N.Z. DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH

APIA OBSERVATORY,

APIA, WESTERN SAMOA

ANNUAL REPORT

FOR

1938

Issued under the authority of the Hon. D. G. SULLIVAN,
Minister of Scientific and Industrial Research

WELLINGTON:
E. V. PAUL, Government Printer
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Sir,

I have the honour to present herewith the Annual Report of the Apia Observatory for the year 1938.

E. MARSDEN,
Secretary.
Department of Scientific and Industrial Research.

The Hon. D. G. Sullivan,
Minister of Scientific and Industrial Research.

APIA OBSERVATORY

Annual Report for the Year 1938

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Observatories Committee, 1938

Professor D.C.H. Florance, M.A., M.Sc. (N.Z.), Chairman
E. Marsden, Esq., D.Sc., F.R.S.N.Z., Secretary
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.

Staff at the Apia Observatory, 1938

Director	John Wadsworth, M.A. (resigned June 10th)
Professional Assistants	H.Bruce Sapsford, B.Sc. (Acting Director from June 10th) C.W. Tremewan, B.Sc. J.M. Austin, M.A. A.B.F. Ayers, B.Sc., M.P.S. (appointed January 25th).
Clerks recruited locally	Pele Feagai; Siaosi Sumeo; Miss V. Hannemann (appointed January 13th); Popotafea Tanielu; P. Wells; Siaosi Ui (appointed July 1st).

For further details concerning the staff see the introductory paragraphs which follow.

Co-ordinates of Transit Pier

Latitude 13° 48' 26" South

Longitude 171° 46' 30" West or 11h 27m 06s west of Greenwich

Altitude of Station

The Observatory grounds are about 4 feet above mean sea level.

The cistern of the standard barometer is 6½ feet 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, i.e. + 11h.,) is used in meteorology and atmosphere electricity. Zone time is the local civil time which is used by the Administration of Western Samoa.

Apia Observatory, Samoa

Report of the Director for the year 1938

General Introduction

This report comprises the results of observations in terrestrial magnetism, seismology, meteorology and atmospheric electricity which have been obtained from autographic records and eye observations. A brief description of the scheme for synoptic weather reports in the Southwest Pacific Region has also been included.

Notes about instruments will be found in the separate introductions which are given at the beginning of each section of the report.

Time Service

The time service was maintained by means of a standard-clock, Strasser and Rohde No.381, and a "Synchronome" clock. Control was obtained by means of frequent time signals from San Francisco, Honolulu and Saigon. Although a few transits of the sun were observed with the Heyde transit telescope the results were not used because the instrument is in need of standardization.

Tides

Tide measurements were made with the portable automatic tide gauge No 11664 and the results were communicated to the United States Coast and Geodetic Survey in Washington. In October the clock failed and observations were suspended temporarily.

Spectrohelioscope

Early in the year the mirrors of the spectrohelioscope were returned to Apia after having been re-surfaced and aluminised in Auckland. Between March and July the surfaces were spoiled to a certain extent by deposits from lizards.

When further attempts were made to obtain observations several difficulties were encountered. Some of these, namely the alignment of piers, seized mechanical parts and the darkening of the hut, have received attention.

The grating was inspected in Wellington and it was decided that although the present grating should be

satisfactory for a while, it may be necessary to obtain a new one after the spectrohelioscope has been satisfactorily adjusted.

Work in connection with adjustments of the instrument was proceeding at the end of 1938.

Buildings

A considerable amount of general maintenance and repair work at the Observatory was completed by the Public Works Department during the year. A new building, which includes lavatories, a workshop and better facilities for pilot balloon observations was nearing completion at the end of December.

Staff

In June the Director, Mr J. Wadsworth, resigned from the New Zealand Public Service and left Samoa. Mr. H.B. Sapsford assumed control as Acting Director and was in charge for the remainder of the year. Mr. A.B.F. Ayers who was appointed in January arrived from New Zealand on February 2nd.

Mr. Sapsford was absent on furlough in New Zealand from March 1st to May 27th.

There were also changes and additions to the section of the staff which comprises clerks and observers who are recruited locally.

Terrestrial Magnetism 1938

The work in terrestrial magnetism consisted of absolute measurements of horizontal intensity, declination, and inclination, together with the operation of Eschenhagen variometers for the continuous recording of the first two elements mentioned above, and of a Godhavn balance for the recording of vertical intensity.

During 1938 the numbers of absolute observations were as follows; Horizontal Intensity 50; Declination 61; Inclination 57.

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. The angle of dip has been measured as in the past with the Schulze earth Inductor No 2.

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. No correction was applied to the measurements of inclination.

The absolute instruments were restandardised in June 1937 on behalf of the Carnegie Institute Washington but the final results are not yet available for publication.

Only minor interruptions occurred to break the continuity of the records. The most serious break occurred in February when the first five days were rejected on account of fungus in the H Variometer.

The Schulze earth inductor became erratic in behaviour during the last six months of this year. The cause of the trouble was traced to faulty insulation of the coil and the unsatisfactory bearing of the brushes on the commutator brass half rings. In order to remedy this the instrument was sent to the Department of Terrestrial Magnetism, Washington, early in 1939 for repairs and standardisation.

Since the variometers have not been adjusted since 1937 it has been assumed that the coefficients of temperature are the same as those which were determined in that year. They are as follows:-
Horizontal intensity 0.25γ/°C; Vertical Intensity 1.8γ/°C. The variation of temperature inside the magnetograph house was so small that it was considered to be unnecessary to apply temperature corrections to the recorded values of the magnetic elements.

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 centimeters from its recording drum.

The hourly values of horizontal 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, $(\bar{a}_{r\phi} - \bar{a}_0)$, 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

A coil of the Helmholtz-Gaugain type was received from the makers of the Godhavn balance and was fitted over the instrument at this Observatory. Scale values by this electrical method were adopted as from the 1st August. Prior to this date the scale value was determined by the method of oscillations described by La Cour. The scale value of the H variometer was determined from time to time by the method of deflections using a small auxiliary magnet placed at a fixed distance from the suspended magnet.

Horizontal Intensity

The terms A and B, for the expression $dT/dn = A+Bn$ (where n = ordinate in millimetres), which were adopted during 1938 for the scale value of the horizontal intensity variometer records are as follows:-

Date	A	B
January 1st-14th	1.83	0.0030
From 15th January to 5th February (0800 G.M.T.) the terms altered steadily		
from (15th January)	1.83	0.0030
to (5th February)	2.16	0.0034
(0800G.M.T.) 5th February-31st July	1.81	0.0030
1st August-(2000GMT) 12th December	1.82	0.0030
(2000GMT) 12th December-15th December	1.87	0.0030
16th December-18th December	1.86	0.0030
19th December	1.85	0.0030
20th December	1.84	0.0030
21st December-31st December	1.83	0.0030

Declination

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

Vertical Intesity

1st January-31st July	1.10Y/mm.
August	1.16 "
September	1.18 "
October	1.19 "
November	1.22 "
December	1.22 "

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 (Values in gamma.)

January 1st 34745, 3rd 744, 6th 743, 12th 742, 17th 741, 21st 739, 22nd 738, 23rd 736, 24th 735, 25th 733, 26th 732, 27th 730, 28th 729, 29th 727 30th 726, 31st 724.

February 1st 34723, 2nd 721, 3rd 720, 4th 718, 5th (to 0800 G.M.T.) 717, (from 0800 G.M.T.) 34734, 6th 735, 10th 736, 13th 737, 18th 738, 21st 739, 26th 740.

March 1st 34740, 2nd 741, 6th 742, 9th 743, 14th 744, 18th 745, 22nd 746, 26th 747, 29th (to 0800GMT) 747 (from 0800GMT) 777.

April 1st 34778, 6th 779, 10th 780, 15th 781, 18th 782, 22nd 783, 25th 784, 30th 785.

May 1st 34785, 3rd 786, 8th 787, 11th 788, 15th 789, 19th 790, 23rd 791, 26th 792, 30th 793.

June 1st 34793, 3rd 794, 7th 795, 11th 796, 14th 797, 18th 798, 22nd 799, 26th 800, 30th 801.

July 1st 34801, 3rd 802, 8th 803, 11th 804, 15th 805, 18th 806, 23rd 807, 27th 808.

August 1st 34809, 6th 810, 11th 811, 16th 812, 21st 813, 27th 814.

September 1st 34814, 2nd 815, 7th 816, 12th 817, 17th 818, 22nd 819, 28th 820.

October 1st 34820, 4th 34821.

November 1st 34821.

December 1st 34821, 13th 34813, 15th 812, 19th 811, 23rd 810, 26th 809, 28th 808, 30th 807.

Declination

1st January - 31st December 10° 23.8' East.

Vertical Intensity (Values in gamma.)

1st January - 31st March 20606.
April 1st 20606, 7th 607, 17th 608, 27th 609.
May 1st 20609, 7th 610, 17th 611, 27th 612.
June 1st 20612, 6th 613, 16th 614, 26th 615.
July 1st 20615, 6th 616, 16th 617, 24th 616, 27th 615.
August 1st 20614, 5th 613, 9th 612, 13th 611, 17th 610, 22nd 609, 27th 608.
September 1st 20607, 6th 606, 11th 605, 15th 604, 19th 603, 24th 602, 29th 601.
October 1st 20601, 4th 20600.
November 1st 20600.
December 1st 20600, 11th 601, 31st 602.

Mean Values of Magnetic Elements, 1938

All Days

	D	H	X	Y	Z
	East	gamma	gamma	gamma	gamma
January	10°43.4'	34882	34273	6490	20625
February	43.8'	34890	34280	6496	20625
March	44.0'	34894	34283	6499	20622
April	44.5'	34890	34278	6503	20626
May	44.8'	34889	34278	6506	20633
June	45.2'	34908	34296	6513	20638
July	45.5'	34893	34280	6513	20640
August	45.7'	34897	34283	6516	20636
September	46.0'	34896	34282	6519	20630
October	46.5'	34886	34270	6522	20629
November	46.5'	34898	34282	6524	20630
December	47.1'	34901	34285	6531	20638
YEAR	10°45.3'	34894	34281	6511	20631

International Quiet Days

	D	H	X	Y	Z
	East	gamma	gamma	gamma	gamma
January	10°43.5'	34906	34297	6496	20624
February	44.0'	34902	34291	6500	20622
March	44.2'	34912	34300	6504	20619
April	44.6'	34912	34300	6508	20625
May	44.8'	34907	34294	6509	20631
June	45.2'	34909	34297	6513	20638
July	45.6'	34911	34297	6518	20639
August	45.9'	34912	34297	6521	20635
September	46.0'	34912	34297	6522	20629
October	46.6'	34909	34293	6527	20628
November	46.4'	34910	34295	6526	20632
December	47.4'	34919	34301	6537	20637
YEAR	10°45.3'	34910	34297	6515	20630

Diurnal Variation of Declination
International Quiet Days, 1938
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	+19	+33	+25	- 1	-15	-16	-13	-17	+ 4	+17	+13	+16	+ 5
1- 2	+22	+34	+28	+ 9	- 2	- 5	- 4	0	+13	+21	+19	+18	+13
2- 3	+24	+25	+24	+15	+14	+ 8	+ 8	+15	+16	+18	+18	+17	+17
3- 4	+19	+12	+17	+14	+20	+12	+15	+17	+13	+13	+10	+13	+15
4- 5	+13	+ 2	+11	+10	+13	+ 9	+ 9	+12	+ 8	+ 8	+ 6	+ 8	+ 9
5- 6	+ 7	0	+ 7	+ 7	+10	+ 5	+ 4	+ 7	+ 6	+ 7	+ 6	+ 7	+ 6
6- 7	+10	+ 5	+ 9	+ 5	+ 5	+ 3	+ 2	+ 4	+ 6	+ 7	+ 8	+ 6	+ 6
7- 8	+ 7	+ 5	+ 9	+ 3	+ 2	+ 1	+ 1	+ 2	+ 4	+ 5	+ 7	+ 6	+ 4
8- 9	+ 5	+ 1	+ 7	+ 2	+ 1	+ 1	+ 1	+ 1	+ 3	+ 4	+ 5	+ 5	+ 3
9-10	+ 3	0	+ 5	+ 2	+ 1	+ 1	0	0	+ 1	+ 2	+ 3	+ 4	+ 2
10-11	0	0	+ 3	0	+ 2	0	0	0	0	0	+ 2	+ 1	+ 1
11-12	- 2	- 1	+ 1	+ 2	+ 1	0	- 1	0	0	- 1	+ 2	- 1	0
12-13	- 3	- 1	- 1	- 1	+ 1	0	0	0	- 1	0	+ 1	- 1	- 1
13-14	- 1	- 2	0	- 1	+ 2	+ 1	0	0	0	0	+ 2	- 2	0
14-15	- 2	- 2	0	0	+ 3	+ 1	+ 2	+ 1	+ 2	0	+ 3	- 3	0
15-16	- 3	- 2	0	+ 1	+ 4	+ 3	+ 3	+ 4	+ 4	+ 1	+ 4	- 2	+ 1
16-17	- 3	- 3	0	+ 1	+ 4	+ 4	+ 4	+ 5	+ 4	0	+ 1	- 5	+ 1
17-18	-13	-13	- 6	+ 2	+ 5	+ 5	+ 7	+ 7	+ 3	- 7	-10	-13	- 3
18-19	-27	-30	-21	- 1	+ 7	+ 9	+13	+10	- 2	-19	-24	-22	- 9
19-20	-33	-39	-33	-10	- 4	+ 5	+ 8	+ 3	-16	-27	-35	-25	-17
20-21	-29	-33	-35	-18	-15	- 3	- 3	- 7	-22	-29	-35	-26	-21
21-22	-17	-16	-29	-18	-21	-12	-14	-15	-23	-22	-19	-19	-19
22-23	- 3	+ 5	-18	-12	-21	-17	-20	-21	-17	- 7	- 2	+ 1	-11
23-24	+ 7	+26	- 3	- 5	-16	-18	-23	-25	- 8	+ 8	+11	+17	- 2
N	- 7	+ 1	-13	+ 3	+ 6	+ 3	- 3	-2	- 2	- 3	+ 6	+ 9	
No. of days	4	4	4	5	5	5	5	5	5	5	5	5	
A - a	27	-	29	17	19	12	16	17	17	22	18	21	18
B - a	2	-	1	4	6	9	14	10	5	2	3	1	2
A - b	57	73	63	33	41	30	38	42	39	50	54	44	38
B - b	32	-	35	20	28	27	36	35	27	30	39	24	22

Diurnal Variation of Horizontal Intensity

International Quiet Days, 1938
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	+36	+51	+36	+31	+ 4	+ 9	+24	+10	+30	+38	+42	+35	+29
1- 2	+23	+39	+25	+21	0	+ 3	+12	+ 7	+16	+23	+30	+26	+ 19
2- 3	+ 8	+23	+13	+12	- 2	- 5	0	- 1	+ 4	+ 9	+15	+14	+ 7
3- 4	- 8	+ 6	+ 3	+ 3	- 6	-12	- 7	- 8	- 5	- 1	+ 1	+ 2	- 3
4- 5	-16	- 7	- 5	- 5	- 8	-12	- 9	-11	-12	- 8	- 8	- 9	- 9
5- 6	-21	-13	- 9	- 8	-11	- 9	-10	-11	-14	-12	-14	-16	-12
6- 7	-19	-14	-13	-12	-12	- 9	-10	-11	-16	-14	-15	-18	-14
7- 8	-19	-18	-15	-15	-11	- 9	-11	-12	-17	-15	-16	-18	-15
8- 9	-21	-17	-14	-16	-11	-10	-12	-14	-19	-17	-18	-18	-16
9-10	-21	-16	-15	-16	-12	-10	-11	-15	-19	-18	-19	-17	-16
10-11	-19	-17	-15	-15	-11	- 9	-11	-14	-20	-19	-19	-18	-16
11-12	-19	-18	-15	-14	- 9	- 8	-11	-13	-19	-20	-19	-18	-15
12-13	-18	-17	-15	-14	- 9	- 7	-11	-12	-18	-16	-20	-17	-15
13-14	-16	-15	-13	-13	- 9	- 6	-11	-11	-17	-15	-21	-16	-14
14-15	-13	-15	-13	-13	- 8	- 6	-12	-10	-16	-15	-19	-14	-13
15-16	-14	-15	-13	-13	- 6	- 5	-10	- 8	-14	-14	-17	-14	-12
16-17	-12	-16	-13	-12	- 4	- 4	- 9	- 5	-13	-13	-16	-15	-11
17-18	-13	-18	-13	-10	0	- 1	- 6	0	- 9	-12	-15	-13	- 9
18-19	- 8	-18	-12	- 5	+ 7	+ 6	+ 3	+ 8	- 1	- 5	-10	- 8	- 4
19-20	+ 4	-10	- 3	+ 2	+13	+13	+10	+17	+11	+ 4	+ 5	+ 3	+ 6
20-21	+18	+ 3	+13	+10	+19	+17	+15	+25	+25	+21	+21	+17	+17
21-22	+38	+30	+28	+24	+27	+21	+22	+29	+39	+35	+35	+37	+30
22-23	+63	+43	+39	+36	+31	+24	+29	+32	+51	+45	+48	+50	+41
23-24	+74	+49	+40	+41	+29	+25	+34	+33	+56	+46	+53	+49	+44
R	95	69	55	57	43	37	46	48	76	66	74	68	60
N	+30	- 3	+ 1	+ 6	+18	+13	+ 5	+19	+20	0	+ 6	+ 8	
No. of days	4	4	4	5	5	5	5	5	5	5	5	5	57

Diurnal Variation of X, 1938

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	+31	+43	+30	+30	+ 7	+12	+27	+13	+28	+34	+38	+31	+27
1- 2	+18	+31	+19	+19	0	+ 4	+13	+ 7	+13	+19	+25	+22	+16
2- 3	+ 3	+18	+ 8	+ 9	- 5	- 7	- 2	- 4	+ 1	+ 5	+11	+11	+ 4
3- 4	-12	+ 4	0	0	-10	-14	-10	-11	- 8	- 4	- 1	- 1	- 6
4- 5	-19	- 7	- 7	- 7	-11	-14	-11	-13	-14	-10	- 9	-11	-11
5- 6	-22	-13	-10	- 9	-13	-10	-11	-12	-15	-13	-15	-17	-13
6- 7	-21	-15	-15	-13	-13	-10	-10	-12	-17	-15	-17	-19	-15
7- 8	-20	-19	-17	-16	-11	- 9	-11	-12	-18	-16	-17	-19	-15
8- 9	-22	-17	-15	-16	-11	-10	-12	-14	-20	-18	-19	-19	-16
9-10	-22	-16	-16	-16	-12	-10	-11	-15	-19	-18	-20	-18	- 16
10-11	-19	-17	-16	-15	-11	- 9	-11	-14	-20	-19	-19	-18	-16
11-12	-19	-18	-15	-14	- 9	- 8	-11	-13	-19	-20	-19	-18	-15
12-13	-17	-17	-15	-14	- 9	- 7	-11	-12	-18	-16	-20	-17	-14
13-14	-16	-15	-13	-13	- 9	- 6	-11	-11	-17	-15	-21	-16	-14
14-15	-13	-15	-13	-13	- 9	- 6	-12	-10	-16	-15	-20	-13	-13
15-16	-13	-15	-13	-13	- 7	- 6	-11	- 9	-15	-14	-18	-14	-12
16-17	-11	-15	-13	-12	- 5	- 5	-10	- 6	-14	-13	-16	-14	-11
17-18	-10	-15	-12	-10	- 1	- 2	- 7	- 1	-10	-11	-13	-10	- 9
18-19	- 3	-12	- 8	- 5	+ 6	+ 4	0	+ 6	- 1	- 1	- 5	- 4	- 2
19-20	+11	- 2	+ 4	+ 4	+14	+12	+ 8	+16	+14	+ 9	+12	+ 8	+ 9
20-21	+24	+10	+20	+14	+22	+18	+16	+26	+29	+27	+28	+22	+21
21-22	+40	+32	+34	+28	+31	+23	+25	+31	+43	+38	+38	+40	+34
22-23	+63	+41	+42	+37	+34	+27	+32	+35	+53	+45	+47	+49	+42
23-24	+72	+43	+40	+41	+31	+29	+38	+37	+57	+43	+50	+45	+44
R	94	62	59	57	47	43	50	52	77	65	71	68	60

Diurnal Variation of Y, 1938
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	+26	+42	+32	+ 5	-14	-14	- 8	-15	+10	+24	+20	+23	+11
1- 2	+27	+41	+33	+13	- 2	- 4	- 2	+ 1	+16	+26	+25	+23	+16
2- 3	+26	+30	+27	+17	+14	+ 7	+ 8	+15	+17	+20	+21	+20	+19
3- 4	+ 7	+13	+18	+15	+19	+10	+14	+15	+12	+13	+10	+13	+14
4- 5	+10	+ 1	+10	+ 9	+11	+ 7	+ 7	+10	+ 6	+ 6	+ 4	+ 6	+ 7
5- 6	+ 3	- 3	+ 5	+ 5	+ 8	+ 3	+ 2	+ 5	+ 3	+ 5	+ 3	+ 4	+ 4
6- 7	+ 4	+ 2	+ 6	+ 3	+ 3	+ 1	0	+ 2	+ 3	+ 4	+ 5	+ 2	+ 3
7- 8	+ 3	+ 1	+ 6	0	0	- 1	- 1	0	+ 1	+ 2	+ 4	+ 2	+ 1
8- 9	+ 1	- 2	+ 4	- 1	- 1	- 1	- 1	- 2	- 1	+ 1	+ 1	+ 1	0
9-10	- 1	- 3	+ 2	-1	- 1	- 1	- 2	- 3	- 3	- 2	- 1	+ 1	- 1
10-11	- 4	- 3	0	- 3	0	- 2	- 2	- 3	- 4	- 4	- 2	- 3	- 3
11-12	- 6	- 5	- 2	- 5	- 1	- 2	- 3	- 3	- 4	- 5	- 2	- 5	- 4
12-13	- 7	- 4	- 4	- 4	- 1	- 1	- 2	- 2	- 5	- 3	- 3	- 4	- 3
13-14	- 4	- 5	- 3	- 4	0	0	- 2	- 2	- 3	- 3	- 2	- 5	- 3
14-15	- 5	- 6	- 3	- 3	+ 1	0	0	- 1	- 1	- 3	- 1	- 6	- 2
15-16	- 6	- 5	- 3	- 2	+ 3	+ 2	+ 1	+ 2	+ 1	- 2	+ 1	- 5	- 1
16-17	- 5	- 6	- 3	- 1	+ 3	+ 3	+ 2	+ 4	+ 1	- 3	- 2	- 8	- 1
17-18	-15	-17	- 9	0	+ 5	+ 5	+ 6	+ 7	+ 1	- 9	-13	-16	- 5
18-19	-29	-34	-23	- 2	+ 8	+10	+14	+12	- 2	-20	-26	-24	-10
19-20	-32	-41	-34	-10	- 1	+ 8	+10	+ 6	-14	-26	-34	-24	-16
20-21	-25	-32	-32	-16	-11	0	0	- 2	-17	-25	-31	-23	-18
21-22	-10	-10	-23	-13	-16	- 8	-10	- 9	-16	-15	-12	-12	-13
22-23	+ 9	+13	-11	- 5	-15	-12	-14	-15	- 8	+ 1	+ 7	+10	- 3
23-24	+21	+35	+ 4	+ 2	-10	-13	-16	-18	+ 2	+16	+21	+26	+ 6
A - a	34	47	37	22	20	12	17	18	22	31	28	31	23
B - a	3	1	1	5	9	12	17	15	6	3	4	1	3
A - b	59	83	67	33	35	23	30	33	34	52	59	50	37
B - b	28	37	31	16	24	23	30	30	18	24	35	20	17

Diurnal Variation of Vertical Intensity
International Quiet Days, 1938

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	+ 4	0	- 9	- 2	- 6	- 4	- 3	- 6	- 3	- 1	- 1	- 2	- 3
1- 2	+ 2	- 2	-11	- 3	- 8	- 6	- 7	- 8	- 4	- 2	0	- 2	- 4
2- 3	- 1	- 3	-10	- 4	- 7	- 5	- 7	- 7	- 5	- 4	0	- 3	- 5
3- 4	- 4	- 6	- 8	- 4	- 4	- 3	- 4	- 5	- 6	- 6	- 2	- 4	- 5
4- 5	- 4	- 6	- 7	- 4	- 3	- 2	- 3	- 4	- 5	- 5	- 3	- 4	- 4
5- 6	- 4	- 5	- 5	- 3	- 3	- 2	- 3	- 3	- 4	- 5	- 4	- 4	- 4
6- 7	- 3	- 4	- 3	- 4	- 3	- 1	- 3	- 3	- 3	- 3	- 2	- 3	- 3
7- 8	- 2	- 2	- 1	- 3	- 2	- 1	- 3	- 2	- 2	- 2	- 1	- 2	- 2
8- 9	- 1	0	+ 1	- 3	- 1	0	- 3	- 1	- 2	- 1	0	- 1	- 1
9-10	- 1	+ 1	+ 1	- 2	0	0	- 2	- 1	0	0	0	0	0
10-11	0	+ 2	+ 2	0	+ 1	0	- 2	0	+ 1	+ 1	+ 1	0	+ 1
11-12	+ 1	+ 3	+ 3	+ 1	+ 3	+ 1	0	+ 1	+ 2	+ 2	+ 1	+ 1	+ 2
12-13	+ 2	+ 4	+ 4	+ 2	+ 3	+ 2	0	+ 2	+ 3	+ 3	+ 1	+ 2	+ 2
13-14	+ 3	+ 5	+ 6	+ 4	+ 4	+ 3	+ 2	+ 2	+ 4	+ 4	+ 1	+ 2	+ 3
14-15	+ 4	+ 6	+ 7	+ 4	+ 4	+ 3	+ 3	+ 3	+ 5	+ 4	+ 2	+ 3	+ 4
15-16	+ 4	+ 7	+ 8	+ 5	+ 4	+ 4	+ 4	+ 4	+ 6	+ 5	+ 2	+ 3	+ 5
16-17	+ 5	+ 7	+ 8	+ 6	+ 5	+ 4	+ 5	+ 5	+ 6	+ 5	+ 3	+ 4	+ 5
17-18	+ 3	+ 6	+ 8	+ 6	+ 5	+ 5	+ 5	+ 6	+ 6	+ 4	+ 3	+ 3	+ 5
18-19	0	+ 3	+ 7	+ 6	+ 6	+ 5	+ 6	+ 7	+ 5	+ 3	+ 2	+ 2	+ 4
19-20	- 3	- 1	+ 5	+ 4	+ 5	+ 5	+ 7	+ 7	+ 4	+ 1	+ 1	+ 1	+ 3
20-21	- 5	- 4	+ 2	+ 2	+ 4	+ 4	+ 6	+ 5	+ 2	0	- 1	0	+ 1
21-22	- 4	- 4	0	0	+ 1	0	+ 3	+ 4	+ 1	- 1	- 1	0	0
22-23	- 1	- 4	- 2	- 1	- 1	- 2	+ 1	- 1	- 3	- 2	- 1	+ 3	- 1
23-24	+ 1	- 4	- 5	- 2	- 2	- 3	- 2	- 5	- 6	- 2	- 2	+ 5	- 2
R	10	13	19	10	14	11	14	15	12	11	7	9	10
N	- 3	- 4	+ 2	- 2	+ 2	- 1	0	- 3	- 4	- 3	- 2	+ 7	
No. of days	5	5	4	5	5	5	5	5	5	5	5	5	59

Diurnal Variation of Declination - All Days 1938
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	+21	+27	+19	+ 2	-10	-13	-12	-14	+ 2	+20	+20	+15	+ 6
1- 2	+24	+29	+22	+11	+ 2	- 3	- 1	-2	+13	+23	+22	+19	+13
2- 3	+24	+24	+18	+15	+13	+ 7	+ 9	+11	+18	+22	+20	+21	+17
3- 4	+20	+16	+13	+15	+18	+10	+14	+16	+16	+16	+14	+18	+15
4- 5	+12	+ 8	+ 8	+11	+12	+ 7	+11	+12	+11	+ 9	+ 9	+13	+10
5- 6	+ 8	+ 4	+ 7	+ 8	+ 8	+ 4	+ 7	+ 7	+ 8	+ 7	+ 9	+10	+ 7
6- 7	+ 9	+ 7	+ 9	+ 6	+ 4	+ 2	+ 5	+ 5	+ 6	+ 7	+10	+11	+ 7
7- 8	+ 8	+ 7	+ 7	+ 4	+ 1	0	+ 3	+ 3	+ 4	+ 5	+ 8	+10	+ 5
8- 9	+ 5	+ 4	+ 4	+ 1	- 1	- 2	+ 1	+ 2	+ 2	+ 3	+ 5	+ 8	+ 3
9-10	+ 3	+ 1	+ 2	0	- 2	- 2	- 1	0	0	+ 1	+ 3	+ 5	+ 1
10-11	0	0	+ 2	- 2	- 2	- 2	- 3	- 1	- 2	- 1	+ 1	+ 3	- 1
11-12	- 2	- 1	+ 1	- 3	- 2	- 2	- 4	- 1	- 2	- 2	0	0	- 1
12-13	- 3	- 1	0	- 2	- 2	- 1	- 4	- 2	- 2	- 3	0	- 2	- 2
13-14	- 4	- 1	0	- 1	0	0	- 3	- 1	- 1	- 2	+ 1	- 3	- 1
14-15	- 3	- 1	+ 1	+ 1	+ 2	+ 2	- 1	+ 2	+ 1	- 1	+ 1	- 3	0
15-16	- 3	- 1	+ 2	+ 2	+ 4	+ 4	+ 2	+ 4	+ 3	0	+ 2	- 2	+ 1
16-17	- 5	- 3	+ 1	+ 3	+ 5	+ 5	+ 4	+ 5	+ 4	- 1	- 1	- 4	+ 1
17-18	-14	-13	- 5	+ 2	+ 6	+ 6	+ 5	+ 8	+ 4	- 8	-12	-14	- 3
18-19	-27	-28	-18	- 3	+ 8	+10	+12	+11	- 1	-21	-26	-25	- 9
19-20	-33	-39	-31	-14	- 1	+ 8	+ 8	+ 3	-12	-29	-37	-31	-17
20-21	-30	-35	-33	-20	-11	- 1	- 2	- 9	-19	-29	-35	-30	-21
21-22	-18	-21	-25	-18	-18	-10	-12	-17	-22	-22	-21	-22	-19
22-23	- 3	0	-10	-12	-20	-15	-18	-20	-19	- 5	- 4	- 6	-11
23-24	+11	+17	+ 6	- 5	-18	-16	-19	-21	-11	+11	+11	+ 8	- 2
N	- 1	0	0	0	- 1	0	- 1	0	+ 1	0	0	+ 1	
A - a	28	-	22	18	20	12	18	18	20	26	22	24	19
B - a	1	-	2	6	10	12	16	13	6	3	2	1	3
A - b	57	68	55	35	38	26	33	37	40	52	59	52	38
B.- b	30		35	23	28	26	31	32	26	29	39	29	22

Diurnal Variation of Horizontal Intensity

All Days 1938

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	+44	+48	+35	+34	+14	+16	+25	+21	+37	+34	+38	+35	+32
1- 2	+33	+37	+22	+23	+ 8	+ 9	+16	+13	+24	+22	+26	+27	+22
2- 3	+17	+20	+ 8	+11	+ 2	0	+ 7	+ 4	+ 9	+11	+13	+14	+10
3- 4	+ 3	+ 3	- 2	+ 3	- 4	- 7	- 2	- 5	- 3	+ 1	- 1	+ 1	- 1
4- 5	- 8	- 8	- 9	- 4	- 8	-10	- 8	-8	- 8	-10	- 9	- 8	- 8
5- 6	-11	-15	-14	- 7	-10	-11	-11	- 8	-11	-15	-13	-15	-12
6- 7	-11	-19	-17	- 7	-12	-11	-12	-10	-14	-15	-15	-16	-13
7- 8	-13	-19	-19	-13	-15	-12	-14	-12	-16	-16	-16	-16	-15
8- 9	-15	-20	-18	-22	-15	-12	-16	-14	-18	-16	-16	-15	-16
9-10	-15	-18	-14	-23	-14	-12	-16	-16	-20	-18	-16	-15	-16
10-11	-20	-17	-14	-20	-12	-12	-17	-17	-19	-18	-17	-16	-17
11-12	-18	-17	-14	-15	-11	-10	-14	-16	-20	-18	-16	-15	-15
12-13	-15	-14	-14	-14	-10	- 8	-13	-14	-19	-14	-16	-13	-14
13-14	-12	-12	-13	-14	-10	- 8	-12	-14	-16	-14	-15	-13	-13
14-15	-11	-11	-10	-13	- 8	- 8	-11	-12	-15	-13	-14	-12	-12
15-16	-10	-12	-11	-11	- 5	- 5	- 9	-10	-13	-12	-14	-10	-10
16-17	-11	-14	- 9	-10	- 3	- 3	- 6	- 7	-10	-11	-14	-11	- 9
17-18	-14	-16	- 8	- 8	0	0	- 2	- 2	- 7	-10	-14	- 9	- 7
18-19	-16	-16	- 8	- 4	+ 6	+ 7	+ 7	+ 7	0	- 6	-11	- 8	- 3
19-20	-10	- 9	0	+ 2	+12	+13	+14	+16	+10	+ 4	+ 2	- 2	+ 4
20-21	+ 4	+ 7	+13	+12	+18	+17	+18	+21	+21	+19	+17	+10	+15
21-22	+24	+30	+27	+25	+26	+22	+21	+26	+31	+32	+32	+27	+27
22-23	+41	+43	+41	+36	+28	+23	+25	+29	+39	+41	+42	+39	+36
23-24	+45	+48	+46	+39	+23	+22	+26	+28	+39	+43	+45	+40	+37
R	65	68	65	62	43	35	43	46	59	61	62	56	54
N	- 2	- 4	+ 6	- 1	+ 2	+ 1	- 2	+ 1	- 3	+ 1	+ 1	0	

Diurnal Variation of Vertical Intensity - All Days 1938
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	0	+ 1	- 6	- 4	- 6	- 5	- 4	- 6	- 6	- 5	- 2	- 1	- 4
1- 2	- 1	0	- 7	- 6	- 6	- 6	- 7	- 8	- 8	- 6	- 3	- 2	- 5
2- 3	- 1	- 2	- 7	- 7	- 5	- 6	- 7	- 8	- 9	- 6	- 3	- 4	- 5
3- 4	- 3	- 5	- 7	- 6	- 4	- 5	- 6	- 6	- 8	- 6	- 5	- 5	- 5
4- 5	- 4	- 6	- 7	- 6	- 3	- 4	- 6	- 5	- 6	- 6	- 5	- 5	- 5
5- 6	- 4	- 6	- 6	- 5	- 3	- 4	- 5	- 4	- 5	- 5	- 5	- 5	- 5
6- 7	- 2	- 4	- 4	- 3	- 3	- 3	- 4	- 3	- 4	- 3	- 3	- 3	- 3
7- 8	- 2	- 2	- 2	- 3	- 3	- 3	- 3	- 3	- 3	- 1	- 2	- 2	- 2
8- 9	- 1	- 1	0	- 3	- 2	- 2	- 3	- 2	- 1	0	- 1	- 1	- 1
9-10	0	0	+ 1	- 2	- 1	- 1	- 2	- 1	0	0	0	0	- 1
10-11	0	+ 1	+ 2	0	0	0	- 1	0	+ 1	+ 2	+ 1	0	+ 1
11-12	+ 1	+ 2	+ 3	+ 2	+ 2	+ 1	+ 1	+ 1	+ 2	+ 3	+ 2	+ 2	+ 2
12-13	+ 2	+ 4	+ 5	+ 3	+ 2	+ 2	+ 1	+ 2	+ 4	+ 4	+ 3	+ 2	+ 3
13-14	+ 4	+ 5	+ 6	+ 5	+ 3	+ 2	+ 2	+ 3	+ 5	+ 5	+ 4	+ 3	+ 4
14-15	+ 4	+ 5	+ 7	+ 6	+ 4	+ 3	+ 3	+ 4	+ 6	+ 6	+ 5	+ 4	+ 5
15-16	+ 5	+ 5	+ 7	+ 6	+ 5	+ 4	+ 4	+ 5	+ 7	+ 7	+ 6	+ 5	+ 5
16-17	+ 5	+ 6	+ 8	+ 6	+ 5	+ 4	+ 5	+ 6	+ 8	+ 7	+ 6	+ 5	+ 6
17-18	+ 4	+ 5	+ 7	+ 7	+ 5	+ 4	+ 6	+ 6	+ 8	+ 6	+ 5	+ 5	+ 6
18-19	+ 1	+ 2	+ 6	+ 6	+ 6	+ 5	+ 7	+ 8	+ 7	+ 4	+ 3	+ 3	+ 5
19-20	- 2	- 1	+ 3	+ 4	+ 5	+ 6	+ 8	+ 8	+ 6	+ 2	+ 1	+ 1	+ 3
20-21	- 3	- 3	0	+ 2	+ 4	+ 5	+ 7	+ 5	+ 3	- 1	- 1	- 1	+ 1
21-22	- 3	- 2	- 2	0	+ 1	+ 3	+ 4	+ 3	+ 1	- 2	- 3	- 1	0
22-23	- 2	- 1	- 3	- 1	- 1	0	+ 1	0	- 1	- 3	- 3	0	- 1
23-24	- 1	0	- 4	- 2	- 4	- 2	- 2	- 3	- 4	- 4	- 2	0	- 2
R	9	12	15	14	12	12	15	16	17	13	11	10	11
M	+ 1	0	0	0	0	0	+ 1	- 1	0	0	0	+ 1	

Horizontal Intensity

G.M.T. (H = 34000γ + Mean .....) January 1938

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	290	+54	+46	+33	+13	- 8	-21	-19	-19	-21	-18	-15	-10	- 9	-12	-12	-11	-12	-15	-17	-11	0	+17	+34	+31	947	00 42 +60	09 00 -23	83
2	307	+22	+ 5	-16	-24	-21	-17	-17	-14	-15	-16	-13	- 9	-14	-14	- 8	- 8	-13	-13	- 6	+12	+35	+49	+59	+59	945	23 16 +63	03 13 -25	88
3	311	+45	+37	+14	0	- 6	-10	-13	-15	-20	-16	-13	-10	- 8	- 8	-10	- 6	-10	-19	-27	-23	- 3	+22	+39	+50	944	00 00 +58	18 58 -31	89
4	304	+56	+41	+18	- 5	-16	-16	-10	- 8	-11	- 6	- 8	-14	- 6	+16	+ 3	-15	-26	-24	-17	+ 3	- 1	+14	+19	+20	937	00 08 +60	16 40 -27	87
+ 5	353	+16	+ 7	+ 2	-10	-14	-22	-18	-14	-17	-21	-14	-16	-14	-13	-15	-15	-14	-13	- 7	+ 7	+22	+44	+65	+72	933	23 40 +74	06 04 -27	101
6	297	+48	+24	+ 1	- 8	-11	- 6	- 6	- 6	- 6	-12	-17	-14	-20	-17	-10	-16	-21	-19	-17	- 6	+19	+35	+39	+37	947	00 03 +58	17 04 -27	85
7	227	+44	+31	+18	+ 7	- 5	-16	-15	-14	-14	-12	-14	-13	-14	-15	- 8	+ 7	+10	+ 2	-12	-14	-12	+11	+26	+30	934	00 00 +48	05 53 -17	65
8	412	+49	+45	+10	-29	-40	-29	-33	-33	-35	-32	-27	-22	-18	-14	-10	- 7	- 5	- 4	+ 1	+16	+39	+56	+67	+68	911	23 18 +71	03 43 -47	118
9	412	+41	+28	+ 6	-15	-28	-33	-30	-26	-24	-22	-22	-22	-18	-12	- 9	- 7	- 6	- 7	- 5	0	+16	+43	+69	+81	923	23 33 +84	05 38 -34	118
+ 10	349	+57	+33	+ 9	-10	-19	-23	-21	-20	-22	-22	-23	-24	-22	-18	-18	-16	-15	-12	- 7	+ 8	+23	+42	+63	+68	938	23 23 +73	11 46 -27	100
+11																													
12																													
13																													
+14	464	+38	+20	- 1	-16	-19	-22	-22	-26	-29	-29	-26	-24	-22	-21	- 9	-15	-11	-11	- 6	+12	+25	+49	+76	+95	926	23 53 +102	09 20 -31	133
15	482	+86	+58	+33	+13	+ 3	-13	-28	-39	-43	-34	-33	-29	-21	-20	-21	-20	-18	-19	-19	- 9	+ 8	+42	+55	+67	936	00 09 +91	08 13 -47	138
16	534	+67	+75	+30	- 1	-18	-20	-18	-14	-15	-16	-18	-22	-14	-14	-16	-20	-18	-22	-24	-19	0	+23	+52	+39	942	01 02 +124	11 22 -29	153
17	979	+134	+112	+88	+65	+37	+21	+23	+41	-14	-10	+ 3	+21	+20	- 3	-54	-56	-92	-98	-104	-95	-72	- 1	+36	+ 8	877	00 06 +169	18 52 -112	281
18	303	+28	+ 6	-13	-14	-20	-32	-26	-18	-18	-16	-15	-12	0	- 4	- 4	+ 8	+13	+ 7	+ 2	0	+10	+32	+49	+48	862	22 28 +50	05 33 -37	87
19	377	+15	+14	+ 8	- 4	-16	-22	-22	-19	-16	-26	-28	-16	-17	-16	- 8	- 3	+ 8	- 2	- 7	- 2	+16	+36	+57	+71	898	23 43 +76	10 12 -32	108
20	433	+57	+50	+36	+16	- 7	-31	-43	-41	-37	-31	-29	-19	-11	-13	-14	-25	-22	-21	-19	-11	+28	+52	+70	+72	918	23 02 +77	06 42 -47	124
21	509	+72	+56	+36	+16	-14	-11	- 3	+ 1	-24	-42	-40	-47	-36	-25	-24	-28	-31	-31	-25	- 9	+19	+43	+59	+78	907	23 25 +95	10 56 -51	146
22	1509	+162	+157	+175	+180	+146	+162	+151	+32	+41	+21	-189	-201	-206	-165	-126	-100	-82	-77	-69	-56	-31	- 8	+29	+53	802	03 08 +218	12 55 -216	434
23	362	+11	+ 7	- 3	-12	-25	-31	-29	-25	-24	-17	- 8	-17	- 9	- 3	- 8	- 9	- 6	- 2	- 2	+11	+25	+48	+64	+61	851	22 32 +71	05 57 -33	104
24	272	+27	+18	- 3	-14	-23	-21	-12	-19	-17	-10	- 9	-14	-13	- 7	- 7	- 6	- 8	-10	- 4	+ 5	+19	+38	+47	+50	879	23 20 +54	05 13 -24	78
25	1184	+ 73	+62	+46	+42	+36	+36	+36	+40	+41	+41	+42	+47	+90	+87	+73	+67	+46	+27	-52	-146	-175	-150	-192	-217	839	15 21 +106	23 17 -254	540
26	939	-132	-128	-121	-117	-93	-64	-44	-29	-25	-24	+ 4	+19	+17	+23	+32	+50	+56	+49	+59	+76	+78	+97	+110	+118	783	23 20 +115	00 00 -157	270
27	307	+14	+ 5	- 7	-17	-18	-17	-17	-19	-16	-16	-15	- 9	- 8	- 8	- 6	+ 3	0	- 6	- 7	+ 1	+18	+36	+51	+60	876	23 45 +66	07 42 -22	88
28	220	+43	+30	+18	+ 5	- 4	- 4	- 4	- 4	- 4	- 5	- 6	-10	-10	-11	- 3	- 5	- 3	- 8	-14	-16	-13	- 4	+14	+29	895	00 04 +45	19 40 -18	63
29	234	+29	+31	+24	+ 8	- 7	-21	-22	-19	-15	-12	- 9	- 6	-11	- 9	- 7	- 6	- 5	- 7	- 6	- 5	- 2	+12	+26	+37	901	24 00 +43	05 56 -24	67
+ 30	279	+34	+34	+22	+ 4	-13	-17	-16	-14	-14	-14	-14	-14	-14	-13	-12	- 9	- 9	-14	-12	-10	+ 2	+17	+46	+61	913	23 20 +62	05 33 -18	80
31	265	+54	+40	+22	+ 5	- 8	-15	-18	-16	-15	-12	- 2	- 8	- 8	-10	- 6	- 8	- 5	-12	-14	+12	+ 8	- 8	+ 8	+17	912	00 00 +59	18 02 -17	76
MEAN.		+44	+33	+17	+ 3	- 8	-11	-11	-13	-15	-15	-20	-18	-15	-12	-11	-10	-11	-14	-16	-10	+ 4	+24	+41	+45	903			

200/1/41—14357]

(1946 Print).

HORIZONTAL INTENSITY

G.M.T. (H = 34000γ + Mean + ...) February 1938.

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																													
3																													
4																													
5																													
6	562	+67	+63	+59	+84	+69	+ 4	-54	-46	-37	-39	-43	-41	-27	-19	-19	-17	+ 1	-12	-17	-18	-15	0	+19	+28	906	03 32 +95	06 46 -66	161
7	366	+27	+16	+ 4	-14	-27	-29	-19	-17	-22	-23	-15	- 8	0	+10	- 2	0	-10	-13	-14	- 6	+ 8	+32	+48	+63	900	23 24 +70	05 20 -35	105
8	296	+51	+42	+27	+14	+ 1	- 4	- 4	- 9	-15	-15	-15	-11	- 2	+ 1	+ 7	+17	- 2	- 1	-22	-26	- 5	-11	- 3	- 5	913	00 30 +55	18 35 -30	85
9	505	+33	+31	+ 2	-30	-44	-44	-29	-36	-30	-21	-11	-19	-22	-10	+ 1	-11	- 9	-11	- 4	- 2	+20	+69	+88	+86	875	22 53 +95	05 30 -50	145
10	474	+67	+49	+38	- 4	-35	-41	-51	-29	-13	-17	-11	-13	- 9	-11	-17	-18	-16	-13	- 5	+ 5	+18	+36	+46	+53	881	00 20 +77	06 52 -59	136
11	460	+53	+37	+ 4	-24	-40	-46	-38	-41	-47	-38	-28	-16	-13	-12	- 8	- 4	- 8	- 8	- 4	+10	+39	+66	+79	+77	868	22 41 +79	09 01 -53	132
12	338	+36	+23	+10	- 7	-15	-16	-22	-20	-23	-26	-22	-18	-18	-16	-14	-17	-16	-16	-15	- 1	+26	+49	+64	+65	900	23 14 +69	09 55 -28	97
13	523	+36	+18	+ 3	-12	-24	-27	-22	-19	-24	-28	-33	-37	-29	-19	-21	-24	-26	-26	-17	+ 3	+44	+90	+105	+95	921	22 38 +110	11 42 -40	150
14	607	+106	+77	+49	+30	+22	+14	+ 3	- 3	+ 1	+10	-15	- 8	+ 1	-23	-23	-20	-43	-50	-51	-51	-38	-12	+10	+23	890	00 00 +117	17 48 -57	174
+15																													
+16	279	+53	+41	+25	+ 6	- 6	-16	-19	-23	-21	-19	-17	-17	-17	-17	-17	-18	-17	-19	-21	-13	+14	+38	+47	+47	910	00 04 +57	08 29 -23	80
17	391	+34	+27	+12	- 5	-16	-20	-22	-25	-32	-30	-26	-20	-15	-15	-14	-13	-11	-13	-13	- 3	+24	+51	+68	+73	917	24 00 +76	08 53 -36	112
18	349	+68	+57	+35	+ 8	- 9	-12	-13	-19	-23	-20	-19	-19	-19	-20	-19	-20	-19	-23	-29	-16	-13	+34	+51	+55	924	00 02 +70	18 28 -30	100
+19	265	+51	+38	+25	+ 8	- 7	-13	-13	-17	-17	-17	-18	-18	-18	-16	-14	-16	-17	-19	-16	- 4	- 8	+33	+48	+55	925	23 47 +56	17 53 -20	76
+20	328	+50	+42	+22	+ 6	- 8	-16	-20	-26	-24	-21	-21	-23	-19	-14	-15	-16	-17	-20	-18	- 7	+14	+38	+57	+62	929	23 53 +66	08 03 -28	94
21	279	+54	+40	+23	+ 3	- 1	-10	-15	-16	-17	-13	-18	-19	-20	-18	-17	-18	-18	-19	-18	- 5	+10	+27	+42	+46	934	00 00 +59	12 03 -21	80
+22	244	+48	+36	+20	+ 3	- 6	- 6	- 5	- 5	- 5	- 7	-10	-13	-14	-13	-12	-10	-12	-15	-18	-15	- 6	+10	+19	+33	928	00 00 +52	18 40 -18	70
23	269	+46	+38	+22	+10	+ 6	+ 8	+ 8	+ 7	- 3	-13	-15	- 9	- 9	-10	- 6	-16	-17	-17	-21	-24	-13	+ 2	+10	+18	927	00 38 +49	19 38 -28	77
24	248	+31	+28	+20	+10	0	- 9	-22	-29	-28	-18	-12	-10	-11	-10	- 9	- 6	- 6	- 6	-10	- 2	- 8	+30	+33	+37	913	23 21 +39	08 14 -32	71
25	181	+28	+24	+15	+ 7	+ 1	0	- 4	- 6	- 8	- 9	- 4	-11	-11	-10	- 1	- 8	-12	-14	-12	-17	- 6	+13	+24	+30	922	23 50 +32	19 11 -20	52
26	251	+23	+12	+ 3	- 7	-11	-11	- 8	- 8	- 7	- 7	- 8	-16	-11	-11	-11	-15	-13	-14	-14	- 2	+18	+39	+43	+48	922	23 43 +52	11 47 -20	72
27	237	+48	+33	+11	-13	-14	-11	- 9	- 9	- 8	- 7	- 8	-11	- 8	-13	- 7	-10	-13	-15	-13	- 5	+10	+22	+22	+34	922	00 21 +51	13 54 -17	68
28	321	+46	+33	+15	- 3	- 9	-19	-35	-28	-27	-27	-12	-12	- 9	- 4	- 7	- 6	0	0	+ 4	+10	+12	+14	+33	+27	915	00 17 +52	06 15 -40	92
29																													
30																													
31																													
MEAN.		+48	+37	+20	+ 3	- 8	-15	-19	-19	-20	-18	-17	-17	-14	-12	-11	-12	-14	-16	-16	- 9	+ 7	+30	+43	+48	911			

[S.I.R.—388.
(1946 Print).

HORIZONTAL INTENSITY

G.M.T. (H = 34000γ + Mean + ...) March 1938.

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	269	+30	+ 5	- 6	-10	-14	-17	-27	-17	-10	0	+ 3	- 2	- 8	- 9	+ 6	0	- 6	- 3	-12	- 8	+11	+25	+33	+40	905	23 13 +44	06 22 -33	77
2	269	+24	+ 7	+ 3	- 2	- 4	- 7	-10	-18	-24	-25	-17	-11	- 8	- 7	- 5	- 5	- 3	- 4	- 7	+ 2	+11	+25	+37	+45	915	23 50 +50	09 30 -27	77
3	230	+42	+33	+12	-12	-16	-15	-17	-14	-12	-11	-10	-11	-10	-10	-11	-10	-10	-13	-15	- 7	+ 5	+27	+43	+48	921	23 48 +50	06 35 -16	66
4	262	+36	+27	+16	+ 3	- 7	-12	-17	-20	-20	-18	-20	-20	-18	-16	-16	-15	-11	-12	-10	- 1	+11	+35	+45	+49	932	22 52 +54	08 22 -21	75
5	402	+61	+52	+46	+32	+19	+18	+ 2	- 9	-23	-21	- 2	-10	- 7	+ 4	- 4	-26	-20	-32	-34	-37	-23	- 8	+ 4	+12	908	00 10 +72	18 57 -43	115
6	321	+37	+19	-18	-14	-21	-28	-32	-37	-25	-18	-13	-10	- 7	- 2	0	+ 1	+ 2	+ 4	+ 2	+ 6	+23	+41	+46	+51	892	23 21 +55	07 32 -37	92
7	216	+30	+20	+10	+ 3	- 1	- 9	-18	-20	-20	-17	-17	-24	-24	-22	- 9	- 9	-10	- 4	+ 2	+10	+20	+30	+33	+34	909	23 22 +35	12 11 -27	62
8	185	+28	+19	+10	- 3	-12	-15	-14	-14	-14	-14	-13	-13	-13	-12	-10	-10	- 8	- 3	- 1	+ 5	+13	+27	+34	+36	910	22 47 +37	05 51 -16	53
9	223	+29	+22	+ 9	- 2	- 8	-11	-15	-15	-15	-15	-16	-16	-17	-17	-13	-10	- 8	- 8	- 8	- 1	+10	+32	+38	+45	918	23 49 +47	12 18 -17	64
+10	237	+28	+14	- 1	-11	-15	-13	-13	-14	-13	-15	-14	-14	-12	-10	-10	- 9	- 9	- 8	- 8	+ 3	+16	+32	+44	+49	929	23 32 +51	04 21 -17	68
11	297	+35	+26	+15	+ 4	- 3	- 4	- 9	-10	-12	-14	-17	-19	-19	-18	-18	-16	-16	-19	-17	- 9	+ 6	+26	+42	+62	937	23 12 +65	17 54 -20	85
12	353	+55	+47	+39	+20	- 6	-19	-17	-20	-13	-12	-10	-16	-22	-26	-24	-35	-26	-22	-20	- 7	+13	+30	+41	+48	932	00 00 +62	15 45 -39	101
13	307	+39	+22	+ 6	-11	-14	-14	-15	-20	-20	-18	-19	-21	-22	-22	-18	-16	-14	-12	- 9	+ 5	+29	+50	+62	+56	932	22 35 +64	13 09 -24	88
14	335	+55	+38	+17	- 6	- 8	- 5	- 8	-21	-18	-18	-23	-19	-27	-25	-21	-14	-13	-14	-18	- 8	+12	+37	+56	+62	925	23 07 +68	12 23 -28	96
15	318	+52	+37	+13	0	-10	- 9	- 9	-10	- 8	- 9	-16	-22	-11	- 9	-14	-16	-12	-12	-12	- 1	- 4	- 8	+49	+51	918	00 02 +66	11 44 -25	91
+16	216	+38	+25	+13	+ 6	- 3	- 9	-13	-14	-12	-13	-12	-14	-13	-12	-14	-16	-17	-16	-14	- 6	+10	+25	+39	+42	927	23 52 +44	16 13 -18	62
17	283	+38	+27	+ 9	- 3	- 7	-11	-16	-20	-21	-18	-16	-15	-17	-18	-16	-16	-18	-19	-15	- 3	+19	+38	+51	+57	932	23 23 +60	08 13 -21	81
+18	241	+47	+35	+21	+ 7	- 2	-10	-16	-15	-16	-17	-17	-16	-16	-16	-15	-14	-14	-15	-14	- 6	+ 9	+27	+34	+33	938	00 00 +51	10 08 -18	69
+19	203	+31	+27	+20	+12	+ 1	- 6	-12	-16	-16	-16	-16	-18	-17	-14	-14	-14	-14	-14	-13	- 3	+15	+29	+37	+37	938	22 43 +40	11 48 -18	58
+20																													
21	405	+45	+25	+ 9	- 2	- 7	-11	-13	-15	-15	-14	-14	-13	-13	-19	-18	-14	-13	-15	-15	- 6	+ 8	+12	+54	+73	943	22 43 +94	13 53 -22	116
22																													
23	272	-25	-23	-14	-19	-25	-39	-41	-27	-25	+13	+ 5	+ 3	+ 8	+11	+14	+15	+14	+18	+17	+16	+21	+29	+30	+19	871	22 41 +34	06 33 -44	78
24	477	+22	+13	-16	-20	-36	-45	-43	-55	-51	-20	-23	-26	-15	- 3	+ 2	+ 5	+ 9	+15	+23	+33	+43	+53	+64	+75	851	23 40 +76	08 13 -61	137
25	195	+35	+25	+14	+ 4	- 5	-12	- 5	-12	-10	-10	-16	- 6	- 6	-10	-10	- 8	- 3	0	- 5	- 1	+ 7	+ 1	+12	+24	888	00 04 +38	08 13 -18	56
26	230	+31	- 6	-10	+ 2	0	-10	-14	-13	-12	-10	-13	0	-12	-12	- 6	- 6	- 4	+ 4	0	- 2	+ 4	+16	+34	+39	883	00 17 +42	02 03 -24	66
27	286	+21	0	- 7	-12	-14	-18	-21	-20	-18	-16	-17	-12	-10	-10	-10	- 9	- 6	- 4	+ 2	+14	+22	+32	+48	+58	899	23 53 +60	06 42 -22	82
28	279	+38	+25	+ 6	- 7	-13	-15	-16	-17	-18	-19	-19	-19	-20	-18	-13	-13	-11	- 9	- 4	+ 4	+17	+34	+51	+56	914	23 03 +59	12 06 -21	80
29																													
30	269	+41	+27	+ 7	- 7	-16	-20	-20	-19	-21	-20	-18	-16	-16	-16	-15	-12	-12	- 7	- 1	+ 6	+20	+35	+51	+54	931	22 44 +55	08 57 -22	77
31																													
MEAN.		+35	+22	+ 8	- 2	- 9	-14	-17	-19	-18	-14	-14	-14	-14	-13	-10	-11	- 9	- 8	- 8	0	+13	+27	+41	+46	915			

Horizontal Intensity

G.M.T. (H = 34000γ + Mean + ...) April 1938

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	241	+26	+17	+ 5	- 6	-12	-13	-16	-18	-18	-12	-10	-10	- 9	- 8	- 9	-10	- 7	- 6	- 4	0	+13	+21	+36	+46	942	23 38 +50	08 13 -19	69
+2	234	+39	+31	+16	+ 4	- 6	- 9	-13	-18	-19	-18	-17	-16	-17	-16	-16	-15	-13	-10	- 3	+ 3	+10	+24	+38	+47	944	24 00 +48	08 31 -19	67
3	286	+51	+39	+19	+ 8	+ 3	- 1	- 5	- 8	- 9	- 8	-10	-21	-25	-24	-26	-24	-23	-19	-15	- 9	+ 7	+19	+32	+39	938	00 03 +54	14 37 -28	82
4	265	+41	+26	+13	- 2	-17	-21	-20	-21	-19	-19	-26	-23	-16	- 6	- 5	- 8	- 8	- 6	- 2	+ 5	+14	+24	+40	+47	928	00 05 +48	11 02 -28	76
+5	342	+30	+20	+ 9	- 1	-10	-14	-19	-25	-28	-26	-23	-21	-20	-19	-17	-15	-13	-11	- 4	+ 8	+23	+43	+58	+68	939	23 22 +69	08 32 -29	98
6	555	+82	+59	+38	+21	+ 2	-14	-33	-44	-52	-67	-49	-35	-28	-25	-20	-15	- 9	- 5	0	+ 2	+17	+51	+61	+66	920	00 00 +88	09 44 -71	159
7	325	+52	+24	- 7	-14	-20	-15	-13	- 8	-11	-10	- 8	-17	-25	-23	-22	-19	-17	- 8	+ 2	+12	+21	+29	+44	+51	913	00 00 +66	12 55 -27	93
8	241	+28	+14	+ 7	+ 3	+ 1	- 1	- 4	- 7	-11	-17	-23	-12	-12	-15	-14	-12	-11	-28	- 4	+ 3	+10	+23	+35	+42	922	23 28 +44	10 01 -25	69
9	244	+29	+18	+ 3	- 1	0	- 3	- 7	-11	-15	-18	-20	-16	-14	+ 2	-16	-16	-14	-11	- 6	+ 2	+11	+25	+43	+42	931	23 15 +48	10 53 -22	70
10	234	+36	+27	+16	+11	+ 3	- 1	- 5	- 7	- 9	-13	- 9	-11	-21	-21	-20	-17	-17	-15	-11	- 5	- 7	+29	+40	+39	931	22 55 +42	13 17 -25	67
11	220	+32	+22	+ 9	+ 2	+ 1	- 1	- 5	-10	-14	-13	- 8	-10	-10	- 7	- 8	- 9	- 4	-13	-16	- 7	0	+10	+25	+39	930	23 17 +43	18 17 -20	63
12	356	+33	+23	+14	+ 4	- 4	- 5	-10	-18	-26	-31	-32	-22	-14	-24	-24	-20	-17	-14	- 7	+ 2	+35	+45	+54	+59	926	23 23 +67	10 13 -35	102
13	269	+39	+26	+14	- 5	-14	-17	-22	-27	-19	-14	-13	0	+23	+10	- 4	- 6	-15	- 8	+ 3	+15	+20	+17	+ 6	-17	933	00 00 +49	07 31 -28	77
14	488	+27	+19	-10	-21	-28	-57	-47	-46	-25	-12	- 8	- 4	- 7	- 9	-12	-10	- 2	- 7	+ 8	+26	+46	+48	+59	+67	886	23 42 +71	05 10 -69	140
15	311	+49	+38	+19	+11	-10	-14	-17	-18	-17	-21	-20	-16	-17	-23	-23	-20	-17	-13	-10	0	+16	+37	+46	+43	915	00 26 +64	09 55 -25	89
16	1649	139	+133	+128	+122	+119	+131	+216	+73	-179	-170	-137	-87	-84	-96	-58	-48	-61	-57	-47	-39	-26	- 2	+15	+27	806	06 23 +280	09 29 -194	474
17	341	-16	-18	-25	-30	-28	-25	-22	-21	-12	-10	- 6	0	- 1	- 2	- 1	- 2	+ 4	+ 6	+ 5	+16	+31	+43	+50	+61	856	23 53 +67	03 20 -31	98
18	209	+29	+11	+ 2	- 1	- 9	-16	-21	- 7	-15	-17	-11	- 8	- 5	- 5	- 5	- 4	- 3	- 2	- 5	- 3	+ 8	+19	+30	+30	887	22 55 +36	06 39 -24	60
19	199	+ 8	- 5	- 3	- 6	-14	-19	-17	-13	-12	-11	- 8	- 3	- 4	- 5	- 4	- 3	- 1	+ 1	+ 1	+ 4	+14	+29	+35	+33	895	22 28 +37	05 14 -20	57
20	133	+23	+22	+15	+ 4	- 5	- 6	- 6	-10	-11	-11	-11	- 9	- 8	- 7	- 4	+ 1	+ 1	- 1	- 4	- 3	- 1	+ 6	+15	+15	905	00 26 +25	08 13 -13	38
21	199	+ 9	+ 4	0	- 5	-12	-13	-12	-12	-16	-16	-13	-11	-10	- 9	- 5	- 4	- 4	0	+ 1	+ 5	+15	+26	+38	+34	908	22 52 +39	08 33 -18	57
22	206	+27	+11	- 4	- 9	-16	-16	-15	-18	-19	-23	-21	-17	- 9	- 3	+ 8	+ 9	+13	+19	+ 9	+ 3	+ 1	+11	+26	+26	906	00 00 +34	09 50 -25	59
23	383	+54	+41	+34	+28	+23	+16	+ 9	- 4	-27	-42	-47	-36	-24	-16	-16	-13	- 9	- 5	+ 1	+ 2	+ 3	- 3	+ 8	+15	880	00 05 +59	10 42 -51	110
24	282	- 7	-17	-25	-24	-18	-18	-16	- 6	- 8	-10	- 6	+ 6	- 1	- 2	- 4	- 4	- 3	+ 1	+ 3	+ 8	+22	+40	+51	+49	891	22 31 +52	03 04 -29	81
25	300	+39	+43	+31	- 2	-23	-30	-26	-22	-21	-25	-15	- 3	-10	- 2	- 2	+ 1	+ 4	+ 5	+ 3	- 3	0	+ 8	+22	+25	897	01 24 +53	05 42 -33	86
26	265	+ 7	- 5	-13	-16	-15	-15	-15	-14	-16	-16	-18	- 9	- 9	-11	- 6	- 6	- 3	+ 1	+ 8	+17	+27	+37	+51	+47	907	23 04 +55	10 14 -21	76
27	174	+18	+ 3	- 3	-10	-10	- 9	-10	- 8	- 6	- 9	- 9	- 9	-10	-11	- 9	- 6	- 3	- 4	- 2	+ 2	+12	+26	+35	+37	920	23 32 +38	03 32 -12	50
+28	178	+31	+20	+ 5	- 5	- 8	- 8	- 9	-11	-11	-15	-17	-16	-13	-10	-10	- 8	- 7	- 4	- 2	+ 2	+ 8	+19	+29	+31	924	00 00 +33	10 07 -18	51
+29	188	+20	+ 4	0	0	- 5	-11	-14	-12	-13	-12	-10	- 8	- 8	- 8	- 9	- 8	- 8	- 5	- 1	+ 5	+12	+24	+35	+38	928	23 08 +39	06 28 -15	54
+30	199	+33	+31	+28	+19	+ 5	0	- 4	- 8	- 8	- 9	-10	-10	-10	-13	-15	-19	-21	-18	-14	-10	- 2	+ 8	+19	+20	931	00 01 +35	16 31 -22	57
31																													
MEAN.		+34	+23	+11	+ 3	- 4	- 7	- 7	-13	-22	-23	-20	-15	-14	-14	-13	-11	-10	- 8	- 4	+ 2	+12	+25	+36	+39	911			

