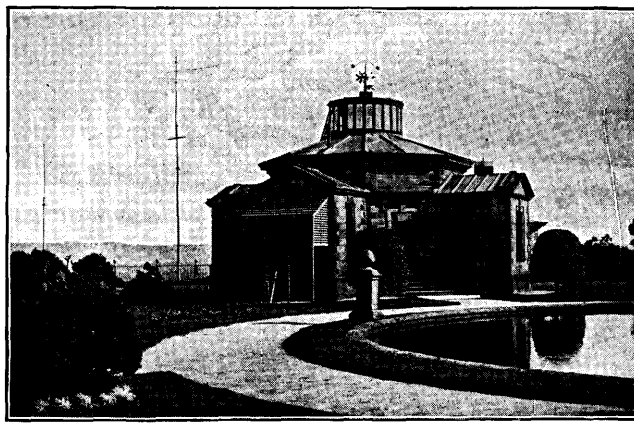
STONYHURST COLLEGE OBSERVATORY.

Lat. 53° 50′ 38 5″ N. Long. 9^{m} 52^{s} · 88 W.
Height of the Barometer above the Sea, 381 feet.



(FOUNDED 1838.)

Results of Geophysical and Solar Observations,

1935.

With Report and Notes of the Director,

Rev. J. P. ROWLAND, S.J., B.Sc, F.R.A.S., F.R.Met.Soc.

BLACKBURN:
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CONTENTS.

REPORT AND NOTES.

GENERAL.—The Staff of the Observatory remains as last year. Father H. Macklin, S.J., B.Sc. (Oxon)., and Father J. Lawrence, S.J., B.Sc., M.A. (Oxon.), who are on the teaching staff of the College, continue to give part time service, and Mr. W. Brown, the only full-time assistant, is responsible for the routine meteorological work, the changing of charts on the recording instruments and development of photographic records.

The Director attended the meeting of the International Astronomical Union held in Paris from July 9 to 17, as a member of Commission 10,—Sun Spots and Solar Character Figures,—and during the course of the meeting was nominated also to Commission 11, —Chromospheric Phenomena. He also attended the meeting of the British Association at Norwich in September. During the year he was elected President of the Manchester Astronomical Society. He gave a number of lectrues to various bodies in the early part of the year, but owing to pressure of routine work had to decline a number of invitations to lecture in the autumn and winter.

Early in the year a set of mercury switches was applied to the operation of the Dome motor, but after several failures they were discarded, and mechanical switches, designed by the Director, were substituted,

and are working satisfactorily. Automatic motor-driven winding gear has been fitted to the driving clock of the 15″ equatorial, which enables the clock to be run for as long as may be desired without variation of rate during winding, and a differential gear has been incorporated in the drive between the clock and the Right Ascension tangent screw, with electric control from the pendulum of the siderial clock to correct any irregularities in the speed of the driving clock. A motor driven slow motion operating through this differential gear on the primary tangent screw has also been provided. The details of these mechanisms were designed by Mr. John A. Pickles, of Barnoldswick, who carried out the work.

METEOROLOGICAL.—The Meteorological records have been continued without interruption throughout the year, and Weekly and Monthly Reports have been supplied as heretofore to the Meteorological Office, London.

A daily forecast of local weather has been supplied to the *Lancashire Daily Post*, for which purpose a synoptic chart has been prepared each morning from data received by wireless telegraphy, giving the conditions at 0700 G.M.T. at a large number of reporting stations in Western Europe, Iceland and the Azores, and as reported by ships on the North Atlantic. Occasional forecasts have also been supplied to other newspapers, on request.

As suggested in our Report last year, it appears that the sequence of years of deficient rainfall is definitely over. The total rainfall, 53·274 in., is 5·881 in. or 12·4% above the average of the previous

87 years, and is the highest total since 1928, though some seven inches below the amount recorded in that year. Whilst the total rainfall of the year was above average the distribution was abnormal, and the summer was again one of notable drought. The total rainfall for the four months May to August, inclusive, 9·415 in., was the lowest for the corresponding period since 1901, in which year it was 8·096 in., and was 5·526 in. or 37% below the average for these four months in the previous 87 years. August, with a total of 1·637 in., was the driest August in our 88 years' records. From July 28th to August 22nd, inclusive, a period of 26 days, only 0·13 in. of rain was recorded. March, May and July also showed appreciable deficiencies, whilst June had a slight excess. February, September and October were exceptionally wet, the three months together contributing over half the total rainfall of the year. September and October yielded 19·593 in., whilst October, with 10·842 in.—116% above average—was the wettest October for 65 years. A notable occurrence was the severe snowstorm of May 17th, when heavy snow fell continuously from 8 a.m. till noon, the measured precipitation during this period being 0·29 in., equivalent to about 3 in. of snow.

Sunshine, 1451·6 hours, is 138·1 hours or 10·5% above the average of the past 55 years. May, with a total of 280·7 hours,—99·4 hours above the average, —was the sunniest month in our records, the previous record having been in June, 1887, with 272·5 hours. July and August also had notable excesses of sunshine, whilst February and October were notably deficient, and other months deviated little from average.

The first three months of the year continued, though less markedly, the mild conditions of the closing months of 1934, the mean maximum and minimum temperatures being in each month above the average. Cold spells with sharp frosts occurred about January 7th to 9th, and 26th to 29th, and February 7th to 10th, and 23rd to 26th, and there were frequent falls of snow, mostly slight, but heavy on January 11th, and February 22nd and 23rd. November also was very mild, with not a single occasion of frost in the screen, and only three nights on which the grass minimum fell slightly below the freezing point. Mild weather continued till December 12th, when a period of wintry conditions set in, with snow and severe frost continuing till the 24th, when the cold spell was terminated by a snowstorm, followed by rain. Widespread and dense fog was very prevalent during this period.

No new values of extreme temperatures were set up during the year, though the summer months had mean temperatures above the average. The highest shade temperature, 83°·0 on June 23rd, is 1°·9 above the average, and the lowest, 17°·0 on December 21st, is 0°·2 above the average. The adopted mean temperature of the year, 47°·8, is 0°·8 above average.

