33s 1SZ 38s 1SN 39s eSSN 8m 7s 1SSE 9s 1N 8m 40s 1E 9m 12s eLE 10.0m. Distance 22.5° H 8h 58m 38s

7th eP 23h 23m 2s? (time gap) 1S 39s 1L 48s Distance 3.3°

8th ePN 12h 15m 23s eS 24m 36s eSSS? 31m 44s

12th (i) ePN 00h 31m 07s 1N 33m 16s 1SE? 28s eLN 34m 23s 1LE 30s Distance 12.7°? H 00h 28m 09s?
(ii) eP? 12h 10m 08s S 12m 02s? Distance 16.5° Epicentre 30°S 176°W h = 300 km. (By Wellington)
(iii) eP 12h 36m 12s 1S 36s Distance 2.1°
(iv) Long waves commencing about 15h 29m

15th (i) eP 11h 49m 39s e 51m 31s 1S? 52m 02s i 53m 02s iN 22s iE 32s Probably about 13° distant. May be deep focus.
(ii) iP 14h 26m 25s iSZ 27m 05s Distance 3.5° R-F 2

18th Trace of distant earthquake. First recorded waves about 09h 54m (Z trace only as clock stopped on H instrument. Possibly a shock of considerable magnitude.)

22nd iP 14h 32m 35s iS 33m 22s Distance 4.1°
30th eP 14h 26m 47s iS 27m 21s Distance 3.0°

Slight Tremors

2d 4h 13m; 5d 17h 42m; 7d 3h 42m, 7d 7h 00m; 10d 1h 56m; 16d 4h 56m, 16d 7h 02m; 20d 8h 16m, 20d 9h 40m; 22d 23h 18m; 28d 1h 25m, 28d 1h 34m

October

3rd iP 13h 43m 19s iS 44m 50s Distance 8.1° H 13h 41m 24s Azimuth 240°
4th Weak trace of distant seismic disturbance; first recorded waves at 01h 19.7m.

9th iPEZ 02h 22m 18s iPN 19s eSE 25m 55s Epicentre by Lunkenheimer's method using Brisbane, Apia and Christchurch (N.Z.) gives epicentre 18.7°S 169.5°E (New Hebrides) Distance 19°. H 02h 17.6m

17th iP 06h 26m 43s ipP? 50s iS 30m 23s Dilatation H 06h 22m 07s Epicentre (J.S.A.) 16.8°S 167. 7°E. H = 110 km Distance 20.7° New Hebrides

26th Weak trace of distant earthquake, first recorded impulse about 21h 30m

30th (i) iPE 13h 13m 25s iSz 14m 58s Distance about 2.9°. Compression Pens thrown from horizontal instrument. Rossi-Forel 4 Deep
(ii) Feeble trace of distant earthquake commencing about 22h 9m

Slight Tremors

3d 19h 4m; 6d 6h 22m; 9d 7h 14m, 9d 14h 13m; 18d 15h 19m; 31d 6h 47m.

November

1st Weak trace of earthquake, first recorded waves commencing at 6h 16m (Time uncertain by as much as 2 minutes due to irregularity in time-marking circuit)

2nd (i) eP 5h 9m 3s eS 36s Distance 2.9°
(ii) Feeble trace of near earthquake. Onset about 10h 42½m.

17th 1PNE 18h 41m 50s 1Pz 52s SNEZ 43m 41s Compression. Distance about 10° Epicentre (Wellington) 19.5°S 180°E H = 18h 39.6m h = 600 km (ca.) Tongan region.

18th (i) ePE? 0h 16m 31s eN 17m 5s (time-gap) eLN 19.0m.
(ii) eP 3h 24m 26s 1S 49m Distance 2°
(iii) Faint trace of seismic disturbance, commencing about 12h 10m.

24th e 23h 23m 52s i 25m 55s i 27m 56s (approx.) eLr? 29m 31s All phases are from E-W component. the N-S trace being obscured by overlapping. The phase at 23m 52s is possibly not associated with the same earthquake as the later phases.

Slight Tremors

11d 2h 32m; 17d 22h 11m; 18d 0h 24m; 19d 1h 0m; 20d 14h 6m; 22d 19h 8m; 24d 12h 34m.

December

1st e 6h 35m 19s i 36m 53s i 38m 03s i 39m 23s i 40m 26s Z 30s ? iE 41m 35s i 42m 31s i 47m 34s
5th eL 9h 8.5m Weak
6th eE 19h 2m 27s ? iE 3m 55s eN 5m 1s (time gap) iN 7m 24s?

9th ePZ 12h 45m 00s iN 31s 1S? NZ 39s Distance 3.4°?
10th ePZ 3h 22m 00s 1SZ 23m 5s Distance 5.7°

11th (i) eP 13h 22m 38s 1S 23m 11s Distance 2.9°
(ii) iP 19h 44m 41s 1S 45m 08s Distance 2.4°

14th ePN 18h 06m 11s iN 07m 34s (may be S) e 08m 28s i 10m 01s i 11m 01s (ca.)

21st eP 21h 11m 18s iPcPZ 43s iS 20m 16s ScS 21m 10s Distance 68° H 21h 00m 20s Celebes. Epicentre (J.S.A.) 0°N 122°E

25th ePNEZ 02h 39m 15s iS?NE 33s eS?Z 37s iZ 45s Distance 1.6°? May be further away.

27th e 00h 17m 25s PPN 19m 24s? SKSPN 29m 54s? eSS? 39m (approx.) iE 57.3m Distance about 140°. Turkey. Epicentre (USCGS) 39°N 39°E

28th iP 18h 20m 55s iS 21m 16s Distance 1.8° R-F 2

30th ePE 14h 34m 31s eE 36m 11s iSE 40m 10s Probably deep and in neighbourhood of 40° distant

31st eP 13h 35m 03s iS 34s Distance 2.7°

Slight Tremors

10d 7h 41m; 17d 6h 18m; 20d 3h 58m; 29d 15h 5m; 31d 8h 45m.

Meteorological Report, 1939

Notes on Instruments and Observations

Surface meteorological observations were made at 9.0 a.m., noon and 3.0 p.m. throughout the year. In addition observations were commenced on September 27th at 0.30 a.m., 8.0 a.m., 2.0 p.m., and 7.0 p.m. for synoptic weather purposes. The 9.0 a.m. and 3.0 p.m. observations preserve the continuity of the series which has been carried on for climatological purposes for many years. The noon readings were used mainly to provide an additional check on the self-recording instruments. Only the 9.0 a.m. and 3.0 p.m. observations are published in this report.

Cloud

The form and the amount of cloud were recorded every day at the times mentioned above. The amount of sky covered with cloud was estimated in tenths. The height of cloud was also estimated to the nearest 500 feet. In the tables which appear later in this report the form of cloud published is the predominating cloud only at each level; but the amount of cloud refers to the total amount of cloud at that level. Thus an observation of Cumulus 4 , Strato-cumulus 2 is shown under low cloud as "Cu 6". This procedure has obtained for many years.

Weather and State of Sky

The Beaufort notation has been used in the tables to describe the weather and the state of the sky. In this connection the meanings of the letters are as follows:-

b = blue sky, cloud amount 0, 1 or 2 tenths; bc = partly clouded, cloud amount 3, 4, 5, 6 or 7 tenths;
c = cloudy, cloud amount 8 tenths or more;
o = overcast, whole sky covered with impervious cloud;
j = within sight, used with reference to precipitation;
n = slight intensity

A line slightly inclined means "within the hour preceding the observation," thus:-

c/r = cloudy sky after rain which has fallen in the last hour.

The other letters which have been used in this report have the usual meanings.

Visibility

The visibility has been determined by reference to a system of visibility objects,aletter corresponding to the most distant point that can be seen clearly being recorded. The reference points and their letters of indication are as follows:-

D Platform in lagoon

E Lagoon House

F Watson's Island

G Pilot Station, 1½ miles

H Tree on sky line to west, 2¾ miles or huts to north-west, 2⅛ miles

J House at Tapatapao, 5¾ miles

K Saluafata promontory, 12½ miles or Mount Tofua, 13 miles

M Promontory of Savai'i and Punga Hill, 35 miles

Wind

The wind speed and direction have been measured as in former years by means of a Dines pressure tube anemometer. The vane is at an elevation of 80 feet above the ground in order to avoid the sheltering influence of the trees.

Pressure

The standard barometer in use is a Kew pattern marine barometer (No. M.O. 2233). The correctionsfor temperature, gravity, index error and reduction to mean sea level are made by means of the Gold Slide, Mark III, No 91 which is attached to the barometer. The standard temperature of the instrument is 285.8°a at 1000 mb. The height of the cistern above mean sea level is 6½ feet.

As the Grand Model barograph 102030, by Jules Richard of Paris, registered more details than No 105444 (by the same maker) the former was used throughout the year. From January to August the mean of the two corrections to the barograph, as determined by control readings of the mercury barometer at 9.0 a.m. and 3.0 p.m.,

was applied to the pressure record for the whole day. In September it was decided to assume that there was a linear change in the error of the barograph between control readings and corrections were applied accordingly. This method results in much more accurate final values of pressure after September the 27th, from which date onwards seven control readings a day were made. The barograms were scaled at exact hours of civil time, the readings being instantaneous values at these hours.

Temperature

The Stevenson screen in which the standard thermometer (Fuess No 652) is exposed has additional protection in the form of a thatched shelter and two louvered walls. The maximum and minimum as well as the wet and dry bulb thermometers are also exposed in this screen. In addition a duplicate set of thermometers were exposed in a Stevenson screen of approved pattern. Their readings have not been given in this report but the comparison of the readings in the two screens may be seen elsewhere.

The minimum temperature on the grass was recorded by a spirit thermometer, set on two small wooden pegs, with its bulb at a height of one or two inches above the ground. This thermometer is read at 9.0 a.m. and set in the early evening. The maximum and minimum thermometers are read and set at 9.0 a.m. each day. The entries in the tables of this report are made in such a way that readings at 9.0 a.m. of maximum temperature are credited to the preceding day while minimum readings are entered to the day on which they are read.

From January to September (inclusive) the thermograph, which is in a Stevenson screen of approved pattern was controlled by readings of the standard thermometer three times a day and by the readings of the minimum thermometer. From the 1st October onwards it was controlled by readings of the standard thermometer seven times a day but the use of the minimum thermometer as a check was discontinued. The charts are changed once a week and are scaled at exact hours of civil time. Thus the hourly values of temperature given in this report are instantaneous values at these hours.

Humidity

The humidity of the air has been computed from the readings of the wet and dry bulb thermometers using Jelineks "Psychrometer-Tafeln," Leipzig 1903. Vapour pressure is expressed in millimetres in these tables

but the values were converted to millibars before being tabulated for publication. A continuous record of humidity has also been obtained by means of a hair hygrograph which is exposed in a Stevenson screen of approved pattern together with the thermograph. The chart is changed once a week and instantaneous values are read from the chart at exact even hours of Zone Time. Corrections to the hygrograph readings were applied only when they were different from those given by the wet and dry bulb thermometers by more than five per cent.

Rain

A self recording rain gauge, Dines tilting syphon pattern (M.O. 28/37), was in operation throughout the year. The diameter of the collecting rim is 11.31 inches and the height of the rim above the ground is 28 inches. The records of this gauge are controlled by means of the standard gauge.

The standard gauge, which was constructed by Fuess, has a rim 15.95 centimetres in diameter. Its height above the ground is 65 centimetres (25½ inches). The rain collected in the inner vessel is measured each morning at 9.0 a.m. by means of a glass measuring cylinder, the readings being in millimetres. In the tables the rainfall measured at 9.0 a.m. is credited to the previous day.

Another gauge, of the pattern used by the Meteorological Office, London, is in use as a check on the older German gauges. The rim of this gauge, which is 5 inches in diameter, is at a height of one foot above the ground. Like the standard gauge, its capacity is not adequate for the torrential downpours of rain which sometimes occur in Samoa. In order to avoid loss of records on such occasions measurements are also obtained by a tropical Fuess rain-gauge which has a very large internal capacity. The standard and tropical gauges are of the Snowdon type in that they have not splayed bases like the pattern used by the Meteorological Office, London.

The rain-gauges are placed in an open grass plot but until the second half of the year were slightly sheltered (+) on the southern and western sides by coconut trees. Of these, six were removed in June, four in July, and six in August so that the gauges may now be considered as being free from shielding.

(+) See "Comparison of Rain-gauges at Apia", by J.M. Austin, New Zealand Journal of Science & Technology, Vol. XXI, No 1B, pp. 52B-56B, 1939.

Sunshine

Until July the sunshine recorder, M.O. 265, was mounted on a platform which had been in use for many years. On July 11th the instrument was shifted to a position on a new platform, distant 36½ feet to the WNW of the old position. This new exposure is very satisfactory, there being scarcely any loss of record due to shielding apart from that which occurs when the sun sets below the low-lying hills to the west. Since the sunshine is seldom sufficiently intense to burn when the sun is so low in altitude the loss may be considered negligible.

In one column of the table which occurs later the recorded sunshine has been expressed as a percentage of the possible duration of sunshine. In this computation the possible duration of sunshine is based on the intervals between sunrise and sunset during a year which is half way between two leap years.

Evaporation

The instrument in use to measure evaporation is a Piché evaporimeter which is exposed in a small Stevenson screen. It consists of a graduated tube filled with water and hanging mouth downwards. Evaporation takes place from a small disc of absorbent paper which is clamped over the mouth of the tube and the fall of level of the water inside the tube is measured. The area effective for evaporation is approximately 12½ square centimetres.

The volume of water evaporated has been divided by the exposed area of the paper disc (1250 square millimetres) to give the equivalent depth of water evaporated and the depth has been entered in millimetres and tenths in the tables.

The amount of evaporation in 24 hours, ending at 9.0 a.m., has been credited to the preceding day.

Miscellaneous Notes

Non-cyclic change

In the tables of diurnal changes of temperature and pressure the departures from the mean of the day have been adjusted for non-cyclic change. A short method of computing the correction has been employed. The value at midnight at the beginning of the month has

been subtracted from the value at midnight at the end of the month and the difference has been divided by the number of days in the month. Necessary modifications were made when there were missing days. The number so obtained has been divided proportionately assuming that the non-cyclic change comes in at a uniform rate.

Time

The time standard, upon which all the meteorological tables that follow are based, is that of the meridian 165° west of Greenwich. (i.e. zone time, which is 11 hours slow on Greenwich Time).

Seasons

In tables where seasonal means are given for the Wet and Dry Seasons the means have been derived from the following grouping of months:-

Wet Season - November 1938 to February 1939(inclusive)
Dry Season - May 1939 to August 1939(inclusive)

Normals

The normal values of temperature, pressure, and rainfall are based on the period 1890 to 1935. Sunshine normals are based on eighteen years as follows:- 1905, 1906, 1917, 1919, 1924 and 1925 to 1933 inclusive, and 1935 to 1938

Meteorological Instruments
in use during 1939

Anemometer: Dines pressure tube No. 233 supplied by R.W. Munro of London, 1933. The vane is 80 feet above the ground.
Barograph : Grand Model No. 102030 made by Jules Richard of Paris.
Barometers: (i) Kew pattern, M.O.2233 made by S & A Calderara. This instrument is used as the standard.
(ii) Kew station pattern by Fuess No.1469
Evaporimeter: Piché
Hygrograph : Casella No.1141 (M.O. 195/32)
Raingauges : (i)Casella No.1593/32 M.O.
(ii)Fuess Standard gauge
(iii)Dines Tilting Syphon Rain-gauge M.O. 28/37
(iv)Tropical size gauge for exceptional precipitation.
Sunshine Recorder: Campbell Stokes pattern by J.Hicks, London M.O. 265/30; sphere M.O. 355/30
Thermograph : Short and Mason

Thermometers: Grass minimum Calderara No.31177 until December 2nd: No.36182 from 3rd to 31st December.

(In tropical screen)
Standard Fuess No.652
Dry Bulb Calderara No.34490
Wet Bulb Calderara No.34491
Maximum Casella No.17250
Minimum Calderara No.34686

(In Stevenson screen of standard pattern)
Dry Bulb Negretti No. W. 31863
Wet Bulb Negretti No. W. 31864
Maximum Calderara No. W. 34492
Minimum Negretti No. W. 20818

Synoptic Meteorology in the South West Pacific Region

Progressive steps were made during the year in connection with the expansion of synoptic meteorology in the South West Pacific region. In September the system of collecting weather reports and rebroadcasting them in issues of the Continental or National type was commenced. This was in accordance with the resolutions of the Meteorological Conference for the Southwest Pacific held at Wellington, New Zealand, in November and December 1937. (See O.M.I. publication No 42).

Twenty stations distributed through the Phoenix, Tokelau, Samoan, Cook, Manahiki, Society, Marquesas and Gambier Islands were collected twice daily by the Apia Radio Station and rebroadcast at 0230 and 2030 G.M.T. The observations in these main collective issues were made, in most cases, at 0100 and 1900 G.M.T. respectively. In addition reports from a few stations which made observations at 0600 and 1130 G.M.T. were collected and rebroadcast from Apia at 0815 and 1220 G.M.T.

Weather reports from a much wider area, which extends westward over Tonga and Fiji to the New Hebrides and southward over Norfolk Island and New Zealand, were also received twice daily and plotted on the synoptic charts. In all there were approximately fifty reporting stations so that their density of distribution over this area was comparatively sparse. Before the end of the year most stations were reporting in the International

Code, Form F12 in the Pacific Islands and Form F113 in New Zealand.

Throughout the year collective broadcasts which included a few selected stations were issued at 0100 and 0920 G.M.T. for the benefit of shipping. During the hurricane season, which is considered to extend from November to April, inferences and warnings of cyclones were added to these bulletins when necessary. The weather reports in these issues were in the International Code of Copenhagen, 1929 in the abridged form known as "Weather Shipping" and the inferences and warnings were in plain language.

Daily weather reports with a local forecast were displayed at two conspicuous points in Apia during the hurricane season for the benefit of local residents. This year there was a marked increase in the number of requests for information about local weather from firms and individuals.

During a cruise of the Pacific, the Commander of H.M.S. "Achilles" arranged for the inspection of some of the meteorological stations and for instruction and assistance to some of the observers. The Secretary for Native Affiars, Administration of Western Samoa, also inspected the Tokelau Island stations towards the end of the year.

Notes on the Weather of 1939 at Apia Observatory

January

Fine sunny weather was experienced during the first and last weeks of January but heavy rain occurred from the 13th to the 22nd. At noon on the 16th, there was a particularly severe thunderstorm.

The rainfall total which amounted to 59.57 inches, is the highest ever recorded for a single month. The temperature in the screen varied between a maximum of 86.9°F on the 5th and a minimum of 72.0°F on the 23rd. The winds which were strong during the period of the heavy rain reached a maximum velocity in gust of 65 m.p.h. from the NNW on the 15th.

The pressure gradient was mostly favourable for light easterly winds during the first fortnight. On

the 13th there was an extensive shallow low pressure area extending from Fiji to the Santa Cruz islands which by the 15th developed into a depression and was situated about 100 miles NNW of Vavau. The depression intensified and on the 17th commenced to move westerly being centred over Fiji on the 18th. The cyclone, which was still intensifying, recurved back over Fiji on the 20th but then moved off in a south-easterly direction. The minimum pressure 28.80 inches was reported from Suva at 10 a.m. on the 20th. During this period strong winds of force 9 and 10 occurred in Fiji whilst there was very heavy rain in Samoa, Fiji and Tonga.

February

Except for occasional showers fine weather was experienced during the first fortnight but the remainder of the month was unsettled with rain and there were only 8 hours bright sunshine during the last 13 days.

The rainfall amounted to 18.65 inches and the number of rain days was 19. The temperature in the screen rose to a maximum of 86.9°F on the 4th and fell to a minimum of 73.8°F on the 5th, 25th, 26th and 28th. The prevailing winds were easterly at the beginning of the month but were north-north-westerly during the last fortnight. The maximum gust which was 47 miles per hour, was recorded on the 20th from the north-north-west.

During the first week the synoptic charts showed a pressure gradient associated with easterly winds over the Pacific islands. On the 9th and 10th there was a shallow depression over the Cook Islands. From the 11th to the 15th a shallow low pressure area extended from the Santa Cruz islands to the south of Tonga. By the 16th this low pressure area had moved away in a northerly direction and there was a shallow depression centred between Niue and Tonga which intensified and moved off towards the south-cast on the 22nd. During the remainder of the month a low pressure area extended from the Ellice islands to the Cook islands.

March

The first week was generally overcast with rain and showers. During the remainder of the month the weather was variable, periods with rain showers being experienced as well as some fine intervals. The

heaviest rain occurred towards the end of the third week and it was followed by a few days of fine sunny weather.

The winds were generally light throughout the month and there were numerous periods of calms. The maximum velocity registered was 42 miles per hour in a gust from the east-north-east on the 31st. There were altogether 23 rain days and the total rainfall for the month amounted to 17.95 inches. The temperature in the screen varied between the limits of 86.5°F on the 9th and 72.9°F on the 2nd and 7th. The lowest reading of the grass minimum thermometer was 71.1°F and occurred on the 7th, 17th and 30th.

On the 1st there was a trough of low pressure extending from Rotumah through the Tongan islands to Niue which by the 4th had extended westward as far as the Santa Cruz islands. This situation prevailed practically throughout the month being associated with a series of shallow depressions which originated mainly over the New Hebrides. On the 30th there was a low pressure area to the north-west of Samoa.

April

More than half of the total rainfall during April was recorded in the first week when cloudy to overcast conditions prevailed. Then followed a period of variable weather with showers and thunder as well as fine intervals. The last week was fine and sunny. Cirrus clouds generally predominated throughout the month.

The maximum temperature recorded in the screen was 86.5°F and the minimum was 72.1°F. The lowest temperature recorded on the grass was 68.2°F on the 19th. The rainfall, which amounted to 9.00 inches, was 1.05 inches below normal.

On the 1st there was a shallow low pressure area to the north-east of Rotuma which gradually intensified, moving south-westerly at first and then south-easterly over Lautoka on the 5th, finally moving away in a south-easterly direction. During the first fortnight a low pressure area extended from the Solomon islands to the Cook islands. Light variable winds were experienced generally about the middle of the month. The synoptic charts for the last fortnight showed a pressure gradient favourable for easterly winds.

May

Except for a showery period about the third week fine weather was experienced during May.

The total of 275 hours bright sunshine was the greatest ever recorded for the month of May. The temperature varied between extreme values of 88.3°F on the 9th and 69.8°F on the 8th. The rainfall, which amounted to 2.35 inches, was 3.99 inches below normal.

On the 4th there was a shallow depression situated near the New Hebrides which later moved away in a south-easterly direction. During the remainder of the month the synoptic charts showed a pressure gradient associated with easterly winds over the Pacifi c islands.

June

Fine sunny weather was experienced. There were numerous days of low relative humidity, the minimum reading being 43% on the afternoon of the 4th.

The sunshine total of 272 hours was 54 hours in excess of normal and is the highest ever recorded for the month of June. The temperature rose to a maximum of 89.4°F on the 15th and fell to a minimum of 66.9°F on the 27th. The rainfall total of 1.57 inches was 3.54 inches below normal.

The synoptic charts generally showed a steady pressure gradient associated with easterly winds throughout the islands. On the 5th there was a de-pression near Norfolk island which ultimately moved over New Zealand. The low temperatures about the 26th resulted from the arrival of cool southerly air in advance of an anti-cyclone whose path was more northerly than usual.

July

The weather during July was mainly fine with a record duration of bright sunshine. A few scattered showers fell and rain occurred on the 12th, 23rd and 27th. Exceptionally low humidity was recorded on the 19th.

The normal duration of bright sunshine was exceeded by 73 hours. The total, 302 hours, is the largest duration of bright sunshine that has been recorded for a single month in Samoa. The humidity fell to the very

low value of 34% on July 19th. Temperature varied between a maximum of 86.5°F on the 19th and a minimum of 67.6°F on the 20th. The rainfall was about normal.

The synoptic charts showed that the fine weather with easterly winds that was experienced over this region of the Pacific Ocean during July was due to conditions associated with the usual sub-tropical high pressure system. At times frontal conditions associated with depressions in more southern latitudes affected the weather in some parts of this region.

August

Throughout the first half of August the weather was mainly fine: but at times very light rain showers of short duration occurred. Although conditions remained fair with much sunshine during the second half of the month, several moderate showers of rain were experienced. There was also an increase in cloudiness occasionally.

The amount of sunshine was 57 hours in excess of normal while the rainfall was 1.39 inches in deficiency of the usual amount. The temperature varied between a maximum of 86.4°F on the 27th and a minimum of 67.1°F on the 31st. The prevailing winds were easterly.

During the greater part of August the synoptic charts showed the usual subtropical anticyclones with some intense depressions in higher latitudes. At the end of the first week a shallow depression affected conditions in Tonga. A trough of low pressure between Fiji and New Hebrides on the 19th developed into an inverted V-shaped depression and moved away to the south-east.

September

During September there were definite signs that the Dry Season was drawing to a close. Showers became heavier and more frequent: also rain fell occasionally. There were very few really fine days; but over 200 hours of bright sunshine were recorded during the fair weather that was experienced.

The rainfall was 2.62 inches in excess of the normal while the duration of bright sunshine was 25 hours less than is usual for September. The temperature varied between a maximum of 86.2°F and a minimum of 71.1°F. Easterly winds prevailed.

At the beginning of the month there was a shallow depression east of Tonga. It moved of to the south east. On the 23rd there was a secondary depression near Fiji which was associated with a low further south. This affected conditions over Tonga as the system moved eastward. During the remainder of September the pressure distribution was favourable for easterly winds over the region of the Pacific near Samoa and Tonga. Conditions were more changeable over the Cook Islands which were influenced by weak fronts between different high pressure systems.

October

The weather during the first week of October gradually became worse until very heavy rain fell on 6th. The next day there was a slight thunderstorm accompanied by further heavy rain, after which conditions improved rapidly. The middle part of the month was very fine with bright sunshine. There was an increase in cloudiness during the last week with precipitation on the 29th and 30th.

Although the rainfall amounted to 4.52 inches more than the normal there was also an excess in the duration of bright sunshine. The temperature varied between a maximum of 89.2°F on the 26th and a minimum of 70.3°F on the 12th. The prevailing winds were easterly.

The synoptic charts showed that the heavy precipitation at the beginning of the month was due to an influx of northerly air. A very shallow depression affected conditions over Tonga on the 6th and another was situated near Rarotonga on the 11th.

November

The weather during November was much fairer than is usual for this month. After heavy rain on the early morning of 2nd conditions improved and remained fair to fine until the middle of the month. The third week was more cloudy with showers but there was an improvement during the last week when conditions became fair with light morning or evening showers.

The duration of bright sunshine was 75 hours in excess of the normal for November and the deficiency of rainfall amounted to 4.52 inches. Temperatures varied from a maximum of 87.8°F on the 23rd to a minimum of 72.5°F on the 3rd. The prevailing winds were easterly.

The front between air moving from the north and that moving from the east or south east appeared on the synoptic charts several times. On the 24th November a shallow depression developed north of Samoa on this front and it moved off in an east-south-easterly direction. A more complicated series of low pressure areas associated with waves on the front developed on the 27th. The area affected extended from the Ellice to the Manihiki Islands.

December

Cloudy weather with some rain was experienced at first and afternoon thunderstorms occurred on December 1st and 2nd. During the second week conditions were fair to fine with more than eight hours bright sunshine each day, while precipitation was recorded only once. More unsettled and variable weather then commenced with rain, squalls and increased cloudiness interspersed with fine days. Thunder and lightning were observed on four days during the last week.

December was slightly drier and more sunny than normal. The temperature varied from a maximum of 88.2°F to a minimum of 69.3°F. Calms predominated at 9.0 a.m. but easterly winds prevailed at 3.0 p.m.

Early in the month a large scale front, which existed between warm equatorial air and cooler air from higher latitudes, extended from near the Solomon Islands eastward towards Samoa. A series of waves moving from west to east along this front gave rise to precipitation and unsettled conditions at some stations.

A shallow depression developed on this front near Santa Cruz Islands on the 4th December, moved southerly and filled up. Another shallow depression developed south of Samoa on 20th and moved to a position east of Tonga where it became stationary for some time. Later it moved off towards the south and disappeared.

On December 23rd there were signs of a low pressure area centred just south of Santa Cruz islands. This travelled in a south easterly direction and intensified as it moved. On the night of December 26th it passed over Fiji as a fully developed hurricane. After passing just south of Nukualofa it continued to move in a south easterly direction and then disappeared from the synoptic chart.

1,000/7/32—3911] APIA OBSERVATORY

METEOROLOGICAL OBSERVATIONS.