Horizontal Intensity

G.M.T. (H = 30000 + Mean + ...) May 1938

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.	y	Minimum. H. M.	y	Range.
+1	213	+15	+16	+7	-4	-8	-10	-15	-16	-19	-21	-20	-15	-11	-11	-10	-8	-6	-1	+1	+6	+14	+18	+28	+36	+34	23	09	09	37	-23	61
2	217	+35	+36	+26	+4	-2	-2	-5	-9	-14	-18	-22	-22	-22	-14	-13	-14	-12	-10	-8	-6	-2	+2	+12	+20	+28	+24	00	03	11	57	-24	61
3	282	+43	+40	+39	+32	+10	-17	-29	-30	-33	-29	-18	-18	-10	-10	-7	-2	+2	+1	0	-1	-3	-6	+12	+14	+13	00	00	+46	08	22	-35	81
4	289	+19	-1	-22	-34	-35	-30	-26	-28	-31	-22	-14	-5	-3	-5	-1	+8	+11	+21	+31	+37	+28	+38	+36	+36	889	19	38	+43	03	28	-40	83
5	199	+22	+16	-7	-21	-14	-5	-8	-13	-11	-9	-10	-8	-7	-6	-4	-5	0	-1	-1	+4	+5	+21	+27	+23	901	22	32	+30	03	29	-27	57
6	195	+9	+2	-4	-10	-13	-18	-22	-17	-14	-16	-11	-7	-5	-2	0	-1	+2	+2	+6	+12	+17	+22	+28	+25	+16	910	21	+3	+30	05	55	-26	56
7	171	+3	-4	-7	-5	-4	-3	-6	-9	-15	-15	-10	-9	-11	-10	-9	-7	-3	-2	+2	+5	+13	+20	+28	+33	+25	915	22	30	+34	09	06	-15	49
+8	136	+5	-2	-4	-3	0	-6	-10	-10	-7	-6	-8	-4	-8	-7	-9	-4	-2	-1	+2	+2	+4	+10	+20	+26	+20	925	22	39	+27	13	25	-12	39
9	223	+7		0	-6	-10	-9	-9	-12	-13	-14	-15	-15	-12	-8	-2	+2	+7	+16	+28	+41	+41	+30				931	22	04	+48	10	32	-16	64
10	181	+26	+17	+8	+3	+1	-11	-18	-14	-12	-13	-12	-9	-11	-13	-11	-11	-9	-3	+4	+7	+13	+21	+24	+19	926	00	00	+32	06	32	-20	52
11																																	
12																																	
13	206	-8	-4	-6	-11	-14	-16	-15	-14	-14	-15	-12	-15	-12	-11	-8	-5	-3	-1	+5	+13	+21	+29	+34	+39	+34	867	22	38	+41	05	40	-18	59
14	184	+27	+11	-10	-16	-7	-3	-8	-12	-14	-12	0	+12	-6	-17	-4	-11	-12	-5	+6	+11	+23	+27	+9	+2	865	00	00	+31	13	00	-21	52
15	296	-17	-22	-12	-23	-36	-28	-24	-17	-10	-5	+3	+2	-1	0	+2	+1	+2	+7	+13	+22	+28	+37	+39	+33	872	21	59	+44	04	25	-41	85
16	209	+28	+31	+22	+4	-11	-20	-17	-25	-12	-15	-15	-18	-15	-7	-2	0	0	+1	+1	+1	+8	+18	+28	+22	879	01	11	+33	07	56	-27	60
17	150	-6	-9	-15	-17	-15	-10	-15	-17	-15	0	+2	+2	+5	+10	+8	+8	+13	+19	+20						889	23	17	+22	02	47	-21	43
18	126	+5	+5	+5	+1	-6	-10	-9	-3	-11	-11	-10	-10	-8	-6	-5	-3	-2	+1	+6	+10	+13	+19	+21	+15	902	21	47	+22	05	47	-24	36
19	105	+8	+11	+6	+1	-3	-4	-5	-9	-12	-10	-10	-10	-7	-6	-5	-4	0	+4	+7	+10	+17	+18	+15		910	22	00	+19	12	31	-11	30
+20	126	0	-3	-3	-4	-6	-8	-9	-11	-10	-9	-7	-6	-5	-7	-6	-5	-4	-2	+2	+5	+12	+18	+23	+23	+21	917	22	20	+25	08	37	-11	36
21	164	+10	+5	0	-3	-6	-7	-11	-13	-17	-17	-12	-11	-12	-7	-7	-6	-4	-2	+3	+10	+16	+21	+23	+19	+13	923	21	13	+26	08	07	-21	47
22	91	+8	+7	+5		0	-2	-1	-2	-3	-6	-5	-6	-8	-9	-8	-9	-10	-9	-7	-2	+1	+6	+10	+12	+13	+6	922	22	13	+14	13	42	-12	26
+23	178	-10	-15	-15	-14	-13	-7	-3	-5	-7	-6	-3	-5	-3	-2	-2	-1	+3	+6	+11	+15	+14	+19	+27	+30	+32	934	23	53	+34	02	37	-17	51
24	171	+28	+20	+9	+3	-3	-4	-6	-8	-12	-11	-13	-12	-14	-14	-14	-14	-11	-6	-2	+2	+21	+25	+29	+10	939	22	23	+33	18	01	-16	49
25	216	+11	+8	+3	+5	-1	-2	-2	-6	-13	-18	-20	-18	-17	-13	-15	-11	-11	-7	+1	+2	+5	+24	+34	+28	+20	936	21	58	+40	09	32	-22	62
+26	223	+12	+5	+4	-3	-11	-22	-21	-15	-15	-17	-15	-14	-13	-13	-13	-12	-10	-6	-1	+1	+11	+22	+30	+35	+38	+36	929	22	10	+39	06	00	-25	64
27	168	+28	+21	+10	-3	-14	-15	-16	-14	-14	-14	-12	-12	-12	-14	-12	-11	-10	-8	-8	0	+8	+18	+28	+27	+13	934	22	17	+31	04	43	-17	48
28	290	+3	-1	-7	-9	-3	+1	-10	-35	-29	-20	-13	-11	-9	-8	-3	+2	+3	+4	+18	+33	+38	+18	+23	+20	931	20	52	+42	07	41	-41	83
29	404	+59	+47	+35	+18	+1	-17	-24	-30	-18	-31	-42	-45	-37	-32	-28	-14	-8	-4	+2	+15	+30	+43	+45	+29	881	00	00	+66	12	03	-50	116
30	248	+10	+4	0	+2	+5	+6	+3	-8	-17	-21	-23	-25	-20	-22	-22	-15	-11	-6	+2	+17	+24	+34	+40	+43	895	23	37	+45	11	17	-26	72
31	199	+17	+7	-3	-8	-14	-16	-20	-22	-23	-17	-10	-8	-6	-4	-2	0	+2	+3	+6	+12	+18	+25	+31	+29	909	22	31	+32	08	18	-25	57

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Horizontal Intensity

G.M.T. (H = 34000γ + Mean + ...) June 1938

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	244	+12	+11	+ 6	- 2	- 7	-10	-15	- 4	-24	-20	-12	-10	-10	- 6	- 7	- 8	- 6	- 2	+ 4	+ 8	+12	+21	+28	+39	923	23 23 +42	07 42 -28	70
2	213	+35	+24	+10	+ 3	- 1	- 6	-12	-13	-10	- 9	-11	-10	- 2	- 5	- 6	- 4	0	+12	+13	+13	+ 3	+ 2	-16	-16	925	00 01 +39	24 00 -22	61
3	164	- 5	- 3	- 3	- 5	- 8	-11	-11	-11	-15	-15	-14	-10	- 7	- 5	- 3	- 1	+ 1	+ 4	+11	+15	+24	+29	+22	+15	913	21 43 +30	09 53 -17	47
+4	213	- 4	- 5	- 5	-12	- 9	- 6	- 7	- 8	-10	-14	-16	-14	-11	- 9	- 9	- 6	- 4	- 3	+ 4	+12	+19	+30	+37	+42	927	24 00 +44	10 44 -17	61
5	251	+41	+33	+ 8	-15	-26	-22	-21	-25	-22	-20	-14	- 7	-10	- 9	- 8	- 4	0	+ 4	+11	+14	+16	+21	+25	+20	932	00 41 +44	04 15 -28	72
6	161	+13	+ 9	+ 3	- 1	- 3	- 3	- 3	- 6	- 9	-11	-12	-10	- 8	- 8	-10	-10	- 7	- 3	+ 1	+ 3	+ 5	+15	+25	+30	931	23 57 +32	15 00 -14	46
7	293	+24	+15	+ 3	- 5	- 8	- 9	- 9	-10	-11	-16	-18	-19	-18	-19	-19	-18	-15	-12	- 2	+ 8	+17	+24	+59	+58	938	22 13 +64	13 50 -20	84
8	377	+51	+26	+11	+ 6	-12	-29	-37	-32	-16	-24	-22	-18	-18	-21	-20	-14	- 2	+ 4	+14	+37	+40	+41	+19	+ 6	927	00 08 +65	06 41 -43	108
9	203	-15	-19	-17	-17	-17	- 7	- 5	- 4	- 3	-11	-12	-11	-10	-12	- 9	- 5	+ 2	+10	+19	+25	+34	+35	+33	+22	938	20 57 +38	01 18 -20	58
10	150	+23	+17	+11	+ 5	+ 1	+ 3	+ 5	+ 3	- 1	-11	-13	-13	-13	-14	-11	- 1	- 3	0	+ 7	+ 7	+ 8	+ 5	- 1	- 4	924	00 00 +27	09 58 -16	43
11																													
12																													
13	307	+31	+17	0	-21	-22	-26	-21	-29	-31	-18	-25	- 8	- 2	-10	- 7	- 3	+ 1	+ 6	+15	+18	+25	+37	+34	+35	900	24 00 +50	08 12 -38	88
14	195	+17	- 1	-15	-19	-19	-17	-14	-15	-13	-11	- 9	- 7	- 6	- 7	- 7	- 6	- 4	- 1	+ 7	+18	+26	+31	+33	+27	918	00 02 +36	03 39 -20	56
+15	168	+13	+ 7	- 5	-13	-15	-12	-13	-13	-12	-11	- 9	- 9	- 7	- 7	- 7	- 6	- 5	- 3	+ 5	+11	+16	+22	+29	+32	928	23 00 +32	04 14 -16	48
16	182	+26	+15	+ 3	- 3	- 7	- 7	- 8	-12	-15	-19	-21	-17	-15	-14	-10	- 2	- 4	- 4	+ 5	+17	+20	+26	+21	+19	926	21 30 +29	10 23 -23	52
17	122	+11	- 3	-12	-15	-12	- 7	- 5	- 7	- 7	- 6	- 6	- 5	- 5	- 3	- 4	- 3	- 1	+ 2	+ 7	+12	+15	+15	+13	+15	924	00 00 +19	03 52 -16	35
18	185	+ 8	+ 8	+ 2	- 8	-10	-11	-12	-16	-18	-16	-14	-11	- 8	- 6	- 6	- 4	- 2	0	+ 5	+11	+20	+27	+31	+33	934	23 35 +35	08 25 -18	53
19	119	+17	+ 8	0	- 4	-10	-11	-12	-11	-11	-10	-11	-10	- 8	- 6	- 3	+ 5	+11	+ 3	+ 6	+10	+ 8	+13	+17	+17	944	00 00 +21	07 08 -13	34
20	168	+16	+ 6	0	- 2	- 1	- 4	- 6	- 8	-10	-13	-14	-13	-12	-11	-10	- 8	- 6	- 3	+ 2	+ 7	+17	+24	+25	+29	944	23 18 +34	09 41 -14	48
21	325	+50	+41	+26	+ 5	-13	-20	-33	-39	-25	-15	-13	-19	-16	-15	-10	- 6	- 2	+ 1	+ 8	+15	+20	+21	+18	+15	919	00 13 +52	07 26 -41	93
22	140	+ 8	+ 5	+ 3	- 1	- 2	- 5	- 9	-15	-14	-13	-14	-11	-11	-11	-10	- 7	- 5	- 1	+ 7	+13	+23	+24	+23	+22	922	22 34 +25	07 10 -15	40
+23	129	+13	+ 5	- 2	- 6	- 9	- 8	- 6	- 8	-10	-10	-10	-10	-10	-10	- 9	- 8	- 6	- 2	+ 6	+14	+20	+23	+25	+24	927	22 28 +26	11 15 -11	37
24	91	+ 9	- 1	- 3	- 3	- 5	- 8	- 7	- 7	- 1	- 3	- 6	- 6	- 3	- 4	- 3	- 1	+ 1	+ 4	+ 9	+ 9	+ 9	+15	+12	+ 5	934	20 51 +17	10 46 - 9	26
25	209	+ 3	- 6	-10	-14	-16	-12	- 8	- 5	- 4	- 4	- 3	- 2	- 4	- 8	- 1	- 2	0	+ 3	+10	+18	+17	+14	+18.	+19	931	19 43 +43	04 16 -17	60
26	98	+10	+ 4	- 4	- 6	- 6	- 7	- 6	- 7	- 6	- 4	- 3	- 3	- 6	- 8	-10	- 8	- 6	- 1	+ 7	+11	+13	+15	+16	+14	936	22 40 +18	14 42 -10	28
+27	133	+14	+ 4	-10	-18	-18	-12	- 8	- 8	- 8	- 7	- 6	- 3	- 2	- 3	- 3	- 2	- 2	+ 1	+ 8	+14	+17	+16	+15	+12	932	20 20 +18	03 37 -20	38
+28	101	+ 8	+ 4	- 5	-11	-10	- 9	- 9	-10	- 9	- 7	- 5	- 4	- 3	- 3	- 4	- 3	- 2	+ 1	+ 7	+12	+15	+15	+15	+15	937	22 30 +18	07 34 -11	29
29	105	+17	+11	+ 9	+ 4	- 2	- 4	- 9	-10	- 9	- 4	- 1	+ 1	+ 1	0	- 1	- 3	- 7	- 8	- 9	0	+ 1	+ 3	+ 9	+10	933	00 00 +19	18 44 -11	30
30	269	+11	+11	0	-15	-19	-23	-22	-21	-21	-23	-15	-15	- 9	- 5	- 6	- 5	- 5	- 3	+ 7	+15	+22	+36	+46	+50	934	23 40 +52	05 [illegible] -25	77
31																													
Mean		+16	+ 9	0	- 7	-10	-11	-11	-12	-12	-12	-12	-10	- 8	- 8	- 8	- 5	- 3	0	+ 7	+13	+17	+22	+23	+22	929			

Horizontal Intensity

G.M.T. (H = 34000γ + Mean + ...) July 1938

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	373	+70	+48	+34	+20	- 5	-24	-10	-13	-19	-21	-30	-26	-26	-24	-17	-12	- 9	- 5	+ 5	+11	+16	+15	+13	+17	910	00 01 +76	10 41 -31	107
2	265	+18	+17	+14	+ 4	-16	-34	-38	-23	-16	-23	-23	-15	-10	- 5	- 4	0	+ 2	+ 5	+11	+18	+22	+26	+31	+34	909	23 08 +35	06 47 -41	76
+ 3	202	+13	+ 5	- 5	-13	-18	-20	-13	-13	-13	-13	-11	- 9	- 7	- 6	- 5	- 3	- 1	+ 1	+ 7	+13	+15	+23	+29	+32	929	23 28 +33	05 23 -25	58
4	317	+52	+49	+37	+15	- 3	-10	-15	-21	-28	-33	-37	-33	-25	-24	-20	- 6	+ 3	+ 8	+27	+27	+ 8	+11	+ 9	+20	908	00 00 +53	10 45 -38	91
5	178	+20	+21	+19	+ 6	- 5	- 7	-14	-16	-18	-19	-18	-12	-15	-13	- 6	- 6	- 1	+ 2	+14	+16	+12	+12	+14	+24	914	24 00 +28	13 14 -23	51
6	255	+36	+37	+39	+13	-10	-15	-17	-26	-25	-17	-18	-18	-17	-15	-13	-12	- 9	- 7	+ 5	+14	+18	+18	+23	+26	908	02 00 +44	08 10 -29	73
7	133	+ 9	+ 3	- 1	- 1	- 4	-13	-13	- 9	- 9	-10	- 9	- 8	- 9	- 9	- 7	- 5	- 2	+ 2	+ 8	+16	+19	+22	+16	+11	921	21 26 +23	06 03 -15	38
8	174	+16	+ 7	0	- 5	- 2	- 1	- 6	-13	-11	- 6	- 6	-10	-15	-17	-11	-10	- 7	- 3	+ 4	+11	+13	+17	+23	+29	912	24 00 +31	13 15 -19	50
9	206	+13	+ 3	-10	-17	-15	-12	-12	- 7	- 4	- 4	- 8	- 9	-10	-11	-11	-10	- 8	- 4	+ 4	+12	+28	+34	+39	+30	927	22 24 +41	03 37 -18	59
10																													
11																													
12	171	+18	+ 8	- 3	- 9	-14	-12	-12	-12	-14	-14	-14	-12	-13	-12	-10	- 4	- 2	+ 1	+13	+22	+24	+25	+23	+26	938	24 00 +33	04 12 -16	49
13	223	+26	+15	+ 2	-13	-18	-13	-10	- 9	- 9	-10	-10	-12	-11	-12	-15	-15	-12	- 8	- 2	+10	+34	+39	+34	+13	944	21 38 +43	04 23 -21	64
14	227	+36	+16	- 9	-18	-20	-11	- 7	-10	-11	-11	- 8	- 7	- 3	- 6	- 9	- 6	- 7	- 3	+ 8	+17	+17	+19	+19	+17	912	00 00 +41	05 50 -24	65
15	363	+46	+48	+45	+39	+28	+27	+39	+29	+ 1	-23	-21	-24	-24	-22	-22	-13	- 8	-23	- 2	- 9	- 7	-21	-34	-41	883	01 53 +50	23 57 -54	104
16	279	-30	-31	-23	-20	-20	-11	- 4	- 9	-21	- 8	-18	-14	+ 3	- 1	+ 3	+ 6	+10	+18	+28	+27	+23	+27	+36	+38	861	22 46 +46	00 20 -34	80
17	230	+ 1	- 2	-10	-13	-17	-18	-21	-17	-14	-10	- 8	- 6	- 4	- 2	- 2	- 1	0	+ 4	+ 9	+14	+19	+27	+35	+39	892	23 01 +40	06 27 -26	66
18	164	+17	+ 6	+ 1	- 6	-10	-12	-12	-12	-12	-11	-11	-11	-10	- 8	- 9	-10	- 5	- 1	+ 7	+14	+19	+25	+29	+32	910	23 23 +33	06 37 -14	47
19	185	+21	0	- 2	- 6	-10	- 6	- 4	- 7	-11	-19	-21	-19	-14	-11	- 8	- 4	- 2	+ 2	+ 9	+12	+14	+21	+28	+28	910	23 00 +30	10 35 -23	53
20	154	+22	+12	+ 1	- 8	-10	-15	-14	-15	-18	-17	-14	-10	-12	-10	- 7	- 6	- 2	+ 4	+14	+22	+24	+24	+19	+13	912	21 43 +26	09 12 -18	44
21	147	+ 4	- 3	- 7	- 8	- 9	- 6	- 4	- 5	- 8	- 9	- 9	- 4	- 5	- 8	-11	-10	- 8	- 3	+ 6	+14	+17	+18	+21	+26	914	23 58 +30	14 00 -12	42
22	147	+28	+23	+ 9	- 2	- 7	- 5	- 4	- 2	- 4	- 8	-10	- 8	- 8	- 9	-11	-12	-11	- 7	- 2	0	+ 3	+ 8	+12	+16	918	00 42 +30	15 00 -12	42
23	220	+14	+ 9	+ 3	- 7	-18	-26	-22	-20	-16	-14	-10	- 8	- 6	- 8	- 7	- 5	- 2	- 1	+ 6	+18	+22	+24	+30	+35	921	23 41 +36	05 26 -27	63
24	213	+20	+10	+ 1	- 5	-10	-10	- 9	- 9	-10	-11	-11	-14	-14	-15	-18	-18	-15	- 7	+ 7	+19	+25	+28	+35	+39	932	23 17 +42	15 00 -19	61
+25	164	+28	+12	+ 3	- 2	- 5	- 5	- 6	- 7	- 7	- 7	- 7	- 7	- 9	-10	-11	-11	-11	- 7	+ 3	+ 8	+ 9	+ 9	+15	+23	930	00 00 +35	16 00 -12	47
+26	181	+24	+13	+ 3	- 3	- 4	- 3	- 3	- 3	- 4	- 7	- 9	-11	-15	-17	-17	-16	-14	- 9	+ 1	+ 8	+13	+20	+28	+33	926	23 27 +34	14 36 -18	52
+27	237	+17	+ 6	- 7	-13	- 8	-10	-14	-18	-18	-14	-13	-13	-13	-13	-13	-11	- 9	- 5	+ 4	+13	+24	+36	+46	+48	937	23 45 +49	08 00 -19	68
+28	216	+40	+23	+ 8	- 5	-11	-13	-13	-15	-17	-16	-15	-13	-11	-11	-12	-11	-11	- 9	- 1	+ 9	+15	+20	+29	+32	939	00 00 +45	09 00 -17	62
29	199	+31	+22	+ 9	- 2	- 5	- 5	- 3	- 1	- 4	- 6	-10	-12	-20	-17	-21	-20	-16	-13	- 5	+ 5	+15	+18	+29	+27	937	00 00 +34	12 45 -23	57
30	780	+110	+93	+62	+46	+41	0	-66	-88	-92	-82	-88	-46	-32	-20	-17	-15	- 3	+ 6	+ 8	+19	+31	+40	+50	+49	854	00 14 +117	08 05 -107	224
31	244	+ 9	+ 4	+ 1	-13	-21	-22	-22	-20	-18	-15	-11	- 9	- 8	- 8	- 6	- 4	- 2	+ 2	+12	+19	+27	+33	+40	+44	889	23 18 +47	05 10 -23	70
Mean		+25	+16	+ 7	- 2	- 8	-11	-12	-14	-16	-15	-17	-14	-13	-12	-11	- 9	- 6	- 2	+ 7	+14	+18	+21	+25	+26	914			

Horizontal Intensity

G. M. T. (H = 34000γ + Mean + ...) August 1938

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	+33	+31	+19	+ 5	− 2	− 4	− 9	− 6	+ 2	− 5	−14	−14	−14	−19	−21	−22	−13	− 5	− 1	+ 7	+20	+14	+13	+ 6	902	01 00 +36	15 06 −24	60
2	289	+14	+ 2	− 9	−37	−44	−24	−14	−13	− 8	− 4	0	+ 3	− 1	− 1	− 1	+ 1	+ 5	+ 7	+ 9	+16	+17	+19	+26	+27	879	23 13 +30	04 22 −53	83
3	352	−14	−26	−19	− 8	− 7	− 6	− 6	−11	−12	−13	−14	−12	−11	− 9	− 6	− 4	+ 1	+13	+26	+34	+34	+39	+22	+10	908	21 39 +71	01 20 −30	101
4	439	+36	+38	+42	+34	+29	+15	−22	−31	−52	−72	−64	−38	−26	−10	− 5	+ 1	+13	+13	+11	+18	+24	+20	+18	+11	862	02 23 +46	09 40 −80	126
5	213	− 5	− 4	−12	−28	−29	−20	−19	−22	−19	− 8	− 4	− 5	− 3	+ 1	+ 5	+ 8	+ 8	+11	+16	+24	+26	+26	+25	+22	870	20 35 +30	04 34 −31	61
6	223	−16	−17	−20	−26	−22	−13	− 9	− 9	− 5	+ 1	+ 2	− 3	− 5	− 7	− 6	− 4	+ 3	+ 9	+15	+17	+24	+33	+34	+29	896	22 38 +36	03 18 −28	64
7	181	+16	+ 7	− 1	− 9	−15	−13	−15	−12	−13	−20	−17	−12	− 6	− 7	− 7	− 9	− 3	+ 1	+ 9	+18	+21	+21	+27	+29	902	23 25 +30	09 35 −22	52
8	192	+ 6	− 3	− 6	−10	−13	−11	− 3	− 4	− 7	− 4	− 7	−11	−10	−12	−13	−13	−11	− 6	+ 5	+14	+21	+27	+33	+37	918	23 21 +41	04 46 −14	55
9	168	+22	+17	+ 8	0	− 6	− 7	−10	−14	−13	−14	−13	−12	−11	−12	−14	−14	−13	− 8	− 1	+ 7	+14	+22	+30	+32	931	23 00 +33	14 40 −15	48
10	258	+27	+18	+ 4	− 1	− 4	−11	−28	−28	−25	−26	−18	−12	− 9	−10	− 8	− 4	+ 3	+ 6	+ 6	+12	+16	+18	+28	+36	933	23 56 +40	06 40 −34	74
11	628	+79	+65	+56	+54	+51	+44	+38	+31	+22	+ 2	−39	−83	−80	−78	−66	−40	−42	−39	−14	− 2	+ 6	+18	+15	+10	888	00 00 +85	11 43 −95	180
12	199	+ 5	+ 2	−11	−10	− 1	− 5	−12	−17	−17	−14	−15	− 9	−11	−10	− 5	− 2	+ 1	0	+10	+15	+21	+32	+34	+29	899	22 30 +38	07 14 −19	57
13	213	+ 5	0	− 5	−11	− 6	− 7	−11	− 9	− 9	−11	−11	−10	− 9	−12	−15	−14	−11	− 7	+ 8	+17	+23	+33	+41	+41	917	23 28 +43	03 37 −18	61
14	168	+24	+15	+ 7	− 1	− 4	− 5	− 7	−11	−12	−11	−11	− 8	− 6	−12	−15	−15	−13	− 8	− 2	+17	+25	+23	+16	+11	927	00 00 +31	15 00 −17	48
+15	140	+ 8	+ 4	0	− 4	− 6	− 6	− 6	−10	−14	−16	−14	−12	−11	−10	− 8	− 7	− 5	0	+10	+18	+24	+25	+23	+20	924	22 50 +24	09 29 −16	40
+16	168	+ 7	+11	+ 5	− 5	−11	−12	−11	−11	−11	−14	−16	−15	−11	−10	− 9	− 7	− 4	+ 1	+10	+21	+25	+24	+23	+27	932	23 57 +31	10 32 −17	48
17	171	+31	+28	+17	+ 6	+ 2	+ 3	+ 2	− 3	− 7	− 9	−12	−15	−15	−15	−17	−15	−13	− 7	+ 1	+12	+14	+13	+ 6	− 3	932	00 15 +32	13 56 −17	49
+18	203	− 4	− 5	−13	−16	−15	−11	− 9	−11	−12	−12	−11	−10	−11	−12	−12	− 8	− 4	+ 2	+10	+19	+28	+36	+42	+40	929	22 54 +44	09 13 −14	58
19	171	+31	+19	+ 8	+ 1	− 3	− 7	− 8	− 8	− 8	−12	−12	−11	−11	−13	−13	−12	−10	− 4	+ 3	+ 7	+ 9	+10	+16	+23	931	00 00 +35	14 00 −14	49
+20	168	+13	+ 6	− 4	− 8	−10	−13	−15	−14	−13	−14	−15	−15	−13	− 9	− 7	− 5	− 3	+ 2	+11	+18	+27	+32	+31	+29	938	23 00 +32	11 00 −16	48
21	133	+21	+15	+ 9	+ 8	+ 5	+ 5	+ 1	− 7	− 7	− 7	− 7	− 9	−13	−13	−10	− 8	− 9	− 5	+ 3	+ 3	+ 3	+ 8	+ 8	+ 9	941	00 00 +23	12 58 −15	38
22	283	+ 8	+ 6	− 4	−19	−24	−23	−21	−22	−24	−25	−25	−24	−22	−19	+ 8	+ 7	− 4	+ 7	+24	+34	+24	+46	+52	+44	942	22 44 +55	10 00 −26	81
23	422	+59	+45	+34	+11	− 2	− 2	− 8	− 8	−26	−27	−39	−26	−18	−18	−14	−16	−10	−10	0	+ 8	+18	+18	+21	+21	914	00 10 +75	10 02 −46	121
24	283	+12	+ 4	− 6	−14	−19	−19	−17	−20	−16	−18	−16	−14	−16	−16	−18	−16	−16	− 6	+ 8	+26	+40	+52	+58	+48	924	22 39 +61	12 39 −20	81
25	251	+29	+10	−11	−20	−23	−25	−22	−18	−16	−15	−13	−11	−10	−11	−11	− 9	− 7	− 4	+ 7	+22	+33	+41	+45	+42	921	22 50 +45	05 09 −27	72
26	203	+29	+16	+ 1	−11	−16	−14	−15	−17	−16	−15	−15	−14	−12	−12	−12	−12	−11	− 8	0	+14	+22	+34	+40	+39	932	23 10 +40	07 00 −18	58
+27	237	+27	+19	+ 7	− 7	−11	−13	−14	−16	−18	−17	−16	−14	−13	−14	−13	−13	− 9	− 6	− 1	+ 9	+19	+29	+41	+47	940	23 56 +48	09 04 −20	68
28																													
29	269	+49	+35	+ 9	0	− 4	− 7	−13	−13	−11	−19	−19	−21	−15	−14	−15	−16	−15	−13	− 1	+12	+15	+13	+29	+43	946	00 00 +54	11 15 −23	77
30	297	+54	+32	+16	− 4	−22	−14	− 9	−14	−20	−19	−18	−22	−20	−19	−17	−14	−10	− 4	+ 4	+12	+14	+23	+30	+31	929	00 00 +60	04 [illegible] −25	85
31	258	+22	+10	− 3	−10	−12	−12	−16	−23	−28	−28	−24	−18	−11	−13	−12	−10	− 7	− 2	+12	+26	+36	+42	+44	+43	927	22 30 +45	08 [illegible] −29	74
Mean		+21	+13	+ 4	− 5	− 8	− 8	−10	−12	−14	−16	−17	−16	−14	−14	−12	−10	− 7	− 2	+ 7	+16	+21	+26	+29	+28	918			

Horizontal Intensity

G.M.T. (H = 34000γ + Mean + ...) September 1938

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	286	+27	+22	+14	+ 2	-10	-13	-15	-16	-18	-22	-24	-24	-20	-19	-19	-18	-14	- 7	+ 2	+14	+26	+38	+51	+54	937	23 00 +57	10 15 -25	82
2	258	+40	+30	+12	- 4	-13	-16	-18	-19	-20	-21	-21	-21	-19	-21	-23	-21	-16	- 9	+ 4	+19	+31	+44	+48	+42	947	22 49 +51	14 10 -23	74
3	380	+54	+40	+26	+16	+10	+ 5	- 4	-14	-22	-33	-37	-45	-45	-39	-34	-30	-22	- 8	+ 4	+19	+32	+40	+48	+38	920	00 00 +62	11 32 -47	109
4	251	+19	+ 4	- 7	- 9	-10	-12	-12	-14	-19	-20	-22	-21	-16	-13	-15	-14	0	+ 5	+12	+19	+28	+30	+41	+44	930	23 10 +48	11 00 -24	72
5	272	+37	+25	+10	- 3	- 5	- 6	-10	-15	-18	-21	-26	-28	-20	-10	-16	-15	-17	-17	- 8	+ 8	+24	+39	+46	+44	928	22 30 +48	11 16 -30	78
+ 6	335	+20	+ 4	- 6	-13	-17	-16	-18	-20	-22	-22	-21	-20	-20	-20	-19	-17	-13	- 9	+ 6	+22	+41	+51	+57	+62	942	22 57 +72	10 09 -24	96
7	293	+50	+30	+11	+ 3	+ 1	-14	-22	-27	-27	-24	-23	-20	-19	-19	-18	-16	-13	- 9	- 1	+11	+25	+34	+45	+47	942	00 31 +55	07 30 -29	84
8	276	+48	+28	+ 8	- 1	- 6	-12	-16	-18	-24	-26	-26	-23	-20	-20	-14	-14	-12	- 7	0	+ 6	+20	+36	+49	+52	935	22 45 +53	08 50 -26	79
9	255	+43	+32	+17	+ 5	- 3	- 4	- 5	- 9	-10	-16	-14	-18	-23	-22	-17	-14	-13	- 5	- 2	- 1	+15	+24	+29	+21	940	00 00 +46	12 20 -27	73
10																													
11	220	+42	+30	+14	- 2	- 6	- 4	- 5	- 6	- 7	- 6	- 4	- 5	- 8	-14	-18	-19	-16	-12	- 6	+ 2	+ 6	+10	+12	+18	931	00 20 +43	15 31 -20	63
12	171	+24	+16	+ 4	- 2	0	- 8	-14	-16	-13	-12	-16	-16	-13	-10	-10	-10	- 8	- 4	+ 3	+12	+22	+27	+29	+26	926	22 05 +31	10 32 -18	49
13	318	+16	+ 6	- 2	-16	-28	-26	-21	-22	-28	-32	-32	-22	-13	- 9	- 6	- 5	- 2	+ 6	+22	+46	+40	+51	+48	+27	932	21 26 +55	09 50 -36	91
14	377	+68	+61	+54	- 7	-30	-26	-25	-24	-23	-18	-17	-16	-15	- 9	+ 8	+12	+14	0	- 5	+ 6	+ 4	- 2	- 7	-12	886	00 22 +71	04 28 -37	108
15																													
16	223	- 7	-13	-20	-22	-22	-18	-15	-10	-10	-11	-10	- 9	- 7	- 7	- 6	+ 1	+ 3	+ 8	+15	+23	+28	+33	+36	+36	880	23 31 +40	02 43 -24	64
17	192	+17	+12	+ 5	-12	-13	-15	-17	-17	-12	-10	-10	-10	-12	- 8	- 4	- 5	- 6	- 5	0	+10	+21	+26	+31	+34	897	23 00 +34	04 02 -21	55
18	223	+19	+13	0	- 7	- 8	-10	-14	-12	-12	-13	-15	-16	-14	-12	-14	-10	- 9	- 7	- 4	+ 4	+16	+28	+40	+46	907	23 10 +48	10 20 -16	64
+19	227	+25	+ 7	- 3	- 4	- 7	-13	-14	-14	-17	-18	-18	-17	-15	-15	-13	-10	- 9	- 3	+ 3	+15	+23	+32	+38	+39	918	24 00 +46	08 35 -19	65
20	209	+29	+20	+12	+ 4	+ 2	- 4	- 8	-15	-11	-12	-12	-13	-18	-17	-18	-17	-16	-15	- 9	0	+14	+27	+36	+36	931	22 45 +38	13 00 -22	60
21	192	+31	+18	+10	+ 4	- 2	- 4	- 8	-10	-15	-14	-14	-16	-16	-18	-17	-16	-14	- 6	+ 2	+13	+24	+28	+25	+23	929	00 00 +36	13 20 -19	55
22	307	+35	+23	+17	+ 5	+ 9	+ 7	+ 1	-19	-19	-32	-42	-28	-24	-21	-19	-16	-12	- 7	0	+ 9	+20	+34	+40	+41	915	23 33 +42	10 02 -46	88
23	283	+24	+ 9	- 6	-14	- 6	+ 3	-21	-22	-17	-16	-20	-19	-18	-19	-16	-14	-13	- 9	- 2	+10	+25	+48	+55	+52	926	22 35 +56	06 40 -25	81
+24	255	+41	+29	+14	+ 1	- 7	-13	-15	-17	-17	-17	-18	-18	-19	-18	-16	-13	-11	-13	- 9	+ 3	+17	+30	+45	+51	931	23 38 +54	12 50 -19	73
+25	328	+36	+20	+ 3	-10	-18	-16	-18	-20	-20	-18	-17	-16	-16	-14	-12	-14	-16	-14	- 8	0	+20	+44	+63	+72	938	23 19 +74	08 52 -20	94
26	666	+117	+90	+59	+41	+29	+17	+15	+23	+ 3	-26	-20	-42	-65	-36	-41	-40	-41	-41	-28	-24	-16	- 3	+17	+17	895	00 31 +122	12 37 -69	191
27	394	+25	+19	+ 4	-12	-21	-18	-13	-19	-16	-18	-27	-27	-16	- 6	- 8	- 3	- 5	- 6	- 1	+ 9	+21	+39	+53	+50	885	22 05 +84	10 50 -29	113
28	669	+101	+37	-40	-57	-38	-58	-46	-36	-40	-35	-29	-25	-16	-13	-11	- 3	+ 5	+11	+18	+30	+48	+60	+73	+70	851	00 16 +119	03 00 -73	192
29	286	+30	+21	+19	+17	+ 9	-10	-24	-28	-24	-19	- 8	-12	-20	-12	-14	-12	-10	-11	- 7	+ 3	+14	+23	+37	+48	884	24 00 +51	07 18 -31	82
30	199	+35	+31	+19	+ 7	- 6	-15	-19	-16	-15	-13	+ 1	- 1	+ 1	-10	-10	- 5	- 2	- 1	- 4	+ 2	- 1	- 1	+ 7	+11	902	00 19 +37	07 30 -20	57
31																													
Mean		+37	+24	+ 9	- 3	- 8	-11	-14	-16	-18	-20	-19	-20	-19	-16	-15	-13	-10	- 7	0	+10	+21	+31	+39	+39	917			

Horizontal Intensity

G.M.T. (H = 34000γ + Mean + ...) October 1938

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	596	+40	+32	+27	-22	-84	-72	-36	-25	-29	-30	-18	-13	-10	- 8	- 7	- 2	+ 2	+ 4	+ 8	+21	+32	+48	+60	+70	855	23 35 +71	04 44 -100	171
2	216	+25	+13	- 6	-14	-22	-23	-18	-15	-10	- 6	- 1	- 1	- 6	- 9	- 7	- 6	- 8	-10	- 4	+ 5	+19	+31	+35	+34	888	22 50 +37	04 48 -25	62
3	143	+24	+12	- 4	- 5	-11	- 8	-10	-10	-10	- 6	- 2	- 7	-10	- 8	- 6	- 4	- 8	- 5	+ 2	+ 8	+10	+16	+22	+21	897	22 24 +26	04 50 -15	41
4	352	+11	0	- 7	-13	-26	-26	-22	-19	-20	-25	-34	-26	- 7	-17	- 7	- 6	- 3	+ 4	+ 9	+19	+40	+56	+61	+59	907	22 50 +65	10 50 -36	101
+ 5	318	+33	+22	+10	- 1	- 8	-13	-17	-18	-19	-21	-21	-22	-21	-22	-22	-21	-18	-15	- 7	+ 1	+28	+54	+63	+66	921	23 00 +68	11 34 -23	91
6	269	+49	+34	+18	+ 5	- 4	- 6	- 6	-15	-16	-15	-14	-18	-21	-14	-14	-16	-16	-14	-10	- 2	+12	+26	+33	+33	926	00 00 +54	12 53 -23	77
7	644	+106	+96	+84	+74	+64	+56	+50	+24	- 7	-12	- 3	-16	-19	-21	-31	-38	-43	-65	-69	-54	-42	-38	-46	-54	850	00 00+110	18 23 -75	185
8	612	-25	-34	-23	-13	-48	-88	-84	-46	-16	-16	-13	+ 9	- 2	+ 2	+ 5	+ 9	+14	+20	+30	+33	+50	+65	+79	+84	821	23 31 +85	05 30 -91	176
9	279	+15	- 1	- 3	- 9	-14	-16	-20	-22	-13	-20	-22	-16	-10	- 7	- 8	- 3	+ 1	- 1	+ 1	+10	+24	+34	+48	+54	878	23 15 +56	08 00 -24	80
10																													
11	324	+51	+31	+20	+ 3	-10	-14	-18	-22	-26	-26	-30	-20	- 4	-12	-13	-11	-10	-13	-13	- 5	+11	+29	+45	+59	901	23 50 +61	10 21 -32	93
12	279	+31	+19	+ 4	- 7	-16	-20	-21	-20	-19	-20	-19	-21	-15	-14	-11	- 9	- 8	- 7	- 4	+ 7	+23	+39	+50	+57	923	23 14 +58	11 09 -22	80
13	241	+44	+30	+15	+ 1	-10	-16	-20	-21	-19	-19	-20	-18	-17	-12	- 9	- 7	- 7	- 5	- 7	- 3	+13	+29	+38	+41	931	00 00 +48	06 45 -21	69
+ 14	234	+28	+15	+ 5	0	- 7	-13	-15	-16	-20	-21	-18	-16	-15	-13	-11	-10	- 9	- 8	- 3	+ 9	+25	+37	+43	+43	937	23 19 +45	09 00 -22	67
+ 15	244	+39	+26	+11	+ 3	- 1	- 7	- 9	-13	-17	-19	-23	-27	-20	-14	-13	-12	-11	-11	0	+ 9	+20	+29	+37	+33	937	00 00 +42	11 15 -28	70
16	286	+39	+25	+13	+ 9	+ 8	+ 3	- 6	- 9	-11	-11	-25	-31	-32	-21	- 7	-15	-14	-15	- 9	+ 3	+13	+17	+35	+31	919	00 00 +46	12 40 -36	82
17	321	+28	+19	+14	0	-12	-14	-15	-18	-23	-32	-34	-25	-22	-23	-18	-14	-10	- 4	+ 2	+14	+32	+43	+52	+54	920	23 13 +55	10 05 -37	92
18	251	+28	+12	+ 1	- 8	- 9	- 6	- 5	- 7	- 9	-15	-17	-19	-17	-18	-19	-15	- 9	-10	- 3	+13	+23	+38	+45	+36	935	22 12 +52	11 32 -20	72
19	241	+27	+ 8	- 7	-16	-20	-23	-14	-10	-11	-12	-12	-15	-10	-14	-12	-12	- 6	0	+ 2	+16	+30	+36	+38	+30	928	22 20 +44	05 15 -25	69
20	237	+23	+14	+ 6	+ 1	- 5	-19	-21	-27	-27	-22	-21	-19	-13	-13	-15	-13	- 7	- 6	- 1	+ 5	+25	+41	+53	+53	923	23 10 +37	07 57 -31	68
+ 21	216	+37	+18	+ 4	- 9	-13	-14	-15	-13	-11	-11	-15	-13	- 6	-10	-11	-11	-12	-12	- 7	+ 3	+17	+25	+36	+41	929	00 00 +45	06 48 -17	62
22	244	+28	+19	+ 8	- 2	-10	-15	-22	-25	-25	-21	-18	-15	-13	-11	-12	-10	- 9	- 7	- 1	+ 9	+24	+36	+43	+39	935	22 34 +45	08 00 -25	70
23	248	+43	+28	+20	+20	+14	+13	+ 3	-14	-13	-12	-16	-18	-18	-22	-18	-23	-26	-22	-18	0	+ 4	+21	+32	+31	924	00 00 +44	15 54 -27	71
24	255	+38	+31	+21	+ 4	- 5	- 3	- 3	- 5	- 2	+ 9	- 1	- 9	-17	-21	-26	-25	-26	-27	-22	- 7	+13	+24	+33	+24	909	00 00 +45	17 10 -28	73
25	331	+27	+20	+11	+ 7	+ 3	- 3	- 5	- 9	-19	-29	-33	-39	-12	-13	-21	-11	-13	-12	- 6	+11	+25	+33	+34	+47	893	23 55 +51	11 31 -44	95
26	255	+48	+40	+23	+ 6	- 5	-16	-13	-13	-15	-15	- 6	-13	-10	- 2	+ 5	- 3	-15	-21	-17	- 7	+ 1	+ 4	+16	+36	890	00 00 +54	15 43 -19	73
27	300	+37	+34	+11	+ 7	-12	-30	-38	-23	- 6	-21	-21	-19	+ 2	-19	-14	- 6	- 9	+1	0	+ 2	+16	+37	+41	+41	885	23 05 +44	06 05 -42	86
28	248	+12	+11	+ 6	- 3	-14	-13	-11	-16	-21	-12	-15	-21	- 2	+ 1	-11	-11	-11	- 8	- 8	0	+21	+37	+47	+45	896	22 36 +48	08 55 -23	71
29	296	+29	+15	+ 7	+ 1	- 7	-15	-18	-15	-17	-18	-17	-15	-13	-13	-13	-11	-11	-10	- 7	+ 1	+10	+29	+47	+60	905	23 55 +64	06 34 -21	85
30	331	+41	+24	+16	+ 5	- 6	-16	-18	-19	-25	-30	-29	-27	-26	-24	-23	-21	-19	-15	- 6	+ 8	+29	+50	+62	+62	920	22 35 +64	09 51 -31	95
+ 31	265	+51	+34	+16	+ 1	- 9	-13	-15	-16	-18	-18	-20	-20	-20	-18	-17	-16	-16	-13	- 9	0	+14	+30	+44	+46	926	00 05 +55	11 07 -21	76
Mean		+34	+22	+11	+ 1	-10	-15	-15	-16	-16	-18	-18	-18	-14	-14	-13	-12	-11	-10	- 6	+ 4	+19	+32	+41	+43	907			

Horizontal Intensity

G.M.T. (H = 34000γ + Mean + ...) November 1938

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	353	+35	+24	+ 6	-11	-20	-22	-24	-22	-22	-20	-19	-21	-19	-28	-16	-16	-16	-16	- 8	+12	+30	+50	+65	+72	928	22 58 +70	13 48 -31	101
2	304	+50	+35	+20	+ 8	- 4	-13	-17	-18	-19	-20	-22	-25	-26	-22	-24	-29	-24	-22	-12	+ 5	+24	+45	+50	+48	938	00 05 +57	15 12 -30	87
+ 3	279	+51	+35	+16	+ 1	- 7	-12	-13	-11	-15	-22	-17	-17	-17	-19	-23	-21	-19	-18	-16	- 1	+17	+29	+44	+50	927	00 00 +56	09 38 -24	80
4	223	+30	+18	+ 9	- 1	- 9	-14	-18	-14	-12	-12	-15	-12	-14	-10	-11	-12	-11	-10	-10	- 3	+16	+34	+42	+40	938	23 08 +44	06 51 -20	64
5	209	+35	+27	+14	+ 2	- 4	- 9	-10	-10	-10	- 9	-10	-12	-14	-17	-18	-20	-19	-16	-14	- 1	+16	+31	+36	+35	934	00 10 +40	15 55 -20	60
6	304	+32	+24	+12	+ 2	-10	-16	-16	-18	-21	-24	-26	-19	-13	-14	-18	-18	-20	-18	-10	+ 6	+20	+39	+58	+57	930	23 00 +59	10 20 -28	87
7	286	+53	+42	+28	+11	-1	-11	-18	-20	-20	-21	-24	-24	-21	-18	-16	-15	-14	-16	-16	- 3	+16	+29	+36	+42	928	00 00 +56	11 00 -26	82
8	419	+68	+51	+34	+20	+ 9	+10	+ 1	- 8	-16	-24	-28	-36	-45	-33	-32	-27	-15	-24	-18	- 2	+22	+39	+31	+12	898	00 00 +73	12 32 -47	120
9	335	+25	+15	+ 8	- 2	-15	-30	-21	-24	-25	-19	-12	- 3	+ 6	- 1	- 4	- 8	-13	-10	-13	- 9	+15	+38	+51	+52	881	22 58 +63	05 40 -33	96
10	405	+20	- 1	-11	-19	-26	-29	-26	-26	-24	-21	-18	-16	-14	-12	-11	-10	- 9	- 7	- 3	+12	+31	+52	+76	+84	895	23 31 +87	05 13 -29	116
11	297	+54	+33	+11	- 4	-11	-19	-21	-20	-21	-19	-19	-15	-14	-15	-14	-11	-15	-16	-13	+ 5	+17	+28	+42	+47	917	00 00 +63	08 19 -22	85
+12	265	+34	+26	+14	- 1	-10	-13	-12	-14	-16	-18	-19	-17	-17	-16	-14	-11	-10	-10	-10	+ 2	+15	+28	+45	+56	926	23 20 +56	09 42 -20	76
+13	321	+41	+32	+15	+ 3	- 7	-11	-17	-21	-24	-25	-25	-25	-24	-23	-21	-19	-18	-16	- 7	+ 7	+22	+37	+54	+64	935	23 45 +66	08 50 -26	92
14	314	+61	+46	+34	+18	+ 6	+ 1	- 2	- 4	- 8	-10	-12	-13	-14	-13	- 8	- 7	- 8	- 8	-12	-14	-17	-15	- 4	+ 1	932	00 00 +67	20 42 -23	90
15	192	+17	+ 2	- 4	- 7	-12	-13	-14	-13	-12	-11	-11	-10	-10	- 7	- 5	- 3	- 3	- 5	- 5	+ 2	+17	+28	+39	+39	901	23 00 +40	06 17 -15	55
16	276	+ 9	- 1	- 7	-12	-14	-15	-17	-14	-13	-17	-19	-16	-15	-13	-13	-13	-11	- 5	+ 2	+12	+27	+44	+56	+55	923	23 52 +58	07 52 -21	79
17	328	+50	+35	+20	+ 1	-10	-13	- 4	+ 2	+ 7	+ 5	- 5	- 1	+ 9	- 9	-22	-13	-17	-25	-35	-19	- 6	+15	+16	+21	923	00 00 +56	18 32 -38	94
18	199	+31	+21	+ 9	0	-11	-17	-14	- 9	-11	- 9	-12	-12	-17	-12	-12	-11	-10	-11	- 6	+ 7	+17	+27	+32	+35	905	23 52 +36	12 35 -21	57
19	244	+22	+ 9	- 7	-13	-13	-13	-14	-11	-11	- 8	+ 1	- 7	-15	-16	-16	-15	-14	-13	- 7	+ 4	+24	+38	+48	+49	915	23 07 +53	14 58 -17	70
20	258	+36	+22	+ 8	- 4	- 7	-12	-12	-10	-12	-11	-23	-27	-26	-18	- 3	- 6	- 8	-12	-15	0	+20	+34	+43	+44	918	22 26 +46	11 18 -28	74
21	262	+40	+34	+29	+14	+ 7	+ 2	+ 2	- 2	0	- 9	0	- 3	-16	-16	-10	-22	-24	-28	-32	-22	- 4	+12	+26	+33	922	00 00 +41	18 15 -34	75
22	286	+53	+39	+15	-13	-16	-13	-19	-19	-22	-18	-16	-15	-11	- 8	- 9	-11	-13	-13	-11	+ 1	+14	+24	+37	+47	901	00 13 +57	07 55 -25	82
23	255	+36	+20	+ 6	-16	-27	-23	-22	-20	-10	-13	-15	-11	-10	-10	- 6	- 7	-12	-11	- 7	+12	+30	+37	+36	+42	910	24 00 +45	04 17 -28	73
24	265	+45	+34	+20	+ 9	- 2	-11	-22	-27	-15	-15	-15	-12	- 8	- 9	+ 6	+ 1	-12	-17	-14	- 2	+ 6	+12	+20	+18	908	00 00 +47	07 24 -29	76
25	300	+15	+10	+ 4	- 8	-16	-18	-17	-20	-19	-18	-18	-21	-20	-12	-12	-10	- 8	- 4	- 4	+ 9	+28	+50	+59	+61	908	23 11 +54	11 40 -22	86
26	356	+62	+54	+26	+ 9	+ 4	- 4	-16	-33	-35	-32	-28	-14	-12	-18	-16	-14	-16	-18	-10	- 4	+ 6	+20	+35	+46	906	00 20 +62	07 55 -40	102
27	258	+24	+16	+10	- 2	-10	-12	-16	-16	-16	-20	-22	-12	-18	-18	-18	-14	-12	-10	- 6	+ 8	+22	+38	+48	+47	922	22 54 +50	10 16 -24	74
+ 28	272	+36	+22	+ 8	- 3	-12	-19	-19	-20	-19	-15	-15	-17	-22	-24	-20	-17	-17	-16	- 5	+15	+35	+45	+51	+49	929	23 22 +53	13 00 -25	78
29	279	+38	+26	+ 7	- 9	-16	-18	-18	-18	-18	-18	-15	-15	-15	-14	-11	-13	-16	-12	- 6	+ 3	+18	+38	+52	+53	930	22 55 +57	08 52 -23	80
+ 30	258	+47	+35	+21	+ 5	- 6	-15	-15	-16	-15	-15	-19	-20	-21	-21	-19	-19	-18	-17	-10	+ 4	+15	+34	+48	+48	939	22 52 +52	13 02 -22	74
31																													
Mean		+38	+26	+13	- 1	- 9	-13	-15	-16	-16	-16	-17	-16	-16	-15	-14	-14	-14	-14	-11	+ 2	+17	+32	+42	+45	919			

Horizontal Intensity

G.M.T. (H = 3400γ + Mean + ...) December 1938

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	276	+34	+25	+12	- 4	-14	-19	-19	-18	-18	-18	-20	-19	-16	-14	-11	-10	-10	- 8	- 2	+10	+18	+30	+45	+53	944	24 00 +57	10 53 -22	79
2	468	+78	+67	+51	+35	+24	+19	+19	+19	+13	+ 1	- 8	- 2	+ 1	-12	-13	-13	-13	-19	-36	-50	-48	-46	-40	-38	919	00 00 +82	20 50 -52	134
3	310	+20	+17	+ 6	- 9	-23	-32	-32	-32	-28	-29	-26	-22	-15	-11	+ 1	+13	+18	+27	+30	+18	+23	+29	+38	+31	858	22 16 +54	06 57 -35	89
4	384	-13	-12	-13	-25	-31	-26	-20	-16	-16	-13	-12	-12	-12	-13	-11	-10	- 9	- 4	+ 3	+15	+37	+63	+76	+76	897	22 38 +79	04 03 -31	110
5	349	+42	+26	+ 8	-10	-24	-28	-22	-20	-15	-14	-13	-16	-16	-24	-25	-22	-19	-16	- 8	+ 8	+31	+53	+67	+68	920	23 04 +71	05 30 -29	100
6	283	+51	+38	+19	0	-14	-20	-18	-18	-21	-18	-18	-18	-20	-20	-19	-18	-17	-16	-11	- 2	+16	+37	+45	+53	928	24 00 +59	08 21 -22	81
7	290	+49	+33	+18	0	-15	-23	-22	-21	-19	-17	-16	-18	-18	-20	-19	-17	-16	-16	-12	+ 6	+21	+34	+52	+58	935	24 00 +59	05 51 -24	83
+ 8	290	+29	+35	+16	- 1	-16	-21	-20	-18	-17	-15	-15	-15	-15	-16	-15	-15	-17	-15	- 7	+10	+24	+41	+53	+37	939	23 32 +61	05 48 -22	83
9	269	+52	+40	+20	- 6	-18	-18	- 2	+ 2	+ 8	+ 5	0	- 8	- 8	- 9	-12	-13	-15	-24	-24	-23	- 8	+11	+25	+30	940	00 00 +55	05 12 -22	77
10	440	+67	+63	+36	+11	+ 1	- 8	-14	-15	- 9	- 7	+ 7	+19	+21	+14	+ 5	+ 8	- 9	- 7	-28	-39	-51	-37	-25	-11	903	00 00 +70	20 50 -56	126
11	352	0	- 8	-17	-19	-18	-20	-21	-21	-19	-24	-22	-21	-19	-11	- 7	- 5	- 2	- 1	+ 6	+20	+41	+57	+69	+72	892	23 25 +75	09 21 -26	101
12	331	+46	+30	+17	- 3	-13	-23	-30	-28	-26	-24	-22	-21	-17	-18	-21	-17	-15	-15	- 5	+ 9	+30	+48	+59	+57	911	22 30 +61	06 35 -34	95
13	230	+29	+24	+15	+ 2	-10	-16	-24	-22	-22	-21	-19	-14	-12	-14	-12	-10	- 6	- 1	+ 6	+ 8	+23	+32	+37	+35	935	22 43 +39	06 55 -27	66
14	189	+34	+30	+10	- 9	-10	-11	-14	-13	-13	-17	-17	-17	-17	-13	- 6	- 6	- 5	- 3	+ 2	+ 6	+15	+15	+24	+31	938	00 37 +35	12 25 -19	54
15	269	+32	+18	+ 4	- 9	-12	-17	-19	-15	-13	-11	-11	-11	-11	-13	- 9	- 8	- 7	- 7	- 5	- 2	+ 9	+23	+38	+51	935	24 00 +56	06 43 -21	77
16	265	+50	+45	+32	+18	+ 8	+ 1	0	+ 1	0	- 4	- 4	-14	-11	-11	-13	- 4	-10	- 7	-21	-22	-15	0	0	-11	940	00 00 +51	19 51 -25	76
17	321	+16	+14	+13	0	-22	-42	-30	-25	-10	-19	-22	-21	- 8	-10	- 8	- 3	+ 6	+ 9	+10	+14	+24	+35	+46	+39	901	22 47 +48	05 18 -44	92
18	265	+28	+26	+17	+ 6	+ 6	+ 2	+ 2	-10	0	- 4	- 4	+13	+10	+ 2	+10	+14	-20	-16	-21	-32	-37	- 7	+ 8	+17	905	00 58 +33	20 22 -43	76
19	195	+29	+19	+ 6	+10	+ 4	- 6	-16	-20	-10	-16	-16	-16	-13	-12	- 4	+ 6	- 2	+ 4	- 5	- 5	- 2	+ 7	+19	+29	895	00 19 +33	07 25 -23	56
20	202	+19	+15	+11	- 1	- 7	-13	-14	-13	-13	-12	-15	-13	-11	- 5	- 7	- 7	- 5	- 9	-11	+ 3	+11	+25	+33	+38	906	23 50 +40	10 00 -18	58
21	373	+25	+20	+ 8	- 4	-12	-20	-24	-27	-29	-24	-23	-20	-16	-22	-15	-16	-16	-12	- 4	+14	+33	+52	+68	+73	922	23 19 +76	08 20 -31	107
22	478	+87	+65	+43	+25	+ 9	-10	-26	-30	-22	-16	-38	-22	-16	-18	-20	-20	-18	-18	-20	-13	- 1	+15	+26	+35	901	00 01 +96	10 52 -41	137
23	269	+25	+17	+ 5	- 5	-10	-12	-13	-14	-15	-15	-16	-18	-17	-18	-11	-11	-11	-10	- 7	+ 1	+17	+33	+48	+56	914	23 34 +58	13 24 -19	77
+24	293	+39	+25	+ 8	- 2	-10	-19	-23	-24	-22	-21	-20	-18	-18	-16	-15	-14	-15	-14	- 7	+ 7	+26	+45	+59	+58	927	23 00 +60	06 43 -24	84
25	296	+44	+30	+14	- 1	-10	-16	-18	-19	-18	-18	-21	-21	-18	-16	-15	-14	-13	-14	-12	- 6	+12	+41	+61	+60	931	22 28 +62	11 00 -23	85
+26	244	+37	+25	+18	+ 6	- 6	-14	-17	-18	-18	-19	-20	-21	-21	-19	-17	-16	-17	-15	-10	- 3	+18	+41	+48	+47	943	22 31 +49	11 50 -21	70
27	241	+43	+31	+16	- 2	- 8	-12	-15	-16	-17	-20	-18	-18	-17	-16	-14	-14	-11	-10	- 9	- 3	+14	+40	+45	+27	942	22 10 +49	09 18 -20	69
28	290	+14	+ 8	+ 5	- 3	-11	-13	-15	-17	-17	-19	-19	-16	-13	-15	-19	-16	-13	- 9	0	+ 7	+22	+45	+58	+53	940	22 34 +62	10 42 -21	83
29	244	+42	+41	+35	+18	+ 9	- 3	- 8	-15	-16	-21	-17	-19	-19	-18	-19	-17	-15	-13	-11	- 8	+ 6	+23	+24	+16	944	00 05 +45	09 53 -25	70
30	244	+14	+ 4	+ 2	- 2	- 4	- 9	-10	-10	-11	-10	-10	-13	-16	-10	- 7	- 6	- 8	- 4	- 8	- 8	+ 8	+29	+50	+50	936	22 52 +54	12 42 -16	70
+31	241	+37	+22	+16	+10	+ 3	- 7	-10	-12	-13	-14	-17	-18	-17	-15	-14	-17	-15	-14	-12	- 8	+ 1	+26	+47	+49	945	23 55 +50	11 12 -19	69
MEAN.		+35	+27	+14	+ 1	- 8	-15	-16	-16	-14	-15	-16	-15	-13	-13	-12	-10	-11	- 9	- 8	- 2	+10	+27	+39	+40	922			

Declination

(D = 10° + Mean + .. East)

G.M.T. Unit = 0.1 minute of arc January 1938

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	+37	+41	+34	+21	+10	+ 4	+ 3	+ 2	+ 1	- 6	- 8	- 6	- 9	- 6	- 6	- 5	- 8	-19	-26	-24	-20	-12	- 1	+ 2	439			
2	+ 6	+10	+17	+17	+16	+16	+16	+11	+ 5	+ 3	- 2	- 5	- 2	0	+ 2	+ 1	- 5	-15	-26	-31	-25	-13	- 2	+ 6	433			
3	+ 1	- 5	- 4	+ 1	+ 4	+ 2	+ 6	+ 4	+ 2	- 2	- 2	- 3	0	- 1	+ 4	+ 4	+ 4	- 6	-22	-23	-15	- 1	+23	+37	434			
4	+38	+33	+18	+15	+ 9	+ 9	+13	+10	+ 7	+ 5	- 2	- 2	- 2	- 4	- 6	- 5	- 6	-16	-35	-45	-35	-15	- 2	+ 7	433			
5	+ 6	+ 4	+ 2	0	+ 2	+ 5	+11	+11	+ 7	+ 2	- 1	- 3	- 3	- 5	- 5	- 5	- 4	-15	-20	-16	- 5	+ 2	+10	+15	436			
6	+ 6	+ 5	+ 5	+ 9	+13	+13	+15	+13	+ 7	+ 4	+ 3	- 2	- 1	- 3	- 2	- 3	- 3	- 6	-15	-23	-15	-12	- 3	+ 3	435			
7	+ 5	+12	+12	+ 8	+ 5	+ 7	+11	+11	+11	+ 6	+ 2	- 2	- 3	- 3	- 3	+ 1	- 1	-13	-23	-26	-23	- 8	- 3	+15	435			
8	+15	+13	+23	+22	+18	+ 4	+ 4	+ 2	+ 1	+ 2	- 2	- 5	- 6	- 7	- 8	- 8	- 9	- 9	-17	-19	-19	-10	+ 2	+15	438			
9	+23	+28	+23	+12	+ 3	+ 2	+ 2	+ 3	0	+ 1	+ 1	- 5	- 6	- 6	- 4	0	- 1	- 9	-27	-37	-31	-10	+12	+23	437			
10	+26	+25	+30	+25	+21	+ 6	+11	+ 5	+ 5	+ 3	- 3	- 3	- 5	- 2	- 3	- 4	0	- 6	-17	-31	-34	-27	-14	- 5	435			
11																												
12																												
13																												
14	+15	+17	+21	+21	+16	+16	+15	+10	+ 6	+ 6	+ 3	- 1	- 3	+ 1	0	- 1	- 7	-16	-35	-36	-28	-15	- 4	+ 8	432			
15	+21	+24	+19	+16	+16	+15	+11	+ 6	+ 5	+ 4	+ 1	- 2	- 3	- 4	- 4	- 4	- 8	-20	-29	-34	-26	-14	- 3	+13	434			
16	+31	+60	+50	+36	+20	+12	+ 9	+11	+ 9	+ 4	- 1	- 7	-11	-11	-13	-19	-19	-22	-39	-36	-32	-21	-15	- 1	439			
17	+26	+25	+24	+31	+28	+28	+29	+23	+14	+ 9	+ 5	0	-16	-27	-28	-28	-21	-30	-40	-45	-29	-20	+ 2	+29	429			
18	+38	+41	+39	+32	+18	+ 5	+ 5	+ 4	+ 4	+ 4	+ 1	- 3	- 3	- 3	- 2	0	0	- 3	-26	-43	-47	-40	-15	+ 1	433			
19	+ 7	+ 8	+12	+12	+11	+14	+14	+ 9	+ 3	+ 3	+ 3	+ 3	+ 1	0	+ 3	0	+ 5	- 2	-20	-33	-41	-29	- 8	+18	430			
20	+36	+46	+48	+37	+16	+ 7	+ 5	+ 9	+10	+ 7	+ 7	+ 5	+ 1	0	- 3	+ 2	+ 1	-18	-44	-62	-64	-40	-12	+12	431			
21	+23	+34	+43	+38	+17	+ 7	+11	+11	+10	+ 2	- 3	- 7	- 8	- 8	- 6	- 6	- 8	-19	-29	-37	-37	-28	-13	+ 9	436			
22	+20	+16	+26	+32	+19	+23	+32	+20	+ 9	+15	-13	-23	-28	-39	-24	-26	-37	-35	-23	- 9	- 4	+ 7	+18	+28	431			
23	+29	+33	+26	+21	+14	+ 9	+ 8	+ 6	+ 5	+ 2	0	+ 2	- 3	- 6	- 3	- 4	- 5	-16	-28	-36	-35	-24	- 6	+18	435			
24	+33	+32	+30	+21	+ 6	- 7	- 7	- 3	- 6	- 2	+ 2	+ 2	+ 2	+ 2	+ 1	- 3	- 8	-18	-35	-33	-18	- 7	0	+13	436			
25	+35	+35	+34	+21	+13	+ 7	+ 7	+ 7	+ 8	+ 9	+ 7	+ 7	+ 8	+ 5	+ 7	- 3	- 8	- 5	-42	-54	-53	-21	-22	- 2	431			
26	+14	+23	+22	+16	+13	+14	+14	+12	+ 4	+ 1	0	+ 4	+ 4	+ 2	+ 3	- 3	- 7	-15	-22	-18	-26	-27	-17	- 5	434			
27	+ 3	+ 4	+13	+12	+ 4	+ 3	+ 4	+ 4	+ 3	+ 4	+ 4	+ 3	+ 4	+ 3	+ 3	+ 5	+ 3	- 6	-17	-24	-19	-14	- 5	+11	434			
28	+20	+23	+26	+16	+ 2	- 1	0	+ 1	+ 1	- 1	0	- 1	- 2	+ 1	+ 1	+ 1	+ 1	-10	-21	-25	-18	-14	0	+10	437			
29	+18	+25	+26	+26	+ 6	- 3	- 3	+ 3	+ 5	+ 5	+ 3	0	+ 5	+ 6	+ 6	+ 6	+ 6	-12	-25	-33	-36	-30	-16	+15	432			
30	+29	+43	+42	+30	+14	+ 1	+ 3	+ 4	+ 1	+ 1	+ 1	0	- 1	+ 1	+ 1	0	0	-17	-36	-48	-47	-29	- 4	+10	437			
31	+16	+23	+23	+20	+11	+ 4	+ 6	+ 4	- 1	- 4	0	- 4	0	+ 2	+ 1	+12	+ 2	- 5	-27	-41	-44	-24	+ 2	+17	436			
MEAN.	+21	+24	+24	+20	+12	+ 8	+ 9	+ 8	+ 5	+ 3	0	- 2	- 3	- 4	- 3	- 3	- 5	-14	-27	-33	-30	-18	- 3	+11	434			