Thunderstorms were rather frequent, but for the most part slight, in June, September and October. The most notable storm was in the early hours of September 22nd, accompanied by torrential rain. The total fall for the 24 hours ending at 9 a.m. on the 22nd, was 2·064 in., of which about 1·1 in. fell in the hour 3-40 to 4-40 a.m., and about 0·6 in. between 3-45 and 4 a.m.

Heavy falls of rain of one inch or more in 24 hours occurred on February 3 and 15, September 21* and 24, and October 8, 9 and 27. It is worthy of note that the amount of rain, 10·373 in., which fell on these seven days, was nearly one-fifth of the total for the whole year.

Rainless periods of five days or more occurred as follows :—January 15—22, March 6—15, April 25—May 12, May 19—31, July 21—25, July 28—August 10, September 6—11, December 16—20. A total of eight periods, with an average of 9·9 days each.

Bright sunshine for ten hours or more was recorded on :—March 12 ; April 12, 26, 28 ; May 5, 6, 10, 11, 13, 14, 20, 21, 22, 23, 24, 25, 26, 27, 29, 30, 31 ; June 1, 8, 15, 22, 24, 25, 29 ; July 6, 7, 9, 13, 25, 29, 30, 31 ; August 2, 3, 6, 7, 8, 10, 13, 20, 22 ; September 6, 7. A total of 47 days with an average of 12·1 hours each day.

Days on which notable continuous sunshine occurred were :—January 4, 12, 27 ; February 26 ; March 12 ; April 26 ; May 10, 22, 24, 25, 27, 29, 30, 31 ; June 29 ; July 7, 9, 30, 31 ; August 2, 8 ; November 16, 23.

Eight gales of wind of 37 m.p.h. mean hourly velocity, or more, were recorded :—February 1, 16, and 20 ; April 10 ; June 7 ; October 19 and 27 ; and November 30. The most severe were those of February 1st and October 19th, with velocities of 42 and 44 m.p.h. respectively, and the highest gust velocity recorded since the installation of the Dines anemograph, 72 m.p.h., was registered during the gale of October 19th. The total mileage for the year, 84,622,

* *Measured at 9 a.m. on 22nd, but statistically attributed to 21st.*

was remarkably near the mean of 84,682 miles. April, May, June, July and November had totals which were fairly normal, but those for February and October, the two stormiest months of the year, were in excess of the mean, the first by 27%, and the second by 31%. August was the calmest and the most abnormal month, the recorded mileage being in defect of the normal by 37%. A feature of the year's weather was that it began and ended with conditions less stormy than is usual, January and December being characterised by the absence of velocities reaching gale force and with totals below average, in the case of January by 13%, and in December by 23%.

Attention is called to a correction in the table of Absolute Extremes, on p. 28. In previous issues of the Report the Greatest Hourly Velocity of the wind has been given as 72 miles per hour in 1894 (Dec. 22), but a careful examination of the original record shows that this is erroneous, and should read 65, which is accordingly given in the current issue. This is still the highest recorded mean hourly velocity, the nearest approaches to it being 63 m.p.h. in 1899 (Jan. 12), 62 m.p.h. in 1887 (Nov. 1), and 60 m.p.h. in 1903 (Feb. 27).

MAGNETICAL.—Absolute measures of Horizontal Magnetic Force have been made once each month, by the method of Vibration and Deflection. The constants of the magnetometer needles were described in our 1921 Annual Report (*p.* vii). The Inclination is also measured, once each month, by two needles, with Dover's Circle, No. 159. The Declination is observed each week. The Differential Instruments, or Photo-Magnetographs, which have been in practically continuous action since the year 1866, are of the Kew

Observatory pattern, except that the radial distances between the centres of the magnets and the surfaces of the respective cylinders are somewhat shorter, being 152·4 Cms. The time-scale is provided by cutting off the light every two hours, by means of a relay operated by the Synchronome Clock. The scale values of the instruments are as follows :—

For the Unifilar	...	11·28′	per Cm. of Ordinate
,, Bifilar, Feb. 14		·000507	C.G.S. ,,
,, Sep. 22		·000490	,, ,, ,,

The Vertical Force Balance, which has been out of service since 1930, was remounted in the autumn, and was under observation and adjustment till the end of the year, and is still under test, but cannot as yet be considered satisfactory.

Four daily readings are measured on the curves, the highest, the lowest, and those at the hours 4 and 16. The Base-line values are determined from the measures of the curve ordinates at the times of the absolute observations, the adopted value for each month being, in the case of Declination, the mean of the four or five observations of the month, and in the case of the Horizontal Force, the single value obtained from the observation about the middle of the month.

In the Tabular Summary on p. 37 the Absolute Measures of Horizontal Direction and Force are corrected by the difference between the curve ordinate at the time of observation and the monthly mean of the four daily readings on the five quietest days of the month, according to the rule stated on page xii of our Report for 1908.

The Vertical and Total Forces are deduced from the measures of the Horizontal Force, and the angle of Inclination or Dip.

In the Table of Magnetic Disturbances (page 38) the intention is that a *calm* (c) shall mean a smooth curve ; *small* (s) a disturbance noteworthy only as opposed to a calm ; *moderate* (m) a disturbance not to be neglected for any comparison with other phenomena, solar or terrestrial ; *greater* (g) a marked disturbance ; and *very great* (v.g.) a decided storm.

The rule followed in assigning these letters to denote the magnetic character of the day is as follows :

From the measured ranges of D and H in minutes of arc on the five quietest days of a month a mean value is obtained of D and H combined. Similarly for each day of the month a mean value in minutes of arc of the range of D and H combined is set down. The excess of this daily mean range over the mean of the five quietest days gives the magnetic character of the day. Till the year 1927, inclusive, the following values of the excess were adopted for the table of magnetic disturbances :— 0 to 2 calm, 3 to 7 small, 8 to 15 moderate, 16 to 20 great, above 20 very great.