9 a.m. January 1939

Day of Month.	Cloud. Form. Low.	Medium.	High.	Amount of Low.	Total Amount.	Height of Base.	How Height was obtained.	Weather. Since previous Observation.	At Time.	Visibility.	Wind. Direction.	Force (Beaufort Scale).	Barometer reduced to M.S.L. (Millibars).	Temperature and Humidity. Dry Bulb (°C).	Wet Bulb (°C).	Relative Humidity (%).	Vapour Pressure (Millibars).	Upper Cloud. Type observed.	Direction whence coming.	Speed Height Ratio.
1	Cb	As	Cs	7	8	2000		bccprorc	cjpr	K	E	3	1012.7	27.7	25.1	80	29.5			
2	Sc	As	Cc	3	8	5500		CprcqpR	c	M	ESE	2	1013.8	27.3	23.5	71	25.6			
3	Sc	-	-	7	7	3000		bbcpr	bc/qr	M	SSW	1	1013.4	25.2	23.6	87	27.6			
4	Cu	-	Ci	4	5	3000		bc b bc	bcjr	M	E	5	1010.1	28.3	25.0	75	28.7			
5	Cu	-	Ci	5	6	3000		bc prbc	bc	M	E	4	1009.6	29.0	25.0	71	28.1			
6	Cu	-	Ci	2	7	3000		bc prbc	bc	M	ESE	2	1011.1	28.2	24.8	74	28.3			
7	Cu	-	Ci	3	4	3500		bcjprbc	bc	M	Calm	0	1011.5	28.3	24.4	71	27.1			
8	Cb	-	Ci	3	4	3000		bccbbc	bc	M	Calm	0	1011.0	28.1	24.3	71	26.9			
9	Cb	-	Ci	8	9	3000		bc cpr	cpro	M	WNW	2	1009.9	26.0	24.7	90	29.7			
10	Sc	-	Ci	4	6	3000		c bc	bc	K	ESE	1	1009.7	27.3	24.7	80	28.7			
11	Cu	-	Ci	1	7	4500		bcprcbc	bc	M	ESE	1	1009.8	27.7	24.6	77	28.1			
12	-	Ns	-	0	10	5000		cprccpr	opr	E	NExE	1	1009.4	24.3	23.5	93	28.0			
13	Sc	-	-	10	10	3500		cprcpro	opro	M	SSE	1	1007.9	26.5	24.3	82	28.3			
14	Cb	Ns	-	4	10	1000		cqcrr	crcro	H	NE	4	1007.1	24.5	23.3	90	27.3			
15	Sc	Ns	-	2	10	3000		oRRqcpr	oiR/q	H	NNW	7	1004.6	25.1	24.3	93	29.5			
16	-	Ns	-	0	10	1000		RRqtlRR	oRRq	F	NWxW	4	1004.1	23.4	23.1	97	27.7			
17	Sc	Ns	-	2	10	1000		oRRqtlR	oRR	E	NNE	7	1005.9	24.0	23.9	99	29.3			
18	St	Ns	-	3	10	2000		oprRqcr	oir	H	NExN	5	1006.9	26.2	24.8	89	29.9			
19	Cb	Ns	-	5	10	1000		orrcr	crcro	H	NE	5	1007.2	25.7	24.3	89	28.9			
20	Sc	Ns	-	1	10	1000		oRRcrr	crcro	H	Calm	0	1008.1	23.6	23.0	95	27.3			
21	Sc	As	-	5	10	2000		cpr c	cjr	M	NE	2	1008.5	27.0	24.0	77	27.1			
22	Cb	Ns	-	3	10	2000		oRRrcro	crcro	K	SSE	1	1010.1	24.2	23.4	93	27.9			
23	Cb	As	Ci	7	10	1000		orcprcr	cjpr	M	NE	3	1010.4	25.8	24.0	85	28.1			
24	Cu	-	Ci	3	8	2000		cbccpro	c	K	SE	2	1010.1	26.2	23.5	79	26.5			
25	Cu	-	Cs	5	8	2000		crbccpr	c	M	E	2	1010.5	27.6	25.3	82	30.1			
26	Cb	-	Ci	4	8	2000		crlcpr	cqr	M	E	5	1012.8	27.3	24.9	81	29.2			
27	Cu	-	-	7	7	2000		cprbcpro	qro/pro	M	ESE	6	1012.0	27.4	25.3	84	30.3			
28	Cu	As	Ci	2	4	4000		bccprcb	bc	M	ExS	3	1010.8	28.2	24.6	73	27.7			
29	Cu	-	-	4	4	3000		bcprcbc	bc	M	ESE	3	1010.3	27.6	24.3	75	27.3			
30	Cu	-	Cs	2	3	6000		bbcprccb	bc	M	ESE	4	1011.0	27.9	24.7	76	28.3			
31	Cu	-	-	8	8	4000		bccprbc	cjr	M	SExE	4	1011.3	27.7	24.9	79	28.9			
Means				4.0	7.8	2742						2.7	1009.7	26.6	24.3	83	28.3			

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METEOROLOGICAL OBSERVATIONS.

3 p.m. January 1939

Day of Month.	CLOUD. Form. Low.	Medium.	High.	Amount of Low.	Total Amount.	Height of Base.	How Height was obtained.	WEATHER. Since previous Observation.	At Time.	Visibility.	WIND. Direction.	Force (Beaufort Scale).	Barometer reduced to M.S.L. (Millibars)	TEMPERATURE AND HUMIDITY. Dry Bulb (°C).	Wet Bulb (°C).	Relative Humidity (%).	Vapour Pressure (Millibars).	UPPER CLOUD. Type observed.	Direction whence coming.	Speed : Height Ratio.
1	Cb	Ac	Cc	6	8			cbc c	c	M	ExN	2	1011.3	29.0	24.8	69	27.6			
2	Cu	-	Cs	5	5	4000		cbc	bc	M	ExN	2	1011.9	29.5	24.9	67	27.5			
3	Cu	-	-	1	1	3000		bcb	b	M	ExN	3	1009.8	29.1	25.3	72	28.8			
4	Cu	-	-	3	3	3000		probc	bc	M	E	3	1008.0	29.4	25.4	71	28.8			
5	Cu	-	Cs	3	3	3000		prbc	bc	M	ExS	2	1008.3	30.0	25.4	67	28.4			
6	Cu	-	-	7	7	3000		bc	bc	M	ExN	3	1010.0	29.5	26.0	74	30.4			
7	Cu	Ac	Ci	2	7	3500		cpr$_o$cbc	bc	M	Calm	0	1010.0	28.8	24.5	68	26.9			
8	Sc	Ns	Ci	3	9	4500		bcc	c	M	ENE	1	1009.1	29.0	24.7	69	27.3			
9	Sc	As	-	8	10			tcprc	opr$_o$	M	N	1	1007.5	26.6	23.6	77	26.4			
10	Cb	-	Ci	6	7	2000		bcpr$_o$bc	bcjpr	M	Calm	0	1007.6	29.1	25.1	71	28.3			
11	Cb	As	Cc	5	9	2000		prbcprc	c	M	NExE	2	1007.8	27.1	23.8	75	26.5			
12	Cb	As	-	6	10	2000		oprqpr	ojpr	K	SExS	2	1007.2	24.5	23.1	88	26.9			
13	Cb	As	-	7	10	2000		opr$_o$cpr$_o$	cir$_o$	M	Calm	0	1005.1	26.7	24.5	83	28.7			
14	Cb	As	-	7	10	1500		orrcRR$_o$	ojr/r	K	NxW	5	1003.2	27.0	24.0	77	27.1			
15	Sc	Ns	-	0	10	7000		oqRRqRR	oRR	E	N	6	1002.1	25.9	25.0	93	30.7			
16	-	Ns	-	0	10	2000		oRRqtlR	oRR	E	NW	1	1002.8	22.9	22.9	100	27.7			
17	-	Ns	-	0	10	3500		oRqcpr$_o$	orr	E	NNE	2	1005.2	24.7	23.1	92	28.3			
18	Sc	Ns	-	2	10	3000		orrir$_o$	oir$_o$	H	NE	5	1005.5	24.4	23.8	95	28.7			
19	-	Ns	-	0	10	2000		orr/qR	oRR	E	NExE	4	1006.5	24.1	23.2	91	27.2			
20	St	As	Cs	2	10	4000		cr$_o$ roc	c	M	SExE	2	1005.1	27.2	21.7	59	21.2			
21	Cu	As	-	4	10	1000		oRc	cr$_o$	K	Calm	0	1006.8	26.8	24.5	82	28.5			
22	Cu	As	-	4	10	2000		cpr$_o$c	cjpr	M	NExN	1	1008.2	26.7	23.4	75	25.9			
23	Cu	As	Ci	2	10	3500		cpr$_o$cpr	c	M	ESE	3	1008.1	27.3	24.5	78	28.1			
24	Cb	Ns	Ci	2	9	2000		cprccpr	cpr$_o$	M	SExS	2	1007.9	24.8	23.1	86	26.7			
25	Cb	-	Ci	6	9	2000		cpr$_o$cpr	cjpr	K	ExS	2	1008.5	28.1	25.0	77	28.8			
26	Cb	Ns	-	5	10	1000		cprtcpr	cr$_o$	H	Calm	0	1011.8	24.1	23.2	92	27.5			
27	Cu	-	Ci	2	3	5000		cpr$_o$cbc	bc	M	ExS	4	1010.0	29.6	26.0	74	30.3			
28	Cb	-	Ci	3	4	3500		bc	bc	M	ExS	5	1007.7	29.2	25.3	71	28.8			
29	Cu	-	-	2	2	4000		bc b	b	M	E	6	1007.8	29.6	25.3	69	28.4			
30	Cb	-	Ci	3	4	3500		bcpr$_o$bc	bcjpr	M	E	4	1008.7	29.1	25.4	73	29.1			
31	Cu	-	Cc	6	6	3000		c bc	bc	K	ExS	4	1009.0	29.5	25.5	70	29.1			
Means				3.6	7.6	2948						2.4	1007.4	27.4	24.4	75	27.0			

METEOROLOGICAL OBSERVATIONS

January 1939

Day of Month	Thermometers: Maximum (°C)	Minimum (°C)	Grass Minimum (°C)	Black Bulb in vacuo (°)	Rainfall (mm.)	Sunshine (hours)	Heat Integrator	Evaporimeter (mm.)
1	29.8	24.2	23.0		28.3	9.4		0.6
2	29.4	23.9	23.2		1.3	9.9		2.0
3	29.8	23.2	22.1		-	10.0		2.3
4	30.2	23.2	22.2		0.4	11.3		2.7
5	30.5	25.3	23.5		1.0	10.8		2.2
6	30.2	23.5	22.3		-	7.9		2.2
7	30.0	23.6	22.6		trace	8.8		2.1
8	29.3	23.7	22.3		6.1	8.8		2.1
9	28.2	23.9	22.6		13.0	2.4		1.1
10	29.3	23.0	22.0		14.7	8.2		1.9
11	29.7	23.9	22.3		33.6	7.6		2.2
12	29.0	24.0	22.9		21.2	2.1		1.0
13	28.4	22.8	22.3		42.2	0.1		0.9
14	27.3	23.0	22.2		147.2	0.0		0.0
15	26.5	23.7	23.0		308.7	0.0		0.0
16	26.8	22.5	22.2		405.1	0.0		0.1
17	26.8	22.5	23.4		66.3	0.0		0.8
18	26.4	24.0	23.6		44.0	0.0		0.6
19	26.2	23.8	23.2		132.7	0.0		0.0
20	27.9	22.7	22.2		0.5	0.3		2.2
21	27.6	23.3	22.7		172.7	0.0		0.5
22	27.5	22.8	21.8		12.0	0.0		1.0
23	27.9	22.2	21.3		1.0	4.7		1.5
24	27.7	23.4	21.9		15.6	4.2		1.5
25	29.4	23.3	22.3		12.0	9.9		1.0
26	27.8	23.7	22.8		22.2	2.0		0.3
27	29.9	23.3	22.2		0.7	11.9		2.4
28	29.8	22.8	21.2		0.3	12.0		2.6
29	29.9	24.6	22.6		2.7	11.3		2.3
30	30.0	23.1	21.8		4.5	10.8		2.6
31	30.0	23.3	21.8		3.1	10.9		2.5
Sum	-	-	-		1513.1	175.3		45.2
Mean	28.7	23.4	22.4		-	5.7		1.46

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METEOROLOGICAL OBSERVATIONS.

9 a.m. February 1939

Day of Month.	Cloud. Form. Low.	Cloud. Form. Medium.	Cloud. Form. High.	Cloud. Amount of Low.	Cloud. Total Amount.	Cloud. Height of Base.	Cloud. How Height was obtained.	Weather. Since previous Observation.	Weather. At Time.	Visibility.	Wind. Direction.	Wind. Force (Beaufort Scale).	Barometer reduced to M.S.L. (Millibars).	Temperature and Humidity. Dry Bulb (°C).	Temperature and Humidity. Wet Bulb (°C).	Temperature and Humidity. Relative Humidity (%).	Temperature and Humidity. Vapour Pressure (Millibars).	Upper Cloud. Type observed.	Upper Cloud. Direction whence coming.	Upper Cloud. Speed; Height Ratio.
1	Cu	-	Ci	3	3	3000		bccprbc	bc	M	ESE	4	1009.3	28.1	25.2	78	29.3			
2	Cu	-	Ci	6	7	4000		bccprobc	bc/pr	M	E	3	1009.0	27.2	25.0	83	29.6			
3	Cu	-	-	4	4	4000		bcprbc	bc	M	E	4	1009.4	28.5	24.8	72	28.0			
4	Cu	-	-	4	4	4000		bccprbc	bc	M	ExS	4	1010.7	28.6	24.9	72	28.1			
5	Cu	-	-	2	2	4000		bbcprcb	b	M	ESE	3	1011.2	28.5	25.3	76	29.3			
6	Cu	-	Ci	2	7	4000		bctcbbc	bc	M	ExS	3	1011.0	28.3	24.5	72	27.3			
7	Cu	-	Cs	1	4	4500		bcbbc	bc	M	ESE	3	1009.7	28.5	25.4	77	29.6			
8	Cu	-	Ci	2	3	4500		bccprobc	bc	M	Calm	0	1010.0	28.0	25.1	78	29.2			
9	Cu	-	Ci	1	3	5000		bccprbc	bc	M	Calm	0	1009.8	27.7	24.5	76	27.9			
10	Cu	-	Ci	2	7	5000		cprobcb	bc	M	Calm	0	1008.9	28.4	25.4	77	29.7			
11	Cu	-	Ci	7	8	4000		bccprc	cjr	M	ExS	2	1010.6	28.5	26.0	81	31.2			
12	Cu	Ac	Ci	4	8	4000		cprcrc	cjpr	K	NNW	5	1011.9	28.1	24.9	76	28.5			
13	Cb	-	Ci	2	8	4000		c b bc	c	M	NNW	4	1012.0	27.9	24.6	75	28.0			
14	Cu	-	Ci	3	9	4500		bcbbc	c	M	NW	1	1012.1	27.7	24.0	72	26.5			
15	Cu	Ac	Cs	6	9	4000		bclc	c	M	WNW	2	1011.9	27.6	24.8	79	28.7			
16	Cu	Ac	Ci	5	9	4000		bccprobc	c	M	NW	4	1010.6	28.3	24.8	74	28.1			
17	St	As	-	2	10	3000		roqr	ojr/r	J	NNW	6	1010.5	24.7	23.2	87	26.9			
18	Cu	Ac	Cc	2	9	4500		c bc c	c .	M	NWxW	3	1007.6	26.8	24.5	82	28.5			
19	St	Ns	-	5	10	3000		crocqro	orr	H	NW	4	1007.4	25.8	24.4	89	29.2			
20	Cu	Ns	-	6	10	3000		crcprc	cpro	K	NWxN	5	1006.3	27.6	25.2	81	29.7			
21	-	Ns	-	0	10	4000		orRorr	oRR	G	NNW	6	1008.1	24.7	24.1	95	29.2			
22	Cb	Ns	-	3	10	2500		orqroro	oiro	M	SSW	1	1008.7	25.3	24.7	95	30.4			
23	Sc	Ns	-	7	10	3500		ororoqr	opro	K	NNW	4	1007.9	25.6	24.4	90	29.3			
24	Sc	Ns	-	7	10	3500		or pqr	opro	K	NW	6	1006.5	25.8	24.1	86	28.4			
25	Cb	Ns	-	5	10	2000		oRRorr	croro	G	N	4	1006.8	24.9	23.9	92	28.5			
26	Cb	As	-	4	10	3000		orr	ororo	H	NNW	3	1007.6	25.9	23.6	82	26.9			
27	Cb	As	Cc	6	9+	3000		orrooro	cjpr	K	N	3	1007.9	26.4	24.2	82	28.1			
28	Sc	As	-	8	10	4000		cbcprcv	cvjr	M	Calm	0	1009.1	25.2	24.4	93	29.6			
29																				
30																				
31																				
Means				3.9	7.6	3768						3.	1009.4	27.1	24.6	81	28.7			

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METEOROLOGICAL OBSERVATIONS.

3 p.m. February 1939

Day of Month.	CLOUD. Form. Low.	Form. Medium.	Form. High.	Amount of Low.	Total Amount.	Height of Base.	How Height was obtained.	Weather. Since previous Observation.	Weather. At Time.	Visibility.	Wind. Direction.	Wind. Force (Beaufort Scale).	Barometer reduced to M.S.L. (Millibars).	Temperature and Humidity. Dry Bulb (°C).	Temperature and Humidity. Wet Bulb (°C).	Temperature and Humidity. Relative Humidity (%).	Temperature and Humidity. Vapour Pressure (Millibars).	Upper Cloud. Type observed.	Upper Cloud. Direction whence coming.	Upper Cloud. Speed: Height Ratio.
1	Cu	-	Ci	2	2	3000		bcpr°bc	b	M	E	4	1006.9	29.5	25.5	70	29.1			
2	Cu	-	-	5	5	3000		bcpr°bc	bc	M	E	3	1007.4	29.6	26.0	74	30.3			
3	Cb	-	-	6	6	3000		bctbc	bc	M	ExS	3	1007.8	30.1	25.7	68	29.1			
4	Cu	-	-	2	2	5000		bc b	b	M	E	3	1009.7	29.9	25.1	66	27.6			
5	Cb	-	Ci	4	5	4000		b bc	bcjpr	K	ExS	5	1009.0	29.9	26.3	74	30.9			
6	Cb	-	Cs	4	6	3000		bctbc	bcjpr	M	E	5	1008.1	28.8	25.1	73	28.5			
7	Cb	-	Ci	5	8	3000		bctc	cjpr	M	Calm	0	1008.3	28.2	25.2	77	29.3			
8	Cb	-	Ci	3	4	3500		bc b bc	bc	M	NE	2	1008.2	28.6	25.2	75	28.9			
9	Cb	As	Ci	5	9+	2000		bcpr°bc	cr°	M	SxW	2	1007.4	27.0	24.5	80	28.4			
10	Cu	-	Ci	6	6	3500		bcpr°bc	bc	M	NxE	2	1007.2	28.9	25.4	74	29.3			
11	Cu	As	-	6	9+	3000		cqrcpr°c	c	K	NWxN	4	1009.5	26.9	24.4	80	28.3			
12	Cu	Ac	Ci	2	9	3500		c bc c	c	K	NNW	5	1010.3	28.7	25.0	72	28.4			
13	Cu	-	Ci	2	9	4500		c	c	M	NxW	4	1010.6	28.3	24.5	72	27.3			
14	Cu	-	Cs	6	8	5000		c bc	c	M	NNW	1	1010.1	28.4	24.5	71	27.2			
15	Cu	Ac	Ci	2	8	4000		c	c	M	NW	2	1010.0	28.4	24.6	72	27.5			
16	Cu	As	-	2	9	3000		cir	cir°	M	SSW	2	1009.8	26.3	25.0	89	30.3			
17	Sc	As	-	5	10	4500		c r°c	c	M	NW	4	1008.3	28.2	24.8	74	28.3			
18	-	Ns	-	0	10	1500		ccRc/q	cir°	K	WxN	4	1005.6	27.5	24.8	80	28.8			
19	St	Ns	-	2	10	200		rRcr	or°r°	H	NW	6	1005.6	26.6	25.0	87	30.1			
20	Cu	As	-	tr	10	1000		cpr°qpr	opr°	G	WNW	5	1005.2	26.3	24.2	83	28.3			
21	-	Ns	-	0	10	2000		oRRqRR	oRR	E	NNW	3	1006.5	24.5	24.1	97	29.5			
22	St	As	-	5	10	3000		or°r°o	ojpr	K	WNW	2	1006.5	26.3	24.4	85	28.7			
23	Sc	As	-	7	10	3500		orropr°	ojr	M	NNW	4	1005.2	26.3	24.2	83	28.3			
24	Cb	As	-	5	10	3000		orrcro	oir°	K	NWxN	4	1004.7	25.9	23.9	84	27.7			
25	Cb	As	-	6	10	1500		corrir	ojr/r	K	NxW	4	1005.2	26.0	24.3	86	28.7			
26	Sc	Ns	-	3	10	1500		orrorr	orr	H	N	4	1005.6	25.3	24.1	90	28.8			
27	Sc	As	-	5	9	4000		c bc c	c	M	NxW	2	1005.7	27.3	24.5	78	28.1			
28	Sc	As	Cs	4	10	4500		oRo c	c	M	Calm	0	1007.0	26.1	23.5	79	26.5			
29																				
30																				
31																				
Means				3.7	8.0	3079						3.2	1007.5	27.6	24.8	78	28.6			

METEOROLOGICAL OBSERVATIONS

February 1939

Day of Month	Thermometers				Rainfall (mm.)	Sunshine (hours)	Heat Integrator	Evaporimeter (mm.)
	Maximum (°C)	Minimum (°C)	Grass Minimum (°C)	Black Bulb in vacuo (°)				
1	30.1	24.2	21.9		2.1	11.6		2.8
2	29.9	25.6	23.9		1.7	9.9		3.0
3	30.4	26.1	24.3		3.1	11.2		2.5
4	30.5	25.3	23.4		1.5	10.6		2.5
5	30.3	23.2	21.6		-	12.1		2.7
6	30.0	23.7	22.1		-	9.6		2.8
7	30.1	23.3	22.5		trace	8.6		2.0
8	29.4	23.5	22.3		trace	10.7		2.1
9	29.7	23.6	22.2		trace	8.7		1.8
10	29.5	23.7	22.3		8.0	11.7		1.9
11	28.8	24.3	23.3		21.0	2.5		1.8
12	28.9	24.7	22.4		-	8.7		5.3
13	28.7	27.6	26.2		-	10.9		2.8
14	28.6	23.8	22.2		-	7.7		3.1
15	28.7	25.2	23.9		trace	7.1		3.3
16	29.1	25.7	24.2		16.2	1.8		2.2
17	28.3	24.4	23.3		0.5	0.5		3.4
18	29.0	24.4	24.0		6.9	2.1		1.6
19	28.0	24.7	23.5		24.9	0.0		0.7
20	28.0	24.3	23.5		53.5	0.4		0.0
21	26.7	23.3	23.6		84.2	0.0		0.2
22	27.0	23.6	22.9		26.4	0.0		1.0
23	27.0	24.3	23.5		64.7	0.0		0.0
24	27.0	23.5	22.5		77.3	0.0		0.0
25	26.2	23.2	22.5		48.3	0.2		0.5
26	27.2	23.2	22.5		27.5	0.1		0.0
27	27.6	23.5	22.7		3.2	3.2		1.1
28	27.3	23.2	22.3		2.8	0.0		1.2
29								
30								
31								
Sum	-	-	-		473.8	149.9		52.3
Mean	28.6	24.3	23.0		-	5.3		1.87

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APIA OBSERVATORY

METEOROLOGICAL OBSERVATIONS.

9 a.m. March 1939

Day of Month.	CLOUD. Form. Low.	Form. Medium.	Form. High.	Amount of Low.	Total Amount.	Height of Base.	How Height was obtained.	Weather. Since previous Observation.	Weather. At Time.	Visibility.	Wind. Direction.	Wind. Force (Beaufort Scale).	Barometer reduced to M.S.L. (Millibars).	Temperature and Humidity. Dry Bulb (°F).	Temperature and Humidity. Wet Bulb (°C).	Temperature and Humidity. Relative Humidity (%).	Temperature and Humidity. Vapour Pressure (Millibars).	Upper Cloud. Type observed.	Upper Cloud. Direction whence coming.	Upper Cloud. Speed; Height Ratio.
1	Sc	As	-	6	10	3500		ccpr$_o$c	c	M	Calm	0	1008.8	26.0	24.0	84	27.9			
2	Cb	Ns	-	5	10	4000		cror$_o$r$_o$	orr	H	Calm	0	1010.0	23.8	23.2	95	27.7			
3	Cb	-	-	9	9	4000		crcpr$_o$	cpr	K	NNE	3	1010.0	26.2	24.8	89	29.9			
4	Cu	-	Ci	7	9	4000		orcpr$_o$	cpr$_o$	M	Calm	0	1009.2	26.3	25.1	90	30.5			
5	Cb	-	Ci	2	5	5000		cpr$_o$bc	bc	M	Calm	0	1007.5	27.7	24.4	75	27.6			
6	Cb	Ns	-	8	10	3000		copr$_o$c	cpr$_o$	J	WSW	2	1008.4	24.6	23.8	93	28.5			
7	Sc	As	-	2	9+	7000		cor$_o$r$_o$c	cir$_o$	M	Calm	0	1009.0	24.4	23.6	93	28.3			
8	Cu	Ac	Ci	5	8	5000		bccpr$_o$c	c	M	ESE	2	1009.4	28.0	24.9	77	28.7			
9	Cu	-	Ci	2	6	7000		bc	bc	M	E	1	1009.6	28.0	24.0	70	26.3			
10	Cu	Ns	Ci	4	8	4500		bc cjr	cPR	M	E	4	1009.9	27.1	25.0	83	29.6			
11	Cu	Ac	Cs	2	8	3500		bc c	c	M	SE	1	1009.9	28.0	25.0	77	28.9			
12	Sc	-	Cs	4	9	4000		cprc	c	M	Calm	0	1010.2	26.7	24.8	85	29.5			
13	Cu	-	Cs	3	7	3500		cpr bc	bc	M	S	1	1008.6	27.8	24.4	74	27.5			
14	Cu	Ns	-	2	9	2000		bcpr$_o$cqR	cRR	G	N	3	1008.8	24.4	23.8	95	28.7			
15	Sc	Ns	-	8	9	2000		coRcpr	cjr	M	SE	1	1008.8	26.0	24.0	84	27.9			
16	St	Ns	-	5	10	2000		cproRq	oRR	E	SW	1	1010.0	23.7	23.3	96	28.0			
17	Cu	-	Ci	2	6	5000		bc c bc	bc	M	Calm	0	1010.1	27.1	25.0	83	29.6			
18	Cu	Ac	Ci	2	4	4000		b bc	bc	M	Calm	0	1009.0	28.2	24.8	74	28.3			
19	Sc	Ns	Ci	4	9	4000		crcprc	cjpr	M	WNW	3	1009.0	26.9	25.0	85	29.9			
20	Cu	Ac	-	2	4	4500		cpr bc	bc	M	Calm	0	1008.8	26.8	24.7	84	29.2			
21	St	Ns	-	1	10	3000		oRRr$_o$	ir$_o$r$_o$	J	N	5	1010.5	25.3	24.7	95	30.4			
22	Cb	As	-	1	10	2000		bcbqrr	oir$_o$r$_o$	J	Calm	0	1010.9	24.7	23.7	92	28.3			
23	Cb	Ac	Ci	8	9+	3000		coprqpr	c	K		1	1011.0	26.0	24.3	86	28.7			
24	Cu	Ac	Ci	1	8	3500		bbclprc	c	M	Calm	0	1012.3	27.0	25.0	84	29.7			
25	Cu	-	Ci	4	5	4000		bcbbc	bc	M	Calm	0	1013.1	27.2	24.3	77	27.7			
26	Cu	-	-	2	2	3000		bc b	b	M		1	1012.3	28.3	25.6	79	30.3			
27	Cu	-	Ci	2	6	4000		bcbbc	bc	M	Calm	0	1012.8	28.2	25.1	77	29.1			
28	Cu	As	Cs	1	6	4000		bcbbcpr	bc	M	Calm	0	1014.4	27.1	24.3	78	27.9			
29	Cu	-	Ci	4	5	4000		cbccpr$_o$	bc/pr$_o$	M	SxW	1	1014.0	26.7	25.0	86	30.0			
30	Cb	-	Cs	4	8	3000		bccprc	cjpr	M	ESE	4	1010.8	27.8	24.7	77	28.3			
31	Sc	As	-	4	9	3000		bcqrcpr	cir	M	SE	2	1008.8	24.8	24.2	95	29.5			
Means				3.7	7.7	3806						1.2	1010.2	26.5	24.5	84	28.8			

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METEOROLOGICAL OBSERVATIONS.