200/1/41—14357

Declination

(D = 10° + Mean + ...East)

G M T

Unit = 0·1 minute of arc

February 1938

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		+29	+40	+37	+51	+20	+11	+10	+9	+5	+2	-2	-4	-5	-6	-5	-4	-6	-19	-23	-45	-39	-29	-9	+10	438					
2		+17	+20	+25	+15	+9	+6	+7	+9	+9	+4	+1	+5	+1	0	+2	+2	+1	-13	-30	-39	-35	-23	-3	+12	432					
3		+25	+25	+27	+23	+13	+5	+5	+3	+3	+1	+3	+3	+4	+4	+3	+3	+7	+4	-7	-28	-46	-44	-25	-6	+12	435				
4		+21	+23	+21	+15	+10	+3	+3	+5	+6	+1	-3	+1	-3	+1	+3	+3	+3	+3	-7	-20	-34	-34	-29	-10	+13	437				
5		+22	+25	+26	+19	+10	+5	+6	+9	+8	-1	0	0	0	0	+1	+1	+1	0	-8	-20	-37	-38	-27	-7	+11	438				
6		+18	+27	+29	+32	+37	+18	+9	+15	+10	+5	-3	-3	-3	-4	-4	-5	-3	+1	-3	-23	-37	-43	-42	-22	-1	441				
7		+20	+21	+25	+20	+7	+7	+16	+12	+11	+7	+2	-3	-1	-1	-1	-2	+2	+2	-2	-18	-32	-40	-33	-21	-4	431				
8		+1	+3	+8	+12	+8	+6	+12	+15	+8	+6	+3	+1	+1	+1	-2	-4	-7	-12	-23	-32	-32	-17	-1	+12	435					
9		+16	+24	+26	+21	+17	+12	+12	+11	+12	+5	+1	-6	-8	-7	-8	-2	-2	-13	-32	-46	-38	-18	+1	+11	436					
10		+17	+18	+11	+10	-8	-3	+3	+4	+10	+8	+1	-1	-3	-5	-2	-10	-21	-31	-32	-14	+3	+18	+35	440						
11		+39	+37	+26	+12	+1	+1	-4	-3	-8	-8	-5	-5	-5	-4	-8	-9	-12	-32	-44	-40	-16	+6	+35	+49	441					
12		+55	+47	+35	+21	+4	-4	-1	-1	-5	-6	-6	-5	-6	-6	-7	-6	-11	-27	-46	-52	-35	-6	+26	+46	444					
13		+47	+36	+17	+6	+8	+8	+7	+5	+4	-3	-5	-5	-5	-5	-6	-5	-8	-21	-43	-54	-44	-7	+25	+48	443					
14		+69	+58	+38	+28	+7	+9	+10	+10	0	-1	-5	-1	-2	-9	-12	-20	-21	-34	-50	-56	-41	-20	+12	+38	439					
15	+																														
16	+	+19	+27	+26	+18	+7	+2	+5	+6	0	-2	-1	-2	-2	-3	-2	-3	-3	-13	-33	-42	-27	-11	+8	+28	441					
17		+44	+36	+25	+8	+3	+4	+7	+10	+4	+4	+5	+6	+4	+6	+6	+4	-8	-24	-64	-64	-42	-6	+24	454						
18		+38	+40	+32	+18	+1	-2	+6	+8	+2	0	0	-2	-2	-3	-6	-5	-8	-20	-39	-50	-40	-14	+8	+30	440					
19	+	+43	+41	+25	+9	+1	-1	+4	+5	+3	+1	0	0	-1	-1	-1	-1	-3	-14	-33	-50	-41	-18	+10	+31	439					
20	+	+38	+33	+20	+7	-2	-1	+5	+2	-1	-1	+1	-2	-1	-3	-3	-5	-4	-13	-28	-35	-31	-15	+10	+37	441					
21		+39	+34	+23	+5	-2	-4	+3	+3	+1	-4	-5	-5	-6	-6	-6	-6	-7	-13	-22	-24	-18	-13	+4	+20	444					
22	+	+34	+34	+29	+13	+3	0	+4	+5	+3	+4	+1	-1	-2	-1	-1	-2	-3	-11	-27	-31	-23	-11	-9	+9	459					
23		+18	+26	+23	+16	+8	+12	+15	+13	+8	+4	-2	-2	-2	0	-1	-2	-2	-11	-25	-31	-24	-14	+7	459						
24		+17	+22	+18	+13	+15	-2	+2	+3	+3	+3	+5	+5	+3	+4	+3	+2	-1	-8	-15	-27	-32	-21	-9	+1	435					
25		+12	+18	+22	+15	+6	+10	+11	+9	+4	+2	+2	+1	+2	+4	+6	+5	+3	-6	-15	-27	-32	-21	-9	+1	435					
26		+3	+8	+6	+2	0	+3	+10	+13	+10	+6	+4	+4	+3	+3	+4	+3	+5	-7	-25	-32	-23	-11	+5	+18	455					
27		+25	+31	+27	+16	+9	+4	+8	+9	+8	+6	+4	+3	+3	+3	+5	+3	+2	-1	-8	-25	-32	-37	-31	-17	-6	457				
28		+16	+19	+24	+22	+14	+8	+8	+10	+7	+4	+2	+4	+4	+6	+6	+6	+6	+6	-4	-23	-36	-39	-34	-17	-4	454				
29																															
30																															
31																															
Mean		+27	+29	+24	+16	+8	+4	+7	+7	+4	+1	0	-1	-1	-1	-1	-1	-3	-13	-28	-39	-35	-21	0	+17	458					

Declination
(D = 10° + Mean + ... East)
Unit = 0.1 minute of arc

G.M.T. March 1938

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	+9	+12	+12	+13	+12	+12	+9	+3	+2	+1	+1	0	+3	+6	+5	+3	-4	-24	-35	-32	-18	-3	+11	436			
2		+15	+16	+13	+11	+9	+9	+10	+7	+2	0	0	+2	+1	+1	+2	+1	0	-7	-24	-37	-31	-18	0	+14	438			
3		+23	+28	+27	+16	+9	+8	+7	+4	+3	0	+1	0	+1	+1	+5	+5	+3	-7	-27	-41	-29	-27	-8	+8	441			
4		+24	+29	+29	+18	+9	+6	+8	+8	+3	+1	0	0	-1	-1	+1	0	-1	-7	-24	-40	-39	-25	-11	+8	440			
5		+20	+20	+16	+12	+4	+8	+10	+4	-4	+2	+5	-2	-7	-9	-10	-8	0	-2	0	-13	-18	-16	-10	+1	438			
6		+11	+27	+23	+15	+13	+11	+16	+12	+3	+3	+5	+5	+5	+5	+6	+5	+4	-5	-23	-40	-46	-35	-19	+3	433			
7		+16	+19	+18	+12	+11	+10	+11	+9	+6	+5	+2	+2	+2	+2	+4	+1	-3	-6	-19	-29	-31	-28	-14	+12	437			
8		+29	+29	+20	+9	+2	+2	+8	+8	+7	+5	+4	+2	+2	+1	+1	+2	+3	-4	-24	-40	-41	-30	-10	+13	439			
9		+28	+23	+14	+8	+5	+8	+11	+11	+7	+7	+4	+3	+4	+4	+5	+4	+1	-12	-37	-50	-49	-29	+1	+24	437			
10	+	+37	+39	+30	+18	+10	+9	+13	+9	+8	+5	+1	0	-1	0	+1	-1	-3	-13	-32	-43	-42	-30	-14	+7	441			
11		+26	+29	+23	+12	+5	+6	+9	+7	+5	+2	+1	-1	0	0	0	0	-2	-12	-27	-43	-42	-25	-2	+21	443			
12		+34	+31	+20	+9	0	+4	+13	+8	+8	+7	+4	0	-2	-3	-5	-8	-3	-10	-23	-42	-40	-22	-2	+19	440			
13		+27	+25	+19	+16	+12	+12	+15	+9	+7	+6	+3	+1	-1	-1	0	+1	+1	-3	-23	-43	-47	-32	-14	+2	441			
14		+15	+21	+21	+17	+5	+8	+14	+11	+6	+1	0	0	0	0	0	+2	+4	-1	-21	-39	-40	-29	-10	+10	438			
15		+15	+13	+9	+10	+6	+6	+11	+11	+9	+4	+9	+7	0	-1	-1	0	-1	-11	-21	-31	-33	-23	-10	+15	439			
16	+	+29	+31	+20	+10	+3	+1	+9	+9	+7	+5	+2	+2	+2	+2	-1	-1	-2	-4	-21	-32	-29	-21	-10	-1	441			
17		+9	+14	+12	+8	+1	+2	+10	+10	+8	+7	+6	+3	+2	+2	+4	+4	-1	-8	-22	-39	-34	-20	+1	+16	440			
18	+	+17	+21	+26	+24	+16	+9	+9	+11	+7	+6	+4	+2	0	0	-1	+1	+1	-5	-19	-33	-40	-35	-24	-5	443			
19	+	+15	+20	+21	+16	+14	+8	+7	+6	+5	+5	+4	0	-3	-3	+1	+1	+4	-1	-13	-24	-29	-31	-23	-11	443			
20	+																												
21		+25	+30	+27	+24	+13	+9	+10	+7	+5	+4	+1	0	-3	-5	-5	-2	-3	-3	-11	-25	-34	-34	-23	-10	443			
22																													
23		+10	+13	+18	+14	+10	-4	-3	+1	+5	-4	0	+2	+3	+3	+7	+9	+10	+4	-4	-19	-29	-25	-12	+1	438			
24		+17	+25	+17	+10	+4	+1	-3	-2	-8	-11	-9	-4	-2	+2	+3	+4	+1	-2	-12	-19	-15	-10	+1	+16	441			
25		+25	+29	+26	+17	+14	+9	+6	+5	0	-2	-3	-4	-5	-2	+3	+4	+4	-4	-14	-27	-26	-24	-20	-5	442			
26		+16	+20	+15	+16	+15	+8	+8	+6	+4	+4	+5	-3	-3	0	-1	-1	+4	+3	-5	-22	-29	-30	-19	-5	442			
27		+6	+8	+6	+4	+5	+5	+5	+5	+4	+4	+4	+4	+4	+3	+5	+5	+5	-3	-11	-15	-22	-20	-11	+1	442			
28		+5	+13	+14	+9	+9	+6	+4	+4	+3	-1	-1	-2	-1	+2	+2	+4	+3	+2	-6	-16	-22	-20	-12	-6	444			
29		+3	+3	+2	-1	0	+4	+5	+5	+5	0	-1	+2	+3	0	+1	+4	+4	+3	-5	-7	-16	-15	-5	+7	443			
30																													
31																													
MEAN.		+19	+22	+18	+13	+8	+7	+9	+7	+4	+2	+2	+1	0	0	+1	+2	+1	-5	-18	-31	-33	-25	-10	+6	440			

Declination

(D = 10° + Mean + ...East)

G.M.T. Unit = 0·1 minute of arc April 1938

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	+14	+19	+13	+ 7	+ 4	+ 6	+ 5	+ 3	+ 3	+ 3	0	- 2	- 1	- 2	- 1	+ 3	+ 3	- 5	-16	-27	-25	-13	+ 2	445			
2	+	+13	+23	+17	+ 9	+ 3	+ 3	+ 5	+ 3	+ 3	+ 2	- 1	- 3	- 4	- 3	- 2	- 1	- 1	- 4	-11	-18	-22	-18	- 5	+12	445			
3		+19	+22	+17	+ 8	+ 7	+ 9	+ 9	+ 5	+ 4	+ 2	0	- 5	- 7	- 6	- 6	- 3	- 3	- 4	- 6	-15	-24	-20	-10	- 3	443			
4		+ 6	+16	+16	+16	+14	+10	+ 9	+ 6	+ 3	- 1	- 2	- 2	0	+ 2	+ 6	+ 6	+ 6	+ 2	- 8	-23	-29	-24	-20	-12	442			
5	+	- 2	+12	+20	+19	+13	+ 8	+ 8	+ 5	+ 1	+ 1	+ 1	- 1	0	+ 1	+ 2	+ 3	+ 4	+ 5	- 5	-19	-30	-26	-15	- 1	443			
6		+12	+26	+30	+22	+14	+ 8	+ 6	- 4	-10	-11	- 9	- 4	- 1	0	+ 6	+ 8	+ 9	+ 7	- 4	-21	-32	-32	-20	0	442			
7		+15	+19	+12	+11	+10	+13	+11	+ 8	+ 7	+ 5	+ 1	- 4	- 9	-11	- 5	- 2	+ 1	+ 1	- 4	-15	-25	-25	-16	- 3	443			
8		0	+ 6	+11	+10	+ 3	+ 2	+ 2	0	0	- 3	- 5	- 5	- 4	- 1	0	0	- 1	- 2	- 8	-16	-10	- 2	+ 9	+16	448			
9		+19	+19	+21	+20	+11	+ 3	+ 2	0	- 1	- 4	- 3	- 5	- 3	- 2	- 4	- 1	0	- 1	- 9	-15	-17	-16	-12	-13	449			
10		- 7	+ 2	+ 6	+ 7	+ 5	+ 7	-11	+ 9	+ 6	+ 6	+ 4	- 1	0	0	+ 1	+ 3	+ 5	0	- 6	-16	-24	-17	- 6	+ 6	442			
11		+11	+19	+20	+18	+12	+ 9	+ 5	+ 4	+ 1	+ 1	- 3	- 1	0	+ 1	- 3	- 6	-10	-10	- 7	-10	-18	-18	-11	0	448			
12		+ 6	+12	+16	+19	+15	+13	+13	+ 6	+ 4	+ 4	- 2	- 1	0	+ 3	+ 2	+ 4	+ 4	+ 2	- 8	-23	-34	-32	-24	-10	443			
13		- 2	+ 8	+11	+10	+ 9	+ 9	+ 6	+ 1	+ 1	0	0	+ 1	0	- 1	0	+ 2	+ 6	+10	+ 7	- 8	-19	-22	-20	-20	448			
14		-10	- 7	- 8	- 8	+ 3	+10	+10	+ 5	+ 3	+ 1	0	- 8	- 9	-10	- 9	-11	- 8	- 1	+ 2	+ 4	+ 5	+10	+16	+22	446			
15		+15	+ 7	+ 4	+ 6	+10	+ 7	+ 5	+ 3	+ 3	+ 3	- 2	- 3	+ 1	+ 3	- 2	+ 5	+ 6	- 2	- 8	-18	-17	- 8	- 5	- 5	445			
16		+ 4	+ 7	+11	+17	+10	+ 8	- 2	+24	-12	-14	-10	-23	-13	- 2	+ 6	+ 6	+ 7	+ 3	- 2	-12	-13	-12	- 2	+10	440			
17		+14	+23	+25	+23	+13	+ 6	0	- 4	+ 1	0	- 4	- 3	- 4	0	+ 4	+ 6	+ 3	+ 2	- 9	-20	-26	-19	-17	- 9	447			
18		+ 4	+18	+23	+18	+ 7	+ 6	+ 4	- 2	- 2	- 3	- 2	- 3	+ 2	+ 3	+ 3	+ 5	+ 5	+ 3	-13	-25	-25	-18	- 6	+ 5	445			
19		+12	+14	+21	+15	+11	+ 3	+ 1	0	+ 1	0	+ 1	- 1	- 0	+ 1	+ 2	+ 3	+10	+ 4	- 7	-18	-24	-21	-16	- 7	447			
20		+10	+22	+24	+18	+10	+ 5	+ 4	+ 3	+ 2	- 2	- 2	- 1	+ 1	+ 2	+ 4	+ 4	+ 4	+ 3	- 7	-21	-27	-26	-18	- 8	446			
21		+ 2	+13	+22	+17	+13	+ 7	+ 6	+ 3	- 1	+ 1	+ 2	+ 2	+ 2	* 2	+ 2	+ 4	+ 5	+ 2	- 7	-18	-28	-24	-15	-13	446			
22		-10	+ 1	+12	+13	+ 9	+ 2	0	0	- 2	- 5	- 5	- 5	0	+ 3	+ 9	+ 4	+ 8	+ 7	+ 1	+ 1	- 7	-11	-15	-11	449			
23		+ 1	+12	+24	+30	+23	+16	+12	+ 7	+ 3	- 4	- 9	-10	-14	-12	- 5	- 2	+ 3	+ 9	+ 2	-10	-17	-23	-19	-15	447			
24		- 8	+ 4	+17	+20	+14	+ 9	+ 6	+ 4	+ 4	+ 1	- 1	- 3	- 2	+ 1	+ 4	+ 5	+ 7	+ 5	- 2	-12	-18	-20	-18	-16	446			
25		-11	+ 3	+14	+21	+19	+15	+ 7	+ 4	+ 1	+ 2	+ 2	+ 2	0	+ 2	+ 3	+ 4	+ 5	+ 6	+ 4	-10	-16	-21	-21	-23	445			
26		-16	- 6	+ 5	+14	+16	+10	+ 7	+ 4	+ 3	0	0	+ 3	+ 1	+ 3	+ 7	+ 7	+ 8	+ 6	+ 4	-12	-17	-18	-16	-14	444			
27		-14	- 3	+11	+19	+18	+ 8	+ 4	0	0	- 2	- 2	- 2	- 2	- 2	0	0	+ 2	+ 2	+ 3	- 8	-12	-13	-10	- 7	450			
28	+	+ 1	+ 8	+14	+16	+12	+ 9	+ 5	+ 1	+ 1	+ 1	- 2	- 1	+ 1	+ 1	+ 2	+ 2	+ 2	+ 3	0	- 9	-16	-18	-14	-14	447			
29	+	- 8	- 2	+12	+15	+12	+ 8	+ 4	+ 2	+ 2	+ 4	+ 2	+ 2	+ 2	+ 2	+ 3	+ 2	+ 4	+ 4	+ 3	- 7	-14	-16	-15	-13	446			
30	+	- 7	+ 4	+11	+13	+ 9	+ 6	+ 5	+ 3	+ 1	+ 1	- 1	- 5	- 6	- 5	- 4	- 3	- 2	+ 1	+ 6	+ 1	- 8	-10	- 9	- 7	447			
31																													
Mean		+ 2	+11	+15	+15	+11	+ 8	+ 6	+ 4	+ 1	0	- 2	- 3	- 2	- 1	+ 1	+ 2	+ 3	+ 2	- 3	-14	-20	-18	-12	- 5	445			

Declination
(D = 10° + Mean + ... East)

G.M.T. — Unit = 0.1 minute of arc — May 1938

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	+6	+14	+19	+15	+9	+4	+2	0	+1	0	+1	-1	0	+1	+2	+1	+1	-1	-12	-20	-19	-15	-9	449			
2		0	+8	+13	+16	+9	+7	+5	+3	+4	0	-1	-2	-1	+1	+2	+4	0	+1	-1	-7	-13	-18	-19	-12	449			
3		-6	+9	+21	+24	+22	+14	+9	+3	-3	-4	-7	-6	-4	+1	+3	+3	+6	+8	+9	-7	-15	-19	-23	-28	447			
4		-21	-8	+4	+13	+10	+8	+3	-1	0	-4	-4	-2	+2	+2	0	-1	+10	+16	+22	+3	-7	-16	-18	-17	445			
5		-15	+1	+11	+10	+5	+2	+1	0	-1	-1	-1	-1	0	+1	+3	+7	+9	+7	+8	-5	-11	-18	-12	-12	449			
6		-12	-4	+15	+24	+13	+8	+3	+2	+1	+2	0	0	+1	+2	+6	+10	+5	+6	+5	-7	-18	-25	-26	-18	446			
7		-4	+15	+28	+29	+20	+10	+6	+3	0	0	0	-1	-1	0	0	0	0	0	-1	-6	-21	-31	-32	-25	448			
8	+	-11	+6	+19	+20	+14	+11	+7	+1	+1	0	+1	0	0	0	+1	+6	+8	+8	+5	-7	-19	-21	-21	-18	448			
9		-11	-1	+11	+21	+16	+10	+7	+1	+1	+2	+1	+1	0	-1	0	+1	+1	+1	+1	-7	-13	-13	-10	-11	449			
10		0	+10	+12	+18	+18	+14	+8	+3	+1	+1	0	-2	-3	-1	0	+1	+4	0	+9	+5	-10	-26	-32	-33	450			
11																													
12																													
13		-2	+9	+17	+22	+17	+9	+1	-2	-1	-1	-1	-1	-1	+2	+2	+3	+4	+4	+4	-5	-17	-19	-19	-17	451			
14		-7	+8	+20	+23	+19	+9	+1	-1	-7	-8	-14	-19	-16	-1	+2	+3	+4	+7	+4	-2	-12	-11	-11	-2	449			
15		0	+1	+5	+16	+6	+3	+5	+2	+1	-5	-5	-4	-1	+1	+3	+10	+12	+11	+10	+1	-14	-19	-17	-15	447			
16		-5	+3	+13	+18	+7	+5	+3	+3	-3	-3	-5	-6	-5	-1	+5	+6	+12	+12	+12	-1	-11	-17	-23	-26	445			
17		-21	-7	+6	+12	+13	+12	+3	+2	+3	0	-2	-2	-2	+3	+4	+5	+7	+8	+6	+3	-7	-14	-17	-17	445			
18		-17	-7	+8	+14	+10	+5	+4	+3	+2	+2	+1	+1	+1	+2	+3	+3	+3	+4	+7	+3	-9	-17	-20	-18	447			
19		-9	+8	+17	+19	+10	+8	+4	+1	+1	0	0	-1	+1	0	+1	+4	+2	0	+4	0	-10	-19	-21	-22	450			
20	+	-22	-19	+2	+20	+11	+8	+4	+2	+1	+1	+2	0	0	+1	+2	+2	+3	+4	+9	+2	-7	-11	-10	-3	449			
21		-2	+5	+8	+10	+8	+5	0	-1	-2	-4	-3	-2	-2	0	+3	+5	+5	+6	+10	+3	-11	-14	-15	-14	450			
22		-9	+1	+17	+21	+17	+10	+6	+2	-1	-1	-2	0	-1	+1	0	+4	+7	+7	+11	+1	-10	-17	-24	-29	449			
23	+	-20	-3	+13	+19	+13	+10	+7	+2	+1	+1	+4	+2	+2	+3	+4	+5	+4	+5	+8	-4	-17	-25	-24	-14	448			
24		-2	+8	+17	+11	+8	+6	+4	-1	-2	-2	-2	-2	0	0	0	0	-2	0	+6	-1	-5	-9	-13	-14	450			
25		-1	+8	+14	+11	+9	+4	+3	+1	-1	-1	-1	-1	0	+1	+2	+3	+5	+8	+17	+9	-3	-20	-31	-32	449			
26	+	-18	+2	+21	+24	+14	+12	+5	+2	+2	+3	+3	+3	+3	+5	+6	+7	+6	+6	+12	+3	-13	-27	-37	-38	446			
27		-31	-17	+1	+13	+14	+12	+10	+4	+2	+2	+2	+4	+2	+1	+2	+8	+9	+9	+10	+5	-7	-17	-20	-21	447			
28		-15	-2	+14	+17	+14	+11	+6	-2	-4	-6	-5	-4	-2	0	+4	+6	+8	+10	+15	+7	-4	-19	-25	-24	452			
29		-12	+4	+18	+17	+11	+14	+11	+2	-5	-8	-11	-18	-15	-11	-4	-5	+7	+11	+14	+1	-7	-8	-3	0	447			
30		-1	+2	+10	+10	+2	0	0	0	-8	-9	-8	-5	-1	-5	+5	+9	+10	+10	+15	+1	-10	-11	-11	-8	448			
31		-1	+8	+18	+18	+7	-1	-2	-3	-3	-3	-2	-2	-1	+2	+5	+8	+7	+7	+7	-2	-13	-21	-20	-17	450			
MEAN.		-10	+2	+13	+18	+12	+8	+4	+1	-1	-2	-2	-2	-2	0	+2	+4	+5	+6	+8	-1	-11	-18	-20	-18	448			

Declination

(D = 10° + Mean + ...East)

G.M.T. Unit = 0·1 minute of arc June 1938

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	+ 1	+11	+12	+ 9	+ 3	+ 1	+ 1	+ 1	- 1	0	0	+ 1	+ 5	+ 6	+ 8	+ 9	+ 9	+11	+ 8	- 7	-21	-25	-22	449			
2		-18	- 5	+ 1	+ 2	+ 1	0	- 2	- 1	0	+ 1	0	+ 1	+ 1	+ 2	+ 6	+ 8	+10	+12	+14	+ 8	- 2	- 7	-12	-10	450			
3		-10	- 9	+ 7	+12	+ 9	+ 6	+ 1	- 1	0	+ 1	0	0	- 1	0	0	+ 2	+ 3	+ 3	+ 9	+10	- 4	-13	-15	-14	451			
4	+	-10	+ 2	+13	+14	+ 7	+ 4	- 2	- 2	- 3	- 3	- 5	- 3	- 2	- 2	- 2	0	0	+ 2	+ 5	0	- 6	- 9	- 6	- 3	453			
5		+ 2	+ 3	+ 4	+ 3	- 2	- 2	- 2	- 2	- 2	- 2	- 2	0	0	+ 2	+ 4	+ 5	+ 5	+ 7	+ 9	+ 5	- 2	- 9	-10	-11	450			
6		-10	0	+ 9	+14	+12	+ 7	+ 2	- 1	- 2	- 3	- 3	- 3	- 3	- 1	- 2	+ 2	+ 5	+ 3	+ 7	+ 3	- 4	- 9	-13	-18	451			
7		-13	- 1	+11	+14	+ 7	+ 6	+ 3	+ 3	+ 1	- 1	- 2	- 1	+ 2	+ 2	+ 3	+ 3	+ 2	+ 2	+ 8	+ 8	- 2	-13	-22	-22	450			
8		-23	-10	+ 3	+10	+14	+13	+ 3	- 6	- 7	- 7	- 7	- 6	- 5	0	+ 2	+ 3	+ 6	+ 8	+15	+15	+ 3	-13	-16	- 6	454			
9		- 2	+ 4	+11	+11	+ 5	+ 3	- 2	- 6	- 7	- 6	- 6	- 5	- 1	+ 2	+ 3	+ 3	+ 3	+ 3	+ 9	+ 5	+ 1	- 4	- 8	- 8	455			
10		0	0	+ 1	+ 2	0	- 1	- 3	- 3	- 3	- 6	- 3	- 4	- 3	- 2	+ 7	+ 8	+ 9	+ 7	+16	+13	+ 6	- 4	-17	-22	451			
11																													
12																													
13		-29	-10	+ 2	+ 1	- 2	+ 1	+ 1	0	- 4	- 5	- 5	- 4	- 1	+ 2	+ 8	+13	+14	+13	+16	+11	+ 1	- 6	- 7	- 6	447			
14		- 5	- 1	+ 2	+ 4	+ 5	+ 5	+ 5	+ 2	+ 1	0	- 1	0	0	0	+ 3	+ 6	+ 6	+ 7	+ 8	+ 5	- 5	-12	-19	-27	449			
15	+	-22	- 5	+ 8	+ 9	+ 7	+ 6	+ 5	+ 3	+ 2	+ 3	+ 3	+ 2	+ 2	+ 3	+ 4	+ 7	+ 8	+ 7	+10	+ 8	- 3	-17	-22	-20	450			
16		-16	- 4	+ 8	+12	+ 6	+ 4	+ 2	+ 1	- 4	- 4	- 6	- 5	- 3	+ 1	+ 7	+12	+10	+10	+16	+10	- 3	-13	-15	-16	452			
17		-15	- 2	+14	+15	+ 7	+ 4	+ 2	0	- 2	- 2	- 2	- 2	- 2	- 2	+ 1	+ 3	+ 4	+ 4	+ 5	+ 4	- 7	-13	-14	-11	454			
18		-10	- 4	+ 6	+ 6	- 2	- 3	- 2	- 1	- 3	- 1	- 2	- 2	- 1	+ 3	+ 6	+ 6	+ 6	+ 4	+ 7	+ 7	0	- 8	-12	- 8	451			
19		- 8	+ 3	+ 9	+ 6	+ 4	- 1	- 2	- 2	- 3	- 3	- 1	+ 3	+ 2	+ 3	+ 4	+ 6	+ 5	+ 4	+ 7	+ 7	0	-11	-17	-16	454			
20		- 5	- 1	+ 8	+13	+ 6	- 2	- 3	- 3	- 3	- 3	- 2	- 1	0	0	+ 3	+ 3	+ 6	+ 7	+ 8	+ 6	- 1	- 5	-13	-14	451			
21		-18	-11	+ 4	+13	+11	+ 6	+ 3	- 2	- 7	- 7	- 9	- 9	- 8	- 7	- 4	0	+ 3	+ 5	+13	+13	+ 8	+ 2	+ 3	- 2	455			
22		- 4	+ 4	+ 8	+11	+ 8	+ 6	+ 4	0	- 2	- 3	- 3	- 5	- 5	- 5	- 4	- 4	- 2	- 1	+ 5	+ 7	+ 6	+ 1	- 6	-11	452			
23	+	-12	0	+13	+17	+11	+ 3	+ 2	+ 1	0	+ 1	0	- 2	- 5	- 2	- 3	- 2	- 2	+ 2	+ 7	+ 4	- 5	- 7	-11	-12	455			
24		- 7	+ 2	+11	+13	+11	+ 3	+ 3	- 2	- 5	- 5	- 5	- 4	- 3	+ 1	+ 3	+ 7	+ 7	+ 9	+12	+10	- 2	-16	-19	-18	455			
25		-16	- 5	+ 8	+13	+12	+ 5	+ 1	+ 1	- 2	- 2	- 2	- 2	+ 1	+ 1	+ 1	- 1	+ 3	+ 3	+ 9	+ 5	- 1	-12	-15	-13	455			
26		-10	+ 1	+10	+13	+12	+ 6	+ 2	- 1	- 5	- 5	- 3	- 5	- 2	- 3	0	+ 1	+ 1	+ 3	+10	+11	+ 5	- 6	-19	-27	457			
27	+	-23	-18	- 2	+ 7	+ 7	+ 7	+ 5	+ 3	+ 3	+ 3	+ 1	- 1	0	+ 1	+ 4	+ 5	+ 6	+ 6	+ 8	+ 5	+ 1	- 5	- 8	-13	452			
28	+	-14	- 3	+ 7	+14	+13	+ 7	+ 7	+ 1	+ 1	+ 2	+ 2	+ 3	+ 3	+ 3	+ 4	+ 6	+ 8	+ 9	+15	+ 9	- 4	-22	-39	-41	452			
29		-24	- 6	+ 7	+13	+ 6	+ 5	+ 5	+ 5	+ 4	0	- 1	- 2	- 2	0	+ 2	+ 3	+ 7	+ 7	+13	+13	+ 7	-10	-25	-32	453			
30		-23	- 7	+11	+ 7	+ 5	+ 5	+ 3	+ 1	+ 1	0	0	0	+ 2	+ 1	+ 2	+ 8	+ 9	+ 8	+11	+11	- 3	-16	-17	-20	450			
31																													
Mean		-13	- 3	+ 7	+10	+ 7	+ 4	+ 2	0	- 2	- 2	- 2	- 2	- 1	0	+ 2	+ 4	+ 5	+ 6	+10	+ 8	- 1	-10	-15	-16	452			

Declination

(D = 10° + Mean + ...East)

Unit = 0·1 minute of arc

G.M.T.

July 1938

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	0	+5	+7	+7	+7	+4	+3	-4	-12	-8	-6	-6	-2	+4	+6	+8	+12	+16	+14	+5	-3	-12	-22	453			
2	-30	-14	0	+11	+9	+4	+5	+4	+3	-1	-2	-5	-4	+3	+4	+5	+5	+5	+12	+15	+5	-5	-7	-15	453			
+3	-19	-10	+1	+10	+10	+4	+2	+1	+1	+1	-1	-1	0	-1	+1	+1	+2	+5	+11	+11	+4	-2	-10	-18	457			
4	-12	-1	+10	+19	+17	+9	+3	0	-2	-9	-12	-16	-16	-17	-11	+2	+9	+11	+19	+10	+9	-1	-11	-11	459			
5	-5	-4	+5	+14	+13	+5	+4	+5	+5	+4	+2	-2	-2	-4	-3	+3	+7	+10	+15	+5	-8	-18	-25	-25	453			
6	-25	0	+18	+18	+11	+7	+6	+3	0	-1	-4	-8	-10	-11	-8	-4	-1	0	+11	+10	0	-8	-8	-6	458			
7	-7	+2	+9	+14	+13	+12	+10	+3	+2	+2	+2	+2	+1	+2	+3	+4	+6	+5	+11	+1	-14	-27	-33	-22	456			
8	-8	+10	+18	+21	+14	+12	+6	+3	+1	-1	-2	-4	-5	-4	-1	+2	+2	+3	+8	+4	-6	-14	-24	-24	456			
9	-6	+7	+15	+17	+16	+12	+9	+6	+5	+3	+1	+1	+2	+3	+5	+6	+7	+6	+12	+5	-15	-34	-40	-34	452			
10																												
11																												
12	-3	+4	+9	+13	+7	+4	+4	+3	+1	0	0	0	0	0	0	+4	+5	+6	+14	+6	-9	-24	-25	-10	454			
13	+1	+12	+18	+17	+9	+5	+2	0	+1	-1	-1	-1	+1	+2	+2	+3	+3	+3	+4	-4	-14	-20	-26	-26	456			
14	-23	-7	+2	+3	+3	+6	+3	+1	-1	-2	-2	-1	-2	-3	-1	+3	+7	+7	+13	+10	+3	-7	-7	-5	455			
15	-1	+4	+7	+14	+5	+6	+8	+7	+7	-1	-8	-15	-11	-15	-22	-1	-3	+5	+25	+17	+10	-3	-17	-24	453			
16	-16	-7	+2	+10	+13	+9	+7	+7	+4	-2	-3	-2	-4	-10	-2	+3	+8	+11	+19	+11	0	-10	-18	-22	450			
17	-20	-11	-2	+6	+9	+8	+9	+4	-3	-3	-3	-4	-2	-3	-3	0	+2	+4	+9	+10	+6	-3	-6	-12	454			
18	-16	-11	+4	+11	+14	+9	+5	+1	+1	-1	0	-1	-1	-2	0	+2	+3	+6	+9	+6	-4	-6	-11	-10	454			
19	-1	+7	+15	+14	+7	+5	+3	+2	+1	-2	-5	-4	-5	+1	+2	+5	+5	+5	+9	+5	-7	-17	-24	-26	455			
20	-17	+4	+16	+22	+16	+13	+7	+3	+2	-3	-7	-8	-8	-7	-5	-2	+2	+3	+10	+9	-3	-13	-19	-25	457			
21	-18	-6	+5	+16	+16	+12	+5	+2	0	-3	-4	-6	-7	-8	-8	-6	-1	+4	+13	+16	+10	-2	-10	-14	456			
22	-9	+3	+15	+17	+13	+5	+4	+2	+2	0	-1	-3	-6	-6	-5	-4	-4	-2	+2	+2	-6	-11	-11	-8	456			
23	-7	-1	+12	+17	+12	+7	+4	+2	-1	-1	-3	-2	-2	+1	+2	+3	+7	+5	+6	+2	-9	-18	-21	-17	456			
24	-8	+4	+16	+19	+12	+6	+2	-1	+1	+1	-1	-4	-6	-4	0	+2	+3	+3	+4	-7	-8	-18	-19	-9	457			
+25	-1	+3	+11	+11	+4	+3	+1	0	+1	-1	-2	-3	-4	-3	0	+1	+3	+6	+12	+5	-7	-17	-19	-15	457			
+26	-7	+9	+25	+27	+11	+5	0	0	-1	-4	-5	-7	-6	-5	-1	+2	+3	+6	+12	+12	-1	-17	-29	-40	458			
+27	-34	-18	+5	+18	+12	+4	+3	+2	+2	+2	+2	+2	+3	+3	+4	+5	+4	+8	+14	+5	-5	-14	-18	-16	456			
+28	-6	-3	-4	+8	+6	+6	+3	+4	+4	+4	+4	+5	+5	+5	+5	+7	+7	+8	+14	+7	-7	-21	-25	-24	453			
29	-19	-3	+9	+11	+7	+6	+3	+2	+2	0	-1	-7	-4	-3	0	+1	+3	+4	+15	+13	+1	-5	-9	-18	457			
30	-12	-6	+4	+11	+14	+14	+10	+2	+1	-8	-16	-24	-13	-5	-2	-1	+3	+5	+9	+12	+11	+6	-6	-16	459			
31	-13	-3	+13	+17	+12	+5	+3	+2	+2	0	-1	+1	0	+1	+2	+3	+3	+5	+12	+6	-4	-16	-23	-24	456			
Mean	-12	-1	+9	+14	+11	+7	+5	+3	+1	-1	-3	-4	-4	-3	-1	+2	+4	+5	+12	+8	-2	-12	-18	-19	455			

Declination

(D = 10° + Mean + ...East)

G.M.T. Unit = 0·1 minute of arc August 1938

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	-16	- 3	+12	+16	+13	+10	+ 5	+ 3	+ 4	- 1	- 4	- 8	- 9	- 6	- 3	+ 3	+ 9	+10	+12	+ 3	- 6	-13	-18	-14	456			
2	- 4	- 3	+ 5	+ 8	+10	+ 5	+ 5	+ 4	+ 3	0	- 2	- 2	- 3	- 5	- 6	- 3	- 2	0	+ 8	+ 9	- 2	- 5	-11	-10	453			
3	-13	- 8	+ 8	+19	+15	+ 5	+ 3	- 2	+ 1	0	+ 1	0	- 1	+ 2	+ 2	+ 3	+ 4	+ 5	+14	+ 9	- 5	-17	-13	-20	455			
4	-21	- 1	+20	+21	+18	+ 9	+ 7	+ 2	+ 2	-11	-11	-11	-13	- 9	+ 2	+ 8	+ 8	+10	+15	+ 9	- 1	-10	-17	-19	459			
5	- 5	+ 7	+18	+17	+15	+ 3	+ 3	0	- 3	+ 1	0	- 2	- 4	- 5	- 5	- 3	+ 4	+ 5	+ 8	+ 3	-15	-23	-18	-13	453			
6	- 5	+10	+20	+19	+11	+ 5	+ 4	+ 2	+ 2	+ 2	- 2	- 3	- 3	0	+ 2	+ 2	+ 4	+ 6	+ 8	- 4	-17	-21	-21	-18	456			
7	-11	0	+12	+20	+12	+ 8	+ 8	+ 4	+ 3	+ 1	0	- 5	- 4	- 2	0	+ 1	+ 3	+ 8	+11	+ 1	-10	-23	-26	-20	458			
8	- 9	+ 3	+12	+19	+13	+ 9	+10	+ 2	+ 1	0	0	- 1	- 2	- 3	- 1	0	+ 2	+ 3	+ 9	+ 3	-10	-17	-18	-17	459			
9	-10	+ 1	+11	+12	+10	+ 9	+ 4	+ 2	+ 2	+ 1	- 1	- 1	0	+ 1	+ 2	+ 3	+ 2	+ 3	+ 7	+ 3	- 9	-15	-18	-10	459			
10	- 1	+ 5	+ 7	+ 5	+ 1	+ 2	+ 1	0	- 4	- 4	- 4	0	+ 3	+ 5	+12	+14	+15	+17	+20	+ 5	-13	-25	-26	-26	456			
11	-20	-16	- 5	+10	+11	+11	+12	+ 5	+ 5	0	-.8	-12	-10	- 8	- 2	+ 1	+ 6	+ 7	+20	+17	+10	+ 5	- 6	-22	458			
12	-26	-18	- 3	+ 9	+ 6	+ 5	+ 6	+ 4	+ 4	+ 4	+ 4	+ 4	+ 3	+ 4	+ 6	+ 9	+ 9	+ 9	+11	+ 4	- 5	-14	-21	-25	454			
13	-23	- 9	+ 8	+17	+14	+11	+ 4	+ 4	+ 3	+ 2	+ 2	+ 1	+ 1	+ 2	+ 3	+ 6	+ 6	+10	+13	+ 2	- 9	-17	-23	-24	457			
14	-24	- 1	+11	+11	+ 4	+ 1	+ 3	+ 2	+ 2	+ 1	+ 1	+ 1	0	+ 1	0	+ 1	+ 5	+ 6	+ 7	+ 1	+ 1	- 6	-17	-22	459			
+15	-18	- 8	+ 7	+ 9	+ 6	+ 3	+ 3	+ 2	+ 4	+ 3	+ 2	+ 2	+ 2	+ 3	+ 4	+ 5	+ 6	+ 8	+13	+ 8	0	- 9	-17	-27	457			
+16	-26	- 5	+12	+15	+14	+ 8	+ 4	+ 4	+ 1	+ 1	+ 1	+ 1	+ 1	+ 1	+ 1	+ 2	+ 3	+ 6	+ 9	+ 1	- 8	-13	-16	-22	459			
17	-20	- 6	+12	+21	+16	+14	+10	+ 6	+ 6	+ 5	+ 4	+ 2	- 1	- 2	+ 3	+ 5	+ 6	+11	+14	+ 5	-14	-26	-33	-32	454			
+18	-22	+ 1	+10	+14	+ 9	+ 7	+ 3	+ 3	+ 1	0	0	- 1	- 3	- 4	- 2	+ 1	+ 4	+ 6	+10	+ 2	- 3	-11	-16	-16	459			
19	-11	+ 3	+11	+19	+16	+ 8	+ 5	+ 2	+ 1	0	- 3	- 2	- 1	0	+ 2	+ 2	+ 5	+ 9	+10	- 3	-19	-25	-20	-15	458			
+20	- 4	+12	+27	+26	+17	+ 8	+ 5	0	- 2	- 3	- 3	- 3	- 3	- 2	0	+ 2	+ 3	+ 7	+ 6	- 1	-15	-25	-32	-30	461			
21	-22	- 7	+ 9	+14	+10	+ 6	+ 2	+ 1	- 1	- 1	- 1	- 1	0	+ 1	+ 3	+ 6	+ 6	+10	+10	0	-11	-17	-11	- 5	460			
22	+ 1	+ 4	+ 8	+13	+10	+ 6	- 1	- 1	- 2	- 3	- 3	- 3	- 3	- 2	+ 5	+11	+ 8	+10	+ 8	+ 1	-11	-16	-23	-24	462			
23	-19	-17	0	+18	+20	+17	+ 8	+ 6	0	- 7	- 9	- 4	- 2	- 1	+ 1	+ 3	+ 4	+ 7	+ 8	+ 2	- 3	-10	-15	-13	459			
24	- 8	+ 1	+11	+14	+14	+11	+ 5	+ 2	+ 2	+ 1	+ 1	+ 1	+ 1	+ 2	+ 4	+ 7	+ 8	+ 9	+10	- 1	-12	-22	-28	-29	459			
25	-23	-11	+ 7	+15	+13	+ 5	+ 4	+ 4	+ 5	+ 4	+ 5	+ 6	+ 5	+ 7	+10	+11	+12	+12	+12	0	-15	-24	-30	-37	456			
26	-28	-14	+ 4	+13	+11	+ 7	+ 5	+ 4	+ 3	+ 4	+ 5	+ 6	+ 5	+ 5	+ 4	+ 7	+ 7	+12	+14	+ 1	-14	-19	-20	-16	456			
+27	-16	- 1	+18	+20	+12	+ 8	+ 3	+ 1	+ 1	0	0	0	+ 1	+ 2	+ 3	+ 8	+ 9	+10	+10	+ 3	- 8	-18	-26	-29	459			
28																												
29	-10	+ 7	+13	+15	+10	+ 4	+ 5	+ 2	- 1	- 2	- 2	- 1	- 1	- 1	0	+ 2	+ 3	+ 4	+ 9	+ 2	- 8	-15	-20	-11	458			
30	+ 3	+17	+29	+30	+13	+ 4	+ 6	+ 4	+ 3	0	- 1	- 2	- 3	- 2	+ 1	+ 1	+ 3	+ 3	+ 3	- 7	-20	-29	-31	-29	457			
31	-22	- 9	+ 5	+13	+15	+13	+ 5	+ 5	+ 4	0	- 2	- 1	- 1	0	+ 1	+ 2	+ 2	+ 8	+15	+ 7	- 7	-18	-21	-20	458			
Mean	-14	- 2	+11	+16	+12	+ 7	+ 5	+ 3	+ 2	0	- 1	- 1	- 2	- 1	+.2	+ 4	+ 5	+ 8	+11	+ 3	- 9	-17	-20	-21	457			

Declination

(D = 10° + Mean + ...East)

G.M.T. Unit = 0·1 minute of arc September 1938

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	- 3	+10	+12	+11	+ 9	+ 7	+ 7	+ 4	+ 1	+ 1	0	- 1	- 2	+ 1	+ 2	+ 2	+ 5	+10	- 3	-16	-21	-19	-17	457			
2	-13	+ 2	+19	+21	+19	+12	+10	+ 6	+ 4	+ 2	0	0	0	0	+ 1	+ 1	+ 3	+ 6	+11	- 2	-16	-25	-29	-27	458			
3	-13	- 3	+ 9	+14	+15	+15	+15	+11	+ 6	+ 2	- 3	- 6	- 5	- 4	0	+ 4	+ 5	+ 7	+12	- 1	-14	-21	-23	-20	454			
4	-10	+ 4	+12	+18	+20	+14	+10	+ 8	+ 3	+ 1	- 2	- 2	- 2	0	0	+ 1	+ 5	+ 8	+ 3	- 9	-20	-25	-23	- 9	458			
5	+ 8	+26	+29	+21	+11	+ 6	+ 3	0	- 2	- 4	- 3	- 3	- 3	- 2	- 2	- 1	+ 2	+ 3	+ 1	- 7	-16	-21	-22	-17	460			
+ 6	+ 1	+11	+17	+11	+ 3	+ 2	+ 5	+ 2	+ 1	+ 1	+ 1	+ 1	+ 1	+ 2	+ 3	+ 5	+ 7	+ 9	+ 5	- 9	-19	-22	-20	-15	458			
7	- 7	+ 4	+11	+11	+ 6	0	- 3	- 3	- 2	- 1	- 1	0	+ 2	+ 4	+ 9	+ 9	+11	+12	+ 1	-10	-14	-13	-10	-10	459			
8	- 2	+ 6	+10	+11	+ 8	+ 4	+ 5	+ 1	+ 1	- 1	- 2	0	0	+ 1	+ 4	+ 6	+ 8	+10	+ 8	- 5	-21	-24	-22	-11	459			
9	+ 3	+18	+18	+18	+15	+ 8	+ 6	+ 5	+ 2	0	- 2	- 4	- 4	- 1	+ 3	+ 5	+ 6	+ 7	+ 6	-10	-22	-30	-31	-22	460			
10																												
11	+ 5	+20	+28	+19	+11	+10	+ 7	+ 7	+ 6	+ 2	0	- 1	- 8	- 4	- 1	+ 3	+ 6	+ 8	+ 1	-12	-28	-33	-31	-22	460			
12	0	+27	+36	+28	+18	+ 9	+ 6	+ 5	+ 4	- 1	- 3	- 2	- 3	- 4	- 1	0	+ 4	+ 7	+ 1	-12	-20	-26	-34	-32	461			
13	-20	- 8	+ 9	+12	+14	+10	+ 1	+ 1	+ 1	- 1	0	+ 1	+ 1	+ 2	+ 7	+ 9	+10	+11	+ 9	- 2	- 8	-11	-21	-27	459			
14	-19	- 4	+10	+17	+ 1	0	+ 2	0	- 1	- 3	- 5	- 8	-10	- 9	-11	- 7	+ 3	+ 9	+19	+19	+10	- 1	- 2	- 1	460			
15																												
16	- 9	+ 9	+16	+19	+18	+11	+11	+ 6	+ 6	+ 4	+ 2	+ 2	+ 2	+ 3	+ 9	+10	+11	+11	+ 8	- 7	-19	-36	-44	-36	457			
17	-21	- 2	+11	+11	+10	+10	+ 9	+ 6	+ 2	+ 2	+ 2	+ 1	+ 2	+ 4	+ 8	+ 9	+ 9	+ 9	+ 1	-10	-16	-20	-20	-13	459			
18	- 5	+ 7	+ 9	+ 7	+ 4	0	0	- 2	- 1	- 1	0	0	0	+ 3	+ 5	+ 6	+ 5	+ 5	- 3	-10	-10	-12	-10	- 7	463			
+19	+ 2	+16	+20	+19	+11	+ 6	+ 6	+ 2	+ 2	+ 2	+ 2	+ 2	+ 2	+ 6	+ 7	+ 6	+ 7	+ 5	- 4	-18	-26	-31	-28	-16	461			
20	- 1	+ 7	+14	+16	+13	+10	+10	+ 7	+ 3	+ 1	0	+ 2	+ 3	+ 5	+ 7	+ 8	+ 8	+ 1	-11	-20	-23	-23	-20	-12	460			
21	+ 5	+17	+16	+ 7	+ 4	+ 4	+ 5	+ 3	+ 1	- 1	- 2	- 1	+1	+ 4	+ 6	+ 6	+ 8	+ 7	- 3	-14	-24	-24	-21	-13	462			
22	+ 3	+14	+16	+14	+ 9	+ 5	+ 2	- 6	-14	-16	-16	- 6	- 1	+ 3	+ 3	+ 5	+ 6	+ 7	+ 2	- 4	-11	-11	- 6	- 1	464			
23	+ 9	+16	+13	+ 8	+ 8	+ 6	+ 1	+ 2	+ 1	+ 3	- 1	- 2	- 2	- 1	+ 4	+ 6	+ 6	0	-11	-22	-30	-22	- 5	+ 8	460			
+24	+16	+23	+15	+10	+ 5	+ 5	+ 5	+ 5	+ 3	+ 1	- 2	- 2	- 3	- 3	- 1	+ 2	- 3	- 5	-14	-24	-23	-15	- 5	+ 5	463			
+25	+14	+17	+17	+15	+10	+ 7	+ 7	+ 6	+ 5	+ 1	- 2	- 3	- 3	- 4	- 1	+ 4	+ 5	+ 2	- 9	-24	-26	-25	-14	+ 4	462			
26	+28	+33	+23	+21	+13	+11	+12	+10	+ 2	- 6	- 9	-19	-11	-16	-11	-10	- 7	- 8	-10	-18	-18	-18	- 7	+12	456			
27	+23	+27	+28	+21	+14	+12	+11	+ 5	0	- 2	- 6	- 7	- 5	- 4	- 4	- 2	0	- 1	-10	-20	-25	-23	-22	- 9	458			
28	+24	+46	+43	+13	+20	+20	+15	+ 9	+ 3	0	- 7	- 7	- 7	- 7	- 6	- 6	- 5	- 6	-15	-27	-31	-33	-29	- 9	465			
29	+ 7	+16	+18	+16	+ 8	+ 7	+ 3	+ 3	+ 5	+ 2	- 3	- 4	- 4	- 4	- 5	- 6	- 3	- 3	- 7	-12	-12	-20	-10	+10	460			
30	+26	+30	+32	+25	+ 8	+ 4	+ 2	- 1	+ 4	+ 3	+ 3	- 2	- 4	- 4	- 4	- 2	- 2	- 4	-25	-32	-34	-24	-14	+ 4	462			
31																												
Mean	+ 2	+13	+18	+16	+11	+ 8	+ 6	+ 4	+ 2	0	- 2	- 2	- 2	- 1	+ 1	+ 3	+ 4	+ 4	- 1	-12	-19	-22	-19	-11	460			

Declination

(D = 10° + Mean + ...East)

Unit = 0·1 minute of arc

G.M.T.

October 1938

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	+14	+30	+39	+15	- 6	- 5	+ 3	+ 2	+ 1	- 4	- 4	0	+ 2	+ 2	+ 1	- 2	- 8	-25	-28	-28	-17	- 3	+13	464			
2	+18	+16	+10	+ 8	+ 7	+ 2	+ 7	+ 7	+ 7	+ 3	+ 1	+ 1	+ 6	+ 4	+ 3	+ 1	- 1	-11	-18	-22	-22	-21	-12	- 1	459			
3	+ 4	+ 8	+ 8	+ 7	+ 7	+ 8	+ 9	+ 7	+ 8	+ 7	+ 6	+ 3	+ 1	+ 2	+ 2	0	- 1	- 2	-14	-18	-19	-19	-10	- 1	460			
4	+12	+22	+24	+24	+15	+ 9	+ 4	+ 4	+ 4	0	- 4	- 5	- 7	- 6	- 3	+ 2	+ 3	- 6	-14	-19	-19	-16	- 9	- 4	464			
+5	+ 4	+12	+14	+15	+16	+13	+ 7	+ 6	+ 6	+ 2	0	- 3	- 3	- 3	- 4	- 2	- 3	- 5	- 8	-16	-16	-16	- 7	- 1	464			
6	+ 9	+10	+14	+14	+12	+12	+11	+ 9	+ 9	+ 9	+ 6	+ 3	0	0	+ 5	+ 7	+ 9	- 2	-11	-29	-32	-31	-21	- 2	459			
7	+14	+24	+24	+16	+12	+ 9	+ 4	+ 4	- 1	- 6	- 7	-14	-19	-16	-17	-15	- 4	+ 5	- 4	- 7	- 7	- 6	- 1	+ 4	464			
8	+12	+19	+15	+11	+10	0	-10	+ 1	+ 7	+ 2	0	0	+ 1	+ 2	+ 4	+ 8	+ 2	- 8	-20	-31	-33	-20	+ 6	+33	458			
9	+34	+33	+30	+19	+ 9	+ 7	+ 9	+ 5	0	- 5	- 7	- 4	- 1	- 1	+ 1	+ 5	+ 5	- 8	-21	-31	-39	-39	-16	+ 8	469			
10																												
11	+40	+38	+28	+16	+ 9	+11	+12	+ 7	+ 4	+ 3	+ 2	+ 2	- 4	0	+ 1	+ 2	- 4	-16	-30	-40	-42	-33	-15	+17	464			
12	+30	+31	+25	+17	+ 6	+ 4	+ 4	+ 2	0	- 1	- 1	- 1	- 1	0	+ 1	+ 3	+ 3	- 6	-22	-36	-37	-30	- 4	+20	469			
13	+31	+31	+24	+14	+ 5	+ 2	+ 4	+ 3	+ 2	+ 1	0	0	0	+ 1	+ 2	+ 2	+ 3	0	-18	-38	-43	-33	-10	+15	468			
+14	+29	+35	+28	+16	+ 6	+ 1	+ 5	+ 2	0	- 2	- 3	- 4	- 4	- 3	- 2	- 1	- 1	- 8	-20	-24	-32	-24	-11	+ 6	471			
+15	+16	+23	+25	+24	+14	+ 9	+ 6	+ 4	+ 3	+ 2	- 1	- 3	+ 2	+ 2	+ 4	+ 4	+ 2	- 8	-24	-34	-35	-30	-15	- 1	464			
16	+16	+27	+30	+25	+16	+14	+12	+ 7	+ 6	+ 5	+ 1	- 4	- 5	- 4	- 4	- 1	- 3	- 5	-25	-34	-34	-26	-15	- 6	463			
17	- 2	+ 6	+15	+15	+16	+16	+14	+ 8	+ 6	+ 3	- 2	- 1	+ 4	+ 5	+ 6	+ 6	+ 6	- 3	-15	-27	-33	-32	-18	- 3	462			
18	+ 6	+12	+19	+10	+ 5	+ 8	+ 7	+ 6	+ 1	0	0	0	- 1	0	- 1	+ 1	0	- 5	-20	-22	-22	-14	- 3	+ 1	469			
19	+ 6	+ 5	+ 4	+ 5	+ 4	+ 5	+ 5	+ 6	+ 6	+ 6	+ 5	+ 4	+ 4	+ 3	+ 4	+ 5	+ 5	- 2	-17	-27	-27	-21	- 3	+15	463			
20	+23	+25	+19	+12	+ 5	- 1	- 4	- 5	- 4	- 2	- 3	- 3	- 2	- 3	- 4	0	- 2	-11	-23	-26	-22	- 9	+14	+28	461			
+21	+28	+24	+15	+ 5	- 1	+ 2	+ 5	+ 5	+ 6	+ 6	+ 4	+ 3	+ 4	+ 4	+ 4	+ 5	+ 2	- 7	-24	-34	-33	-31	- 3	+13	463			
22	+17	+21	+18	+11	+ 3	+ 3	+ 4	+ 4	+ 3	+ 2	+ 2	+ 1	+ 2	+ 2	+ 4	+ 4	+ 2	- 7	-23	-33	-35	-28	- 6	+21	466			
23	+31	+29	+22	+21	+12	+11	+10	+ 4	+ 1	0	0	- 6	- 8	- 2	0	- 2	+ 1	-12	-25	-28	-27	-20	- 8	+ 4	466			
24	+22	+34	+33	+22	+11	+ 7	+ 9	+ 5	+ 2	- 6	- 7	-12	- 9	- 9	-10	- 8	- 7	-14	-27	-38	-37	-17	+14	+35	465			
25	+32	+30	+29	+20	+13	+18	+17	+ 8	- 1	- 4	-13	-11	-18	-12	-10	-11	-12	-20	-28	-31	-23	-13	+ 8	+27	469			
26	+38	+35	+28	+17	+10	+ 7	+ 5	+ 5	+ 5	+ 2	0	- 4	- 6	- 6	- 4	-10	-13	-16	-33	-37	-33	-18	+ 4	+28	463			
27	+31	+34	+32	+18	+10	+ 5	+ 8	+ 2	- 6	- 3	- 5	- 8	- 8	- 9	- 4	- 6	- 7	-19	-29	-29	-23	- 9	+ 7	+21	468			
28	+32	+34	+31	+25	+13	+13	+13	+12	+ 5	+ 4	+ 2	+ 1	- 2	- 3	- 1	- 4	- 4	-17	-35	-47	-42	-27	- 6	+13	465			
29	+19	+21	+22	+12	+ 3	+ 3	+ 7	+ 5	+ 4	+ 3	+ 2	- 1	- 1	- 1	0	+ 2	+ 2	- 7	-19	-31	-32	-20	- 6	+13	466			
30	+22	+21	+22	+18	+ 8	+ 6	+ 7	+ 6	- 2	- 2	- 3	- 3	- 3	- 3	- 3	- 2	- 1	- 3	-17	-28	-25	-18	- 4	+ 5	471			
+31	+10	+ 9	+ 7	+ 4	+ 4	+ 8	+10	+ 8	+ 4	+ 3	+ 1	+ 1	0	0	0	+ 1	+ 1	- 8	-20	-29	-29	-18	+ 2	+22	468			
Mean	+20	+23	+22	+16	+ 9	+ 7	+ 7	+ 5	+ 3	+ 1	- 1	- 2	- 3	- 2	- 1	0	- 1	- 8	-21	-29	-29	-22	- 5	+11	465			

Declination

(D = 10° + Mean + ...East)