In 1928, in consideration of the low values of the ranges assigned to the higher character letters, the following scale was adopted :—(c) 0—2, (s) 3—7, (m) 8—20, (g) 21—65, (v.g.) over 65. It seems, however, desirable to class as " very great " all disturbances in which the excess of mean range over that of the five quietest days exceeds 1°, and accordingly the upper limit for character letter (g) has been reduced to 60, and (v.g.) is anything over 60, the other character designations remaining as before. It may be noted

that if these values had been in force from 1928, the character letter of only one disturbance would have been different, that of 1929 March 12, with an excess range of 65 ranking as (v.g.) instead of (g).

It follows from the nature of the process that these indications are not absolute, but relative to the mean amount of disturbance on the quiet days.

Corresponding tabulations are sent quarterly to the Meteorological Institute at De Bilt (Holland), for the International Committee on Terrestrial Magnetism. In these the significant notes are restricted to three—0 (quiet), 1 (moderately disturbed), and 2 highly disturbed). The character figures are assigned according to the scheme detailed in the Annuaire for 1918 of the Royal Dutch Meteorological Institute. The mean excess ranges according to which these character figures have been assigned are as follows :—0, 0—4 ; 1, 5—10 ; 2, over 10. The civil day is used for both the international figures and for our own characteristic letters.

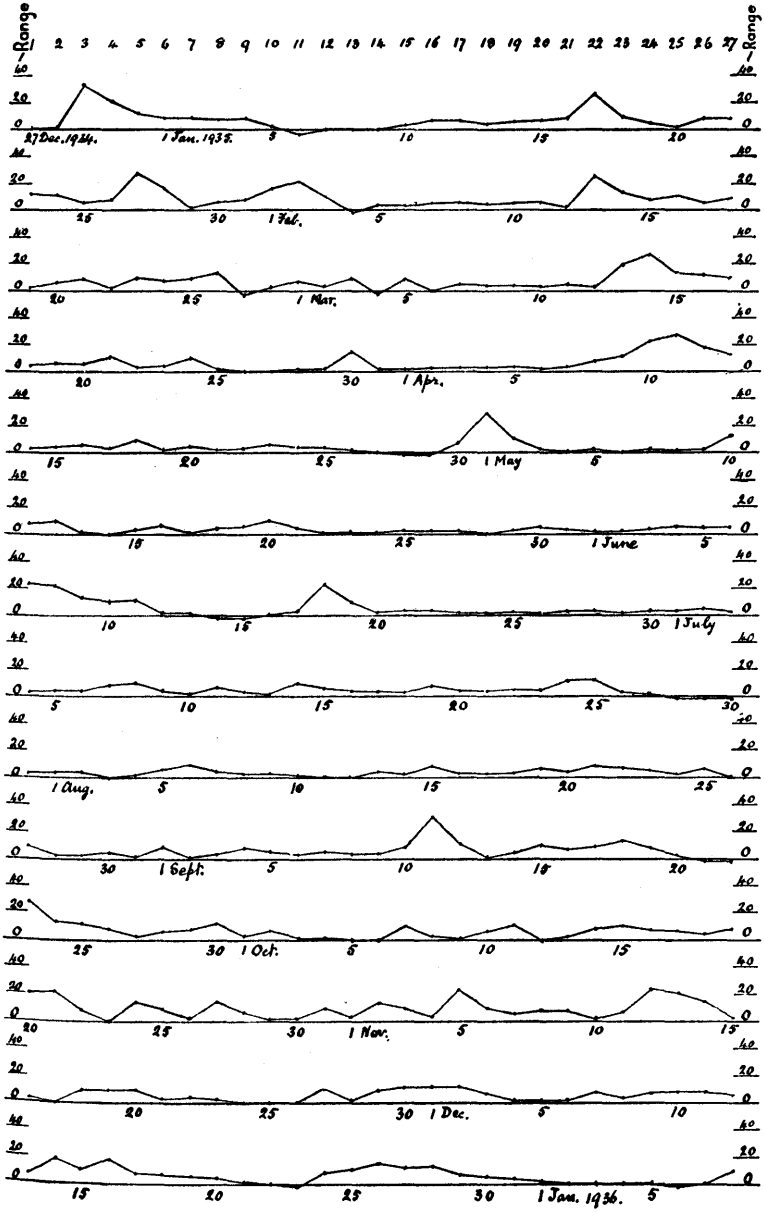
Magnetic activity, which had continued to decline in 1934, now, with the progress of the solar cycle, shows an increase. The variations in solar and magnetic activity for the past six years are exhibited in the following Table :—

	Solar		Magnetic Mean Daily Range	
	Spotless Days	Mean Area (1/5000 of Disc)	Decln. ′	H.F. γ
1930 ...	4	2·44	16·9	88·7
1931 ...	46	1·26	13·8	59·5
1932 ...	118	0·81	14·4	62·8
1933 ...	249	0·41	13·4	58·1
1934 ...	175	0·58	12·4	53·1
1935 ...	24	3·12	14·2	59·3

There were again no disturbances classed as " very great," but the number of days of " greater " disturbance rose from 10 to 15, and of " moderate " from 77 to 94, whilst there was a small increase in the number of " small " disturbances from 139 to 142, and the number of " calm " days fell from 139 to 116.

The chart on p. xv shows the magnetic character of each day of the year, divided into 27-day periods, the ordinates representing the values of diurnal range from which our character letters are determined, as explained on pp. xii–xiii. Again, as last year, there is a lack of sequences of disturbances at 27-day intervals. Only one long sequence appears to show definite association, extending from January 17 to June 7, with a mean interval of 28·2 days, corresponding to a solar rotation period of a position in latitude ± 30°. No recurring spot group in these latitudes was observed which could plausibly be associated with this sequence. Faint auroral light was observed N.N.W at 23.30 on January 27, and an auroral arch N.N.W. at 2030 on March 14. On both these occasions magnetic disturbances were in progress, but in each case the most prominent movements had taken place earlier in the evening.