3 p.m. March 1939

Day of Month.	Cloud. Form. Low.	Medium.	High.	Amount of Low.	Total Amount.	Height of Base.	How Height was obtained.	Weather. Since previous Observation.	At Time.	Visibility.	Wind. Direction.	Force (Beaufort Scale).	Barometer reduced to M.S.L. (Millibars).	Temperature and Humidity. Dry Bulb (°C).	Wet Bulb (°C).	Relative Humidity (%).	Vapour Pressure (Millibars).	Upper Cloud. Type observed.	Direction whence coming.	Speed; Height Ratio.
1	Sc	Ac	Ci	5	8	3000		c	c	M	NxE	2	1006.5	27.6	24.4	76	27.6			
2	Sc	As	-	8	10	3000		oRor$_o$	or$_o$r$_o$	J	SE	1	1008.6	23.1	22.7	96	27.1			
3	Cb	Ac	Cs	3	9+	3000		cprcr$_o$c	c	K	Calm	0	1007.8	28.4	25.2	76	29.2			
4	Sc	Ac	Cs	8	9+	4000		opr$_o$c	c	M	E	2	1007.0	27.4	24.4	77	27.9			
5	Sc	Ac	Cs	6	9+	5000		bcpr$_o$c	c	M	Calm	0	1005.5	26.0	23.6	81	26.9			
6	Sc	As	-	4	9	6000		opRcc	c	M	Calm	0	1006.9	27.0	24.0	77	27.1			
7	Cu	Ac	Cc	4	6	6000		cr$_o$r$_o$bc	bc	M	ExN	3	1006.8	29.8	25.9	72	29.9			
8	Cu	-	Ci	3	7	6500		cpr$_o$bc	bc	M	ExN	2	1006.7	28.9	25.7	76	30.1			
9	Cb	-	Cs	3	6	4500		bc	bc	M	E	3	1006.8	28.6	25.0	73	28.4			
10	Cu	-	Ci	4	6	3000		cPRbc	bc	M	NE	1	1007.4	29.0	25.5	74	29.5			
11	Cu	Ac	Cs	1	9	3500		c	c	M	E	1	1007.7	29.3	25.2	70	28.4			
12	Cu	-	Cs	6	8	2500		c	cjpr	M	E	2	1007.1	29.2	25.1	70	28.1			
13	Cb	Ac	Ci	5	7	2500		bcpr$_o$bc	bcjr	M	NE	1	1005.3	28.1	24.5	73	27.5			
14	Sc	As	Cs	6	9	3000		cRRc	cjr	K	Calm	0	1006.1	28.0	24.4	72	27.3			
15	Cu	Ac	Cc	6	9	2000		cjr	c	K	NNE	3	1005.8	27.9	25.3	80	29.9			
16	Cu	-	Cs	3	10	2500		oRRcr$_o$jr	cjpr	M	WNW	3	1007.3	27.0	24.9	83	29.5			
17	Cu	Ac	Ci	3	3	4000		bc b	bc	M	NNW	2	1007.3	28.2	25.2	77	29.3			
18	Cb	As	-	8	9+	2500		bc c	tpr$_o$	K	SW	2	1007.1	28.5	25.7	79	30.4			
19	Cb	Ns	Cs	5	9	2000		cpr$_o$cRRc	cr$_o$	K	NW	4	1006.2	26.8	25.5	90	31.3			
20	Cb	As	-	5	9	3000		bc c	cjr/r	M	ESE	5	1006.8	27.0	25.3	86	30.5			
21	Cu	-	Cc	7	8	3500		cr$_o$r$_o$c	cjpr	M	Calm	0	1007.1	27.8	25.2	80	29.6			
22	Cu	Ac	Ci	3	7	3500		ir$_o$cjpr	bcjpr	M		1	1007.7	28.2	25.3	78	29.6			
23	Cb	-	Ci	5	8	3000		cbcqRc	c	M		2	1009.0	25.4	24.6	93	30.0			
24	Cu	Ac	Ci	2	9	3500		c bc c	c	M		1	1010.6	28.4	25.2	76	29.2			
25	Cu	Ac	Cs	2	5	3000		bc	bc	M		2	1010.8	29.1	25.5	73	29.3			
26	Cu	-	Ci	3	3	3000		b bc	bc	M		3	1010.3	29.0	25.3	73	28.9			
27	Cb	-	Ci	2	7	4500		bctbc	bc	M	Calm	0	1011.1	29.5	25.5	70	29.1			
28	Cb	-	Ci	3	3	3500		bctbc	bc	M	ExN	4	1011.3	29.6	25.8	72	29.7			
29	Cb	-	Ci	5	6	4000		bc	bcjpr	M	E	4	1010.5	29.9	26.3	74	30.9			
30	Cu	-	Ci	3	6	3500		cpr bc	bc	M	E	4	1007.8	29.8	25.5	69	28.8			
31	Cu	As	Cs	6	10	2500		cqRirrc	c	J	ENE	6	1006.5	27.6	25.0	80	29.2			
Means				4.4	7.5	3516						2.1	1007.7	28.1	25.0	77	29.0			

METEOROLOGICAL OBSERVATIONS

March 1939

Day of Month	Thermometers				Rainfall (mm.)	Sunshine (hours)	Heat Integrator	Evaporimeter (mm.)
	Maximum (°C)	Minimum (°C)	Grass Minimum (°C)	Black Bulb In vacuo (°)				
1	27.8	24.0	23.1		44.5	3.5		1.0
2	26.8	22.7	21.9		54.8	0.0		0.9
3	28.8	23.1	23.0		13.2	1.2		0.5
4	28.1	23.3	22.5		trace	2.5		1.5
5	28.0	23.2	22.3		2.9	3.9		0.8
6	26.9	23.6	22.9		31.5	0.7		0.7
7	30.0	22.7	21.7		0.3	6.6		1.8
8	29.8	24.1	23.0		trace	10.1		2.2
9	30.3	23.6	22.3		nil	10.8		2.2
10	29.9	24.7	23.5		7.2	9.7		1.7
11	29.9	24.6	23.1		8.0	7.2		2.2
12	29.8	23.8	22.3		2.8	4.2		1.4
13	29.0	23.3	22.1		3.0	8.2		1.3
14	28.4	23.8	22.5		35.8	3.4		0.6
15	28.5	23.4	22.7		19.0	6.1		1.0
16	27.3	23.3	23.2		11.5	0.3		1.0
17	29.2	23.1	21.7		-	11.2		1.9
18	28.9	24.6	23.6		19.0	7.3		1.6
19	28.3	24.3	22.8		13.9	3.6		0.9
20	29.8	23.5	22.5		87.0	6.8		1.0
21	28.4	23.8	23.0		18.8	4.2		1.2
22	29.2	24.1	23.3		7.6	6.9		2.0
23	28.8	24.6	23.6		11.8	6.0		1.4
24	29.0	24.4	23.6		-	6.1		1.8
25	30.0	23.6	22.2		-	10.6		2.2
26	29.8	23.7	22.5		-	11.0		2.4
27	29.9	24.1	22.9		0.7	8.8		2.0
28	30.1	23.8	22.4		0.4	8.5		2.2
29	30.1	23.9	22.4		trace	9.1		2.3
30	29.8	23.4	21.7		9.2	7.8		1.9
31	27.6	23.8	22.3		53.1	0.1		0.0
Sum	-	-	-		456.0	186.4		45.6
Mean	29.0	23.7	22.7		-	6.0		1.47

1,000/7/32—3911] APIA OBSERVATORY

METEOROLOGICAL OBSERVATIONS. 9 a.m. April 1939

Day of Month.	Cloud. Form. Low.	Form. Medium.	Form. High.	Amount of Low.	Total Amount.	Height of Base.	How Height was obtained.	Weather. Since previous Observation.	Weather. At Time.	Visibility.	Wind. Direction.	Wind. Force (Beaufort Scale).	Barometer, reduced to M.S.L. (Millibars).	Temperature and Humidity. Dry Bulb (°C).	Wet Bulb (°C).	Relative Humidity (%).	Vapour Pressure (Millibars).	Upper Cloud. Type observed.	Direction whence coming.	Speed : Height Ratio.
1	Cb	-	Cs	5	9	3000		qRrrc	c	M	ENE	4	1009.7	26.7	24.7	84	29.2			
2	Cb	-	Cs	2	8	4500		cbc cpr	c	M	ESE	3	1008.5	27.5	24.5	77	28.0			
3	Cu	-	Cs	2	10	4000		bcprobc	c	M	Calm	0	1008.0	27.5	24.9	80	29.1			
4	-	Ns	-	0	10	3000		coprro	ororo	H	NW	2	1008.7	25.2	23.8	88	28.1			
5	Cb	Ns	-	2	10	4000		cproRq	orr	H	SW	2	1009.0	23.5	23.1	96	27.7			
6	Cu	As	Cs	4	9	4000		oRcprqr	croro	M	NW	1	1009.4	26.0	23.8	82	27.5			
7	Cb	As	Cs	6	9+	3000		orccr	cjr/ro	M	SSE	2	1010.7	25.3	24.3	92	29.3			
8	Cu	-	Cs	3	10	4000		qprcprc	c	M	Calm	0	1012.4	27.4	25.0	81	29.5			
9	Cu	-	Ci	2	8	4000		cbccprc	c	M	Calm	0	1013.3	27.1	25.8	90	31.9			
10	Cu	-	Cs	2	9+	4000		c	c	M	Calm	0	1014.0	27.3	24.9	81	29.2			
11	Cu	-	Ci	2	4	4000		bcprobw	bc	M	ESE	3	1012.4	28.3	24.9	75	28.4			
12	Cu	Ac	Ci	1	8	4000		bbcwc	c	M	E	2	1011.3	27.4	24.7	79	28.7			
13	Cu	As	Cs	2	9+	3500		cprc	c/pr	M	Calm	0	1010.7	26.0	24.3	86	28.7			
14	Cb	As	Cs	7	9+	3000		iroroPR	c	J	S	1	1011.3	25.6	24.7	93	30.1			
15	Cb	-	-	9	9	3000		circpr	cjr	K	SSW	1	1011.6	26.5	24.8	86	29.6			
16	Cu	As	Cs	1	7	4000		prcRbc	bc	M	Calm	0	1011.9	25.8	24.4	89	29.2			
17	Cu	Ac	Ci	1	4	4000		bcbbcw	bcw	M	ESE	2	1011.8	27.8	24.7	77	28.3			
18	Sc	-	Ci	1	8	4000		bclbcw	c	M	SE	2	1011.8	27.8	24.5	75	27.7			
19	Cu	-	Ci	tr.	3	3500		clbcbw	bcw	M	ExS	3	1011.0	28.3	24.2	70	26.5			
20	Sc	As	Cs	1	9+	3500		cprlqpr	c	M	SSE	2	1011.7	25.3	23.7	87	27.7			
21	Cu	-	Ci	3	8	3500		prolbbcc	c	M	SE	1	1011.9	27.4	24.3	76	27.6			
22	Cu	As	-	3	10	3500		ctlrr	orr	J	SSE	2	1013.9	24.3	22.8	88	26.3			
23	Sc	Ac	Ci	5	9	6500		cbccpro	c	K	ESE	4	1013.2	28.2	25.0	76	28.8			
24	Cb	As	Cs	2	9	5500		cprolbcc	c	K	ESE	4	1013.7	27.5	24.5	77	28.0			
25	Cu	-	Ci	1	6	3500		bcbbcw	bc	M	ESE	3	1012.1	28.4	24.8	73	28.0			
26	Cu	-	Ci	5	6	5000		clprobc	bc	K	ESE	4	1011.2	28.8	25.6	76	29.9			
27	Cu	-	Cc	3	3	6000		bcbbcpr	bc	M	ESE	4	1011.5	28.3	25.5	78	30.0			
28	Cu	-	-	1	1	5000		bcprb	b	M	ESE	4	1011.8	28.5	24.6	71	27.5			
29	Cu	-	Ci	2	2	5000		bcprob	b	M	WNW	1	1012.4	27.2	23.7	73	26.1			
30	Cu	-	Ci	1	1	4000		bbcbw	b	M	N	1	1011.2	27.0	22.8	68	24.1			
31																				
Means	-	-	-	2.6	7.2	4050		-	-	-	-	1.9	1011.4	26.9	24.4	81	28.4			

1,000/7/32—3911] APIA OBSERVATORY

METEOROLOGICAL OBSERVATIONS.

3.0 p.m. April 1939

Day of Month.	CLOUD. Form. Low.	Medium.	High.	Amount of Low.	Total Amount.	Height of Base.	How Height was obtained.	WEATHER. Since previous Observation.	At Time.	Visibility.	WIND. Direction.	Force (Beaufort Scale).	Barometer reduced to M.S.L. (Millibars).	TEMPERATURE AND HUMIDITY. Dry Bulb (°C).	Wet Bulb (°C).	Relative Humidity (%).	Vapour Pressure (Millibars).	UPPER CLOUD. Type observed.	Direction whence coming.	Speed; Height Ratio.
1	Cu	-	Cs	3	8	3500		cbc	c	M	ENE	3	1007.4	28.7	25.0	72	28.4			
2	Cu	Ac	Cs	3	9	3000		c	c	M	E	3	1006.1	28.8	25.0	72	28.3			
3	Cb	As	Ci	2	8	4000		c	c	M	NxE	2	1006.8	28.4	25.0	75	28.5			
4	Sc	As	-	7	10	3000		orrcjr	cpr	K	W	1	1006.4	26.6	24.3	82	28.3			
5	Cu	As	Cs	2	9	5000		orrcjrc	c	M	Calm	0	1006.1	27.5	24.8	80	28.8			
6	Cu	As	Ci	5	9	3000		cpr	c	M	N	3	1006.4	28.4	25.3	77	29.5			
7	Cb	-	Cs	5	8	2000		c	cjpr	L	N	3	1008.7	28.3	25.4	78	29.7			
8	Cu	Ac	Cs	1	9	3500		c	c	M	NW	1	1009.6	28.4	25.0	75	28.5			
9	Cu	-	Ci	2	9	4000		cpr	c	M	NWxN	1	1011.3	29.0	25.3	73	28.9			
10	Sc	-	Ci	5	7	6500		cbc	bc	M	ExS	2	1011.5	29.4	25.3	70	28.5			
11	Cb	-	Cs	2	3	4000		b	bjpr	M	E	5	1009.6	29.2	25.5	73	29.3			
12	Cu	Ac	Cs	2	9+	3000		cbcjprc	c	M	ESE	3	1008.6	29.4	26.0	75	30.5			
13	Cu	As	-	3	10	3000		cjprc	cjpr	M	ESE	2	1008.9	27.7	25.1	80	29.5			
14	Cb	As	Cs	8	9+	3000		cjprc	c	M	NE	1	1009.0	27.8	24.9	78	28.8			
15	Cu	-	Ci	4	9	3000		crbcpr	c	M	Calm	0	1008.9	27.7	24.8	78	28.7			
16	Cu	Ac	Cs	2	4	4500		bc	bc	M	NNE	2	1009.1	28.4	24.8	73	28.0			
17	Cu	-	Ci	2	4	3500		bcbbc	bc	M	ExN	2	1009.1	29.7	25.8	72	29.7			
18	Cb	-	Ci	4	8	3000		cbctcjr	cjpr	M	E	4	1009.3	29.4	26.0	75	30.5			
19	Cu	-	Ci	3	6	3500		bc	bc	M	ExS	5	1009.1	29.2	25.6	74	29.6			
20	Cu	-	Ci	4	7	3500		cbc	bc	M	ExN	3	1009.6	29.0	24.8	69	27.6			
21	Cb	As	-	2	10	3000		cqPRtc	cirtl	J	ENE	5	1010.7	24.8	22.9	84	26.1			
22	Cu	As	-	2	10	3000		orrc	crr	K	SExE	2	1011.7	26.0	24.0	84	27.9			
23	Cu	Ac	Ci	1	8	4000		c	c	K	ESE	5	1010.9	29.7	26.1	74	30.5			
24	Cu	As	Cs	2	7	6000		cbc	bc	K	ExS	6	1011.2	29.5	25.6	71	29.3			
25	Sc	-	Ci	7	9	3000		bc c	c	M	ExS	4	1009.7	29.4	25.6	72	29.5			
26	Cu	-	Ci	3	4	5000		bc	bc	K	ExS	5	1008.4	29.4	25.7	73	29.7			
27	Cu	-	Cc	3	5	5000		bcjpr	bcjpr	M	ExS	5	1008.9	29.6	25.2	68	28.1			
28	Cu	-	-	3	3	5000		b bc	bc	K	E	6	1008.5	29.0	25.3	73	28.9			
29	Cb	-	-	2	2	5500		bbcb	b	M	E	6	1008.6	29.3	25.5	72	29.2			
30	Cb	Ac	-	4	5	3500		bbc	bc	M	E	4	1007.3	28.7	24.9	72	28.1			
31																				
Means	-	-	-	3.3	7.3	3817		-	-	-	-	3.1	1008.9	28.5	25.1	75	28.9			

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METEOROLOGICAL OBSERVATIONS.

April 1939

Day of Month.	Thermometers. Maximum (°C)	Minimum (°C)	Grass Minimum (°C)	Black Bulb in vacuo (°C)	Rainfall (mm.)	Sunshine (hrs.)	Heat Integrator.	Evaporimeter. (mm)
1	29.7	24.2	23.4		5.0	7.7		2.2
2	29.7	24.7	23.0		Trace	5.7		2.0
3	28.8	23.5	22.3		3.6	10.6		2.2
4	26.8	24.7	23.0		54.0	0.0		0.3
5	28.1	23.1	22.6		28.0	1.1		1.3
6	28.7	23.0	23.8		22.9	2.4		0.9
7	28.8	24.1	23.3		4.6	5.2		0.3
8	28.9	24.6	23.5		1.5	7.2		1.7
9	29.9	24.5	23.4		0.5	8.5		1.8
10	29.9	23.6	22.2		Trace	9.9		2.2
11	29.7	22.8	21.6		-	10.5		2.2
12	29.7	23.8	22.2		0.2	8.7		2.1
13	28.5	23.8	22.3		3.6	0.0		1.1
14	28.4	23.8	22.4		7.1	4.0		1.4
15	28.5	23.8	22.7		35.0	5.5		0.5
16	28.8	23.2	22.1		-	9.7		1.8
17	30.2	23.3	21.8		-	11.0		2.3
18	30.3	22.8	21.4		-	7.9		2.2
19	29.8	22.3	20.1		5.1	8.9		2.3
20	29.2	23.7	22.6		Trace	7.6		2.6
21	29.6	24.6	22.7		53.1	4.7		1.4
22	28.2	22.3	21.2		3.0	0.3		1.9
23	30.3	23.4	22.4		Trace	7.2		2.3
24	29.8	23.6	22.2		-	5.4		2.3
25	29.9	22.4	20.6		0.4	7.4		2.6
26	29.9	24.9	23.1		0.7	10.0		2.4
27	30.2	24.5	22.0		0.3	10.6		2.3
28	29.7	23.4	22.0		Trace	10.7		2.6
29	30.3	22.3	20.8		-	10.1		2.7
30	29.5	22.7	20.3		Trace	9.5		2.3
31								
Sum	-	-	-		228.6	208.0		56.2
Mean	29.3	23.6	22.2		-	6.9		1.87

1,000/7/32—3911] APIA OBSERVATORY

METEOROLOGICAL OBSERVATIONS. 9 a.m. May 1939

Day of Month.	Cloud. Form. Low.	Medium.	High.	Amount of Low.	Total Amount.	Height of Base.	How Height was obtained.	Weather. Since previous Observation.	At Time.	Visibility.	Wind. Direction.	Force (Beaufort Scale).	Barometer reduced to M.S.L. (Millibars).	Temperature and Humidity. Dry Bulb (°C).	Wet Bulb (°C).	Relative Humidity (%).	Vapour Pressure (Millibars).	Upper Cloud. Type observed.	Direction whence coming.	Speed; Height Ratio.
1	Cu	-	Ci	1	1	3500		bpr$_o$bcbw	b	M	SE	1	1010.3	27.6	23.8	71	26.0			
2	Cu	-	Ci	1	6	5500		b bc w	bc	M	ESE	2	1011.1	28.0	24.6	74	27.9			
3	Cu	-	Ci	1	2	6000		bc bw	b	M	ESE	3	1011.3	27.8	24.3	73	27.2			
4	Cu	-	Ci	Trace	6	3500		bcbwbc	bc	M	ESE	2	1011.3	27.5	23.6	71	25.7			
5	Cu	-	Ci	1	4	4000		b bc w	bc	M	SE	1	1012.5	27.6	23.1	67	24.3			
6	Cu	-	-	2	2	3500		c bc b	b	M	SE	1	1013.0	27.6	24.5	77	27.9			
7	Cu	-	Ci	1	3	4000		bc b	bc	M	Calm	0	1013.4	27.0	24.0	77	27.1			
8	Cu	-	Ci	3	5	4000		bc bw	bcw	M	ExS	4	1014.2	28.5	24.7	72	27.7			
9	Cb	-	Ci	6	6	2000		b bc pr	bc	M	E	3	1012.8	28.1	25.6	81	30.5			
10	Sc	-	Cc	6	8	2000		bcpr$_o$c	cjr	M	SE	2	1012.8	28.0	25.1	78	29.2			
11	Cu	-	Ci	Trace	8	4000		bcprc	c	M	Calm	0	1012.3	28.0	25.5	81	30.3			
12	Cu	-	Ci	7	8	3000		bc bc	cpr$_o$	M	ESE	2	1012.3	28.1	25.7	82	30.8			
13	Cu	-	Ci	1	1	4000		bccrbc	b	M	ESE	1	1012.1	27.2	24.2	77	27.5			
14	Cu	-	-	2	2	4000		b bc b	b	M	ESE	2	1010.8	28.0	24.3	72	27.1			
15	Cu	Ac	Ci	1	8	4000		bcpr$_o$c	c	M	ESE	1	1011.7	27.6	24.2	74	27.2			
16	Cu	-	Ci	2	8	3500		bc c	c	K	ESE	2	1011.9	28.3	25.1	76	28.9			
17	Cu	-	Ci	3	6	3000		cprbcc	cjr	M	ESE	3	1011.7	27.8	25.0	78	29.1			
18	Sc	Ns	-	7	9	3000		cpr$_o$roc	cir$_o$	M	ESE	1	1011.5	24.7	23.8	92	28.5			
19	Cu	-	Ci	4	8	3000		clpr$_o$c	cjr	M	ESE	1	1010.3	27.2	24.4	78	28.0			
20	Cb	-	Ci	8	8	2500		cbcprc	c/pr$_o$	M	Calm	0	1010.4	26.1	24.8	90	30.0			
21	Cu	Ac	Ci	6	7	2500		cprin$_o$lbc	bcjr	K	Calm	0	1011.0	28.1	25.1	77	29.1			
22	Cu	-	Ci	1	1	5000		bc b w	bw	M	Calm	0	1010$_o$6	27.2	24.0	75	26.9			
23	Sc	As	-	3	9	2500		bccltrc	cir$_o$	M	SSW	1	1011.0	23.0	20.9	82	22.8			
24	Sc	Ns	Cc	7	8	2500		bclpr$_o$c	cir$_o$	M	Calm	0	1012.0	26.6	24.0	80	27.5			
25	Cu	-	-	3	3	5000		b bc	bc	M	ESE	4	1012.5	27.7	24.4	75	27.6			
26	Cu	-	-	1	1	4500		b	b	M	ExS	1	1012.0	27.2	24.1	76	27.2			
27	Cu	-	Ci	1	1	5000		b	b	M	ESE	1	1011.0	27.9	25.0	78	29.1			
28	Cu	-	Ci	2	2	4000		c bc b	b	M	ESE	2	1012.0	27.6	24.4	76	27.6			
29	Cu	-	Cc	1	3	4000		b bc b	bc	M	ESE	3	1013.1	27.7	24.1	73	26.8			
30	Sc	Ns	-	7	9	3000		bbcqcpr	cjr/r	K	ESE	3	1011.9	26.3	24.0	82	27.7			
31	Cu	As	-	5	9+	2500		cprorc	c	M	Calm	0	1010.2	26.2	24.8	89	29.9			
Means	-	-	-	3.0	5.2	3630		-	-	-	-	1.5	1011.8	27.3	24.4	78	27.8			

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1,000/7/32—3911] APIA OBSERVATORY

METEOROLOGICAL OBSERVATIONS.

3 p.m. May 1939

Day of Month.	CLOUD. Form. Low.	Form. Medium.	Form. High.	Amount of Low.	Total Amount.	Height of Base.	How Height was obtained.	Weather. Since previous Observation.	Weather. At Time.	Visibility.	Wind. Direction.	Wind. Force (Beaufort Scale).	Barometer reduced to M.S.L. (Millibars).	Temperature and Humidity. Dry Bulb (°C).	Wet Bulb (°C).	Relative Humidity (%).	Vapour Pressure (Millibars).	Upper Cloud. Type observed.	Direction whence coming.	Speed ; Height Ratio.
1	Cu	-	Ci	2	2	5000		b	b	M	NE	2	1007.8	28.7	24.9	72	28.1			
2	Cu	-	Ci	2	6	4000		bc b bc	bc	M	ExN	2	1008.9	29.6	25.3	69	28.4			
3	Cu	Ac	Cs	3	5	4500		b bc	bc	M	E	4	1008.9	29.1	24.5	66	26.7			
4	Cu	-	Cs	2	7	3500		bc	bc	M	ENE	3	1009.5	28.9	24.5	68	26.8			
5	Cu	-	Ci	5	8	3500		bc c	c	M	NE	1	1010.0	28.5	24.0	67	25.9			
6	Cu	As	-	2	7	1500		b bc	bcr$_o$	M	NExE	1	1012.0	27.8	24.4	74	27.5			
7	Cu	-	Ci	3	3	4000		b	bc	M	E	5	1010.9	28.9	25.4	74	29.3			
8	Cu	-	Cs	Trace	1	5500		bc b	bv	M	ExS	4	1011.3	29.7	24.9	66	27.2			
9	Cb	-	Ci	4	7	3000		bcpr$_o$bc	bcjpr	M	ExS	3	1009.7	29.4	26.1	76	30.8			
10	Cb	-	Ci	4	7	3500		c bc	bcjpr	M	ExS	5	1010.1	29.5	26.5	78	31.9			
11	Cu	-	Ci	5	8	2000		c	c	M	ExN	2	1010.2	29.1	26.0	77	30.8			
12	Cu	-	Ci	2	7	4000		cpr bc	bcjpr	M	ExS	3	1009.4	29.8	26.5	76	31.6			
13	Cu	-	Ci	1	1	4000		b bc b	b	M	ExN	4	1009.4	29.5	26.2	76	30.9			
14	Cu	-	-	7	7	3500		bbcjpr	bcjpr	K	E	3	1008.7	29.2	25.1	70	28.1			
15	Cu	Ac	Ci	5	7	3000		c bc	bc	M	E	4	1009.1	29.6	25.5	70	28.9			
16	Cu	-	Cs	7	9	3000		c	c	M	ExN	2	1009.0	29.6	25.8	72	29.7			
17	Cu	-	Ci	7	8	2500		cprc	c/pr	M	ENE	2	1008.7	29.3	25.7	74	29.7			
18	Sc	Ac	Cc	7	9	4000		cr$_o$c	c	M	ENE	1	1008.7	28.5	24.1	68	26.1			
19	St	Ns	-	7	9	2000		cpr$_o$c	cir$_o$	J	ESE	2	1008.5	26.0	23.5	80	26.7			
20	Cu	-	-	2	2	3000		cpr bc	b	M	NE	1	1008.2	29.2	25.6	74	29.6			
21	Cb	-	Ci	3	4	4000		bcjrc	bc	M	NNW	1	1008.5	28.7	25.2	74	28.9			
22	Cu	-	Ci	6	7	3000		b bc	bc	M	NNE	1	1008.1	28.7	25.0	72	28.4			
23	Cu	Ac	Ci	2	7	4000		cr$_o$cbc	bc	M	NNW	1	1008.6	28.2	23.4	65	24.5			
24	Cu	-	Ci	3	3	4000		cr$_o$qcbc	bc	M	E	6	1009.0	28.7	24.9	72	28.1			
25	Cu	Ac	-	3	3	5000		bc	bc	M	ExS	5	1009.3	29.1	25.0	70	28.0			
26	Cu	-	-	3	3	4500		b bc	bc	M	E	3	1008.5	28.9	25.8	77	30.4			
27	Cb	-	Ci	6	9	2000		b bc	cjpr	M	E	3	1009.2	29.3	25.6	73	29.5			
28	Cu	-	Ci	6	7	2500		b bc	bc	M	ENE	3	1010.0	29.6	25.7	72	29.5			
29	Cu	-	-	2	2	6000		bc b	b	M	ExS	5	1010.0	29.5	25.7	72	29.6			
30	Sc	As	-	6	9	2500		cprqbcc	cjpr	J	ESE	4	1009.0	26.6	24.6	84	29.1			
31	Cu	As	-	4	9+	3000		c	cjpr	M	WxS	1	1006.9	28.2	24.7	73	28.0			
Means	-	-	-	3.9	5.9	3500		-	-	-	-	2.8	1009.2	28.9	25.2	73	28.7			

METEOROLOGICAL OBSERVATIONS.

May 1939

Day of Month.	Thermometers. Maximum (°C)	Minimum (°C)	Grass Minimum (°C)	Black Bulb in vacuo (°)	Rainfall (mm.)	Sunshine (hrs.)	Heat Integrator.	Evaporimeter. (mm.)
1	29.1	22.7	20.6		-	11.1		2.4
2	29.9	22.6	20.9		-	11.0		2.3
3	29.8	23.5	21.2		-	10.5		2.7
4	29.6	21.9	20.4		-	10.9		2.8
5	29.0	22.9	21.2		-	10.2		2.7
6	28.9	22.7	21.5		Trace	8.5		2.1
7	29.5	23.1	21.0		-	11.2		2.5
8	29.9	21.0	18.8		0.2	11.3		2.5
9	31.3	23.5	22.0		0.2	9.3		2.5
10	29.9	24.6	23.1		2.3	7.7		1.8
11	29.7	24.5	23.1		Trace	10.4		1.9
12	30.3	23.4	22.4		11.0	9.1		1.2
13	29.9	23.1	21.8		-	11.2		2.3
14	30.4	22.7	21.0		Trace	8.8		2.1
15	29.9	23.2	21.2		nil	8.9		2.4
16	30.6	24.3	22.4		4.5	7.5		2.2
17	30.0	24.0	22.0		18.3	10.4		2.0
18	29.0	24.0	22.5		Trace	2.3		1.7
19	28.9	23.3	22.0		0.7	4.0		1.4
20	29.5	23.3	22.2		0.8	9.5		1.7
21	29.3	23.9	22.6		-	9.7		1.8
22	29.3	23.2	21.9		5.3	9.6		2.2
23	28.9	22.8	20.2		Trace	5.4		2.2
24	28.9	22.9	21.3		0.5	8.7		2.2
25	29.3	22.6	21.2		-	10.8		2.4
26	29.9	22.9	21.5		-	11.0		2.2
27	30.0	23.2	21.5		-	8.5		1.9
28	29.9	23.6	22.2		-	10.6		2.4
29	29.8	22.4	20.4		3.1	11.0		2.8
30	28.8	23.5	21.8		6.1	3.4		1.5
31	29.0	22.9	22.6		6.7	2.2		1.2
Sum	-	-	-		59.7	274.7		66.0
Mean	29.6	23.2	21.6		-	8.9		2.13

1,000/7/32—3911] APIA OBSERVATORY

METEOROLOGICAL OBSERVATIONS.