G.M.T. Unit = 0·1 minute of arc November 1938

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	+21	+12	+ 9	+ 4	+ 7	+10	+10	+ 5	+ 3	+ 2	+ 2	+ 1	+ 1	+ 1	+ 1	+ 1	- 9	-24	-38	-36	-20	0	+19	467			
2	+22	+22	+17	+13	+14	+11	+12	+ 9	+ 4	+ 2	+ 2	+ 2	+ 2	+ 2	+ 2	+ 3	+ 2	- 8	-28	-38	-38	-28	-10	+ 2	466			
+ 3	+10	+11	+ 6	- 3	- 3	+ 4	+ 7	+ 8	+ 7	+ 5	+ 5	+ 6	+ 6	+ 7	+ 7	+ 8	+ 5	-11	-24	-35	-34	-18	+ 3	+25	462			
4	+24	+19	+12	+ 7	+ 2	+ 3	+ 5	+ 5	+ 6	+ 2	0	+ 1	0	+ 1	+ 1	0	- 3	-11	-27	-37	-30	-10	+ 9	+21	468			
5	+30	+33	+29	+20	+11	+10	+11	+10	+ 6	+ 3	+ 2	+ 1	0	+ 1	+ 1	0	0	- 9	-27	-38	-41	-32	-16	+ 2	467			
6	+15	+15	+ 8	+ 6	+ 6	+ 9	+14	+13	+ 7	+ 5	+ 2	+ 2	+ 2	+ 3	+ 4	+ 5	+ 4	- 9	-26	-46	-44	-26	- 2	+24	464			
7	+31	+34	+33	+27	+18	+12	+11	+ 5	+ 3	+ 1	+ 1	0	+ 1	+ 1	+ 1	+ 1	- 6	-17	-32	-47	-50	-34	- 7	+12	465			
8	+23	+26	+29	+24	+14	+13	+13	+ 9	+ 4	+ 1	- 5	- 7	- 7	- 8	- 9	- 6	- 4	-15	-25	-34	-30	-18	- 1	+10	466			
9	+14	+22	+22	+23	+24	+18	+19	+ 5	+ 4	+ 3	+ 2	+ 1	- 2	- 5	- 6	- 1	- 2	-15	-27	-36	-34	-24	- 5	+ 6	464			
10	+11	+15	+11	+ 3	+ 2	+ 6	+10	+10	+ 7	+ 3	+ 2	+ 2	+ 2	+ 2	+ 3	+ 2	+ 1	- 9	-25	-36	-36	-23	+ 2	+25	466			
11	+32	+32	+25	+15	+10	+ 4	+10	+ 8	+ 6	+ 4	+ 2	+ 1	0	0	0	+ 1	- 6	-18	-37	-47	-38	-18	+ 2	+17	466			
+ 12	+21	+21	+21	+11	+ 8	+ 9	+11	+10	+ 6	+ 1	- 1	- 2	- 4	- 1	+ 1	+ 1	0	- 7	-17	-28	-29	-25	-16	- 2	467			
+ 13	+12	+22	+21	+13	+11	+ 9	+10	+ 7	+ 4	+ 4	+ 3	+ 2	+ 2	+ 3	+ 3	+ 3	+ 3	+ 1	- 9	-23	-38	-27	-26	-16	465			
14	- 8	0	+ 6	+ 8	+ 8	+ 9	+10	+ 7	+ 3	+ 1	0	0	+ 1	+ 2	+ 6	+ 8	+10	+ 8	- 9	-14	-20	-18	-10	- 1	468			
15	+16	+14	+15	+ 9	+ 7	+ 8	+ 9	+ 9	+ 8	+ 8	+ 7	+ 7	+ 8	+ 6	+ 6	+ 6	+ 2	-12	-23	-26	-25	-24	-22	-13	460			
16	- 3	+ 5	+ 7	+ 7	+ 7	+ 8	+ 9	+ 7	+ 7	+ 7	+ 7	+ 7	+ 7	+ 7	+ 7	+ 7	+ 7	- 1	-13	-25	-29	-24	-13	+ 1	461			
17	+12	+14	+12	+ 4	+ 4	+ 6	+12	+11	+ 9	+12	+ 5	+ 4	+ 3	+ 3	+ 2	+ 1	+ 2	- 8	-23	-41	-35	-16	- 4	+14	464			
18	+25	+26	+23	+19	+15	+13	+14	+ 8	+ 7	+ 6	+ 1	- 4	- 1	- 1	+ 3	+ 2	- 6	-20	-35	-44	-42	-26	- 6	+14	462			
19	+21	+19	+21	+14	+12	+11	+10	+ 8	+ 4	+ 3	- 4	- 6	- 2	0	0	0	- 7	-22	-30	-37	-29	-17	+ 1	+22	465			
20	+34	+28	+18	+10	+ 9	+ 9	+12	+11	+ 8	+ 6	- 1	- 2	- 1	+ 1	+ 6	+ 6	- 1	-21	-34	-43	-42	-24	- 3	+15	460			
21	+20	+27	+27	+14	+11	+11	+15	+13	+10	+ 2	- 6	- 9	- 8	- 3	- 1	- 2	- 4	-19	-39	-39	-35	-18	+ 2	+21	467			
22	+29	+31	+30	+21	+11	+ 9	+ 5	+ 3	0	- 2	- 4	- 4	- 4	- 8	- 6	- 4	- 6	-19	-32	-39	-30	- 9	+13	+25	467			
23	+31	+24	+18	+11	+ 1	+ 3	+10	+10	+ 3	+ 2	0	- 2	- 2	0	- 2	- 5	- 7	-17	-20	-26	-23	-14	+ 1	+11	466			
24	+19	+24	+25	+17	+ 9	+ 8	+ 8	+ 7	+ 6	+ 2	+ 3	0	+ 1	- 1	- 1	- 2	- 2	- 9	-18	-35	-35	-25	- 5	+ 8	461			
25	+15	+16	+18	+15	+ 8	+ 7	+14	+ 6	+ 5	+ 3	+ 3	- 3	- 3	- 4	- 2	+ 1	- 3	-13	-26	-32	-32	-15	+ 5	+23	463			
26	+31	+35	+30	+18	+12	+ 6	+ 6	+ 3	0	+ 3	+ 2	- 3	- 3	+ 2	+ 3	- 3	- 6	-12	-17	-28	-29	-27	-17	- 2	464			
27	+12	+19	+21	+21	+12	+ 9	+ 9	+ 9	+ 1	+ 1	+ 1	- 2	- 1	- 1	0	+ 1	- 1	- 8	-19	-29	-29	-22	-11	- 1	467			
+ 28	+ 5	+12	+15	+12	+ 5	+ 5	+ 6	+ 5	+ 5	+ 3	0	0	- 3	- 1	0	+ 5	- 3	-16	-35	-45	-35	- 5	+23	+33	463			
29	+41	+44	+37	+26	+16	+14	+13	+ 7	+ 4	+ 2	+ 4	+ 4	+ 4	+ 4	+ 5	+ 4	+ 3	+15	-46	-64	-58	-34	-16	+ 2	464			
+ 30	+18	+28	+25	+16	+ 8	+ 5	+ 6	+ 5	+ 4	+ 3	+ 2	+ 3	+ 2	+ 4	+ 4	+ 4	- 2	-15	-35	-45	-40	-19	+ 4	+15	463			
31																												
Mean	+20	+22	+20	+14	+ 9	+ 9	+10	+ 8	+ 5	+ 3	+ 1	0	0	+ 1	+ 1	+ 2	- 1	-12	-26	-37	-35	-21	- 4	+11	465			

Declination

(D = 10° + Mean + ...East)

G.M.T. Unit = 0·1 minute of arc December 1938

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	+23	+25	+23	+20	+14	[illegible]	+ 6	+ 6	+ 6	+ 6	+ 3	+ 3	+ 3	0	+ 3	+ 5	0	-15	-33	-43	-38	-24	- 1	+14	463			
2	+26	+32	+31	+22	+16	+14	+14	+12	+ 6	+ 3	+ 1	- 4	- 6	- 6	- 3	0	- 5	-14	-26	-36	-35	-28	-16	- 6	464			
3	+10	+14	+21	+24	+21	+16	+14	+13	+13	+ 9	+ 4	+ 4	+ 1	+ 1	+ 1	+ 2	- 6	-17	-29	-47	-41	-29	-11	+ 1	455			
4	0	+ 8	+17	+19	+16	+ 9	+ 9	+ 9	+ 9	+ 8	+ 8	+ 8	+ 7	+ 7	+ 8	+ 6	+ 4	- 4	-31	-38	-41	-32	-12	+ 9	460			
5	+25	+28	+27	+17	+ 7	0	+ 7	+ 7	+ 5	+ 5	+ 6	+ 3	- 2	- 1	- 1	- 1	- 2	-12	-35	-34	-32	-22	- 3	+ 9	461			
6	+20	+24	+25	+22	+14	+ 9	+13	+ 9	+ 6	+ 5	+ 3	0	0	- 1	0	+ 1	+ 3	- 5	-21	-35	-36	-31	-17	- 2	464			
7	+16	+30	+32	+31	+22	+13	+11	+11	+ 4	+ 4	+ 3	0	- 1	0	- 1	0	+ 1	-12	-37	-42	-43	-28	-17	- 4	465			
+ 8	+12	+15	+14	+14	+ 8	+ 9	+ 5	+ 4	+ 4	+ 2	+ 2	+ 2	+ 2	+ 4	+ 4	+ 4	+ 4	- 8	-26	-38	-45	-28	+ 1	+34	464			
9	+46	+39	+29	+18	+ 8	+ 6	+16	+16	+14	+11	+ 8	+ 8	+ 6	+ 6	+ 7	+ 7	+ 1	-18	-42	-52	-60	-47	-22	+ 5	460			
10	+17	+35	+41	+31	+20	+13	+11	+ 8	+ 7	+ 1	- 2	- 9	- 9	-11	-13	- 1	+10	- 3	-16	-39	-44	-31	-21	- 5	469			
11	+ 7	+16	+27	+29	+20	+13	+ 9	+ 7	+ 6	- 2	- 2	- 3	- 2	- 2	- 1	0	0	-12	-31	-34	-31	-21	- 4	+ 8	470			
12	+15	+13	+12	+12	+10	+ 8	+ 5	+ 3	+ 3	+ 3	+ 2	+ 2	0	- 1	+ 2	+ 2	- 1	-15	-22	-29	-21	-17	- 7	+11	467			
13	+11	+11	+12	+10	+ 6	+ 4	+ 7	+12	+ 9	+ 4	+ 3	- 2	- 4	- 4	0	+ 4	+ 4	0	-15	-26	-27	-19	- 2	+11	474			
14	+ 7	+16	+26	+25	+16	+ 7	+ 8	+ 7	+ 5	+ 1	- 2	- 2	- 5	- 3	- 2	- 1	0	- 1	-14	-24	-26	-23	-14	- 4	482			
15	+12	+11	+11	+13	+11	+ 2	+ 4	+ 9	+11	+ 5	+ 4	+ 3	+ 2	+ 1	+ 1	+ 1	- 2	-16	-27	-36	-35	-17	+ 4	+22	475			
16	+29	+30	+29	+21	+14	+11	+11	+11	+ 7	+ 2	+ 2	- 2	- 7	- 7	-10	-11	-17	-18	-27	-29	-21	-19	-11	+ 3	477			
17	+14	+16	+24	+26	+21	+ 8	+14	+10	+ 6	+ 5	+ 5	- 2	- 4	- 5	- 4	- 5	-12	-23	-33	-31	-27	-22	- 5	+15	472			
18	+24	+19	+17	+15	+14	+13	+15	+11	+ 7	+ 7	+6	+ 2	- 5	- 5	- 3	- 4	- 8	-17	-33	-40	-36	-23	- 1	+24	471			
19	+30	+33	+31	+31	+26	+25	+23	+15	+ 9	+ 3	+ 1	- 5	-11	-14	-16	-17	-23	-28	-37	-39	-30	-17	- 5	+ 6	475			
20	+12	+20	+27	+31	+22	+20	+20	+17	+10	+10	+ 2	0	- 6	- 8	-10	-11	-16	-26	-28	-34	-29	-18	- 5	+ 4	476			
21	+ 8	+ 5	+ 5	+ 6	+12	+17	+21	+17	+ 8	+ 9	+ 8	+ 6	+ 4	- 1	- 1	- 2	- 4	-14	-24	-26	-26	-24	-13	+ 6	472			
22	+22	+28	+27	+25	+19	+19	+18	+17	+14	+ 8	- 1	- 3	- 3	- 6	-10	-12	-16	-35	-42	-37	-32	-15	+ 6	+17	471			
23	+22	+24	+22	+14	+ 6	+ 2	+ 4	+ 5	+ 5	+ 5	+ 4	+ 2	- 1	- 5	- 2	+ 1	- 6	-16	-25	-26	-26	-19	- 6	+ 7	474			
+24	+12	+17	+17	+17	+13	+11	+ 8	+ 6	+ 1	+ 1	+ 1	0	+ 1	- 1	- 5	- 4	- 9	-14	-24	-21	-21	-20	- 5	+11	477			
25	+14	+19	+19	+10	+ 6	+ 2	+ 4	+ 8	+ 7	+ 2	- 1	- 1	- 1	- 2	- 3	- 1	- 2	-13	-21	-24	-21	-11	0	+12	479			
+26	+20	+19	+14	+ 2	+ 3	+ 8	+10	+10	+11	+ 9	+ 4	- 1	- 1	- 1	- 1	- 1	- 2	-11	-11	-15	-16	-20	-13	- 7	479			
27	+ 4	+ 8	+12	+14	+14	+15	+13	+15	+13	+10	+ 3	+ 1	- 2	- 4	- 1	0	+ 2	- 4	-16	-24	-27	-25	-14	- 7	475			
28	- 5	- 2	+ 5	+ 7	+15	+17	+17	+15	+15	+13	+ 5	+ 4	+ 4	+ 5	+ 2	+ 1	0	- 5	-14	-26	-30	-25	-10	- 2	473			
29	+ 2	+18	+21	+20	+13	+ 9	+ 8	+10	+ 8	+ 1	- 1	- 2	- 8	-10	-10	-12	-14	-20	-28	-21	-13	- 2	+10	+11	478			
30	+ 8	+ 8	+ 8	+ 8	+ 7	+ 8	+ 9	+ 9	+ 8	+ 7	+ 3	- 3	- 4	- 5	- 6	- 5	- 7	-11	-10	-12	-13	-13	- 4	+ 3	480			
+31	+11	+16	+16	+11	+ 2	+ 1	+ 2	+ 5	+ 2	0	- 3	- 8	-10	-10	-15	-16	-17	-19	-14	- 9	- 8	- 1	+25	+31	487			
Mean	+15	+19	+21	+18	+13	+10	+11	+10	+ 8	+ 5	+ 3	0	- 2	- 3	- 3	- 2	- 4	-14	-25	-31	-30	-22	- 6	+ 8	471			

Vertical Intensity

(Z = 20 000γ + Mean + ...)

G M T

January 1938

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	+1	+2	+1	-2	-4	-4	-3	-3	-2	-1	+1	+2	+4	+5	+6	+6	+4	+1	0	-1	-1	-2	-2	631			
2		-2	-2	-2	-3	-2	-2	-1	-1	-1	-1	0	-1	-1	+3	+5	+5	+4	+4	+4	+6	+5	+1	-3	-6	632			
3		-6	-3	-2	0	+2	+2	+1	0	+1	+1	+2	-1	-1	+4	+5	+7	+7	+5	+2	+2	-1	-8	-6	-3	631			
4		+2	-3	-5	-6	-6	-5	-2	-1	-1	-1	-2	+5	0	+2	+4	+2	0	+2	+3	+2	-1	0	+4	+5	633			
5	+	+1	-3	-3	-3	0	0	+1	+2	+1	-1	-1	-1	0	0	0	+1	+2	+1	0	-4	-4	-3	-1	+4	636			
6		+5	+4	-1	-3	-2	-1	+1	-1	-2	-2	-2	-1	+1	+1	+3	+4	+5	+3	+2	+4	+2	-2	-1	+3	+3	634		
7		+3	-1	-2	-2	-1	+1	+2	+2	+2	+1	-1	+1	+3	+4	+5	+4	+6	+3	+3	+3	-1	-5	-6	-6	634			
8		-7	-4	-3	-5	-7	-6	-6	-4	-1	0	+1	+1	+1	+2	+2	+2	+1	+1	+1	+2	+5	+5	+3	+6	636			
9		+9	+4	+1	-1	-5	-4	-2	-1	0	+1	+2	+1	+1	+2	+2	+1	0	-1	-1	-4	-7	-7	-2	-1	637			
10	+	+1	-2	-6	-10	-10	-8	-5	-4	-2	0	+1	+2	+4	+5	+4	+4	+5	+5	+5	+4	+4	+2	+4	+4	631			
11	+	0	+1	-2	-5	-6	-6	-4	-2	0	+1	+3	+4	+4	+5	+5	+5	+7	+6	+1	-3	-7	-8	-5	-5	632			
12		-8	-8	-9	-9	-8	-7	-6	-5	-4	0	+2	+3	+4	+5	+5	+5	+4	+3	+4	+7	+7	+5	+1	0	635			
13		-1	+5	+4	-3	-7	-10	-7	-5	-2	0	+2	+3	+3	+4	+4	+2	+2	-1	-3	-2	-1	0	+5	+7	643			
14	+	+11	+7	+1	-3	-3	-4	-4	-6	-4	-4	-2	0	+1	+3	+6	+4	+3	0	-3	-6	-6	-2	+2	+6	639			
15		+11	+13	+12	+7	+3	-3	-6	-7	-6	-4	-1	+1	+3	+4	+5	+6	+6	+4	0	-3	-6	-9	-8	-8	-7	636		
16		0	-2	-5	-3	-4	-3	-1	-1	-1	0	0	-1	+2	+4	+5	+5	+6	+5	0	-3	-4	-5	-5	0	631			
17		+13	-2	+6	+5	+3	-1	0	+2	-7	-5	-1	+4	0	-2	-6	-2	-2	-1	-3	-5	-7	-1	+3	-1	633			
18		-1	0	-1	+3	+3	0	+2	+3	+3	+2	+2	+4	+4	+4	+8	+8	+9	+8	+3	-3	-9	-12	-15	-17	638			
19		-12	-8	-6	-5	-5	-5	-1	0	+1	+1	+3	+1	+2	+3	+5	+6	+9	+7	+6	+4	+1	-1	-1	0	636			
20																													
21																													
22		-14	-9	-2	+2	-4	+1	-2	-11	-7	-2	-31	-23	-16	-2	-2	+13	+14	+16	+16	+16	+15	+16	+13	+10	+10	639		
23		+3	-2	-3	-5	-6	-4	-2	+1	+2	+4	+5	+4	+5	+5	+4	+4	+3	+3	+3	+1	0	-2	-2	-3	-6	645		
24		0	-3	-8	-9	-11	-10	-7	-3	-1	+3	+5	+6	+7	+7	+7	+6	+6	+3	+2	+1	+1	+1	0	-2	640			
25		-4	-1	+2	+1	+1	0	0	+1	+3	+4	+6	+9	+16	+14	+13	+9	+3	+3	-11	-21	-19	-6	-9	-5	636			
26		-13	-10	-10	-10	-4	0	+5	+9	+7	+6	+5	+9	+10	+9	+9	+9	+7	+2	+7	-3	-5	-7	-10	-12	653			
27		-3	-3	-4	-5	-5	-5	-3	-2	0	+4	+2	+4	+5	+6	+7	+1	7	+6	+2	0	-2	-5	-4	-5	643			
28		-1	-4	-4	-5	-5	-4	-3	-3	-1	+1	+3	+1	+1	+2	+1	+1	+1	+3	+5	0	-2	-2	-2	-1	642			
29		0	+1	0	-3	-6	-8	-5	-3	-2	0	0	+1	+2	+6	+7	+7	+7	+5	+5	0	-3	-3	-2	+1	+6	641		
30	+	+8	+8	+4	+1	-2	-3	-3	-2	-2	-1	-1	0	+1	+3	+4	+5	+6	+4	+4	-1	-7	-14	-9	-4	-2	642		
31		+2	+2	+2	0	-2	-2	-2	-2	-2	-1	+1	+1	+4	+5	+6	+8	+7	+5	+1	-3	-3	-10	-15	-10	-5	641		
Mean		0	-1	-1	-3	-4	-4	-4	-2	-2	-1	)	0	+1	+2	+4	+4	+5	+6	+4	+1	-1	-2	-3	-3	-2	-1	637		

VERTICAL INTENSITY

G.M.T. (Z = 20000γ + Mean + ...) February 1938.

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	+ 3	+ 3	- 1	- 3	- 4	- 4	- 2	- 2	- 2	- 2	- 1	- 1	- 2	0	+ 3	+ 4	+ 4	+ 3	+ 1	- 1	- 1	+ 3	+ 4	644			
2		+ 5	+ 7	+ 6	+ 2	- 1	- 2	- 2	- 1	+ 1	+ 1	- 2	- 1	+ 1	+ 1	+ 2	+ 3	+ 4	+ 3	+ 1	- 1	- 4	- 5	- 6	- 8	644			
3		- 3	- 7	- 7	- 5	- 4	- 4	- 4	- 5	- 3	0	+ 2	+ 2	+ 3	+ 5	+ 5	+ 6	+ 7	+ 6	+ 3	- 1	- 2	- 2	- 1	+ 1	640			
4		- 1	0	0	0	- 1	- 3	- 3	- 2	- 2	- 2	- 1	- 1	0	+ 1	+ 1	+ 4	+ 4	+ 3	0	- 2	- 1	0	+ 1	+ 4	642			
5		+ 5	+ 3	0	- 3	- 5	- 4	- 2	- 1	0	0	0	0	+ 1	+ 1	+ 2	+ 2	+ 2	+ 3	+ 3	0	- 2	- 2	0	+ 2	640			
6		+ 3	- 1	- 8	- 2	- 3	-11	-15	- 8	- 3	- 2	- 2	- 1	+ 2	+ 3	+ 3	+ 5	+ 8	+ 6	+ 3	+ 5	+ 1	+ 1	+ 6	+ 9	640			
7		+ 2	+ 1	- 2	- 4	- 6	- 5	- 2	- 1	- 1	+ 1	+ 3	+ 3	+ 3	+ 4	+ 2	+ 1	- 1	- 1	- 2	- 2	- 1	- 1	+ 1	+ 3	644			
8		+ 4	+ 2	+ 3	+ 2	0	- 3	- 4	- 3	- 2	- 1	- 1	0	+ 3	+ 2	+ 3	+ 3	- 1	+ 2	0	0	0	- 3	0	0	643			
9		+ 1	+ 1	- 5	-13	-14	-10	- 4	- 2	0	+ 3	+ 5	+ 4	+ 4	+ 7	+ 7	+ 5	+ 5	+ 3	0	- 3	- 3	+ 1	+ 5	+ 5	642			
10		+ 3	0	- 1	- 7	-16	-13	-10	- 1	+ 4	+ 4	+ 6	+ 6	+ 7	+ 6	+ 5	+ 4	+ 4	+ 3	0	- 2	- 2	- 1	+ 3	+ 4	642			
11		+ 3	+ 4	- 3	- 8	-14	-12	- 8	- 6	- 5	+ 1	+ 4	+ 7	+ 8	+ 8	+ 8	+ 7	+ 6	+ 3	- 2	- 5	- 5	- 1	+ 5	+ 7	644			
12		+ 9	+ 8	+ 4	- 3	- 5	- 6	- 8	- 7	- 6	- 4	- 2	+ 2	+ 4	+ 5	+ 6	+ 6	+ 5	+ 2	- 3	- 7	- 7	- 2	+ 3	+ 6	643			
13		+10	+ 4	- 3	-10	- 9	- 8	- 7	- 4	- 4	- 4	- 3	- 1	+ 3	+ 8	+ 8	+ 8	+ 7	+ 6	+ 2	- 4	- 7	- 2	+ 1	+ 6	639			
14		+ 9	+ 7	+ 2	- 1	- 3	- 3	- 3	- 3	- 2	- 2	- 3	+ 1	+ 3	+ 1	+ 4	+ 4	+ 3	+ 1	0	- 3	- 6	- 2	+ 3	+ 5	638			
15	+	+ 4	+ 3	+ 1	- 2	- 3	- 2	- 1	0	0	0	+ 1	+ 2	+ 3	+ 4	+ 6	+ 7	+ 8	+ 7	+ 4	- 1	- 9	-10	-11	-12	639			
16	+	- 6	- 7	- 8	- 9	- 7	- 6	- 5	- 3	- 1	0	+ 2	+ 3	+ 4	+ 5	+ 7	+ 8	+ 9	+ 8	+ 5	- 1	- 2	- 1	0	0	633			
17		- 3	- 4	- 5	- 4	- 2	0	+ 1	+ 1	- 2	0	+ 2	+ 3	+ 4	+ 5	+ 6	+ 7	+ 8	+ 8	+ 5	0	- 6	- 6	- 6	- 4	635			
18		+ 1	+ 5	+ 3	- 4	- 8	- 7	- 4	- 3	- 2	0	+ 1	+ 1	+ 2	+ 2	+ 3	+ 4	+ 5	+ 4	+ 2	- 2	- 3	- 4	- 3	- 3	635			
19	+	- 1	- 2	- 3	- 6	- 6	- 5	- 3	- 1	+ 1	+ 1	+ 2	+ 2	+ 3	+ 4	+ 4	+ 5	+ 6	+ 5	+ 3	+ 1	- 2	- 3	- 3	- 6	634			
20	+	- 6	- 8	-10	-11	-12	-10	- 6	- 4	- 1	+ 2	+ 4	+ 4	+ 6	+ 7	+ 7	+ 8	+ 8	+ 8	+ 5	0	- 1	0	+ 4	+ 6	631			
21		+ 2	- 2	- 5	- 9	-10	-10	- 7	- 3	- 2	+ 1	+ 1	+ 2	+ 2	+ 3	+ 3	+ 3	+ 4	+ 4	+ 4	+ 4	+ 4	+ 4	+ 5	+ 5	634			
22	+	+ 8	+ 6	+ 3	- 2	- 4	- 4	- 3	- 1	+ 2	+ 2	+ 3	+ 3	+ 4	+ 4	+ 5	+ 5	+ 5	+ 4	- 1	- 3	- 5	- 8	- 9	- 9	633			
23		- 6	- 4	- 4	- 4	- 4	- 2	- 1	+ 1	0	0	+ 1	+ 4	+ 5	+ 6	+ 6	+ 5	+ 5	+ 4	+ 2	0	- 1	- 1	- 1	0	631			
24		- 7	- 8	- 7	- 7	- 8	- 8	- 7	- 6	- 3	0	+ 3	+ 4	+ 5	+ 5	+ 6	+ 6	+ 5	+ 4	+ 3	+ 2	+ 2	+ 3	+ 2	0	633			
25		+ 2	0	- 1	- 3	- 3	- 3	- 3	- 2	- 2	- 1	+ 2	+ 2	+ 4	+ 5	+ 7	+ 6	+ 6	+ 5	+ 3	- 2	- 3	- 4	- 5	- 4	633			
26		- 4	- 6	- 5	- 6	- 6	- 5	- 2	0	+ 2	+ 4	+ 5	+ 5	+ 7	+ 7	+ 8	+ 8	+ 8	+ 5	+ 1	- 5	- 1	- 3	-10	-12	631			
27		- 7	- 7	- 7	-10	- 9	- 7	- 2	0	+ 2	+ 3	+ 4	+ 7	+ 9	+ 9	+11	+10	+10	+ 8	+ 4	- 5	- 7	-10	- 9	- 8	628			
28		-10	-10	-10	-11	-11	-10	- 6	- 3	- 1	0	+ 5	+ 7	+ 9	+10	+10	+10	+11	+10	+ 7	+ 1	- 3	- 5	- 6	- 4	630			
29																													
30																													
31																													
MEAN.		+ 1	0	- 2	- 5	- 6	- 6	- 4	- 2	- 1	0	+ 1	+ 2	+ 4	+ 5	+ 5	+ 5	+ 6	+ 5	+ 2	- 1	- 3	- 2	- 1	0	637			

[200/9/46—10537

[S.I.R.—388.
(1946 Print).

G.M.T.

VERTICAL INTENSITY

(Z = 20000γ + Mean + ...)

March 1938.

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	- 7	- 9	-10	- 9	- 6	- 3	- 1	+ 2	+ 3	+ 4	+ 4	+ 6	+10	+ 9	+ 8	+ 7	+ 3	- 2	- 3	- 1	- 1	- 3	633			
2		- 7	- 8	- 6	- 6	- 5	- 4	- 3	- 4	- 4	- 3	+ 1	+ 3	+ 5	+ 6	+ 7	+ 7	+ 8	+ 7	+ 4	+ 1	- 1	- 3	- 2	- 2	634			
3		- 2	- 1	- 1	- 3	- 2	- 1	- 1	+ 1	+ 1	+ 1	+ 1	+ 2	+ 3	+ 4	+ 5	+ 6	+ 6	+ 5	+ 3	- 1	- 4	- 6	- 7	- 7	634			
4		- 5	- 4	- 3	- 4	- 5	- 4	- 3	- 2	- 1	- 1	- 1	0	+ 2	+ 4	+ 5	+ 6	+ 8	+ 7	+ 6	+ 2	- 2	- 5	- 6	- 6	633			
5		- 9	- 9	- 8	- 6	- 6	- 4	- 5	- 4	- 5	- 2	+ 3	+ 1	+ 2	+ 4	+ 4	+ 4	+ 7	+ 7	+ 9	+ 7	+ 6	+ 5	+ 4	+ 3	634			
6		- 1	- 4	-11	-10	- 9	- 8	- 4	- 3	- 1	+ 1	+ 3	+ 3	+ 4	+ 4	+ 6	+ 6	+ 7	+ 7	+ 7	+ 7	+ 4	+ 2	- 1	- 3	639			
7		- 2	- 6	- 9	-11	-10	- 7	- 4	0	+ 2	+ 4	+ 4	+ 3	+ 4	+ 5	+ 8	+ 7	+ 7	+ 8	+ 7	+ 6	+ 4	- 2	- 7	- 9	635			
8		- 9	- 8	- 8	- 9	- 8	- 7	- 3	0	+ 2	+ 3	+ 3	+ 4	+ 4	+ 4	+ 4	+ 5	+ 6	+ 6	+ 5	+ 3	+ 1	0	- 3	- 5	636			
9		- 4	- 5	- 7	- 8	- 8	- 6	- 3	+ 1	+ 4	+ 5	+ 6	+ 6	+ 7	+ 7	+ 8	+ 8	+ 8	+ 7	+ 5	+ 1	- 5	- 6	- 8	- 7	634			
10	+	- 6	- 7	- 8	- 6	- 5	- 4	- 2	0	+ 3	+ 4	+ 5	+ 6	+ 7	+ 7	+ 7	+ 7	+ 6	+ 5	+ 3	- 1	- 3	- 3	- 3	- 4	633			
11		- 4	- 5	- 5	- 6	- 6	- 5	- 3	- 2	- 1	0	+ 2	+ 3	+ 5	+ 6	+ 6	+ 6	+ 6	+ 5	0	- 4	- 5	- 2	+ 4	+ 8	633			
12		+ 4	+ 1	- 2	- 6	-10	-10	- 6	- 4	- 1	+ 1	+ 3	+ 4	+ 4	+ 5	+ 5	+ 4	+ 5	+ 5	+ 3	+ 1	- 2	- 3	- 5	- 6	634			
13		- 5	- 6	- 7	- 8	- 8	- 6	- 4	- 3	- 2	0	+ 1	+ 4	+ 5	+ 7	+ 8	+ 9	+ 9	+ 9	+ 7	+ 2	- 2	- 5	- 7	-10	631			
14		- 8	- 9	- 8	- 6	- 5	- 3	- 2	- 1	0	+ 1	+ 2	+ 6	+ 7	+ 9	+11	+13	+13	+12	+ 7	+ 1	- 3	- 5	- 9	-11	629			
15		-14	-10	- 6	- 4	- 5	- 3	- 1	0	+ 1	+ 2	+ 1	+ 2	+ 8	+ 9	+ 9	+10	+11	+ 9	+ 7	+ 4	0	- 5	- 6	- 7	631			
16	+	-12	-12	-11	- 9	- 8	- 6	- 4	- 2	- 1	0	+ 1	+ 3	+ 4	+ 6	+ 7	+ 8	+ 9	+ 9	+ 8	+ 6	+ 5	+ 3	0	- 5	632			
17		- 6	- 6	- 7	- 6	- 5	- 3	- 1	- 1	- 1	0	+ 1	+ 3	+ 4	+ 5	+ 6	+ 8	+ 8	+ 8	+ 6	+ 1	- 3	- 4	- 6	- 9	632			
18	+	-10	-13	-11	-10	- 8	- 5	- 3	0	+ 1	+ 2	+ 2	+ 3	+ 4	+ 6	+ 8	+ 9	+10	+10	+ 9	+ 7	+ 4	+ 1	- 2	- 4	629			
19	+	- 9	-11	-10	- 6	- 5	- 4	- 2	- 1	0	0	+ 1	+ 1	+ 2	+ 5	+ 6	+ 7	+ 8	+ 8	+ 8	+ 6	+ 2	0	- 3	- 6	630			
20	+																												
21		- 4	- 8	- 9	- 9	- 6	- 4	- 1	0	+ 1	+ 2	+ 3	+ 3	+ 4	+ 3	+ 4	+ 6	+ 7	+ 7	+ 7	+ 4	+ 2	- 2	- 1	- 5	629			
22		-10	-14	-14	-13	-10	-10	-11	- 8	- 7	- 6	- 2	- 2	+ 2	+ 7	+10	+12	+14	+14	+12	+ 9	+ 6	+ 5	+ 5	0	631			
23		- 8	- 7	- 5	- 6	- 6	- 7	- 6	+ 1	+ 3	+ 8	+ 8	+ 8	+ 9	+ 8	+ 6	+ 6	+ 5	+ 6	+ 5	+ 1	- 5	- 8	-10	-10	637			
24		-12	-11	-14	-12	-14	-13	-10	- 8	- 3	+ 3	+ 6	+ 7	+ 9	+10	+10	+ 9	+ 9	+ 8	+ 6	+ 4	+ 2	+ 2	+ 2	+ 1	639			
25		+ 1	- 1	- 2	- 2	- 5	- 5	- 2	- 2	0	+ 1	+ 2	+ 4	+ 4	+ 4	+ 4	+ 4	+ 4	+ 4	+ 3	+ 1	- 1	- 6	- 5	- 2	638			
26		0	- 6	- 6	- 1	- 1	- 2	- 2	- 1	+ 1	+ 2	+ 3	+ 4	+ 4	+ 5	+ 5	+ 5	+ 6	+ 6	+ 4	+ 1	- 1	- 5	- 7	- 5	637			
27		- 3	- 6	- 5	- 3	- 5	- 5	- 5	- 2	0	+ 1	+ 2	+ 4	+ 5	+ 5	+ 5	+ 5	+ 4	+ 3	+ 2	+ 1	- 1	- 3	- 3	- 2	638			
28																													
29																													
30		0	- 4	- 7	- 8	- 7	- 6	- 5	- 4	- 3	- 2	0	+ 2	+ 3	+ 4	+ 5	+ 6	+ 6	+ 6	+ 5	+ 4	+ 3	+ 3	+ 3	+ 2	635			
31																													
MEAN.		- 6	- 7	- 7	- 7	- 7	- 6	- 4	- 2	0	+ 1	+ 2	+ 3	+ 5	+ 6	+ 7	+ 7	+ 8	+ 7	+ 6	+ 3	0	- 2	- 3	- 4	634			

[200/9/46—10537

Vertical Intensity

G M T (Z = 20 000γ + Mean + • • • •) April 1938

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	−9	−9	−8	−6	−3	−4	−3	−3	−1	0	+2	+3	+5	+6	+7	+8	+8	+8	+6	+4	0	0	+2	633			
2	+	+3	+2	−2	−3	−2	−2	−2	−2	−2	−2	−1	+2	+4	+5	+6	+7	+7	+7	+8	+4	−2	−6	−6	−5	633			
3		−5	−6	−7	−9	−7	−4	−5	−2	−2	−2	−2	−3	−2	−3	+1	+3	+5	+6	+7	+8	+6	+5	+3	+3	634			
4		−6	−10	−10	−9	−7	−5	−3	−2	−1	+2	+4	+6	+6	+6	+8	+8	+8	+9	+8	+7	+8	+5	+3	0	633			
5	+	−5	−8	−10	−10	−8	−5	−4	−3	−2	0	+2	+3	+3	+4	+4	+5	+6	+6	+7	+6	+5	+3	+3	0	633			
6		−5	−13	−16	−16	−16	−13	−11	−9	−7	−6	+5	+6	+7	+8	+9	+9	+9	+10	+8	+8	+10	+9	+8		632			
7		+1	−4	−9	−9	−9	−6	−5	−4	−2	+1	+2	+3	+3	+4	+4	+3	+4	+5	+7	+6	+3	+2	+2	+2	636			
8		−2	−4	−5	−5	−5	−4	−3	−3	−2	+1	+3	+4	+4	+4	+4	+3	+3	+3	+5	+3	+1	0	+1	+1	636			
9		−1	−4	−7	−5	−7	−4	−3	−3	−2	+2	+3	+5	+8	+5	+4	+4	+4	+4	+3	+1	−3	−4	−2	+3	635			
10		−4	+2	−2	−3	−3	−3	−3	−3	−2	0	+2	+3	+3	+4	+4	+4	+4	+3	+2	0	−2	−3	−5	−7	636			
11		−6	−4	−6	−7	−7	−5	−5	−5	−4	−2	+1	+2	+4	+5	+5	+5	+5	+4	+5	+6	+4	+5	+5	+2	635			
12		−4	−5	−5	−6	−6	−3	−4	−6	−5	−5	−3	+1	+4	+4	+5	+6	+5	+5	+5	+5	+5	+4	+1	0	636			
13		−3	−5	−6	−7	−6	−5	−4	−5	−3	−3	−3	−2	+1	+4	+4	+4	+5	+6	+6	+6	+3	−2	−6	−6	634			
14		−12	−12	−15	−13	−9	−9	−4	−5	−3	−4	−4	−4	+5	+4	+5	+5	+7	+6	+10	+10	+7	+3	+1	+2	637			
15		+3	0	−4	−5	−7	−4	−3	−1	0	−1	0	+2	+2	+3	+4	+6	+7	+7	+6	+3	+2	0	−5	−6	637			
16		−7	−8	−9	−7	−5	+1	+20	−11	−11	−32	−17	+4	+2	+5	+15	+16	+15	+15	+15	+13	+9	+6	+6	+8	638			
17		−1	−2	−4	−1	0	0	−1	−1	−1	+1	+2	+3	+2	+2	+4	+4	+5	+6	+5	+2	−1	−6	−9	−12	639			
18		−7	−10	−9	−4	−3	−3	−2	−1	+1	+2	+5	+6	+8	+8	+8	+8	+8	+9	+7	+1	−3	−8	−11	−10	642			
19		−9	−8	−4	−4	−7	−8	−5	−2	−2	+1	+2	+3	+3	+3	+3	+6	+7	+8	+6	+3	+1	−1	−3	−3	642			
20		−3	−1	−2	−4	−4	−3	−2	−2	−1	0	+1	+2	+3	+5	+6	+6	+6	+6	+3	+1	0	−2	−5	−7	642			
21		−3	−6	−4	−4	−6	−4	−2	−1	−1	+1	+2	+3	+4	+6	+6	+6	+4	+3	+6	+1	−2	−2	−2	−3	641			
22		−5	−10	−13	−12	−11	−8	−6	−3	−2	−1	+1	+3	+5	+8	+9	+7	+8	+8	+4	+4	+3	+2	+2	−1	640			
23		−3	−7	−6	−5	−5	−5	−5	−5	−6	−6	−3	+1	+3	+7	+8	+9	+10	+11	+10	+7	+3	−3	−5	−5	640			
24		−9	−9	−7	−4	−3	−3	−3	−5	0	+1	+3	+6	+5	+5	+4	+4	+4	+4	+3	−1	−3	−2	−2	−4	644			
25		−6	−4	−7	−12	−11	−9	−7	−4	−2	−1	+3	+7	+6	+8	+8	+8	+8	+9	+8	+3	+2	+1	0	−1	641			
26		−3	−7	−11	−11	−8	−7	−5	−5	−3	−2	0	+3	+5	+6	+8	+7	+7	+7	+5	+5	+3	+3	+2	0	−2	642		
27		−2	−6	−9	−9	−8	−9	−7	−6	−5	−4	−3	−2	+3	+5	+5	+6	+6	+6	+5	+5	+5	+5	+6	+5	+4	640		
28		0	−2	−4	−3	−3	−3	−3	−3	−3	−3	−3	−2	+1	+3	+6	+6	+7	+7	+6	+6	+4	+1	−1	−1	−4	642		
29		+4	−4	−7	−6	−5	−5	−5	−5	−5	−4	−3	−2	+1	+3	+6	+6	+7	+7	+6	+5	+4	+3	0	−1	−1	639		
30	+	+	−1	−2	−1	+1	0	−1	−2	−3	−4	−2	−2	−1	+1	+2	+2	+3	+3	+4	+4	+5	+4	+3	0	−2	640		
31																													
MEAN.		−4	−6	−7	−6	−6	−5	−5	−4	−3	−3	−2	0	+2	+3	+5	+6	+6	+6	+7	+6	+4	+2	0	−1	−2	638		

[200/1/39—1718]5

[S.I.R.—388.
(1946 Print).

VERTICAL INTENSITY

G.M.T. (Z = 20000γ + Mean + ...) May 1938.

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	-3	-5	-5	-3	-2	-2	-2	-2	-2	0	+2	+4	+5	+6	+7	+8	+10	+8	+5	+1	-4	-8	-9	638			
2		-7	-4	-3	-5	-3	-2	-2	-2	-2	-3	-2	-2	+1	+3	+5	+6	+6	+7	+7	+6	+4	+1	-2	-3	638			
3		-6	-6	-6	-5	-7	-8	-9	-7	-5	-2	0	+1	+2	+4	+5	+6	+6	+8	+9	+9	+8	+8	+3	-1	640			
4		-6	-12	-12	-11	-9	-4	-2	-2	-1	0	+2	+4	+4	+2	+2	+5	+7	+10	+12	+9	+4	0	-5	-8	644			
5		-8	-7	-10	-10	-7	-4	-2	-3	-2	0	+1	+2	+2	+3	+3	+3	+6	+6	+7	+8	+8	+8	+5	0	643			
6		-5	-8	-6	-5	-6	-5	-4	-1	+1	+1	+4	+4	+4	+4	+5	+4	+4	+4	+6	+6	+6	+2	-2	-4	644			
7		-7	-9	-7	-3	-1	-2	-2	-1	-2	0	+2	+4	+4	+4	+4	+4	+6	+4	+6	+4	+1	-1	-3	-6	643			
8	+	-9	-10	-9	-6	-3	-2	-3	-1	0	+1	+3	+6	+6	+6	+6	+6	+6	+6	+6	+4	+2	0	-2	-4	643			
9		-3	-3	-3	-3	-2	-2	-3	-3	-2	0	+1	+3	+5	+5	+5	+5	+5	+5	+5	+3	+3	+1	-3	-9	644			
10		-9	-5	-4	-3	-2	-5	-6	-5	-4	-3	-1	+1	+1	+2	+4	+4	+4	+4	+4	+4	+5	+6	+6	+4	645			
11		+4	+1	-3	-6	-3	-2	-2	-3	-2	-2	-1	+1	+2	+4	+4	+6	+7	0	+7	-4	-4	-7	-6	-3	643			
12		-12	-7	-6	-6	-8	-12	-13	-12	-8	+1	+6	+9	+11	+13	+15	+14	+14	+12	+6	+2	-2	-5	-9	-13	652			
13		-10	-7	-1	-1	-1	-3	-3	-3	-3	-1	0	+2	+3	+5	+6	+6	+6	+6	+6	+6	+3	0	-3	-5	650			
14		-4	-6	-6	-4	+1	-1	-2	-3	-3	-2	-1	+2	+1	+3	+7	+6	+6	+6	+7	+5	+1	-3	-6	-5	648			
15		-6	-5	0	+1	-3	-1	-3	-1	0	0	+2	+1	+1	+2	+3	+4	+5	+5	+4	+3	+1	-1	-4	-7	650			
16		-1	+3	+2	-1	-3	-4	-4	-4	-2	-1	-2	-1	+1	+4	+5	+6	+6	+6	+6	+5	+3	-1	-5	-11	648			
17		-14	-12	-7	-5	-3	-2	-3	-3	-2	0	+2	+2	+2	+3	+3	+4	+5	+5	+6	+5	+4	+2	0	-2	648			
18		-1	-2	-2	-3	-4	-3	-2	0	0	0	+1	+1	+1	+1	+2	+4	+5	+5	+6	+5	+2	-1	-4	-9	646			
19		-9	-9	-8	-4	-3	-2	-2	-1	-1	-1	0	+1	+1	+2	+3	+3	+5	+6	+7	+7	+7	+6	+2	-1	645			
20	+	-4	-9	-10	-4	-3	-3	-3	-2	-1	0	0	+1	+1	+1	+2	+2	+4	+4	+5	+6	+5	+4	+2	+1	646			
21		0	-1	-3	-4	-4	-3	-3	-3	-2	-1	+1	+1	+2	+1	+2	+2	+2	+2	+5	+5	+4	0	-2	-4	646			
22		-6	-8	-8	-6	-4	-3	-2	-1	-1	0	+1	+2	+2	+2	+2	+2	+4	+4	+6	+7	+7	+6	+2	-3	644			
23	+	-8	-10	-9	-6	-3	-2	-1	0	0	+1	+2	+3	+3	+3	+3	+3	+3	+3	+5	+5	+4	+3	0	-2	643			
24		-2	-2	-4	-4	-5	-5	-5	-4	-2	-1	+2	+3	+3	+2	+2	+1	+1	+2	+3	+6	+9	+5	+2	-4	642			
25		-3	-3	-2	-1	-2	-3	-3	-3	-3	-3	-2	0	+2	+3	+2	+2	+2	+2	+5	+7	+7	+5	+1	-3	643			
26	+	-8	-6	-2	-1	-4	-7	-7	-4	-3	-2	0	+1	+2	+3	+3	+3	+3	+3	+4	+6	+6	+4	+4	+3	644			
27		-1	-1	+1	0	-2	-2	-3	-4	-3	-3	-1	0	+1	+2	+3	+3	+3	+3	+5	+3	+1	0	-3	-9	646			
28		-10	-10	-7	-2	+1	0	-3	-8	-6	-3	-1	+1	+3	+4	+6	+7	+6	+6	+7	+7	+4	-2	-6	-6	645			
29		-9	-9	-8	-4	-5	-6	-6	-6	-4	-5	-5	-4	0	+2	+7	+9	+11	+11	+10	+9	+8	+7	+6	0	647			
30		-5	-5	-3	+1	+2	+2	+1	-2	-4	-5	-5	-3	-2	+1	+3	+5	+7	+7	+7	+7	+5	+1	-3	-12	650			
31		-21	-21	-10	-2	-2	-1	-2	-2	-1	0	+1	+2	+4	+5	+6	+7	+7	+8	+8	+7	+5	+4	+4	+1	647			
MEAN.		-6	-6	-5	-4	-3	-3	-3	-3	-2	-1	0	+2	+2	+3	+4	+5	+5	+5	+6	+5	+4	+1	-1	-4	645			

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[S.I.R.—388.
(1946 Print).

VERTICAL INTENSITY

G.M.T. (Z = 20000γ + Mean + ...) June 1938.

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		- 3	- 5	- 7	- 6	- 3	- 3	- 4	- 3	- 3	- 2	- 1	- 1	- 1	0	+ 2	+ 3	+ 4	+ 5	+ 6	+ 7	+ 6	+ 4	+ 2	- 1	649			
2		- 2	- 6	- 6	- 4	- 1	- 1	- 1	0	+ 1	+ 1	+ 1	+ 1	+ 2	+ 1	+ 1	+ 4	+ 6	+ 9	+ 8	+ 6	- 2	- 3	- 4	- 2	647			
3		- 6	- 7	- 7	- 6	- 5	- 3	- 2	- 1	0	0	+ 2	+ 2	+ 2	+ 2	+ 2	+ 2	+ 3	+ 3	+ 5	+ 6	+ 5	+ 2	- 2	- 5	649			
4	+	- 5	- 8	- 5	- 6	- 5	- 3	- 2	- 1	+ 1	+ 1	+ 1	+ 2	+ 2	+ 2	+ 2	+ 2	+ 2	+ 2	+ 5	+ 5	+ 4	+ 2	+ 2	0	647			
5		0	- 7	-13	-15	-13	- 9	- 6	- 3	- 1	+ 1	+ 3	+ 6	+ 4	+ 4	+ 4	+ 4	+ 3	+ 3	+ 6	+ 7	+ 7	+ 6	+ 3	0	645			
6		- 4	- 5	- 3	- 3	- 5	- 5	- 5	- 4	- 3	- 2	0	+ 1	+ 2	+ 2	+ 1	0	0	0	+ 1	+ 2	+ 2	+ 5	+ 7	+ 5	648			
7		+ 1	- 3	- 5	- 5	- 5	- 5	- 5	- 4	- 4	- 3	- 2	- 1	0	0	0	0	0	0	+ 3	+ 7	+ 8	+ 7	+10	+ 8	649			
8		+ 3	- 1	- 4	- 4	- 5	- 8	-10	- 8	- 3	- 1	+ 1	- 1	+ 2	+ 3	+ 3	+ 5	+ 7	+ 6	+ 7	+ 8	+ 7	+ 3	- 3	- 7	647			
9		- 7	- 5	- 4	- 3	- 3	- 2	- 3	- 2	- 2	- 2	- 1	+ 1	+ 3	+ 3	+ 4	+ 4	+ 5	+ 4	+ 5	+ 5	+ 6	+ 4	+ 1	- 4	649			
10		- 7	- 7	- 6	- 5	- 4	- 3	- 4	- 4	- 4	- 5	- 3	- 2	- 1	+ 2	+ 4	+ 6	+ 6	+ 5	+ 6	+ 6	+ 6	+ 5	+ 5	+ 4	650			
11		- 1	- 1	- 1	0	- 3	- 4	- 3	- 1	+ 1	+ 2	+ 2	+ 4	+ 6	+ 5	+ 6	+ 7	+ 6	+ 5	+ 4	+ 1	- 5	- 9	-10	-10	653			
12		-14	-15	-13	-12	-11	- 7	- 5	- 2	- 3	- 3	- 2	+ 3	+ 5	+ 6	+ 7	+ 8	+ 8	+ 8	+11	+10	+ 8	+ 6	+ 3	- 2	651			
13		-10	- 6	- 3	- 4	- 5	- 4	- 3	- 3	- 3	- 1	- 1	+ 3	+ 4	+ 4	+ 6	+ 7	+ 8	+ 8	+ 8	+ 5	+ 4	+ 3	- 2	- 6	650			
14		- 9	-14	-14	- 9	- 4	- 2	- 1	- 1	0	0	+ 1	+ 1	+ 2	+ 4	+ 4	+ 5	+ 6	+ 6	+ 7	+ 7	+ 6	+ 5	+ 1	- 5	648			
15	+	- 8	- 8	- 9	- 5	- 3	- 1	0	0	+ 1	+ 1	+ 1	+ 1	+ 2	+ 3	+ 3	+ 5	+ 6	+ 7	+ 7	+ 7	+ 5	0	- 3	- 7	647			
16		-12	-12	- 9	- 3	- 3	- 2	- 2	- 2	- 3	- 3	- 3	- 2	0	+ 1	+ 4	+ 6	+ 6	+ 6	+ 8	+10	+ 9	+ 7	0	- 2	649			
17																													
18		-12	-13	-14	-13	- 8	- 5	- 2	- 1	0	+ 2	+ 2	+ 2	+ 3	+ 3	+ 4	+ 4	+ 5	+ 5	+ 6	+ 7	+ 7	+ 7	+ 7	+ 6	651			
19		0	- 1	0	0	- 1	- 2	- 2	- 1	- 1	- 1	- 1	0	0	0	0	+ 1	+ 1	- 1	+ 1	+ 2	+ 2	+ 2	0	- 6	655			
20		- 5	-10	- 9	- 7	- 5	- 5	- 4	- 2	0	+ 1	+ 1	+ 2	+ 3	+ 3	+ 3	+ 3	+ 5	+ 5	+ 7	+ 8	+ 9	+ 7	+ 1	- 3	648			
21		- 7	- 9	- 9	-10	-10	- 7	- 7	- 6	- 2	+ 1	+ 3	+ 1	+ 1	+ 1	+ 1	+ 3	+ 3	+ 4	+ 5	+ 8	+ 8	+ 8	+ 8	+ 6	650			
22		- 3	- 6	- 5	- 4	- 4	- 5	- 5	- 5	- 3	- 1	+ 1	+ 2	+ 2	+ 2	+ 2	+ 2	+ 2	+ 2	+ 3	+ 5	+ 5	+ 5	+ 2	- 1	654			
23	+	- 5	- 5	- 3	- 3	- 3	- 4	- 3	- 1	0	0	+ 1	+ 2	+ 3	+ 3	+ 3	+ 3	+ 3	+ 3	+ 4	+ 4	+ 3	+ 2	+ 1	0	654			
24		- 4	- 7	- 3	0	0	- 3	- 3	- 3	0	+ 1	+ 1	+ 3	+ 4	+ 4	+ 5	+ 4	+ 4	+ 3	+ 4	+ 5	+ 3	+ 1	- 4	- 5	653			
25		- 3	- 2	+ 1	0	0	- 3	- 3	- 3	- 3	- 3	0	+ 1	+ 2	+ 2	+ 4	+ 3	+ 2	+ 2	+ 2	+ 2	0	- 3	- 3	- 5	653			
26		- 4	- 5	- 4	- 3	- 3	- 5	- 5	- 5	- 5	- 4	- 2	0	+ 1	+ 3	+ 4	+ 5	+ 5	+ 5	+ 6	+ 5	+ 5	+ 4	+ 1	+ 1	651			
27	+	+ 1	- 1	- 1	+ 1	+ 2	+ 2	+ 1	- 1	- 2	- 2	- 2	+ 1	+ 2	+ 3	+ 4	+ 4	+ 4	+ 4	+ 3	+ 3	+ 1	- 4	- 6	- 7	653			
28	+	- 3	- 6	- 8	- 4	- 2	- 2	- 2	- 3	- 2	- 2	- 1	0	+ 1	+ 2	+ 4	+ 6	+ 6	+ 7	+ 7	+ 7	+ 5	+ 1	- 4	- 3	650			
29		+ 1	0	0	- 2	- 3	- 3	- 3	- 3	- 3	- 3	- 2	- 2	- 1	0	+ 1	+ 2	+ 4	+ 4	+ 5	+ 7	+ 6	+ 4	+ 1	- 4	650			
30		- 8	- 9	- 6	- 3	- 1	- 1	- 1	0	- 1	0	- 1	- 2	- 1	+ 1	+ 1	+ 2	+ 4	+ 5	+ 7	+10	+ 6	+ 1	- 4	-11	650			
31																													
MEAN.		- 5	- 6	- 6	- 5	- 4	- 4	- 3	- 3	- 2	- 1	0	+ 1	+ 2	+ 2	+ 3	+ 4	+ 4	+ 4	+ 5	+ 6	+ 5	+ 3	0	- 2	650			

1000/9/46—10537

Vertical Intensity

G.M.T. (Z = 20000γ + Mean + ...) July 1938

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	-12	-18	-13	-10	-11	- 9	- 5	- 2	- 2	- 4	- 2	- 1	0	+ 2	+ 5	+ 9	+11	+12	+14	+14	+14	+11	+ 6	+ 3	646			
2	- 6	- 5	- 5	- 7	-10	-11	- 7	- 2	0	0	+ 1	+ 1	+ 1	+ 3	+ 3	+ 4	+ 5	+ 5	+ 7	+ 8	+ 7	+ 6	+ 4	+ 1	651			
+ 3	- 3	- 7	- 7	- 4	- 4	- 4	- 3	- 2	- 1	0	0	+ 2	0	0	0	0	+ 2	+ 3	+ 5	+ 6	+ 8	+ 8	+ 5	0	652			
4	- 1	- 4	- 8	-11	-12	-12	-10	- 9	- 7	- 4	- 3	- 1	+ 1	+ 1	+ 3	+ 8	+ 9	+ 9	+12	+10	+ 9	+ 8	+ 8	+11	649			
5	+ 9	+ 6	+ 3	- 2	- 5	- 6	- 5	- 4	- 2	- 1	0	+ 3	+ 1	+ 1	+ 3	+ 3	+ 4	+ 4	+ 6	+ 6	+ 3	- 3	- 7	-10	651			
6	-11	-15	-13	-15	-15	-12	-10	- 8	- 4	0	+ 2	+ 3	+ 5	+ 5	+ 7	+ 7	+ 7	+ 8	+12	+14	+13	+11	+10	+10	650			
7	+ 2	- 1	- 4	- 5	- 6	- 6	- 5	- 4	- 3	0	+ 1	+ 2	+ 2	+ 3	+ 3	+ 3	+ 3	+ 3	+ 3	+ 3	+ 2	+ 1	- 3	- 5	656			
8	- 2	+ 1	0	- 3	- 3	- 4	- 5	- 6	- 4	- 2	0	+ 1	+ 1	+ 2	+ 3	+ 3	+ 3	+ 3	+ 3	+ 4	+ 3	+ 3	+ 2	- 2	655			
9	- 1	- 6	- 9	- 7	- 5	- 3	- 3	- 2	- 2	- 1	0	+ 1	+ 3	+ 4	+ 4	+ 5	+ 5	+ 5	+ 6	+ 6	+ 4	+ 3	+ 1	- 4	652			
10																												
11																												
12	- 3	- 5	- 5	- 3	- 1	- 1	- 2	- 2	- 3	- 2	- 1	- 1	0	+ 1	+ 2	+ 5	+ 6	+ 5	+ 7	+ 7	+ 6	+ 1	- 4	- 6	651			
13	- 3	- 4	- 6	- 9	- 8	- 6	- 4	- 3	- 2	- 2	- 2	- 1	0	+ 1	+ 2	+ 3	+ 4	+ 4	+ 6	+ 7	+ 9	+10	+ 7	+ 1	649			
14	- 3	- 6	- 9	- 7	- 5	- 3	- 2	- 2	- 2	- 2	- 2	- 1	0	- 1	+ 1	+ 3	+ 5	+ 5	+ 7	+ 8	+ 6	+ 4	+ 1	- 1	652			
15	+ 1	+ 3	+ 1	0	- 4	- 1	+ 1	- 1	- 5	- 9	- 6	- 6	- 4	- 3	- 3	+ 5	+ 5	+ 5	+15	+12	+11	+ 4	- 3	- 7	652			
16	-12	- 9	- 6	- 2	0	+ 1	+ 1	+ 1	- 2	- 1	- 2	- 2	+ 1	0	+ 2	+ 3	+ 5	+ 6	+ 9	+ 7	+ 6	+ 4	+ 2	- 2	659			
17	- 2	- 2	- 4	- 1	0	- 1	- 1	- 1	- 1	- 1	0	0	0	0	0	+ 1	+ 2	+ 3	+ 4	+ 3	+ 1	+ 1	- 1	- 6	658			
18	- 6	-11	- 9	- 7	- 5	- 4	- 4	- 2	- 1	+ 1	+ 2	+ 2	+ 2	+ 2	+ 2	+ 3	+ 4	+ 5	+ 7	+ 7	+ 5	+ 4	- 1	- 5	655			
19	- 9	-11	- 5	- 4	- 3	- 1	- 1	- 1	- 1	- 1	- 1	+ 1	+ 1	+ 2	+ 2	+ 4	+ 5	+ 5	+ 6	+ 8	+ 6	+ 2	- 1	- 6	652			
20	- 9	-11	-11	-10	- 8	- 5	- 4	- 2	- 1	- 1	+ 1	+ 2	+ 1	+ 2	+ 2	+ 3	+ 3	+ 5	+ 7	+ 9	+ 9	+ 7	+ 2	- 2	651			
21	- 3	- 5	- 6	- 4	- 3	- 2	- 1	- 1	- 1	- 1	0	+ 2	+ 1	0	0	+ 1	+ 1	+ 2	+ 6	+ 8	+ 8	+ 5	- 1	- 5	652			
22	- 8	-10	- 9	- 9	- 8	- 5	- 3	- 1	0	+ 1	+ 3	+ 5	+ 5	+ 5	+ 5	+ 3	+ 3	+ 5	+ 6	+ 6	+ 6	+ 2	- 2	- 3	651			
23	- 5	- 5	- 5	- 5	- 6	- 7	- 5	- 4	- 2	0	+ 1	+ 4	+ 4	+ 4	+ 4	+ 4	+ 4	+ 4	+ 4	+ 4	+ 3	+ 1	- 2	- 3	653			
24	- 1	- 4	- 6	- 4	- 7	- 6	- 4	- 4	- 3	- 1	0	+ 2	+ 3	+ 4	+ 4	+ 4	+ 4	+ 4	+ 6	+ 6	+ 4	+ 2	+ 2	- 2	649			
+25	- 6	- 8	- 4	- 3	- 3	- 3	- 3	- 4	- 4	- 3	- 1	+ 1	+ 2	+ 4	+ 4	+ 4	+ 4	+ 4	+ 4	+ 5	+ 4	+ 1	- 1	- 2	651			
+ 26	- 4	- 9	- 9	- 6	- 4	- 4	- 4	- 5	- 5	- 5	- 4	- 2	- 1	+ 1	+ 2	+ 5	+ 5	+ 5	+ 7	+ 8	+ 7	+ 6	+ 4	+ 2	651			
+27	0	- 4	- 6	- 1	+ 1	0	- 2	- 3	- 3	- 2	- 2	- 1	0	+ 1	+ 4	+ 5	+ 6	+ 6	+ 7	+ 6	+ 5	- 1	- 3	- 5	650			
+ 28	- 3	- 7	- 8	- 7	- 6	- 3	- 2	- 2	- 2	- 2	- 1	0	+ 1	+ 2	+ 5	+ 6	+ 7	+ 8	+ 9	+10	+ 6	+ 2	- 1	- 3	649			
29	- 5	- 9	-11	- 8	- 4	- 2	- 1	- 1	- 1	- 3	- 4	- 4	- 3	- 2	0	+ 2	+ 5	+ 7	+ 9	+12	+11	+ 8	+ 5	- 1	650			
30	- 6	-15	-16	-14	-12	-13	-17	-15	- 9	- 5	- 3	+ 5	+10	+13	+13	+13	+15	+15	+15	+15	+13	+11	+ 2	- 8	653			
31	-15	-16	-10	- 8	- 7	- 5	- 3	- 1	0	+ 1	+ 2	+ 2	+ 2	+ 2	+ 3	+ 4	+ 6	+ 7	+ 9	+12	+11	+ 7	+ 3	+ 2	655			
Mean	- 4	- 7	- 7	- 6	- 6	- 5	- 4	- 3	- 3	- 2	- 1	+ 1	+ 1	+ 1	+ 2	+ 3	+ 4	+ 5	+ 6	+ 7	+ 8	+ 7	+ 4	+ 1	- 2	652			

Vertical Intensity

(Z = 20000T + Mean + ...)