" Sudden Commencements " were noted on the following dates at the times indicated :—Jan. 27, 14 h. 50 m. ; Mar. 29, 21 h. 8 m. (doubtful) ; Mar. 30, 12 h. 14 m. (very large) ; May 1, 12 h. 48 m. (large) ; July 7, 21 h. 10 m. (large) ; July 14, 15 h. 34 m. (very large) ; July 24, 20 h. 36 m. (very large) ; Aug. 27, 17 h. 34 m. (large) ; Oct. 24, 6 h. 42 m. ; Oct. 27, 3 h. 48 m.



1935. DAILY MAGNETIC CHARACTER IN 27-DAY PERIODS.

ASTRONOMICAL TIME SERVICE.—The rhythmic time signals from Rugby at 1000 G.M.T. have been regularly taken throughout the year, and the errors and rates of the sidereal and mean time clocks and chronometers determined from them. On occasion, supplementary time signals have also been received. Time marks are made by the Synchronome Clock every minute on the Milne-Shaw Seismograph, and every two hours on the Magnetographs.

SOLAR OBSERVATIONS.—Observation of the Solar Surface was made on 270 days, with the results shown in the table on pp. 39–40. Of the 270 days of observation 260 yielded drawings, of which 234 are complete, and show all spots and faculæ, and of the remaining 36, 26 are complete for spots. Professor Brunner, of Zurich, supplied 88 drawings used for measurement, and 1 observation of a spotless day, to fill gaps in our own observations. There remain 17 days for which no statistics are available.

The routine work of solar drawing was normally carried out by the Director, and in his absence generally by Mr. Brown. Father Macklin is responsible for the measurements and reductions.

Sun-spot statistics have been sent regularly to Professor Brunner, of Zurich, for the preparation of the "Sun-Spot Numbers," published in the quarterly Bulletin, under the auspices of the I.A.U.

The observation days and daily projected areas in units 1/5000 of the disc, are recorded on pages 39 and 40. The horizontal lines on these pages indicate the commencement of a new solar rotation in accordance with the Greenwich Convention.

There were no spots on 24 days, including the Zurich observations, as against 175 in 1934.

The Sun-Spot Statistics are given on pp. 41–46. The groups are numbered in the order of their appearance in the Stonyhurst drawings. In a number of cases short-lived spots, whether in the Stonyhurst or Zurich drawings, have been given the same number with a suffix as the previous group in the Stonyhurst drawings, the Zurich data being printed in italics. Only one of these groups, 86_1 (Sept. 6–8) was of appreciable size.

Finally, a number of the values of maximum area were obtained from the Zurich drawings. These have been duly indicated.

The following Table shows the distribution of spot groups in the Northern and Southern Hemispheres for the four quarters of the year, with their maximum projected areas. The last column but one gives the sum of the maximum projected areas of all the groups on the sun during the period in question.

Quarter	Northern Hemisphere		Southern Hemisphere		Sum. of Max'm Areas	Daily Mean Areas
	No. of Groups	Max'm Areas	No. of Groups	Max'm Areas		
Jan.—March ...	11	7·86	19	20·49	28·35	1·30
April—June ...	13	6·12	26	34·93	41·05	2·00
July—Sept. ...	27	25·23	18	12·81	38·04	2·31
Oct.—Dec. ...	34	33·30	31	69·25	102·55	7·02
TOTALS	85	72·51	94	137·48	209·99	3·12

With the progress of the new cycle, solar activity again shows a marked increase on last year. As

indicated in the Table under Magnetical Notes, on p. xiii, the number of spotless days fell from 175 to 24, and the mean daily disc area of spots increased from 0·58 to 3·12, whilst the number of groups observed increased from 57 to 186.

The increase of activity was most pronounced in the last two months of the year, in which the mean projected area of spots was respectively 8·19 and 8·84 units. Notably large groups were Nos. 131 (Nov. 3–15); 141 (Nov. 16–28); 146 (Nov. 26–Dec. 9), and 151 (Dec. 6–19). These were all larger than any other groups during the year, and No. 146, with a maximum projected area of 17·13 units on December 4th, was the largest group observed since one which crossed the disc between Nov. 24 and Dec. 6, 1929, with a maximum area of 23·6 units. On Dec. 2, when the group 146 crossed the central meridian, it extended over 25° in Solar longitude, and 10° in latitude, or a length of about 55,000 and a breadth of 22,000 miles. The affected area was thus of the order of *one thousand two hundred million square miles*, but its passage across the sun's disc was accompanied by only moderate magnetic disturbance.

Seismological. — The Milne-Shaw seismograph has been in continuous service throughout the year. The total number of earthquakes recorded during the year was 119, as against 117 last year, distributed as follows :—

Jan	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
9	3	6	9	18	7	12	8	15	11	9	12	119

The most disastrous earthquake of the year was

that which destroyed Quetta, on May 30th. Others of considerable severity were :—

Jan.	4	... Two in the Sea of Marmara.
,,	13	... Aleutian Islands.
Apr.	14	... Eastern Mediterranean.
,,	20	... Formosa.
Sept.	20	... North of New Guinea.
Dec.	14	... Gulf of Mexico.
,,	15	... Solomon Islands.
,,	28	... West of Sumatra.

Preliminary measurements of the principal shocks have been sent to the Official Centres, and complete bulletins are in preparation.

A number of original records or photographic copies of particular earthquakes have been supplied on request for special investigations.

Our grateful thanks are tendered to the Governments, Institutions, Observatories and individuals who have kindly contributed presentations to the Library during the year.

J. P. ROWLAND, S.J.,

Director.

Maximum Gusts for each Day of the Year, 1935

Recorded by the Dines Tube Anemograph.