9 a.m. June 1939

Day of Month.	CLOUD. Form. Low.	Medium.	High.	Amount of Low.	Total Amount.	Height of Base.	How Height was obtained.	WEATHER. Since previous Observation.	At Time.	Visibility.	WIND. Direction.	Force (Beaufort Scale).	Barometer reduced to M.S.L. (Millibars)	TEMPERATURE AND HUMIDITY. Dry Bulb (°C).	Wet Bulb (°C).	Relative Humidity (%).	Vapour Pressure (Millibars).	UPPER CLOUD. Type observed.	Direction whence coming.	Speed : Height Ratio.
1	Cu	Ac	Ci	2	5	3000		oqrcprc	bc	M	S	3	1010.3	25.8	21.7	68	22.4			
2	Cu	Ac	-	2	8	3500		b bc c	c	M	Calm	0	1011.4	24.9	21.1	70	21.7			
3	Cb	Ac	Ci	7	7	3500		cprc	bcjpr	K	NW	1	1013.5	25.9	22.0	70	23.1			
4	Cb	-	-	2	2	3500		cbcb	b	M	SExE	3	1014.7	25.9	20.4	59	19.2			
5	Cu	-	-	1	1	4000		bcb	b	M	ESE	2	1015.0	26.6	21.0	58	20.0			
6	Cu	-	Ci	1	1	4500		bcb	b	M	ESE	4	1013.7	26.5	22.1	66	22.8			
7	Cu	-	Ci	2	2	4500		bcpr,bc	b	K	ESE	4	1012.1	27.1	23.1	70	24.7			
8	Cu	-	-	2	2	4500		bcb	b	M	ESE	2	1013.7	27.3	23.8	73	26.4			
9	Cu	-	-	1	1	5000		b	b	M	Calm	0	1014.3	27.1	23.8	75	26.5			
10	Cu	-	-	2	2	4500		b	b	M	Calm	0	1013.7	25.5	22.4	75	24.7			
11	Cu	-	-	2	2	4000		bcpr,b	b	M	ESE	2	1013.2	27.4	24.0	74	26.8			
12	Sc	-	Ci	6	7	3500		b bc	bcjpr	M	Calm	0	1014.8	26.3	23.1	75	25.3			
13	Cu	-	Ci	4	9	3000		cpr,cbc	c	M	ESE	2	1014.9	27.1	24.0	76	27.1			
14	Cu	-	-	1	1	5000		bc	b	M	Calm	0	1014.8	26.4	22.9	73	24.8			
15	Cb	-	-	2	2	3000		bc b	b	M	ESE	2	1014.0	27.7	24.2	74	27.1			
16	Cb	-	Ci	3	3	3500		bcpr,bc	bcjpr	K	ExS	3	1014.2	27.6	25.0	80	29.2			
17	Sc	Ac	-	5	6	4000		b bc	bc	M	E	1	1013.1	28.1	23.9	69	26.0			
18	Cu	-	Ci	3	4	3500		cpqRtlp	bcjpr	K	SSE	1	1012.6	24.4	23.6	93	28.3			
19	Cu	-	Cs	1	9+	4000		cpr,lc	c	M	Calm	0	1012.2	25.6	24.1	88	28.5			
20	Cu	-	-	Trace	Trace	4000		c bc b	b	M	Calm	0	1011.6	26.1	23.8	82	27.3			
21	Cu	-	-	2	2	3000		b bc b	b	M	Calm	0	1012.8	27.7	24.8	78	28.7			
22	Cu	-	-	1	1	4500		bcbw	b	M	ExS	4	1013.6	27.6	24.7	78	28.4			
23	Cu	-	-	1	1	4500		bw	b	M	Calm	0	1014.1	26.8	23.0	71	24.7			
24	Cu	-	-	2	2	4000		bw	b	M	Calm	0	1013.5	25.6	22.8	78	25.2			
25	Cu	-	-	1	1	3500		bw	b	M	Calm	0	1013.1	25.5	21.8	71	22.8			
26	Cu	-	-	2	2	4000		bw	b	M	Calm	0	1011.5	25.5	20.1	59	18.9			
27	Cu	-	-	Trace	Trace	4500		bcbw	b	M	E	1	1010.2	24.3	20.7	71	21.2			
28	Sc	-	-	9	9+	3000		bbccpr,	c	K	Calm	0	1010.0	25.7	23.9	85	27.9			
29	Sc	As	Cs	5	9+	3500		bctlcrc	c	K	Calm	0	1011.8	25.1	23.0	83	26.1			
30	Cu	-	Ci	1	1	4000		cbcb	b	M	Calm	0	1012.1	27.2	24.6	80	28.5			
31																				
Means	-	-	-	2.4	3.4	3900		-	-	-	-	1.2	1013.0	26.3	23.0	74	25.1			

1,000/7/32—3911] APIA OBSERVATORY

METEOROLOGICAL OBSERVATIONS.

3.0 p.m. June 1939

Day of Month.	CLOUD. Form. Low.	Medium.	High.	Amount of Low.	Total Amount.	Height of Base.	How Height was obtained.	WEATHER. Since previous Observation.	At Time.	Visibility.	WIND. Direction.	Force (Beaufort Scale).	Barometer reduced to M.S.L. (Millibars).	TEMPERATURE AND HUMIDITY. Dry Bulb (°C).	Wet Bulb (°C).	Relative Humidity (%).	Vapour Pressure (Millibars).	UPPER CLOUD. Type observed.	Direction whence coming.	Speed: Height Ratio.
1	Cu	As	Cc	1	1	3500		bc by	by	M	SSE	4	1007.7	27.9	21.7	56	20.7			
2	Sc	As	-	6	9+	3000		cbcyc	c	M	S	4	1009.5	26.9	21.8	62	21.7			
3	Cu	-	-	8	8	3000		ccjprc	cjpr	K	ExS	3	1012.1	27.5	22.5	63	22.9			
4	Cu	-	-	1	1	4000		b bc b	by	M	SE	4	1013.4	27.5	19.5	43	16.0			
5	Cu	-	-	7	7	4000		b bcy	bcy	K	SE	3	1012.2	27.3	21.9	60	21.6			
6	Cu	-	Ci	3	4	4000		b bc	bc	K	ESE	4	1010.4	28.5	23.4	63	24.4			
7	Cu	-	-	1	1	4500		b	b	K	E	4	1010.8	28.7	24.0	66	25.7			
8	Cu	-	-	2	2	4000		b bc b	b	M	E	3	1011.9	28.8	24.3	67	26.4			
9	Cb	Ac	Cc	3	8	2500		b bc	c	M	E	3	1012.8	28.7	24.4	68	26.8			
10	Cb	-	Ci	2	3	5000		bbcjrbc	bc	M	E	3	1010.5	28.9	25.0	71	28.1			
11	Cu	-	Ci	1	1	4500		b	b	M	E	5	1011.3	28.7	24.3	68	26.5			
12	Cb	-	Ci	3	5	2500		bc	bcjpr	K	ExS	4	1011.8	28.6	25.2	75	28.9			
13	Cu	-	Ci	4	6	4000		c bc	bc	M	ExS	2	1011.6	29.4	25.2	69	28.3			
14	Cb	As	-	3	4	4000		b bc	bc	M	E	3	1012.5	30.5	25.7	66	28.8			
15	Cu	-	Cs	3	3	3000		b bc	bc	M	E	4	1011.7	30.3	25.1	64	27.3			
16	Cu	-	Cc	1	1	4000		pr.bcb	b	M	ExN	3	1011.9	29.2	24.5	66	26.7			
17	Cu	As	-	3	8	2500		bcpr.c	cjr	K	SSW	1	1010.4	26.3	24.6	86	29.2			
18	Cu	As	-	1	9	2500		cjr	cpr.	K	Calm	0	1010.4	28.2	25.3	78	29.6			
19	Cb	Ns	Cs	3	9+	3500		c	cpr.	K	ESE	2	1010.2	26.7	24.7	84	29.2			
20	Cu	-	-	2	2	3000		b	b	M	ENE	2	1009.5	27.8	24.3	73	27.2			
21	Cu	-	-	3	3	3000		b bc	bc	M	ExN	2	1010.9	29.2	25.8	75	30.1			
22	Cb	-	-	2	2	3500		b	b	M	E	4	1011.4	28.8	25.2	73	28.8			
23	Cu	-	-	2	2	4000		b	b	K	E	5	1009.7	28.9	24.8	70	27.6			
24	Cu	-	-	1	1	3500		bbcb	b	M	ExS	5	1010.0	28.7	22.9	59	22.9			
25	Cu	-	-	1	1	3500		b	by	M	SSW	3	1009.6	28.6	21.7	52	20.1			
26	Cu	-	-	5	5	3500		b bcy	bcy	M	E	4	1008.3	27.7	20.8	51	18.7			
27	Cu	-	Ci	2	2	4000		b	b	M	E	3	1006.8	28.6	25.7	65	25.1			
28	Cu	Ac	Ci	3	5	3500		c bc	bc	M	ExS	2	1007.1	29.5	26.0	74	30.4			
29	Sc	As	Cs	5	9	3000		c	c	M	ESE	2	1009.5	28.2	24.0	69	26.1			
30	Cu	-	-	4	4	2500		b bc	bc	K	ExN	1	1008.9	28.8	25.9	78	30.7			
31																				
Means	-	-	-	2.9	4.2	3500		-	-	-	-	3.1	1010.5	28.5	23.9	67	25.9			

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METEOROLOGICAL OBSERVATIONS.

June 1939

Day of Month.	Thermometers. Maximum (°)	Minimum (°)	Grass Minimum (°)	Black Bulb in vacuo (°)	Rainfall (mm.)	Sunshine (hrs.)	Heat Integrator.	Evaporimeter.
1	28.7	23.9	20.8		Nil	9.7		3.8
2	27.9	21.9	18.1		3.6	6.4		2.5
3	28.0	21.8	20.2		-	6.5		2.9
4	28.2	23.7	20.0		-	10.7		5.1
5	29.0	23.3	18.8		-	10.1		3.4
6	29.1	21.7	18.8		0.3	10.7		3.8
7	29.2	23.5	21.1		-	10.6		3.1
8	29.3	22.8	20.0		-	10.8		2.6
9	29.9	22.6	20.5		-	8.1		2.1
10	29.3	21.1	18.8		0.3	8.0		1.8
11	29.1	21.9	20.2		-	10.3		2.4
12	29.0	21.9	19.8		Trace	8.6		2.2
13	29.8	24.5	22.2		-	10.3		2.2
14	30.6	22.2	20.2		-	9.6		1.9
15	31.9	23.3	20.1		0.2	10.6		1.9
16	29.6	23.8	21.5		Trace	9.2		1.4
17	30.5	22.2	19.3		22.9	6.8		1.0
18	29.0	23.1	22.1		2.3	5.9		0.7
19	27.6	23.6	22.3		Trace	2.0		0.6
20	28.8	22.6	21.1		-	11.0		1.1
21	29.5	22.9	21.7		-	10.6		1.3
22	28.9	22.1	20.5		-	10.8		1.0
23	29.4	22.0	20.1		-	10.7		2.5
24	29.7	21.5	19.4		-	11.0		3.1
25	29.0	20.6	17.5		-	10.9		3.6
26	28.2	20.6	17.4		-	10.0		3.3
27	28.8	19.4	17.1		Trace	10.8		2.8
28	30.0	23.9	22.7		10.3	7.7		1.8
29	28.9	23.0	21.4		Trace	3.6		2.1
30	29.6	23.8	22.3		-	10.0		2.1
31								
Sum	-	-	-		39.9	272.0		70.1
Mean	29.2	22.5	20.2		-	9.1		2.34

1,000/7/32—3911] APIA OBSERVATORY

METEOROLOGICAL OBSERVATIONS.

9.0 a.m. July 1939

Day of Month.	CLOUD. Form. Low.	Medium.	High.	Amount of Low.	Total Amount.	Height of Base.	How Height was obtained.	WEATHER. Since previous Observation.	At Time.	Visibility.	WIND. Direction.	Force (Beaufort Scale).	Barometer reduced to M.S.L. (Millibars).	TEMPERATURE AND HUMIDITY. Dry Bulb (°C).	Wet Bulb (°C).	Relative Humidity (%).	Vapour Pressure (Millibars).	UPPER CLOUD. Type observed.	Direction whence coming.	Speed: Height Ratio.
1	Cu	-	-	Tr.	Tr.	3000		bc b	b	M	Calm	0	1010.7	26.4	23.6	78	26.5			
2	Cu	-	-	Tr.	Tr.	3000		bcb	b	M	SE	2	1009.1	26.4	23.2	75	25.6			
3	Cu	-	-	Tr.	Tr.	3500		b bc b	b	M	Calm	0	1011.7	26.2	23.4	78	26.3			
4	Cu	As	-	3	4	3000		bc	bc	M	ESE	4	1012.7	27.4	24.2	75	27.3			
5	Cu	-	-	4	4	3000		bc	bc	K	E	3	1013.7	28.2	24.5	72	27.5			
6	Cu	-	-	5	5	3000		b bc	bc	K	ExS	4	1013.2	27.8	25.1	79	29.3			
7	Cu	-	-	3	3	2500		bc	bc	K	E	3	1011.8	28.3	24.8	74	28.1			
8	Sc	-	-	8	8	2500		bcpr.c	c	K	ESE	2	1011.8	26.5	24.7	85	29.3			
9	Cu	-	-	1	1	3500		b	b	M	SE	1	1012.1	26.9	23.2	72	25.2			
10	Cu	-	-	Tr.	Tr.	4000		b	b	M	Calm	0	1011.3	25.7	22.2	73	23.6			
11	Sc	-	Ci	3	4	3000		bcbbc	bc	M	Calm	0	1012.3	26.4	23.2	75	25.6			
12	Sc	-	-	3	3	3000		bc	bc	M	Calm	0	1012.7	26.1	23.0	76	25.3			
13	Cb	-	Ci	6	6	2500		cprr.bc	bcjpr	M	ENE	3	1013.5	26.3	24.6	86	29.2			
14	Cu	-	Ci	Tr.	2	4000		bc b	b	M	Calm	0	1013.7	26.0	22.3	72	23.6			
15	Cu	-	Ci	Tr.	1	4000		bc b	b	M	Calm	0	1014.4	25.9	22.5	73	24.3			
16	Cu	-	-	1	1	4000		b	b	M	SE	1	1014.3	27.1	23.2	70	24.9			
17	Cu	-	Ci	Tr.	2	5000		bcprbc	b	M	Calm	0	1014.1	25.6	22.9	79	25.5			
18	Cu	-	-	Tr.	Tr.	4000		bc b	b	M	Calm	0	1013.3	27.0	23.5	73	25.9			
19	Cu	-	-	1	1	4000		b bc b	b	M	Calm	0	1013.8	26.1	22.3	71	23.6			
20	-	-	-	0	0	-		bv	bv	M	Calm	0	1014.1	25.1	21.4	71	22.3			
21	Cu	-	Ci	1	1	4000		b	b	M	Calm	0	1015.2	25.6	22.1	72	23.5			
22	Cu	As	Ci	Tr.	4	4500		b bc	bcv	M	Calm	0	1015.3	25.5	22.1	73	23.6			
23	Cu	-	-	2	2	3500		bc b	b/pr.	M	ESE	4	1014.3	27.4	24.1	75	27.1			
24	Cu	-	Cs	Tr.	3	4000		bcpr.bc	bc	M	SE	1	1014.6	27.0	23.8	76	26.5			
25	Cu	-	-	1	1	4000		b bc b	b	M	SE	1	1014.2	26.6	22.2	66	22.9			
26	Sc	-	Ci	6	8	3500		b bc c	c	M	ESE	2	1013.9	26.9	23.1	71	24.9			
27	Sc	Ac	Cc	5	7	3500		bc	bc	M	ESE	4	1013.9	27.6	24.0	73	26.7			
28	Cu	Ac	Ci	1	6	4000		bcRRor.	bc	M	ESE	2	1014.9	27.0	24.1	77	27.3			
29	Sc	-	Ci	4	6	3000		bc pr.	bc	K	E	4	1013.8	27.8	24.4	74	27.5			
30	Sc	-	Cc	2	5	5000		bcpr.cbc	bc	K	ESE	1	1011.8	27.7	24.7	79	28.5			
31	Cu	-	Ci	1	3	3500		bc b	bc	M	ESE	1	1013.7	27.1	23.8	75	26.5			
Means	-	-	-	2.0	2.9	3500		-	-	-	-	1.4	1013.2	26.7	23.4	75	25.9			

1,000/7/32—3911] APIA OBSERVATORY

METEOROLOGICAL OBSERVATIONS. 3.0 p.m. July 1939

Day of Month.	CLOUD. Form. Low.	Medium.	High.	Amount of Low.	Total Amount.	Height of Base.	How Height was obtained.	WEATHER. Since previous Observation.	At Time.	Visibility.	WIND. Direction.	Force (Beaufort Scale).	Barometer reduced to M.S.L. (Millibars).	TEMPERATURE AND HUMIDITY. Dry Bulb (° C).	Wet Bulb (° C).	Relative Humidity (%).	Vapour Pressure (Millibars).	UPPER CLOUD. Type observed.	Direction whence coming.	Speed : Height Ratio.
1	Cb	-	-	3	3	3500		bbcjrbc	bc	K	NExE	2	1007.2	29.0	25.2	72	28.7			
2	Cu	-	-	1	1	3500		b	b	K	ESE	2	1006.6	29.0	25.0	71	28.1			
3	Cu	As	-	5	7	3000		b bc	bc	M	NNE	1	1010.0	28.5	24.1	68	26.1			
4	Cu	-	-	3	3	3500		bcbbc	bc	M	ESE	5	1010.1	29.1	25.0	70	28.0			
5	Cu	-	-	1	1	3500		bc b	b	M	E	3	1010.9	29.7	25.1	67	27.7			
6	Cu	-	Ci	4	4	3000		bc	bc	K	E	4	1009.9	29.4	25.5	71	29.1			
7	Cu	-	-	3	3	3000		bcpr.bc	bc	K	E	2	1009.0	29.4	25.6	72	29.5			
8	Cu	-	-	3	3	2500		c bc	bc	K	ENE	2	1009.6	28.6	24.4	69	26.8			
9	Cu	-	-	Tr.	Tr.	4000		b	b	M	E	3	1009.1	29.0	24.0	64	25.5			
10	Cu	As	Ci	4	5	3000		b bc	bc	M	NNW	2	1008.9	27.2	23.8	73	26.4			
11	Cb	-	Ci	5	7	2500		bccbcjr	bcjr	K	E	5	1009.4	27.6	24.2	74	27.2			
12	Sc	-	-	9	9+	2500		bccjrcr.	cpr.	H	ExN	6	1010.3	25.8	24.4	89	29.2			
13	Cb	As	-	3	4	2500		bc	bc	M	E	1	1010.4	28.2	25.0	76	28.8			
14	Cu	-	Ci	2	5	3500		b bc	bc	M	ENE	2	1010.3	28.6	24.8	72	27.9			
15	Sc	-	-	2	2	3500		bbcjprbc	b	M	E	3	1011.9	28.7	24.0	66	25.7			
16	Cu	-	Ci	Tr.	Tr.	4000		b bc b	b	M	E	3	1010.9	29.2	24.1	63	25.6			
17	Cu	-	Ci	1	3	4000		b bc	bc	M	NNW	2	1011.5	27.8	23.5	68	25.2			
18	Cu	-	Ci	1	1	3000		b	b	M	NNE	1	1010.5	27.7	23.8	71	26.0			
19	Cu	-	-	Tr.	Tr.	5000		by	by	M	SW	3	1011.1	29.6	21.0	43	17.6			
20	Cu	-	-	Tr.	Tr.	5000		b	b	M	E	3	1011.8	28.0	23.1	64	24.0			
21	Cb	-	Ci	3	3	3000		b bc	bc	M	E	3	1012.6	28.3	23.9	68	25.7			
22	Cu	As	Ci	1	3	4500		b	bc	M	E	6	1012.4	28.3	23.6	66	25.1			
23	Sc	Ns	-	3	7	5000		bcprbc	bcjr	M	ExS	5	1011.6	28.2	24.8	74	28.3			
24	Cu	-	Ci	2	3	4000		bc	bc	M	ExN	3	1011.9	29.0	24.6	68	27.1			
25	Cu	-	-	1	1	4000		b	b	M	E	2	1011.2	28.5	23.4	63	24.4			
26	Cu	-	Ci	2	4	4000		c bc	bc	M	ExS	5	1011.1	29.0	24.7	69	27.3			
27	Cu	-	Ci	3	7	3000		bcc bc	bc	K	ESE	5	1012.1	28.2	25.1	77	29.1			
28	Cu	As	Ci	3	7	3000		bc	bc	M	ENE	2	1013.0	29.0	25.2	72	28.7			
29	Cu	-	Ci	4	7	4000		bc	bc	K	ExS	4	1011.0	29.5	25.4	70	28.8			
30	Cu	-	Ci	5	5	4000		bc	bc/pr.	M	NE	1	1010.5	28.2	24.9	75	28.5			
31	Cu	-	Ci	1	4	3500		bc	bc	M	ExN	2	1011.5	29.0	24.2	65	26.0			
Means	-	-	-	2.5	3.6	3500		-	-	-	-	3.0	1010.6	28.6	24.4	69	26.8			

METEOROLOGICAL OBSERVATIONS.

July 1939

Day of Month.	Thermometers. Maximum (°C)	Minimum (°C)	Grass Minimum (°C)	Black Bulb in vacuo (°)	Rainfall (mm.)	Sunshine (hrs.)	Heat Integrator.	Evaporimeter. (mm)
1	29.7	23.0	21.3			10.2		2.4
2	29.3	21.8	20.3			10.9		2.2
3	29.2	22.4	20.2			9.0		2.6
4	29.4	24.3	22.9			10.6		3.1
5	29.9	26.1	24.1			10.8		2.6
6	29.8	22.4	20.2		-	9.9		3.5
7	29.9	26.8	25.3		0.7	10.0		2.0
8	29.9	24.1	22.9			9.0		2.5
9	29.9	22.2	20.1			10.9		3.1
10	29.2	21.4	19.5			10.0		2.4
11	29.6	23.0	20.6		-	9.9		2.8
12	28.9	21.9	20.1		5.3	5.7		1.6
13	28.5	23.0	21.4		-	8.8		1.8
14	29.2	22.3	21.0		-	11.0		2.6
15	29.3	21.9	20.0		-	9.3		2.7
16	29.4	21.7	19.5		3.7	10.8		3.0
17	28.0	22.4	20.5		-	11.0		2.5
18	28.2	22.1	20.8		-	10.4		2.2
19	30.3	20.6	18.1		-	11.2		4.8
20	28.6	19.8	16.9		-	11.0		3.1
21	29.2	20.1	17.9		-	8.8		2.9
22	29.4	20.3	18.2		Trace	9.9		3.4
23	29.4	23.7	21.8		20.2	4.7		0.5
24	29.2	23.2	21.7		-	11.1		2.7
25	29.3	21.8	20.0		-	11.1		3.3
26	29.2	22.2	20.0		-	9.6		3.4
27	29.4	23.9	23.2		51.0	6.4		0.7
28	29.2	22.5	21.8		2.2	8.1		2.1
29	29.5	23.3	21.8		0.2	10.5		2.5
30	29.3	23.5	22.0		Trace	10.8		2.2
31	29.0	22.6	21.1		-	10.7		2.9
Sum	-	-	-		83.3	302.1		80.1
Mean	29.3	22.6	20.8		-	9.7		2.58

1,000/7/32—3911] APIA OBSERVATORY

METEOROLOGICAL OBSERVATIONS. 9.0 a.m. August 1939

Day of Month.	CLOUD. Form. Low.	Medium.	High.	Amount of Low.	Total Amount.	Height of Base.	How Height was obtained.	WEATHER. Since previous Observation.	At Time.	Visibility.	WIND. Direction.	Force (Beaufort Scale).	Barometer reduced to M.S.L. (Millibars).	TEMPERATURE AND HUMIDITY. Dry Bulb (° C).	Wet Bulb (° C).	Relative Humidity (%).	Vapour Pressure (Millibars).	UPPER CLOUD. Type observed.	Direction whence coming.	Speed: Height Ratio.
1	Cu	-	-	3	3	3500		bc	bc	M	ESE	3	1013.5	26.7	24.0	79	27.3			
2	Cu	-	-	2	2	4000		b	b	M	ESE	1	1013.9	27.1	23.2	70	24.9			
3	Cu	-	Cs	2	2	4500		bbcb	b	M	ESE	4	1014.3	27.3	23.6	72	25.9			
4	Cu	-	-	1	1	4500		bcb	b	M	ESE	4	1013.7	27.6	24.1	74	26.9			
5	Cu	-	-	3	3	3500		bcb	bc/pro	K	ESE	3	1012.3	27.5	24.7	79	28.5			
6	Sc	-	Ci	3	3	3500		bclbcw	bc	M	ESE	1	1011.2	27.4	24.3	76	27.6			
7	Cu	-	-	1	1	4000		bcb	b	M	CALM	0	1012.3	27.2	24.1	76	27.2			
8	Cu	-	-	1	1	4000		bcb	b	M	ESE	3	1012.7	27.1	23.5	72	25.7			
9	Cu	-	-	3	3	3000		bc cbc	bc	M	ExS	5	1011.6	27.8	23.8	70	26.0			
10	Sc	-	-	5	5	3000		bc c	bc	K	ESE	4	1011.4	27.8	23.9	71	26.1			
11	Sc	-	-	6	6	3000		bcprobc	bcjpr	K	ESE	4	1011.8	27.0	23.2	71	25.1			
12	Cu	-	-	3	3	3500		bcprbc	bc	K	ESE	5	1011.9	27.4	23.1	68	24.5			
13	Sc	-	Cc	5	5	3500		bprobc	bcjpr	K	ESE	3	1011.5	27.9	24.7	76	28.3			
14	Sc	Ac	-	6	8	3000		bc c	c	M	ESE	2	1011.0	26.2	23.5	79	26.5			
15	Cu	As	Ci	4	4	3000		bcproc	bcjpr	M	ExS	4	1010.8	27.8	24.8	77	28.5			
16	Cu	-	Ci	7	7	2000		bccpro	bcjpr	K	E	4	1010.6	28.0	25.1	78	29.2			
17	Cu	-	-	3	3	3000		bcprobc	bc	K	ExN	4	1010.6	28.0	25.0	77	28.9			
18	Cu	-	-	5	5	3000		bcpro	bc	K	ENE	5	1010.8	27.7	25.0	79	29.2			
19	Cu	-	-	5	5	3000		bc	bc	K	E	6	1008.3	28.1	24.4	72	27.2			
20	Cb	Ns	-	2	10	4000		bcccqro	cro	H	NExE	3	1008.5	25.4	24.7	94	30.3			
21	Cu	-	-	6	6	3000		bcprbc	bcjpr	K	ESE	1	1010.0	26.5	24.7	85	29.3			
22	Cu	-	-	1	1	3500		bcb	b	K	ESE	3	1011.1	28.0	24.3	72	27.1			
23	Cu	-	-	3	3	3500		bcpro	bc	K	ExS	6	1010.6	27.6	23.9	72	26.3			
24	Cu	-	Ci	1	2	4000		bcb	b	K	ESE	4	1010.0	28.1	24.1	70	26.4			
25	Cu	-	Ci	3	6	3000		crrcpr	bc	M	SE	1	1010.7	27.0	24.6	81	28.7			
26	Sc	-	Ci	8	8	3000		bcc	cpro	K	ENE	3	1010.9	26.5	24.9	87	29.9			
27	Cu	-	-	Tr.	Tr.	5000		bcbw	b	M	ESE	1	1010.7	27.4	23.7	72	26.0			
28	Cu	-	-	1	1	3000		b	b	M	NExN	1	1011.0	27.0	22.6	67	23.6			
29	Cu	Ac	Cs	1	7	4500		bc	bc	M	NExN	1	1012.3	26.1	22.5	72	24.0			
30	Cu	-	-	1	1	3500		b	b	M	NExN	1	1013.9	26.5	21.7	64	21.9			
31	Sc	-	-	Tr.	Tr.	4500		bv	bvy	M	CALM	0	1014.4	26.1	19.8	54	17.7			
Means	-	-	-	3.1	3.7	3516		-	-	-	-	2.9	1011.6	27.2	23.9	74	26.6			

1,000/7/32—39111 APIA OBSERVATORY

METEOROLOGICAL OBSERVATIONS.

3.0 p.m. August 1939

Day of Month.	CLOUD. Form. Low.	Medium.	High.	Amount of Low.	Total Amount.	Height of Base.	How Height was obtained.	WEATHER. Since previous Observation.	At Time.	Visibility.	WIND. Direction.	Force (Beaufort Scale).	Barometer reduced to M.S.L. (Millibars).	TEMPERATURE AND HUMIDITY. Dry Bulb (°C).	Wet Bulb (°C).	Relative Humidity (%).	Vapour Pressure (Millibars).	UPPER CLOUD. Type observed.	Direction whence coming.	Speed : Height Ratio.
1	Cu	-	-	1	1	3500		bc b	b	K	E	3	1011.6	29.1	24.2	65	25.9			
2	Cu	Ac	Cc	2	2	3500		bc b	b	M	E	4	1010.9	29.0	24.9	70	27.9			
3	Cu	Ac	Ci	3	3	4000		b bc	bc	M	ExS	5	1012.0	28.8	24.4	68	26.7			
4	Cu	-	-	3	3	3500		bc	bc	K	E	5	1010.8	28.7	25.3	75	29.2			
5	Cu	-	Cs	2	7	3000		bc	bc	M	E	3	1009.4	29.2	25.6	74	29.6			
6	Sc	-	-	8	8	2000		bc c	cpr.	K	E	1	1008.9	27.9	23.8	69	25.9			
7	Sc	-	-	8	8	3000		b bc c	c	M	CALM	0	1010.0	27.8	23.4	67	24.9			
8	Sc	-	-	3	3	3000		b bc	bc	M	E	5	1009.4	28.4	24.2	69	26.5			
9	Cu	-	-	3	3	3000		bcpr.bc	bc	M	ESE	4	1007.9	28.8	24.0	65	25.6			
10	Sc	As	-	6	6	2500		bcpr.bc	bcjpr	M	SSE	2	1008.9	27.1	23.8	75	26.5			
11	Cu	-	-	3	3	3000		bc	bc	K	ESE	6	1009.0	28.5	23.7	65	25.1			
12	Cu	-	-	2	2	4000		b	b	K	ExS	5	1009.5	28.6	23.4	63	24.3			
13	Cu	Ac	-	2	7	3500		bc	bc	K	E	4	1008.9	28.7	24.8	71	27.9			
14	Cu	As	Cs	2	5	3500		bc	bc	K	E	5	1008.3	28.8	25.2	73	28.8			
15	Cu	-	Ci	6	6	2700		bcpr.	bcjpr	K	ExS	6	1008.4	27.8	25.5	82	30.4			
16	Cu	-	-	5	5	3000		bcpr.	bc	M	E	4	1008.0	28.7	25.6	77	30.0			
17	Cu	-	-	4	4	3000		b bc	bc	K	E	4	1009.0	29.5	25.2	68	28.3			
18	Cu	-	-	3	3	3500		bc	bc	K	ExS	5	1008.2	29.1	25.2	71	28.3			
19	Cu	-	-	6	6	2500		bc	bc	K	ExN	6	1006.0	28.7	25.0	72	28.4			
20	Cu	-	-	4	4	3000		bc	bc	M	NExE	2	1006.5	28.2	24.7	73	28.0			
21	Cu	-	-	5	5	2700		bc	bcjpr	K	ENE	3	1007.0	28.6	25.4	77	29.6			
22	Cu	-	-	7	7	3000		b bc	bc	K	ExS	4	1008.2	28.9	25.0	71	28.1			
23	Cu	As	-	2	2	3500		bc b	b	K	ExS	4	1007.6	29.1	24.1	64	25.6			
24	Sc	-	-	9	9	3500		b bc c	c	K	E	4	1007.3	28.2	25.0	76	28.8			
25	Cu	-	Ci	3	5	3000		bcpr	bc	M	CALM	0	1008.5	28.6	25.5	77	29.7			
26	Sc	-	Cs	8	8	3000		bc	cjpr	M	ESE	1	1008.3	27.7	24.1	73	26.8			
27	Cu	-	-	6	6	2000		bc	bc	M	E	3	1008.3	29.7	24.7	64	26.7			
28	Cu	-	-	5	5	3500		b bc	bc	M	NNW	2	1008.0	27.8	23.5	68	25.2			
29	Cu	Ac	-	5	7	4000		bc	bcpr.	M	CALM	0	1010.3	27.2	22.3	63	22.7			
30	Cu	-	-	5	5	3500		bbc	bcy	M	NNW	1	1011.3	27.5	21.9	59	21.5			
31	Cu	-	Ci	Tr.	1	5500		bvy	bvy	M	E	5	1011.1	28.0	21.6	55	20.3			
Means	-	-	-	4.2	4.8	3223		-	-	-	-	3.4	1008.9	28.5	24.3	70	26.9			

METEOROLOGICAL OBSERVATIONS.