G. M. T. August 1938

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	0	- 4	- 5	- 4	- 4	- 1	+ 1	0	- 1	- 3	- 3	- 3	- 3	0	+ 2	+ 4	+ 5	+ 7	+ 9	+ 6	+ 4	+ 1	656			
2	- 6	-10	- 7	- 7	- 8	- 5	- 2	0	+ 1	+ 2	+ 2	+ 2	+ 1	0	- 1	- 1	0	+ 1	+ 3	+ 7	+ 7	+ 5	+ 4	+ 2	658			
3	- 3	-12	-13	- 6	- 3	- 3	- 2	- 2	+ 1	+ 2	+ 3	+ 4	+ 5	+ 5	+ 5	+ 5	+ 5	+ 6	+ 8	+ 9	+ 6	+ 2	- 6	-18	654			
4	-21	-15	- 9	-10	- 9	-10	-11	- 9	- 7	-10	- 3	+ 5	+ 7	+10	+12	+12	+12	+10	+ 9	+12	+ 9	+ 6	+ 4	+ 2	653			
5	- 8	-10	-12	-13	-10	- 6	- 5	- 3	- 1	+ 2	+ 4	+ 5	+ 5	+ 6	+ 6	+ 6	+ 6	+ 7	+ 9	+ 9	+ 7	+ 4	0	- 5	655			
6	-10	-10	- 8	- 8	- 7	- 5	- 4	- 4	- 1	+ 1	+ 1	+ 2	+ 2	+ 3	+ 3	+ 4	+ 5	+ 5	+ 5	+ 4	+ 4	+ 3	+ 4	+ 5	655			
7	+ 4	0	- 5	- 6	- 8	- 7	- 7	- 5	- 4	- 4	- 1	+ 1	+ 3	+ 4	+ 3	+ 3	+ 4	+ 4	+ 5	+ 5	+ 5	+ 5	+ 4	+ 5	655			
8	+ 2	0	+ 2	+ 1	0	- 1	0	- 3	- 3	- 1	- 1	0	+ 1	+ 1	+ 1	+ 2	+ 2	+ 2	+ 3	+ 3	+ 1	- 3	- 6	-10	655			
9	- 8	- 9	- 8	- 5	- 4	- 2	- 2	- 2	- 1	0	+ 2	+ 3	+ 5	+ 6	+ 6	+ 7	+ 7	+ 7	+ 6	+ 6	+ 2	- 2	- 6	- 8	648			
10	-10	- 7	- 8	- 4	- 3	- 4	- 7	- 4	- 3	- 3	0	+ 3	+ 4	+ 6	+ 7	+ 7	+ 8	+ 7	+ 6	+ 6	+ 3	- 1	- 1	- 1	650			
11	- 1	- 1	- 1	+ 1	0	- 1	- 1	- 3	- 3	- 8	-13	-16	-10	- 6	- 1	+ 6	+ 8	+ 8	+12	+14	+12	+ 8	+ 5	0	649			
12	- 6	- 7	-10	- 3	+ 1	+ 1	+ 1	- 1	+ 1	- 1	+ 1	+ 2	+ 2	+ 3	+ 5	+ 6	+ 6	+ 5	+ 6	+ 5	+ 2	- 2	- 5	- 9	652			
13	- 9	- 8	- 7	- 5	- 3	- 2	- 2	- 3	- 2	- 3	- 2	- 1	- 1	0	+ 2	+ 3	+ 5	+ 6	+ 9	+ 8	+ 4	+ 3	+ 3	+ 2	650			
14	- 3	- 3	- 2	- 1	- 1	- 1	- 1	- 2	- 2	- 2	- 2	- 2	- 1	- 2	- 1	+ 2	+ 4	+ 5	+ 5	+ 5	+ 5	+ 2	- 5	- 8	651			
+15	- 8	- 9	-10	- 6	- 5	- 4	- 4	- 3	- 3	- 3	- 1	+ 1	+ 2	+ 3	+ 4	+ 5	+ 6	+ 8	+11	+11	+ 7	+ 3	- 2	- 6	651			
+16	-10	-15	-11	- 7	- 4	- 3	- 2	- 1	0	- 1	- 1	0	+ 1	+ 1	+ 3	+ 4	+ 5	+ 6	+ 7	+ 9	+ 8	+ 6	+ 1	- 6	649			
17	- 5	- 6	- 8	- 5	- 5	- 2	- 1	- 2	- 1	- 1	0	- 1	0	0	+ 1	+ 1	+ 3	+ 5	+ 9	+ 9	+ 8	+ 6	+ 5	+ 1	646			
+18	- 4	- 4	- 2	0	0	0	0	- 1	0	+ 1	+ 3	+ 1	+ 1	0	0	+ 1	+ 3	+ 4	+ 5	+ 3	+ 1	+ 3	- 1	- 6	648			
19	- 6	-12	-10	- 6	- 3	- 3	- 2	- 1	+ 1	+ 2	+ 3	+ 4	+ 4	+ 3	+ 3	+ 3	+ 3	+ 5	+ 6	+ 5	+ 1	- 2	- 3	- 3	643			
+20	- 4	- 5	- 6	- 6	- 6	- 6	- 6	- 5	- 2	- 1	0	+ 2	+ 3	+ 3	+ 3	+ 3	+ 2	+ 2	+ 5	+ 6	+ 6	+ 5	+ 1	- 1	646			
21	- 2	- 5	- 6	- 5	- 5	- 3	- 5	- 6	- 4	- 2	+ 1	+ 2	+ 3	+ 3	+ 4	+ 4	+ 3	+ 4	+ 5	+ 4	+ 3	+ 4	+ 3	+ 2	643			
22	- 1	+ 1	0	- 5	- 6	- 7	- 7	- 6	- 5	- 2	- 1	+ 1	+ 2	+ 5	+10	+ 9	+ 5	+ 5	+ 6	+ 3	0	+ 1	- 2	- 8	645			
23	-12	-11	- 9	- 9	- 8	- 7	- 7	- 5	- 7	- 4	- 3	+ 4	+ 7	+ 9	+10	+10	+10	+ 8	+ 9	+ 7	+ 4	+ 3	+ 3	+ 2	644			
24	- 4	- 7	- 5	- 3	- 2	- 1	- 1	- 2	- 1	- 1	0	+ 3	+ 4	+ 5	+ 5	+ 6	+ 6	+ 6	+ 7	+ 6	+ 3	- 1	- 4	-10	648			
25	-12	-18	-16	-12	- 7	- 6	- 4	- 2	- 1	0	+ 1	+ 3	+ 5	+ 6	+ 8	+ 9	+ 9	+10	+10	+10	+ 7	+ 3	- 2	- 6	645			
26	-11	-13	-14	-12	- 8	- 5	- 3	- 1	- 1	- 1	0	+ 1	+ 3	+ 4	+ 6	+ 8	+ 9	+10	+10	-10	+ 6	+ 3	0	- 4	644			
+27	- 4	- 5	- 4	- 4	- 3	- 3	- 1	- 1	- 1	- 1	- 1	0	+ 1	+ 2	+ 4	+ 6	+ 8	+ 8	+ 9	+ 7	+ 4	+ 1	- 3	- 8	643			
28	-12	-14	-11	-10	- 7	- 5	- 3	- 1	- 1	+ 1	- 1	+ 1	+ 2	+ 2	+ 4	+ 6	+ 8	+10	+12	+12	+ 8	+ 1	- 3	- 6	641			
29	- 8	-11	-11	- 9	- 5	- 3	- 2	- 1	0	- 1	- 1	0	+ 2	+ 2	+ 3	+ 4	+ 5	+ 5	+ 9	+10	+ 7	+ 4	+ 2	- 2	640			
30	- 5	-14	-18	-16	-14	-10	- 4	- 2	- 1	0	+ 1	+ 1	+ 3	+ 3	+ 5	+ 6	+ 7	+ 8	+11	+11	+ 7	+ 8	+ 6	0	639			
31	- 6	-14	-17	-13	- 8	- 5	- 4	- 3	- 3	0	+ 2	+ 4	+ 4	+ 4	+ 4	+ 5	+ 5	+ 7	+10	+11	+ 9	+ 4	+ 2	0	642			
Mean	- 6	- 8	- 8	- 6	- 5	- 4	- 3	- 3	- 2	- 1	0	+ 1	+ 2	+ 3	+ 4	+ 5	+ 6	+ 6	+ 8	+ 8	+ 5	+ 3	0	- 3	648			

Vertical Intensity

G. M. T. (Z = 20000γ + Mean + ...) September 1938

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																												
3																												
4																												
5																												
+6																												
7																												
8																												
9																												
10																												
11																												
12																												
13																												
14																												
15																												
16																												
17																												
18																												
+19																												
20																												
21																												
22																												
23																												
+24																												
+25																												
26																												
27																												
28																												
29																												
30																												
31																												
Mean																									642			

Vertical Intensity

G.M.T. (Z = 20000γ + Mean + ...) October 1938

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	- 9	-12	-11	-15	-26	-21	- 6	+ 2	+ 4	+ 5	+ 8	+10	+11	+11	+11	+13	+13	+11	+ 8	+ 3	+ 2	+ 1	- 1	- 2	642			
2	- 6	-11	-12	-11	-11	- 7	- 3	0	+ 2	+ 4	+ 6	+ 7	+ 6	+ 6	+ 6	+ 6	+ 6	+ 4	+ 6	+ 7	+ 7	+ 2	- 4	- 5	643			
3	- 8	-11	-13	-12	-10	- 5	- 3	- 1	+ 1	+ 3	+ 5	+ 5	+ 5	+ 6	+ 7	+ 7	+ 7	+ 7	+ 5	+ 3	+ 2	+ 1	0	- 3	644			
4	- 6	- 8	- 8	- 8	-10	- 9	- 8	- 4	0	+ 1	+ 1	+ 3	+ 8	+ 7	+ 9	+ 8	+ 8	+ 7	+ 4	+ 1	+ 1	+ 1	0	+ 2	648			
+5	+ 4	+ 7	+ 7	+ 2	- 3	- 5	- 5	- 5	- 5	- 3	- 2	+ 1	+ 2	+ 2	+ 2	+ 3	+ 3	+ 2	+ 1	0	- 2	- 2	+ 2	+ 4	648			
6	+ 5	+ 4	+ 4	+ 2	- 1	- 1	- 1	- 3	- 2	- 1	+ 2	+ 3	+ 3	+ 5	+ 5	+ 5	+ 4	+ 3	+ 2	- 2	- 6	- 8	- 8	-10	646			
7	- 5	- 4	- 4	- 3	- 6	- 7	- 8	-10	-12	-10	- 4	- 3	0	+ 3	+ 3	+ 5	+ 8	+ 6	+ 6	+ 9	+12	+11	+ 7	+ 6	643			
8	- 7	- 5	+ 1	+ 5	- 2	-11	- 9	+ 1	+ 6	+ 4	+ 4	+ 7	+ 6	+ 7	+ 7	+-7	+ 6	+ 5	+ 2	- 3	- 7	- 9	- 9	- 8	657			
9	- 3	- 4	- 3	- 1	- 1	- 1	- 3	- 1	0	- 3	- 1	+ 1	+ 5	+ 6	+ 7	+10	+10	+ 8	+ 5	+ 1	- 3	-10	- 9	- 5	649			
10	- 2	- 7	- 8	- 7	- 6	- 4	0	0	+ 1	+ 1	0	+ 2	+ 4	+ 6	+10	+11	+10	+ 7	+ 2	- 4	- 6	- 7	- 6	- 5	644			
11	- 1	- 3	- 3	- 3	- 3	- 3	- 1	- 1	- 1	- 1	- 1	+ 2	+ 5	+ 5	+ 5	+ 6	+ 7	+ 5	+ 2	- 1	- 3	- 1	- 3	- 4	643			
12	- 5	- 5	- 5	- 5	- 5	- 4	- 2	- 1	0	0	0	0	+ 2	+ 3	+ 5	+ 5	+ 6	+ 6	+ 4	0	- 2	- 2	- 1	- 2	640			
13	- 1	- 1	- 2	- 4	- 4	- 6	- 4	- 2	- 1	- 1	0	0	0	+ 1	+ 4	+ 5	+ 6	+ 6	+ 5	+ 3	0	- 2	- 3	- 3	639			
+14	0	- 4	-10	-10	- 7	- 5	- 1	+ 1	+ 2	+ 2	+ 3	+ 3	+ 3	+ 3	+ 4	+ 6	+ 7	+ 7	+ 6	+ 4	+ 2	- 1	- 1	- 4	636			
+15	- 4	- 8	-10	-10	- 5	- 3	- 2	+ 1	+ 2	+ 2	+ 2	+ 2	+ 4	+ 5	+ 5	+ 5	+ 7	+ 5	+ 4	+ 1	- 2	- 3	- 4	- 5	635			
16	-10	-12	-12	-10	- 7	- 6	- 5	- 2	- 1	+ 1	0	- 1	0	+ 3	+ 6	+ 5	+ 5	+ 6	+ 5	+ 7	+ 7	+ 8	+12	+ 8	637			
17	+ 4	+ 3	+ 1	- 1	- 2	- 3	- 2	- 1	- 1	- 1	0	+ 4	+ 5	+ 5	+ 6	+ 6	+ 6	+ 6	+ 3	0	- 3	- 6	- 9	-10	639			
18	- 9	-12	-11	-11	-10	- 6	- 3	0	+ 1	+ 2	+ 3	+ 4	+ 5	+ 7	+ 7	+ 7	+ 7	+ 5	+ 3	+ 1	+ 1	+ 3	+ 3	+ 2	635			
19	- 4	- 7	-11	-10	- 7	- 6	- 2	+ 1	+ 1	+ 3	+ 5	+ 7	+ 8	+ 7	+ 7	+ 7	+ 7	+ 7	+ 3	0	- 1	- 1	- 1	- 1	637			
20	- 2	- 6	- 6	- 8	- 8	- 8	- 5	- 4	- 2	+ 2	+ 4	+ 7	+ 9	+ 9	+ 9	+10	+10	+ 9	+ 5	0	- 3	- 3	- 5	- 4	635			
+21	- 6	- 7	- 7	- 9	- 8	- 7	- 5	- 3	- 2	- 1	+ 1	+ 4	+ 7	+ 7	+ 7	+ 7	+ 7	+ 6	+ 4	+ 1	0	- 1	- 3	- 3	638			
22	- 3	- 2	- 2	- 3	- 2	- 2	0	0	+ 1	+ 2	+ 4	+ 5	+ 8	+10	+11	+11	+11	+ 9	+ 5	- 2	- 6	-11	-15	-20	635			
23	-17	-14	-12	- 7	- 6	- 3	- 3	- 4	- 3	- 1	0	+ 2	+ 4	+ 6	+ 9	+10	+11	+10	+10	+ 7	+ 3	- 3	- 4	- 1	633			
24	- 5	- 3	- 1	- 2	- 3	- 2	- 1	- 1	- 1	0	- 1	- 2	0	+ 2	+ 4	+ 7	+ 8	+ 7	+ 6	+ 4	0	- 3	- 3	- 7	638			
25	- 9	- 7	- 2	- 1	- 1	0	+ 2	0	- 2	- 3	- 3	- 2	+ 4	+ 5	+ 6	+ 9	+ 9	+ 8	+ 6	+ 3	- 2	- 8	- 7	- 1	640			
26	- 2	- 3	- 4	- 5	- 4	- 4	- 1	+ 1	+ 2	+ 2	+ 4	+ 3	+ 3	+ 5	+ 9	+ 7	+ 5	+ 5	+ 3	- 1	- 5	-10	- 9	- 5	641			
27	- 9	-10	-12	-11	-10	- 8	- 4	+ 1	+ 4	+ 2	+ 3	+ 4	+ 8	+ 4	+ 7	+ 9	+ 9	+ 9	+ 7	+ 4	+ 1	+ 1	- 4	- 6	641			
28	-11	- 9	- 8	- 6	- 8	- 3	- 1	+ 1	+ 2	+ 4	+ 3	+ 2	+ 5	+ 7	+ 5	+ 4	+ 5	+ 8	+ 5	+ 1	- 2	- 3	- 4	- 6	641			
29																												
30																												
+31	+ 1	+ 2	+1	- 2	- 3	- 4	- 3	- 3	0	0	+ 1	+ 1	+ 1	+ 1	+ 2	+ 2	+ 2	+ 2	+ 1	0	+ 1	+ 1	- 2	- 4	642			
Mean	- 5	- 6	- 6	- 6	- 6	- 5	- 3	- 1	0	0	+ 2	+ 3	+ 4	+ 5	+ 6	+ 7	+ 7	+ 6	+ 4	+ 2	- 1	- 2	- 3	- 4	641			

Vertical Intensity

G. M.T. (Z = 20000γ + Mean + ...) November 1938

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	- 7	- 8	- 9	- 8	- 6	- 3	- 1	+ 1	+ 4	+ 5	+ 5	+ 6	+ 5	+ 6	+ 6	+ 6	+ 5	+ 3	+ 1	+ 1	0	- 1	+ 1	640			
2	0	- 6	- 7	- 9	- 7	- 6	- 5	- 4	- 1	+ 1	+ 3	+ 3	+ 5	+ 6	+ 6	+ 6	+ 7	+ 6	+ 5	+ 2	+ 1	+ 1	- 1	+ 1	638			
+ 3	+ 1	+ 3	+ 1	- 1	- 3	- 3	- 2	0	0	0	+ 3	+ 4	+ 5	+ 5	+ 5	+ 5	+ 4	+ 3	- 1	- 3	- 7	- 6	- 4	- 4	640			
4	- 5	-10	- 9	- 9	- 9	- 8	- 5	0	+ 2	+ 3	+ 4	+ 7	+ 7	+ 8	+ 8	+ 8	+ 8	+ 7	+ 2	- 2	- 3	0	+ 3	+ 4	636			
5	+ 4	+ 3	0	- 4	- 5	- 5	- 5	- 4	- 1	0	+ 1	+ 2	+ 4	+ 4	+ 6	+ 6	+ 7	+ 7	+ 3	0	- 3	- 5	- 6	- 8	637			
6	- 6	- 2	- 2	- 5	- 6	- 6	- 5	- 2	- 2	- 1	0	+ 3	+ 6	+ 7	+ 7	+ 7	+ 7	+ 6	+ 2	- 2	- 6	- 6	- 5	0	638			
7	+ 2	+ 2	+ 2	+ 1	- 3	- 5	- 5	- 4	- 3	- 3	- 1	0	+ 3	+ 6	+ 8	+ 9	+ 9	+ 8	+ 3	- 1	- 5	- 6	- 6	- 1	637			
8	- 1	+ 1	+ 3	0	- 2	- 1	- 3	- 4	- 4	- 6	- 3	- 3	- 1	+ 4	+ 6	+11	+15	+10	+ 8	+ 4	0	- 7	-14	-18	640			
9	-15	-12	-10	- 9	- 7	- 5	- 2	- 2	- 1	+ 3	+ 4	+ 7	+ 8	+ 8	+ 8	+10	+11	+11	+ 8	+ 4	0	- 2	- 3	- 8	641			
10	-12	- 9	- 7	- 5	- 5	- 4	0	+ 1	+ 1	+ 1	+ 2	+ 2	+ 3	+ 5	+ 6	+ 7	+ 8	+ 8	+ 6	+ 3	- 2	- 5	- 2	+ 3	643			
11	+ 4	+ 2	- 2	- 5	- 5	- 4	- 2	0	+ 2	+ 2	+ 2	+ 2	+ 2	+ 3	+ 4	+ 7	+ 7	+ 7	+ 4	+ 2	- 4	-10	-10	- 9	641			
+12	- 8	- 3	- 1	- 3	- 5	- 5	- 3	- 1	- 1	- 1	- 1	- 1	- 1	0	0	+ 1	+ 4	+ 4	+ 4	+ 4	+ 4	+ 4	+ 4	+ 1	644			
+13	- 1	- 3	- 4	- 5	- 6	- 5	- 4	- 2	- 1	- 1	+ 1	+ 1	+ 1	+ 1	+ 2	+ 2	+ 3	+ 6	+ 7	+ 6	+ 2	- 1	- 4	- 4	642			
14	- 7	- 9	- 7	- 7	- 9	- 7	- 5	- 3	- 2	- 2	0	0	0	+ 1	+ 2	+ 2	+ 3	+ 5	+ 5	+ 6	+ 5	+ 6	+ 7	+ 7	643			
15	+ 5	+ 1	+ 1	0	- 3	- 3	- 2	0	+ 2	+ 3	+ 5	+ 5	+ 6	+ 6	+ 6	+ 6	+ 6	+ 3	+ 1	- 4	- 7	-11	-10	-10	643			
16	- 9	- 9	- 9	- 8	- 5	- 4	- 3	- 1	+ 2	+ 3	+ 4	+ 4	+ 7	+ 7	+ 5	+ 5	+ 5	+ 5	+ 3	+ 3	+ 2	0	- 1	0	641			
17	- 1	- 1	- 3	- 5	- 7	- 8	- 3	- 1	+ 2	+ 3	+ 2	+ 3	+ 7	+ 4	+ 3	+ 4	+ 3	0	- 1	- 2	- 3	- 1	- 1	+ 5	641			
18	+ 1	+ 2	+ 1	- 1	- 3	- 4	- 3	- 1	- 1	+ 1	+ 1	+ 2	+ 4	+ 6	+ 6	+ 6	+ 5	+ 2	- 1	- 5	- 7	- 6	- 1	+ 6	644			
19	+ 7	+ 4	0	- 3	- 4	- 4	- 4	- 3	- 1	0	+ 1	+ 1	+ 1	+ 4	+ 4	+ 5	+ 5	+ 2	- 1	- 4	- 4	- 6	- 4	- 1	644			
20	+ 1	- 1	- 2	- 5	- 6	- 6	- 3	- 2	- 2	- 2	- 2	+ 1	+ 3	+ 7	+10	+10	+ 9	+ 6	+ 1	- 3	- 8	- 8	- 5	- 3	642			
21	0	+ 1	+ 2	- 1	- 1	- 1	0	0	+ 1	- 1	0	+ 1	+ 2	+ 4	+ 7	+ 6	+ 6	+ 6	+ 2	- 2	- 8	- 8	- 5	- 3	639			
22	- 6	- 3	- 4	- 7	- 6	- 3	- 2	- 1	- 1	+ 1	+ 3	+ 4	+ 6	+ 8	+ 9	+10	+10	+ 9	+ 5	+ 3	- 1	- 7	- 9	- 8	640			
23	- 9	- 9	- 9	-11	-10	- 6	- 1	+ 3	+ 4	+ 3	+ 2	+ 3	+ 4	+ 7	+ 8	+ 8	+ 8	+ 7	+ 4	+ 3	+ 1	- 4	- 6	- 4	642			
24	- 3	- 1	- 1	- 2	- 2	- 3	- 5	- 3	- 1	- 1	0	0	+ 3	+ 3	+ 6	+ 5	+ 4	+ 5	+ 8	+ 5	+ 4	0	- 6	- 8	646			
25	- 7	- 8	- 9	- 9	- 8	- 6	- 3	- 3	- 2	- 1	- 1	- 1	- 1	+ 2	+ 4	+ 5	+ 7	+ 9	+ 7	+ 4	+ 5	+ 5	+ 1	- 2	647			
26	- 1	- 1	- 7	-11	-11	- 8	- 7	- 8	- 5	- 2	0	+ 4	+ 4	+ 4	+ 5	+ 5	+ 6	+ 6	+ 7	+ 6	+ 5	+ 4	+ 4	+ 5	645			
27	- 2	- 7	- 7	- 6	- 6	- 6	- 5	- 4	- 4	- 2	- 2	0	0	0	0	+ 1	+ 2	+ 2	+ 2	+ 5	+ 7	+11	+13	+11	650			
+ 28	+ 4	+ 4	+ 3	- 2	- 2	- 3	- 3	- 2	- 2	- 2	- 2	- 2	- 3	- 3	- 3	- 2	- 2	- 2	- 2	- 2	+ 1	+ 6	+ 6	+ 3	653			
29	+ 6	+ 6	+ 3	+ 2	0	- 3	- 3	- 2	0	+ 1	+ 2	+ 1	+ 2	+ 2	+ 2	+ 2	+ 1	+ 3	+ 4	+ 2	- 5	- 7	- 4	- 7	648			
+30	- 3	- 2	- 1	+ 1	- 1	- 2	+ 1	+ 2	+ 2	+ 3	+ 3	+ 3	+ 4	+ 4	+ 4	+ 4	+ 6	+ 4	+ 3	- 1	- 5	- 8	- 6	- 6	642			
31																												
Mean	- 2	- 3	- 3	- 5	- 5	- 5	- 3	- 2	- 1	0	+ 1	+ 2	+ 3	+ 4	+ 5	+ 6	+ 6	+ 5	+ 3	+ 1	- 1	- 3	- 3	- 2	642			

Vertical Intensity

G.M.T. (Z = 20 000γ + Mean + ...) December 1938

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	−4	−3	−5	−6	−6	−5	−4	−2	+1	+2	+3	+5	+5	+5	+5	+5	+3	+2	+1	0	−2	0	0	643			
2		+4	−1	−1	−2	−3	−3	−2	−1	0	−1	0	+4	+4	+3	+4	+4	+4	+4	0	−2	−2	−4	−4	−1	640			
3		−9	−8	−8	−8	−6	−8	−6	−4	0	+1	+2	+6	+7	+8	+10	+12	+10	+11	+6	−4	−5	−3	−4	−6	649			
4		−8	−5	−5	−3	−5	−5	−3	−3	−2	−1	0	+1	+3	+4	+4	+4	+4	+4	+4	+4	+3	+4	+4	+4	651			
5		+5	−2	−7	−10	−13	−10	−7	−4	−2	−1	+2	+2	+3	+4	+4	+5	+7	+5	+4	+4	+3	+1	+1	+1	647			
6		+2	+3	+2	−1	−3	−3	−3	−3	−3	−2	−1	+1	+3	+4	+5	+7	+8	+8	+8	+7	−2	−8	−14	−15	647			
7		−6	−9	−11	−11	−10	−9	−5	−4	−2	−1	+2	+3	+6	+7	+9	+10	+12	+12	+8	+6	+1	−4	−3	−2	642			
+8		−2	−1	−3	−3	−3	−3	−2	−2	−2	−2	−2	−1	+1	+3	+5	+7	+8	+8	+5	+2	−4	−8	−6	−2	647			
9		−2	−1	−6	−9	−7	−5	+1	+3	+4	+3	+1	0	+1	+1	+4	+6	+7	+6	+4	−1	−5	−4	−4	−6	645			
10		−6	+2	−1	−6	−6	−5	−5	−3	0	+2	+3	+4	+4	+3	+2	+8	+9	+9	+5	+3	−6	−5	−5	−3	646			
11		−13	−14	−15	−12	−10	−7	−3	−1	+1	0	+1	0	+1	+3	+4	+6	+8	+10	+10	+5	+4	+6	+11	+11	652			
12		+6	0	−1	−4	−4	−5	−5	−4	−1	+1	+1	+1	+1	−1	+1	+2	+2	+2	+2	+2	+2	+2	0	−9	656			
13		−10	−9	−7	−4	−3	−1	−1	+3	+4	+4	+4	+4	+3	+2	+2	+3	+3	+4	+3	+3	+3	+4	+1	−3	654			
14		−6	−2	−4	−6	−5	−7	−7	−6	−5	−5	−4	−2	−2	−1	0	−1	0	+3	+5	+7	+11	+10	+12	+12	657			
15		+13	+5	0	−3	−6	−7	−6	−2	0	+3	+4	+4	+4	+3	+3	+3	+3	+3	0	−1	−4	−6	−4	−3	653			
16		+1	0	−4	−6	−8	−9	−6	−4	−1	0	+2	+2	+3	+3	+3	+5	+3	+6	+5	0	+2	+2	−4	−6	650			
17		−10	−7	−5	−2	−4	−7	−2	+1	+4	+2	+4	+6	+7	+7	+9	+9	+9	+7	+2	−4	−7	−11	−10	−9	651			
18		−10	−11	−10	−10	−5	−4	−4	−4	−1	0	+2	+7	+7	+6	+10	+10	+2	+5	0	−4	−4	0	+5	+7	651			
19		+9	+4	−6	−5	−3	−2	−3	−2	−1	−1	0	+1	+4	+5	+9	+10	+6	+6	+1	−3	−6	−5	−5	−1	652			
20		−1	+4	+5	+4	+3	0	−1	−1	−1	−1	−1	0	+2	+4	+4	+4	+5	+4	+2	−1	−6	−9	−9	−2	653			
21		+2	0	−1	−1	0	−1	−1	−2	−3	−2	−1	0	0	+2	+3	+4	+4	+3	+2	−2	−6	−7	−3	+8	653			
22		+12	+8	+1	−3	−3	−5	−5	−5	−3	−1	−6	0	+3	+3	+4	+4	+5	+4	+1	−2	−3	−2	0	+3	652			
23		+1	−1	−2	−2	−2	−1	−1	−1	−1	−2	−2	−2	−1	+1	+2	+4	+4	+4	+3	+1	−1	−3	−5	−3	654			
+24		−2	−4	−5	−4	−3	−3	−3	−2	−1	−1	−1	+1	+1	+2	+3	+3	+4	+3	+3	+2	+1	+3	+6	+8	654			
25		+8	+4	+1	−5	−8	−7	−5	−3	−3	−2	−3	−3	−2	+1	+2	+3	+4	+3	+1	−1	+1	+4	+7	+3	654			
+26		0	−2	−2	−2	−2	−2	−1	0	0	0	0	0	0	0	+2	+2	+3	+3	+2	−1	0	+2	+2	+4	653			
27		+4	−5	−10	−12	−10	−6	−5	−2	−1	−1	−1	0	0	0	0	+1	+2	+5	+5	+6	+7	+9	+9	+6	651			
28		+1	−3	−6	−10	−9	−5	−3	−1	+1	+1	+2	+2	+2	+2	+1	+2	+3	+3	+3	+2	+1	+1	+2	+2	650			
29		+3	−1	−3	−8	−9	−8	−4	−3	−2	−2	+1	+1	+1	+1	−1	+1	+2	+2	+2	−1	+3	+8	+9	+2	648			
30		−2	−3	−4	−4	−2	−2	0	+1	+2	+3	+3	+3	+2	+2	+2	+2	+2	+3	0	−2	−2	−3	−2	−3	649			
+31		+2	+1	−4	−7	−8	−7	−4	−3	−2	0	0	+1	+1	+1	+1	0	0	0	0	+1	+2	+7	+14	+15	650			
Mean		−1	−2	−4	−5	−5	−5	−3	−2	−1	0	0	+2	+2	+3	+4	+5	+5	+5	+3	+1	−1	−1	0	0	650			

SEISMOLOGY, 1938

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

The same instruments have been used as in previous years, namely a Wiechert 1000 kilogram horizontal seismograph for east and north components and a Wiechert 80 kilogram seismograph for the vertical component. These instruments functioned satisfactorily throughout the year. The lithological foundation is coral sand on volcanic rock.

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. Gutenberg 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 1938 was 252. They were distributed as follows:-

125 originated within three degrees of Apia;
26 between three and six degrees;
10 between six and nine degrees;
27 between nine and forty-five degrees and 18 beyond forty-five degrees. The origins of 46 were indeterminate.

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 Jeffreys has been used.

Constants

The Seismograph Constants were as follows:-

February 16, 1938

	E-W	N-S	Vertical
Period	8.0	8.4	5.7 sec.
Static magnification	154	166	57
Coefficient of friction	0.0008	0.0010	0.0006 cm.
Damping ratio	6.3	7	2
Total friction	1.3	1.4	1.5 dynes

February 22, 1938

Vertical (after adjustment)
Period 6.0 seconds, magnification 73,
Coefficient of friction 0.0006 cm
Total friction 0.8 dyne

June 20, 1938

	E-W	N-S	Vertical
Period	8.1	8.7	5.7 sec.
Static magnification	166	160	56
Coefficient of friction	0.0008	0.0005	0.0004 cm.
Damping ratio	6.0	7.0	2.2
Total friction	1.1	1.0	0.8 dynes

September 3, 1938 (Horizontal) September 20th (Vertical)

	E-W	N-S	Vertical
Period	8.0	8.5	6.2 sec.
Static magnification	154	162	53
Coefficient of friction	0.0006	0.0006	0.0002cm.
Damping ratio	6.0	6.7	2.9
Total friction	1.1	1.5	1.1 dynes

December 31, 1938 (Horizontal)	December 15th (Vertical)		
	E-W	N-S	Vertical
Period	7.7	8.1	4.6 sec.
Static magnification	148	173	53
Coefficient of friction	0.0015	0.0009	0.002 cms.
Damping ratio	5.1	6.6	2.1
Total friction	0.9	0.6	2.1 dynes

Note: The unit for the coefficients of friction which is really cm./sec.^{2} has been contracted to cm.

EARTHQUAKES 1938

January

7th (1) iP 2h 49m 17s 1S 49s distance 2.8°
(2) eL 15h 44m

16th eP 14h 1m (in time gap) i 15s 1 18s 1 28s e 2m 16s M 3.6m

20th P(?) 16h 35m 37s 1 36m 14s S 33s eL 37m M 39.5m distance 4.9°

21st iP 15h 21m 17s 1S 40s Rossi-Forel 3, pen thrown off: distance 2°

23rd (1) iP 8h 40m 21s PP 41m 34s PPP 42m 14s eS 46m (in time gap) 1SSS 49m (in time gap) L 50m (vertical) L 53m (horizontal component) M 53m 30s. Azimuth NNE (dilatation). Distance about 39° Epicentre (USCGS) 21.2°N 156.1°W, (Hawai'i) H 8h 32.8m

24th ePPP? 10h 49.7m e 58m eL 11h 18m weak trace Epicentre (USCGS) near 71°S 47°W. H 10h 31.3m

25th eP 16h 57m 40s eS 17h 1m 19s M 3½m Distance about 20° H 16h 53.2m. Epicentre (Wellington) 34°S 175°W.

30th eP 17h 11m 54s i 13m (in time gap) S 13m 11s i 15m (in time gap) distance 6.8°

Slight local tremors:-
5d 6h 45m; 21d 20h 18m; 23d 9h 38m; 23d 17h 34m; 26d 5h 37m

February

1st iP 19h 14m 1s pP 17s sP 29s i 16m 0s iPP 16m 16s pPP 16m 23s i sPP 16m 51s PPP 17m 30s 1S 21m 49s sS 22m 26s ScS 23m 35s eScS 24m 16s SS 25m 49s sSS 26m 28s i 27m 46s

L 31m .L 32.1m M 35.7m M 38m distance 57°
H 19h 4m 22s depth of focus 75km azimuth
W compression Epicentre (USCGS) 5°S 131°E

4th Local shock 9h 45m Rossi-Forel 1 Distance $2\frac{1}{2}^{\circ}$

5th (1) eL 3h 11m (2) eL 4h 14m

10th iP 7h 18m 31s i 19m 4s iS 22s M 20m 10s distance $4\frac{1}{2}^{\circ}$

13th eP 8h 9m 0s pP 7s sP 13s iPP 9m 42s iS 13m 14s sS 13m 32s PcS 16m 28s distance 24° depth of focus 40km H 8h 3m 45s Epicentre (USCGS) 38°S 179°W

14th iP 18h 32m 46s iS 33m 9s distance 2° Rossi-Forel 3

Slight local tremors:-
2d 17h 18m; 9d 19h 41m; 12d 0h 53m; 15d 15h 47m; 17d 4h 38m; 18d 8h 37m

March

6th iP 16h 56m 2s iS 57m 32s azimuth SW (225°), Compression, distance 8° Epicentre $177\frac{1}{2}^{\circ}$W $19\frac{1}{2}^{\circ}$S H 16h 54.1m

8th eL 5h 54m, obscured by microseisms

21st (1) iP(Z) 1h 20m 10s dilatation, large amplitudes; perhaps deep focus not far distant (2) eP 3h 43m 31s iS 44m 25s eL 52s Distance 4.8°

25th iP 15h 51m 0s iS 52m 13s azimuth west, distance 6.3° (Jeffreys) H 15h 49.5m Epicentre 12°S 178°W

Slight local tremors:-
10d 10h 51m; 12d 12h 9m, 17d 3h 28m; 20d 5h 5m; 21d 9h 4m; 27d 16h 58m; 23h 22m 28d 2h 59m; 31d 18h 58m

April

7th eP 13h 54m 25s S 56s distance 2.7°

9th iP 9h 15m 6s ipP 24s ePP 37s eS 18m 21s sS? 51s iPcP 19m 16s ipPcP 52s i 20m 30s ScP 22m 58s PcS 23m 8s pPcS 38s iScS 26m 21s sScS 27m 14s e 30m 47s distance depth of focus 100km H 10.8m Epicentre 17.2°S 168.8°E, Distance 19°

15th eP 16h 39m 19s (N-S) eP 22s (E-W) 1 40m 38s 1 50s 1 41m 33s 1 43m 26s 1 42s 1 44m 18s Very small movements and short periods in the first phase (P).

19th e 21h 46m 55s e 47m 23s e 56s 1 50m 33s 1 51m 0s eL 52.1m

20th (i) 1P 6h 30m 39s 1PP 48s 1PPP 57s 1 32m 9s (time gap) 1 32m 46s 1S 33m 41s L 34.0m L 35.0m M 37.3m distance 16° H 27m 0s First wave compression. Epicentre (A & N.Z.A.S) 20.2°S 174.8°E
(ii) 1P 13h 51m 45s 1S 52m 5s Distance 1.9° Rossi-Forel 2

21st eP 20h 24m 1s S? 24m 31s 1 25m 9s (time gap) distance 3°

24th e 0h 12m 0s 1 16m 58s 1 25m 10s (time gap)

25th 1P 9h 21m 47s 1 53s 1 59s 1S 22m 58s compression distance 6.3° Epicentre 19°S 176°W h = 400km. (Pasadena)

28th 1P 7h 32m 49s 1S 33m 22s distance 2.9° Rossi-Forel 3

29th 1P 15h 35m 6s 1S 35m 45s distance 3.4°

30th eP 21h 26m 42s 1(S) 27m 44s mainly long waves distance 5.5° approx.

Slight local tremors:-
2d 2h 13m; 8d 8h 10m; 21d 22h 15m; 25d 16h 12m; 26d 16h 42m; 29d 14h 2m

May

1st (1) e 14h 45.9m (E-W) e' 58.7m (N-S)
(2) 1P 23h 16m 15s (time gap) 1S 17m 18s distance 5.6°

3rd eP 13h 2m 45s 1S 3m 5s Distance 1.8° Rossi-Forel 2

12th eP 15h 46m 43s 1 47m 54s 1PP 48m 11s (E-W) iPcP 48m 37s i 49m 10s iS 53m 0s eL 56.3m eL 58.6m H 38m 54s distance 42° azimuth 276°. Epicentre (U.S.C.G.S.) 8°S 147°E New Guinea.

16th iP 1h 10m 35s 1 51s iS 13m 9s 1 28s 1 32s i 36s i 44s distance 1676km (15.1°). Using Lunkenheimer's method with Wellington, New Plymouth and Apia P times, the epicentre is 28.7°S 174.0°W depth of focus 650km. H 7m 28s

18th Slight movements, fairly long period (12-15 seconds) 9h 32.5m

19th eP 17h 19m 54s 1PcP 20m 12s 1PP 22m 8s ePPP 23m 50s 1S 29m 1s (time gap) 8cS 29m 51s (Vert.) i 30m 0s SS 33m 20s SSS 35m 46s distance 69.5° H 8m 45s Epicentre (USCGS) 0.5°N 119.0°E sS maybe 30m 0s which gives a depth of 150km.

22nd (1) eP 7h 50m 28s i 33s 1PP 50m 43s i 47s i 51m 5s eS 54m 21s eSS 52s e 55m 43s eL 56m distance 21.7° H 45m 41s
(2) eP 8h 26m 41s i 53s 1PP 27m 1s 1S 30m 33s i 31m 37s eL 32m distance 21.7° H 21m 53s Aftershock of (1)

23rd (1) eP 7h 29m 28s e 38m 17s 1S 24s 1PS 46s eScS 39m 27s eL 45.8m L 49.5 H 18m 33s distance 67.4°. Epicentre (USCGS) 36°N 141°E Japan.
(2) eP 8h 33m 35s i 35m 51s 1S 43m 6s L 59m distance 74° H 21m 59s. Commencement obscured by (1) Epicentre (Strasbourg) 19°N 119°E

24th eP 15h 53m 13s i 33s eS 53s e 55m i 56m 34s Distance 3.5°

30th iP 14h 34m 14s ipP 28s isP 39s iPP 50s 1S 38m 4s (time gap) PcP 38m 20s sS 38m 41s ScS 45m 28s distance 21° H 29m 35s Depth of focus 75km. Azimuth 235° Epicentre (USCGS) 20°S 169°E

Slight local tremors:-
4d 2h 29m; 6d 8h 33m; 8d 0h 50m; 18d 9h 26m; 18d 14h 4m; 19d 12h 28m; 25d 15h 25m

June

2nd e 2h 21m 34s e 24m 40s e 27.4m eL 30.3m Very weak trace

9th iP 19h 25m 28s i 36s ePP 27m 49s 1S 33m 52s iPS 33m 59s i 34m 19s isS 29s eScS 35m 17s eSS 38m 22s. Distance 63° H 19h 15m 10s Depth 100km. Azimuth westerly, Compression. Weak trace. Epicentre (J.S.A.) 3.1°S 125.7°E

10th iP 10h 5m 23s eS 14m 56s eSS 19m 35s H 9h 53m 48s. Distance 74°. Weak trace. Epicentre (J.S.A.) 25.2°N 124.6°E

11th iP 5h 10m 3s 1S 10m 55s azimuth probably W to WSW distance 4.6°

13th (1) e 3h 16m 14s e 18m 14s 1 50s e 30m 50s faint trace.
(2) e 23h 10m Very faint

15th (1) eP 12h 45m 21s ePP 37s eS 49m 8s (time gap) eSS 49m 27s H 40m 44s Distance 20.7° Dilatation. Epicentre (Wellington) 20°S 169°E
(11) e 20h 21m 46s e 23m 20s 1 31s e 27m 59s

16th Trace of distant earthquake at about 3h; (time marks failed) S-P interval roughly 10 minutes and another earthquake later in the day.

18th iP 2h 31m 56s iS 32m 50s distance 4.8°

23rd iP 12h 59m 53s ipP 13h 0m 4s PP 0m 21s (time gap) i 1m 26s e 3m 10s (time gap) S 3m 33s i 40s i 56s H 12h 55m 25s Dilatation. Distance 20° Depth 100km. Epicentre (USCGS) 20°S 169°E

29th eP 18h 45m 58s eS 47m 18s 1 22s 1 36s L 48.0m M 48.6m (E-W) M 48.9m(N-S). F 20h 20m distance 7°. Consists almost entirely of long waves.

30th (1) iP 16h 49m 13s (time gap) ipP 23s isP 34s iPP 45s i 50m 28s eS 52m 44s sS? 53m 10s PcP 53m 22s pPcP 44s. sPcP 53m 59s e 55.2m ScP? 56m 48s PcS 57m 4s distance 19.5°, depth of focus 60km, H 44m 46s azimuth WSW dilatation. (i 52m 4s)
(2) eP 19h 53m 4s i 53m 50s i 53s iS 54m 3s F 20h distance 5.2°

Slight local tremors:-
3d 7h 20m; 17d 8h 1m; 18d 3h 30m; 18d 9h 38m; 19d 14h 52m; 20d 15h 58m; 25d 5h 37m; 26d 20h

July

1st iP 11h 48m 39s iS 57s SSW compression distance 1.4° Rossi-Forel 4. Epicentre 15.0°S 172.5°W

4th (1) eP 17h 33m 16s (time gap) eS 34m 10s F 42m distance 4.7°
(2) Earthquake between 21h and 22h, trace obscured

5th (1) 1P 2h 8m 10s 1pP 8m 20s eP 30s 1S 11m 41s 1 11m 54s H 3m 43s distance 19.5°. Epicentre 21.7°S 169.4°E focal depth 70km.
(2) eP 2h 59m 7s pP 59m 19s (time gap) 1PP 36s 1S 3h 2m 36s 1 52s H 2h 54m 44s distance 19.3° (2150km). Epicentre 21.4°S 169.5°E focal depth 70 km.
(3) e 10h 2m
(4) P 22h 11m 18s (time gap) pP 30s eS 14m 43s H 6m 58s distance 19° Epicentre 171°E 21.5°S (approx.) focal depth greater than normal.

6th (1) 1P 1h 28m 39s e 32m 2s eS 28s, distance 21° Epicentre (Wellington) 21°S 169°E
(2) eP 9h 47m 45s 1S 48m 08s distance 2°. Another distant earthquake recording at the same time.

8th 1P 11h 24m 31s 1S 25m 31s distance 5.2°
9th e 1h 55m 26s weak trace
11th P 01h 51m 08s S 52m 36s Distance 7.8°
12th P 12h 41m 05s S 44m 49s Distance 20.3°
H 12h 36m 34s Epicentre (ANZAAS)169°E 21°S.

14th 1P 23h 35m 06s 1pP? 15s 1 38m 7s eS 42s H 30m 34s SW compression azimuth 235° distance 20°, focal depth 80km.

16th (1) eP 15h 18m 33s local shock about 4° F 35m
(2) eP 17h 33m 24s eS 34m 10s F 45m distance 4°

18th eP? 8h 23m 21s eS 24m 31s F 35m distance 6° approx.
22nd eL 8h 20.6m Large microseisms
26th 1P 21h 31m 50s 1S 32m 22s Distance 3°
27th 1P 11h 13m 22s 1S 14m (time gap) SSW dilatation, distance 3.4°

Slight local tremors:-
7d 5h 18m; 8d 14h 53m, 8d 17h 31m; 9d 11h 7m, 9d 14h 43m; 10d 2h 45m; 13d 18h 34m; 23d 10h 59m;

August

9th 1Pg 8h 28m 57s 1Sg 29m 2s S+ 4s SSW compression, distance 0.4°. Epicentre 14.2°S 172.0°W

12th 1P 4h 9m 6s pP 18s sP 27s 1S 11m 38s PcP 14m 19s H 5m 49s Dilatation, distance 14° focal depth 80-100km. Epicentre 174.2°E 15°S

16th (1) e 5h 15m 30s e 18m 27s
(2) 6h 19m 15s e 34s eS? 22m 12s

20th eSS? 8h 48m 29s eL 51.6m Weak trace

25th (1) e 1h 28m 28s e 31m 33s weak trace
(2) Local shock, Rossi-Forel 2 at 11h 21m (time gap)
(3) iP 12h 2m 13s 1S 17s distance 0.3° Rossi-Forel 4. Epicentre 20 mls. SW of Apia 172.0°W 14.0°S

27th e 1h 26m 29s e 29m 39s
28th iP 22h 35m 49s 1S 36m 24s distance 3.1°
29th e 15h 41m eL 55m. Epicentre (Manila) 12°5'N 124°5'E
30th iP 11h 58m 5s ePcP 59m 42s ePP 50s eS 12h 4m 40s sS 5m 12s H 11h 49m 54s ,azimuth westerly, distance 45°. Epicentre 5.7°S 143.3°E focal depth 90km.

Slight local tremors:-
1d 10h 21m; 8d 14h; 16d 6h 18m; 19d 10h 54m; 24d 17h 47m; 27d 1h 10m, 27d 20h 32m

September

5th e 15h 0m 28s e 3m 23s

7th (i) e 4h 21m 29s e 24m 42s
(ii) i 7h 49m 25s i 46s i 51m 8s
(iii) i 8h 0m 2s (time gap) e 1m 42s
(iv) eP 13h 4m 47s pP 58s isP 5m 21s Distance about 30° Focal depth about 100km. Epicentre (ANZAAS) 8°S 158°E.

16th e 5h 35m 46s eL 38m 18s
17th (i) eP 5h 33m 55s i 35m 8s e 36m 20s
(ii) e 12h 35m

18th eP 17h 19m (time gap) iS 39s distance about 3°.
19th eP 0h 32m 3s (time gap) iS 33m 13s distance about 6°.
20th eP 13h 41m 7s eS 45m 2s (time gap) eSS 32s Distance 22° Doubtful
25th (i) iP 19h 39m 24s iS 50s azimuth WSW. Compression Distance 2.3°

(11) eP 20h 18m 32s e 21m 20s e 48s eL 22.7m

27th e 10h 23m

28th eP 18h 18m 49s e 22m 47s e 23m 26s eSS 49s e 24m eL 25.5m Distance 24° H 18h 13m 39s Epicentre (Strasbourg) 11°S 164°E

Slight local tremors:-
5d 19h 32m; 10d 20h 33m; 12d 1h 17m; 14d 4h 29m; 27d 11h 6m

October

1st (i) iP 06h 51m 2s iS 32s distance 2.6°
(ii) eP 22h 40m 13s iS 41m 7s distance 4.8°

2nd eP 8h 10m 33s iS 11m 50s distance 6.8°

5th eP 14h 12m 24s iS 13m 25s distance 5.4°

7th iP 20h 0m 31s iS 1m 3s distance 2.8° azimuth 215° compression Rossi-Forel 3 Epicentre 173.3°W 16.1°S

10th iP 20h 58m 35s i 59m 8s iPcP 59m 13s iPP 21h 0m 48s iS 7m 9s iSS 11m 18s Compression. distance 64° H 20h 48m 3s Probably deeper than normal. Epicentre 1°N 125°E (USCGS)

14th (i) eP 8h 21m 11s eS 38s iL 22m 26s distance 2.4°
(ii) Pn 10h 13m 48s P+ 14m 21s Sn 15m 28s S+ 16m 10s Sg 16m 41s Distance 8.9°

17th (i) iP 10h 25m 38s eS 26m 2s (time gap) Distance 2.1°
(ii) i 22h 33m 2s (time gap) e 36m 21s e 38m 31s

18th e 6h 40m 2s e 42m 36s e 44m 23s e 46m 8s e 34s

20th iP 2h 29m 53s ipP 30m 16s ePP 32m 28s iS 38m 26s iScS 39m 20s azimuth westerly, dilatation, distance 63°, depth probably 90km. H 2h 19m 31s Epicentre 10°S 123°E (USCGS)

21st Earthquake late on 21st - trace obscured

Slight local tremors:-
3d 8h 33m; 4d 7h 49m; 6d 15h; 7d 21h 23m; 11d 0h 17m; 14d 5h 45m, 14d 10h 17m; 19d 9h 9m, 21d 6h 29m; 23d 2h 31m; 25d 15h 10m; 29d 19h 12m; 30d 17h 45m

November

5th (i) eP 8h 54m 21s ePcP 51s 1PP 56m 41s eS 9h 3m 10s distance 66.3° H 8h 43m 34s Epicentre 38°N 141°E (USCGS)
(ii) eP 11h 1m 22s ePcP 49s 1PP 3m 40s eS 10m 10s 1PS 24s distance 66.3° H 10h 50m 35s Aftershock of (i)

6th (i) eP 9h 4m 46s ePP 7m 7s eS 13m 41s distance 67° H 8h 53m 55s Epicentre 36°N 144°E (USCGS)
(ii) eP 21h 49m 36s eS 58m 30s distance 67° H 21h 38m 45s Aftershock of (i)

9th Weak trace of distant earthquake 9h 25m - 10h 05m.

10th eP 20h 30m 1s PP 32m 30s 1S 39m 14s 1 41.2m L 47.9m distance 71° H 20h 18m 45s Epicentre 56°N 159°W (USCGS) Additional phases difficult of detection owing to large amplitudes and overlapping of traces.

13th (i) Weak distant shock. First recorded wave L? about 13h 44m 18s
(ii) Distant shock commences about 22h 51.5m. Weak.

14th (i) e 8h 13m 42s Mainly long waves.
(ii) Very weak distant seismic disturbance commencing 12h 19m

17th ePcP 4h 6m 5s ePP 8m 8s 1S 14m 56s eScS 15m 42s eSS 19m 14s eL 26m 8s Distance about 70° Epicentre (USCGS) 55°N 158°W.

18th (i) iP 14h 16m 39s iS 18m 20s i 20m 4s Distance 9°
(ii) eP 18h 23m 19s iS 46s Distance 2.4°

20th eP 16h 21m 10s eS 52s distance 3.7°
21st iP 1h 24m 51s iS 26m 11s Distance 7° Probably deeper than normal.
22nd eS? 1h 33m 51s Very weak trace. Epicentre (USCGS) 37°N 142°E
24th e 11h 29m 36s e 33m 18s
26th iP 5h 1m 46s iS 2m 12s distance 2.3°
27th ePn 12h 55m 14s iPg 47s iSn 56m 30s eS+ 58s eSg 57m 11s distance 6.6°
30th Distant earthquake commencing between 2h and 3h. Obscured by heavy microseisms.

Slight local tremors:-
2d 6h 9m; 2d 21h 15m; 6d 6h 55m; 10d 15h 5m;

12d 14h 24m; 14d 3h 5m; 21d 23h 27m; 24d 16h 45m; 25d 8h 28m; 27d 2h 59m; 27d 9h 16m; 28d (late, obscured by microseisms); 29d 11h 49m.

December

6th eP 20h 4m 47s iS 5m 23s distance 3.2°

7th eP 13h 30m 45s e 38m 17s e 39m 4s

9th eP 23h 5m 2s (gap) iS 25s distance 2°

15th (i) eP 5h 5m 47s iS 6m 17s distance 2.6°
(ii) eP 18h 35m 27s iS 55s Distance 2.5°

16th (i) eP 1h 55m 36s iS 56m 14s distance 3.3°
(ii) eP 17h 28m 27s eS 34m 08s eSS 36m 32s eL 39m Distance about 36°. Epicentre (Wellington) 45°S 167°E
(iii) eP 23h 21m 29s PP 22m 40s eS 27m 11s ? eSS 29m 29s? Distance about 36°. After-shock of (ii) Both (ii) and (iii) may be deeper than normal.

22nd eP 18h 18m 4s (gap) iS 31s distance 2.4°
28th eP 20h 37m 43s iS 38m 6s distance 2°

Slight local Tremors:-
3d 9h 50m; 4d 17h 50m; 5d 15h 56m; 11d 16h 3m; 13d 5h 55m, 13d 9h 38m; 14d 13h 2m, 14d 21h 8m 18d 5h 34m; 19d 5h 19m, 19d 23h 27m; 20d 21h 32m; 22d 11h 19m.

Meteorological Report, 1938

Notes on Instruments and Observations

Surface meteorological observations were made twice daily at 9.0 a.m. and 3.0 p.m. Zone Time (165° west). These times correspond to 20h and 02h Greenwich Mean Time.

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.

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 noting the most distant object, in a system of reference points, which has been visible. The system of reference points was that which was introduced in 1935 and described in the annual report of that year.

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 corrections for 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.

The barograph was supplied by Jules Richard of Paris (Grand Model No 105444) in 1925. Control readings of the mercury barometer were made at 9.0 a.m. and 3.0 p.m. and the mean of the two corrections to the barograph was applied to the pressure record for the whole day. 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. It has been in use for many years.

The maximum and minimum as well as the wet and dry bulb thermometers are also exposed in this screen with the standard thermometer. Readings have also been obtained from a duplicate set of thermometers, which are in a Stevenson screen of standard pattern; but these have not been given in this report.

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.

The maximum and minimum thermometers, are read and set at 9.0 a.m. each day. The grass minimum thermometer is read at 9.0 a.m. and set in the evening soon after sunset. Other thermometers are read three times a day at 9.0 a.m., 12 noon and 3.0 p.m., but the noon readings are not published.

The entries in the tables of this report are made in such a way that maximum readings of temperature at 9.0 a.m. are credited to the preceding day while minimum readings are credited to the day on which they are read.

The thermograph, which is in a Stevenson screen of standard pattern, has been controlled by readings of the standard thermometer at 9.0 a.m., 12 noon and 3.0 p.m. and by indications of the minimum thermometer. 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, Hellmann-Fuess pattern, has been in operation as in former years. The diameter of the collecting rim is 15.95 centimetres and the area of cross-section is 200 square centimetres. The height of the rim above the ground is 130 centimetres (4.27 feet).

During the second quarter of the year some measurements of precipitation were recorded by a new self-recording gauge, Dines tilting syphon pattern (M.O. 28/37), but regular measurements with it were not obtained until later. After the two gauges had been in operation together for a few months the use of the Hellmann-Fuess one was stopped on December 10th.

The records of the self-recording gauge are controlled by means of the standard gauge. The latter, which was constructed by Fuess, has a rim of the same

diameter as the former. The rim of the standard gauge is at a height of 65 centimetres (2.13 feet) above the ground. The rain water 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 Meteorolo-gical Office, London.

The rain-gauges are placed in an open grass plot but are slightly shielded on the southern and western sides by coconut trees. An investigation is being carried out with a view to finding the extent to which rainfall measurements are affected by this shielding.

Sunshine

A new Campbell-Stokes sunshine recorder M.O. 265, was set up on May 10th to replace the old Fuess recorder of similar pattern. It was mounted in the position that had been occupied by the old recorder on a platform which is situated at the extreme northern edge of the Mulinu'u peninsula where the Observatory is situated. The exposure is satisfactory apart from slight shielding by coconut trees at sunrise and sunset about the time of the December solstice. The amount which may have been lost due to this cause is approximately 2½% of the possible sunshine for that month.

It should be noted, however, that a loss often occurs at sunrise and sunset owing to the presence of cloud on the horizon, or if there is no cloud the sunshine at these times is not sufficiently intense to scorch the card. The loss may therefore be considered negligible.

Evaporation

The instrument in use to measure evaporation is

the Piche evaporimeter. 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.

Until the end of October 1937, the evaporimeter was mounted on a verandah post on the north side of the main office. The paper was shielded from direct sunlight but most winds could blow freely over it. On November 1st the instrument was hung in a small Stevenson screen in which there are no other instruments.

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 Mean 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 1937 to February 1938 (inclusive)
Dry Season - May 1938 to August 1938 (inclusive)

Normals

The normal values of temperature, pressure, and rainfall are based on the period 1890 to 1935. New sunshine normals based on eighteen years were brought into use this year. The sunshine records used in computing these normals were those obtained during the following years:- 1905, 1906, 1917, 1919, 1924, and 1925 to 1938 inclusive.

Meteorological Instruments in use during 1938

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.105444 made by Jules Richard of Paris.

Barometers: (i) Kew pattern, M.O.2233 made by S. and A. Calderara. This instrument is used as the standard.
(ii) Kew station pattern by Fuess No.1469
(iii) Fortin by Casella No.3300. Sent to Fakaofo in August.

Evaporimeter: Piche

Hygrograph : Casella No.1141 (M.O. 195/32)

Raingauges : (i) Casella No.1593/32 M.O.
(ii) Fuess Standard gauge
(iii) Hellmann-Fuess Selfrecording No.225
(iv) Tropical size for exceptional precipitation.
(v) Dines Tilting Rain-gauge M.O. 28/37

Sunshine Recorder: Campbell Stokes pattern by R.Fuess, Berlin (up till 9th May); Campbell Stokes pattern by J. Hicks, London M.O. 265/30 (from 10th May) Sphere M.O. 355/30

Thermograph: Short and Mason

Thermometers: Grass minimum Calderara No.31177 (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

(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

Synoptic weather maps of the South West Pacific region were prepared twice a day at the Observatory using reports which were received by wireless at the Apia Radio Station. The area covered by them includes Norfolk Island and the New Hebrides and stretches eastward from thence to the Society Islands, the Marquesas Islands and the Gambier Islands. There were approximately twenty five reporting stations during the greater part of the year so that their density of distribution over this area was comparatively sparse. Towards the end of the year the reception of some more stations north of Samoa was made possible, thus increasing the average number of stations plotted on the afternoon synoptic chart to thirty two. Where possible the observations were made at 20h G.M.T. in the morning and 02h G.M.T. in the afternoon; but at a few stations the times of observation were slightly different.

General collective weather reports were broadcast twice daily from the Apia Radio Station at 0100h. and 0920h. G.M.T. During the second half of the year a system of night duty was introduced at the Observatory whereby these reports were checked at night as well as in the day time before being retransmitted.

During the hurricane season which is considered to extend from November to April, warnings of cyclones were issued, when necessary, with the collective broadcasts. The weather reports were in the International Code of Copenhagen, 1929, in the abridged form known as "Weather Shipping" and the inferences were in plain language. On September 1st the code for Past Weather, as defined in Resolution 42 of the Warsaw Conference, 1935, was introduced.

During the hurricane season the Observatory also issued daily weather reports, which were displayed at two conspicuous points in Apia, for the benefit of local residents. The Observatory was also called upon frequently for local forecasts.

Negotiations were started with a view to bringing into effect some of the resolutions which were passed at the Regional Meteorological Conference which was held in Wellington at the end of 1937. In this connection, three radio operators from the Tokelau Islands, who were in Apia for a refresher course in radio work, were given a course of instruction at the Observatory also, and were taught to use the new International Code, form F 12. Reports

in this code were first received from Atafu in September.

Some of the meteorological stations were inspected by the officers of H.M.S. Leith during a cruise of the south west Pacific region.

Notes on the Weather of 1938 at Apia Observatory

January

The fair to fine weather during the first half of the month was followed by a wet and squally period, after which the conditions continued to be generally unsettled.

The 211 hours of sunshine recorded were 56 hours in excess of normal while rain falling on 22 days amounted to 20.64 inches - an excess of 2.72 inches. The range of temperature was between 89.6°F on the 8th and 73.0°F on the 22nd.

Between the 6th and the 22nd there was a series of depressions which appeared to move eastwards in a trough of low pressure situated near Rotuma, Samoa, and Rarotonga.

February

Unsettled weather prevailed during the greater part of the month with many dull and showery days. Thunderstorms were more frequent than usual and heavy rain accompanied those on the 1st, 10th and 25th.

The total rainfall for the month was 1.80 inches less than normal while the relative humidity was slightly less than normal.

A shallow depression moved, on the 3rd., from the New Hebrides to New Zealand while during the third week several depressions moved eastwards in a trough of low pressure extending from North of Fiji and Tonga to the Cook Islands.

A depression which was centred between the New Hebrides and Fiji on the 22nd moved near Fiji and strong winds associated with it were experienced at Suva on the 26th.

March

The weather generally was unsettled. Although a number of cloudy days were experienced in the early part of the month the major portion of the rainfall, which was appreciably less than normal, did not occur until the last fortnight.

Thunderstorms were unusually frequent and those on the 22nd, 23rd and 25th were accompanied by heavy rain. The temperature in the screen varied between extremes of 87.3°F on the 7th and 70.5°F on the 9th.

A shallow depression was centred over the New Hebrides on the 1st and later moved in a south westerly direction. A series of shallow depressions occurred in a trough of low pressure extending from North of Fiji and Tonga to the Cook Islands. Another shallow depression was centred south east of the New Hebrides at the end of the month.

April

The weather was mainly fair to cloudy during the greater part of the month. The first week, though mainly fair, ended with a heavy downpour on the 7th and 8th, nearly half the rainfall for the month occurring in this period. The remaining rainfall was more evenly distributed, though the frequency of showers increased during the final week.

The total rainfall, 6.57 inches, falling on 16 days, was 3.48 inches less than normal. The mean temperature was 79.1°F.

A series of depressions occurred in a trough of low pressure extending from north of Fiji and Tonga to the Cook Islands. These were for the most part shallow. A deep depression was centred over Norfolk Island at the beginning of the month. This moved southwards, filling up. At the end of the first week a depression centred N.W. of the Cook Islands was associated with winds of gale force at Rarotonga and Aitutaki. At the end of the third week another deep depression moved southward over the same group which experienced winds of gale force again. This depression later moved westward and diminished in intensity.

May

The weather was mainly fair to fine over the first fortnight. The remainder of the month was showery.

There were 19 days on which rain was recorded and the total precipitation for the month, 8.79 inches, was 2.45 inches in excess of normal. The temperature varied between extremes of 87.4°F on the 15th and 71.1°F on the 8th.

The synoptic charts showed, generally, a gradient for easterly winds over the Pacific with high pressure to the south. There were only two deviations from these conditions. Firstly a deep depression which was centred slightly south west of the New Hebrides at the middle of the month moved in a south easterly direction over the north of New Zealand, being associated with winds of gale force. Secondly there was a shallow depression of large extent, which during the last week was centred south west of Samoa, when cloudy and showery conditions were experienced over a large area.

June

There were many unsettled days with showery conditions during June. A fair to fine period was experienced over the last week and notwithstanding the unsettled conditions at other times during the month an abnormally high total of sunshine was recorded.

There were 17 rain days: the total fall, 3.74 inches, being 1.37 inches less than normal. The total of 236 hours sunshine was 28 hours in excess of normal. The mean temperature was 79.0°F.

An extensive shallow depression which was centred north of Samoa at the beginning of the month gradually filled up. Another depression which was centred near the New Hebrides about the middle of June moved south-eastwards diminishing in intensity. The conditions over Tonga and the Cook Islands were affected by a shallow depression towards the end of the month. Depressions of varying intensity passed over New Zealand at intervals during June.

July

Fair to fine weather was experienced during July with a showery period in the second week. The total of 291 hours sunshine was the greatest ever recorded in Samoa for a single month. The mean temperature 79.8°F, was the highest that has been known for July in Samoa (records date back to 1890.) The total rainfall was 5.86 inches and exceeded the normal by 2.62 inches. There were 17 rain days.

On the 18th July the synoptic charts showed an extensive depression, which appeared to have two centres, covering an area including Fiji and Norfolk Island. This appeared to intensify as it moved south-easterly. Another depression which was centred over Norfolk Island on the 25th, moved southwards increasing in intensity and was associated with strong winds at Norfolk Island and in New Zealand.

August

Although a number of bright sunny days were experienced the weather was showery throughout August, especially during the latter part of the month. Wet and squally conditions obtained on the 26th, 27th and 28th.

There were 23 days on which rain was recorded and the total precipitation for the month, 5.26 inches, was 1.74 inches in excess of normal. The mean temperature was 78.7°F. Total sunshine recorded was 21 hours greater than normal.

During the greater part of the month the synoptic charts showed a general pressure gradient increasing from north to south which was associated with easterly winds at most of the south Pacific Islands. Northerly winds, associated with shallow depressions, were experienced at times in the Tongan group.

September

The weather of September was characterized by the amount of sunshine and the exceptional dryness. Several brilliant days with low relative humidity and remarkable visibility were experienced.

A total rainfall of 2.13 inches was recorded and although there were 8 rain days, by much the greater part, 1.63 inches, was recorded for the 9th. The total rainfall was 3.12 inches less than normal. A total of 298 hours of sunshine was recorded. This was the greatest duration of bright sunshine ever recorded for a single month in Samoa. The mean temperature was 79.0°F.

The synoptic charts showed the development of shallow depressions in a frontal zone which extended across Fiji and Tonga during the first few days of September. A fairly steady pressure gradient associated with easterly winds and high pressure to the south then developed and persisted until the 21st. During the following week conditions were similar to those experienced early in the month and several shallow depressions

developed near Fiji and Tonga.

October

The weather was generally fine and sunny except for showery periods durihg the second and last weeks. Several fine days with low relative humidity and abnormal visibility were experienced at the beginning of the month.

The total rainfall amounted to 8.04 inches and was recorded on 15 days at the Observatory. The temperature varied between extreme values of 86.7°F. on the 5th and 69.3°F. on the 5th. The lowest temperature recorded on the grass was 66.6°F on the 9th. The sunshine total was 68 hours in excess of normal. The minimum reading of relative humidity was as low as 41% on the afternoon of the fifth.

The synoptic charts generally showed a pressure gradient associated with easterly winds over the Pacific islands. There was a deviation from these conditions when a shallow depression N.W. of Samoa moved south at first and then in an E.S.E. direction. On the 20th another low moved along the front which extended from Fiji through Tonga to the Cook Islands.

November

Conditions were generally wet and unsettled during November whilst thunderstorms and heavy falls of rain were experienced at times. On the afternoon of the 28th a waterspout was observed to the north of Apia.

Rain fell on 29 days and the total of 33.35 inches is the greatest amount ever recorded for the month of November. The temperature varied between extreme values of 86.9°F on the 17th and 71.8°F on the 27th whilst the mean temperature 77.86 is the lowest November average since 1896. The sunshine total, which was 82 hours less than normal, is the lowest ever recorded for this particular month.

The synoptic charts show that a front persisted near Samoa during the first fortnight. On the 13th there was a trough of low pressure which extended from the Ellice Islands to the Cook Islands. A series of shallow low pressure systems moved along the front and later, on the 14th, the trough moved to the south of Samoa. On the 15th the trough existed from the Santa Cruz Islands to Tahiti but only the Tongan Islands were affected to any extent by the subsequent shallow

depressions. The trough gradually filled up but developed again on the 25th. By the 27th there were centres of low pressure west of Fiji and north of Vavau, the latter being associated with strong winds in the Tongan islands. These centres intensified and moved gradually eastward until the 30th when one of them, centred over the Cook islands, gave force 8 and 9 winds at Rarotonga and Aitutaki respectively.