1935	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1935
DAY													DAY
1	31	53	22	45	24	23	16	17	21	37	25	**65**	1
2	34	49	11	32	22	25	27	24	45	28	43	46	2
3	32	45	25	30	20	19	28	22	18	11	38	40	3
4	35	30	25	32	29	26	37	23	26	20	29	33	4
5	20	36	38	40	18	12	**46**	18	28	16	24	17	5
6	26	47	15	34	21	40	30	18	24	7	19	21	6
7	20	9	15	24	28	48	17	16	20	21	18	21	7
8	14	11	30	30	22	**50**	14	18	18	45	14	40	8
9	12	16	47	46	34	24	23	26	22	28	28	28	9
10	27	27	50	**59**	36	29	19	29	16	42	20	43	10
11	**57**	30	**52**	53	25	49	20	28	15	38	40	51	11
12	38	48	39	24	29	32	20	29	28	32	40	32	12
13	20	42	38	24	19	35	15	26	32	28	19	16	13
14	36	47	37	20	42	31	20	25	42	31	42	31	14
15	13	50	19	21	32	21	20	24	37	30	22	45	15
16	20	**57**	24	46	32	33	31	15	43	31	28	43	16
17	24	40	24	35	39	24	29	13	**58**	50	36	24	17
18	23	42	18	26	28	27	26	22	45	55	34	11	18
19	20	49	25	16	16	23	36	21	57	**72**	29	11	19
20	9	48	25	32	35	29	38	15	38	35	43	13	20
21	14	45	17	39	29	23	29	32	23	33	46	12	21
22	16	35	46	25	28	27	15	26	36	22	37	26	22
23	34	22	48	21	**44**	14	18	15	37	31	24	19	23
24	55	32	36	21	35	22	18	18	31	11	23	49	24
25	55	45	34	27	36	29	19	15	26	10	29	30	25
26	45	35	32	32	33	30	25	**35**	21	36	49	33	26
27	40	40	26	20	29	32	39	25	23	57	35	34	27
28	10	26	20	17	40	27	38	18	27	45	49	14	28
29	8	—	21	21	24	23	29	30	36	56	52	32	29
30	25	—	26	26	25	19	18	27	35	54	**62**	38	30
31	38	—	39	—	22	—	20	18	—	48	—	28	31

METEOROLOGICAL REPORT.

JANUARY, 1935.

Results of Observations taken during the Month.		Mean for the last 88 years.
Mean Reading of the Barometer ..... inches	29·822	29·489
Highest ,, on the 20th ..... ,,	30·326	30·133
Lowest ,, on the 25th ..... ,,	28·624	28·595
Range of Barometer Readings ..... ,,	1·702	1·538
Highest Reading of a Max. Therm. on the 1st ...	51·2	51·4
Lowest Reading of a Min. Therm. on the 28th...	25·4	22·0
Range of Thermometer Readings.....	25·8	29·4
Mean of Highest Daily Readings	43·5	42·6
Mean of Lowest Daily Readings	35·3	33·4
Mean Daily Range	8·2	9·2
Deduced Mean Temp. (from mean of Max. and Min.)	39·2	37·8
Mean Temperature from Dry Bulb	40·0	38·1
Adopted Mean Temperature	39·6	37·9
Mean Temperature of Evaporation	38·3	36·7
Mean Temperature of Dew Point	36·1	34·6
Mean elastic force of Vapour ..... inches	0·213	0·202
Mean weight of Vapour in a cub. ft. of air, grains	2·5	2·4
Mean additional weight required for saturation ,,	0·4	0·4
Mean degree of Humidity (saturation 100)	85	87
Mean weight of a cubic foot of air ..... grains	553·0	549·2
Mean amount of Cloud (0—10)	7·0	7·8
Fall of Rain ..... inches	3·210	4·437
Greatest Rainfall in one day (24th)..... ,,	0·800	0·828
No. of days on which ·005 in. or more Rain fell...	14	19·7

Wind :—Direction	N	NE	E	SE	S	SW	W	NW
No. of days.....	5	3	0	0	0	5	12	6
Mean Velocity in miles per hr.	6·0	4·1	0	0	0	10·4	13·1	8·2
Total No. of miles.....	719	294	0	0	0	1248	3762	1187

		Mean*
Total No. of miles registered	7210	8279
Greatest hourly velocity (25th, at 0600 G.M.T., Dir. W.S.W.)	36	41

* *For the last* 68 *years.*

JANUARY, 1935.

DIFFERENCES.

The signs + and — mean respectively above and below the MONTHLY average.

Mean barometric pressure	+	0·333 in.
Monthly range ,, ...	+	0·164 in.
Mean of highest daily temperatures	+	0·9°
Mean of lowest ,, ,, ...	+	1·9°
Mean daily Range	—	1·0°
Adopted mean temperature	+	1·7°
Total rainfall	—	1·227 in.

Ground Frost on the 6th—10th, 13th, 14th, 17th, 18th, 22nd, and 26th—30th. Hoar Frost on the 7th, 9th, and 28th. Snow on the 6th, 7th, 9th, 11th, 13th, 25th and 28th. Hail on the 11th and 25th. Heavy Rain on the 1st, 11th and 24th. Fog on the 1st, 9th, 15th, 22nd, 29th and 30th. Lightning on the 26th. Aurora Borealis on the 27th.

EXTREME READINGS FOR JANUARY.

During 88 Years.

Highest reading of Barometer ...	1896 (9th) ...	...30·597 in.
Lowest ,, ,,	1884 (26th) ...	...27·803 in.
Highest temperature	1877 (7th)	59·9°
Lowest ,, ...	1881 (15th)	4·6°
Highest adopted mean temperature	1916	44·7°
Lowest ,, ,,	1881	29·2°
Greatest fall of rain	1928	...12·267 in.
Least ,, ...	1881	0·472 in.
Greatest fall of rain in one day ...	1914 (8th)	2·074 in.
Greatest No. of days on which ·005 in. or more rain fell ...	1890	30
Least ,, ,, ,, ...	†1879	8
*Greatest hourly velocity of wind...	1899 (12th)	63 mls.
*Greatest No. of miles registered ...	1890	11661
*Least ,, ,, ,, ...	1881	4352

* *Since* 1867 *only.* † *And in* 1850.

FEBRUARY, 1935.