August 1939

Day of Month.	Thermometers. Maximum (°C)	Minimum (°C)	Grass Minimum (°C)	Black Bulb in vacuo (°)	Rainfall (mm.)	Sunshine (hrs.)	Heat Integrator.	Evaporimeter (mm.)
1	29.5	23.5	21.9		-	10.8		2.8
2	29.2	22.1	20.1		-	10.9		2.8
3	29.2	22.6	20.8		-	10.0		2.9
4	29.2	22.7	20.7		Trace	10.9		2.9
5	29.8	24.8	22.1		-	10.5		2.2
6	29.1	22.9	20.8		Trace	8.7		2.4
7	28.6	23.1	21.3		Trace	6.8		2.7
8	28.9	21.8	19.9		-	10.7		3.4
9	29.2	25.3	23.2		Trace	9.9		2.7
10	29.5	23.2	20.2		Trace	8.1		3.1
11	29.2	22.5	20.1		0.3	10.4		4.2
12	29.2	24.0	21.7		Trace	10.9		3.6
13	29.7	24.7	22.1		-	8.7		2.4
14	29.5	23.3	21.7		0.3	8.4		2.9
15	29.2	24.0	22.1		2.9	10.3		2.5
16	29.6	25.4	23.2		1.1	8.1		2.6
17	29.7	26.0	24.2		0.4	8.3		2.9
18	29.3	25.0	22.7		-	10.4		4.4
19	29.0	26.6	25.4		2.5	10.6		3.0
20	29.3	23.7	21.2		10.5	8.7		2.1
21	28.9	24.4	23.0		-	8.1		2.1
22	28.8	22.3	20.9		0.1	9.0		3.0
23	28.9	22.7	21.0		-	10.1		3.5
24	29.5	24.3	21.8		33.7	7.3		2.0
25	29.2	23.6	22.5		Trace	10.5		1.8
26	28.6	23.9	22.7		-	5.8		2.0
27	30.2	22.7	20.8		-	9.8		3.2
28	28.8	22.3	19.9		-	9.2		3.0
29	28.0	22.5	20.3		2.2	7.2		2.8
30	28.0	22.5	19.8		-	10.8		3.7
31	29.0	19.5	16.9		-	11.6		4.1
Total	-	-	-		54.0	291.5		89.7
Mean	29.1	23.5	21.5		-	9.4		2.89

1,000/7/32—39111 APIA OBSERVATORY

METEOROLOGICAL OBSERVATIONS. 9.0 a.m. September 1939

Day of Month.	CLOUD. Form. Low.	Medium.	High.	Amount of Low.	Total Amount.	Height of Base.	How Height was obtained.	Weather. Since previous Observation.	At Time.	Visibility.	Wind. Direction.	Force (Beaufort Scale).	Barometer reduced to M.S.L. (Millibars).	Temperature and Humidity. Dry Bulb (°C).	Wet Bulb (°C).	Relative Humidity (%).	Vapour Pressure (Millibars).	Upper Cloud. Type observed.	Direction whence coming.	Speed; Height Ratio.
1	Cu	-	Ci	4	6	5500		b bc	bc	M	CALM	0	1013.0	27.5	23.1	67	24.4			
2	Cu	As	Ci	4	8	3000		cpr	cjpr	K	NW	2	1014.1	25.8	24.2	87	28.7			
3	Sc	As	-	6	9	3000		cpoR	c/r	M	CALM	0	1014.2	23.4	22.6	93	26.5			
4	Cu	As	Ci	2	5	3000		bc	bc	M	ESE	6	1015.6	27.9	24.3	72	27.2			
5	Cu	-	-	9	9	3000		crr	cjr	K	SWxS	1	1017.1	24.7	23.3	88	27.2			
6	Sc	As	-	6	9	5000		cprcjr	cjr	K	ESE	3	1016.1	25.8	23.2	79	26.0			
7	Fr.St.	Ns	-	1	10	2000		bccorr	oir.	J	SSW	1	1014.6	24.0	23.2	93	27.5			
8	Cu	-	-	2	2	4500		bc b	b	M	CALM	0	1013.2	26.9	24.3	80	28.0			
9	Sc	As	-	8	9	3000		bccpr.	cjpr	M	S	1	1013.4	24.8	23.1	86	26.7			
10	Sc	As	Ci	6	8	2500		oir.c	cjpr	M	ESE	4	1012.8	26.2	24.3	85	28.5			
11	Sc	-	Ci	8	8	3500		bc c	cjpr	K	ESE	3	1012.2	26.8	23.9	78	27.1			
12	Cu	Ac	Ci	2	7	2500		bc pr.	bcjpr	K	ESE	2	1012.3	26.4	24.4	84	28.7			
13	Sc	Ns	-	6	9	2500		bbcpr.	cjpr	M	E	1	1013.0	25.9	23.5	81	26.8			
14	Sc	-	-	6	6	3500		b bc	bc	M	NExN	1	1012.5	26.7	24.0	79	27.3			
15	Sc	-	Ci	2	2	3000		cbcb	b	M	E	1	1011.1	27.8	22.2	60	22.0			
16	Cu	As	Ci	2	2	3500		b	b	M	ExS	4	1010.6	26.5	22.9	72	24.7			
17	Sc	Ns	-	4	10	4000		cjr cr	crr	G	ExS	2	1012.5	23.7	23.2	96	27.7			
18	Sc	Ns	-	6	9	4000		crtloRR	c	M	ESE	2	1012.3	24.1	23.5	95	28.3			
19	Sc	Ac	-	3	8	5000		bc c	c	M	CALM	0	1013.0	27.6	23.7	70	25.7			
20	Sc	Ns	-	6	9	3500		cjprcpr.	cr.	K	ESE	1	1013.9	24.9	23.7	90	28.1			
21	Sc	Ac	Ci	6	9	4000		bc	c/pr	K	ESE	2	1014.3	26.5	24.2	82	28.0			
22	Cb	As	Ci	2	9	5000		bccc	c	M	ExS	3	1014.1	28.5	25.5	77	29.9			
23	Sc	Ns	-	4	7	3000		o bc	bcPR	K	SE	2	1012.9	26.2	24.8	89	29.9			
24	Cu	-	Ci	3	8	4000		o bc	c	M	CALM	0	1013.8	28.1	24.9	76	28.5			
25	Cu	Ac	-	2	2	3500		b	b	M	CALM	0	1013.8	27.4	23.9	73	26.5			
26	Cu	-	-	2	2	3500		bcb	b	M	ESE	1	1013.0	28.0	24.5	73	27.6			
27	Cu	-	Ci	1	2	3500		bc	b	M	ExS	3	1013.2	28.7	24.7	70	27.6			
28	Sc	Ns	-	4	9+	2500		c	cpr	H	CALM	0	1013.7	25.2	23.3	84	26.8			
29	Cu	-	-	3	3	3000		cbcb bc	bc	M	ExS	3	1013.0	27.9	25.0	78	29.1			
30	Cu	Ac	Ci	2	9+	4500		bcc	c	M	ExS	5	1013.9	28.5	24.5	77	29.9			
31																				
Means	-	-	-	4.1	6.8	3500		-	-	-	-	1.8	1013.4	26.4	23.9	80	27.4			

1,000/7/32—3911] APIA OBSERVATORY

METEOROLOGICAL OBSERVATIONS. 3.0 p.m. September 1939

Day of Month.	CLOUD. Form. Low.	Medium.	High.	Amount of Low.	Total Amount.	Height of Base.	How Height was obtained.	WEATHER. Since previous Observation.	At Time.	Visibility.	WIND. Direction.	Force (Beaufort Scale).	Barometer reduced to M.S.L. (Millibars).	TEMPERATURE AND HUMIDITY. Dry Bulb (°F).	Wet Bulb (°C).	Relative Humidity (%).	Vapour Pressure (Millibars).	UPPER CLOUD. Type observed.	Direction whence coming.	Speed: Height Ratio.
1	Cu	-	Ci	Tr.	7	5500		bc	bc	M	N	1	1010.3	27.9	23.5	67	25.1			
2	Sc	Ns	Cs	3	8	5000		cpr.c	cjpr	K	NWxN	3	1011.2	27.2	23.6	72	25.9			
3	Cb	As	Ci	6	7	3000		c	bcjpr	K	E	6	1012.0	27.5	24.9	80	29.1			
4	Cu	-	Ci	5	7	3000		bc	bcjpr	K	E	6	1013.2	28.4	24.5	71	27.2			
5	Sc	As	-	8	9	3000		cpr.	cjr	K	SE	1	1013.8	26.5	23.2	74	25.5			
6	Cu	-	Cc	6	8	5000		c bc c	c	K	ExS	4	1012.4	28.1	25.0	77	28.8			
7	Sc	As	-	6	9	3000		cm.r.cpr.	cr.	M	ESE	1	1010.8	25.9	24.2	86	28.5			
8	Cu	Ac	Ci	1	2	4500		b bc b	b	M	NExN	1	1010.1	28.1	24.3	71	26.9			
9	Sc	As	Ci	5	8	3000		c	cjpr	M	NW	1	1010.2	27.6	24.0	73	26.7			
10	Sc	Ns	Ci	3	9+	Ground		c bc c	cir./q	K	ESE	5	1009.8	26.1	24.0	83	27.9			
11	Sc	As	-	7	9	2500		cprc	cjpr	K	E	4	1009.3	27.8	25.1	79	29.3			
12	Sc	-	Cs	4	5	3000		cpr.bc	bc	M	E	3	1009.9	29.0	25.0	71	28.1			
13	Cb	Ns	-	4	4	3000		cpr.bc	bcjpr	M	E	3	1009.8	29.0	26.0	78	30.8			
14	Sc	-	-	6	6	3000		bc	bcy	M	SSW	3	1009.4	29.1	23.0	57	22.8			
15	Sc	-	-	4	4	4000		b bc	bc	M	E	4	1008.0	28.2	24.5	72	27.5			
16	Cb	As	-	7	9	3000		c	cr.	M	ESE	3	1008.7	26.2	24.2	84	28.3			
17	Cu	Ac	-	1	8	2500		c	c	M	ExS	3	1009.0	27.6	24.9	80	28.9			
18	Sc	Ac	-	3	9	5000		cprc	c	M	ExS	2	1010.7	26.9	25.0	85	29.9			
19	Sc	Ns	Cs	5	7	4000		cbcjr	bcjpr	M	SxW	2	1010.2	27.7	24.3	74	27.3			
20	Sc	As	Ci	4	6	4000		cr.qrc	bc	K	ESE	5	1010.9	27.3	24.5	78	28.1			
21	Cb	As	Cs	2	8	4500		cprbcc	c	M	E	2	1011.8	27.5	25.0	80	29.3			
22	Mc	-	Cs	4	8	5000		c	c	M	ExS	4	1010.6	27.6	25.0	80	29.2			
23	Cu	-	Ci	1	7	3500		bc	bc	M	ENE	1	1009.7	28.6	25.3	75	29.2			
24	Cb	As	Ci	4	8	3500		c	cjpr/pr	M	WSW	1	1011.6	27.3	24.3	77	27.6			
25	Cb	-	-	3	3	3000		b	bcjr	M	NE	1	1010.3	28.5	25.0	74	28.5			
26	Cb	-	Ci	2	4	4000		b bc	bc	M	ENE	1	1010.3	29.0	24.8	65	26.0			
27	Cu	-	Ci	2	2	3500		b	b	M	E	4	1010.4	29.0	24.4	67	26.5			
28	Cb	As	-	5	8	3000		cprorc	cjpr	M	ExS	2	1010.6	27.7	25.4	82	30.3			
29	Cu	Ac	Ci	3	6	5000		bc	bc	M	ExS	4	1010.7	29.2	25.5	74	29.6			
30	Cu	Ac	Ci	1	8	5000		c	c	M	ExS	5	1012.0	28.9	25.6	76	29.9			
31																				
Means	-	-	-	3.8	6.8	3600		-	-	-	-	2.9	1010.6	27.9	24.6	75	28.0			

METEOROLOGICAL OBSERVATIONS.

September 1939

Day of Month.	Thermometers.				Rainfall (mm.)	Sunshine (hrs.)	Heat Integrator.	Evaporimeter.
	Maximum (°C)	Minimum (°C)	Grass Minimum (°C)	Black Bulb in vacuo (°)				
1	28.3	21.7	19.5		5.8	8.5		2.5
2	27.8	24.2	23.0		24.3	3.4		1.4
3	28.8	22.6	21.9		Trace	4.6		0.3
4	29.1	23.0	21.5		13.6	8.6		3.6
5	27.3	23.1	22.7		1.0	0.4		2.0
6	28.3	23.1	22.3		14.6	5.2		1.0
7	27.1	23.4	22,2		1.6	0.5		1.0
8	28.2	22.3	20.9		0.2	10.7		2.0
9	29.4	24.1	22.7		1.9	4.3		1.8
10	28.4	23.2	-		0.3	6.8		2.3
11	29.8	24.4	22.9		8.8	3.1		1.0
12	29.3	24.0	22.6		Trace	7.1		2.4
13	29.5	21.8	-		-	8.2		1.9
14	30.1	23.2	21.2		-	10.6		4.1
15	29.3	23.6	21.2		-	10.7		2.7
16	27.8	21.7	19.7		14.2	5.5		1.7
17	28.1	23.0	21.6		84.4	2.5		1.0
18	27.0	23.6	22.8		5.5	2.2		1.5
19	29.1	23.1	21.3		1.4	6.9		1.8
20	28.0	23.9	22.2		3.8	5.2		1.7
21	28.8	23.2	21.2		-	5.7		1.6
22	29.1	23.5	21.2		3.6	5.4		1.8
23	29.4	23.5	21.3		-	9.9		1.9
24	29.8	24.0	23.3		Trace	8.2		2.2
25	28.9	23.6	-		-	11.4		2.5
26	29.2	24.4	22.4		-	11.6		3.0
27	29.9	23.5	21.2		0.9	11.6		3.0
28	27.8	23.0	20.5		14.1	3.3		1.5
29	29.5	23.3	21.3		Trace	10.1		2.5
30	29.3	23.8	21.5		-	11.0		2.8
31								
Total	-	-	-		200.0	203.2		60.5
Mean	28. 7	23.3	21.7		-	6.77		2.02

1,000/7/32—3911] APIA OBSERVATORY

METEOROLOGICAL OBSERVATIONS. 9.0 a.m. October 1939

Day of Month.	CLOUD. Form. Low.	Form. Medium.	Form. High.	Amount of Low.	Total Amount.	Height of Base.	How Height was obtained.	Weather. Since previous Observation.	Weather. At Time.	Visibility.	Wind. Direction.	Wind. Force (Beaufort Scale).	Barometer reduced to M.S.L. (Millibars).	Temperature and Humidity. Dry Bulb (°C).	Wet Bulb (°C).	Relative Humidity (%).	Vapour Pressure (Millibars).	Upper Cloud. Type observed.	Direction whence coming.	Speed; Height Ratio.
1	Sc	-	Ci	5	6	3500		b bc	bc	M	ESE	4	1015.2	28.0	24.7	75	28.1			
2	Cu	-	Ci	2	2	4000		bc b	b	M	ExS	4	1013.7	28.6	24.6	70	27.3			
3	Cu	-	Ci	1	9	5000		b bc	c	M	ExS	4	1011.5	28.2	24.0	69	26.1			
4	Sc	-	Ci	4	7	3000		cpr.c	bc/pr.	K	SExE	4	1011.8	27.1	24.1	77	27.3			
5	Sc	As	Cs	3	8	5000		cpr.c	c	K	ESE	5	1011.4	27.7	24.0	72	26.5			
6	Sc	Ns	-	3	10	3500		cpr.orr	or.	H	SE	6	1010.3	25.0	24.0	92	28.8			
7	Cu	-	-	2	3	3000		oRtl cbc	bc	M	E	1	1009.5	27.8	25.3	80	29.9			
8	Cu	-	Ci	1	1	3500		bc b	b	M	ExS	4	1010.7	28.8	25.8	78	30.4			
9	Cu	-	Cs	2	2	3500		b	b	M	ENE	1	1012.1	28.3	24.5	72	27.3			
10	Cu	-	-	1	1	3500		b bc b	b	M	ExN	1	1012.8	27.8	24.1	72	26.7			
11	Cu	-	-	1	1	3500		b	b	M	Calm	0	1012.6	26.8	22.5	68	23.5			
12	Cu	-	-	3	3	4000		b bc	bc	M	Calm	0	1012.3	26.0	20.8	60	20.1			
13	Sc	-	Ci	3	5	4500		bc c bc	bcy	M	ESE	3	1010.8	27.2	21.0	55	19.6			
14	Cu	-	Ci	1	1	3000		bc b	b	M	Calm	0	1012.3	26.8	21.7	62	16.3			
15	Cu	-	-	2	2	4000		bc	b	M	ExS	4	1013.1	28.7	24.6	69	27.3			
16	Sc	-	Cs	2	2	3000		b bc b	b	M	ExN	3	1012.5	28.4	24.2	69	26.5			
17	Mc	Ac	Cc	3	7	3500		bccprbc	bc	K	ExS	4	1012.5	28.6	23.4	63	24.3			
18	Sc	-	-	9	9	4000		bcbbcc	c	K	ExS	4	1013.1	29.2	25.3	71	28.8			
19	Cu	-	-	4	4	3000		bcbbc	bc	K	ExS	4	1012.8	28.8	25.0	72	28.3			
20	Cu	-	-	1	1	4000		bc b	b	K	ExS	2	1011.6	29.0	25.0	71	28.1			
21	Cu	-	Ci	6	6	3500		bcbbc	bc	M	NExE	1	1011.5	28.2	24.6	73	27.7			
22	Sc	-	Ci	2	7	3500		c bc	bc	M	Calm	0	1010.6	29.1	23.9	63	25.1			
23	Cu	Ac	Ci	1	7	5000		c bc	bc	M	NE	1	1011.5	27.7	23.1	66	24.3			
24	Sc	As	Ci	8	9	4000		c	c	M	Calm	0	1012.1	27.9	23.0	64	23.9			
25	Sc	Ac	Ci	2	10	5000		c	c	M	ExS	4	1012.7	28.0	23.0	63	23.7			
26	Sc	As	Ci	2	8	4500		c	c	M	E	3	1013.0	28.9	24.2	66	26.1			
27	Cu	Ac	Cc	1	6	3500		or.cprbc	bc	M	ExS	4	1011.9	28.3	24.3	70	26.8			
28	Sc	-	-	9	9	4000		c	c	M	ExS	1	1010.4	27.4	23.9	73	26.5			
29	Sc	As	-	6	9+	4000		c	c	M	ESE	2	1008.9	26.9	23.6	75	26.1			
30	Sc	As	Cc	8	9	5000		or.c	c	K	ExS	2	1008.3	27.2	24.5	79	28.3			
31	Sc	Ac	Ci	6	9+	6500		coqrrc	cv	M	WSW	1	1008.8	26.2	24.1	83	28.0			
Means	-	-	-	3.4	5.6	4000		-	-	-	-	2.5	1011.7	27.8	23.9	71	26.1			

1,000/7/32—3911] APIA OBSERVATORY

METEOROLOGICAL OBSERVATIONS. 3.0 p.m. October 1939

Day of Month.	Cloud. Form. Low.	Form. Medium.	Form. High.	Amount of Low.	Total Amount.	Height of Base.	How Height was obtained.	Weather. Since previous Observation.	Weather. At Time.	Visibility.	Wind. Direction.	Wind. Force (Beaufort Scale).	Barometer reduced to M.S.L. (Millibars).	Temperature and Humidity. Dry Bulb (°C).	Wet Bulb (°C).	Relative Humidity (%).	Vapour Pressure (Millibars).	Upper Cloud. Type observed.	Direction whence coming.	Speed ; Height Ratio.
1	Cu	-	Ci	4	4			bc	bc	K	ExS	6	1012.7	29.0	25.5	74	29.5			
2	Cu	-	Ci	3	4	3000		b bc	bc	K	E	5	1010.5	29.1	25.1	71	28.3			
3	Cb	As	Ci	2	8	5000		c	cjr	M	E	5	1009.2	28.2	25.2	77	29.3			
4	Cu	Ac	Ci	2	8	3000		bccproc	c	K	ExS	5	1008.5	28.0	24.5	73	27.6			
5	Sc	As	-	5	10	4000		cproqc	cjr	K	ESE	5	1008.4	27.2	24.1	76	27.2			
6	Fr.N	Ns	-	3	10	3000		orrtlRR	otlRR	H	ESE	4	1008.3	24.0	23.4	95	28.0			
7	Sc	-	Ci	5	5	1500		cbc	bc	M	E	2	1006.7	28.8	25.8	78	30.4			
8	Cu	-	Cc	2	2+	3000		b	b	M	E	3	1008.3	28.9	26.0	78	30.9			
9	Cu	As	Cs	2	2	3500		b	b	M	ENE	2	1009.6	28.8	24.5	68	26.9			
10	Cu	-	-	1	1	4500		b	b	M	E	6	1009.6	28.8	24.8	70	27.7			
11	Cu	-	-	2	2	3000		b	by	M	ExS	5	1009.2	30.0	23.6	56	23.6			
12	Sc	-	Ci	3	3	4500		bcbybc	bcy	M	ExS	4	1009.2	28.2	21.7	54	20.4			
13	Sc	-	Ci	3	5	3500		bc	bc	M	ExN	4	1009.0	28.7	23.1	61	23.5			
14	Sc	-	Ci	8	9	4000		bc c	c	M	W	2	1009.7	28.3	23.7	66	25.2			
15	Cu	-	-	1	1	3000		bc b	b	M	E	4	1010.6	29.5	24.8	66	27.2			
16	Sc	As	-	8	8	3000		b bc c	cjpr	M	E	5	1010.1	28.1	24.5	73	27.5			
17	Sc	-	-	4	4	3500		bc c bc	bc	K	ExS	5	1010.5	28.3	25.1	76	28.9			
18	Cb	-	Ci	3	4	3500		bc	bc	K	E	5	1009.8	29.2	25.3	71	29.3			
19	Cu	-	-	3	3	3000		bcprobc	bc	K	ExS	2	1009.6	30.2	25.5	67	28.4			
20	Cb	-	Ci	2	5	3500		bc	bc	K	ExN	3	1009.3	29.5	25.1	68	28.0			
21	Cu	Ac	Ci	6	10	2500		bcbbcc	c	M	NWxN	1	1008.8	28.8	25.3	74	29.1			
22	Cb	-	Cs	9	9	2500		bccpro	c/pro	M	ENE	1	1008.3	27.4	24.0	74	26.8			
23	Cb	Ac	Cs	2	8	4500		bc c	c'	M	ExN	4	1009.1	29.7	25.5	69	28.9			
24	Sc	As	-	6	9	4500		c	cy	M	Calm	0	1009.6	29.0	23.2	59	23.5			
25	Cu	Ac	Ci	2	8	5000		c	c	M	E	5	1010.1	28.7	24.6	69	27.3			
26	Sc	Ns	-	6	10	3500		c	cro/pr	K	ExS	6	1010.6	27.5	25.0	80	29.3			
27	Sc	Ac	Cs	4	9	2500		bc c	c	M	ExN	4	1010.6	28.6	25.0	73	28.4			
28	Cu	Ac	-	2	8	2500		c bc c	c	M	E	5	1007.3	28.2	24.9	75	28.5			
29	Sc	Ns	-	3	10	6000		c orr	orr	H	S	2	1006.7	23.4	22.8	95	27.1			
30	Sc	Ns	-	7	10	3000		corroc	cjpr	M	Calm	0	1006.5	25.2	23.9	89	28.3			
31	Sc	As	Cs	3	9+	3000		corogroc	c	M	NWxW	3	1007.1	27.2	24.8	81	29.1			
Means	-	-	-	3.7	6.4	3400		-	-	-	-	3.6	1009.1	28.2	24.5	73	27.6			

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METEOROLOGICAL OBSERVATIONS.

October 1939

Day of Month.	Thermometers.				Rainfall (mm.)	Sunshine (hrs.)	Heat Integrator.	Evaporimeter. (mm.)
	Maximum (°C)	Minimum (°C)	Grass Minimum (°C)	Black Bulb in vacuo (°C)				
1	29.5	23.7	21.7		-	10.6		3.0
2	29.9	23.7	21.3		-	11.2		3.0
3	29.5	21.7	19.8		Trace	9.6		2.9
4	27.8	23.1	20.3		Trace	5.9		3.4
5	29.0	24.7	24.0		27.4	2.6		2.6
6	28.2	24.0	23.2		159.4	0.1		2.2
7	29.1	22.8	21.6		-	9.9		
8	29.8	24.5	22.5		Trace	10.8		2.4
9	29.2	23.2	21.8		-	11.1		2.4
10	30.4	24.1	22.6		-	11.5		3.3
11	30.1	22.0	19.3		-	11.7		3.6
12	29.1	21.3	18.1		-	9.7		4.3
13	29.0	22.2	20.2		-	10.6		3.3
14	30.8	21.4	18.9		-	9.2		3.6
15	30.1	25.4	23.3		-	11.2		3.2
16	30.0	22.2	20.4		2.0	10.8		1.9
17	30.0	24.2	21.8		-	11.4		3.0
18	30.0	23.2	21.6		-	8.0		3.0
19	30.6	24.8	22.3		-	11.3		2.9
20	30.2	23.6	21.8		-	11.1		3.0
21	29.6	24.8	21.5		1.1	10.6		2.7
22	30.1	24.8	22.6		0.2	5.6		2.8
23	30.7	23.5	21.2		-	8.5		3.5
24	30.4	25.0	22.7		-	5.3		3.7
25	30.0	24.3	22.9		-	6.2		3.6
26	31.8	23.7	22.4		7.8	5.1		1.9
27	30.2	23.3	22.1		-	8.5		2.4
28	29.9	24.5	23.5		-	5.0		3.0
29	28.3	24.2	22.5		44.6	0.0		1.0
30	28.8	21.8	20.7		41.2	2.3		0.5
31	27.9	23.0	22.0		Trace	5.0		2.3
Sum	-	-	-		283.7	250.4		84.4
Mean	29.7	23.5	21.6		-	8.08		2.72

1,000/7/32—3911] APIA OBSERVATORY

METEOROLOGICAL OBSERVATIONS.