December

The weather was wet and squally during the first three days but the remainder of the month was mainly sunny, although there were frequent light showers and a few heavier falls. There were eight days with lightning accompanied by thunder as well as three days with lightning only.

The rainfall which amounted to 20.94 inches was 6.38 inches in excess of normal. The temperature varied between extremes of 86.4°F on the 9th and 72.0°F on the 5th. During the month 237 hours of bright sunshine were recorded. This total is 64 hours in excess of the normal and is the highest ever recorded for the month of December.

A shallow depression was centred to the west of Samoa on the 2nd and moved gradually SSE over Tonga and Niue. On the 16th there were indications of a low pressure system near the Santa Cruz islands which gradually intensified and subsequently moved SSE. By 9 a.m. on the 20th it had developed into a tropical cyclone with its centre situated about 150 miles NW of Lautoka. The cyclone continued to move in a SSE direction and at 3 p.m. the pressure reading at Lautoka was 29.29 inches. At the same time there was a shallow secondary near Rotuma. On the 21st the cyclone, after passing Fiji, moved in a SE direction until it was WSW of Nukualofa where it gradually filled up. A shallow depression was centred between New Caledonia and New Hebrides on the 30th.

1,000/7/32—3911] APIA OBSERVATORY

METEOROLOGICAL OBSERVATIONS.

9 a.m. January 1938

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	St-Cu	A-Cu	Ci	4	6	3000		bcprlbc	bc	M	E	1	1008.1	28.0	25.3	79	29.7			
2	Cu	-	-	2	2	3500		bc b	b	M	E	2	1007.6	28.7	26.0	80	31.1			
3	Cu	-	-	1	1	3500		cprbcb	b	M	ESE	2	1007.6	28.8	25.7	77	30.1			
4	Cu	-	Ci	2	4	3500		bc b bc	bc	M	SE	1	1008.6	29.0	25.2	72	28.7			
5	Cu	-	-	1	1	3500		bc b	b	M	NE	1	1008.7	28.6	25.3	75	29.2			
6	Cu	-	Ci-Cu	1	2	3500		cr bc b	b	M	Calm	0	1007.4	28.3	24.9	75	28.4			
7	Cu	-	Ci-St	2	6	3500		cprbcc	bc	M	ESE	1	1006.1	28.7	24.8	71	27.9			
8	Cu	-	Ci-Cu	2	3	3500		cpr bc	b	M	NW	1	1006.2	28.8	25.1	73	28.5			
9	Cu	-	Ci	1	5	5000		bcblbc	bc	M	Calm	0	1007.7	28.6	25.2	75	28.9			
10	Cu	-	Ci-Cu	1	8	5000		bcwc	c	M	Calm	0	1007.2	28.5	24.0	67	25.9			
11	Cu	-	Ci-Cu	1	8	5000		cprbcc	c	M	NNW	1	1005.1	27.9	23.2	66	24.3			
12	Cu	-	Ci	1	2	3500		bc b	b	M	Calm	0	1004.7	28.4	24.5	71	27.2			
13	Cu	-	Ci	1	2	3500		bc b	b	M	WNW	1	1004.4	28.2	24.3	71	26.9			
14	Cu	-	Ci	1	2	3500		bc b	b	M	WNW	2	1003.8	28.6	25.2	75	28.9			
15	Cu	A-St	Ci-St	1	8	4000		cprbcc	c	M	ESE	1	1004.5	28.7	25.1	74	28.7			
16	Nb-St	-	-	10	10	2000		bccqror	orr	G	N	2	1008.4	25.0	24.6	97	30.4			
17	St-Cu	-	-	9	9	3000		orcprc	cpr	K	NNE	4	1009.1	27.5	25.8	87	31.5			
18	St-Cu	-	-	10	10	2500		ctlrcpr	cjr	K	S	1	1008.4	25.5	24.7	93	30.1			
19	Nb-St	-	-	10	10	3000		cqorr	orr/qr	G	W	5	1007.3	24.8	24.4	97	30.0			
20	St-Nb	A-St	-	8	10	3000		otlqrr	crr	K	SW	1	1007.5	24.8	23.4	88	27.3			
21	St-Cu	-	-	9	9	3000		cqpcpr	cjpr	K	SSW	1	1009.2	26.1	24.7	89	29.7			
22	Nb-St	-	-	9	9	3500		ctrRRr	crr	K	WSW	1	1010.9	23.2	21.8	88	24.7			
23	St-Cu	-	Ci-Cu	5	7	3000		cpr cbc	bc	M	E	2	1011.0	28.5	25.7	79	30.4			
24	Cu	-	Ci-Cu	4	7	3000		prlcw	bc	K	ESE	3	1010.3	28.5	25.1	75	28.8			
25	St-Cu	-	Ci	7	8	3000		cprc	cpr	M	ESE	3	1011.3	28.0	25.4	80	30.0			
26	St-Cu	-	-	8	8	3000		ctlcpr	cprt	M	ESE	3	1010.8	28.6	25.7	78	30.4			
27	Cu	-	Ci	1	1	2500		bclcbc	b	M	E	3	1009.6	28.4	25.1	75	28.9			
28	St-Cu	-	Ci	4	4	2500		bctlcpr	bc	M	NE	1	1007.6	26.7	25.0	86	30.0			
29	St-Cu	-	Ci-Cu	9	9	2500		olqRcpr	c	M	E	5	1008.7	27.3	24.2	76	27.3			
30	Nb-St	-	-	10	10	2500		cp or	oir	J	SSE	1	1009.9	25.1	23.8	89	28.1			
31	Cu	-	Ci	3	6	3000		cprlbc	bc	K	E	4	1009.2	29.2	25.8	75	30.1			
Means				4.5	6.0							1.7	1007.96	27.58	24.81	79	28.78			

1,000/7/32—3911] APIA OBSERVATORY

METEOROLOGICAL OBSERVATIONS.

3 p.m. January 1938

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	-	-	6	6	3000		bc	bc	M	E	2	1006.3	29.8	26.0	73	30.1			
2	Cu	-	-	3	3	3000		bc	bc	M	ENE	2	1005.5	30.1	26.5	74	31.3			
3	Cu	-	-	3	3	3500		b bc	bc	M	E	3	1005.7	30.6	26.6	72	31.2			
4	Cu	A-Cu	Ci	3	6	3500		bc cjp	bc	M	SSE	1	1006.6	29.8	25.8	71	29.6			
5	Nb-St	-	-	10	10	3000		bc cpr	ctr	H	SSE	2	1006.8	26.2	25.2	92	30.9			
6	St-Nb	-	Ci-St	8	8	2500		cprtc	ctr	M	SW	4	1005.6	28.2	25.5	79	30.1			
7	Nb-St	-	Ci-Cu	7	7	3500		bctcpr	bcjpr	M	Calm	0	1004.2	29.4	26.0	75	30.5			
8	Cu	-	Ci-St	4	5	2000		b bc	bc	M	WSW	2	1003.4	32.0	26.3	62	29.2			
9	Cu	-	Ci	5	9	2000		bc c	c	M	NE	3	1005.5	29.7	25.7	71	29.5			
10	Cu	-	Ci	2	7	4000		c bc	bc	M	ENE	2	1004.3	31.1	25.4	61	27.5			
11	Cu	-	Ci	2	4	2500		c bc	bc	M	NE	3	1002.8	29.7	25.5	69	28.9			
12	Cu	-	-	6	6	3000		b bc	bc	M	E	3	1002.3	30.6	25.4	64	27.9			
13	Cu	-	Ci	2	2	3500		b	b	M	WNW	4	1002.2	29.2	24.1	63	25.6			
14	St-Cu	-	-	6	6	3000		b bc	bcjpr	M	NW	4	1002.2	29.7	25.9	72	30.0			
15	Cu	A-St	Ci-St	2	6	2500		c bc	bc	M	NW	2	1003.5	28.8	26.0	79	31.1			
16	Nb-St	-	-	10	10	1000		orr	or	G	N	3	1007.6	26.5	25.0	88	30.1			
17	St-Cu	A-St	-	4	10	2500		cqrc	c	K	NNW	2	1006.9	28.6	25.5	77	29.7			
18	Nb-St	-	-	10	10	2500		crRR	cr/t	J	NE	1	1006.4	25.8	25.2	95	31.3			
19	St	A-St	-	4	10	2500		oqrcr	cr	J	SW	1	1006.2	25.5	23.8	86	27.9			
20	Nb-St	-	-	10	10	2500		opr	or	J	WNW	6	1006.4	26.0	24.5	88	29.2			
21	Nb	A-St	-	6	10	2500		coqrpr	cjr	J	Calm	0	1007.1	27.7	24.7	77	28.4			
22	St-Cu	A-St	-	6	8	3000		crrjprc	c	M	SE	2	1009.1	27.4	24.5	78	28.1			
23	Cu	-	Ci-St	5	6	4000		bc	bc	M	E	3	1008.1	30.5	26.8	74	31.9			
24	Cu	-	Ci	2	8	3000		bc c	c	M	E	4	1008.1	29.3	26.5	79	33.3			
25	Cu-Nb	-	Ci	3	6	2500		cprbcjp	bcjpr	M	E	2	1009.1	29.9	25.7	70	29.2			
26	Cu	-	Ci	2	4	2500		ctprbc	bc	M	E	3	1008.8	29.8	25.4	68	28.5			
27	Cu	-	-	2	2	3500		bc b	b	M	E	5	1006.0	29.8	26.7	77	32.1			
28	Cu	-	Ci	4	4	3000		bcjpr	bcjpr	M	E	4	1005.7	29.8	26.4	75	31.3			
29	St-Cu	-	Ci-St	7	9	2000		cpr	c	M	E	3	1006.9	28.0	24.7	75	28.1			
30	St-Cu	-	Ci-St	4	9	1200		ir c	c	M	E	3	1007.8	27.7	24.2	74	27.1			
31	Cu	-	Ci	2	2	3000		b jpr	b	K	E	4	1007.7	30.7	27.2	75	32.9			
Means				4.8	6.7							2.7	1005.96	28.96	25.57	75	29.76			

METEOROLOGICAL OBSERVATIONS

January 1938

Day of Month	Thermometers: Maximum (°C)	Minimum (°C)	Grass Minimum (°C)	Black Bulb in vacuo (°)	Rainfall (mm.)	Sunshine (hours)	Heat Integrator	Evaporimeter (mm.)
1	30.1	24.0	22.9		0.2	9.0		2.4
2	30.7	24.7	23.1		4.8	10.8		2.4
3	30.8	24.4	23.2		-	10.1		2.6
4	31.2	24.4	23.1		-	7.7		2.4
5	30.8	24.4	23.2		10.2	5.2		1.5
6	29.8	24.3	22.9		5.5	7.3		1.7
7	30.2	24.3	22.9		0.7	7.3		2.0
8	32.0	25.0	22.9		-	11.4		3.4
9	29.8	24.7	22.5		-	8.8		2.7
10	31.0	24.4	22.0		0.7	10.9		3.2
11	31.3	23.8	20.7		-	11.3		3.0
12	31.8	24.1	21.2		-	10.2		3.0
13	30.1	23.4	21.3		-	11.7		3.3
14	30.0	24.9	23.3		2.1	8.2		2.4
15	29.6	23.0	21.6		71.9	9.5		1.9
16	27.6	24.6	23.8		29.0	0.0		0.2
17	29.2	24.1	22.8		28.9	0.1		0.2
18	28.7	24.8	24.1		79.8	0.0		?
19	27.5	24.4	23.7		51.0	0.0		0.0
20	27.9	23.7	22.7		10.9	0.0		0.1
21	28.6	23.7	22.9		94.0	0.1		?
22	28.9	22.8	21.9		0.2	2.9		1.4
23	30.6	23.2	22.0		-	11.5		2.4
24	30.1	23.7	22.4		11.0	7.5		1.0
25	30.1	24.2	23.3		-	9.1		2.2
26	30.8	26.2	24.5		9.2	7.8		1.8
27	30.2	24.3	22.6		3.2	11.9		2.9
28	30.1	24.4	23.0		56.5	7.6		1.3
29	29.4	23.3	22.4		30.0	2.4		1.5
30	29.3	23.1	22.4		7.0	0.0		0.6
31	30.9	24.7	22.8		17.4	10.4		? 4
Sum					524.2	210.7		?
Mean	29.97	24.16	22.71					

1,000/7/32—3911]

APIA OBSERVATORY

METEOROLOGICAL OBSERVATIONS.

9 a.m. February, 1938

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	St-Cu	A-St	-	9	10	2500		clrqpr	cjpr	K	ESE	5	1011.0	28.1	25.6	81	30.5			
2	Cu-Nb	A-St	-	3	10	3000		ctlqr	c	K	SE	2	1012.2	24.2	23.0	90	26.9			
3	Cu	-	Ci -St	2	8	3000		cl bc c	c	K	ESE	5	1010.0	28.6	24.6	70	27.3			
4	Cu	-	Ci	2	3	3000		cprlbc	bc	M	E	2	1010.4	28.0	25.0	77	28.9			
5	Cu	-	-	3	3	3500		bccprb	bc	M	ESE	3	1010.2	28.3	25.3	77	29.5			
6	Cu	-	Ci	2	2	4500		prcbcb	b	M	E	2	1008.9	28.1	25.0	77	28.8			
7	St-Cu	A-St	-	6	8	3000		prcjpr	cpr	M	NE	4	1010.3	26.0	24.0	84	27.9			
8	Cu	A-St	Ci	1	3	3000		cprlbc	bc	M	ESE	2	1010.6	28.0	24.3	72	27.1			
9	Cu	A-Cu	Ci-Cu	2	9	3500		cprbcc	c	M	E	2	1010.0	28.0	25.0	77	28.9			
10	Cu	-	Ci-St	2	2	3000		cprbcb	b	M	E	3	1008.6	29.0	25.7	76	30.0			
11	Cu	-	Ci	5	5	3000		otlRcpr	bc	M	E	3	1008.7	27.3	24.6	79	28.4			
12	Cu	-	Ci	2	3	3500		cprlbbc	bc	M	Calm	0	1007.6	27.4	23.5	70	25.5			
13	Cu	-	Ci	2	4	3500		prlbbc	bc	M	E	1	1006.2	27.8	25.2	80	29.6			
14	Cu-Nb	-	-	8	8	3000		clprc	cjpr	K	Calm	0	1006.1	27.0	24.7	82	28.9			
15	Cu-Nb	-	Ci-Cu	5	6	2500		cpr bc	bc	M	Calm	0	1006.6	28.2	25.6	80	30.4			
16	Cu	-	Ci	4	6	2500		cpr bc	bc	M	NW	2	1007.6	27.5	25.0	80	29.3			
17	Cu	-	Ci	2	8	4000		bc c	c	M	Calm	0	1008.7	27.4	23.7	72	26.0			
18	Cu	-	-	1	1	3500		bc b	b	M	Calm	0	1007.1	27.3	23.0	68	24.3			
19	Cu	A-St	Ci	1	9	5000		bc c	c	M	SW	1	1006.5	26.0	23.5	80	26.7			
20	Cu	A-Cu	-	1	7	3500		cptrrbc	bc	M	ESE	1	1006.6	27.9	24.4	73	27.5			
21	Cu-Nb	-	Ci	3	5	4000		cjpr bc	bcjr	M	ENE	3	1005.8	28.0	25.3	79	29.7			
22	Cu-Nb	A-St	-	5	9	2500		cpr c	cjpr	K	SE	1	1006.1	27.7	25.7	84	31.1			
23	Nb-St	-	-	10	10	2000		ctrr	rr	H	S	1	1007.0	25.8	25.2	95	31.3			
24	St-Cu	-	-	9	9	2000		crcpr	cpr	J	WSW	1	1009.3	26.7	25.7	92	31.9			
25	Nb-St	-	-	10	10	2000		cltrcjr	cr/cpr	K	SSW	2	1010.6	26.0	25.0	92	30.5			
26	St-Cu	A-Cu	Ci	2	8	4000		cprtc	c	M	SW	1	1008.8	28.0	25.6	82	30.5			
27	St-Cu	A-St	Ci-St	2	9	3000		coRtbc	c	M	Calm	0	1009.6	26.5	25.0	88	30.1			
28	St	A-Cu	Ci-St	3	8	4000		cltcpr	c	M	Calm	0	1011.3	26.5	24.7	85	29.3			
29																				
30																				
31																				
Means	-	-	-	3.8	6.5	3200		-	-	-	-	1.7	1008.7	27.33	24.75	80.1	28.81			

1,000/7/32—3911] APIA OBSERVATORY

METEOROLOGICAL OBSERVATIONS.

3 p.m. February, 1938

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-St	4	9	3500		cprtqrc	c	K	E	5	1009.4	29.5	26.0	74	30.4			
2	St	A-St	Ci-St	2	9	2500		cqrtc	c	K	ESE	3	1009.9	26.4	24.0	81	27.6			
3	Cu	-	Ci	2	4	3500		cbcjpr	bcjpr	K	E	5	1008.1	30.2	26.7	75	31.9			
4	Cu	-	Ci	2	4	3000		bc	bc	M	E	3	1008.0	29.7	25.8	72	29.7			
5	Cu	-	-	5	5	3500		bcprbc	bcjpr	M	E	3	1008.4	29.4	25.9	74	30.3			
6	Cu	A-St	-	4	5	4000		b bc	bc	M	E	2	1006.9	29.7	25.5	69	28.9			
7	St-Cu	A-St	-	7	10	2500		cprjpr	cjpr	M	W	1	1008.1	25.7	23.5	82	26.9			
8	St-Cu	A-Cu	Ci	2	7	3000		bc	bc	M	ESE	2	1008.0	29.1	25.2	71	28.5			
9	St-Cu	-	Ci	9	9	3000		tc	c	M	E	3	1007.7	28.8	25.1	73	28.5			
10	Cu-Nb.	-	Ci	3	5	3000		btbcjpr	bcjpr	M	E	5	1006.2	29.5	26.1	75	30.7			
11	Cu-Nb	-	Ci	3	4	2500		cprbc	bcjpr	M	E	3	1006.0	29.0	25.1	71	28.4			
12	Cu	-	Ci	6	7	2500		bc	cjr	M	E	4	1004.6	29.5	26.0	74	30.4			
13	St-Cu	-	Ci	8	9	800		bcc	c	M	Calm	0	1004.0	28.1	25.6	81	30.5			
14	St-Cu	A-Cu	-	7	8	2500		cpr	c	M	N	1	1004.7	28.2	24.6	73	27.7			
15	Nb-St	-	Ci	9	9	2000		bcprcjp	cjr	K	NNW	4	1005.1	27.8	26.0	87	31.9			
16	St-Cu	-	Ci	7	7	3000		cprbc	bc	M	S	1	1005.5	30.6	26.8	73	31.7			
17	Cu	-	Ci	4	5	3000		cjpbcpr	bc	M	E	3	1005.7	30.3	25.2	64	27.6			
18	Cu	-	-	2	2	3500		b	by	M	NE	2	1004.5	30.0	23.4	55	23.1			
19	Nb-St	A-St	-	7	9	3000		cjpr	cjpr	M	SSW	2	1004.7	27.5	24.5	77	28.0			
20	Cu	-	Ci-St	8	9	2000		bc cpr	cjr	M	ENE	2	1004.7	28.9	24.9	71	27.9			
21	Cu-Nb	-	-	10	10	2500		cpr	cjpr	K	SSW	3	1005.3	26.1	23.3	78	26.0			
22	Cu	A-St	Ci-St	3	10	2500		cjpr	cpr	M	NNW	1	1004.2	28.4	25.7	80	30.5			
23	St-Cu	A-St	-	7	10	2000		cprq	cpr	J	NW	5	1005.1	28.2	26.3	85	32.4			
24	St-Cu	A-St	-	7	10	2000		cprc	c	K	NNW	2	1007.0	27.5	25.2	82	29.9			
25	St-Cu	A-St	-	8	10	3000		tcpr	cpr	M	SW	1	1009.5	25.8	24.2	87	28.7			
26	St-Cu	A-St	-	5	9	2500		cprc	c	M	WNW	3	1007.0	26.7	24.5	83	28.7			
27	Nb-St	A-Cu	Ci-St	6	9	2500		c	cjpr	K	NW	4	1007.8	28.7	26.3	82	31.9			
28	St-Cu	-	-	9	9	2000		cpr	cjr	K	Calm	0	1009.9	27.9	24.9	77	28.8			
29																				
30																				
31																				
Means	-	-	-	5.6	7.6	2700		-	-	-	-	2.6	1006.6	28.47	25.23	76	29.20			

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METEOROLOGICAL OBSERVATIONS

February 1938

Day of Month	Thermometers: Maximum (°C)	Minimum (°C)	Grass Minimum (°C)	Black Bulb In vacuo (°)	Rainfall (mm.)	Sunshine (hours)	Heat Integrator	Evaporimeter (mm.)
1	29.4	24.9	23.8		57.0	0.3		?
2	28.8	23.4	22.8		12.4	0.0		1.9
3	30.2	24.1	23.0		19.5	11.0		2.1
4	30.2	23.7	22.2		7.0	10.3		2.4
5	30.2	24.8	23.1		1.5	8.4		2.3
6	30.3	24.2	22.9		15.5	7.9		2.1
7	28.1	23.3	22.2		3.9	0.4		1.3
8	30.0	23.5	22.0		trace	9.6		2.5
9	30.6	23.9	22.8		0.5	6.5		2.6
10	30.6	23.9	22.6		37.4	8.9		1.8
11	30.2	22.5	22.0		1.1	8.4		2.8
12	30.5	83.6	22.0		1.3	9.5		2.2
13	29.2	23.6	22.3		23.8	7.2		1.3
14	28.7	23.7	22.7		14.0	2.4		1.2
15	29.4	24.5	23.5		trace	4.1		1.3
16	31.7	23.9	22.5		0.8	6.8		2.0
17	30.6	23.6	22.0		-	9.9		2.5
18	30.1	23.0	19.8		-	11.4		3.4
19	30.8	23.3	21.6		5.0	2.9		1.8
20	29.9	23.2	22.0		-	7.9		2.1
21	28.5	23.8	22.0		8.3	2.4		1.4
22	29.1	24.9	23.9		25.1	0.0		1.8
23	29.2	24.9	23.9		11.5	0.3		0.3
24	27.8	24.9	24.0		16.4	0.0		0.6
25	28.1	24.8	23.7		26.0	0.0		0.5
26	29.0	23.7	22.5		21.4	2.0		1.3
27	29.1	24.1	23.5		18.9	2.9		1.4
28	28.8	24.0	23.3		10.9	0.6		1.5
29								
30								
31								
Sum					339.2	142.0		48.4
Mean	29.61	23.92	22.66					1.8

1,000/7/32—3911] APIA OBSERVATORY

METEOROLOGICAL OBSERVATIONS. 9 a.m. March 1938

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	St-Cu	A-St	Ci	6	9	2500		cpr	c	M	SSW	1	1012.7	26.7	25.2	88	30.5			
2	St-Cu	-	Ci	8	9	2000		cpr c	cjr	M	NE	5	1012.5	28.1	25.2	78	29.3			
3	St	A-St	-	6	9	2500		cpr c	c	M	NE	3	1013.4	28.2	25.2	77	29.3			
4	St-Cu	-	Ci-St	5	7	3000		cprcbc	bcjpr	K	ESE	2	1014.3	28.5	25.5	77	29.9			
5	Cu	-	Ci	2	5	3500		bc b	bc	M	E	4	1012.2	28.8	25.2	73	28.8			
6	Cu	-	Ci	4	5	3000		bc	bc	M	Calm	0	1009.6	27.6	24.1	74	26.9			
7	Cu	-	Ci	3	5	3000		bcbbc	bc	M	NW	2	1007.3	27.8	24.6	76	28.0			
8	St-Cu	-	Ci	3	3	3000		c bc	bc	M	ENE	2	1007.4	28.1	23.2	65	24.1			
9	Cu	-	Ci	0	1	5000		bcwb	b	M	Calm	0	1010.4	25.6	20.9	64	20.7			
10	Cu	-	Ci	1	2	4000		bc b	b	M	Calm	0	1009.8	27.7	23.7	70	25.7			
11	Cu	A-Cu	Ci	1	2	4000		cbcb	b	M	Calm	0	1009.6	27.4	23.0	67	24.3			
12	Cu	-	Ci	1	2	3500		cbcb	b	M	ESE	1	1009.8	27.7	23.9	71	26.3			
13	St-Cu	-	-	9	9	5500		prcjprc	c	M	E	1	1011.2	26.8	23.8	77	26.8			
14	St-Cu	-	Ci	4	7	3000		cbbc	bc	M	ESE	3	1011.6	28.9	23.6	62	24.5			
15	Cu	A-Cu	Ci	3	5	3000		cbc	bc	K	ESE	3	1011.2	28.8	25.0	72	28.3			
16	St-Cu	-	-	5	5	3000		cbc	bc	M	ESE	1	1010.5	27.9	24.6	75	28.0			
17	St-Cu	-	-	7	7	3000		bcbbc	cpr	K	E	2	1010.8	26.6	23.6	77	26.4			
18	St-Cu	A-Cu	-	5	6	3000		cprbc	bc	M	SE	3	1010.2	27.8	24.3	73	27.2			
19	Cu-Nb	A-St	-	6	9	2000		cptlrr	ct/rr	H	S	2	1011.7	23.5	22.8	94	27.1			
20	Cu	-	Ci	4	6	3000		cpr c	bc	M	ESE	1	1010.7	28.0	23.4	66	24.8			
21	Cu	A-St	-	1	8	4000		ctlcbc	c	M	ESE	4	1008.8	28.3	24.7	73	27.9			
22	Cu	A-St	-	4	9	3000		lbcc	c	M	E	3	1009.0	28.8	25.2	73	28.7			
23	St-Cu	-	Ci-Cu	6	7	3000		tlRbc	bcjr	M	ESE	2	1009.4	27.1	24.7	81	28.9			
24	St-Cu	A-St	-	9	10	2000		crtlc	cpr	H	E	1	1010.2	26.8	25.2	87	30.4			
25	St-Cu	-	Ci-St	8	9	2500		clbcc	cjpr	K	ESE	2	1010.2	28.0	25.0	77	28.9			
26	St-Cu	A-St	-	8	9	2000		ctlRr	cpr	M	Calm	0	1010.4	25.1	24.1	92	28.9			
27	St-Cu	-	Ci	8	9	2000		bc cpr	cjr	J	E	4	1008.9	28.5	25.9	80	30.9			
28	Cu-Nb	A-St	-	6	6	2000		cltrbc	bcjpr	K	ESE	1	1010.8	28.9	25.7	76	30.1			
29	Cu	-	Ci	3	4	3500		cprbc	bc	M	SE	2	1012.3	26.8	25.2	87	30.4			
30	Cu	-	Ci-St	1	3	4000		c bc	bc	M	ESE	1	1012.5	28.6	25.3	75	29.2			
31	Cu	-	Ci-St	1	3	4000		bc c bc	bc	M	E	1	1012.7	28.1	24.3	71	26.9			
Means				4.5	6.1	3000						1.8	1010.7	27.6	24.4	76	27.7			

1,000/7/32—3911] APIA OBSERVATORY

METEOROLOGICAL OBSERVATIONS. 3 p.m. March 1938

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	St-Cu	-	-	9	9	3000		cqcpr	c	M	NW	3	1010.3	27.0	24.8	83	29.2			
2	Cu-Nb	-	-	9	9	2500		bc c	cjpr	K	N	5	1010.9	28.8	25.3	74	29.1			
3	Cu	A-Cu	Ci	5	9	2500		c	c	K	NE	3	1011.9	29.7	25.6	70	29.2			
4	Cu	-	F-Ci	2	7	3000		bc	bc	M	E	4	1011.7	30.1	25.9	70	29.6			
5	Cu	-	Ci	2	3	3500		bc	bc	M	E	6	1009.5	29.7	25.9	72	30.0			
6	Cu	A-St	-	6	6	4000		bc	bc	M	N	3	1006.6	29.0	25.2	72	28.7			
7	Cu-Nb	-	Ci	5	7	3000		bcjpr	bcjpr	M	SSW	3	1005.0	29.8	24.8	65	26.9			
8	St-Cu	-	F-Ci	6	7	3500		bcy	bcy	K	Calm	0	1006.1	28.8	24.0	65	25.6			
9	Cu	-	Ci	3	4	3000		by	by	M	N	2	1007.7	28.4	23.0	61	23.5			
10	Cu-Nb	-	Ci	5	6	2000		bc	bcjpr	M	N	2	1007.5	28.4	23.7	66	25.2			
11	St-Cu	-	-	8	8	4000		bccjpr	cjpr	M	SE	2	1007.4	26.8	24.0	78	27.3			
12	Nb-St	-	-	9	9	3000		b bc c	cjr	M	S	4	1008.2	26.6	23.6	77	26.4			
13	Cu	A-St	-	6	9	2500		c bc	c	M	E	4	1008.8	29.1	24.6	67	26.9			
14	St-Cu	-	Ci	6	7	3000		bc	bc	M	E	6	1009.6	29.0	24.4	67	26.5			
15	St-Cu	A-St	Ci	5	6	3000		cpr	bc	M	E	4	1009.2	28.5	24.7	72	27.7			
16	Cu-Nb	-	Ci	3	7	3000		bcjpr	bcjpr	K	ESE	3	1008.5	29.7	25.2	67	28.0			
17	Nb-St	-	Ci-Cu	7	8	3000		cjrbc	cpr	J	ESE	6	1008.0	29.6	25.7	72	29.5			
18	St-Cu	-	F-Ci	4	5	3000		bccpr	bcjpr	K	ESE	2	1008.1	29.0	25.4	74	29.2			
19	Cu-Nb	A-St	-	7	9	2000		ctlpr	tlr	M	SE	3	1009.5	23.6	22.4	90	25.9			
20	Cu-Nb	A-Cu	Ci-St	3	8	3500		c	c	M	E	4	1007.7	29.4	24.9	67	27.5			
21	Cu	-	Ci-St	2	8	3000		c	c	M	E	3	1006.3	29.2	24.8	68	27.3			
22	Cu	A-St	-	1	9	3000		ctqprc	c	M	ESE	3	1006.6	28.6	24.8	72	27.9			
23	Cu-Nb	A-St	-	3	10	2500		ctprq	ctpr	K	SSE	2	1008.3	24.4	23.0	88	26.7			
24	Cu-Nb	-	Ci-St	2	8	3000		ctprjpr	cjpr	K	E	4	1008.0	28.6	24.7	71	27.6			
25	Cu-Nb	-	Ci-St	2	9	3000		cqprtc	c	M	E	4	1007.9	28.8	25.6	76	29.9			
26	Cu	A-St	Ci	2	6	3000		bc	bcjpr	M	E	5	1006.8	28.9	25.8	77	30.4			
27	Nb-St	-	-	10	10	1000		cprc	cqr	F	NNE	4	1007.0	26.6	24.4	83	28.5			
28	St-Cu	A-St	Ci-St	7	9	2000		cqrcjr	cjpr	K	W	2	1009.7	25.6	23.8	85	27.7			
29	Cu	-	Ci	3	5	3000		bcjpr	bcjpr	M	NNE	3	1010.0	27.3	24.8	80	28.9			
30	Cu	-	Ci-St	2	5	3000		bc	bc	M	ENE	2	1011.2	29.8	25.7	70	29.3			
31	Cu	-	Ci	2	3	3500		bc	bc	M	ENE	2	1008.7	29.8	25.8	71	29.6			
Means				4.7	7.3	3000						3.3	1008.5	28.3	24.7	73	27.9			

METEOROLOGICAL OBSERVATIONS.

March 1938

Day of Month.	Thermometers. Maximum (°C)	Minimum (°C)	Grass Minimum (°C)	Black Bulb in vacuo (°)	Rainfall (mm.)	Sunshine (hrs.)	Heat Integrator.	Evaporimeter. (mm.)
1	28.3	24.3	23.5		3.5	0.9		2.2
2	29.3	23.5	22.9		2.3	2.7		4.2
3	30.2	26.0	26.6		0.3	5.1		3.0
4	30.6	24.8	23.5		-	7.6		2.6
5	30.3	23.3	21.4		-	11.3		3.2
6	30.1	22.9	21.0		-	10.6		2.7
7	30.7	23.7	21.5		0.4	7.3		2.2
8	30.4	24.3	22.3		-	8.9		3.3
9	29.4	21.4	18.3		-	9.9		3.0
10	28.8	23.3	21.6		-	8.7		2.6
11	30.3	23.2	21.5		trace	6.4		2.4
12	30.1	23.2	21.5		-	6.7		2.4
13	30.3	23.8	22.4		-	3.9		3.0
14	30.5	23.6	21.8		19.7	9.0		3.2
15	30.2	22.6	21.6		trace	8.2		2.5
16	30.1	22.9	21.4		trace	5.9		2.2
17	30.0	22.7	21.1		2.3	6.6		3.0
18	30.1	24.6	22.6		18.1	5.7		2.5
19	30.0	23.5	22.6		15.6	1.5		0.9
20	30.0	22.2	21.6		-	6.9		2.6
21	30.2	22.6	21.3		-	7.9		2.9
22	29.0	23.0	21.8		49.5	2.1		0.2
23	28.2	22.7	21.8		28.6	0.6		1.3
24	28.8	22.6	22.3		3.9	1.4		3.0
25	29.2	24.2	22.8		47.0	1.9		1.1
26	30.3	23.2	22.4		trace	5.3		2.2
27	29.0	24.8	24.2		28.2	1.8		0.4
28	29.2	23.7	22.7		54.8	1.4		0.2
29	29.9	23.1	21.9		trace	8.6		2.2
30	30.1	23.7	22.8		-	10.6		2.8
31	30.1	23.4	22.4		-	10.5		2.5
Sum	-	-	-		274.2	185.9		72.5
Mean	29.8	23.5	22.2		-	-		2.3

1,000/7/32—3911] APIA OBSERVATORY

METEOROLOGICAL OBSERVATIONS. 9 a.m. April 1938

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	St-Cu	-	Ci	2	3	3000		c bc	bc	M	Calm	0	1010.8	28.2	25.4	79	29.9			
2	St-Cu	A-St	-	5	10	2000		cpr	c	M	SW	1	1011.8	26.1	24.6	88	29.5			
3	Cu	-	Ci	4	8	3000		bc	c	M	ENE	1	1012.2	27.8	25.3	80	29.9			
4	Cu	-	Ci	3	3	3000		cpr bc	bc	M	Calm	0	1010.4	28.2	24.6	73	27.7			
5	Cu	A-St	Ci	2	2	3000		b	b	M	Calm	0	1009.4	27.8	24.3	73	27.2			
6	Cu	-	Ci-St	1	4	4500		cpr.bc	bc	M	W	1	1007.7	27.6	23.6	70	25.6			
7	Cu	-	Ci	1	2	3000		b	b	M	Calm	0	1008.1	28.0	24.3	72	27.1			
8	St-Cu	A-Cu	Ci	5	8	3000		cRRcpr	c	M	SE	1	1011.3	26.2	24.6	87	29.3			
9	St-Cu	A-St	Ci-St	5	9	4000		crcprc	c	M	Calm	0	1011.8	26.9	25.3	87	30.7			
10	St-Cu	-	Ci	6	7	3000		bc c bc	bc	L	SE	1	1011.6	27.8	24.8	77	28.5			
11	Cu	-	Ci-St	2	3	4000		t bc	bc	M	ESE	2	1011.8	28.7	25.3	75	29.2			
12	St-Cu	-	-	7	7	3000		lcpr.bc	bc	K	E	3	1013.1	25.6	24.0	87	28.3			
13	Cu	A-Cu	Ci	7	7	3000		tlcprbc	bc	M	ESE	4	1013.6	29.2	26.5	80	32.1			
14	St-Cu	A-St	-	7	9	4000		l bc c	c	M	S	1	1014.0	26.1	24.5	87	29.2			
15	St-Cu	-	-	9	9	2000		bclcpr	cpr	K	ENE	1	1012.9	25.8	24.8	92	30.3			
16	Nb-St	-	Ci	7	8	2000		prbcltc	cjr/t	M	Calm	0	1011.3	25.0	23.9	91	28.5			
17	Cu	-	Ci	2	4	2500		cprbc	bc	M	Calm	0	1012.1	27.3	24.5	78	28.1			
18	Cu	-	-	4	4	3500		b bc jr	bcjpr	M	E	3	1011.4	28.2	24.6	73	27.7			
19	Cu	-	-	2	2	3000		bc b	b	M	Calm	0	1010.7	27.8	24.5	75	27.7			
20	Cu	-	-	5	5	3000		bclbbc	bc	M	Calm	0	1009.3	27.6	24.7	78	28.4			
21	Cu	-	-	3	3	2500		c bc	bc	M	SSW	1	1007.9	26.9	24.4	80	28.3			
22	St-Cu	-	Ci-Cu	7	8	3000		cpr.lbc	c	M	Calm	0	1009.9	26.9	24.6	82	28.8			
23	Cu	-	Ci	2	2	3500		cbcb	b	M	ESE	1	1011.6	27.6	23.9	72	26.3			
24	St-Cu	-	-	7	7	3000		cbcbbc	bc	M	SE	2	1011.0	27.7	25.3	81	30.0			
25	Cu	A-Cu	Ci	1	5	3500		bcnrlbc	bc	M	SE	1	1011.4	28.3	25.0	75	28.7			
26	Cu	-	Ci	1	1	3500		tlbcb	b	M	E	1	1010.8	28.7	25.0	72	28.4			
27	St-Cu	-	-	2	2	3000		b bc b	b	M	ESE	1	1011.8	28.1	25.3	79	29.7			
28	Cu	-	-	2	2	3000		cpr.bcb	b	M	Calm	0	1011.0	27.3	24.4	77	27.9			
29	Cu	-	-	1	1	3500		cprbc	b	M	Calm	0	1009.3	27.0	25.0	84	29.7			
30	St-Cu	A-St	Ci	3	9	4000		c bc	c	M	S	1	1009.8	25.6	23.9	86	28.0			
31																				
Means				3.8	5.1	3000						0.9	1011.0	27.3	24.7	80	28.7			

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1,000/7/38—3911] APIA OBSERVATORY

METEOROLOGICAL OBSERVATIONS.

3 p.m. April 1938

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	St-Cu	-	Ci	7	8	2500		bc	cjr	M	E	3	1008.4	29.8	25.0	66	27.5			
2	St	A-St	Ci-Cu	4	6	2500		cbcjpr	bcjpr	M	NE	1	1009.5	28.9	25.6	76	29.9			
3	Cu-Nb	A-St	Ci	5	8	2000		bc	c	M	ENE	1	1009.7	28.8	25.3	74	29.1			
4	Cu-Nb	-	Ci	6	6	3000		bcpr$_o$jpr	bcjpr	M	NNE	3	1007.3	28.8	25.1	73	28.5			
5	Cu	A-St	Ci	4	4	2500		b	bc	M	WNW	4	1005.8	29.9	25.0	65	27.3			
6	Cu	-	Ci-St	5	6	3000		bcbbc	bc	M	NW	4	1004.6	29.0	24.3	66	26.3			
7	Cu	-	Ci	2	4	3000		b bc	bc	M	N	1	1006.0	28.7	24.8	71	27.9			
8	Nb-St	-	-	10	10	2000		coqrr	orr/q	H	NNW	4	1009.7	25.3	23.8	88	28.0			
9	Cu	A-St	Ci-St	2	7	4000		c bc c	bc	M	NNW	1	1009.4	28.7	24.7	70	27.6			
10	Cu	-	-	7	7	3000		cpr$_o$bc	bc	M	E	1	1009.6	28.7	25.1	74	28.7			
11	Cu	A-St	Ci	2	9	3500		bc ct	c/t	M	S	1	1009.9	28.3	25.4	78	29.7			
12	Cu	-	Ci	1	6	3500		tcqprbc	bc	M	ESE	3	1010.4	28.5	25.4	77	29.6			
13	St-Cu	-	Ci	4	6	2500		bccprc	bc	M	E	4	1012.0	29.0	26.0	78	30.8			
14	St-Cu	-	Ci	7	9	3000		bccprc	c	M	ESE	4	1011.0	28.1	24.8	75	28.3			
15	Nb-St	-	Ci	8	8	2000		c bc	cpr	K	E	4	1009.7	26.1	24.6	88	29.5			
16	Cu	A-St	-	3	10	1000		ltcprc	o	M	Calm	0	1010.0	26.8	24.2	80	27.7			
17	Nb-St	-	-	6	6	1000		bc	pr$_o$	M	SSW	2	1009.9	26.5	24.4	83	28.5			
18	Cu	-	Ci-St	5	6	2000		bc	bct	M	NE	1	1009.0	28.3	25.2	76	29.2			
19	Cu-Nb	-	Ci	4	7	3000		bbcjpr	bcjpr	M	N	2	1007.6	28.6	25.2	75	28.9			
20	Nb-St	-	Ci	9	9	2000		bccprc	cpr	K	WNW	3	1006.3	27.2	25.3	85	30.4			
21	Nb-St	-	Ci	8	8	2500		bccprbc	bcjpr	M	NE	2	1005.8	28.4	25.0	75	28.5			
22	Cu	A-St	Ci	2	4	3000		bc	bc	M	E	5	1008.2	29.0	25.0	71	28.1			
23	Cu	A-St	Ci-St	8	9	4000		b bc	c	M	E	4	1008.7	29.0	24.7	69	27.3			
24	Cu	-	Ci-St	4	5	2000		bc	bc	M	ENE	2	1007.7	29.9	25.8	70	29.5			
25	Cu-Nb	-	Ci	5	7	1000		bc	bcjpr	M	ENE	2	1008.3	29.6	26.1	75	30.7			
26	Cu	-	-	4	4	3000		crrbc	bc	M	E	2	1008.8	29.7	26.0	73	30.3			
27	Cu	A-St	Ci	4	6	3000		bc	bc	M	E	4	1009.3	28.7	26.0	80	31.1			
28	Cu-Nb	-	Ci	5	6	2500		bc	cjpr	M	E	3	1007.9	29.0	25.3	73	28.9			
29	Nb-St	-	-	9	9	3000		bc cpr	cpr	M	SSE	3	1007.0	25.3	24.2	91	29.1			
30	Cu	A-St	Ci	5	9	2000		ct	cjpr	M	NW	3	1007.3	28.4	25.0	75	28.5			
31																				
Means				5.2	7.0	2500						2.6	1008.5	28.4	25.1	76	28.9			

METEOROLOGICAL OBSERVATIONS.

April 1938

Day of Month.	Thermometers.				Rainfall (mm.)	Sunshine (hrs.)	Heat Integrator.	Evaporimeter. (mm.)
	Maximum (°C)	Minimum (°C)	Grass Minimum (°C)	Black Bulb in vacuo (°)				
1	30.1	23.9	22.6		14.1	7.4		2.1
2	29.7	24.2	22.5		-	3.5		1.9
3	30.7	23.0	21.7		5.2	4.4		1.8
4	29.5	23.5	21.8		-	9.0		2.3
5	30.9	23.4	22.5		trace	11.2		3.0
6	29.7	23.4	21.9		-	9.9		3.0
7	29.1	23.3	21.9		77.2	10.3		1.6
8	28.7	22.7	21.9		22.7	2.1		0.6
9	29.8	23.7	22.6		-	6.8		1.9
10	30.3	23.9	23.3		trace	6.3		2.4
11	30.0	23.3	21.9		trace	6.1		2.1
12	30.7	23.7	22.2		1.5	5.8		2.6
13	30.3	25.3	24.2		0.6	-		2.5
14	30.1	24.3	23.1		8.0	3.9		1.9
15	29.6	24.3	22.0		5.8	3.8		1.1
16	27.7	23.5	22.3		2.0	1.1		1.4
17	28.6	23.1	21.3		trace	8.7		1.8
18	29.3	23.8	22.6		-	9.2		2.0
19	29.1	23.7	22.3		-	8.6		1.7
20	28.9	23.6	22.3		1.8	6.1		1.4
21	29.7	23.7	21.9		1.5	6.5		1.4
22	30.1	23.1	21.6		-	8.5		3.0
23	29.8	23.4	21.7		-	8.7		2.8
24	30.1	24.2	23.2		trace	7.0		2.1
25	30.1	24.0	23.0		-	8.7		2.0
26	30.0	23.9	22.8		14.7	7.3		1.7
27	30.1	23.6	22.5		1.3	9.0		2.2
28	30.2	23.4	22.2		2.9	7.5		2.1
29	29.2	23.4	22.1		4.8	9.6		1.8
30	28.8	23.7	22.0		2.9	5.5		1.8
31								
Sum	-	-	-		167.0	202.5		60.0
Mean	29.7	23.7	22.3		-	7.0		2.0

1,000/7/32—5911] APIA OBSERVATORY

METEOROLOGICAL OBSERVATIONS. 9 a.m. May 1938

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	St-Cu	A-St	Ci	3	8	3000		bccprbc	c	M	Calm	0	1010.1	27.2	25.0	83	29.6			
2	St-Cu	-	Ci	7	7	3000		cprbbc	bc	M	NE	1	1012.0	27.6	24.1	74	26.9			
3	Cu	-	Ci	2	2	3000		bc b	b	M	ESE	1	1012.3	28.0	25.1	78	29.2			
4	St-Cu	-	-	8	8	2000		bc c	cjr	M	S	1	1011.2	27.0	24.9	83	29.5			
5	Nb-St	A-St	-	9	9	3000		bc cr	cr	K	Calm	0	1010.7	24.8	24.1	94	29.2			
6	Cu	-	-	2	2	3000		cpr bcb	b	M	ESE	3	1010.3	27.8	24.1	72	26.7			
7	Cu	-	-	2	2	3000		jprbcb	b	M	ESE	4	1011.1	27.9	23.4	67	24.8			
8	St-Cu	-	-	3	3	3500		bw	bcjpr	M	ESE	3	1012.0	26.2	22.6	72	24.3			
9	Cu	-	-	1	1	4000		cprbcb	b	M	ESE	4	1012.6	27.7	23.7	70	25.7			
10	Cu	-	-	1	1	3000		bc b	b	M	E	3	1012.2	27.7	23.5	69	25.2			
11	Cu	-	Ci	1	1	3000		cprbcb	b	M	-	1	1012.3	27.7	24.8	78	28.7			
12	Cu	-	Ci	1	2	4000		c bc b	b	M	-	1	1012.2	27.7	23.9	71	26.3			
13	Cu	A-Cu	Ci	4	6	4000		cprbc	bc	M	-	2	1012.2	28.6	25.5	77	29.7			
14	Cu	-	-	1	1	3000		bc b	b	M	-	4	1011.8	28.9	25.6	76	29.9			
15	Cu	A-St	Ci	6	7	3000		cprcbc	bc	M	ESE	1	1012.7	28.9	25.8	77	30.4			
16	Nb-St	-	-	10	10	1000		ctlrr	crr	H	SE	2	1015.3	23.3	22.8	96	27.1			
17	Cu	A-Cu	-	6	6	3000		cjprbbc	bcjpr	K	ESE	2	1012.8	27.7	25.4	82	30.3			
18	St-Cu	A-St	-	7	8	3000		cprc	c	M	ESE	3	1012.4	27.4	24.8	80	28.9			
19	Cu	-	-	2	2	3000		c bc b	b	M	Calm	0	1012.8	27.1	24.3	78	27.9			
20	Cu	-	Ci	1	2	4000		c bc b	b	M	Calm	0	1013.4	27.0	24.4	80	28.1			
21	Cu	-	Ci	5	5	3000		cpr bc	bc	M	SE	1	1011.0	26.8	24.7	83	29.1			
22	St-Cu	-	-	9	9	3000		cltrrc	c	M	SE	2	1009.5	26.3	24.4	85	28.7			
23	St-Cu	-	Ci	2	8	4000		cjr c	c	M	SSE	1	1008.5	25.6	24.5	91	29.6			
24	Cu	-	Ci-St	4	5	3000		cprlbc	bc	M	NW	1	1007.5	26.8	24.5	82	28.5			
25	St-Cu	A-St	Ci	3	6	3000		cprbc	bc	M	Calm	0	1007.3	26.8	24.4	81	28.3			
26	St-Cu	A-St	-	8	10	2000		lcrrcpr	cjpr	K	Var	1	1011.0	25.3	22.7	79	25.2			
27	Cu-Nb	-	Ci	4	4	3000		cpr bc	bcjpr	K	Calm	0	1013.4	26.2	23.8	81	27.2			
28	St-Cu	-	-	9	9	2000		cpr c	cjpr	K	ESE	5	1013.9	27.2	24.5	79	28.3			
29	Cu	-	Ci	2	2	3000		c bc b	b	M	ESE	5	1012.4	28.2	24.5	72	27.5			
30	Cu	-	-	4	4	3000		bc b bc	bcjpr	M	ESE	5	1010.7	28.4	25.3	77	29.5			
31	Cu	-	Ci	6	6	3000		cpr bc	bcjpr	M	S	1	1010.7	25.2	24.0	90	28.5			
Means				4.3	5.0	3000						1.9	1011.6	27.1	24.4	79	28.0			

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METEOROLOGICAL OBSERVATIONS. 3 p.m. May 1938

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	St-Cu	A-St	Ci-St	4	8	2500		c	c	M	NW	2	1008.2	28.8	24.5	68	26.9			
2	St-Cu	A-St	Ci	5	7	3000		bc	bc	M	N	1	1009.7	29.0	24.5	67	26.8			
3	St	-	-	9	9	2500		bcjpr	cpr	K	SSW	1	1010.0	26.8	25.1	86	30.1			
4	St-Cu	A-St	Ci-St	6	8	2000		bc cpr	c	M	E	2	1009.4	27.8	25.8	84	31.3			
5	Nb-St	-	Ci-St	10	10	2000		cpr	cpr	H	SSE	3	1008.0	25.3	24.1	90	28.8			
6	Cu	-	Ci	7	7	3000		bc	bcjpr	M	E	5	1008.0	29.0	24.9	70	27.9			
7	Cu	-	-	2	2	4000		b	b	M	E	5	1008.3	29.0	24.5	67	26.8			
8	Nb-St	-	Ci-St	3	5	3000		bc b	bcjpr	M	E	5	1009.0	28.6	23.9	66	25.6			
9	Cu-Nb	A-St	Ci	2	2	3000		b bc	b	M	E	3	1009.7	28.7	24.0	66	25.7			
10	St-Cu	-	Ci-Cu	5	5	3500		b bc	bc	M	E	4	1009.9	29.7	25.2	67	28.0			
11	Cu	-	Ci-St	4	7	2500		b bc	bcjpr	M	-	2	1009.7	29.6	25.5	70	28.9			
12	St-Cu	-	Ci-St	5	8	3000		bt bc	c	M	-	4	1009.5	29.3	25.2	70	28.4			
13	St-Cu	A-St	Ci-St	5	8	2500		bc	c	M	-	2	1009.4	29.1	25.1	71	28.3			
14	Cu-Nb	A-Cu	Ci	5	6	3000		b pr$_o$bc	bc	M	-	3	1009.7	29.1	25.7	75	29.9			
15	Nb-St	A-St	Ci-St	9	9	1000		bc prr$_o$	ir$_o$	H	SSE	2	1010.4	26.8	25.7	91	31.9			
16	Cu	A-St	Ci-St	1	9	2500		cpr c	c	M	ESE	3	1010.9	27.4	24.8	80	28.9			
17	Cu-Nb	-	Ci	6	7	3000		bc cqpr	bcpr	M	E	3	1010.3	27.8	25.6	83	30.7			
18	Nb-St	-	Ci-St	9	9	2500		bccqpr	cpr	K	SE	3	1011.0	25.1	24.3	93	29.5			
19	St	A-St	-	7	9	2000		bc pr c	cpr	M	E	3	1011.6	26.7	24.8	85	29.5			
20	Cu	-	-	6	6	3500		bcjprbc	bc	M	E	1	1010.2	28.2	25.1	77	29.1			
21	Nb-St	-	-	10	10	2000		bcpropr	opr$_o$	K	ESE	3	1008.2	25.4	24.2	90	28.9			
22	Nb-St	-	-	10	10	1000		cpr cr	orr	G	NE	2	1007.5	24.5	23.8	94	28.7			
23	St	-	-	9	9	3000		c cpr	cjpr	K	ESE	2	1006.2	27.0	24.8	83	29.2			
24	St-Cu	-	F-Ci	7	8	2500		bc c	cjpr	K	W	4	1004.3	28.2	25.2	77	29.3			
25	Cu-Nb	-	Ci-St	4	7	3000		bc	bc	M	W	4	1004.5	29.3	25.5	72	29.2			
26	Cu	A-St	-	6	10	3000		cpr c	cjpr	K	NE	2	1010.3	27.1	23.7	74	26.3			
27	St-Cu	-	-	9	9	3000		bc cjpr	cjr	K	ESE	5	1011.1	27.5	25.0	80	29.3			
28	Cu	A-Cu	-	4	4	4000		c bc	bc	K	ESE	5	1011.6	28.9	25.1	72	28.4			
29	Nb-St	-	-	7	7	4000		bcprbc	bcqpr$_o$	K	ESE	4	1009.8	26.8	25.2	87	30.4			
30	Cu	-	Ci	2	3	3500		bc prbc	bc	M	ESE	5	1007.9	29.7	26.0	73	30.3			
31	St-Cu	-	-	4	4	3000		bcprjpr	bcjr	M	E	4	1007.8	28.4	25.2	76	29.2			
Means				5.9	7.2	2700						3.1	1009.1	27.9	24.9	78	28.8			

METEOROLOGICAL OBSERVATIONS

May 1938

Day of Month	Thermometers				Rainfall (mm.)	Sunshine (hours)	Heat Integrator	Evaporimeter (mm.)
	Maximum (°C)	Minimum (°C)	Grass Minimum (°C)	Black Bulb in vacuo (°)				
1	29.2	23.8	22.7		4.8	5.1		1.5
2	29.2	23.1	21.7		-	6.2		2.0
3	29.7	23.8	22.7		-	7.8		1.7
4	29.7	23.7	22.2		38.3	3.9		1.4
5	28.0	24.0	22.8		9.2	0.5		1.4
6	29.4	21.9	20.6		-	10.1		2.8
7	29.3	22.5	20.8		-	10.6		3.2
8	29.3	21.7	19.7		trace	10.2		3.0
9	29.2	22.3	19.9		-	10.5		3.0
10	29.7	22.1	20.5		5.0	9.5		2.6
11	29.9	23.4	21.4		-	9.8		2.2
12	29.8	23.3	21.9		0.4	8.1		2.6
13	30.7	23.9	22.7		-	9.0		2.5
14	30.2	23.8	22.7		1.9	8.7		2.6
15	30.8	25.0	23.6		61.5	3.5		0.9
16	27.9	23.3	22.6		9.5	0.0		1.2
17	29.8	24.2	22.9		8.2	8.5		1.8
18	30.1	24.7	23.0		11.7	5.1		0.6
19	29.1	23.1	21.2		trace	7.4		1.6
20	29.2	22.9	21.8		0.4	9.5		1.8
21	29.4	24.3	22.3		25.1	4.9		0.5
22	29.8	23.4	22.2		5.0	2.8		0.8
23	28.5	23.1	21.8		trace	4.6		1.4
24	28.9	23.9	21.8		trace	7.0		1.7
25	29.9	23.1	21.3		26.7	8.8		1.1
26	28.2	23.5	22.6		0.5	0.6		1.1
27	28.9	22.7	21.3		9.5	5.7		1.8
28	29.3	23.8	22.3		-	9.1		2.9
29	29.5	23.4	21.8		0.9	8.9		3.0
30	29.2	25.6	23.8		3.1	9.9		2.2
31	28.6	23.6	22.2		1.7	4.2		1.8
Sum					223.4	210.5		58.7
Mean	29.4	23.5	22.0			6.8		1.9

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APIA OBSERVATORY METEOROLOGICAL OBSERVATIONS. 9 a.m. June 1938

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	-	-	2	2	3000		c bc b	b	M	Calm	0	1008.8	26.9	24.2	79	27.7			
2	Cu-Nb	-	Ci	3	3	3500		c bc b	b	M	Calm	0	1009.5	25.7	23.8	85	27.6			
3	Cu	-	Ci	2	2	4000		clbcbw	b	M	Calm	0	1010.3	26.8	23.5	75	26.0			
4	St-Cu	-	-	8	8	2000		cpr bc	cjpr	M	ENE	1	1010.3	26.0	25.0	92	30.5			
5	Cu-Nb	-	-	9	9	3000		cr cpr	c	M	Calm	0	1012.7	26.1	24.6	88	29.5			
6	Nb-St	-	Ci	7	7	1000		c bc cr	bcjpr	M	S	1	1014.3	24.7	23.5	90	27.7			
7	Cu	-	Ci	1	2	3000		c bc b	b	M	Calm	0	1014.4	27.1	24.3	78	27.9			
8	St-Cu	-	-	4	4	3000		cpr$_o$ bc	bcjpr	M	Calm	0	1014.0	26.5	23.9	79	27.2			
9	Cu	A-St	-	5	9	3000		c bc c	c	M	Calm	0	1013.1	25.5	24.1	89	28.7			
10	Cu	A-St	Ci-Cu	2	8	3500		c bc wc	c	M	ESE	1	1012.6	26.4	23.2	75	25.6			
11	Cu	-	Ci-Cu	3	4	3000		c b bc	bc	M	ESE	4	1012.4	27.5	24.0	74	26.7			
12	Cu	-	-	2	2	4000		bc b	b	M	ESE	4	1013.9	27.8	24.4	74	27.5			
13	Cu	A-Cu	-	1	2	3500		cprobcb	b	M	E	4	1014.8	27.3	24.1	75	27.1			
14	St-Cu	-	Ci-St	3	7	3000		cpr c	bc	M	E	4	1012.3	28.2	25.0	76	28.8			
15	Cu	-	Ci	4	9	3000		cprbcc	c	M	SE	1	1011.4	27.9	25.2	79	29.6			
16	Cu	A-Cu	Ci	1	5	2000		cjprlbc	bc	M	SE	1	1011.8	27.0	24.1	77	27.3			
17	Cu	-	-	3	3	2000		clpr$_o$bc	bc	M	E	1	1013.5	28.0	25.4	80	30.0			
18	Cu	-	Ci	3	3	3000		cpr bc	bc	M	SE	1	1015.9	25.6	24.5	91	29.6			
19	Cu	A-Cu	Ci	2	7	3000		bcprqbc	bc	M	E	6	1015.7	28.6	25.8	79	30.7			
20	Cu	-	Ci	3	4	3000		lcpr$_o$bc	bc	M	ESE	5	1014.4	28.4	24.3	69	26.8			
21	Cu	-	-	8	8	2000		rrcqpr	cjpr	H	E	6	1014.5	28.3	25.2	76	29.2			
22	Cu	-	Ci	3	4	3500		bcprbc	bc	K	ESE	5	1015.3	27.6	23.4	68	25.1			
23	Cu	-	-	4	4	2500		cpr$_o$bbc	bc	M	ESE	6	1013.8	28.1	24.6	73	27.7			
24	Cu	A-St	Ci-St	2	9	3000		bc c	c	M	SE	2	1013.5	27.1	24.2	78	27.6			
25	Cu	-	Ci	2	3	3000		bc	bc	M	SE	1	1012.5	27.2	24.3	77	27.7			
26	Cu	-	Ci-St	1	1	4000		bc bw	b	M	Calm	0	1012.1	26.3	23.5	78	26.4			
27	Cu	-	-	4	4	3500		bc w bc	bc	M	ESE	3	1011.5	27.5	24.4	77	27.7			
28	Cu	-	Ci	2	2	3500		bc	b	M	SSE	1	1012.0	27.4	24.6	78	28.4			
29	Cu	-	-	2	2	3500		bc bw	bw	M	Calm	0	1011.2	26.0	23.9	83	27.7			
30	St-Cu	-	-	6	6	4000		bc cbc	bc	M	Calm	0	1010.9	26.2	23.7	80	26.9			
31																				
Means				3.3	4.8	3000						1.9	1012.8	27.0	24.3	79	27.9			

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METEOROLOGICAL OBSERVATIONS.

3 p.m. June 1938

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	St-Cu	-	-	8	8	3000		bc pr c	cjr/rc	M	NNE	1	1007.0	25.9	24.0	85	28.0			
2	Nb-St	-	Ci-St	8	8	3000		bc c	cjr	M	SSW	1	1007.1	28.5	25.0	74	28.5			
3	Cu-Nb	-	Ci-St	5	8	3000		bctcjpr	cjpr	M	ENE	3	1007.8	28.0	25.1	78	29.2			
4	Cu	A-St	Ci-St	7	9	2500		ctprc	cjpr	M	SSE	1	1009.1	27.0	25.0	84	29.7			
5	Cu	-	Ci	6	7	3000		c bc	bc	M	ENE	3	1010.8	29.1	25.6	74	29.6			
6	Cu	A-Cu	Ci	2	7	3500		cpr c	bc	M	Calm	0	1011.6	28.5	25.2	75	29.1			
7	Nb-St	-	-	9	9	2000		bc cprc	cpr	M	ESE	2	1012.0	26.3	24.3	84	28.5			
8	Cu-Nb	A-St	-	5	6	3000		cpr bc	bc	K	E	5	1011.4	27.9	24.5	74	27.7			
9	Cu-Nb	-	Ci-Cu	6	7	3000		bc	bcjpr	K	E	4	1010.6	28.2	24.2	70	26.7			
10	St	-	Ci-St	9	9	3000		c bc c	c	M	E	5	1010.0	27.5	24.0	74	26.7			
11	Cu-Nb	A-Cu	Ci	4	5	3500		bcqrbc	bc	M	E	5	1010.8	28.8	25.3	74	29.1			
12	Nb-St	A-Cu	-	5	9	2000		bcqprc	cpr_o	K	E	4	1012.7	26.8	24.9	85	29.6			
13	Cu	-	-	3	3	3000		bccprbc	bc	K	E	4	1011.7	28.9	25.3	73	29.1			
14	Cu	-	Ci-Cu	5	5	3000		pr_o bc	bcjpr	M	E	4	1009.7	29.3	25.4	71	28.9			
15	Cu	-	Ci	3	3	2500		bc	bc	M	NE	1	1009.1	28.8	25.0	72	28.3			
16	Nb-St	A-Cu	-	7	9	3000		bc c	cpr	K	NE	2	1009.6	27.7	25.3	81	30.0			
17	Cu	-	Ci	3	4	3000		pr bc	bc	M	ENE	3	1012.3	29.6	25.7	72	29.5			
18	Cu	-	Ci-St	3	4	3500		bc b	bc	K	ESE	5	1013.2	29.0	25.2	72	28.7			
19	Cu	-	Ci-Cu	3	4	2000		bc	bc	K	ESE	5	1013.8	28.9	25.8	77	30.4			
20	Nb-St	A-St	-	9	10	2000		cqrtcr	o	J	E	6	1012.4	27.1	25.1	84	29.9			
21	Cu	-	Ci	1	4	3500		bcq	bc	K	ESE	6	1012.3	29.2	25.0	72	28.7			
22	Cu	-	-	3	3	3500		bc	bc	K	ESE	6	1012.2	29.0	24.5	67	26.8			
23	Cu	-	Ci-St	3	3	3500		bc c bc	bc	K	E	6	1011.5	28.7	24.5	69	27.1			
24	Cu	A-Cu	Ci	1	9	3000		c bc c	c	K	E	3	1011.5	29.7	25.2	67	28.0			
25	Cu	-	-	5	5	3000		bc	bc	M	E	3	1009.5	29.7	25.9	72	30.0			
26	Cu-Nb	-	Ci	3	3	2500		b	bc	K	E	4	1008.7	30.0	25.3	66	28.1			
27	Cu	-	-	5	5	3000		cprcbc	bc	M	E	3	1009.8	29.0	25.0	71	28.1			
28	Cu	-	-	4	4	3500		b bc	bc	M	NE	1	1009.6	28.2	25.0	76	28.8			
29	Cu	-	-	4	4	3000		bc cpr	bc	M	N	3	1008.6	28.0	24.5	73	27.6			
30	Cu	-	Ci	4	5	2500		bc	bc	K	ENE	2	1008.7	27.4	24.8	80	28.9			
31																				
Means				4.8	6.0	2900						3.4	1010.5	28.4	25.0	75	28.6			

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METEOROLOGICAL OBSERVATIONS

June 1938

Day of Month	Thermometers				Rainfall (mm.)	Sunshine (hours)	Heat Integrator	Evaporimeter (mm.)
	Maximum (°C)	Minimum (°C)	Grass Minimum (°C)	Black Bulb in vacuo (°)				
1	29.3	23.0	21.6		2.5	6.4		1.7
2	28.9	22.7	20.6		trace	8.4		1.6
3	29.3	22.9	21.3		10.1	7.1		1.6
4	28.9	23.9	23.0		4.7	4.9		1.0
5	29.6	23.6	22.2		20.1	6.8		2.0
6	29.0	24.1	23.0		1.5	5.4		1.3
7	29.1	22.7	21.2		0.3	6.8		1.4
8	29.1	23.6	21.2		-	8.1		2.1
9	29.5	23.5	22.0		-	6.8		2.6
10	28.9	23.4	21.0		-	6.6		2.4
11	29.6	22.0	19.7		0.7	9.6		2.2
12	29.3	22.6	20.7		4.5	3.9		1.2
13	29.3	23.2	21.6		17.3	9.9		2.0
14	29.5	24.4	23.2		8.1	9.2		1.7
15	29.2	24.3	23.3		-	9.4		2.0
16	29.4	23.3	21.5		4.0	5.7		2.0
17	29.9	24.1	22.7		6.6	8.6		2.2
18	29.4	24.1	22.7		1.1	9.3		2.9
19	29.8	25.1	22.8		1.2	9.8		2.8
20	30.0	24.1	22.7		10.9	5.0		1.4
21	29.6	25.1	24.1		0.6	8.7		4.2
22	29.1	25.6	23.8		trace	9.7		3.7
23	29.1	22.8	21.0		-	9.5		3.9
24	29.8	25.3	24.6		-	5.1		2.1
25	29.9	23.4	22.2		-	9.5		2.2
26	30.3	22.5	20.8		-	10.0		3.1
27	29.7	24.3	22.4		-	9.8		2.7
28	29.5	24.4	23.2		-	10.3		2.0
29	28.8	23.1	22.1		0.5	8.7		1.2
30	28.6	23.4	22.3		-	7.3		1.4
31								
Sum	-	-	-		94.7	236.3		64.6
Mean	29.4	23.7	22.1			7.9		2.2

1,000/7/38—3911 APIA OBSERVATORY

METEOROLOGICAL OBSERVATIONS.