Results of Observations taken during the Month.		Mean for the last 88 years.
Mean Reading of the Barometer ..... inches	29·204	29·500
Highest ,, on the 7th ..... ,,	29·996	30·112
Lowest ,, on the 24th ..... ,,	28·271	28·665
Range of Barometer Readings ..... ,,	1·725	1·447
Highest Reading of a Max. Therm. on the 15th...	51·7	52·1
Lowest Reading of a Min. Therm. on the 26th...	25·0	22·8
Range of Thermometer Readings.....	26·7	29·3
Mean of Highest Daily Readings	45·1	43·8
Mean of Lowest Daily Readings	37·0	33·7
Mean Daily Range	8·1	10·1
Deduced Mean Temp. (from mean of Max. and Min.)	41·3	38·2
Mean Temperature from Dry Bulb	41·8	38·5
Adopted Mean Temperature	41·6	38·4
Mean Temperature of Evaporation	39·8	36·9
Mean Temperature of Dew Point	37·3	34·6
Mean elastic force of Vapour ..... inches	0·225	0·197
Mean weight of Vapour in a cub. ft. of air, grains	2·6	2·4
Mean additional weight required for saturation ,,	0·5	0·4
Mean degree of Humidity (saturation 100)	83	86
Mean weight of a cubic foot of air ..... grains	539·4	548·7
Mean amount of Cloud (0—10)	8·2	7·5
Fall of Rain ..... inches	7 560	3·532
Greatest Rainfall in one day (15th)..... ,,	1·370	0·757
No. of days on which ·005 in. or more Rain fell...	22	16·6

Wind :—Direction	N	NE	E	SE	S	SW	W	NW
No. of days.....	3	3	0	0	2	4	16	0
Mean Velocity in miles per hr.	9·0	4·7	0	0	11·5	12·3	17·4	0
Total No. of miles.....	646	339	0	0	553	1177	6679	0

		Mean*
Total No. of miles registered	9394	7357
Greatest hourly velocity (1st, at 2330 G.M.T., Dir. W.S.W.)	42	40

* *For the last* 68 *years.*

FEBRUARY, 1935.

DIFFERENCES.

The signs + and — mean respectively above and below the MONTHLY average.

Mean barometric pressure	—	0·296 in.
Monthly range ,, ...	+	0·278 in.
Mean of highest daily temperatures	+	1·3°
Mean of lowest ,, ,, ...	+	3·3°
Mean daily range	—	2·0°
Adopted mean temperature	+	3·2°
Total rainfall	+	4·028 in.

Ground Frost on the 3rd, 6th—9th, and 23rd—28th. Hoar Frost on the 18th. Snow on the 22nd, 23rd, 24th, 25th and 27th. Hail on the 2nd, 4th, 14th and 22nd. Heavy Rain on the 1st, 3rd, 5th, 15th and 20th. Gales of Wind on the 1st, 16th and 20th. Fog on the 13th. Thunder on the 14th and 21st. Lightning on the 14th and 21st. Lunar Halo on the 12th. Aurora Borealis on the 1st.

EXTREME READINGS FOR FEBRUARY,

During 88 Years.

Highest reading of Barometer ...	1934 (15th) ...	...30·515 in.
Lowest ,, ,, ...	1900 (19th) ...	...27·870 in.
Highest temperature	1877 (8th)	58·3°
Lowest ,, ...	1902 (11th)	5·0°
Highest adopted mean temperature	1869	44·0°
Lowest ,, ,,	1855	28·6°
Greatest fall of rain	1848	8·882 in.
Least ,, ...	1932	0·123 in.
Greatest fall of rain in one day ...	1909 (3rd)	2·000 in.
Greatest No. of days on which ·005 or more rain fell ...	1910	27
Least ,, ,, ,, ...	1855	4
*Greatest hourly velocity of wind...	1903 (27th)	60 mls.
*Greatest No. of miles registered ...	1868	12577
*Least ,, ,, ,, ...	1917	3160

* *Since* 1867 *only.*

MARCH, 1935.

Results of Observations taken during the Month.		Mean for the last 88 years.
Mean Reading of the Barometer ..... inches	29·715	29·456
Highest ,, on the 9th ..... ,,	30·299	30·047
Lowest ,, on the 1st ..... ,,	28·894	28·665
Range of Barometer Readings ..... ,,	1·405	1·382
Highest Reading of a Max. Therm. on the 19th...	54·8	56·8
Lowest Reading of a Min. Therm. on the 9th ...	32·0	23·6
Range of Thermometer Readings.....	22·8	33·2
Mean of Highest Daily Readings	47·7	46·9
Mean of Lowest Daily Readings	38·5	34·5
Mean Daily Range	9·2	12·4
Deduced Mean Temp. (from mean of Max. and Min.)	42·1	39·8
Mean Temperature from Dry Bulb	43·3	40·5
Adopted Mean Temperature	42·7	40·1
Mean Temperature of Evaporation	41·1	38·3
Mean Temperature of Dew Point	38·5	35·8
Mean elastic force of Vapour ..... inches	0·233	0·210
Mean weight of Vapour in a cub. ft. of air, grains	2·7	2·4
Mean additional weight required for saturation ,,	0·5	0·5
Mean degree of Humidity (saturation 100)	82	85
Mean weight of a cubic foot of air ..... grains	547·4	546·0
Mean amount of Cloud (0—10)	7·6	7·4
Fall of Rain ..... inches	1·499	3·247
Greatest Rainfall in one day (23rd)..... ,,	0·725	0·743
No. of days on which ·005 in. or more Rain fell...	13	16·5

Wind :—Direction	N	NE	E	SE	S	SW	W	NW
No. of days.....	2	1	8	0	5	6	9	0
Mean Velocity in miles per hr.	5·9	7·4	12·8	0	6·2	9·7	11·3	0
Total No. of miles.....	285	177	2463	0	738	1392	2442	0

		Mean*
Total No. of miles registered	7497	8228
Greatest hourly velocity (31st, at 2100 G.M.T., Dir. W.N.W.)	29	39

* *For the last* 68 *years.*

MARCH, 1935.

DIFFERENCES.

The signs + and — mean respectively above and below the MONTHLY average.

Mean barometric pressure	+	0·259 in.
Monthly range ,, ...	+	0·023 in.
Mean of highest daily temperatures	+	0·8°
Mean of lowest ,, ,, ...	+	4·0°
Mean daily range	—	3·2°
Adopted mean temperature	+	2·6°
Total rainfall	—	1·748 in.