9 a.m. November 1939

Day of Month.	Cloud. Form. Low.	Form. Medium.	Form. High.	Amount of Low.	Total Amount.	Height of Base.	How Height was obtained.	Weather. Since previous Observation.	Weather. At Time.	Visibility.	Wind. Direction.	Wind. Force (Beaufort Scale).	Barometer reduced to M.S.L. (Millibars).	Temperature and Humidity. Dry Bulb (° C).	Temperature and Humidity. Wet Bulb (° C).	Temperature and Humidity. Relative Humidity (%).	Temperature and Humidity. Vapour Pressure (Millibars).	Upper Cloud. Type observed.	Upper Cloud. Direction whence coming.	Upper Cloud. Speed; Height Ratio.
1	M.Cu	As	Cs	2	9	6000		c	c	M	SSW	1	1010.2	27.0	24.2	78	27.6			
2	Sc	Ns	-	7	10	3500		corr	oirº	H	CALM	0	1010.3	24.1	23.8	97	28.9			
3	Sc	-	-	9+	9+	4000		cir.cbc	cjpr	M	CALM	0	1011.1	27.2	24.3	77	27.7			
4	Cb	-	-	4	4	5000		cbcbbc	bc	M	CALM	0	1011.9	27.9	25.0	78	29.1			
5	Sc	Ac	-	Tr.	1	7000		bcPRcbc	b	M	CALM	0	1011.9	28.5	24.0	67	25.9			
6	Cu	-	Ci	Tr.	2	3000		bbcb	b	M	CALM	0	1011.1	27.8	23.4	67	24.9			
7	Cu	-	Ci	2	2	3000		bctlr.bc	b	M	CALM	0	1010.5	27.5	24.8	80	28.8			
8	Sc	-	Ci	9	9	5000		cpr.c	c	M	NW	2	1011.3	27.1	23.1	70	24.7			
9	Sc	Ac	Ci	1	8	6000		c	c	M	CALM	0	1010.4	27.1	22.7	67	23.7			
10	Sc	-	Ci	3	3	5000		cbcbbc	bc	M	E	4	1010.6	27.9	23.8	69	25.9			
11	Cu	Ac	Ci	4	4	3000		bc	bc	K	ESE	4	1010.4	28.0	25.0	77	28.9			
12	Cu	-	Ci	3	4	3500		b bc	bc	M	E	4	1010.0	29.1	25.4	73	29.1			
13	Cu	-	-	2	2	4000		b	b	M	ExS	3	1011.6	29.2	25.8	75	30.1			
14	Cu	Ac	Ci	1	6	6000		bc	bc	M	CALM	0	1011.9	28.1	24.5	73	27.5			
15	Cu	-	Ci	2	8	6000		c	c/t	M	ESE	4	1011.1	29.7	25.2	67	28.0			
16	Cu	Ns	Ci	4	9	4000		crcrc	c	K	E	4	1010.7	27.0	25.1	85	30.0			
17	Cu	As	Ci	2	9+	3500		cbcprc	c	M	CALM	0	1010.4	28.2	25.3	78	29.6			
18	Cu	-	Ci	1	9	6000		cbc c	c	M	ExS	1	1011.8	28.6	25.3	75	29.2			
19	Sc	Ac	Ci	4	7	4500		bc c	bc	M	ESE	3	1009.8	29.4	25.9	74	30.3			
20	Sc	Ns	-	2	10	3000		bccprc	oirqr	F	E	6	1009.9	26.0	25.2	93	31.1			
21	Cu	Ac	Ci	1	8	6000		cprcltc	c	M	SE	2	1010.7	28.2	25.3	78	29.6			
22	Cu	-	Ci	1	4	3000		cbcbbc	bc	M	NExE	1	1010.6	28.6	25.2	75	28.9			
23	Cu	Ac	-	4	6	3000		bbc	bc	M	E	3	1008.0	29.0	25.9	77	30.5			
24	Nb	-	Ci	6	10	3000		bcproc	cjr/pr c	M	ExN	4	1008.2	25.9	24.3	87	28.8			
25	Cu	-	Cc	1	1	5000		corrbcb	b	M	ExS	4	1007.7	28.8	24.2	66	26.1			
26	Cu	Ac	Ci	1	9	3000		bc c	c	M	ExS	2	1006.9	28.6	24.7	71	27.6			
27	Cu	Ac	Ci	1	7	6000		cprc	bc	M	CALM	0	1004.7	28.8	25.2	73	28.8			
28	Cu	-	Ci	1	2	6000		cbc b	b	M	NExN	1	1003.4	28.0	24.2	71	26.8			
29	Cb	As	Ci	2	3	3000		bcprcbbc	bc	M	ExS	2	1005.6	28.4	24.7	72	27.7			
30	Cu	-	Ci	1	7	5000		b bc	bc	M	E	2	1006.6	28.8	24.2	66	26.1			
31																				
Means	-	-	-	2.7	6.1	4500		-	-	-	-	1.9	1009.6	27.9	24.7	75	28.1			

1,000/7/32—3911] APIA OBSERVATORY

METEOROLOGICAL OBSERVATIONS. 3 p.m. November 1939

Day of Month.	Cloud. Form. Low.	Cloud. Form. Medium.	Cloud. Form. High.	Cloud. Amount of Low.	Cloud. Total Amount.	Cloud. Height of Base.	Cloud. How Height was obtained.	Weather. Since previous Observation.	Weather. At Time.	Visibility.	Wind. Direction.	Wind. Force (Beaufort Scale).	Barometer reduced to M.S.L. (Millibars).	Temperature and Humidity. Dry Bulb (°C).	Temperature and Humidity. Wet Bulb (°C).	Temperature and Humidity. Relative Humidity (%).	Temperature and Humidity. Vapour Pressure (Millibars).	Upper Cloud. Type observed.	Upper Cloud. Direction whence coming.	Upper Cloud. Speed : Height Ratio.
1	Cb	Ns	Ci	5	8	3500		cbc c	cjr	K	WNW	4	1008.2	27.7	25.5	83	30.5			
2	Sc	Ns	-	8	10	4000		orrir.	cjr	K	W	2	1008.8	25.1	23.8	89	28.1			
3	Cb	-	-	8	8	4500		c bc c	cjr	M	NW	4	1009.4	28.1	25.6	81	30.5			
4	Cu	-	Ci	2	3	3000		bc	bc	M	NxE	1	1008.9	28.1	25.5	80	30.3			
5	Cb	Ac	Ci	1	2	4500		b	bv	M	NNW	2	1008.7	28.7	23.3	62	23.9			
6	Cb	-	Ci	2	3	3000		b bc	bc	M	ENE	2	1008.1	30.0	24.8	63	26.8			
7	Cb	-	-	6	6	3500		bcpr.bc	bc	M	E	2	1008.5	29.0	25.0	71	28.1			
8	Sc	-	-	7	7	4000		cpr.bcjp	bcjpr	M	SxE	4	1008.3	28.3	23.3	64	24.3			
9	Sc	Ac	-	6	9	4000		cbcbbcc	c	M	CALM	0	1008.2	28.2	23.0	62	23.6			
10	Cu	-	Ci	1	4	4000		b bc	bc	M	E	5	1007.1	28.6	24.6	70	27.3			
11	Cu	-	Cs	2	2	3000		bc b	b	M	ExS	4	1008.3	29.6	26.0	74	30.3			
12	Cu	-	Ci	2	2	3000		bc b	b	M	ExS	4	1008.6	29.9	25.9	71	29.9			
13	Cb	Ac	Ci	3	6	4000		btbc	bcjpr	M	E	4	1010.8	29.9	26.2	73	30.7			
14	Cu	-	Ci	1	8	6000		bc c	c	M	ExS	4	1010.3	29.9	25.8	70	29.5			
15	Sc	As	-	5	10	4500		ct	cjpt/p	K	SE	2	1010.1	25.0	22.0	76	23.7			
16	Sc	Ns	Ci	2	9+	3500		cpr	ctr.	H	NNE	1	1008.7	25.8	24.5	90	29.5			
17	Cb	As	-	5	10	3000		cpr.c	cjr	K	CALM	0	1008.8	27.8	25.3	80	27.2			
18	Cb	-	Cs	4	7	1500		cbccpr	bc	K	NNE	1	1009.1	28.1	25.4	79	30.0			
19	Sc	-	-	6	6	3500		bcjpr	bcjpr	M	E	5	1007.3	28.9	25.9	78	30.7			
20	Cb	-	Ci	2	7	6000		ctpr.cbc	c	M	E	3	1007.7	29.2	25.5	73	29.3			
21	Sc	-	Ci	2	9	6500		cbc c	c	K	ESE	2	1008.7	29.0	26.0	78	30.8			
22	Sc	Ns	Cs	6	9+	3000		bcoqtlR	cpr	M	ExN	2	1008.1	28.1	25.8	82	31.1			
23	Cb	-	Ci	5	5	3000		bc b bc	bc	M	ExS	3	1005.6	30.5	26.8	74	31.9			
24	Sc	Ns	Ci	3	9+	3000		ccproc	cjr	M	ExS	4	1005.8	28.8	25.5	75	29.6			
25	Cu	-	-	3	3	4000		b bc	bc	M	ExN	4	1004.8	29.4	25.4	71	28.8			
26	Cu	Ac	Ci	1	8	3500		c	c	M	E	2	1005.4	30.0	25.3	66	28.1			
27	Cb	As	Cs	2	9+	6500		cbc c	c	M	NNW	2	1002.6	28.8	25.1	73	28.5			
28	Cb	-	Ci	5	5	3000		b bc	bc	M	NE	2	1001.7	29.0	24.5	67	26.8			
29	Cu	-	Ci	2	2	4000		bc b	b	M	E	1	1003.1	29.5	25.2	68	28.3			
30	Cb	As	Cs	2	5	3000		bc	bc	M	E	4	1004.8	30.0	25.3	66	28.1			
31																				
Means	-	-	-	3.6	6.4	3850		-	-	-	-	2.7	1007.5	28.6	25.1	74	28.5			

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METEOROLOGICAL OBSERVATIONS.

November 1939

Day of Month.	Thermometers.				Rainfall (mm.)	Sunshine (hrs.)	Heat Integrator.	Evaporimeter. (mm)
	Maximum (°C)	Minimum (°C)	Grass Minimum (°C)	Black Bulb in vacuo (°)				
1	28.9	23.8	22.4		67.5	6.7		1.3
2	27.5	23.8	22.5		4.6	0.3		1.0
3	29.5	22.5	21.2		-	10.3		1.8
4	28.8	23.9	22.5		7.2	9.7		1.8
5	29.5	23.8	22.4		-	12.5		2.6
6	30.2	23.9	22.3		1.6	12.0		2.6
7	30.5	24.2	23.0		-	7.9		3.0
8	29.2	24.5	21.8		-	8.6		3.4
9	29.1	25.2	22.5		-	4.3		2.9
10	29.0	22.6	21.8		-	9.9		3.0
11	30.0	23.9	21.6		-	11.0		2.8
12	30.5	25.1	23.0		-	11.8		2.7
13	30.?	23.5	22.3		-	11.9		2.6
14	30.8	24.1	22.5		-	10.5		3.1
15	30.5	25.1	24.1		6.7	3.4		2.1
16	29.8	24.5	23.3		6.5	4.8		1.1
17	29.4	24.2	23.0		Trace	5.1		1.4
18	29.9	24.1	22.2		0.3	6.5		1.7
19	30.2	25.0	23.8		3.8	9.1		2.1
20	30.2	25.0	23.8		10.5	5.3		1.9
21	30.2	24.3	23.2		Trace	8.3		2.3
22	29.6	24.3	22.2		22.7	8.1		1.8
23	31.0	24.2	23.0		0.5	10.9		2.6
24	29.2	24.6	22.8		14.7	5.5		1.7
25	30.0	23.0	21.3		-	12.0		3.1
26	30.3	22.8	20.8		2.7	11.9		2.4
27	29.6	25.0	23.4		-	6.3		2.5
28	29.9	23.5	21.6		0.4	10.5		2.4
29	30.1	23.4	22.1		Trace	11.3		3.0
30	30.3	22.8	21.0		2.2	9.7		2.6
31								
Sum	-	-	-		151.9	256.1		69.3
Mean	29.8	24.0	22.5		-	8.54		2.31

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METEOROLOGICAL OBSERVATIONS. 9 a.m. December 1939

Day of Month.	CLOUD. Form. Low.	Form. Medium.	Form. High.	Amount of Low.	Total Amount.	Height of Base.	How Height was obtained.	Weather. Since previous Observation.	Weather. At Time.	Visibility.	Wind. Direction.	Wind. Force (Beaufort Scale).	Barometer reduced to M.S.L. (Millibars).	Temperature and Humidity. Dry Bulb (°C).	Temperature and Humidity. Wet Bulb (°C).	Temperature and Humidity. Relative Humidity (%).	Temperature and Humidity. Vapour Pressure (Millibars).	Upper Cloud. Type observed.	Upper Cloud. Direction whence coming.	Upper Cloud. Speed; Height Ratio.
1	Sc	As	Ci	8	8	4000		bccproc	c	M	E	2	1007.8	27.9	25.0	78	29.1			
2	Sc	Ac	-	5	9	4000		crocoRRc	c	M	NE	2	1007.5	27.5	25.2	82	29.9			
3	Sc	As	Cs	5	9+	4000		c	c	M	CALM	0	1009.7	27.2	24.8	81	29.1			
4	Sc	Ns	-	3	9+	3000		cbcc	cjr	M	SW	2	1009.9	27.2	24.4	77	27.5			
5	Sc	As	-	4	10	7000		corcroc	c	M	CALM	0	1009.9	26.2	24.0	82	27.7			
6	Sc	Ac	Cs	2	7	6000		c bc	bc	M	ESE	4	1009.4	28.1	24.3	71	26.9			
7	Cu	-	Cs	1	5	8000		cbc	bc	M	CALM	0	1009.5	27.9	24.0	71	26.4			
8	Cu	Ac	Cs	3	3	3000		crobc	bc	M	ExS	2	1010.0	28.2	24.7	73	28.0			
9	Cu	-	Ci	1	9	6000		bcbbcc	c	M	CALM	0	1010.9	27.5	22.0	60	23.1			
10	Cu	-	Ci	2	3	4000		cbcbbc	bc	M	ESE	3	1010.0	28.0	22.5	60	22.5			
11	Cu	-	Ci	1	2	4000		bc b	b	M	ExS	2	1009.3	27.6	23.3	68	24.8			
12	Cu	-	-	Tr.	Tr.	4500		cbcb	b	M	CALM	0	1007.7	27.7	23.0	66	24.0			
13	Cu	-	-	1	1	4500		bc b	b	M	CALM	0	1008.2	28.0	23.4	66	24.8			
14	Sc	-	-	7	7	3500		bccprobc	bc	M	ENE	1	1009.6	28.4	25.1	75	28.9			
15	Cu	-	Ci	2	4	3000		cbcbbc	bc	M	ESE	2	1011.0	29.2	25.7	74	29.9			
16	Cu	-	-	3	3	3000		bcprobc	bc	M	ExS	2	1011.8	29.7	26.0	73	30.3			
17	Sc	As	-	7	9+	3000		bccqrrc	cjpr	K	ESE	2	1010.9	25.5	24.4	91	29.3			
18	Cu	Ac	-	1	9+	4500		cprc	c	K	ExS	4	1009.0	28.4	25.7	80	30.5			
19	Sc	Ns	Ci	2	10	3500		cprcror	crorc	J	CALM	0	1008.1	26.0	25.0	92	30.5			
20	Cu	Ac	-	2	9+	4500		cproc	c	M	CALM	0	1006.5	27.3	24.8	80	28.9			
21	Cu	-	Cs	1	9	3000		cproc	c	M	SW	4	1006.2	28.2	23.8	68	25.6			
22	Sc	-	Ci	5	5	3500		cbcbbc	bc	M	CALM	0	1007.4	26.7	21.6	62	21.3			
23	Sc	-	Cs	8	9	4000		cbcbbcc	c	M	SxW	1	1008.1	26.1	22.1	69	23.1			
24	Cu	-	Ci	Tr.	7	5000		b bcw	bcw	M	W	1	1008.3	27.4	22.0	60	21.7			
25	Sc	As	-	7	9+	3500		bc c	c	M	ESE	3	1010.2	27.7	24.0	72	26.5			
26	Sc	As	-	4	10	3500		coqRRc	c/iro	K	SSW	1	1012.9	24.5	23.7	93	28.4			
27	Cu	-	Ci	5	6	4000		cbccpr	bcpro	M	E	3	1012.0	28.8	26.4	82	32.1			
28	Cu	Ac	Cs	1	8	3000		bc c	c	M	CALM	0	1011.2	27.7	25.4	82	34.3			
29	Cu	Ac	Ci	1	9	3500		cbcc	c	M	CALM	0	1011.9	29.0	25.4	74	29.2			
30	Cu	-	Ci	1	7	3000		cltrc	bc	M	ExS	2	1012.8	29.7	25.6	70	29.2			
31	Sc	As	Cs	6	9+	3500		clprtc	ct	K	CALM	0	1012.5	27.1	25.3	86	30.5			
Means	-	-	-	3.2	6.9	4080		-	-	-	-	1.4	1009.7	27.6	24.3	75	27.5			

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METEOROLOGICAL OBSERVATIONS.

3.0 p.m. December 1939

Day of Month.	CLOUD. Form. Low.	Form. Medium.	Form. High.	Amount of Low.	Total Amount.	Height of Base.	How Height was obtained.	Weather. Since previous Observation.	Weather. At Time.	Visibility.	Wind. Direction.	Wind. Force (Beaufort Scale).	Barometer reduced to M.S.L. (Millibars).	Temperature and Humidity. Dry Bulb (°C).	Wet Bulb (°C).	Relative Humidity (%).	Vapour Pressure (Millibars).	Upper Cloud. Type observed.	Direction whence coming.	Speed ; Height Ratio.
1	Sc	Ns	-	3	10	3500		c oro	oro	H	SSE	2	1005.2	25.5	24.5	92	29.6			
2	Fr. Nb	Ns	-	8	9	1500		cjpr	ort/t	K	SSE	3	1006.1	26.5	24.9	87	29.9			
3	Fr. Nb	Ns	-	4	10	1000		c	c/ro	M	CALM	0	1008.2	26.8	24.9	85	29.6			
4	Sc	As	-	3	10	4000		cprorrc	c	K	ExS	4	1007.6	28.2	25.1	77	29.1			
5	Sc	Ns	Cs	2	9	3500		c	cro/ro	K	S	1	1007.6	26.5	25.0	88	30.1			
6	Cu	Ac	-	1	8	6000		bc c	c	K	E	4	1007.1	28.9	24.0	65	25.6			
7	Sc	Ns	-	5	9+	4000		bccr	cr$_o$ro	M	SE	1	1008.1	26.2	24.5	86	29.1			
8	Cu	-	-	4	4	8000		bc	bc	K	ExS	4	1008.2	29.5	25.3	69	28.5			
9	Cu	Ac	Cs	5	8	6000		cbcyc	cy	M	SSE	1	1008.1	28.6	21.6	52	19.9			
10	Sc	-	-	7	7	5000		bc	bc	M	E	3	1008.1	28.7	23.1	61	23.5			
11	Sc	-	-	8	8	4500		b bc c	c	M	ENE	2	1007.6	28.4	23.2	63	23.9			
12	Cu	-	-	3	3	4000		b bc	bc	M	ESE	3	1005.8	30.2	24.0	58	24.4			
13	Cu	Ac	Cs	2	7	6000		b bccbc	bc	M	NE	1	1006.9	29.2	24.5	66	26.7			
14	Cu	-	Ci	1	9	3000		bc c	c	M	ESE	2	1007.3	29.8	25.0	66	27.5			
15	Cb	-	Ci	3	5	3000		bc	bc	M	ENE	2	1009.1	30.1	26.2	72	30.5			
16	Cu	-	Ci	2	6	3000		bcprobc	bc	M	E	3	1008.6	30.1	25.8	69	29.3			
17	Fr. Nb	As	-	5	10	2000		cprocqRc	cpro	K	S	2	1008.6	25.4	24.1	90	28.7			
18	Sc	Ns	-	5	9+	3500		cpr c	ciro	K	ExS	3	1006.8	27.4	25.2	83	30.0			
19	Sc	Ns	-	6	10	4000		cproc	c	K	NNE	3	1006.6	26.0	25.0	92	30.5			
20	Sc	Ns	-	2	9	3000		c roro	c	K	W	3	1004.1	26.0	25.0	92	30.5			
21	Cu	-	Ci	1	8	3000		c bc y	cy	M	SW	3	1004.2	29.0	22.8	57	22.4			
22	Cb	-	-	8	8	3500		bc c	cy	M	CALM	0	1005.7	28.0	21.8	56	20.8			
23	Sc	-	Ci	5	7	4000		c bc	bc	M	NW	3	1006.1	27.8	20.7	50	18.4			
24	Cu	-	Cs	2	9	6000		bc	bcy	M	NExE	1	1007.3	28.5	22.6	58	22.4			
25	Sc	Ns	-	4	10	3000		cqrcnrroc	cro	M	ESE	1	1009.4	26.1	23.7	81	27.1			
26	Sc	-	Cs	6	10	8000		ort	c	M	ESE	1	1010.6	26.2	24.3	85	28.5			
27	Cu	-	Ci	3	7	2000		bc pr	bc	M	E	4	1009.9	29.3	26.3	78	31.5			
28	Cu	-	Ci	2	8	3000		c bc c	c	M	NxW	1	1009.4	29.3	25.8	74	29.9			
29	Cu	-	Ci	3	9+	3000		c	c	M	ExN	2	1010.1	30.0	26.7	76	32.0			
30	Cb	Ac	Ci	3	8	2500		bc ct	c	M	ExS	3	1010.5	28.7	26.2	81	31.6			
31	Fr.Nb	As	-	8	10	2000		cprcir	oRR	F	CALM	0	1010.3	25.6	25.0	95	30.9			
Means	-	-	-	4.0	8.2	3820		-	-	-	-	2.1	1007.7	28.0	24.4	74	27.5			

METEOROLOGICAL OBSERVATIONS.

December 1939

Day of Month.	Thermometers.				Rainfall (mm.)	Sunshine (hrs.)	Heat Integrator.	Evaporimeter. (mm.)
	Maximum (°C)	Minimum (°C)	Grass Minimum (°C)	Black Bulb in vacuo (°)				
1	30.0	23.0	22.2		64.7	3.2		0.6
2	30.6	24.0	23.0		15.2	4.7		1.3
3	29.0	24.2	-		0.9	2.1		1.4
4	28.3	23.5	22.0		10.4	2.4		1.5
5	30.1	23.2	22.1		1.1	2.9		2.2
6	30.0	23.9	22.9		0.3	3.8		2.9
7	30.1	23.8	22.3		0.5	8.6		2.1
8	30.0	22.1	20.8		-	9.8		3.7
9	30.0	23.3	19.7		-	12.2		4.1
10	29.8	21.5	19.3		-	10.6		3.5
11	29.4	22.0	20.0		-	9.1		2.8
12	30.9	21.8	19.6		-	11.4		3.0
13	30.9	22.4	20.5		0.8	10.7		3.0
14	30.2	24.3	23.0		-	9.7		3.1
15	30.9	24.5	22.4		-	8.5		2.3
16	31.2	24.3	23.2		42.3	8.4		0.7
17	28.6	24.6	24.1		24.4	0.6		0.5
18	30.2	24.2	24.2		35.1	1.8		1.0
19	27.4	24.0	23.2		1.4	1.7		1.4
20	28.2	24.2	23.0		1.3	3.7		2.1
21	30.3	24.4	23.3		-	11.7		4.1
22	28.8	21.2	19.1		Trace	9.2		3.5
23	28.3	20.7	18.0		-	9.3		3.6
24	29.2	22.3	19.5		-	9.8		3.0
25	29.8	23.3	21.9		40.1	0.7		0.4
26	28.8	22.8	22.2		36.2	0.4		0.5
27	30.1	23.0	22.5		0.1	10.4		2.1
28	30.0	24.2	22.3		-	9.7		2.2
29	30.7	24.5	23.2		0.5	9.8		2.2
30	30.4	24.7	23.4		1.5	5.8		1.6
31	29.3	24.8	23.9		19.3	0.0		1.0
Sum	-	-	-		296.1	202.7		67.4
Mean	29.7	23.4	21.9		-	6.54		2.17

Meteorological Elements: Extreme Values, Normals and Variations, 1939

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year
Pressure													
Normal (mb.)	1007.6	1008.3	1009.1	1009.8	1010.9	1011.5	1011.7	1012.1	1012.0	1011.2	1009.3	1008.1	1010.1
Variation, 1939 ..	+1.1	0.0	-0.2	+0.5	-0.3	+0.1	+0.1	-2.0	-0.1	-0.7	-0.7	+0.7	-0.1
Absolute Maximum ..	1014.1	1012.8	1014.6	1014.7	1014.6	1015.3	1016.1	1014.9	1017.6	1015.4	1012.4	1013.6	1017.6
Absolute Minimum ..	999.2	1004.4	1004.3	1005.7	1006.3	1006.5	1006.3	1005.3	1007.7	1005.7	1001.5	1003.8	999.2
Temperature													
Normal (°C)	26.27	26.26	26.31	26.18	25.97	25.59	25.29	25.59	25.79	26.07	26.08	26.32	25.98
Variation, 1939 ..	-0.54	+0.06	-0.40	-0.04	+0.08	-0.11	+0.31	+0.54	-0.20	+0.22	+0.62	-0.04	+0.04
Absolute Maximum ..	30.5	30.5	30.3	30.3	31.3	31.9	30.3	30.2	30.1	31.8	31.0	31.2	31.9
Absolute Minimum ..	22.2	23.2	22.7	22.3	21.0	19.4	19.8	19.5	21.7	21.3	22.5	20.7	19.4
Greatest daily range	7.0	7.1	8.3	8.0	8.9	9.4	9.7	9.5	7.7	9.4	7.5	9.1	9.7
Mean Maximum ..	28.68	28.64	28.97	29.33	29.62	29.22	29.30	29.15	28.75	29.68	29.80	29.73	29.24
Mean Minimum ..	23.43	24.25	23.74	23.58	23.17	22.51	22.59	23.48	23.29	23.51	24.02	23.38	23.41
Rainfall													
Normal (mm.)	455	385	358	255	161	130	82	89	133	169	267	370	2854
Variation, 1939 ..	+1058	+89	+98	-26	-101	-90	+1	-35	+67	+115	-115	-74	+986
Sunshine													
Normal (hours) ..	155	156	182	194	209	208	229	234	228	221	181	173	2370
Variation, 1939 ..	+20	-6	+4	+14	+66	+64	+73	+58	-25	+29	+75	+30	+402

Note: The total rainfall for the year is 3840.1 mm. giving departure equal to +986, but the sum of monthly departures, which have been rounded off, is +987.

Pressure: Means of Hourly Values, 1939

From readings in millibars at exact hours (1000 mb. + tabular values.)

Hour	1	2	3	4	5	6	7	8	9	10	11	noon	13	14	15	16	17	18	19	20	21	22	23	24	Means
Month																									
January	9.16	8.63	8.29	8.18	8.30	8.65	9.23	9.59	9.73	9.70	9.52	9.09	8.72	8.27	7.70	7.36	7.39	7.57	8.04	8.61	9.12	9.43	9.61	9.44	8.72
February	8.95	8.51	8.04	7.76	7.74	7.85	8.36	9.04	9.37	9.55	9.43	8.93	8.70	8.02	7.55	7.12	7.04	7.15	7.43	7.97	8.52	8.97	9.11	9.09	8.34
March	9.53	9.16	8.67	8.38	8.33	8.46	8.76	9.61	10.19	10.38	10.31	9.51	9.15	8.27	7.72	7.34	7.29	7.41	7.82	8.45	9.02	9.47	9.72	9.69	8.86
April	10.97	10.58	10.10	9.94	9.88	9.93	10.32	11.07	11.40	11.78	11.77	10.91	10.33	9.59	8.91	8.58	8.62	8.87	9.24	9.92	10.54	10.93	11.06	11.08	10.26
May	11.06	10.80	10.59	10.41	10.34	10.42	10.74	11.36	11.77	12.10	11.97	11.11	10.66	9.94	9.23	8.92	8.98	9.17	9.60	10.33	10.90	11.04	11.17	11.14	10.57
June	11.99	11.79	11.56	11.30	11.23	11.33	11.63	12.37	13.02	13.29	13.10	12.36	11.89	11.08	10.49	10.09	10.13	10.31	10.78	11.29	11.74	12.04	12.17	12.15	11.65
July	12.09	11.94	11.67	11.48	11.45	11.56	11.89	12.64	13.36	13.64	13.47	12.68	12.12	11.25	10.47	10.18	10.24	10.44	10.81	11.42	11.92	12.22	12.29	12.27	11.81
August	10.41	10.22	10.00	9.88	9.84	9.98	10.36	11.01	11.81	11.99	11.81	10.98	10.49	9.71	8.70	8.53	8.57	8.72	9.16	9.65	10.10	10.46	10.56	10.57	10.15
September	12.16	11.77	11.43	11.33	11.38	11.66	12.15	12.84	13.44	13.69	13.43	12.59	12.07	11.24	10.56	10.34	10.40	10.64	11.41	11.88	12.25	12.57	12.59	12.49	11.93
October	10.92	10.44	10.07	9.93	10.04	10.33	10.83	11.47	11.69	11.69	11.52	10.96	10.39	9.53	9.15	8.94	9.08	9.36	10.09	10.57	10.88	11.23	11.36	11.14	10.48
November	8.97	8.58	8.24	8.13	8.20	8.51	9.04	9.47	9.64	9.69	9.48	8.98	8.52	7.90	7.48	7.24	7.30	7.61	8.16	8.57	8.98	9.28	9.40	9.21	8.61
December	9.29	8.84	8.39	8.19	8.31	8.69	9.23	9.55	9.68	9.77	9.56	9.04	8.64	8.18	7.72	7.46	7.48	7.77	8.52	8.96	9.37	9.67	9.84	9.74	8.83
Year	10.46	10.11	9.75	9.58	9.59	9.78	10.21	10.83	11.26	11.44	11.27	10.59	10.14	9.41	8.81	8.51	8.54	8.75	9.25	9.80	10.28	10.61	10.74	10.67	10.02
Wet Season 1938-39	8.91	8.49	8.18	8.03	8.07	8.32	8.81	9.25	9.45	9.45	9.29	8.87	8.48	7.96	7.51	7.19	7.18	7.38	7.78	8.30	8.75	9.09	9.24	9.18	8.47
Dry Season 1939	11.39	11.19	10.95	10.77	10.71	10.82	11.15	11.85	12.49	12.75	12.59	11.78	11.29	10.49	9.72	9.43	9.48	9.66	10.09	10.67	11.17	11.66	11.55	11.53	11.04

Pressure: Diurnal Changes, 1939

The departures in millibars from the mean of the day are adjusted for non-cyclic change.