9 a.m. July, 1938

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	St-Cu	A-St	-	8	8	4500		bccjpr	cjpr	M	S	1	1013.4	24.4	22.6	85	25.7			
2	Cu	-	-	7	7	3500		bccjpr	bc	M	Calm	0	1014.6	26.7	24.7	84	29.2			
3	St-Cu	-	-	6	6	3000		bcb	bc	M	ESE	5	1013.4	27.4	24.4	73	27.5			
4	Cu	-	-	2	2	3500		cpr b	b	M	E	4	1015.2	27.9	24.2	72	26.9			
5	Cu	-	-	1	1	3500		bcprob	b	M	ESE	6	1016.7	28.4	24.7	72	27.7			
6	Cu	-	-	3	3	3000		bcbbc	bc	K	ESE	5	1015.8	28.6	24.5	69	22.1			
7	Cu	-	-	2	2	3500		bcbbc	b	K	ESE	5	1013.8	28.3	24.5	72	27.3			
8	Cu	A-Cu	Ci	1	2	3000		ltcqrrb	b	M	SE	3	1012.8	27.6	24.3	75	27.3			
9	Cu	-	Ci	5	6	3500		cbc	bc	M	ESE	2	1013.2	27.8	25.0	78	29.1			
10	Cu	-	Ci	7	7	2000		cpr bc	bcjr	L	E	5	1012.4	28.4	25.0	75	28.5			
11	Cu	-	-	6	6	3000		bcjpr	bcjpr	K	E	3	1012.7	28.4	24.8	73	28.0			
12	Cu	-	-	2	2	3000		bcprb	b	K	SE	1	1012.1	27.0	23.7	75	26.4			
13	Cu	-	-	1	1	3000		bcprbcb	b	K	ESE	2	1011.4	27.3	23.7	72	26.1			
14	Cu	-	-	5	5	3000		bcbbc	bcjpr	K	ESE	4	1011.0	28.1	25.0	77	28.8			
15	Nb-St	-	-	10	10	3000		bccrr	cpr	M	SSE	1	1013.5	24.2	23.3	92	27.6			
16	Cu	-	-	2	2	3500		bcbb	b	M	Calm	0	1011.8	26.9	23.9	77	26.9			
17	Cu	-	-	3	3	3000		bcw	bcw	M	SE	1	1011.3	26.7	23.8	78	26.8			
18	Cu	A-Cu	Ci-Cu	5	7	3500		bc	bc	M	ESE	3	1012.1	27.7	24.1	73	26.8			
19	Cu	-	-	7	7	3500		cprlbc	bc	K	NE	3	1012.2	27.7	25.1	80	29.5			
20	Cu	-	-	4	4	3000		bccprbbc	bc	M	SE	1	1013.1	26.6	24.8	85	29.6			
21	Cu	-	-	2	2	3500		bccprb	b	M	ESE	3	1013.4	27.5	23.3	69	24.9			
22	Cu	-	-	2	2	4500		bbcb	b	M	ESE	2	1013.2	27.6	23.8	71	26.0			
23	Cu	-	-	4	4	3000		bccpnbc	bc	M	ESE	3	1013.6	27.4	24.7	79	28.7			
24	St-Cu	-	-	5	5	3000		bc bc	bc	M	ENE	3	1014.3	28.1	24.4	72	27.2			
25	Cu	A-Cu	Ci-Cu	1	3	4000		b bc	bc	M	Calm	0	1014.5	26.2	23.8	81	27.2			
26	Cu	-	Ci-Tr	4	4	3000		bccprbc	bc	M	E	5	1013.8	28.0	25.0	77	28.9			
27	Cu	-	-	4	4	3500		bcc bc	bc	M	E	5	1013.3	28.1	24.3	71	26.9			
28	Cu	-	-	7	7	3000		bc b bc	bc	M	E	4	1014.1	28.0	23.9	69	26.0			
29	Cu	-	-	6	6	3000		bc b bc	bc	M	E	5	1015.7	26.8	23.0	71	24.7			
30	Cu	-	-	4	4	3000		bc cpr	bc	K	ESE	2	1013.7	26.5	24.2	82	28.0			
31	Cu	-	-	6	6	3500		bc cprbc	bc	K	ESE	5	1013.8	27.6	24.2	74	27.2			
Means				4.3	4.5	3300						3.1	1013.4	27.3	24.2	76	27.2			

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METEOROLOGICAL OBSERVATIONS

3 p.m. July 1938

Day of Month.	Cloud. Form. Low.	Cloud. Form. Medium.	Cloud. 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	A-Cu	-	2	3	2500		bc	bc	M	ENE	2	1011.2	28.4	24.5	71	27.2			
2	Cu	-	Ci	2	5	3000		bc	bc	M	E	4	1011.8	28.2	24.5	72	27.5			
3	Cu	A-Cu	Ci	4	5	3500		bcqrobc	bc	M	E	5	1010.4	28.8	25.5	75	29.6			
4	Cu	-	-	3	4	3000		bc	bc	K	E	3	1012.9	29.4	25.4	71	28.8			
5	Cu	-	-	3	3	3500		bc	bc	K	E	6	1013.8	29.3	25.4	71	28.9			
6	Cu	-	-	3	3	3500		bc	bc	K	E	6	1012.5	29.3	25.0	68	27.9			
7	Cu	-	Ci-St	2	2	3500		b	b	K	E	6	1011.4	29.3	25.2	70	28.4			
8	Nb-St	A-St	-	6	10	3000		bccq	orq/o	J	ESE	3	1011.8	23.8	23.3	96	28.0			
9	Cu-Nb	-	Ci-St	6	8	1000		bc	cjpr	K	ENE	3	1010.4	28.4	25.3	77	29.5			
10	Cu	-	-	1	1	4000		bc	b	K	E	3	1010.4	29.5	25.3	69	28.5			
11	Cu	-	Ci-St	4	5	3000		bc	bc	K	E	3	1010.5	29.5	25.3	69	28.5			
12	Cu	-	Ci	3	3	2500		b bc	bc	M	E	4	1009.6	29.0	25.1	71	28.4			
13	Cu	-	Ci	2	5	4000		bc	bc	M	E	4	1008.8	28.4	24.2	69	26.5			
14	Cu	-	Ci-St	1	1	4000		bc b	b	M	E	3	1009.5	29.9	25.2	66	27.9			
15	Cu	A-Cu	Ci	3	4	2500		opRcbc	bc	M	E	2	1010.4	28.4	24.5	71	27.2			
16	Cu	-	-	3	3	2000		b b	bc	M	ENE	2	1009.9	29.0	24.9	70	27.9			
17	Cu	-	Ci	2	7	3000		bc	bc	M	ENE	3	1009.6	28.7	24.0	66	25.7			
18	Cu	-	-	5	5	2500		bccpr	bc	M	E	2	1009.6	28.2	25.0	76	28.8			
19	Cu	-	Ci	4	5	2000		bc	bc	M	NNE	3	1009.6	28.4	24.9	74	28.3			
20	Cu	-	-	4	4	2500		cpr bc	bc	M	E	3	1010.5	29.0	25.7	76	30.0			
21	Cu	-	-	2	2	4500		b	b	K	E	3	1010.9	29.4	24.9	67	27.5			
22	Cu	A-Cu	Ci	3	4	2500		b bc	bc	K	ENE	5	1010.2	28.3	24.8	74	28.1			
23	Cu	A-Cu	Ci	5	5	4000		probc	bc	K	ENE	4	1011.5	28.5	24.3	69	26.7			
24	Cu	-	-	2	2	3500		b c b	b	M	E	3	1012.5	28.8	24.2	66	25.7			
25	Cu	-	Ci-tr	4	4	3500		bc	bc	M	ENE	4	1012.7	28.2	24.7	73	28.0			
26	Cu	-	-	5	5	3000		bccpRbc	bc	M	E	4	1011.6	29.3	25.6	73	29.5			
27	Cu-Nb	A-Cu	CiCu-tr	4	5	2000		bc	bcjpr	K	E	4	1011.4	29.0	25.0	71	28.1			
28	Cu	-	-	3	3	4500		bc	bc	K	E	5	1012.7	29.3	24.9	68	27.6			
29	Cu	-	-	2	2	4500		bc b	b	M	E	5	1012.7	29.0	24.0	64	25.5			
30	Cu	A-Cu	-	5	6	3000		bc pr	bc	K	E	4	1011.4	29.1	25.2	72	28.7			
31	Cu	-	-	1	1	2000		bc b	b	K	E	5	1011.6	28.9	24.6	69	27.1			
Means				3.2	4.0	3800						3.7	1011.1	28.7	24.9	71	27.9			

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METEOROLOGICAL OBSERVATIONS

July 1938

Day of Month	Thermometers				Rainfall (mm.)	Sunshine (hours)	Heat Integrator	Evaporimeter (mm.)
	Maximum (°C)	Minimum (°C)	Grass Minimum (°C)	Black Bulb in vacuo (°)				
1	28.6	22.4	22.1		-	8.6		3.3
2	29.0	22.8	21.4		-	8.0		2.5
3	29.0	23.4	21.8		2.5	9.7		1.9
4	29.6	23.5	21.7		trace	10.5		3.2
5	29.6	25.3	23.3		-	10.1		4.2
6	30.5	26.7	24.8		-	9.8		4.1
7	30.0	26.4	24.9		46.1	10.0		2.8
8	29.4	23.8	22.6		16.0	4.7		2.6
9	29.5	23.3	22.6		1.0	8.8		3.7
10	29.7	24.8	23.5		0.3	9.4		3.5
11	29.6	25.6	24.0		2.9	7.0		2.6
12	29.3	23.6	22.1		0.9	10.7		2.6
13	29.1	24.1	22.2		-	10.6		3.7
14	29.9	25.3	23.9		37.0	10.4		2.8
15	29.4	23.2	22.2		7.7	5.2		1.3
16	29.2	22.9	21.3		-	10.4		2.8
17	29.2	22.3	20.3		-	9.8		3.3
18	28.8	23.4	21.6		10.5	7.6		2.0
19	28.6	24.3	23.1		trace	9.2		2.4
20	29.3	23.8	22.4		12.0	8.4		2.3
21	29.3	24.6	22.4		-	10.6		3.1
22	28.8	23.7	21.6		0.3	9.3		2.4
23	29.2	22.4	20.5		trace	10.2		3.9
24	29.5	25.2	23.2		-	10.5		2.8
25	29.2	23.2	21.2		0.2	9.5		3.2
26	29.4	24.2	22.3		0.8	9.9		3.9
27	29.8	26.8	25.1		-	10.7		3.4
28	29.5	24.8	22.3		-	10.7		4.2
29	29.1	25.2	22.7		2.0	10.9		3.3
30	29.5	23.5	21.5		8.1	9.1		2.8
31	29.1	23.6	21.9		0.5	10.5		3.9
Sum	-	-	-		148.8	290.8		93.8
Mean	29.3	24.1	22.5		-	9.4		3.0

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METEOROLOGICAL OBSERVATIONS.

9 a.m. August 1938

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	-	-	6	6	3000		bccprbc	bc	M	ENE	4	1012.5	27.9	24.2	72	26.9			
2	Cu	-	-	7	7	3000		bccprbc	bc	M	SE	1	1014.9	27.2	24.5	79	28.3			
3	Cu	-	Ci	2	4	3000		bccprbc	bc	M	ESE	4	1015.7	27.6	24.9	80	28.9			
4	Cu	-	-	2	2	3500		bccprb	b	M	SE	2	1015.0	27.3	24.0	75	26.8			
5	Cu	-	Ci	2	2	4000		bclcprb	b	K	ESE	4	1015.2	27.1	23.8	75	26.5			
6	Cu	-	-	2	2	3500		bc b	b	M	Calm	0	1015.2	27.0	23.1	70	24.8			
7	Cu	-	-	2	2	3500		bc b	b	M	E	1	1014.5	27.0	24.0	77	27.1			
8	St-Cu	A-St	-	8	9	3000		bcc cgr	c	K	ESE	2	1014.4	25.2	24.1	91	28.8			
9	St-Cu	-	Ci	7	9	2000		bccprbc	cjpr	M	ESE	5	1013.8	26.2	23.7	80	26.9			
10	Cu	-	Ci	1	7	3500		c bc b	bc	M	ESE	3	1012.3	27.1	23.0	69	24.5			
11	Cu	-	Ci	5	7	2500		bccprbc	bc	M	E	1	1012.9	26.5	24.2	82	28.0			
12	Cu	-	Ci-St	1	9	3500		cbc	c	M	SE	1	1015.3	27.3	24.2	76	27.3			
13	Cu	-	-	2	2	3000		cbc b	b	M	ESE	4	1016.0	26.7	23.4	75	25.9			
14	Cu	-	Ci	4	7	3000		bcqprbc	bc	M	ESE	4	1015.2	27.6	24.7	78	28.4			
15	Cu	-	-	8	8	2000		cpr	cjpr	K	E	2	1015.4	25.4	23.8	87	27.9			
16	St-Cu	A-Cu	-	5	8	3500		bc c	c	M	SE	1	1013.5	26.0	23.7	82	27.2			
17	Cu	-	-	3	3	3000		cbccpr	bc	K	ESE	2	1012.4	27.1	25.0	83	29.6			
18	Cu-Nb	A-Cu	Ci	6	8	2500		c bc	cjr	K	ESE	4	1011.5	27.2	24.6	80	28.5			
19	Cu-Nb	Nb-St	-	2	10	1500		cprccpr	opr	G	E	4	1012.8	24.7	23.7	92	28.3			
20	Cu-Nb	A-Cu	-	7	8	2000		ctlcprc	c	K	E	5	1012.3	27.1	24.8	82	29.1			
21	St-Cu	A-Cu	-	5	9	3000		crr	c	K	E	2	1013.3	25.6	23.8	85	27.7			
22	Cu	A-Cu	-	6	7	3500		cpR	bc/pr	K	E	6	1013.7	27.7	24.8	78	28.7			
23	Cu	-	-	2	2	3500		bccpr$_o$b	b	K	E	5	1013.1	27.4	23.0	67	24.3			
24	Cu	-	Ci	2	3	3000		bccprbc	bc	M	E	5	1011.1	27.5	24.6	78	28.3			
25	Cu	-	-	6	6	2000		cpr$_o$bc	bc	M	E	4	1011.2	27.8	24.7	77	28.3			
26	Cu	A-St	Ci-St	2	9	4000		cpr bc	c	M	E	3	1012.3	26.8	23.8	77	26.8			
27	Cu	Nb-St	—	7	8	2000		cpr	c/pr	J	ESE	4	1011.0	25.2	24.0	90	28.5			
28	Cu	Nb-St	—	2	9	700		oprqrc	cjr	J	ESE	4	1009.9	25.6	24.0	87	28.3			
29	Cu-Nb	-	-	8	8	3000		cir cpr	cjpr	M	E	5	1012.1	27.1	24.3	78	27.9			
30	Cu	-	-	6	6	3000		cpr$_o$bc	bcpr$_o$	M	ESE	2	1012.4	26.4	23.3	76	25.9			
31	Cu	-	-	2	2	4000		bcb	b	M	ESE	2	1013.1	27.4	23.6	71	25.7			
Means				4.3	6.1	3100						3.1	1013.3	26.8	24.0	79.0	27.4			

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METEOROLOGICAL OBSERVATIONS.

3 p.m. August 1938

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	St-Cu	-	-	8	8	2000		bcccpr	cpr	K	ESE	2	1011.1	25.9	24.3	87	28.8			
2	Cu	A-Cu	-	4	5	3500		bc	bc	K	E	4	1012.7	29.5	25.3	69	28.5			
3	Cu	A-Cu	-	2	3	3500		bccbc	bc	K	E	5	1013.3	29.1	25.2	71	28.5			
4	Nb-St	-	-	9	9	2000		bbccqr	cpr	K	ESE	3	1012.6	25.1	23.8	89	28.1			
5	Cu	-	-	2	2	4000		b	b	K	E	5	1012.6	28.6	24.6	70	27.3			
6	Cu	A-St	-	3	4	2500		bbc	bc	M	E	3	1012.6	28.2	24.5	72	27.5			
7	Cu	-	Ci-St	4	4	3500		b	bc	K	E	4	1011.7	29.9	24.7	63	26.5			
8	Cu	A-St	-	1	9	3000		cprc	jpr/q	K	SE	3	1012.0	25.7	23.7	84	27.5			
9	St-Cu	A-Cu	-	8	9	2000		eqr c	c	K	E	4	1010.8	28.1	24.0	70	26.1			
10	Cu	-	Ci-St	2	8	3000		bc c	c	M	E	5	1009.7	27.8	24.4	74	27.5			
11	Cu	-	Ci	2	7	3000		bc	bc	M	NE	1	1010.7	28.9	24.4	67	26.5			
12	St-Cu	A-St	-	6	8	2500		cbc c	c	M	E	1	1013.7	28.4	24.4	70	27.1			
13	Cu	-	-	2	2	3000		b	b	M	E	6	1013.0	29.5	25.1	68	28.0			
14	Cu	-	Ci	1	2	5000		bc b	b	K	ESE	5	1012.7	29.1	25.0	70	28.0			
15	Cu	-	-	1	1	4500		cprqrbc	b	K	E	3	1011.7	29.3	25.0	68	27.9			
16	Cu	-	Ci	3	3	2000		cbcjpbc	bc	M	E	5	1009.8	28.2	25.0	76	28.8			
17	Cu	A-St	Ci-St	3	7	2000		cprcbc	bc	K	E	3	1010.0	29.0	25.8	76	30.3			
18	St-Cu	-	-	9	9	2500		cqrcpr	c	K	ENE	4	1009.4	28.0	24.5	73	27.6			
19	Cu	A-St	Ci-Cu	1	8	4000		or.r.c	c	M	E	1	1009.7	27.2	22.7	66	23.6			
20	Cu	A-Cu	-	6	7	2500		cbccpr.	bcjpr	K	ENE	3	1009.9	28.1	25.0	77	28.8			
21	Cu-Nb	-	Ci	4	7	3000		c bc c	bc/pr	K	E	5	1010.6	27.5	25.2	82	29.9			
22	Cu	A-Cu	Ci-Cu	3	3	3500		bc	bc	K	E	6	1011.5	28.4	24.2	69	26.5			
23	Cu	A-Cu	-	3	6	3000		bbc	bc	M	E	6	1010.1	28.9	24.1	65	25.9			
24	Cu	A-St	Ci	2	3	3000		bcqrbc	bc	K	E	5	1009.0	28.8	25.0	72	28.3			
25	Cu	-	Ci	3	6	3000		bc	bc	K	E	3	1009.4	29.0	25.2	72	28.7			
26	Cu	A-St	Ci-St	3	9	2500		c	c	M	E	5	1010.2	27.4	24.5	78	28.1			
27	Cu-Nb	A-Cu	Ci-Cu	3	4	3000		cprbc	bcjpr	M	E	6	1008.4	27.3	24.2	76	27.3			
28	Cu	A-St	Ci	2	9	1000		opr u	cjpr	K	E	6	1008.3	27.0	24.5	80	28.4			
29	Cu	-	-	4	4	2000		cpr bc	bc	M	E	4	1009.8	28.6	25.3	75	29.2			
30	Cu	-	-	2	2	3000		bc	b-	M	E	3	1009.5	28.6	25.0	73	28.4			
31	Cu	-	-	2	2	3000		bcb	b	M	ENE	1	1010.6	28.4	24.2	69	26.3			
Means				3.5	5.5	2900						3.9	1010.9	28.2	24.6	73	27.7			

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METEOROLOGICAL OBSERVATIONS

August 1938

Day of Month	Thermometers				Rainfall (mm.)	Sunshine (hours)	Heat Integrator	Evaporimeter (mm)
	Maximum (°C)	Minimum (°C)	Grass Minimum (°C)	Black Bulb In vacuo (°)				
1	29.2	26.0	24.6		1.8	7.4		2.7
2	29.7	24.9	23.3		1.1	10.2		2.4
3	29.6	22.8	21.4		1.9	8.4		2.6
4	29.3	24.4	21.9		3.6	7.5		2.7
5	29.2	24.0	22.2		-	10.7		2.8
6	30.0	22.8	21.0		-	10.8		2.7
7	30.1	22.7	20.1		5.0	10.5		2.0
8	29.1	24.2	23.4		0.5	2.4		2.3
9	28.7	23.8	22.0		1.0	6.2		2.1
10	28.2	21.6	19.3		trace	10.9		2.4
11	29.2	23.4	21.7		-	10.0		2.3
12	29.7	22.9	21.5		-	9.5		2.2
13	29.8	22.4	19.9		3.0	10.9		3.4
14	29.8	24.7	23.4		0.4	9.8		3.6
15	29.9	24.1	22.8		0.3	8.3		2.5
16	28.8	23.1	21.7		2.1	8.6		2.2
17	29.5	24.0	22.2		0.9	7.6		2.2
18	28.9	22.4	20.8		7.9	7.2		1.5
19	28.4	23.3	22.0		5.0	4.6		1.8
20	28.6	23.3	22.0		27.8	6.4		1.9
21	28.9	23.6	22.4		10.9	7.7		2.2
22	28.9	23.7	22.2		trace	9.0		3.6
23	29.6	23.8	21.8		0.8	10.2		3.5
24	29.4	24.4	22.8		3.1	10.4		2.4
25	29.6	22.2	20.4		4.8	10.7		2.4
26	27.9	22.6	20.7		13.6	0.6		1.9
27	27.9	23.8	22.1		25.2	6.3		0.9
28	28.0	23.8	22.8		7.2	1.8		0.9
29	28.7	24.5	22.9		5.8	8.9		2.0
30	28.8	21.9	20.3		-	10.4		2.3
31	29.1	22.3	20.8		-	10.8		2.2
Sum	-	-	-		133.7	254.7		72.6
Mean	29.1	23.5	21.8			8.2		2.3

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METEOROLOGICAL OBSERVATIONS.

9 a.m. September 1938

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	-	-	3	3	3000		b bc	bc	M	E	2	1013.6	27.6	24.8	79	28.7			
2	Cu	-	Ci	6	6	3000		bcbbc	bc	M	E	4	1013.5	27.8	23.7	70	25.7			
3	Cu	-	-	6	6	3000		bc	bc	M	ENE	3	1012.0	27.3	23.2	69	24.8			
4	Cu-Nb	A-St	-	3	9	2500		cbccpr	cpr	M	ESE	1	1012.8	25.3	24.2	91	29.1			
5	Cu-Nb	Nb-St	-	7	9	3000		cpr c	cpr	M	SE	2	1014.2	27.2	23.8	73	26.4			
6	Cu	-	-	3	3	4500		bcbbc	bc	M	ESE	3	1015.4	27.2	22.4	65	22.9			
7	Cu	-	-	2	2	5000		by v	b	M	ESE	5	1014.7	27.9	23.7	69	25.6			
8	Cu	-	Ci	2	3	3000		b bc	bc	K	E	5	1014.9	27.9	24.4	73	27.5			
9	Cu-Nb	A-St	Ci-St	3	9	2500		bcpr$_o$bc	cjr	K	ESE	6	1014.9	26.9	24.1	78	27.5			
10	Cu	-	Ci	2	2	3500		copRqc	b	K	E	6	1014.4	27.8	24.1	72	26.7			
11	Cu	-	Ci	3	3	3000		b bc	bc	K	E	4	1015.8	27.9	23.4	67	24.8			
12	Cu	-	-	1	1	3000		bc b	b	M	ESE	3	1015.5	28.5	23.0	61	23.3			
13	Cu	-	-	2	2	3500		bc b	b	M	E	4	1015.0	28.3	23.4	65	24.5			
14	Cu	-	-	1	1	4000		b bc b	b	M	ESE	5	1015.8	28.0	23.1	64	24.0			
15	Cu	A-St	Ci	1	7	3500		bwbc	bc	M	ESE	4	1014.9	27.9	23.8	69	25.9			
16	Cu	A-Cu	-	1	1	3500		cprbcb	b	M	E	3	1013.6	27.5	23.8	71	25.9			
17	Cu	-	-	1	1	3500		bcprbcb	bv	M	E	1	1012.3	27.0	23.0	69	24.5			
18	Cu	-	-	2	2	4500		bcby	bv	M	SE	1	1013.5	27.0	22.6	67	23.6			
19	Cu	-	-	3	3	3500		b bc	bc	M	E	5	1013.6	28.2	24.5	72	27.5			
20	Cu	-	-	2	2	3500		bcjprbc	b	K	E	5	1012.7	28.1	24.7	74	28.0			
21	Cu	-	-	4	4	2000		bcprbc	bc	K	E	4	1012.3	27.7	24.8	78	28.7			
22	Cu	Nb-St	Ci	3	8	1000		cpr bc	cpr	M	ENE	3	1010.9	27.7	25.2	80	29.7			
23	Cu	-	-	3	3	3500		c bc b	bc	K	ESE	2	1011.7	28.5	25.1	75	28.8			
24	Cu	A-Cu	Ci	2	6	3500		bc bb c	bc	M	Calm	0	1013.0	27.9	24.6	75	28.0			
25	Cu	-	Ci	2	8	3500		bcbbc	c	M	E	3	1012.2	28.4	24.7	72	27.7			
26	Cu	-	-	2	2	3500		cbcb	b	M	E	2	1012.2	28.7	24.6	69	27.3			
27	Cu	-	Ci	2	2	3500		bbcb	b	M	E	2	1012.2	28.3	24.4	71	27.1			
28	St-Cu	-	-	9	9	3000		cprbc	cpr$_o$	K	Calm	0	1013.5	25.9	23.4	80	26.5			
29	Cu	-	-	2	2	3500		cbcb	b	M	ESE	2	1013.8	28.3	24.5	72	27.3			
30	Cu	-	Ci	3	4	3500		prpbcb	bc	M	E	4	1013.7	28.3	24.2	70	26.5			
31																				
Means				2.9	4.1	3300						3.1	1013.6	27.7	24.0	72	26.5			

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METEOROLOGICAL OBSERVATIONS.

3 p.m. September 1938

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	-	-	3	3	3000		bc	bc	M	ENE	4	1010.8	28.2	24.1	70	26.4			
2	Cu	A-Cu	Ci-St	1	1	3500		bc	bc	M	E	5	1010.6	28.5	24.0	67	25.9			
3	Cu	A-St	Ci-St	5	8	4000		bc c	cjpr	M	NE	3	1009.4	28.6	25.3	75	29.2			
4	Cu	A-St	-	1	10	2000		ccr$_o$	or$_o$r$_o$	K	NNE	3	1011.8	25.6	24.0	87	28.3			
5	Cu	-	Ci	4	5	3000		cpr bc	bc	K	ENE	3	1011.7	28.8	24.2	66	26.1			
6	Cu	-	-	tr	tr	4000		bcbyv	byv	M	E	3	1012.5	28.9	22.4	55	21.5			
7	Cu	-	-	1	1	4000		b	b	M	E	6	1011.4	28.7	24.3	68	26.5			
8	Cu	-	-	2	2	3000		bc	b	K	E	5	1012.6	29.0	25.0	71	28.1			
9	Cu-Nb	-	-	9	9	1000		cprc	cjpr	M	ENE	6	1012.2	28.3	25.0	75	28.7			
10	Cu	-	-	2	2	3500		bcb	b	K	E	5	1012.9	28.6	24.5	69	27.1			
11	Cu	-	-	2	2	3500		bcb	b	K	E	6	1012.9	28.6	24.7	71	27.6			
12	Cu	-	-	3	3	3500		bc	bc	K	E	6	1012.5	29.0	24.7	69	27.3			
13	Cu	-	-	2	2	4000		bcb	b	K	E	6	1012.3	28.9	24.3	67	26.3			
14	Cu	-	Ci	2	2	3500		bcb	b	M	E	6	1013.1	28.5	23.8	66	25.3			
15	Cu	A-St	Ci-St	2	9+	4000		bcc	c	M	ESE	3	1011.6	28.2	24.8	74	28.3			
16	Cu-Nb	Nb-St	Ci-St	2	5	2000		bctpr$_o$	bcjpr	M	E	2	1010.2	28.3	24.8	74	28.1			
17	Cu-Nb	A-Cu	-	5	6	1500		bcv	bcjpr	M	E	4	1009.8	28.2	24.1	70	26.4			
18	Cu-Nb	A-Cu	-	2	2	5000		bv	b	M	E	5	1010.8	28.3	23.6	66	25.1			
19	Cu	-	-	2	2	3500		bc	bjpr	M	E	6	1011.6	28.8	24.4	68	26.7			
20	Cu	A-Cu	Ci	3	4	3000		bcprbc	bc	K	E	4	1010.1	29.4	25.1	68	28.0			
21	Cu-Nb	Nb-St	-	7	9	2000		cprbcc	cqr	K	E	3	1009.6	26.5	24.2	82	28.0			
22	Cu	-	Ci	3	7	2500		bc	bc	M	ENE	1	1008.6	28.8	25.0	72	28.3			
23	Cu	-	Ci-Cu	5	6	2500		bccpr	bcjpr	M	ENE	1	1009.1	28.2	25.1	77	29.1			
24	Cu	-	Ci	3	8	3000		bc c	c	M	NE	2	1010.3	28.6	24.3	68	26.5			
25	Cu-Nb	A-Cu	Ci	3	9+	2000		cbc c	c	M	NE	2	1009.8	28.3	24.8	74	28.1			
26	Cu	-	Ci	2	2	3500		bc b	b	M	NE	1	1009.5	28.8	25.0	72	28.3			
27	Cu	-	-	5	5	2500		bcprc	bc	M	NE	2	1010.0	28.1	25.0	77	28.8			
28	Cu	A-St	Ci-St	5	6	3000		bc	bc	M	ENE	1	1011.5	29.0	24.8	69	27.6			
29	Cu	-	-	3	3	3500		bc	bc	M	ENE	2	1011.4	29.5	24.9	67	27.5			
30	Cu	-	-	3	3	3000		bc	bc	M	E	4	1010.6	29.0	24.5	67	26.7			
31																				
Means				3.1	4.5	3100						3.7	1011.0	28.5	24.5	71	27.2			

METEOROLOGICAL OBSERVATIONS

September 1938

Day of Month	Thermometers: Maximum (°C)	Thermometers: Minimum (°C)	Thermometers: Grass Minimum (°C)	Thermometers: Black Bulb in vacuo (°C)	Rainfall (mm.)	Sunshine (hours)	Heat Integrator	Evaporimeter (mm.)
1	29.0	22.8	21.2		trace	10.5		3.1
2	28.9	24.8	22.3		-	11.0		3.9
3	29.3	24.3	22.0		0.4	10.2		2.5
4	28.3	23.9	22.3		1.3	3.7		1.7
5	29.2	23.6	22.1		3.6	6.8		2.4
6	29.1	22.3	20.3		-	11.1		3.8
7	29.2	21.2	18.7		-	11.4		4.2
8	29.5	23.5	21.6		trace	10.8		3.6
9	28.9	25.2	23.4		41.5	8.9		1.8
10	29.0	24.2	23.4		-	10.9		3.4
11	29.0	22.5	21.3		-	9.3		3.7
12	29.8	23.0	20.7		-	10.9		4.5
13	29.5	24.2	-		trace	10.8		3.8
14	28.8	22.9	20.2		-	11.2		3.4
15	29.0	21.3	19.5		trace	6.7		2.7
16	28.8	22.3	20.2		trace	9.2		2.7
17	28.9	21.6	20.0		-	9.5		2.9
18	29.0	21.1	19.0		-	11.2		3.6
19	29.4	22.9	21.6		trace	11.0		3.4
20	29.7	22.4	21.2		0.6	10.6		3.0
21	29.5	24.5	23.0		4.5	9.6		2.4
22	29.5	24.4	22.8		-	10.3		2.4
23	29.7	23.7	22.8		0.7	10.1		2.3
24	29.6	23.5	22.8		-	11.2		2.6
25	29.3	23.2	22.2		-	8.9		2.6
26	29.9	23.1	21.7		-	10.9		2.7
27	29.1	23.2	21.9		1.5	8.6		2.3
28	30.0	23.1	21.6		-	9.6		2.7
29	30.0	23.5	22.4		trace	11.2		3.0
30	29.8	22.9	21.2		-	11.5		3.6
31								
Sums					54.1	297.6		90.7
Means	29.3	23.2	*21.5		-	9.9		3.0

*Mean for 29 days

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METEOROLOGICAL OBSERVATIONS.

9 a.m. October 1938

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	-	-	6	6	3000		cbc	bcjpr	M	ESE	3	1013.4	27.9	24.3	72	27.2			
2	Cu	-	-	2	2	4000		bcb	b	M	E	2	1014.2	28.4	23.8	66	25.5			
3	Cu	-	Ci	trace	7	4000		bcbbc	bc	M	E	4	1014.6	28.0	22.6	61	22.8			
4	Cu-Nb	-	-	8	8	3500		bcbbc	c	M	ENE	4	1013.9	28.3	23.3	65	24.8			
5	Cu	-	Ci	2	2	4000		bcbb	b	M	ESE	2	1014.3	28.2	22.8	61	23.1			
6	Cu	-	-	3	3	3500		bbc	bc	M	ESE	2	1013.8	28.2	23.8	68	25.6			
7	Cu	-	Ci	3	4	4000		bcb	bc	M	ESE	4	1013.7	28.3	23.7	66	25.2			
8	Cu	-	Ci	3	7	3500		bbc	bc	M	ESE	2	1014.0	28.1	23.4	66	24.7			
9	St-Cu	A-St	-	7	8	3000		cbc	cv	M	E	2	1014.1	27.7	23.3	67	24.8			
10	Cu-Nb	Nb-St	Ci-St	6	8	2500		cqprrc	cjpr	K	ESE	3	1014.4	27.6	24.7	78	28.4			
11	Cu	Nb-St	Ci	5	9	2500		cqprc	cjpr	M	ESE	3	1014.0	28.1	25.0	77	28.8			
12	Cu-Nb	-	Ci	5	8	2000		cprqc	cjpr	K	ENE	4	1014.3	28.2	24.8	74	28.3			
13	Cu	-	-	1	1	4000		bc b	b	M	ESE	3	1014.7	27.8	23.8	70	26.0			
14	Cu-Nb	-	-	9	9	1000		bcpr$_o$R	cjpr	H	N	1	1014.4	25.0	23.8	90	28.3			
15	Cu	-	Ci-St	2	2	4000		cpr bc	b	M	ENE	2	1014.2	28.1	25.0	77	28.8			
16	Cu	-	Ci	2	3	4000		bc b bc	bc	M	N	1	1014.0	27.6	24.1	74	26.9			
17	St-Cu	A-St	C-Cu	7	8	4000		cbccpr	cjpr	M	S	1	1013.1	25.0	23.8	90	28.3			
18	Cu	A-Cu	Ci	3	4	3000		cprcbc	bc	M	E	1	1013.8	28.1	24.0	71	26.5			
19	Cu-Nb	A-Cu	Ci	3	5	3000		cpr bc	bc	M	ENE	1	1015.4	27.8	24.3	73	27.2			
20	Cu	-	Ci	1	2	4000		bc b	b	M	E	3	1015.0	28.0	24.0	70	26.3			
21	Cu	-	-	6	6	3000		bc b bc	bc	M	E	3	1014.4	28.4	25.2	76	29.2			
22	Cu-Nb	Nb-St	Ci	7	9	1000		bcccpr	cpr	K	NNE	4	1014.4	26.1	24.0	83	27.9			
23	Cu	-	Ci	3	8	3000		bclcprc	c	M	Calm	0	1015.4	27.4	24.2	75	27.3			
24	Cu	-	Ci-St	trace	7	4000		bcltprc	bc	M	SSW	1	1014.3	27.1	23.5	72	25.7			
25	Cu	-	-	1	1	4000		bcbv	bv	M	Calm	0	1013.4	27.1	23.1	70	24.7			
26	Cu	-	-	2	2	3500		b bc b	bv	M	ENE	2	1012.1	28.2	24.1	70	26.4			
27	Cu	-	Ci	2	7	3500		bc	bc	M	ESE	4	1012.1	27.6	24.8	79	28.7			
28	Cu	-	Ci	4	9	3000		cprlc	c	M	ESE	3	1012.1	28.1	25.0	77	28.8			
29	Cu	-	Ci	5	7	2000		bcprcbc	bcjpr	M	ESE	3	1012.7	28.2	24.8	74	28.3			
30	Cu	-	Ci	3	4	3000		ctlprbc	bc	K	ESE	4	1011.5	28.5	25.1	75	28.8			
31	Cu	-	Ci	1	1	3000		bclprbc	bc	K	E	4	1011.1	29.0	24.3	66	26.3			
Means				3.6	5.4	3201						2.5	1013.8	27.7	24.1	73	26.8			

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METEOROLOGICAL OBSERVATIONS.

3 p.m. October 1938

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	4	3000		bc	bc	M	ENE	4	1010.6	29.4	24.4	64	26.5			
2	Cu	-	Ci	1	6	3500		b bc	bc	M	ENE	3	1011.8	29.5	23.4	58	23.5			
3	Cu	-	Ci	2	7	4000		bc	bc	M	E	4	1011.4	28.8	24.0	65	25.6			
4	Cu	-	Ci	2	7	3000		bc	bc	M	NE	3	1010.9	28.1	23.0	66	24.9			
5	Cu	-	Ci	trace	1	5000		byv	byv	M	NE	2	1010.9	30.0	22.0	47	19.6			
6	Cu	-	Ci-Cu	2	4	3500		bc	bc	M	E	3	1010.9	29.1	24.2	65	25.9			
7	St-Cu	-	-	5	5	3500		bc	bc	M	E	4	1010.9	28.8	23.8	64	25.1			
8	Cu-Nb	-	Ci	2	8	5000		bccbcv	cv	M	ENE	2	1011.8	29.3	24.2	63	25.7			
9	Cu-Nb	A-St	Ci	3	8	3500		cvprc	c	M	E	5	1011.9	28.7	24.6	69	27.3			
10	Cu-Nb	A-St	Ci	6	8	2500		cqpr	c	M	ESE	5	1012.3	26.4	24.1	82	27.9			
11	Cu-Nb	Nb-St	-	6	9	1000		orcpr	cjpr	K	ESE	4	1012.8	26.2	24.0	82	27.7			
12	Cu	-	-	6	6	2500		cqpr	bc	M	E	2	1011.9	28.4	24.1	69	26.3			
13	Cu	A-Cu	Ci-St	2	7	3000		bccqrbc	bcv	M	E	4	1012.2	28.2	24.0	69	26.1			
14	St-Cu	A-St	Ci-St	6	8	2000		crrc	c	K	E	3	1011.6	28.0	24.7	75	28.1			
15	Cu	-	Ci-St	3	5	4000		bcbbc	bc	M	ENE	1	1012.0	29.1	25.0	70	28.0			
16	Cu-Nb	A-St	-	6	9	200		bcprcc	cjr	M	Calm	0	1011.0	27.4	24.0	74	26.8			
17	Cu-Nb	A-St	-	7	9	500		cbcjprc	cjpr	M	ENE	3	1010.4	26.3	24.8	88	31.1			
18	Cu	A-St	Ci-Cu	5	5	3000		bc	bc	M	NNE	2	1011.8	28.3	24.6	72	27.6			
19	Cu-Nb	-	Ci	4	5	2500		bc	bc	M	ENE	3	1012.7	29.1	25.2	71	28.5			
20	Cu	A-St	Ci	3	5	4000		b bc	bc	M	E	2	1012.3	28.9	24.7	69	27.3			
21	Cu-Nb	-	Ci	5	6	3000		bc	bcjpr	M	E	4	1012.0	28.8	25.1	73	28.5			
22	Cu-Nb	-	Ci	2	6	3500		cbc	bc	M	NE	1	1011.5	28.9	24.7	69	27.3			
23	Cu	-	Ci	5	7	3000		cbc	bc	M	NE	1	1012.5	28.4	24.4	70	27.1			
24	St-Cu	-	Ci-Cu	5	8	4000		bccv	cv	M	ENE	1	1012.3	28.2	23.7	67	25.3			
25	Cu-Nb	-	Ci	2	2	3000		b	b	M	NE	2	1011.0	28.8	24.0	65	25.6			
26	Cu	A-St	Ci-St	3	5	3000		bvbc	bc	M	E	3	1010.4	28.7	25.0	72	28.4			
27	Cu-Nb	A-St	Ci	2	9	3000		bcctc	c	M	E	4	1009.6	28.1	24.7	74	28.0			
28	Cu	-	Ci	2	5	3000		cbcprcc	bc	M	E	4	1009.9	29.3	25.4	72	29.2			
29	Cu-Nb	-	Ci	4	8	3500		cprctc	c	M	E	2	1010.0	28.3	25.4	78	29.7			
30	Cu-Nb	A-Cu	Ci	5	7	3500		bcprbc	bc	J	E	4	1008.4	29.7	25.8	72	29.7			
31	Cu	-	Ci	3	4	3500		b	bc	K	E	5	1008.6	29.2	25.2	71	28.5			
Means				3.6	6.2	3071						2.9	1011.2	28.5	24.4	70	27.0			

METEOROLOGICAL OBSERVATIONS

October 1938

Day of Month	Thermometers							
	Maximum (°C)	Minimum (°C)	Grass Minimum (°C)	Black Bulb in vacuo (°)	Rainfall (mm.)	Sunshine (hours)	Heat Integrator	Evaporimeter
1	29.9	24.4	22.2		-	11.3		3.9
2	30.1	23.1	21.6		-	11.5		3.9
3	29.8	22.9	20.6		-	11.5		4.6
4	30.2	24.8	22.8		-	9.1		4.2
5	30.4	20.7	19.3		-	11.8		4.6
6	30.0	22.5	20.9		-	11.4		3.4
7	29.2	23.6	22.2		-	11.5		3.9
8	30.3	22.2	20.0		-	11.0		3.3
9	30.1	22.0	19.2		11.5	8.4		2.1
10	28.9	23.7	22.4		36.1	4.2		1.2
11	28.7	23.3	22.4		6.3	2.5		1.0
12	29.1	23.8	22.6		10.0	8.9		1.1
13	29.2	22.3	20.8		9.1	10.5		2.2
14	28.7	23.2	21.9		32.0	6.3		1.2
15	29.1	23.2	22.4		-	11.8		2.5
16	29.3	22.5	21.0		13.8	8.0		2.0
17	28.7	23.9	22.9		8.4	3.3		1.4
18	29.0	23.7	22.3		23.0	9.0		2.1
19	29.3	23.1	21.9		-	11.6		2.4
20	29.6	22.1	20.6		-	12.1		2.9
21	29.7	23.3	22.1		trace	9.2		3.3
22	29.0	25.3	23.5		4.3	7.2		1.8
23	28.8	23.8	22.7		20.7	8.6		1.1
24	28.7	22.2	20.9		-	10.4		2.5
25	29.1	22.6	21.0		-	11.3		2.6
26	28.3	23.2	21.5		-	11.4		2.7
27	28.9	22.9	21.4		4.5	7.6		2.4
28	29.5	24.1	22.3		1.7	8.8		2.2
29	29.5	24.1	21.9		7.7	7.3		1.9
30	29.5	22.8	21.1		15.1	9.4		1.9
31	29.7	25.3	23.3		trace	11.9		3.5
Sum	-	-	-		204.2	288.8		79.8
Mean	29.4	23.3	21.7		-	9.3		2.6

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METEOROLOGICAL OBSERVATIONS.

9 a.m. November 1938

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-Nb	A-St	Ci	6	8	1000		bcccpr	cjpr	H	ESE	4	1011.7	27.3	23.9	74	26.7			
2	St-Cu	A-St	-	7	9	1000		cqr	cjpr	H	E	6	1011.1	27.2	23.9	74	26.7			
3	Cu	A-St	Ci	8	9	1000		ctlRcpr	cjpr	H	ESE	5	1010.9	27.1	25.2	85	30.3			
4	Cu-Nb	Nb-St	-	4	10	1000		cRtlr	crr	H	E	4	1010.0	24.6	23.2	88	27.1			
5	Cu	A-Cu	Ci	4	9	2500		orroprc	c	M	E	2	1008.7	27.7	23.7	70	25.7			
6	St-Cu	-	Ci-St	8	9	2000		cpr c	c	K	ESE	2	1009.4	26.7	24.0	79	27.3			
7	St-Cu	-	-	9	9	1500		cpr c	cpr	K	ENE	2	1010.2	26.5	24.9	87	29.9			
8	Cu	-	Ci	2	2	3000		crcprbc	b	M	E	1	1010.4	27.5	24.2	75	27.2			
9	St-Cu	A-St	-	6	10	1000		cpr c	cjpr	K	NE	3	1009.4	27.0	24.5	80	28.4			
10	Cu-Nb	Nb-St	-	6	10	1000		ctlr$_o$r$_o$	c/pr	K	SE	2	1012.0	26.8	25.0	86	29.9			
11	Cu-Nb	Nb-St	-	8	10	500		cprt	cpr	H	E	2	1012.5	25.3	24.0	90	28.5			
12	St-Cu	A-St	-	6	10	3000		ctlrc	c	M	ESE	4	1010.9	26.0	23.7	82	27.2			
13	Cu-Nb	Nb-St	-	2	10	1000		orcpr	or	H	NW	1	1007.2	25.2	23.9	89	28.3			
14	St-Cu	A-St	Ci	4	9	3500		cprr$_o$cv	cv	M	E	1	1002.9	26.7	24.1	80	27.6			
15	St-Cu	A-St	-	7	10	1500		cprrc	cjpr	K	ENE	1	1003.6	26.0	24.3	86	28.7			
16	Cu-Nb	A-St	-	5	10	3000		ctlRrrc	cjpr	M	WNW	3	1006.8	27.0	25.6	89	31.3			
17	St-Cu	A-St	Ci	7	9	2500		ctlprc	c	K	Calm	0	1009.0	27.6	25.3	82	30.1			
18	Cu	A-Cu	Ci	3	8	3000		c bc c	c	K	Calm	0	1007.5	27.8	25.3	80	29.9			
19	Cu	-	Ci	3	3	3000		c bc	bc	M	Calm	0	1007.1	28.6	25.5	77	29.7			
20	Cu-Nb	Nb-St	-	4	10	1000		cprltRr	orr	K	SSW	2	1009.6	24.2	23.7	96	28.7			
21	Cu	A-Cu	Ci	2	5	3000		cr$_o$prbc	bc	M	Calm	0	1011.1	28.2	25.0	76	28.8			
22	Cu	A-Cu	Ci	1	8	4000		cpr$_o$cbc	c	M	Calm	0	1011.0	26.9	24.7	83	29.1			
23	Cu	A-Cu	Ci	3	6	3000		cprbc	bc	M	Calm	0	1010.0	28.2	25.2	77	29.3			
24	Cu	A-Cu	Ci-St	6	9	2000		cpr$_o$cbc	c	M	Calm	0	1009.5	27.4	24.0	74	26.8			
25	St-Cu	A-St	Ci-St	3	10	4000		cprbcc	ct	M	Calm	0	1008.6	26.4	25.0	89	30.3			
26	-	Nb-St	-	-	10			cbcoqRR	oRR	E	WNW	5	1008.0	23.7	23.5	98	28.5			
27	-	Nb-St	-	-	10			orr	oir	K	W	3	1008.5	23.2	22.7	96	26.9			
28	Cu-Nb	Nb-St	-	4	9	3000		oqrorr	cjr/r	M	Calm	0	1006.9	25.1	23.9	90	28.4			
29	St-Cu	A-St	Ci-St	2	9	4500		oRqcp	c	M	SSW	2	1007.0	25.3	24.0	90	28.5			
30	-	Nb-St	-	-	10			cprctr$_o$	otr$_o$r$_o$	H	ESE	4	1008.9	25.1	23.8	89	28.1			
31																				
Means				4.3	8.7	2241						2.0	1009.0	26.4	24.3	84	28.5			

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METEOROLOGICAL OBSERVATIONS.

3 p.m. November 1938

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-Nb	A-St	Ci	7	9+	1000		cprcrcc	cjpr	K	ESE	4	1008.5	27.4	24.9	81	29.2			
2	-	Nb-St	-	0	10			oprr	or	G	E	3	1010.1	25.0	23.9	91	28.5			
3	Cu-Nb	Nb-St	Ci-St	5	10	1000		cprcqr	cjpr	K	SE	2	1008.6	25.6	24.6	92	29.9			
4	Cu-Nb	A-St	-	5	10	1000		crrcqrc	cjpr	K	ESE	2	1007.1	26.9	24.4	80	28.3			
5	Cu-Nb	A-St	-	2	10			cpr c	cqr	K	WNW	3	1007.8	25.7	24.3	89	28.9			
6	St-Cu	Nb-St	-	2	9+	2000		cprc	crc	K	E	2	1007.3	25.4	23.1	82	26.1			
7	Cu-Nb	-	-	9+	9+	2000		cprgc	cjpr	K	E	1	1008.9	26.0	23.7	82	27.2			
8	St-Cu	A-St	-	7	9	2000		bcjrcrc	c	M	SSE	1	1008.4	26.7	22.5	68	23.6			
9	Cu	-	Ci	2	8	2500		cpr c	c	M	E	2	1007.8	28.3	25.3	77	29.5			
10	Cu	A-Cu	Ci	2	9	3000		cpr c	c	M	E	4	1009.5	29.0	25.2	72	28.7			
11	Cu	A-St	Ci-St	3	9+	3000		cjprcrc	cjpr	M	E	2	1010.0	28.9	24.8	70	27.6			
12	St-Cu	Nb-St	-	4	10	4500		c or	orr		SE	1	1007.4	25.4	24.4	92	29.5			
13	Cu-Nb	A-St	-	5	10	1000		orcjpro	crc	K	WNW	3	1003.8	26.0	23.8	82	27.5			
14	Cu-Nb	Nb-St	-	1	9+	500		cvcpr	cr	K	NW	4	1000.8	25.5	24.0	88	28.4			
15	Cu-Nb	Nb-St	-	3	10	1000		cprtrrc	crc	K	NW	3	1001.0	27.0	25.1	85	30.0			
16	Cu-Nb	A-St	-	3	10	500		oRqtrc	crc	H	WNW	4	1005.4	27.8	25.8	84	31.3			
17	St-Cu	A-Cu	-	9	9	2000		cprc	c	K	NW	1	1006.1	29.0	25.3	73	28.9			
18	Cu-Nb	A-St	Ci	6	9	2000		cbcc	cjr	M	SSW	2	1005.5	28.3	25.1	76	28.9			
19	Cu	-	-	3	3	2500		bcv	bcv	M	NNW	1	1005.5	28.6	25.4	76	29.5			
20	St	Nb-St	-	2	10	500		orcrc	orcrc	K	NNW	2	1008.8	25.9	24.5	89	29.3			
21	Cu-Nb	Nb-St	-	6	9+	2000		bc c	cjpr	K	S	1	1009.4	26.7	24.7	84	29.2			
22	St-Cu	A-St	Ci-St	6	8	3000		c bc c	c	M	Calm	0	1008.3	28.1	24.8	75	28.3			
23	Cu-Nb	A-St	Ci-St	4	8	3000		bctlprc	c	M	Calm	0	1007.9	28.4	25.7	80	30.5			
24	-	Nb-St	-	0	10	1000		cR	oR	G	N	2	1008.6	25.3	25.1	98	31.5			
25	St-Cu	A-St	Ci-St	6	10	3000		cRcrc	circ	K	SW	1	1006.5	26.0	24.7	90	29.7			
26	Cu-Nb	A-St	-	7	10	1000		oRR	orrq	H	NW	5	1005.7	22.8	22.1	94	25.7			
27	St-Cu	A-St	-	4	9+	2500		oirc	cjr	K	Calm	0	1005.3	26.9	24.5	81	28.5			
28	-	Nb-St	-	0	10			crcctqR	oiR	G	W	3	1004.4	25.5	25.0	96	30.9			
29	Cu-Nb	A-St	-	6	9+	1000		cqr c	cjr	K	NNW	5	1005.1	27.8	25.4	81	30.1			
30	St-Cu	Nb-St	-	3	10	1000		ctircrc	cido	K	Calm	0	1007.8	25.1	23.9	90	28.4			
31																				
Means				4.1	9.2	1833						2.1	1006.9	26.7	24.5	83	28.8			

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METEOROLOGICAL OBSERVATIONS

November 1938

Day of Month	Thermometers				Rainfall (mm.)	Sunshine (hours)	Heat Integrator	Evaporimeter
	Maximum (°C)	Minimum (°C)	Grass Minimum (° C)	Black Bulb in vacuo (°)				
1	29.3	25.3	23.2		26.3	5.7		2.1
2	27.9	23.3	21.9		67.1	0.0		0.6
3	29.5	23.2	22.6		56.8	5.4		0.7
4	27.7	22.8	22.0		16.6	0.0		0.5
5	28.8	22.4	21.3		2.6	2.2		1.3
6	28.4	23.2	22.2		10.1	2.4		1.5
7	28.0	22.7	21.2		18.9	5.2		0.3
8	28.8	22.9	22.0		3.8	7.9		2.3
9	28.9	24.6	22.8		18.1	5.5		1.7
10	29.7	24.0	23.0		19.3	6.6		2.3
11	29.3	24.7	23.3		18.3	2.0		1.4
12	27.8	23.2	22.3		6.8	0.0		1.4
13	26.9	22.6	21.2		4.3	1.4		1.7
14	27.9	23.9	22.6		21.0	1.4		1.0
15	27.7	23.2	22.0		68.2	0.2		0.6
16	28.1	23.8	23.4		18.2	0.2		0.7
17	30.5	25.0	23.8		1.7	4.4		1.0
18	29.2	24.0	23.2		-	7.3		1.8
19	28.9	24.5	23.2		111.2	11.1		0.6
20	28.4	23.3	22.2		6.0	0.0		1.0
21	29.0	23.6	22.3		3.5	5.2		1.2
22	29.0	23.1	21.8		6.7	5.5		1.7
23	29.0	23.4	22.3		1.4	8.9		1.6
24	29.3	23.8	22.6		39.3	4.4		0.5
25	27.0	23.7	22.9		59.8	0.1		0.2
26	26.2	23.4	22.3		33.0	0.0		0.7
27	28.0	22.1	21.4		82.6	0.0		0.7
28	28.1	22.7	21.8		39.6	2.1		0.2
29	28.2	23.8	23.1		7.5	4.3		1.6
30	25.6	24.4	23.2		78.3	0.0		0.2
31								
Sum	-	-	-		847.0	99.4		33.1
Mean	28.4	23.5	22.4			3.3		1.1

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METEOROLOGICAL OBSERVATIONS.

9 a.m. December 1938

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-Nb	Nb-St	-	4	10	2000		orrtcrr	cir	K	SSE	2	1010.1	24.7	24.0	94	28.9			
2	Cu-Nb	Nb-St	-	2	10			oRRrr	oRR	E	NE	6	1010.0	25.7	25.0	94	30.8			
3	Cu	-	Ci	7	7	2000		cprc	bcpr$_o$	M	NW	3	1009.9	26.9	25.0	85	29.9			
4	Cu-Nb	Nb-St	-	4	10	2000		otlRRpr	opr	H	Calm	0	1010.9	24.5	23.6	92	28.1			
5	Cu	-	Ci	3	4	3000		cjrcbc	bc	M	E	1	1011.3	28.2	24.8	74	28.3			
6	Cu	-	Ci	3	4	3000		bccbc	bc	M	ESE	2	1009.9	28.6	25.4	76	29.5			
7	Cu	A-St	Ci	5	7	2000		bcprcbc	bc	M	ESE	1	1010.7	28.6	25.9	80	30.9			
8	Cu	Nb-St	-	3	8			cbcqpr	cpr$_o$/q	K	ESE	2	1009.5	27.0	24.8	83	29.2			
9	Cu	-	-	3	3	3000		bccprcb	bc	M	ESE	3	1009.5	28.4	26.1	82	31.6			
10	Cu	-	Ci	2	3	3500		cbcprcb	bc	M	ESE	4	1009.9	29.2	25.8	75	30.1			
11	Cu	-	Ci-Cu	1	2	4000		pr$_o$bcb	b	M	E	2	1009.8	28.0	23.2	65	24.3			
12	Cu	-	-	4	4	3500		bcprcbc	bcjr	M	ESE	5	1008.0	28.0	24.6	74	27.9			
13	Cu-Nb	Nb-St	-	4	10	1500		cqrtlr	cir$_o$	H	NE	2	1009.9	25.3	23.6	86	27.5			
14	Cu	-	-	5	5	3000		ctlqrbc	jr/pr	M	ESE	4	1010.4	28.2	25.2	77	29.3			
15	Cu-Nb	A-Cu	Ci-St	4	9	2500		r$_o$cqtlp	c	M	E	4	1009.6	27.2	24.3	77	27.7			
16	Cu	A-Cu	Ci	7	9	1500		ctlprc	jr/pr	K	E	6	1010.2	27.6	25.1	80	29.5			
17	St-Cu	A-St	Ci	6	9	2000		cbccr	cjr/r	M	ESE	1	1009.7	26.0	24.6	89	29.5			
18	Cu-Nb	A-Cu	Ci-St	6	7	3500		qcpr	bcjpr	K	E	3	1008.8	27.3	24.4	77	27.9			
19	-	Nb-St	-	0	10			clprcr	or$_o$r$_o$	H	ESE	4	1010.2	23.8	23.3	96	28.0			
20	Cu	-	Ci	6	8	2000		cpr c	cjpr	K	E	5	1009.2	28.2	25.0	76	28.8			
21	Cu	-	Ci	4	9	3000		bcbcpr	c	K	ENE	3	1009.5	28.2	25.7	81	30.7			
22	Cu	-	Ci-St	4	9	2000		bclbcc	cjr	K	NE	1	1011.1	28.4	24.8	73	28.0			
23	Cu	-	Ci-St	2	4	3500		bc cbc	bc	M	ESE	2	1011.4	28.4	25.0	75	28.5			
24	Cu	-	Ci	2	3	3500		bc cbc	bc	M	ESE	3	1009.1	28.8	24.9	71	28.0			
25	Cu	Nb-St	Ci	7	8	2500		bbcprl	cpr$_o$	K	ESE	5	1008.1	28.4	25.0	75	28.5			
26	Cu-Nb	-	Ci	6	6	2000		bccprc	bc	K	ESE	5	1008.0	28.6	25.2	75	28.9			
27	Cu	-	-	6	6	2000		crqpr	bc	M	E	3	1008.5	27.6	25.1	80	29.5			
28	St-Cu	A-St	Ci	8	9	3000		bcccpr	cjpr	J	SE	1	1010.7	26.2	24.0	82	27.7			
29	Cu	-	-	4	4	3000		ccprc	bc	K	SE	1	1010.0	28.0	25.1	78	29.2			
30	Cu	-	Ci-St	3	6	3000		cpr$_o$bbc	bc	M	SE	2	1009.4	28.6	25.6	78	30.1			
31	Cu-Nb	-	Ci-St	5	6	2500		c cpr	bc	K	ESE	3	1010.9	27.9	25.2	79	29.6			
Means				4.2	6.7	2643						2.9	1009.8	27.4	24.8	80	28.9			

1,000/7/32—3911] APIA OBSERVATORY

METEOROLOGICAL OBSERVATIONS.