Ground Frost on the 1st, 2nd, 4th, 5th, 8th—14th, 16th and 28th. Snow on the 9th and 10th. Heavy Rain on the 23rd. Fog on the 1st, 2nd, 21st and 28th. Solar Halo on the 19th and 28th. Aurora Borealis on the 14th.

EXTREME READINGS FOR MARCH,

During 88 Years.

Highest reading of Barometer ...	1854 (4th) ...	...30·452 in.
Lowest ,, ,, ...	1876 (10th) ...	...28·100 in.
Highest temperature	1871 (25th)	68·0°
Lowest ,, ...	1874 (10th)	11·1°
Highest adopted mean temperature	1920	44·2°
Lowest ,, ,,	1883	34·4°
Greatest fall of rain	1912	7·205 in.
Least ,, ...	1852	0·352 in.
Greatest fall of rain in one day ...	1898 (17th)	1·540 in.
Greatest No. of days on which ·005 in. or more rain fell ...	†1914	28
Least ,, ,, ,, ...	1852	3
*Greatest hourly velocity of wind...	1905 (15th)	57 mls.
*Greatest No. of miles registered ...	1903	12773
*Least ,, ,, ,, ...	1929	4437

* *Since* 1867 *only.* † *And in* 1861.

APRIL, 1935.

Results of Observations taken during the Month.		Mean for the last 88 years.
Mean Reading of the Barometer ..... inches	29·353	29·478
Highest ,, on the 28th ..... ,,	29·928	29·953
Lowest ,, on the 10th ..... ,,	28·723	28·801
Range of Barometer Readings ..... ,,	1·205	1·152
Highest Reading of a Max. Therm. on the 30th...	59·2	64·1
Lowest Reading of a Min. Therm. on the 3rd ...	32·8	28·3
Range of Thermometer Readings.....	26·4	35·8
Mean of Highest Daily Readings	51·8	54·0
Mean of Lowest Daily Readings	39·5	37·9
Mean Daily Range	12·3	16·1
Deduced Mean Temp. (from mean of Max. and Min.)	44·2	43·8
Mean Temperature from Dry Bulb	45·1	44·7
Adopted Mean Temperature	44·7	44·3
Mean Temperature of Evaporation	41·9	41·6
Mean Temperature of Dew Point	38·2	38·2
Mean elastic force of Vapour ..... inches	0·230	0·234
Mean weight of Vapour in a cub. ft. of air, grains	2·7	2·7
Mean additional weight required for saturation ,,	0·8	0·7
Mean degree of Humidity (saturation 100)	75	79
Mean weight of a cubic foot of air ..... grains	538·6	541·9
Mean amount of Cloud (0—10)	6·9	6·8
Fall of Rain ..... inches	3·492	2·576
Greatest Rainfall in one day (16th)..... ,,	0·535	0·593
No. of days on which ·005 in. or more Rain fell...	19	15·0

Wind :—Direction	N	NE	E	SE	S	SW	W	NW
No. of days.....	3	6	3	4	1	3	8	2
Mean Velocity in miles per hr.	11·2	5·8	5·4	8·6	30·5	11·6	12·1	17·3
Total No. of miles.....	803	834	390	826	731	837	2318	832

		Mean*
Total No. of miles registered	7571	7454
Greatest hourly velocity (10th, at 1230 G.M.T., Dir. S.S.W.)	39	36

* *For the last* 68 *years.*

APRIL, 1935.

DIFFERENCES.

The signs + and — mean respectively above and below the MONTHLY average.

Mean barometric pressure	—	0·125 in.
Monthly range ,, ...	+	0·053 in.
Mean of highest daily temperatures	—	2·2°
Mean of lowest ,, ,, ...	+	1·6°
Mean daily range	—	3·8°
Adopted mean temperature	+	0·4°
Total rainfall	+	0·916 in.

Ground Frost on the 2nd, 3rd, 5th—8th, 12th, 13th, 15th, 23rd, 25th and 28th. Snow on the 4th, 5th and 6th. Hail on the 5th, 6th and 17th. Heavy Rain on the 16th. Gale of Wind on the 10th. Fog on the 30th. Thunder on the 14th, 20th, 22nd and 23rd. Lightning on the 22nd and 23rd. Lunar Halo on the 7th and 12th. Solar Halo on the 6th, 8th, 9th, 13th and 16th.

EXTREME READINGS FOR APRIL,

During 88 Years.

Highest reading of Barometer ...	1906 (8th) ...	...30·317 in.
Lowest ,, ,, ...	1919 (14th) ...	...28·250 in.
Highest temperature	1852 (14th)	74·1°
Lowest ,, ...	1917 (2nd)	13·6°
Highest adopted mean temperature	1865	48·5°
Lowest ,, ,, ...	1917	39·8°
Greatest fall of rain	1867	5·672 in.
Least ,, ...	1852	0·478 in.
Greatest fall of rain in one day ...	1923 (12th)	1·260 in.
Greatest No. of days on which ·005 in. or more rain fell ...	1920	27
Least ,, ,, ,, ...	1852	4
*Greatest hourly velocity of wind...	1911 (19th)	53 mls.
*Greatest No. of miles registered ...	1904	11016
*Least ,, ,, ,, ...	1884	5047

* *Since* **1867** *only.*

MAY, 1935.