Hour	Mean	1	2	3	4	5	6	7	8	9	10	11	noon	13	14	15	16	17	18	19	20	21	22	23	24
Month																									
January	8.72	+0.41	-0.12	-0.45	-0.56	-0.44	-0.08	+0.50	+0.86	+1.00	+0.97	+0.80	+0.37	0.00	-0.44	-1.01	-1.35	-1.32	-1.14	-0.66	-0.09	+0.42	+0.74	+0.92	+0.75
February	8.34	+0.60	+0.16	-0.31	-0.59	-0.61	-0.50	+0.01	+0.69	+1.03	+1.21	+1.09	+0.59	+0.36	-0.32	-0.79	-1.21	-1.29	-1.18	-0.90	-0.36	+0.19	+0.64	+0.78	+0.76
March	8.86	+0.68	+0.30	-0.19	-0.48	-0.53	-0.40	-0.10	+0.75	+1.33	+1.52	+1.45	+0.65	+0.29	-0.59	-1.14	-1.52	-1.57	-1.45	-1.04	-0.41	+0.16	+0.61	+0.85	+0.82
April	10.26	+0.71	+0.32	-0.16	-0.32	-0.38	-0.33	+0.06	+0.81	+1.14	+1.52	+1.51	+0.65	+0.07	-0.67	-1.35	-1.68	-1.64	-1.39	-1.02	-0.34	+0.28	+0.67	+0.80	+0.82
May	10.57	+0.48	+0.22	+0.01	-0.17	-0.24	-0.16	+0.16	+0.78	+1.20	+1.53	+1.40	+0.54	+0.09	-0.63	-1.34	-1.64	-1.58	-1.39	-0.96	-0.23	+0.34	+0.48	+0.61	+0.58
June	11.63	+0.38	+0.18	-0.06	-0.32	-0.39	-0.29	+0.01	+0.75	+1.40	+1.66	+1.47	+0.73	+0.26	-0.55	-1.15	-1.55	-1.51	-1.33	-0.86	-0.35	+0.10	+0.39	+0.52	+0.50
July	11.81	+0.32	+0.17	-0.11	-0.30	-0.33	-0.23	+0.10	+0.84	+1.56	+1.84	+1.66	+0.87	+0.31	-0.57	-1.35	-1.64	-1.59	-1.39	-1.03	-0.42	+0.08	+0.37	+0.44	+0.41
August	10.15	+0.27	+0.08	-0.14	-0.26	-0.30	-0.16	+0.22	+0.87	+1.66	+1.84	+1.66	+0.83	+0.34	-0.44	-1.45	-1.63	-1.59	-1.44	-1.00	-0.51	-0.06	+0.30	+0.40	+0.41
September	11.93	+0.24	-0.15	-0.49	-0.59	-0.54	-0.26	+0.23	+0.92	+1.51	+1.76	+1.50	+0.66	+0.14	-0.69	-1.37	-1.60	-1.54	-1.30	-0.53	-0.06	+0.31	+0.63	+0.65	+0.55
October	10.48	+0.38	-0.10	-0.46	-0.60	-0.48	-0.18	+0.32	+0.97	+1.19	+1.20	+1.03	+0.48	-0.08	-0.94	-1.31	-1.52	-1.37	-1.09	-0.35	+0.14	+0.45	+0.81	+0.94	+0.73
November	8.61	+0.32	-0.06	-0.40	-0.51	-0.43	-0.12	+0.41	+0.85	+1.02	+1.07	+0.87	+0.37	-0.09	-0.70	-1.12	-1.36	-1.29	-0.98	-0.43	-0.01	+0.40	+0.70	+0.83	+0.64
December	8.83	+0.50	+0.05	-0.41	-0.61	-0.49	+0.12	+0.42	+0.73	+0.86	+0.95	+0.73	+0.21	-0.19	-0.66	-1.12	-1.38	-1.37	-1.08	-0.34	+0.10	+0.51	+0.80	+0.97	+0.86
Year	10.02	+0.44	+0.09	-0.26	-0.44	-0.43	-0.24	+0.19	+0.82	+1.24	+1.42	+1.26	+0.58	+0.13	-0.60	-1.21	-1.51	-1.47	-1.26	-0.76	-0.21	+0.27	+0.59	+0.73	+0.65
Wet Season																									
1938-39	8.46	+0.45	+0.03	-0.29	-0.43	-0.39	-0.14	+0.35	+0.79	+0.98	+0.99	+0.83	+0.41	+0.02	-0.50	-0.95	-1.27	-1.28	-1.09	-0.68	-0.16	+0.29	+0.63	+0.78	+0.72
Dry Season																									
1939	11.04	+0.36	+0.16	-0.07	-0.26	-0.31	-0.21	+0.12	+0.81	+1.45	+1.72	+1.55	+0.74	+0.25	-0.55	-1.32	-1.61	-1.57	-1.39	-0.96	-0.38	+0.11	+0.39	+0.49	+0.47

Temperature: Means of Hourly Values, 1939

From readings in degrees centigrade at exact hours

Hour	1	2	3	4	5	6	7	8	9	10	11	noon	13	14	15	16	17	18	19	20	21	22	23	24	Mean
Month																									
January	24.58	24.46	24.32	24.30	24.31	24.21	24.60	25.77	26.52	27.06	27.09	27.24	27.37	27.29	27.31	27.02	26.83	26.37	26.01	25.57	25.12	24.80	24.70	24.65	25.73
February	25.19	24.96	24.91	24.96	24.90	24.94	25.14	26.16	27.00	27.40	27.50	27.53	27.48	27.61	27.57	27.45	27.37	27.13	26.95	26.60	26.20	25.83	25.61	25.42	26.32
March	24.55	24.43	24.30	24.22	24.12	24.08	24.20	25.05	26.25	27.03	27.35	27.75	28.12	28.08	27.99	27.64	27.17	26.91	26.41	25.91	25.42	25.19	24.96	24.76	25.91
April	24.44	24.22	24.16	24.14	24.23	24.21	24.22	25.23	26.84	27.76	28.09	28.45	28.59	28.63	28.47	28.10	27.53	27.19	26.63	25.85	25.53	25.19	24.93	24.61	26.14
May	24.06	23.90	23.73	23.71	23.64	23.56	23.62	24.92	27.23	28.24	28.65	28.77	28.78	28.80	28.79	28.25	27.88	27.31	26.70	25.81	25.22	24.75	24.51	24.31	26.05
June	23.51	23.38	23.23	23.03	22.90	22.88	23.05	24.28	26.24	27.53	28.09	28.36	28.42	28.43	28.34	27.84	27.44	26.73	26.08	25.26	24.75	24.21	23.91	23.67	25.48
July	23.64	23.47	23.36	23.20	23.10	22.94	22.99	23.91	26.66	27.81	28.31	28.57	28.49	28.55	28.48	28.04	27.52	26.87	26.17	25.42	24.93	24.10	24.10	23.77	25.60
August	24.43	24.33	24.13	24.04	23.95	24.01	24.13	25.36	27.10	27.92	28.34	28.44	28.66	28.57	28.38	28.13	27.65	27.13	26.48	25.89	25.52	25.13	24.75	24.53	26.13
September	24.01	23.83	23.62	23.56	23.53	23.53	23.76	25.25	26.30	27.03	27.39	27.58	27.76	27.68	27.70	27.45	26.95	26.51	26.09	25.63	25.17	24.86	24.54	24.34	25.59
October	24.51	24.34	24.24	24.21	24.13	24.19	24.74	26.48	27.80	28.50	28.49	28.43	28.50	28.55	28.19	27.96	27.44	27.03	26.53	26.03	25.66	25.35	24.99	24.79	26.29
November	25.07	24.93	24.80	24.77	24.69	24.71	25.72	27.16	27.90	28.52	28.59	28.59	28.76	28.77	28.58	28.39	27.97	27.38	26.90	26.33	25.94	25.61	25.48	25.28	26.70
December	24.54	24.40	24.29	24.25	24.19	24.15	24.81	26.45	27.59	28.23	28.21	28.38	28.38	28.38	27.89	27.79	27.58	27.26	26.82	26.16	25.72	25.35	25.00	24.81	26.28
Year	24.38	24.22	24.09	24.03	23.97	23.95	24.24	25.50	26.95	27.75	28.01	28.17	28.28	28.28	28.14	27.84	27.44	26.99	26.48	25.87	25.43	25.03	24.79	24.58	26.02
Wet Season 1938-39	24.83	24.69	24.57	24.52	24.49	24.45	24.88	26.01	26.79	27.29	27.42	27.41	27.50	27.42	27.41	27.23	26.99	26.62	26.30	25.92	25.61	25.33	25.15	24.98	25.99
Dry Season 1939	23.91	23.77	23.61	23.49	23.40	23.35	23.45	24.62	26.81	27.87	28.35	28.52	28.59	28.59	28.50	28.06	27.62	27.01	26.36	25.59	25.10	24.55	24.32	24.07	25.81

Temperature: Diurnal Changes, 1939

The departures in degrees centigrade from the mean of the day are adjusted for non-cyclic change.

Hour	Mean	1	2	3	4	5	6	7	8	9	10	11	noon	13	14	15	16	17	18	19	20	21	22	23	24
Month																									
January	25.73	-1.14	-1.26	-1.40	-1.42	-1.41	-1.51	-1.13	+0.04	+0.79	+1.33	+1.36	+1.51	+1.64	+1.56	+1.58	+1.29	+1.10	+0.63	+0.27	-0.17	-0.62	-0.94	-1.04	-1.09
February	26.32	-1.12	-1.36	-1.41	-1.36	-1.42	-1.38	-1.18	-0.16	+0.68	+1.08	+1.18	+1.21	+1.16	+1.29	+1.25	+1.13	+1.05	+0.81	+0.63	+0.28	-0.12	-0.49	-0.72	-0.91
March	25.91	-1.35	-1.47	-1.60	-1.68	-1.78	-1.82	-1.70	-0.85	+0.34	+1.12	+1.44	+1.84	+2.21	+2.17	+2.08	+1.72	+1.25	+0.99	+0.49	-0.01	-0.50	-0.75	-0.96	-1.16
April	26.14	-1.75	-1.97	-2.02	-2.04	-1.94	-1.96	-1.94	-0.93	+0.69	+1.61	+1.94	+2.31	+2.46	+2.50	+2.34	+1.98	+1.41	+1.08	+0.52	-0.25	-0.57	-0.90	-1.16	-1.48
May	26.05	-1.97	-2.13	-2.31	-2.33	-2.40	-2.48	-2.42	-1.12	+1.19	+2.19	+2.60	+2.72	+2.73	+2.75	+2.73	+2.19	+1.82	+1.25	+0.64	-0.25	-0.84	-1.32	-1.56	-1.76
June	25.48	-1.96	-2.09	-2.24	-2.44	-2.57	-2.59	-2.43	-1.20	+0.76	+2.05	+2.61	+2.88	+2.94	+2.95	+2.86	+2.36	+1.96	+1.24	+0.59	-0.23	-0.74	-1.28	-1.58	-1.82
July	25.60	-1.97	-2.13	-2.24	-2.40	-2.50	-2.66	-2.61	-1.69	+1.06	+2.21	+2.71	+2.97	+2.89	+2.95	+2.88	+2.44	+1.92	+1.27	+0.57	-0.18	-0.67	-1.50	-1.49	-1.82
August	26.13	-1.72	-1.82	-2.02	-2.11	-2.19	-2.13	-2.01	-0.78	+0.96	+1.79	+2.21	+2.31	+2.53	+2.44	+2.26	+2.01	+1.53	+1.01	+0.36	-0.22	-0.59	-0.98	-1.36	-1.57
September	25.59	-1.56	-1.74	-1.95	-2.01	-2.05	-2.05	-1.82	-0.33	+0.72	+1.44	+1.80	+1.99	+2.17	+2.09	+2.10	+1.85	+1.35	+0.91	+0.49	+0.02	-0.44	-0.75	-1.07	-1.28
October	26.29	-1.77	-1.94	-2.04	-2.07	-2.15	-2.09	-1.55	+0.19	+1.51	+2.21	+2.20	+2.14	+2.21	+2.26	+1.90	+1.67	+1.15	+0.73	+0.23	-0.27	-0.64	-0.95	-1.31	-1.51
November	26.70	-1.61	-1.75	-1.89	-1.92	-2.00	-1.98	-0.97	+0.47	+1.21	+1.82	+1.89	+1.89	+2.06	+2.07	+1.87	+1.68	+1.26	+0.67	+0.19	-0.38	-0.77	-1.11	-1.24	-1.44
December	26.28	-1.76	-1.90	-2.00	-2.04	-2.10	-2.14	-1.48	+0.16	+1.30	+1.95	+1.93	+2.10	+2.10	+2.10	+1.62	+1.52	+1.31	+0.99	+0.55	-0.11	-0.55	-0.91	-1.26	-1.45
Year	26.02	-1.64	-1.80	-1.93	-1.99	-2.05	-2.07	-1.78	-0.52	+0.93	+1.73	+1.99	+2.15	+2.26	+2.26	+2.12	+1.82	+1.42	+0.97	+0.46	-0.15	-0.59	-0.99	-1.25	-1.44
Wet Season 1938-39	25.99	-1.16	-1.30	-1.42	-1.47	-1.50	-1.54	-1.11	+0.02	+0.80	+1.30	+1.43	+1.42	+1.51	+1.43	+1.42	+1.24	+1.00	+0.63	+0.31	-0.07	-0.38	-0.66	-0.84	-1.01
Dry Season 1939	25.81	-1.90	-2.04	-2.20	-2.32	-2.41	-2.46	-2.36	-1.19	+1.00	+2.06	+2.54	+2.71	+2.78	+2.78	+2.69	+2.25	+1.81	+1.20	+0.55	-0.22	-0.71	-1.26	-1.49	-1.74

FOURIER COEFFICIENTS: BAROMETRIC PRESSURE AND TEMPERATURE, 1939

Values of P_n and A_n in the series $\Sigma P_n \sin(15nt + A_n)$, t being Zone Time (11h 00m slow on Greenwich) expressed in hours from midnight.

Period	P_1	A_1	P_2	A_2	P_3	A_3	P_4	A_4
	Barometric Pressure							
	mb	°	mb	°	mb	°	mb	°
Wet Season 1938-39	0.49	8	0.86	138	0.07	98	0.04	326
Dry Season 1939	0.74	351	1.00	133	0.16	333	0.09	252
Year 1939	0.60	359	1.00	137	0.08	7	0.06	279
	Temperature							
	°C	°	°C	°	°C	°	°C	°
Wet Season 1938-39	1.15	225	0.33	108	0.24	15	0.14	249
Dry Season 1939	2.70	235	0.65	73	0.38	339	0.21	194
Year 1939	2.22	237	0.47	86	0.28	355	0.15	220

Monthly Means of Relative Humidity - 1939

Percentages at exact even hours

Hour	2	4	6	8	10	noon	14	16	18	20	22	24	Mean
Month													
January	87	87	87	83	79	80	79	79	81	85	87	86	83
February	86	85	85	83	79	79	79	80	80	83	85	85	82
March	89	89	89	87	80	77	77	78	81	87	88	89	84
April	89	89	89	86	78	77	76	77	81	87	88	89	84
May	87	86	86	84	74	73	74	76	79	85	86	87	81
June	83	83	84	79	69	67	68	69	73	80	83	83	77
July	86	87	86	83	71	70	70	72	76	83	84	86	80
August	84	86	86	81	74	72	72	73	77	80	83	84	79
September	89	89	89	83	79	78	78	78	82	87	88	88	84
October	85	85	85	75	71	73	73	74	77	79	83	84	79
November	86	87	86	76	75	76	75	75	79	83	85	85	81
December	86	87	87	78	73	73	74	74	75	82	84	86	80
Year	86	87	87	81	75	75	75	75	78	83	85	86	81
Wet Season 1938-1939	87	88	88	83	80	80	80	81	81	85	87	87	84
Dry Season	85	85	85	82	72	71	71	73	76	82	84	85	79

Rainfall at Apia Observatory - 1939

Month	Number of Days on which stated Amounts of Precipitation were recorded (Amount of rain in millimetres)					Total Rain Days	Total Rain-Fall	Greatest Amount in 24 hours		Greatest Amount in one hour		
	0.2 - 0.9	1.0 - 9.9	10.0 - 24.9	25.0 - 99.9	100 and over							
							mm.	mm.	Date	mm.	Date	Time
January	4	7	7	5	5	28	1513.1	405.1	16th	85.4	16th	2-3 p.m.
February	1	8	3	7	-	19	473.8	84.2	21st			
March	3	7	7	6	-	23	456.0	87.0	20th			
April	5	8	1	4	-	18	228.6	54.0	4th	25.4	21st	10-11 a.m.
May	5	6	2	-	-	13	59.7	18.3	17th	10.4	12th	7-8 p.m.
June	3	2	2	-	-	7	39.9	22.9	17th	19.0	18th	4-5 a.m.
July	2	3	1	1	-	7	83.3	51.0	27th	15.9	27th	6-7 p.m.
August	3	4	1	1	-	9	54.0	33.7	24th	23.4	24th	11-12 p.m.
September	3	9	5	1	-	18	200.0	84.4	17th	27.2	18th	6-7 a.m.
October	1	3	-	3	1	8	283.7	159.4	6th	35.6	6th	5-6 p.m.
November	3	8	3	1	-	15	151.9	67.5	1st	41.3	2nd	6-7 a.m.
December	5	4	4	5	-	18	296.1	64.7	1st	37.5	1st	11-12 p.m.
Y e a r	38	69	36	34	6	183	3840.1	405.1	16th Jan.	85.4	16th Jan.	2-3 p.m.

Note: Rainfall has been measured at 9.00 a.m. and entered to the previous day. Greatest amounts for one hour have been entered to the date upon which the fall occurred.

Rainfall in Samoa, 1939

(Expressed in inches)

Station	Elevation (feet)	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year	Authority
Upolu:-															
Alafua	185	69.21	37.79	20.06	9.16	2.22	3.58	5.36	1.44	8.02	6.69	7.20	9.25	179.98	Mr M.R. Mecham
Aleisa	910	64.35	26.19	17.06	11.08	4.90	2.47	5.79	2.24	5.99	9.51	9.22	12.13	170.93	The N.Z. Reparation Estates
Casala	700	51.24	23.57	-	11.74	1.71	0.99	2.50	2.71	6.09	9.51	7.77	13.27		Mr P.L.M. Morgan
Lotofaga	40	45.93	15.08	8.28	8.40	8.84	6.29	3.35	3.45	20.22	16.96	10.56	8.64	156.00	The Rev. Father Beauchemin
Magia	215	41.85	15.54	13.67	9.00	2.19	2.20	2.39	2.57	6.38	10.98	6.74	10.10	123.61	Mr G. Miedecke
Mulifanua	14	35.89	13.22	9.83	6.68	2.76	2.90	1.42	1.24	4.28	8.68	3.92	8.88	99.70	The N.Z. Reparation Estates
Mulinu'u	5	59.57	18.65	17.95	9.00	2.35	1.57	3.28	2.13	7.87	11.17	5.98	11.66	151.18	The Observatory
Mulivai	6					7.05	5.83	2.72	8.01	19.68	15.02	8.28	3.67		The Rev. Father Gaucher
Piula	65				12.49	5.83	3.46	3.39	2.41	11.31	10.37	6.31	6.57		The Rev. N.G. Pardey
Tafaigata	550	66.27	25.31	14.88	7.09	3.04	0.83	5.21	4.99	7.32	9.61	7.97	10.74	163.26	The N.Z. Reparation Estates
Tapatapao	1025	93.24	-	16.56	17.20										Mr T. Bott
Tuana'imato	105	60.05	28.99	16.93	8.79	2.84	1.76	3.96	1.82	6.24	7.86	5.97	7.87	153.08	The N.Z. Reparation Estates
Vailele	25	59.06	28.63	22.44	8.12	3.56	-	1.38	2.98	4.28	9.32	5.76	6.72		The N.Z. Reparation Estates
Vailima		76.53	35.63	18.74	13.06	3.62	2.29	5.95	1.69	9.38	9.48	9.30	9.58	195.25	Government House
Vaipapa'	720				10.39	4.34	3.29	2.55	2.04	9.39	7.19	7.95	12.14		The N.Z. Reparation Estates
Vaipoto	400	77.86	25.83	15.80	13.45	2.03	2.70	5.52	2.26	8.43	12.64	10.01	14.16	190.69	Mr A.R. Coberoft
Vaitele	20	60.68	24.22	18.58	8.12	2.46	1.42	4.56	1.44	8.08	11.04	7.10	10.52	158.22	The N.Z. Reparation Estates
Savai'i:-															
Fagamalo	8	47.21	31.61	13.37	12.20	3.58	1.66	5.16	3.01	7.62	9.78	18.95	5.35	159.50	The Resident Commissioner
Falealupo	8	24.65	22.25	10.93	5.65	3.66	1.52	1.12	1.06	7.38	15.19	4.17	10.63	108.21	The Rev. Father Merten
Tuasivi	25	33.85	18.51	10.10	3.95	3.35	5.33	1.71	3.19	21.05	7.72	6.58	24.85	140.19	The Resident Commissioner
Vaipouli	210	54.76	40.96	15.08	13.38	5.43	1.57	5.23	2.41	4.89	10.60	13.87	7.49	175.67	The Superintendent of Schools
Tutuila:- (American Samoa)															
Pago Pago		65.50	29.00	15.80	9.30	16.20	3.4	2.8	5.4	27.6	8.3	8.1	16.9	208.30	The U.S. Naval Station

Notes:-

(1) The rim of the gauge is generally at a height of one or two feet above the ground.

(2) Most of the gauges in use are of the Meteorological Office (London) pattern with a deep funnel rive inches in diameter. A tapered glass measure reading in inches is used.

(3) Some of the sites are not strictly conventional owing to the profuse growth of vegetation i.e. surrounding objects may be nearer the gauge than twice their own height.

(4) The readings of the rain gauges at many of the stations given in this table are made in the morning and entered ("thrown back") to the previous day while at other stations the readings are entered to the same day.

Duration of Bright Sunshine, 1939

Aggregate duration of bright sunshine occurring between the exact hours of apparent solar time and the percentage of possible duration of sunshine for the month

Hour of day	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	Totals	%
M o n t h																
January	0.7	10.5	15.4	15.4	16.1	16.0	15.6	17.3	16.2	15.6	14.8	12.5	8.3	0.9	175.3	44
February	0.5	11.5	14.5	14.7	13.6	14.8	13.5	13.5	12.0	12.6	12.5	10.2	6.0	0.0	149.9	43
March	0.0	8.0	16.7	17.0	16.5	18.5	21.0	20.2	19.6	17.4	14.9	12.1	4.5	0.0	186.4	49
April	0.0	7.3	16.9	19.4	21.6	22.9	24.2	23.4	19.5	17.4	17.9	12.9	4.6	0.0	208.0	59
May	0.0	11.5	24.9	26.6	25.9	27.4	27.5	27.3	27.2	24.7	22.6	21.5	7.6	0.0	274.7	77
June	0.0	11.1	25.2	27.0	28.2	27.7	27.4	24.5	25.4	25.2	22.8	21.0	6.5	0.0	272.0	80
July	0.0	12.0	28.5	29.2	29.6	29.8	29.0	28.5	27.9	28.6	26.7	23.9	8.4	0.0	302.1	86
August	0.0	9.9	24.4	28.3	30.3	30.7	30.8	29.4	26.7	25.1	25.2	21.1	9.6	0.0	291.5	81
September	0.0	10.2	17.0	17.6	17.3	20.4	21.1	22.6	20.3	19.6	15.8	14.2	7.1	0.0	203.2	56
October	0.0	16.1	22.8	25.8	25.7	26.1	23.5	21.3	22.5	20.5	20.8	15.4	9.9	0.0	250.4	65
November	2.2	16.7	23.1	24.4	25.6	26.0	24.0	22.5	21.6	20.7	20.1	17.7	10.1	1.4	256.1	67
December	0.7	14.1	18.8	19.5	21.3	20.4	21.0	17.2	16.6	14.9	12.9	12.4	10.8	2.1	202.7	51
Totals	4.1	138.9	248.2	264.9	271.7	280.7	278.6	267.7	255.5	242.3	227.0	194.9	93.4	4.4	2772.3	63

Analysis of Sunshine, 1939

Clear days :- more than 7 hours bright sunshine
Cloudy days :- less than 3 hours bright sunshine

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year
Clear	16	14	13	19	26	24	28	29	14	20	20	17	240
Partly cloudy	2	1	12	6	3	5	3	2	12	7	9	5	67
Cloudy	13	13	6	5	2	1	0	0	4	4	1	9	58

Wind - 1939

Means of Hourly Values of Wind Speed in Miles per Hour

Hour	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
Month																									
January	6.9	6.3	5.8	6.3	6.1	6.2	6.7	5.9	7.7	10.3	10.6	11.0	10.3	9.3	8.8	9.0	8.5	8.7	8.8	7.3	6.7	6.6	6.3	6.8	7.8
February	7.0	7.4	6.9	7.5	8.2	7.9	7.8	8.1	8.7	10.9	11.5	12.3	11.9	11.8	11.3	10.7	10.1	10.1	9.5	9.4	9.0	8.1	7.6	7.6	9.2
March	3.6	3.5	3.4	3.3	3.4	3.5	3.4	3.6	3.1	4.9	6.2	6.3	6.2	7.2	6.4	6.6	5.6	4.4	5.1	4.5	3.8	3.6	3.8	4.3	4.6
April	4.7	4.5	4.4	4.3	4.8	5.3	5.6	4.3	4.2	7.3	8.8	9.7	10.3	10.7	10.6	10.5	9.4	8.0	5.9	3.9	4.1	4.5	4.4	3.9	6.4
May	3.4	4.0	3.7	3.9	3.7	3.2	3.4	3.0	2.8	5.9	8.0	9.2	9.5	9.5	9.3	9.3	9.2	8.6	7.0	4.2	3.0	3.0	3.5	3.4	5.6
June	3.6	3.9	4.3	3.9	4.0	3.9	4.6	4.0	2.9	5.4	7.0	8.0	9.8	9.9	10.2	10.1	8.9	8.6	7.1	4.8	3.8	3.8	3.8	3.5	5.8
July	3.9	4.2	4.1	4.1	4.0	4.0	4.0	3.6	3.3	6.0	6.5	7.7	8.6	8.6	9.1	8.9	8.5	7.6	5.7	4.7	3.9	3.9	3.8	3.6	5.5
August	5.2	5.4	4.9	5.4	5.3	5.9	6.1	5.8	8.7	10.2	11.1	12.0	11.7	12.0	12.0	11.6	11.6	11.1	8.6	6.1	5.3	5.0	4.4	5.0	7.9
September	2.7	3.1	3.1	2.9	3.3	3.1	2.9	3.5	4.6	7.0	8.7	9.4	10.2	11.0	11.3	10.1	9.0	8.1	5.4	3.9	3.8	3.1	3.1	3.3	5.7
October	3.9	3.6	3.3	3.5	3.3	3.1	3.4	3.8	7.5	10.3	12.2	13.5	13.1	13.1	13.3	12.5	11.5	11.3	8.8	6.7	4.9	4.8	4.7	4.1	7.5
November	2.6	2.2	2.2	2.4	2.1	2.6	2.2	3.2	5.4	6.6	7.7	8.4	8.9	9.3	8.3	7.8	7.2	6.5	5.3	3.5	3.0	2.3	2.5	2.9	4.8
December	2.9	3.5	3.5	3.2	3.3	3.0	2.7	2.7	2.9	6.3	7.7	8.0	8.5	8.4	7.2	6.9	6.5	5.5	4.6	2.9	2.6	3.1	2.9	3.2	4.7
Wet Season 1938-39	6.0	5.9	5.5	5.8	5.6	5.8	6.1	6.1	7.7	9.7	10.1	10.5	10.1	9.7	9.3	9.3	9.1	9.0	8.5	7.7	7.2	6.9	6.5	6.5	7.7
Dry Season 1939	4.0	4.4	4.3	4.3	4.3	4.3	4.5	4.1	4.4	6.9	8.1	9.2	9.9	10.0	10.1	10.0	9.5	9.0	7.1	4.9	4.0	3.9	3.9	3.9	6.2
Year 1939	4.2	4.3	4.1	4.2	4.3	4.3	4.4	4.3	5.1	7.6	8.8	9.6	9.9	10.1	9.8	9.5	8.8	8.2	6.8	5.2	4.5	4.3	4.2	4.3	6.3

Percentage Frequencies of Winds, 1939

(This table is based on observations every three hours commencing at midnight)

Month	Calm	N	NE	E	SE	S	SW	W	NW	Variable	Number of observations
January	3	9	12	20	21	23	6	0+	5	1	248
February	1	20	3	14	6	12	13	8	22	1	224
March	5	9	5	19	12	25	16	4	4	1	189
April	3	5	3	25	20	31	9	1	3	0	240
May	2	2	5	28	17	33	11	1	1	0+	248
June	3	1	2	27	22	33	9	1	0+	2	238
July	3	2	5	33	17	27	11	1	0+	1	239
August	1	2	4	37	22	24	8	1	0+	1	244
September	0+	1	6	22	22	29	15	1	2	2	233
October	0	2	3	33	19	26	10	2	2	3	248
November	2	5	5	23	15	31	7	2	3	7	240
December	0	3	7	22	15	32	13	3	2	3	248
Year	2	5	5	25	17	27	11	2	4	2	2839

Note: 0+ means that there were some observations but less than 0.5%.

Monthly Wind Speed and Direction - 1939

Speed in miles per hour

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year
Mean speed for month	7.8	9.2	4.6	6.4	5.6	5.8	5.5	7.9	5.7	7.5	4.8	4.7	6.3
Greatest speed in gust	65	47	42	37	40	36	30	33	36	39	42	39	65
Direction of gust	NNW	NNW	ENE	WNW	ESE	E	E	E	E	ESE	E	ENE	NNW
Greatest speed over one hourly period	32	26	24	23	22	25	23	24	25	29	24	22	32
Prevailing direction of wind													
9 a.m.	ESE	NNW	SE	ESE	ESE	ESE	CALM	ESE	ESE	E	E	CALM	ESE
3 p.m.	E	NNW	E	E	E	E	E	E	E	E	E	E	E
Most frequent direction of wind (Eight points only)	S	NE	SW	S	S	S	E	E	S	E	S	S	S

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Thunder and Lightning, 1939

Month	Number of Days		Total
	Lightning only	Lightning and Thunder	
January	2	3	5
February	2	4	6
March	1	2	3
April	6	3	9
May	2	2	4
June	0	3	3
July	0	1	1
August	1	0	1
September ..	0	2	2
October	5	2	7
November	3	7	10
December	0	6	6
Year	22	35	57

PILOT BALLOON ASCENTS 1939

The method of observing the balloon with a single theodolite was used during 1939 assuming a constant rate of ascent calculated from the formula.

$$V = qL^{\frac{1}{2}}/(L+W)^{\frac{1}{3}}$$

where

V = upward velocity in feet per minute
q = 275
L = free lift in grams
W = weight of balloon in grams

The surface winds are taken from the anemometer at a height of 80 feet above the ground.