3 p.m. December 1938

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-Nb	A-St	-	3	10	2000		cr·r·or	cjpr	K	ESE	3	1007.5	26.7	25.0	86	30.0			
2	Cu-Nb	A-St	-	7	10	1000		oRRir·c	cjpr	K	N	3	1007.9	27.6	25.1	80	29.5			
3	Cu-Nb	Nb-St	-	8	10			cqPR	oPR	F	NNW	4	1008.5	24.9	24.1	93	29.1			
4	Cu-Nb	A-St	-	5	10	1500		otproir·	cir·	K	SSW	2	1009.9	24.8	23.3	87	27.1			
5	Cu-Nb	-	Ci-St	3	8	3500		bcc	c	M	E	1	1009.4	28.3	25.0	75	28.7			
6	Cu	-	Ci	3	6	3500		bc	bc	M	E	3	1008.0	29.2	25.2	71	28.5			
7	Cu-Nb	-	Ci	2	8	3000		bc c	c	M	E	1	1007.8	29.4	25.4	71	28.8			
8	Cu	-	Ci	3	3	3000		cprbc	bc	M	E	3	1007.7	29.4	25.8	74	30.0			
9	Cu	-	-	5	5	3000		hccpr	bc	K	ESE	4	1007.6	29.5	27.0	81	33.2			
10	Cu-Nb	A-St	-	5	7	1000		bc	bcjpr	K	ESE	5	1008.1	29.3	26.1	76	30.9			
11	St-Cu	-	Ci-St	4	5	4000		b bc	bc	M	E	5	1007.6	28.3	25.3	77	29.5			
12	Cu-Nb	A-St	Ci-Cu	7	8	2000		bcoqpr·	cjpr	K	Calm	0	1006.5	27.4	24.8	80	28.9			
13	Cu-Nb	A-St	Ci	6	7	2000		cr·pr·bc	bc	M	E	3	1007.9	26.1	23.6	80	26.8			
14	Cu-Nb	A-St	Ci	6	9	2500		cprbcpr·	cir·	K	ESE	4	1007.6	27.6	25.2	81	29.7			
15	St-Cu	A-St	Ci	4	8	3000		cprcc	c	M	E	3	1008.0	28.7	24.9	72	28.1			
16	Cu-Nb	A-St	-	5	10	2000		ccpr·c	c	K	ESE	2	1008.9	26.5	23.6	77	26.5			
17	Cu	Nb-St	-	4	9	2000		cpr·cjr	cjr	K	ESE	2	1007.1	27.1	24.2	78	27.6			
18	Cu-Nb	A-Cu	Ci-St	2	6	3000		cprcbc	bc	K	ENE	4	1006.9	28.2	24.7	73	28.0			
19	Cu-Nb	-	Ci	5	8	2000		oqrcpr·	c/pr·	K	E	4	1007.0	28.7	25.2	74	28.9			
20	St-Cu	-	Ci	5	6	3000		cjpqprc	bc	K	E	4	1006.7	29.4	25.4	71	28.8			
21	St-Cu	-	Ci-St	4	10	3000		cpr c	c	K	NE	3	1007.0	28.5	25.2	75	29.1			
22	St-Cu	-	Ci-St	5	10	3000		cjprc	c	K	NE	2	1009.0	28.5	24.6	71	27.5			
23	St-Cu	A-St	Ci-St	6	7	4500		bccpr	bcty	M	ESE	1	1009.0	27.5	21.0	54	19.3			
24	Cu	-	Ci-St	1	2	4000		bcb	b	L	ESE	5	1007.2	30.0	26.0	71	30.0			
25	Cu	-	Ci	4	6	3500		bccprbc	bc	K	ESE	4	1005.5	29.4	25.8	74	30.0			
26	Cu-Nb	-	Ci	8	9	3000		bcqprr·	cpr·	K	E	4	1005.9	28.2	25.9	82	31.2			
27	Cu	-	Ci	5	6	3000		bc	bc	M	ENE	2	1006.7	29.4	25.0	68	27.7			
28	Cu	-	Ci	1	8	2500		bc cpr	c	L	SE	1	1009.1	27.7	24.3	74	27.3			
29	Cu	A-St	Ci	3	4	3000		bcpr·bc	bc	M	Calm	0	1008.0	27.7	24.4	75	27.6			
30	Cu-Nb	Nb-St	-	7	9	2500		bc cpr	cjpr	M	NE	5	1007.5	26.4	24.3	83	28.4			
31	Cu-Nb	-	-	7	7	2500		cpr bc	bc	M	ENE	1	1009.4	28.7	25.4	75	29.5			
Means				4.6	7.5	2629						2.8	1007.8	28.0	24.9	76	28.6			

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METEOROLOGICAL OBSERVATIONS

December 1938

Day of Month	Thermometers				Rainfall (mm.)	Sunshine (hours)	Heat Integrator	Evaporimeter (mm.)
	Maximum (°C)	Minimum (°C)	Grass Minimum (°C)	Black Bulb in vacuo (°)				
1	26.9	23.3	23.1		118.3	0.0		0.0
2	27.7	24.2	23.8		11.1	0.4		1.4
3	27.6	24.7	23.6		119.0	4.5		0.0
4	28.4	23.2	22.4		5.7	1.0		0.8
5	29.2	22.2	20.9		-	9.1		2.0
6	30.0	23.1	21.7		1.1	10.2		2.4
7	29.7	24.6	22.8		2.2	10.3		2.2
8	30.0	24.0	22.8		12.1	10.3		2.4
9	30.2	25.0	23.8		1.1	10.7		1.8
10	30.0	23.9	22.9		trace	10.1		3.0
11	29.8	22.3	19.8		0.8	10.5		2.8
12	28.8	22.3	20.8		15.3	7.5		2.4
13	28.3	23.4	23.3		5.7	5.1		2.6
14	29.6	23.4	22.2		18.3	9.9		1.3
15	29.7	22.7	21.6		11.8	6.6		2.2
16	27.7	24.3	23.0		23.2	0.9		1.2
17	29.6	22.8	22.2		32.7	6.7		1.2
18	28.7	23.4	22.6		43.1	7.9		0.5
19	29.3	23.3	22.6		5.5	7.4		1.7
20	29.6	23.9	23.2		3.6	8.0		2.9
21	29.0	26.3	24.3		1.1	6.5		4.4
22	29.1	27.0	26.3		trace	5.6		2.6
23	30.1	24.4	22.8		trace	10.0		2.5
24	30.1	22.7	21.0		2.9	11.5		2.9
25	29.9	24.8	23.0		4.7	10.6		2.6
26	30.0	24.8	23.5		20.0	10.1		1.4
27	29.7	24.2	22.6		21.3	10.4		1.5
28	28.9	23.4	22.0		7.8	6.9		1.4
29	29.3	23.9	22.7		0.7	10.8		2.1
30	30.0	24.0	22.8		37.7	9.6		1.1
31	29.6	24.5	23.7		5.1	8.4		1.8
Sum	-	-	-		531.9	237.5		59.1
Means	29.2	23.9	22.7		-	7.7		1.9

EXTREME VALUES, NORMALS AND VARIATIONS OF METEOROLOGICAL ELEMENTS, 1938

	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, 1938 ..	-0.6	-0.6	+0.6	nil	-0.5	+0.1	+0.5	+0.1	+0.4	+1.3	-1.3	+0.7	+0.1
Absolute Maximum ..	1011.7	1011.9	1014.5	1014.7	1015.3	1016.0	1016.6	1016.4	1016.2	1015.6	1012.6	1011.9	1016.6
Absolute Minimum ..	1001.6	1003.5	1004.9	1004.4	1004.2	1006.5	1008.5	1008.1	1008.1	1008.5	1000.5	1005.4	1000.5
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, 1938 ..	+0.53	+0.03	-0.10	-0.04	-0.12	+0.52	+1.25	+0.37	+0.32	+0.05	-0.60	+0.11	+0.19
Absolute Maximum ..	32.0	31.7	30.7	30.9	30.8	30.3	30.5	30.1	30.0	30.4	30.5	30.2	32.0
Absolute Minimum ..	22.8	22.5	21.4	22.7	21.7	22.0	22.3	21.6	21.1	20.7	22.1	22.2	20.7
Greatest daily range	7.7	7.8	8.0	7.7	7.6	7.8	6.9	7.4	8.0	9.7	6.4	7.5	9.7
Mean Maximum	29.97	29.61	29.80	29.70	29.39	29.38	29.35	29.11	29.29	29.36	28.37	29.24	29.38
Mean Minimum	24.16	23.92	23.45	23.67	23.45	23.68	24.13	23.46	23.17	23.25	23.55	23.87	23.65
Rainfall													
Normal (mm.)	455	385	358	255	161	130	82	89	133	169	267	370	2854
Variation, 1938 ..	+69	-46	-84	-88	+62	-35	+67	+45	-79	+35	+580	+162	+688
Sunshine													
Normal (hours)	155	156	182	194	209	208	229	234	228	221	181	173	2370
Variation, 1938 ..	+56	-14	+4	+15	+2	+28	+62	+21	+70	+68	-82	+64	+294

Note:- New sunshine normals based on eighteen years are used for the first time in this report.

Sunshine was recorded on 29 days only in April but the total for this month has been adjusted by multiplying by 30/29.

PRESSURE - MEANS OF HOURLY VALUES, 1938

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

Hour / Month	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
January	7.38	7.02	6.78	6.72	6.76	7.02	7.44	7.77	7.85	7.88	7.64	7.28	6.87	6.49	6.03	5.78	5.75	5.97	6.36	6.83	7.21	7.52	7.72	7.69	6.99
February	8.06	7.73	7.43	7.34	7.35	7.56	7.88	8.35	8.57	8.62	8.46	8.09	7.66	7.16	6.71	6.47	6.45	6.58	7.04	7.49	7.91	8.30	8.50	8.44	7.67
March	10.19	9.94	9.62	9.52	9.53	9.64	9.89	10.40	10.70	10.74	10.55	10.02	9.51	8.91	8.45	8.33	8.35	8.54	8.99	9.55	10.05	10.31	10.37	10.32	9.68
April	10.17	9.91	9.73	9.66	9.69	9.82	10.27	10.71	10.96	11.17	10.93	10.17	9.65	9.04	8.50	8.37	8.42	8.62	9.04	9.56	9.99	10.20	10.29	10.27	9.80
May	10.73	10.52	10.36	10.21	10.19	10.33	10.66	11.18	11.48	11.59	11.41	10.77	10.15	9.65	9.19	9.03	9.13	9.34	9.77	10.26	10.65	10.85	10.89	10.80	10.38
June	11.86	11.73	11.55	11.40	11.40	11.50	11.77	12.25	12.70	12.83	12.69	12.18	11.63	11.05	10.50	10.38	10.39	10.58	10.93	11.34	11.76	12.01	12.03	12.00	11.60
July	12.40	12.23	12.07	11.96	11.95	12.06	12.36	12.94	13.35	13.53	13.39	12.88	12.39	11.75	11.12	10.98	11.00	11.16	11.47	11.93	12.31	12.46	12.51	12.49	12.19
August	12.56	12.33	12.16	12.06	12.08	12.23	12.69	13.08	13.38	13.50	13.28	12.63	12.05	11.40	10.80	10.72	10.79	11.06	11.59	12.15	12.50	12.71	12.76	12.72	12.22
September	12.79	12.50	12.32	12.28	12.32	12.50	13.03	13.49	13.70	13.70	13.36	12.64	12.03	11.50	10.96	10.81	10.88	11.13	11.65	12.26	12.67	12.93	13.05	13.02	12.39
October	12.89	12.58	12.35	12.29	12.36	12.60	13.11	13.55	13.71	13.62	13.36	12.91	12.33	11.70	11.26	11.01	11.04	11.31	11.84	12.31	12.72	13.08	13.16	13.09	12.51
November	8.32	7.90	7.67	7.59	7.62	7.85	8.31	8.73	8.90	8.85	8.67	8.31	7.83	7.34	7.00	6.77	6.79	7.09	7.56	7.95	8.34	8.59	8.72	8.65	07.97
December	9.21	8.94	8.71	8.60	8.62	8.93	9.34	9.64	9.78	9.72	9.55	9.16	8.67	8.21	7.79	7.50	7.49	7.70	8.10	8.67	9.02	9.36	9.53	9.53	08.82
Year	10.55	10.28	10.06	9.97	9.99	10.17	10.56	11.01	11.26	11.31	11.11	10.59	10.06	9.52	9.03	8.85	8.87	9.09	9.53	10.03	10.45	10.69	10.79	10.75	10.19
Wet Season 1937-38	8.37	8.04	7.80	7.73	7.78	8.03	8.41	8.75	8.87	8.88	8.65	8.25	7.80	7.35	6.92	6.70	6.71	6.91	7.33	7.79	8.19	8.55	8.72	8.66	7.97
Dry Season 1938	11.89	11.70	11.53	11.41	11.41	11.53	11.87	12.36	12.73	12.86	12.69	12.11	11.55	10.96	10.40	10.28	10.33	10.53	10.94	11.42	11.81	12.01	12.05	12.00	11.60

PRESSURE - DIURNAL CHANGES, 1938

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

Hour	Mean 1000+	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	6.99	+0.40	+0.04	-0.20	-0.26	-0.22	+0.04	+0.46	+0.79	+0.86	+0.89	+0.65	+0.29	-0.12	-0.50	-0.96	-1.22	-1.25	-1.03	-0.64	-0.14	+0.21	+0.52	+0.72	+0.69
February	7.67	+0.43	+0.09	-0.21	-0.30	-0.30	-0.09	+0.23	+0.69	+0.91	+0.96	+0.79	+0.42	-0.01	-0.52	-0.97	-1.21	-1.24	-1.11	-0.65	-0.21	+0.21	+0.60	+0.79	+0.73
March	9.68	+0.52	+0.27	-0.05	-0.15	-0.14	-0.03	+0.22	+0.73	+1.02	+1.06	+0.87	+0.34	-0.17	-0.77	-1.23	-1.36	-1.34	-1.15	-0.70	-0.14	+0.36	+0.62	+0.68	+0.63
April	9.80	+0.34	+0.08	-0.09	-0.16	-0.15	+0.01	+0.46	+0.90	+1.15	+1.36	+1.13	+0.37	-0.15	-0.75	-1.29	-1.42	-1.37	-1.17	-0.74	-0.22	+0.21	+0.43	+0.52	+0.50
May	10.38	+0.35	+0.14	-0.02	-0.17	-0.19	-0.05	+0.28	+0.80	+1.10	+1.21	+1.03	+0.39	-0.23	-0.73	-1.19	-1.35	-1.25	-1.04	-0.61	-0.12	+0.27	+0.47	+0.51	+0.42
June	11.60	+0.29	+0.16	-0.03	-0.18	-0.18	-0.09	+0.18	+0.66	+1.11	+1.24	+1.09	+0.58	+0.03	-0.56	-1.11	-1.25	-1.22	-1.03	-0.69	-0.28	+0.14	+0.38	+0.40	+0.37
July	12.19	+0.23	+0.06	-0.10	-0.21	-0.23	-0.12	+0.18	+0.76	+1.17	+1.34	+1.20	+0.69	+0.19	-0.44	-1.08	-1.22	-1.20	-1.04	-0.73	-0.28	+0.10	+0.25	+0.30	+0.27
August	12.22	+0.34	+0.11	-0.06	-0.16	-0.14	+0.01	+0.47	+0.86	+1.16	+1.28	+1.06	+0.41	-0.17	-0.82	-1.42	-1.50	-1.43	-1.16	-0.65	-0.07	+0.28	+0.49	+0.54	+0.50
September	12.39	+0.40	+0.11	-0.07	-0.11	-0.07	+0.11	+0.64	+1.10	+1.31	+1.31	+0.97	+0.25	-0.36	-0.89	-1.43	-1.58	-1.51	-1.26	-0.74	-0.13	+0.28	+0.54	+0.66	+0.63
October	12.51	+0.36	+0.05	-0.18	-0.24	-0.16	+0.08	+0.59	+1.03	+1.19	+1.11	+0.85	+0.40	-0.18	-0.81	-1.24	-1.49	-1.46	-1.19	-0.66	-0.18	+0.23	+0.59	+0.67	+0.61
November	07.97	+0.33	-0.09	-0.33	-0.39	-0.36	-0.13	+0.33	+0.75	+0.92	+0.88	+0.70	+0.34	-0.14	-0.63	-0.96	-1.19	-1.17	-0.87	-0.40	-0.01	+0.38	+0.64	+0.77	+0.70
December	08.82	+0.44	+0.16	-0.07	-0.19	-0.17	+0.14	+0.54	+0.84	+0.97	+0.91	+0.73	+0.34	-0.15	-0.62	-0.04	-1.34	-1.35	-1.15	-0.75	-0.18	+0.16	+0.50	+0.66	+0.66
Year	10.19	+0.37	+0.10	-0.12	-0.21	-0.19	-0.01	+0.38	+0.83	+1.07	+1.15	+0.92	+0.40	-0.12	-0.67	-1.16	-1.34	-1.32	-1.10	-0.66	-0.16	+0.24	+0.50	+0.60	+0.56
Wet Season 1937-38	07.97	+0.41	+0.07	-0.17	-0.23	-0.19	+0.07	+0.45	+0.78	+0.90	+0.91	+0.68	+0.28	-0.17	-0.61	-1.05	-1.27	-1.26	-1.06	-0.63	-0.17	+0.25	+0.59	+0.75	+0.69
Dry Season 1938	11.60	+0.30	+0.12	-0.05	-0.18	-0.19	-0.07	+0.28	+0.77	+1.14	+1.27	+1.09	+0.52	-0.05	-0.64	-1.20	-1.35	-1.27	-1.07	-0.67	-0.19	+0.20	+0.40	+0.44	+0.39

TEMPERATURE - MEANS OF HOURLY VALUES, 1938

From readings in degrees centigrade at exact hours.

Hour / Month	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
January	25.40	25.24	25.01	24.67	24.60	24.55	24.73	25.95	27.45	28.24	28.37	28.50	28.56	28.76	28.87	28.62	28.37	28.04	27.46	26.97	26.62	26.36	26.10	25.77	26.80
February	24.90	24.82	24.70	24.49	24.36	24.40	24.76	25.79	27.18	27.87	28.05	28.20	28.07	28.31	28.35	27.94	27.48	27.20	26.76	26.10	25.76	25.41	25.09	24.86	26.29
March	24.58	24.17	24.18	24.09	24.08	24.15	24.65	25.90	27.44	28.52	28.66	28.70	28.62	28.38	28.22	27.70	27.29	27.04	26.53	25.86	25.51	25.15	24.94	24.63	26.20
April	24.45	24.26	24.06	23.95	23.95	23.94	24.04	25.29	27.21	28.48	28.60	28.55	28.58	28.40	28.28	28.29	27.90	27.23	26.49	25.72	25.30	25.02	24.85	24.58	26.14
May	24.30	24.17	24.18	24.00	23.92	23.89	23.95	24.79	26.89	27.89	28.10	28.22	28.30	28.17	27.72	27.54	27.30	26.76	26.03	25.53	25.04	24.75	24.57	24.43	25.85
June	24.58	24.41	24.27	24.14	24.05	24.07	24.29	25.33	27.08	28.09	28.50	28.52	28.54	28.34	28.18	27.71	27.50	27.02	26.42	25.86	25.32	25.01	24.89	24.81	26.11
July	24.92	24.77	24.73	24.72	24.83	24.89	24.97	25.93	27.51	28.17	28.40	28.59	28.68	28.53	28.69	28.38	27.90	27.38	26.83	26.12	25.84	25.60	25.40	25.25	26.54
August	24.69	24.47	24.37	24.12	24.13	24.19	24.34	25.17	26.66	27.54	27.80	28.00	28.24	28.02	28.00	27.71	27.35	26.65	26.13	25.67	25.38	25.00	24.85	24.68	25.96
September	24.07	23.87	23.67	23.62	23.67	23.69	24.54	26.46	27.71	28.17	28.48	28.59	28.57	28.50	28.43	28.12	27.72	27.07	26.43	25.74	25.36	25.02	24.89	24.51	26.11
October	24.32	24.15	23.89	23.80	23.68	23.63	24.49	26.64	27.70	28.03	28.28	28.32	28.25	28.29	28.47	28.08	27.67	27.09	26.55	25.72	25.35	25.13	24.87	24.60	26.12
November	24.46	24.31	24.09	24.05	23.98	24.11	24.60	25.60	26.35	26.86	27.02	26.76	26.90	26.79	26.77	26.52	26.29	25.83	25.57	25.28	25.15	24.96	24.68	24.63	25.48
December	25.08	25.04	24.94	24.78	24.75	24.56	25.18	26.51	27.29	27.84	28.07	28.11	28.27	28.01	27.97	27.93	27.46	27.14	26.68	26.22	25.98	25.75	25.63	25.22	26.45
Year	24.63	24.47	24.34	24.20	24.17	24.17	24.55	25.78	27.21	27.98	28.19	28.24	28.28	28.20	28.16	27.88	27.52	27.04	26.49	25.90	25.55	25.26	25.06	24.83	26.17
Wet Season 1937-38	24.98	24.85	24.67	24.47	24.39	24.39	24.81	26.09	27.42	28.16	28.35	28.51	28.47	28.51	28.50	28.30	28.00	27.65	27.13	26.48	26.09	25.77	25.49	25.21	26.53
Dry Season 1938	24.62	24.45	24.39	24.25	24.23	24.26	24.39	25.31	27.04	27.92	28.20	28.33	28.39	28.24	28.15	27.84	27.51	26.93	26.35	25.80	25.40	25.09	24.93	24.79	26.12

TEMPERATURE - DIURNAL CHANGES, 1938

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

Hour / Month	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
January	26.80	-1.39	-1.54	-1.77	-2.11	-2.19	-2.24	-2.06	-0.84	+0.66	+1.44	+1.57	+1.70	+1.76	+1.96	+2.06	+1.81	+1.56	+1.23	+0.65	+0.15	-0.20	-0.46	-0.72	-1.06
February	26.29	-1.44	-1.51	-1.63	-1.83	-1.96	-1.92	-1.55	-0.52	+0.88	+1.59	+1.76	+1.91	+1.78	+2.03	+2.07	+1.67	+1.21	+0.94	+0.50	-0.16	-0.49	-0.84	-1.15	-1.38
March	26.20	-1.81	-2.02	-2.01	-2.10	-2.11	-2.04	-1.55	-0.30	+1.24	+2.32	+2.46	+2.50	+2.42	+2.18	+2.02	+1.50	+1.09	+0.83	+0.32	-0.35	-0.70	-1.06	-1.27	-1.58
April	26.14	-1.72	-1.89	-2.08	-2.19	-2.19	-2.20	-2.10	-0.85	+1.07	+2.34	+2.46	+2.41	+2.44	+2.26	+2.14	+2.15	+1.76	+1.09	+0.35	-0.42	-0.84	-1.11	-1.28	-1.55
May	25.85	-1.56	-1.69	-1.67	-1.85	-1.93	-1.96	-1.90	-1.06	+1.04	+2.04	+2.25	+2.37	+2.45	+2.32	+1.87	+1.69	+1.45	+0.91	+0.18	-0.32	-0.81	-1.09	-1.27	-1.41
June	26.11	-1.53	-1.70	-1.84	-1.97	-2.06	-2.04	-1.82	-0.78	+0.97	+1.98	+2.39	+2.41	+2.23	+2.13	+2.07	+1.60	+1.39	+0.91	+0.31	-0.25	-0.79	-1.10	-1.22	-1.30
July	26.54	-1.58	-1.73	-1.78	-1.79	-1.68	-1.63	-1.55	-0.60	+0.98	+1.64	+1.86	+2.05	+2.14	+1.98	+2.14	+1.83	+1.34	+0.82	+0.26	-0.45	-0.73	-0.98	-1.18	-1.34
August	25.96	-1.32	-1.54	-1.63	-1.88	-1.86	-1.80	-1.64	-0.81	+0.69	+1.57	+1.83	+2.04	+2.29	+2.07	+2.05	+1.77	+1.41	+0.72	+0.20	-0.25	-0.54	-0.91	-1.06	-1.23
September	26.11	-2.01	-2.21	-2.41	-2.47	-2.42	-2.41	-1.56	+0.36	+1.61	+2.07	+2.37	+2.28	+2.46	+2.38	+2.31	+2.00	+1.60	+0.95	+0.30	-0.39	-0.78	-1.12	-1.25	-1.63
October	26.12	-1.79	-1.96	-2.22	-2.31	-2.43	-2.48	-1.62	+0.53	+1.58	+1.91	+2.16	+2.20	+2.15	+2.17	+2.35	+1.95	+1.54	+0.96	+0.42	-0.41	-0.78	-1.00	-1.26	-1.53
November	25.48	-1.03	-1.18	-1.40	-1.44	-1.51	-1.38	-0.89	+0.11	+0.87	+1.38	+1.54	+1.28	+1.42	+1.31	+1.29	+1.05	+0.82	+0.36	+0.10	-0.19	-0.32	-0.51	-0.79	-0.84
December	26.43	-1.34	-1.38	-1.48	-1.64	-1.67	-1.86	-1.24	+0.09	+0.86	+1.41	+1.64	+1.68	+1.84	+1.58	+1.54	+1.49	+1.02	+0.70	+0.24	-0.22	-0.46	-0.69	-0.81	-1.22
Year	26.17	-1.54	-1.70	-1.83	-1.97	-2.00	-2.00	-1.62	-0.39	+1.04	+1.81	+2.02	+2.07	+2.11	+2.03	+1.99	+1.71	+1.35	+0.87	+0.32	-0.27	-0.62	-0.91	-1.11	-1.34
Wet Season 1937-38	26.53	-1.55	-1.68	-1.86	-2.06	-2.14	-2.14	-1.72	-0.44	+0.89	+1.63	+1.82	+1.98	+1.94	+1.98	+1.97	+1.77	+1.47	+1.12	+0.60	-0.05	-0.44	-0.76	-1.04	-1.32
Dry Season 1938	26.12	-1.50	-1.67	-1.73	-1.87	-1.88	-1.86	-1.73	-0.81	+0.92	+1.81	+2.08	+2.22	+2.28	+2.12	+2.03	+1.72	+1.40	+0.84	+0.24	-0.32	-0.72	-1.02	-1.18	-1.32

FOURIER COEFFICIENTS: BAROMETRIC PRESSURE AND TEMPERATURE, 1938

Values of Pn and An 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 1937-38	0.57	13	0.77	141	0.06	113	0.01	326
Dry Season 1938	0.61	358	0.80	140	0.12	333	0.06	255
Y e a r 1938	0.61	5	0.81	142	0.05	3	0.04	273
			Temperature					
	°C	°	°C	°	°C	°	°C	°
Wet Season 1937-38	2.13	234	0.45	97	0.33	4	0.14	220
Dry Season 1938	2.12	238	0.54	80	0.30	346	0.19	185
Y e a r 1938	2.11	238	0.49	93	0.31	5	0.17	213

MONTHLY MEANS OF RELATIVE HUMIDITY, 1938

Percentages at exact even hours

Hour	2	4	6	8	10	noon	14	16	18	20	22	24	Mean
Month													
January	89	90	91	84	77	78	77	78	80	85	87	90	84
February	89	89	90	86	77	77	76	78	82	86	87	89	84
March	84	84	84	81	72	70	71	74	76	79	82	83	78
April	84	84	84	83	73	73	74	75	77	83	84	84	80
May	85	85	85	82	73	74	75	76	79	85	84	85	81
June	86	86	87	83	74	74	77	77	80	84	85	85	81
July	85	85	85	82	75	75	75	75	79	83	84	85	81
August	82	83	83	81	75	75	74	74	77	80	81	83	79
September	83	83	82	76	73	71	72	72	74	79	79	82	77
October	84	85	85	77	73	74	73	73	75	81	83	84	79
November	89	91	90	85	82	82	83	84	85	88	89	89	86
December	87	88	89	83	79	78	79	79	80	85	86	87	83
Year	85	86	86	82	75	75	76	76	79	83	84	86	81
Wet Season 1937-38	89	90	90	82	73	73	74	75	77	83	87	88	82
Dry Season 1938	85	85	85	82	74	74	75	76	79	83	84	85	80

RAINFALL AT APIA OBSERVATORY, 1938

Month	Number of Days on which stated Amounts of Precipitation were recorded — Amount of Rain (in Millimeters) 0.2 - 0.9	1.0 - 9.9	10.0 - 24.9	25.0 - 99.9	100 and over	Total Rain Days	Total Rain-fall	Greatest Amount in 24 hours mm.	Date	Greatest Amount in one hour mm.	Date	Time
January	4	6	4	8	0	22	524.2	94.0	21st	47.6	18th	1-2 p.m.
February	2	7	10	4	0	23	339.2	57.0	1st	30.2	10th	8-9 p.m.
March	2	4	3	5	0	14	274.2	54.8	28th	33.5	28th	11-12 noon
April	1	11	3	1	0	16	167.1	77.2	7th	33.3	8th	1-2 a.m.
May	4	10	1	4	0	19	223.4	61.5	15th	-	-	-
June	4	9	4	0	0	17	94.7	20.1	5th	20.0	6th	7-8 a.m.
July	6	6	3	2	0	17	148.8	46.1	7th	32.4	8th	3-4 a.m.
August	5	14	2	2	0	23	133.7	27.8	20th	12.2	27th	3-4 p.m.
September	3	4	0	1	0	8	54.1	41.5	9th	18.3	10th	2-3 a.m.
October	0	7	6	2	0	15	204.2	36.1	10th	17.8	14th	9-10a.m.
November	0	10	8	10	1	29	847.0	111.2	19th	37.6	20th	0-1 a.m.
December	2	12	8	3	2	27	551.9	119.0	3rd	51.3	3rd	7-8 p.m.
Y e a r	33	100	52	42	3	230	3542.5	119.0	3rd Dec.	51.3	3rd Dec.	

Note:- Rainfall is measured at 9.0 a.m. and entered to the previous day.
Greatest amounts for 1 hour are entered to the date upon which the fall actually occurred.

RAINFALL IN SAMOA, 1938

(Expressed in inches)

Station	Elevation (feet)	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year	Authority
Upolu:-															
Alafua	185	25.16	16.71	12.16	12.18	12.27	7.31	6.92	6.73	2.57	7.64	36.35	24.78	170.78	M.R. Mecham
Aleisa	910	21.86	18.09	9.88	9.43	11.53	6.64	3.04	5.76	4.18	7.83	33.45	26.12	157.81	N.Z. Reparation Estates
Casala	700	19.48	9.57	10.95	7.95	9.05	7.74	1.59	4.62	3.98	6.64	27.38	26.33	135.28	P.L.M. Morgan
Lotofaga	40	12.52	9.82	14.89	5.84	25.23	4.19	5.70	10.20	2.14	8.90	22.26	19.37	141.06	The Rev. Father Beauchemin
Magia	215	17.14	10.07	11.14	8.10	8.75	6.53	1.46	4.95	5.95	4.39	21.87	25.53	125.88	G. Miedecke
Mulifanua	14	14.41	6.51	8.08	8.26	9.00	4.37	1.25	3.39	3.01	5.79	17.07	20.69	101.83	N.Z. Reparation Estates
Mulinu'u	5	20.64	13.35	10.80	6.55	8.79	3.74	5.86	5.26	2.13	8.04	33.35	20.94	139.45	Observatory
Tafa'igata	550	21.35	17.28	10.66	11.11	7.28	5.04	3.67	5.44	2.88	7.96	32.53	26.64	151.84	N.Z. Reparation Estates
Tapatapao	1025									4.45	10.78	40.28	34.70	90.21	T. Bott
Tuana'imato	105	22.79	15.07	9.67	6.90	9.02	5.06	4.30	4.85	3.07	6.58	29.27	22.47	139.05	N.Z. Reparation Estates
Vailele	25	16.69	25.96	13.83	4.59	18.35						30.56	24.34	134.32	N.Z. Reparation Estates
Vaipoto	400	26.45	17.67	14.08	11.18	7.92	6.05	4.81	6.27	2.34	10.06	36.72	38.09	181.64	A.R. Coberoft
Vaitele	20	18.87	13.89	10.72	8.00	8.28	5.15	5.08	4.27	2.37	8.09	36.05	24.50	145.27	N.Z. Reparation Estates
Savai'i:-															
Fagamalo	8	24.75	22.07	7.80	6.93	11.90	4.47	4.94	16.12	4.52	7.56	52.35	26.78	189.99	Resident Commissioner
Falealupo	8	16.61	14.55	5.55	3.36	3.33	2.64	0.70	1.61	1.29	3.67	32.33	25.87	111.51	The Rev. Father Merten
Tuasivi	25	14.56	4.70	13.47	7.47	13.89	6.09	5.84	9.28	3.38	6.81	34.63	33.51	153.65	Resident Commissioner
Vaipouli	210	24.07	26.20	9.69	7.15	11.31	4.17	5.71	20.44	3.54	8.94	67.75	36.04	225.01	Superintendent of Schools
Tutuila:-	(American Samoa)														
Pago Pago		19.40	15.30	11.30	11.00	25.80	9.80	4.00	11.20	2.30	8.70	37.70	16.40	172.90	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 five 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.

DURATION OF BRIGHT SUNSHINE, 1938

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	%
Month																
January	1.5	11.3	19.0	20.8	20.8	19.4	18.2	17.4	17.9	17.5	17.8	16.9	11.1	1.1	210.7	53
February	0.1	9.6	16.1	16.4	15.5	15.1	12.6	10.1	12.9	11.0	9.8	8.0	4.6	0.2	142.0	40
March	0.0	8.4	18.7	19.8	20.6	21.5	21.2	19.5	18.4	15.0	10.8	8.4	3.6	0.0	185.9	49
April	0.0	6.8	17.7	21.6	23.8	23.1	20.9	20.0	17.7	14.2	15.6	13.9	7.2	0.0	202.5	57
May	0.0	7.0	21.0	23.9	22.7	24.0	23.9	22.5	18.1	14.3	15.7	14.4	3.0	0.0	210.5	59
June	0.0	5.2	22.7	25.3	26.9	26.4	24.7	22.4	22.3	22.0	19.2	16.7	2.5	0.0	236.3	70
July	0.0	5.3	24.6	28.5	28.2	29.2	29.3	27.8	29.0	29.5	27.4	25.2	6.8	0.0	290.8	82
August	0.0	5.1	19.9	24.0	25.7	24.3	25.9	26.1	25.2	25.1	24.0	21.2	8.2	0.0	254.7	71
September	0.0	14.0	26.7	27.0	28.2	28.8	27.6	28.8	27.0	26.3	26.6	24.8	11.8	0.0	297.6	83
October	0.7	18.8	26.5	28.1	25.8	26.8	27.6	25.4	25.4	25.6	21.8	21.9	14.2	0.2	288.8	75
November	0.3	7.4	10.8	10.2	13.7	12.1	10.2	9.8	7.5	5.8	6.4	3.9	1.1	0.2	99.4	26
December	0.4	10.4	19.4	22.2	22.8	23.0	23.8	23.1	21.1	19.9	20.5	18.2	12.3	0.4	237.5	59
T o t a l s	3.0	109.3	243.1	267.8	274.7	273.7	265.9	252.9	242.5	226.2	215.6	193.5	86.4	2.1	2656.7	60

Note:- April total is for 29 days only - no record for April 13th.

ANALYSIS OF SUNSHINE, 1938

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

M o n t h	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year
Clear	21	12	13	15	17	19	28	24	27	27	4	20	227
Partly Cloudy	1	3	9	12	10	11	3	4	3	3	10	7	76
Cloudy	9	13	9	2	4	0	0	3	0	1	16	4	61

Note: No record for April 13th.

WIND, 1938

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	4.2	4.1	3.7	3.7	4.0	3.5	3.2	3.5	4.3	6.7	8.0	8.3	9.7	9.1	8.6	8.9	7.8	7.3	6.9	5.7	3.9	4.1	4.0	4.6	5.7
February	3.4	3.4	3.5	3.3	3.0	3.3	3.5	3.6	3.3	6.2	7.5	7.8	7.4	7.7	7.9	7.6	8.6	7.4	6.5	5.5	5.3	5.0	4.1	3.3	5.3
March	3.4	3.9	3.4	3.1	3.1	3.5	3.7	3.7	4.1	8.1	10.1	9.5	10.1	10.0	10.0	10.2	9.0	6.9	5.9	4.9	5.0	4.3	3.8	4.0	6.0
April	3.1	2.8	2.9	2.7	2.7	2.8	3.0	2.7	1.6	4.3	5.2	6.5	6.4	7.3	7.9	6.6	6.4	5.4	4.1	2.9	2.6	2.4	2.6	2.7	4.1
May	4.2	4.0	4.2	4.3	3.9	4.2	4.1	4.1	3.2	8.5	10.1	10.1	10.6	11.9	11.7	9.6	8.9	8.9	5.9	5.0	4.7	4.1	4.2	4.1	6.4
June	6.1	5.2	4.4	4.0	4.3	4.4	4.9	5.3	6.0	7.4	8.7	9.8	10.3	10.6	11.1	10.8	9.7	9.2	7.1	6.8	6.2	5.6	5.4	5.4	7.0
July	6.4	6.6	6.8	6.8	7.4	7.7	6.4	7.2	8.3	12.2	13.3	14.2	14.5	14.4	14.1	14.0	14.6	12.9	11.2	7.9	6.5	7.1	7.1	6.6	9.8
August	7.3	8.2	7.4	7.2	6.7	7.5	7.4	6.9	8.8	13.1	14.4	15.3	15.5	15.1	14.5	13.9	12.0	11.9	9.0	7.1	6.8	6.1	6.7	6.0	9.8
September	4.5	3.7	4.0	4.1	4.6	4.1	4.5	5.5	9.2	12.5	13.3	14.3	13.8	14.0	13.5	13.2	12.3	11.5	9.0	5.9	5.4	5.4	4.8	5.1	8.3
October	4.3	3.8	4.4	3.9	3.7	3.8	3.8	3.6	6.6	9.3	10.2	10.4	9.6	9.2	8.8	9.4	9.2	8.4	7.5	5.4	4.6	4.5	5.1	4.7	6.4
November	4.3	4.1	4.0	4.2	3.5	4.0	4.1	4.7	5.7	6.8	7.4	7.5	8.1	7.7	7.3	7.7	7.5	7.5	6.6	5.5	6.2	6.0	5.5	4.7	5.9
December	5.9	6.0	5.4	5.2	4.6	5.2	5.7	5.9	8.5	10.9	11.0	11.1	10.1	9.8	9.7	9.7	10.1	9.7	9.3	8.8	6.8	6.7	6.7	7.1	7.9
Year	4.8	4.7	4.5	4.4	4.3	4.5	4.5	4.7	5.8	8.8	9.9	10.4	10.5	10.6	10.4	10.1	9.7	8.9	7.4	5.9	5.3	5.1	5.0	4.9	6.9
Wet Season 1937-38	3.3	3.3	3.1	3.1	3.3	3.5	3.2	3.3	4.1	7.1	8.3	9.1	9.4	9.1	8.8	8.7	8.5	7.7	6.3	5.1	4.1	3.8	3.5	3.6	5.6
Dry Season 1938	6.0	6.0	5.7	5.6	5.6	5.9	5.7	5.9	6.6	10.3	11.6	12.3	12.7	13.0	12.9	12.1	11.3	10.7	8.3	6.7	6.1	5.7	5.9	5.5	8.3

PERCENTAGE FREQUENCIES OF WINDS FROM DIFFERENT DIRECTIONS, 1938

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	2	3	5	21	13	21	15	8	7	5	248
February	1	6	3	16	16	27	11	5	7	8	200
March	0	3	7	25	22	24	12	2	1	4	248
April	2	5	6	18	15	33	13	3	3	2	238
May	1	3	3	22	36	21	8	2	0	4	201
June	3	0	5	28	31	20	9	0	1	3	214
July	0	1	8	44	32	14	1	0	0	0+	216
August	0+	0+	4	46	33	15	2	0	0	0+	246
September	0	1	9	35	26	26	0	1	0	2	240
October	0+	2	12	32	22	28	2	1	1	0+	246
November	2	5	4	15	15	25	9	11	12	2	240
December	2	2	10	37	26	16	5	1	1	0+	248
Y e a r	1	3	6	28	24	22	7	3	3	3	2785

Note: 0+ Means some observations but less than 0.5%.

MONTHLY WIND SPEED AND DIRECTION, 1938

Speed in Miles per hour

Month		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year
Mean Speed for month		5.7	5.3	6.0	4.1	6.4	7.0	9.8	9.8	8.3	6.4	5.9	7,9	6.88
Greatest Speed in Gust		49	42	39	36	45	47	52	43	37	42	45	56	56
Direction of Gust		W	NW	W	N	ESE	ESE	E	ESE	ESE	E	WSW	ESE	ESE
Greatest Speed for one hourly period		27	23	24	19	26	28	25	26	26	24	23	29	29
Prevailing direction of wind	9 a.m.	E&ESE	E	ESE	SE,ESE	ESE	ESE	ESE	ESE	E	ESE	E	ESE	ESE
	3 p.m.	E	E	E	E	E	E	E	E	E	E	E	E	E
Most frequent direction of wind (Eight points only)		S&E	S	E	S	SE	SE	E	E	E	E	S	E	E

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Thunder and Lightning, 1938

Month	Number of Days with		Total
	Lightning only	Lightning and Thunder	
January	6	7	13
February	3	14	17
March	2	12	14
April	6	8	14
May	4	2	6
June	6	1	7
July	2	1	3
August	3	1	4
September	3	1	4
October	3	4	7
November	2	14	16
December	3	8	11
Year	43	73	116

Pilot Balloon Ascents at Apia Observatory 1938

The method of the single theodolite has been used during 1938 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 from January to May inclusive are expressed below in international code as follows:-

YYGG H_1ddvv H_1ddvv ---

where

YY = day of month; GG = hour of Greenwich time;
H_1 = height expressed in a code figure (see below)
dd = direction of wind using 36 points (i.e. 360° is expressed as 36; 270° as 27; 50° as 05; 00 = calm);
vv = speed of wind in miles per hour

Code for H_1

0 = surface

1 =	1000 feet	6 =	10000 feet
2 =	2000 "	7 =	13000 "
3 =	3000 "	8 =	16000 "
4 =	5000 "	9 =	20000 "

For higher ascents

1 =	25000 feet	4 =	35000 feet
2 =	30000 "	5 =	40000 "

From June to December the measurements are expressed in the form recommended in Resolution 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, Wellington, December 1937 (O.M.I. Publication No 42, page 37). That is to say, from June 1st onwards, the results are in the form

YYGG $HHddv_5$ $HHddv_5$ ----- ----- C_LC_MHHM

where

YY = Greenwich day of month; GG hour of Greenwich time
HH = is the height in hectametres of the centre of a layer about 200 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_LC_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		dd = 51 - 86	
v_5	m.p.h.	v_5	m.p.h.
0	0- 1	0	30-32
1	2- 4	1	33-35
2	5- 7	2	36-38
3	8-10	3	39-41
4	11-14	4	42-45
5	15-17	5	46-48
6	18-20	6	49-51
7	21-23	7	52-54
8	24-26	8	55-57
9	27-29	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

1121 03601 10205 20601 31905 41705 52009
2421 01012 11015 20915 30916 40813 50921 60920
2622 01203 11016 20915 30713 40816 50915 60820
2821 01015 11021 20923 30923 40925
3121 00920 10926 20924

February

0221 01207 11021 20825 30831 40833 50725 60919
0421 01114 11020 20921 30917 40821 50614
0821 01005 10909 20708 30411 43610 53611 63311
73507 82908 92813 12912
0921 00908 11015 21013 31013 40807 50807 60410
70111 83111 93016 12621
1122 00911 10914 20917 30817 40918 51113 60911
1521 00503 13505 23107 32914 43111 53109
1822 00503 10706 21610 31306 41105 52002 61201
71403 81810 92209 12227 22232
1923 00503 12905 22407 32307 41905 51407 61117
71309 81907 92215
2301 00000 13507 23511 33509 43613 53617
2620 02903 13107 23013 33016

March

0121 03103 12807
0421 0xx09 10814 20915 30817 40815
0520 01112 11117 21321 31127 41021 50923
0721 02006 12209 22111 32111 42212
0820 02103 11808 22113 32413 42716 52815
0920 00000 13603 22806 32609 42922 52923 63013
72914 83013 93009 12721 23035
1020 00000 12502 22903 32905 42916 53018 63017
73106 82808 91905 12105
1220 01204 10909 21111 31308 43303 53305 62809
72509 83405 90106 10911 23303 41813
1519 01203 11017 20919 30821 40815 51007 61407
70611 80903
1606 01302 11013 20819 30919 40917
1619 01802 11112 21115 31119 41008 51207 61211
71611
1706 01603 11112 21113 31011 40805 50709 61016
1719 01306 11017 21022 31117 41113
1822 00915 10915 20916 30715
2121 01015 11116 21217 31115 40913 51007 61105
2622 00912 10915 20917 30915 40516 50514 60511
2919 01802 10908 20511 30409 40411 50409 60508
70205 80319 93508 13309 22012 41712 51915
62019 71911 82015

April

0520	00000	11203	21805	31505	42707	52911	62511
	72717	82819	92718				
0620	02905	12611	22511	32614	42910	52917	62919
	72919	82819	92522				
0719	02002	12705	23310	33309	43315	53217	62927
0822	01104	10609	20315	30217			
1120	01303	10916	20915	30811	40714	50612	60808
	70921						
1420	00000	11113	21217	31217	41315	51213	61217
1922	00302	10205	20205	30203	43101	51904	61801
	71907						
2121	00000	11604	23203	30201	43004	52608	62609
	72308	82410					
2820	00000	10911	21012	31009	40807	50807	61807
	72109	81512	91730	12217	21922	41829	

May

0622	00920	11023					
0922	00914	10915	20913	31307	41005	50409	60705
	72105	81707	92111	11917	21829		
1121	01005	10908	20605	30308	43507	53305	63307
	71113	80906	90809	13307			
1421	00614	11017	21014	31013	40816	50408	62004
	73607	82907	91105	11915			
1722	00619	11019	20817	30918	40920		
1821	00714	11019	20918	30820			
2021	00000	10602	2xxxx	3xxxx	41221	51017	61215
	71218	81813	91909	12017	22317	42411	52019
	61814	72507					
2420	00000	12607	22807	32708	42709	52716	62713
2720	00000	11007	20904	30603	40702	51205	62912
	72911	82914					

Note: The Salzbourg Code in the form YYGG HHddv$_5$ etc. is used from June 1st onwards.

June

0221	02052	05072	10091	20352	30343	37252	43184
	56189						
0720	02131	05091	10211	20612	29124		
1101	00095	02096	06244	08000	12754	50145	
1319	02116	08096	12085	20083	30054	13439	
1519	02113	05073	08054	23012	27343	1x351	
1719	02103	05055	10066	20078	1x239		
1821	02106	05097	10098	20074	30045	41069	7x479
2019	02148	05601	10591	70145			
2220	02115	05117	10600	10125			
2419	02095	05095	10075	16055	72205		

June (contd.)

2720	02114	05085	10076	10115			
2819	02103	05073	10054	20063	30082	34132	44012
	55710	10789					

July

0120	02071	05200	10292	52145			
0219	02142	05103	10073	20092	80261		
0419	02115	05117	10119	20117	35134	10383	
0519	02119	05108	10591	10149			
0619	02116	05117	10086				
0719	02117	05099	10089	10149			
0819	02116	05107	10108	20096	30098	10409	
0919	02113	05087	11077	50185			
1120	02106	05106	96085				
1219	02113	05094	10084	20044	30084	44033	76293
	94276	13317	15293	70159			
1319	02113	05094	14074	21054	30046	37035	64342
	10779						
1419	02096	05096	10087	20077	70242		
1519	02000	60035					
1619	02112	05082	08073	20094	32116	1x359	
1819	02024	05036	10067	17077	70185		
1920	02045	05045	10059	20119			
2119	02105	05096	11078	20104	30106	10449	
2219	02124	05106	10096	10155			
2319	02115	05107	10097	20077	10269		
2519	02123	05116	11108	50135			
2619	02115	05106	10099	20088	10261		
2719	02107	05098	10089	10155			
2819	02097	05106	10096	10131			
2919	02093	05094	10096	14106	10151		
3019	02116	05118	30067				

August

0119	02086	05076	10068	18069	10191		
0219	02114	05095	10085	20055	10241		
0319	02114	05096	10087	20152			
0419	02064	05056	10048	18038	20185		
0520	02116	05109	10108	20126	10213		
0620	02121	05124	10117	20105	30128	10463	
0820	02124	05128	10119	82145			
0919	02116	05109	11098	50141			
1019	02114	05106	10095	20081	30102	38076	10479
1119	02082	05044	10043	20032	24354	10261	
1219	02112	05093	12112	18082	27322	37083	43232
	52365	61322	10735				
1319	02134	05125	10126	20135	32082	37142	52062
	62074	10829					

August (Contd.)

1519 02096 06077 6x095
1619 02104 05105 08095 56092
1719 02132 06073 10075 14056 10155
1819 02105 05107 08098 30095
1919 02104 05063 10063 14063 92155
2019 02096 05106 90065
2220 02601 05602 13593 76145
2319 02125 05125 10052
2419 02107 05108 11079 17089 10189
2519 02114 05095 20065
2619 02113 05124 10127 20104 30134 11345
3019 02103 05095 12085 20155 34135 41107 12461

September

0119 02113 05094 11075 15074 10205
0219 02104 08095 18054 10215
0319 02085 09065 15058 20530 10215
0519 02102 05072 08063 5x101
0619 02104 05095 10104 17157 20148 10212
0719 02115 05119 10098 17581 10189
0819 02117 05109 10099 20044 10241
0920 02610 05108 10097 12125
1019 02119 05600 10591 10151
1220 02133 05124 10127 20098 26601 10279
1319 02124 05117 10085
1420 02116 05610 10610 20624 10243
1519 02114 05107 10117 10141
1619 02094 05114 10125 20125 30112 37000 49243
75741 16762
1719 02102 05114 10114 20093 30291 37232 54166
80246 10xx9
1920 02108 05108 10107 14097 10151
2019 02106 05107 10087 70125
2119 02095 05086 10077 90155
2219 02074 05065 10054 20045 92291
2319 02112 05094 10074 20075 30073 46093 10479
2419 02070 05041 10042 20053 30053 10495
2619 02122 05093 12053 20093 30123 43252
2619 02122 05093 12053 20093 30123 43252 64252
10660
2719 02093 05083 10073 20052 26043 34063 40311
99309 10xx9
2820 02071 05042 10034 19044 71205
2919 02124 05094 14055 20065 30073 40051 43022
52292 10559
3019 02114 05105 10085 10115

October

0119 02103 08076 20055 24044 10269

October (contd.)

0319	02115 10916	05105	10095	20322	24032	32132	44281
0419	02064	07064	90085				
0519	02112 10xxx9	05073	10064	18174	26112	34012	70296
0619	02103 98269	05094 10xxx1	10064	20124	29144	41254	55303
0719	02095	05097	10105	15212	10181		
0819	02102 10xxx4	05093	11073	18123	30184	43251	59304
1019	02114	05096	90085				
1119	02105	05075	10058	18550	90201		
1219	02086	05076	10075	20125			
1319	02104	05095	10076	18057	24078	10279	
1420	02072	05054	30095				
1519	02102 10799	05074	10063	20054	30022	38034	53281
1719	02133	10014	17043	30185			
1820	02082 70735	05023	12034	20054	30062	40131	56074
1919	02091 94276	05032 10xxx9	10341	20092	30052	41114	55064
2019	02114 10610	05095	10085	17094	30125	46095	59125
2119	02114	06106	20086	70245			
2219	02082	06054	23075	30066	80325		
2419	02253	05264	10242	20292	30245	61277	10625
2519	02011 99702	05080 10xxx9	10291	20121	30213	46112	66195
2619	02102 10xxx9	05103	10071	20322	30012	44231	99731
2719	02114	05105	10084	20042	28092	13295	
2819	02104	05105	10085	20085	30115	10315	
2919	02114	05096	10075	17087	30185		
3119	02126	05127	10118	20108	30105	10329	

November

0119	02115	05117	12096	20086	70235		
0219	02115	06590	10590	12115			
0319	02097	05098	10097	32115			
0422	02113	06075	10075	15066	21074	52235	
0519	02102	05054	10044	18353	21362	27323	77295
0720	02093	04053	90055				
0819	02102 70219	06053 76851	10072	12033	20063	30114	53184
0919	02094	05075	10066	15074	80175		
1019	02124	05104	10104	80115			
1120	02132	05084	10065	20074	30075	82365	
1219	02106	05117	12073	23062	30012	12335	

1419	02082	06011	10282	20273	30272	46295	52495
1519	02091	04052	92045				
1619	02304	05315	92065				
1719	02221	05252	08303	47094			
1819	02030	05351	13102	22051	30072	40311	48214
	55245	71304	20xx9				
1919	02130	05341	10332	16003	30003	46162	10559
2119	02281	05343	10316	18333	12205		
2219	02292	05231	12202	17162	20191	27272	34263
	14355						
2319	02131	06081	12112	20071	30222	14355	
2419	05114	10103	14092	17052	20351	23062	46295
2519	02272	05263	17303	34272	38142	44281	56293
	72585						
2820	02334	05337	92065				
2919	02263	05305	10298	15783	51175		

December

0319	02314	04316	86055				
0519	02102	05073	10044	17045	10182		
0619	02104	05095	10075	14075	10159		
0719	02102	05074	10055	18049	30205		
0819	02123	05105	92067				
0920	02104	05095	10086	17075	10185		
1019	02105	05116	10116	20124	30144	10385	
1219	02112	05124	10134	21104	32126	38137	10409
1322	02064	05054	10065	14057	77171		
1419	02105	06096	09076	12087	72135		
1519	02105	05097	36085				
1619	02096	08077	15059	20057	82215		
1719	02102	05086	82065				
1919	02094	05047	10048	80121			
2019	02086	05086	10077	30141			
2119	02065	05056	10059	18542	20209		
2219	02053	05053	10045	17026	32189		
2319	02114	05104	10084	20077	20271		
2419	02116	05118	10108	18594	20209		
2919	02103	04084	90055				
3019	02113	05094	10075	18065	30064	41055	10435
3119	02093	05074	10065	26125			

CLIMATOLOGICAL SUMMARY, 1938

Mean Values and Frequencies of Meteorological Elements

Station - Atafu

Lat. 8° 32'S., Long. 172° 31'W. Altitude: 6 ft. above sea level (barometer cistern)

Hour of observation:
January to August, 9.0a.m. Local Time
September, 6.0 a.m. Local Time
October to December 8.0a.m. Local Time
(Time Standard: +11h 1.e. slow on Greenwich)

Month	Barometer (millibars)	Temperature (°F)							Rainfall (inches)	Wind - Number of observations of:										Cloud-Number of observations of:-			Number of daily reports available
		Dry Bulb	Mean Maximum	Absolute Maximum	Date	Mean Minimum	Absolute Minimum	Date		Force 8 or more	Force 4-7	Force 1-3	Calm	N	NE	E	SE	S	SW	W	NW	Variable	Clear Sky 0-2	Partly cloudy 3-7	Overcast 8-10	
January	1008.5	81.8	85.4	87.1	6,28	78.5	74.3	31	17.71	0	13	18	0	8½	3	7	1	0	0	8	3½	0	1	19	11	31
February	1008.4	80.9	85.1	86.4	9	77.6	74.0	13	18.60	0	4	24	0	8	1½	6	1	0	1	3	7½	0	0	18	10	28
March	1009.8	82.1	85.3	88.5	13,31	78.7	71.7	23	9.73	0	2	29	0	5	6	16	1	0	1	2	0	0	0	29	2	31
April	1010.2	82.1	85.8	88.9	6	78.8	75.5	9,10	3.88	0	0	30	0	6½	4	13	1	1	1	1	2½	0	7	21	2	30
May	1010.7	82.2	85.0	86.7	7	78.7	76.5	15,22	3.75	0	1	30	0	5	8	12	1	3	1	1	0	0	3	19	9	31
June	1011.2	82.8	84.8	86.7	8,9	79.5	76.0	24	4.02	0	9	21	0	1	4	19	6	0	0	0	0	0	4	23	3	30
July	1011.9	83.2	84.8	86.0	6,15	78.0	73.5	25	3.80	0	14	17	0	0	7	20	3	1	0	0	0	0	3	26	2	31
August	1011.5	82.3	85.0	87.1	12	77.1	74.3	22	1.39	0	9	22	0	0	4	17	10	0	0	0	0	0	0	30	1	31
September	1011.4	81.3	(- No observation -)						1.87	0	12	18	0	0	5½	20½	4	0	0	0	0	0	4	21	5	30
October	1012.9	81.2	85.1	86.4	1	73.5	69.8	15	6.79	0	7	24	0	1½	17½	11	1	0	0	0	0	0	2	19	10	31
November	1009.2	81.5	84.6	87.4	15	71.7	66.3	24	6.98	0	4	26	0	3½	21½	3	½	0	0	0	1½	0	2	16	12	30
December	1008.8	81.1	85.1	86.0	1	75.2	65.2	12	9.45	0	16	15	0	2½	21½	6½	½	0	0	0	0	0	1	16	14	31
								Year	87.97															

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: The frequencies of wind have been condensed to eight prinicipal points, by crediting one half of the frequencies of intermediate points to each of the neighbouring prinicipal points, e.g. a frequency of 5 observations of Wind from NNE is expressed as N. 2½ and NE 2½.

CLIMATOLOGICAL SUMMARY, 1938

Mean Values and Frequencies of Meteorological Elements

Station - Nukualofa Lat. 21° 08'S., Long. 175° 12'W. Hour of observation: 8.20 a.m. local time (Time standard: -12h 20m i.e. in advance of Greenwich)

Month	Barometer (millibars)	Temperature (°F)								Rainfall (inches)	Wind - Number of observations of :-											Cloud-Number of observation of:-			
		Dry Bulb	Wet Bulb	Mean Maximum	Absolute Maximum	Date	Mean Minimum	Absolute Minimum	Date		Force 8 or more	Force 4 - 7	Force 1 - 3	Calm	N	NE	E	SE	S	SW	W	NW	Variable	Sky Clear	Partly clouded	Overcast	Number of daily reports available
January	1009.6	81.6	75.8	85.9	90.0	13	72.4	61.7	22	1.74	-	5	26	-	-	4½	12½	7	5½	½	-	1	-	-	18	13	31
February	1010.3	81.7	76.5	85.7	88.9	6	73.2	68.1	18	4.01	-	10	17	1	-	4	14	3½	3	½	½	½	1	1	12	15	28
March	1012.3	79.8	74.2	83.7	86.2	25 & 26	71.1	65.0	11	5.94	-	10	21	-	3½	3	9½	8	2	3	-	2	-	4	12	15	31
April	1013.4	78.4	74.0	83.1	87.2	1	69.5	62.0	21	7.79	-	4	26	-	1½	1½	10	12½	3½	-	1	-	-	4	16	10	30
May	1015.4	75.7	71.2	80.0	84.0	5	68.3	58.2	28	3.52	-	7	24	-	½	2½	12	12	2½	-	1	½	-	2	14	15	31
June	1015.0	73.7	71.0	79.0	84.5	23	66.3	57.9	10	6.36	-	2	25	3	1	3	7	7½	3½	1½	2	1½	-	2	11	17	30
July	1015.6	73.8	70.3	78.6	81.4	12	64.8	60.9	3	3.41	-	2	21	8	½	7	4½	5	1½	-	3	1½	-	7	14	10	31
August	1017.5	73.7	69.5	77.8	81.9	5	66.8	61.0	13	2.30	-	7	23	1	2	5	13	6½	3	½	-	-	-	-	18	13	31
September	1016.5	74.1	69.7	77.8	82.2	23	66.3	59.0	18 & 29	4.44	-	6	24	-	2	3	9	9½	5½	-	-	1	-	1	12	17	30
October	1016.5	74.3	70.0	77.8	81.0	20	66.9	62.4	28	10.48	-	3	28	-	1½	4	7½	13½	3	-	1	1½	-	1	9	21	31
November	1011.5	77.5	72.6	80.6	85.8	20	69.6	67.0	8 & 22	1.53	-	9	21	-	½	½	13½	12½	1	1	1	-	-	-	7	23	30
December	1011.8	79.4	75.4	82.3	85.1	12	72.0	67.0	3	8.81	-	10	21	-	2	6	17	4	1	½	-	½	-	-	11	20	31
									Year	60.33																

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 dry and wet bulb thermometers.

CLIMATOLOGICAL SUMMARY, 1938

Mean Values and Frequencies of Meteorological Elements

Station - Norfolk Island Lat. 29° 00' 29"S., Long. 167° 55' 17"E. Altitude 300 feet (approximately) above sea level. Hour of observation 9 a.m. local time. (Time standard:- -11h 30m i.e. in advance of Greenwich).

Month	Pressure (millibars)	Temperature (°F)			Rainfall (inches)	Wind - Number of observations of:-											Cloud - Number of observations of:-			Number of observation days
		Dry Bulb	Wet Bulb	Dewpoint		Force 8 or more	Force 4-7	Force 1-3	Calm	N	NE	E	SE	S	SW	W	NW	Variable	Sky clear 0 - 2	Partly cloudy 3 - 7	Overcast 8 cloudy	
January	1014.4	73.1	68.7	66	0.59	-	11	20	-	2	6	12½	2½	3	2	-	3	-	3	19	9	31
February	1010.1	74.6	72.0	71	4.49	-	3	21	4	3	7½	9	½	½	1½	1	1	-	7	10	11	28
March	1016.1	72.5	69.0	68	6.18	-	13	18	-	-	11	10½	7	2½	-	-	-	-	-	13	18	31
April	1013.1	71.7	69.2	68	10.11	-	15	13	2	4	11	2	3	3	2	1½	1½	-	1	10	19	30
May	1019.8	66.6	62.8	60	8.54	1	6	22	2	1½	3½	7½	10½	3	3	-	½	-	4	13	14	31
June	1016.6	62.0	58.1	55	3.76	-	12	16	2	½	2½	2	3½	6	8	3	2½	-	1	16	12	30 (cloud 29)
July	1014.5	60.2	56.4	53	8.36	1	16	14	-	3½	1	2½	4½	4	10	3½	2	-	-	16	15	31
August	1019.4	60.4	57.2	55	6.79	-	8	22	1	2	3½	2½	2½	5	8½	4	2	-	4	19	7	31 (cloud 30)
September	1021.0	60.4	56.5	53	2.10	-	5	21	-	½	4½	6	4½	4½	4½	1	½	-	6	15	9	30 (Wind 2ϕ)
October	1022.2	64.1	60.0	57	0.40	-	8	20	3	½	5½	13½	2½	2½	2½	½	½	-	4	14	12	31 (cloud 30)
November	1016.2	68.8	64.9	63	1.25	-	3	22	5	3½	6	6	5 .	3 .	½	-	1	-	6	15	11	30
December	1015.4	69.6	64.3	61	0.35	-	7	20	4	5½	1	4½	4	7½	3	-	1½	-	6	9	15	31 (cloud 28)
				Year	52.92																	

Source of Data:

Written reports supplied by the Pacific Cable Board. The mercurial barometer in use was supplied by J. Hicks, London (No. M.O. 1253) and its readings are corrected for altitude and temperature. Temperatures are read from mercurial thermometers.

Atmospheric Electricity, 1938

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, using the stretched wire, were carried out on the sand flats to the south of the Observatory, incorporating for the first time the leak-free potentiometric method due to Gish and Sherman. These experiments confirmed the previously adopted value of unity as the reduction factor of the Land Station. In November concrete bases, into which iron posts can be quickly mounted, were constructed in suitable positions and these greatly facilitated the setting up of the absolute apparatus.

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 negative potential gradient is recorded for three hours or more.

The day is unclassified if, for any reason, the record fails during a continuous period of more than three hours provided that the day is not of character 2 as above.

Potential Gradient - 1938

(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, Meridian 165° West of Greenwich. The seasonal means are derived from the following grouping of months:- Wet - November 1937 to February 1938 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	8	100	101	109	108	105	106	147	253	242	153	125	115	107	95	98	98	93	93	103	132	166	168	133	116	128
February	0																									
March	10	101	97	95	97	99	92	136	200	218	150	125	121	120	108	103	100	97	101	124	152	159	161	108	93	123
April	1	54	40	32	40	24	24	40	117	400	400	96	96	117	89	82	89	89	82	103	329	201	110	96	89	118
May	2	67	55	81	63	77	70	77	165	257	109	87	91	84	87	84	84	84	84	143	187	151	101	101	73	103
June	5	111	110	107	113	106	143	180	218	258	201	157	116	109	110	101	96	99	112	117	141	135	134	103	84	132
July	5	119	115	120	120	112	113	180	265	221	150	131	142	140	132	129	123	119	120	156	196	154	106	105	100	140
August	4	117	112	100	81	76	93	123	189	263	200	157	141	120	110	115	112	113	129	155	206	202	162	141	132	139
September	6	91	82	79	85	95	97	145	193	176	134	134	113	107	101	93	95	93	85	110	128	131	107	94	89	111
October	1	72	72	79	85	92	99	158	171	145	106	119	119	113	106	99	99	92	99	92	65	85	132	79	79	102
November	1	84	84	70	70	56	84	162	253	204	141	120	92	106	99	63	63	56	56	77	106	141	84	106	70	102
December	1	141	120	120	100	79	79	181	291	175	168	134	120	113	100	107	113	113	120	195	256	175	147	86	93	138
Year	44	96	90	90	87	84	91	139	211	233	174	126	115	112	103	98	97	95	98	125	171	155	128	105	93	121
Wet Season 1937-38	23	102	102	110	125	127	137	200	288	240	168	132	114	103	95	91	95	96	99	115	166	165	145	119	102	135
Dry Season 1938	16	103	98	102	94	93	105	140	209	250	165	133	123	113	110	107	104	104	111	143	183	161	126	115	97	129

Atmospheric Electricity

Monthly Values - 1938

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	8	7	9	7	128	150
February	0	21	5	2	-	174
March	10	10	6	5	123	104
April	1	20	3	6	118	123
May	2	19	5	5	103	137
June	5	14	4	7	132	87
July	5	15	1	10	140	65
August	4	19	1	7	139	75
September ..	6	18	0	6	111	54
October	1	15	0	15	102	101
November	1	12	11	6	102	207
December	1	19	7	4	138	153
Total	44	189	52	80		1430
Mean					121	

Corrigenda

Annual Report 1929.
Page 138. The total rainfall for the year should read 2794 mm. instead of 279.4 mm.

Annual Report 1933.
Pages 13 to 24. Delete 10°+D+ .... and insert 10° plus D minus .....

Page 97. Mean Wet Bulb at 3.30 p.m. should read 76.4°F instead of 74.1

Annual Report 1934.
Page 80. Mean Temperature of Dry Bulb at 4.0 p.m. (March) should read 81.8°F instead of 79.1.

Annual Report 1935.
Page 83. Absolute minimum temperature for August should read 20.1°C and that for the year should read 20.1°C.

Page 83. Greatest daily range for August should read 8.7 instead of 8.5.

Page 97. January 6th at 9.0 a.m.; the Dry Bulb reading should be 78.0°F and the Wet Bulb 76.2°F

Page 97. The Mean Dry Bulb reading should be 79.2 and the Mean Wet Bulb 76.0°F.

Page 119. Mean Dry Bulb for August at 3.0 p.m. should read 82.8 not 82.7°F.

Page 120. Minimum Temperature on August 6th should read 20.1°C instead of 25.1°C.

Annual Report 1937.
Page 56. The following note should be added under "Humidity":- It should be noted that the "Hygrometric Tables" compiled by the Meteorological Office, London were used only until the end of July 1937. From August 1st onwards Jelineks Psychrometer - Tafeln (Leipzig 1903) were used for the computation of humidity and vapour pressure. The values of the latter were then converted from millimetres to millibars.

Annual Report 1937.

Page 59. Under the heading "Thermometers" it should be noted that the Grass Minimum, Calderara No 34684 was in use until July 24th 1937, after which date thermometer Calderara No 31177 was in use.

The values of horizontal intensity for the months of October, November and December 1937 should be increased by 21 gamma and the values of Vertical Intensity for the same period should be increased by 12 gamma.