The measurements are expressed in the form recommended in Resolutions LIV and LVII of the Commission for Synoptic Weather Information at Salzburg, September 1937. (O.M.I. Publication No. 37, pages 53 and 57). Values have also been given at the additional heights recommended in Resolution XXXIX of the Meteorological Conference for the Southwest Pacific, 1937 (O.M.I. Publication No. 42, page 37).

Details of the form are as follows:

YYGG HHddv$_5$ HHddv$_5$ ----- ----- $C_L C_M$HHM

where

YY = Greenwich day of month: GG hour of Greenwich time

HH = is the height in hectametres of the centre of a layer about 300 metres thick. Thus HH = 20 refers to a layer centred at 2000 metres above sea level. When a balloon ascends above 90 hectametres the height is expressed in kilometres. (e.g. for 12000 metres HH would be given as 12).

dd = direction of wind using 36 points; thus 270° is expressed as 27.

v$_5$ = average wind velocity in the layer expressed in code (see below)

$C_L C_M$ = usual information about clouds

M = reason for the ending of the observation (see below).

Code for V_5 in miles per hour

dd = 01 -36	
V_5	m.p.h.
0	0- 1
1	2- 4
2	5- 7
3	8-10
4	11-14
5	15-17
6	18-20
7	21-23
8	24-26
9	27-29

dd = 51 - 86	
V_5	m.p.h.
0	30-32
1	33-35
2	36-38
3	39-41
4	42-45
5	46-48
6	49-51
7	52-54
8	55-57
9	58-60

i.e. if the wind is equal to or greater than 30 miles per hour then 50 is added to dd and the code on the right above is used for v_5.

Code for M in last group

0 = observation abandoned
1 = obscured by passing clouds
2 = balloon burst
3 = lost in haze
4 = lost near the sun
5 = entered cloud layer
6 = lost accidentally
7 = obscured by rain
8 = confused with star
9 = for use when none of the above apply.

January

0419 02104 05105 10107 20116 29095 32106 40114 31411
0519 02094 07075 14075 30155
0619 02112 05094 10084 15112 18082 80245
0719 02180 06364 20032 30022 41111 49151 58312 99255 30xx1
0922 02152 06032 09022 12032 17052 80205
1019 02102 05063 10053 80152
1119 02113 05093 10074 20093 30114 46192 99742 20xx5
2119 02034 05034 91075
2320 02036 06059 80685
2419 02104 05085 10076 30145
2520 02093 05084 10065 14057 80161
2620 02102 05084 10054 20062 72235
2720 02115 05109 10098 19098 30209
2819 02114 05116 10116 20116 10279
3019 02114 05105 10095 20105 30107 10389
3119 02114 05109 10097 16087 90175

February

0119 02114 05106 10097 20084 30095 10430
0220 02065 05086 11077 30125
0319 02085 05075 10066 20066 30085 10371
0419 02114 05095 10087 20115
0619 02112 05114 10117 21126 20281
0819 02091 05051 10081 20102 27132 40162 53182
67232 82156 10949
0920 02xx0 05xx0 10xx0 20142 30162 43194 10610
1019 02061 05051 10022 20042 26071 30121 53216
20610
1119 02092 05063 10044 15023 30171
1320 02335 05326 10326 18319 20201
1419 02311 05323 10324 14324 10155
1519 02262 05313 10314 15285 14171
1619 02314 05325 10336 32115
1802 02316 05315 13318 82145
1819 02292 06253 11295 16288 52175
2021 02339 05831 10832 86111
2221 02242 05313 10314 92115
2421 02329 05821 92055
2721 02333 05354 10367 50155
2819 02312 05344 08015 5x115

March

0119 02331 05353 08015 12006 36145
0319 02072 05364 10367 52115
0401 02051 05023 10015 20364 74215
0419 02311 05012 10014 15014 76175
0701 02301 05333 10355 19367 51205
0719 02132 05043 10024 20024 25364 52265
0723 02104 05086 10055 20035 30362 10449
0819 02102 05083 10064 70155
0920 02092 05102 10101 20052 30364 50354 58322
80595
1019 02102 05063 10043 20034 30042 33325
1119 02102 05062 10034 20044 30061 40042 11415
1319 02102 05032 10052 20062 33244 75205 84179
10859
1419 02111 05051 11012 32125
1519 02092 05024 08026 30099
1719 02121 05012 10013 21353 30343 14385
1819 02230 06314 20303 34232 59222 14610
2019 02111 05103 10093 15052 20362 41232 58182
86610
2101 02121 05032 10365 13152
2222 02211 05353 10014 20024 29024 83312
2321 02360 05363 10345 86139
2421 02241 05331 10362 21362 30012 61024 20625

March (contd.)

2521	02092	05082	10092	20092	30072	49122	80591
2719	02102	05052	10043	20075	30114	43116	10445
2920	02181	05124	10107	20118	30117	90353	
3019	02116	05116	10602	18106	30209		
3120	02113	05116	10116	20084	72235		

April

0120	02063	04064	61055				
0319	02271	05322	10312	20252	30244	10355	
0601	02351	05354	10344	20015	27322	47362	71735
0702	02363	05355	10355	14356	12159		
1019	02112	05092	10101	20113	30112	37132	43092
	10499						
1119	02113	05115	10106	20106	30107	10349	
1219	02112	05124	10114	18103	30084	13375	
1320	02111	05104	10064	24075	30094	41113	81435
1407	10052	20093	02245				
1419	02182	05082	10033	20033	8x215		
1507	02111	05032	10341	20051	24122	02265	
1519	02111	05352	10022	80125			
1607	10024	20015	29053	35043	20379		
1707	10314	20313	30354	35312	40378		
1720	02102	05084	10073	20101	30012	59284	88810
	13913						
1807	02113	05083	18121	23062	29292	35091	40302
	xx418						
1819	02114	05095	10075	20083	11212		
1907	10114	14103	21124	26133	41279		
1919	02104	05107	10096	20104	30105	00363	
2007	05104	10105	20103	70278			
2019	02142	05083	10055	20083			
2107	02105	05087	10077	17074	30185		
2120	02133	05065	70082				
2207	02141	05091	08082	23043	30305		
2307	02116	05107	11099	20065	5x245		
2407	02114	05105	10097	20086	29087	10309	
2419	02104	05118	10109	20096	30094	62325	
2507	02114	05115	10118	14105	24094	40279	
2607	02114	05106	10088	20083	30092	72325	
2619	02105	05096	10096	14122			
2707	02114	05106	10107	20145			
2719	02124	05106	10096	23104	32095	37116	10389
2807	02114	05116	10117	12096	20076	10249	
2819	02113	05117	10116	20103	30096	10479	
2907	02114	05116	10118	18127	10209		
2919	05124	10126	20143	10242			
3007	05123	10124	20111	10325			

May

0119	02121	05061	10022	20023	29054	41021	62071
	94183	10xx9					
0219	02123	05094	10084	14032	20351	10216	
0319	02114	05095	10103	18212	30223	43263	61312
	76035	98075	10xx9				
0419	02123	05093	11182	20233	26332	32032	41293
	49212	70264	10910				
0520	02112	05082	12264	30275	10420		
0619	02121	05072	10201	20213	30213	40152	10910
0820	02105	05107	10119	18108	26106	10273	
0920	02113	06134	10126	20108	30600	70343	
1019	02123	05126	10117	12106	70145		
1119	05091	08042	14082	23113	10262		
1219	02103	05094	11075	18075	10205		
1320	02103	05094	14105	20097	24106	10263	
1520	02103	05115	10104	20072	29361	13316	
1619	02113	05085	10084	20082	30103	10355	
1719	02114	05084	10064	20032	30013	35352	
	61324	85024	70943				
1920	02092	05062	10022	20292	71262		
2020	xxxxx	05041	10352	90135			
2219	02040	05361	10130	20012	30333	10549	
2320	02123	05064	10003	20336	24359	72245	
2420	02132	05135	10137	40155			
2519	02105	05107	12084	20073	29231	37264	61248
	70704						
2619	02114	05105	10074	17052	24152	37242	56294
	66224	10919					
2719	02122	05093	12022	20352	30362	41273	85740
	20989						
3020	02096						
3119	05052	10362	20323	72265			

June

0120	02172	05185	70082				
0219	02340	05172	10174	17314	27326	13301	
0319	02271	06172	10152	15133	18142	70205	
0519	02135	05136	10137	20102	30174	10582	
0619	02124	05127	10105	20034	30092	38177	10709
0720	02115	05107	10108	10125			
0820	02104	05095	10084	20331	30335	40046	10429
1020	02241	05123	10115	20143	30114	10349	
1221	02094	05116	10118	20106	86229		
1319	02113	05084	08074	10095			
1419	02112	08094	20054	34024	59264	10610	
1519	02114	08135	14125	70152			
1619	02094	12075	20094	30084	70329		
1719	02102	06121	11180	70145			
1919	02132	05102	14271	20022	30271	30415	
2019	02121	05081	10052	20042	30122	10479	

June (contd.)

2119	02122	05093	10073	20074	35114	47073	20520
2221	02105	05115	10117	10349			
2321	02112	05124	10136	20116	30105	10610	
2421	02131	05133	10153	20146	32174	40231	10439
2619	02101	05132	10132	20214	10216		
2720	02123	05094	10052	20357	30307	10449	
2820	02122	05083	52085				
2922	02050	05061	08044	57125			
3020	02102	11092	20032	34362	53294	62267	10750

July

0319	02141	05221	10322	20364	30027	20709	
0421	02105	05097	11580	10125			
0520	02094	05084	10095				
0619	02104	05096	10087	10115			
0721	02084	05084	10065	15056	10179		
0819	02122	05063	10053	18063	70205		
1019	02070	05121	10073	10122			
1101	02022	05071	10131	20052	20230		
1120	02021	05321	10133	20102	30312	70321	
1219	02124	05117	10117	15114	70173		
1320	02093	80065					
1401	02082	05084	08104	20154	27203	70324	
1419	02131	05071	10032	15074	20064	10263	
1519	02132	05114	14073	20064	10233		
1719	02131	05061	10301	20282	30314	41307	10609
1820	02270	05071	10051	20102	30262	10419	
1919	02161	05183	10211	21291	30325	46275	10859
2019	02230	05360	12196	21312	26283	38325	00499
2119	02123	05104	10093	15212	30284	10679	
2219	02231	05051	10082	18102	03272		
2419	02112	05084	10074	10112			
2619	02143	05134	10114	15105	5x175		
2720	02116	05108	10098	56201			
2819	02103	05084	08074	52095			
2919	02087	05087	10084	10155			
3119	02122	05073	10043	23341	35015	10xx9	

August

0119	02104	05085	10075	15066	10179	
0220	02123	05095	10084	18073	10209	
0319	02115	05106	12097	10142		
0419	02116	05119	10087	10122		
0519	02114	05095	08074	10105		
0719	02130	05031	10061	20084	30142	10472
0819	02113	05094	10114	20125	70279	

August (contd.)

0919	02117	05098	10088	10115			
1019	02117	06590	10580	70125			
1120	02610	05614	10099	70129			
1219	02116	05107	10096	70135			
1419	02107	05106	10095	17105	53189		
1519	02117	05119	10106	84169			
1619	02086	34055					
1720	02075	05076	09078	10109			
1819	02117	05117	10106	20115			
1919	02096	05086	20075				
2119	02082	05073	07064	10092			
2219	02105	05105	12126	10139			
2319	02107	05096	70095				
2420	02107	05107	11088	10159			
2520	02092	05054	10025	80162			
2619	02082	70045					
2819	02162	05163	10192	21223	26285	10272	
3019	02092	05091	10153	13244	10156		
3119	02194	06680	16685	40189			

September

0120	01091	04052	70062	

October

2820	03132	06161	10181	16180	80175
3020	02093	05073	10033	54125	
3120	02274	05307	10308	18298	89205

November

0119	10327	20267	27266	10309			
0320	20251	05012	10314	12295	40145		
0620	02131	05182	10201	20212	30222	35321	10460
0719	02020	05301	20092	30053	40252	50294	20520
0819	02322	05181	10174	50115			
1019	02102	05124	10112	12092	50155		
1120	02118	05118	08107	23101			
1419	02091	05122	10125	20087	30096	41044	20449
1522	02600	05119	10119	15079	20570	22249	
1820	02102	06172	10222	20202	35302	44352	10479
2020	02084	05085	08086	60105			
2120	02124	05094	10084	20074	30075	40104	14469
2219	02112	05132	10162	20132	30124	40132	64271
	20760						
2319	02114	05096	10074	21123	26144	14305	
2419	02095	05106	10104	30115			

November (contd.)

2519	02114	05116	10105	18093	20209		
2719	01151	05022	10013	20324	29314	23305	
2819	02072	06142	10232	20244	30278	35299	10384
2901	02062	06131	10084				
2919	02092	05131	10351	20303	30295	20354	
3020	02052	06271	17296	10184			

December

0119	02093	05084	11072	14011	20312	26304	52375
0219	01231	05233	10195	15213	57165		
0419	02122	05121	11191	14223	5x155		
0519	02113	05114	10133	18271	29283	41305	
0619	02124	05105	14251	20283	26252	43274	40445
0719	02351	05281	10281	18253	80204		
0819	02112	05123	11162	20182	23215	30226	20409
1119	02093	05104	10113	18172	30173	37232	47154
	10760						
1220	02251	05243	10086				
1220	02221	05223	10244	20242	34294	10499	
1320	02061	05091	11132	21233	30245	55314	20569
1419	01102	05082	10052	17352	8x205		
1521	00092	02092	05084	10092	20152		
1619	00102	02103	05093	10082	20071	32152	30610
1819	00112	01114	05108	10098	13099	23155	
1919	00211	10074	16054	62171			
2019	00000	02291	05322	10312	20274	30286	53475
2119	00212	02223	05246	10257	15297	30289	10325
2219	00000	02122	05172	10252	20268	14264	
2319	00191	01212	05293	10313	15283	74175	
2819	00211	02182	05031	12342	15293	20263	26322
	59334	13610					
2919	00000	02111	05092	10082	12103	18082	30292
	37353	49273	59302	66033	20729		
3019	00131	02113	05114	10104	23082	34063	40054
	49074	55093	59073	10610			

CLIMATOLOGICAL SUMMARY, 1939

Mean Values and Frequencies of Meteorological Elements

Station - Atafu Latitude 8° 32'S Longtitude 172° 31'W
Altitude 6 ft. above sea level. (Barometer cistern)

Hour of observation: see below:
(Time standard: +11h i.e. slow on Greenwich).

Month	Barometer (millibars)	Temperature °F: Dry Bulb	Wet Bulb	Mean Minimum	Absolute Min.	Date	Rainfall (inches)	Wind - Number of observations of: Forces 8 or more	Forces 4 - 7	Forces 1 - 3	Calm	N	NE	E	SE	S	SW	W	NW	Variable	Cloud - Number of observations of:- Clear sky 0-2	Partly clouded 3 - 7	Overcast 8-10	Number of daily reports available
January	1009.4	80.8	75.9	76.3	70.0	23rd.	15.94	0	9	22	0	2½	17	10	½	0	0	0	1	0	0	15	16	31
February	1009.8	81.3	76.1	76.4	72.0	24th.	4.94	0	3	25	0	3	19	5	0	0	0	0	1	0	0	9	19	28
March	1009.4	81.4	76.4	76.1	72.2	12th.	11.66	0	3	28	0	1	20½	5½	2	0	0	1	1	0	0	15	16	31
April	1010.4	82.1	77.2	76.5	72.1	4th.	5.53	0	8	22	0	0	10	17	3	0	0	0	0	0	2	13	15	30
May	1010.5	82.3	77.9	78.3	75.2	1st.	6.03	0	3	28	0	0	2½	24	4½	0	0	0	0	0	5	16	10	31
June	1011.2	81.9	77.8	78.2	75.3	9th.	5.25	0	6	24	0	0	1½	21	5½	0	½	1½	0	0	1	14	15	30
July	1011.4	82.5	77.6	78.4	76.8	23rd. & 30th.	4.25	0	3	28	0	0	2	26½	2½	0	0	0	0	0	2	24	5	31
August	1009.6	82.5	77.2	78.9	77.4	17th.	0.88	0	13	18	0	0	1	27½	½	1½	½	0	0	0	8	15	8	31
September	1011.8	82.3	76.6	78.9	77.2	3rd. & 4th.	4.00	0	8	22	0	0	6½	19½	3	1	0	0	0	0	6	16	8	30
October	1010.6	81.9	76.9	78.2	75.2	21st.	7.64	0	5	26	0	7½	6	14½	1	½	1	½	0	0	4	13	14	31
November	1008.9	83.2	77.8	79.6	76.2	29th.	6.11	0	7	23	0	3½	7	15½	2½	0	1	0	½	0	0	16	14	30
December	1009.4	81.9	77.7	78.3	75.0	2nd.	16.63	0	6	25	0	4½	9	4	½	2½	2½	4	4	0	0	8	23	31

Source of data:

Monthly meteorological reports supplied by the native radio operator, Simi. Readings of pressure are obtained from a Kew pattern mercury barometer (M.O. 874) and temperatures are read from mercury thermometers. The readings of the barometer are corrected for index error, temperature, gravity and elevation above mean sea level.

Note:

(a) The frequencies of wind have been condensed to eight principle points by crediting one half of the frequencies of intermediate points to each of the neighbouring principal points; e.g. a frequency of 5 observations of wind from N.N.E. is expressed as N 2½ and NE 2½.

(b) Readings of the maximum thermometer for this year appear doubtful and therefore have not been published.

Hour of observation:

January	8 a.m.	Local Time
February & March	9 a.m.	" "
April to July	8.30 a.m.	" "
August	9.0 a.m.	" "
Sept. to Dec.	8.0 a.m.	" "

CLIMATOLOGICAL SUMMARY, 1939

Mean Values and Frequencies of Meteorological Elements

Station - Nukualofa Latitude 21° 08'S Longtitude 175° 12'W Hour of observation: 8.20 Local Time, a.m. (Time standard: -12h 19m i.e. in advance of Greenwich).

Month	Barometer (millibars)	Temperature °F: Dry Bulb	Wet Bulb	Mean Maximum	Absolute Max.	Date	Mean Minimum	Absolute Min.	Date	Rainfall (inches)	Wind - Number of observations of: Forces 8 or more	Forces 4 - 7	Forces 1 - 3	Calm	N	NE	E	SE	S	SW	W	NW	Variable	Cloud - Number of observations of: Clear Sky 0-2	Partly clouded 3 - 7	Overcast 8-10	Number of daily reports available
January	1010.0	80.1	76.5	83.1	85.3	31st.	73.2	69.9	8th.	11.99	1	8	22	0	2	6	12½	8	½	0	0	2	0	0	5	26	31
February	1008.7	81.0	77.5	84.6	86.2	2nd.	72.4	63.0	28th.	6.61	0	3	23	2	3½	½	2½	10½	3½	1	0	4½	0	1	13	14	28
March	1010.1	78.6	74.3	82.0	85.0	5th.	70.0	60.0	26th.	13.85	0	3	26	2	3½	2½	7	12	0	2	0	2	0	2	5	24	31
April	1013.8	77.4	73.6	81.4	84.2	2nd.	70.5	63.5	19th.	5.17	0	4	25	1	½	½	8	18	1	0	0	1	0	2	13	15	30
May	1015.5	74.6	69.9	78.7	84.0	11th.	67.0	61.0	3rd.	2.26	0	7	24	0	1	½	8	16½	1	1	2	1	0	1	9	21	31
June	1016.8	71.8	67.4	76.5	80.2	11th.	62.5	53.0	27th.	1.50	0	3	25	2	1	3	4½	9	4½	3½	1	1½	0	8	12	10	30
July	1014.4	70.9	67.1	75.6	80.8	7th.	62.2	55.1	24th.	3.18	0	1	29	1	1½	1½	1½	3½	4½	7	4	6½	0	5	13	13	31
August	1013.6	71.9	67.8	76.2	80.0	14th.	63.3	56.0	28th.	7.25	0	5	24	2	2	3½	8½	5½	2½	4	2	1	0	5	11	15	31
September	1016.7	71.2	65.4	75.2	80.9	15th.	64.1	54.5	4th.	2.42	0	4	26	0	2	½	8	12	4½	2	1	0	0	4	11	15	30
October	1015.4	73.8	67.9	77.3	80.5	21st.	65.6	57.0	31st.	3.59	0	4	26	1	0	1½	10	7	6½	3½	1½	0	0	2	13	16	31
November	1013.8	74.3	68.6	78.4	82.1	14th.	67.1	57.9	11th.	3.31	0	6	23	1	0	1½	11½	11	5	0	0	0	0	1	12	17	30
December	1011.7	76.4	69.4	80.5	82.8	14th.	68.2	61.5	3rd.	3.82	0	7	24	0	1	1½	10½	8½	3½	3	3	0	0	6	12	13	31

Source of data:

Monthly meteorological records supplied by the Telegraph and Telephone Department, Nukualofa, Tonga. Readings of pressure are obtained from a Kew pattern mercury barometer (Hicks, London). The readings of the barometer are corrected for index error, temperature, gravity and elevation above mean sea level. Temperatures are measured by means of mercurial thermometers.

CLIMATOLOGICAL SUMMARY, 1939.

Mean Values and Frequencies of Meteorological Elements.

Station - Norfolk Island Latitude 29° 00'S Longtitude 167° 55'E
Altitude 300 feet approximately above sea level.

Hour of observation. See below.
Time standard -11h.30m i.e., in advance of Greenwich.

Month	Pressure (millibars)	Temperature °F: Dry Bulb	Wet Bulb	Dew Point	Rainfall (inches)	Wind - Number of observations of: Forces 8 or more	Forces 4 - 7	Forces 1 - 3	Calm	N	NE	S	SE	S	SW	W	NW	Variable	Cloud - Number of observations of:- Clear Sky 0-2	Partly clouded 3 - 7	Overcast 8-10	Number of daily reports available
January	1013.1	71.6	67.7	66	0.99	0	3	22	6	2½	2	6½	7½	4	2⅛	0	0	0	5	10	16	31
February	1017.3	70.7	65.2	62	1.19	0	9	19	0	1⅛	3½	11	7⅛	2	1⅛	1	0	0	3	13	12	28
March	1016.0	71.0	66.9	65	3.32	0	14	17	0	⅛	4	22	2	2½	0	0	0	0	0	15	16	31
April	1019.9	68.0	63.9	61	3.31	0	9	18	3	2½	5⅛	7	5½	4	1	1	⅛	0	1	17	12	30
May	1021.0	64.6	60.4	58	1.80	0	10	15	6	1	5⅛	10	4⅛	2	2	0	0	0	5	11	15	31
June	1016.7	63.5	59.5	57	2.97	0	6	21	3	2	5	1	2	2	8	5	2	0	4	14	12	30
July	1013.2	59.9	55.8	52	3.02	0	14	16	1	1	1	0	0	7	14⅛	5½	1	0	2	18	11	31
August	1010.6	60.5	57.1	53	4.99	0	10	21	0	3	2⅛	⅛	1⅛	2	10	7⅛	4	0	10	11	10	31
September	1018.4	62.2	56.8	52	2.79	0	7	19	4	2	4	2⅛	2⅛	4⅛	6	2⅛	2	0	-	-	-	30
October	1018.5	64.1	57.6	52	6.18	0	0	30	1	3	2⅛	1⅛	3½	7	10	2	⅛	0	-	-	-	31
November	1017.7	67.4	62.2	59	4.23	0	1	28	1	4⅛	7⅛	3	3½	6½	2⅛	0	1⅛	0	-	-	-	30
December	1016.5	70.7	64.3	60	1.21	0	3	27	1	2	4⅛	9⅛	4	4	3½	2	½	0	-	-	-	31
				YEAR	36.00																	

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Source of data:

Written reports supplied by the Pacific Cable Board until the end of August. Reports for September to December, inclusive, were forwarded by the Meteorologist attached to the Department of the Interior, Commonwealth of Australia, who is stationed on Norfolk Island. The mercurial barometer in use until the date of the change was M.O. 1253. From September 1st onward, barometer No. 1491 was in use. Temperatures are read from mercurial thermometers.

Hour of observation.

January to August 9 a.m. Local Time

September to December 10.30 a.m. " "

ATMOSPHERIC ELECTRICITY, 1939.

The observations of potential gradient at the Land Station with the Benndorf electrometer were continued under the guidance of the Carnegie Institute of Washington who provide a grant-in-aid for this purpose. The scale value of the instrument, which was frequently checked, lay in the region of 70 volts per centimetre. Frequent leak tests of the insulation of the instrument were carried out and in general the standard of insulation was such that the logarithmic rate of leak was 0.025 or less.

During the year four absolute determinations were carried out on the sandflats to the south of the Observatory, using the stretched wire and incorporating the leak-free, potentiometric method due to Gish and Sherman. The determinations of the 5th and 15th of June were, for some unknown reason, not satisfactory. From the determination of the 15th of August a reduction factor of 1.17 was obtained but the experiment was affected at one stage by smoke from a nearby native village. The last determination, on the 28th of August, was carried out over a protracted period under ideal conditions, and gave consistent values of the reduction factor, the mean of which was 0.97. It is felt that more weight must be given to this last experiment and the usual factor of 1.0 is still adopted with confidence.

In December the old wire-netting covering at the Land Station was renewed, the building painted and minor repairs carried out.

The electrical classification of days is as follows:-

Character 0:- Days during which no negative potential gradient occurs.

Character 1:- Days during which negative potential gradient is recorded for one or more short periods amounting to less than three hours in the aggregate.

Character 2:- Days during which the period of negative potential gradient recorded amounts in the aggregate to three hours or more.

The day is unclassified (character X) if, after interpolating where interpolation is justified, there is still no record over a period or periods amounting in the aggregate to three hours or more, provided that the day is not of character 2 as above.

During 1939 the number of days of character 0 recorded was 118, this being an exceptionally large number for one year.

POTENTIAL GRADIENT, 1939.

(Based on days free from negative gradient)

Tabular values are the average values expressed in volts per metre using reduction factor 1.00 for successive periods of one hour. Time standard, Meridan 165° West of Greenwich. The seasonal means are derived from the following grouping of months:- Wet- November 1938 to February 1939 inclusive. Dry- May to August inclusive.

Month	No. of days	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Mean
January	2	109	95	109	119	116	113	137	192	176	113	109	86	99	73	93	85	85	89	89	153	123	116	85	79	110
February	4	95	98	100	103	105	120	148	171	150	110	115	97	101	97	97	91	89	89	99	131	103	103	103	91	109
March	5	81	73	75	81	89	103	136	187	267	200	110	95	91	93	85	84	79	77	91	168	150	104	85	80	112
April	12	87	83	88	90	103	102	136	194	229	161	130	110	110	108	108	101	109	129	183	223	166	118	99	88	127
May	*11	75	77	81	78	83	91	125	252	290	141	112	100	92	90	95	86	85	93	141	196	177	113	88	84	119
June	10	78	79	77	77	89	91	113	173	218	175	123	113	101	100	97	93	92	95	116	147	114	105	90	79	110
July	18	105	98	92	93	97	97	109	197	303	236	156	140	126	115	109	110	105	112	150	228	172	147	132	113	139
August	16	99	92	95	97	99	104	124	216	237	164	143	126	116	109	101	101	97	98	129	167	167	151	140	114	129
September	5	89	83	83	75	90	106	144	215	160	160	120	101	90	96	92	85	75	77	100	167	154	133	117	85	112
October	15	90	85	88	92	93	112	185	284	189	131	118	104	97	94	84	82	88	90	116	157	164	137	106	92	120
November	12	83	87	89	85	83	95	207	279	186	121	101	91	89	83	82	80	82	95	111	121	127	129	87	84	112
December	8	91	78	89	85	90	103	175	243	218	125	109	92	83	75	76	85	74	78	104	139	139	95	76	81	108
Year	118	90	86	89	90	95	103	145	217	219	153	121	105	100	94	93	90	88	93	119	166	146	121	101	89	117
Wet Season 1938-39	8	107	99	100	98	89	99	157	227	176	133	119	99	105	92	90	88	86	89	115	157	135	113	95	83	115
Dry Season 1939	55	89	87	86	86	92	96	118	209	262	179	133	120	109	103	101	97	95	99	134	185	158	129	113	98	124

NOTE. *11 Days of character 0 occurred in May, but only 10 days were used in computing means.

- ATMOSPHERIC ELECTRICITY -

Monthly Values - 1939

Month	Electric Character of Day			Number of days not classified	Mean Potential Gradient for Days of Character 0	Number of hours of negative Potential recorded
	0	1	2			
January	2	14	8	7	110	128
February	4	8	6	10	109	103
March	5	10	9	7	112	125
April	12	10	6	2	127	92
May	11*	12	1	7	119	51
June	10	10	0	10	110	28
July	18	4	1	8	139	23
August	16	10	0	5	129	16
September	5	11	3	11	112	64
October	15	5	3	8	120	47
November	12	11	4	3	112	62
December	8	6	4	13	108	57
Y e a r	118	111	45	91	117	796

* NOTE. Only ten days were used in computing the mean value for May.

Corrigenda

Annual Report 1923.

Page 49. Mean hourly value of vertical intensity on August 20th at 23h should read 51 not 41.

Annual Report 1926.

Page 7 Fifth Line. The number of the magnetometer should be Tesdorff 2025 not 2023.

Annual Report 1931.

Page 8. Values in the table of diurnal variation of D, International Days, are expressed in minutes of arc, not in γ.

Annual Report 1937.

Page 110. Total rainfall for September should read 138.6 mm.