Results of Observations taken during the Month.			Mean for the last 88 years.
Mean Reading of the Barometer	inches	29·733	29·539
Highest ,, on the 8th	,,	30·101	29·978
Lowest ,, on the 17th	,,	29·360	28·953
Range of Barometer Readings	,,	0·741	1·025
Highest Reading of a Max. Therm. on the 5th ...		68·7	71·8
Lowest Reading of a Min. Therm. on 17th & 18th		32·3	32·2
Range of Thermometer Readings.....		36·4	39·6
Mean of Highest Daily Readings		57·7	59·2
Mean of Lowest Daily Readings		41·0	42·7
Mean Daily Range		16·7	16·5
Deduced Mean Temp. (from mean of Max. and Min.)		47·7	49·2
Mean Temperature from Dry Bulb		48·7	50·1
Adopted Mean Temperature		48·2	49·7
Mean Temperature of Evaporation		44·1	46·5
Mean Temperature of Dew Point		39·1	43·0
Mean elastic force of Vapour	inches	0·239	0·279
Mean weight of Vapour in a cub. ft. of air, grains		2·8	3·2
Mean additional weight required for saturation ,,		1·2	0·8
Mean degree of Humidity (saturation 100)		67	77
Mean weight of a cubic foot of air	grains	541·7	536·8
Mean amount of Cloud (0—10)		5·1	7·0
Fall of Rain	inches	1·163	2·480
Greatest Rainfall in one day (16th).....	,,	0·660	0·654
No. of days on which ·005 in. or more Rain fell...		5	14·7

Wind :—Direction	N	NE	E	SE	S	SW	W	NW
No. of days.....	5	17	5	1	1	1	1	0
Mean Velocity in miles per hr.	9·1	9·0	10·8	7·0	8·8	5·3	9·4	0
Total No. of miles.....	1097	3660	1301	167	211	126	226	0

		Mean*
Total No. of miles registered	6788	6843
Greatest hourly velocity (14th, at 1500 G.M.T., Dir. N.)	23	32

* *For the last* 68 *years.*

MAY, 1935.

DIFFERENCES.

The signs + and — mean respectively above and below the MONTHLY average.

Mean barometric pressure	+	0·194 in.
Monthly range „	—	0·284 in.
Mean of highest daily temperatures	—	1·5°
Mean of lowest „ „	—	1·7°
Mean daily range	+	0·2°
Adopted mean temperature	—	1·5°
Total rainfall	—	1·317 in.

Ground Frost on the 13th, 14th, 15th, 16th, 17th, 18th, 19th, 22nd and 23rd. Snow on the 14th and 17th. Hail on the 14th. Heavy Rain on the 16th. Solar Halo on the 3rd, 6th, 12th and 15th.

EXTREME READINGS FOR MAY,

During 88 Years.

Highest reading of Barometer ...	1881 (10th) ...	...30·332 in.
Lowest „ „ ...	1887 (28th) ...	...28·559 in.
Highest temperature	1864 (19th)	82·5°
Lowest „	1855 (4th)	23·5°
Highest adopted mean temperature	1848	55·1°
Lowest „ „ „ ...	1855	45·0°
Greatest fall of rain	1924	6·765 in.
Least „	1859	0·249 in.
Greatest fall of rain in one day ...	1881 (5th)	1·647 in.
Greatest No. of days on which ·005 in. or more rain fell ...	1924	26
Least „ „ „	†1859	4
*Greatest hourly velocity of wind...	1888 (2nd)	49 mls.
*Greatest No. of miles registered...	1888	9648
*Least „ „ „ ...	1918	5113

* *Since* 1887 *only.* † *And in* 1848.

JUNE, 1935.

Results of Observations taken during the Month.		Mean for the last 88 years.
Mean Reading of the Barometer ..... inches	29·422	29·559
Highest ,, on the 28th ..... ,,	30·000	29·938
Lowest ,, on the 7th ..... ,,	28·940	29·043
Range of Barometer Readings ..... ,,	1·060	0·895
Highest Reading of a Max. Therm. on the 23rd...	83·0	76·5
Lowest Reading of a Min. Therm. on the 1st ...	40·4	39·3
Range of Thermometer Readings.....	42·6	37·2
Mean of Highest Daily Readings	64·8	64·9
Mean of Lowest Daily Readings	51·0	48·2
Mean Daily Range	13·8	16·7
Deduced Mean Temp. (from mean of Max. and Min.)	56·1	54·8
Mean Temperature from Dry Bulb	57·3	55·4
Adopted Mean Temperature	56·7	55·1
Mean Temperature of Evaporation	53·6	51·8
Mean Temperature of Dew Point	50·2	48·3
Mean elastic force of Vapour ..... inches	0·364	0·345
Mean weight of Vapour in a cub. ft. of air, grains	4·1	3·8
Mean additional weight required for saturation ,,	1·2	1·0
Mean degree of Humidity (saturation 100)	77	78
Mean weight of a cubic foot of air ..... grains	526·4	531·3
Mean amount of Cloud (0—10)	6·6	7·1
Fall of Rain ..... inches	3·725	3·293
Greatest Rainfall in one day (3rd) ..... ,,	0·362	0·793
No. of days on which ·005 in. or more Rain fell...	23	15·1

Wind :—Direction	N	NE	E	SE	S	SW	W	NW
No. of days.....	1	6	0	2	11	4	6	0
Mean Velocity in miles per hr.	2·3	6·7	0	4·6	9·7	14 0	10·0	0
Total No. of miles.....	56	963	0	220	2561	1345	1434	0

		Mean*
Total No. of miles registered	6579	6166
Greatest hourly velocity (7th, at 1300 G.M.T., Dir. S.S.W.)	40	29

* *For the last* 68 *years.*

JUNE, 1935.

DIFFERENCES.

The signs + and — mean respectively above and below the MONTHLY average.

Mean barometric pressure	—	0·137 in.
Monthly range ,, ...	+	0·165 in.
Mean of highest daily temperatures	—	0·1°
Mean of lowest ,, ,, ...	+	2·8°
Mean daily range	—	2·9°
Adopted mean temperature	+	1·6°
Total rainfall	—	0·432 in.

Hail on the 4th. Gale of Wind on the 7th. Fog on the 6th. Thunder on the 3rd, 4th, 5th, 7th, 14th, 23rd and 25th. Lightning on the 4th, 7th and 23rd. Solar Halo on the 6th, 9th and 17th.

EXTREME READINGS FOR JUNE,

During 88 Years.

Highest reading of Barometer ...	1874 (15th) ...	...30·219 in.
Lowest ,, ,, ...	1862 (12th) ...	...28·632 in.
Highest temperature	1893 (18th)	88·7°
Lowest ,, ...	1902 (9th)	32·0°
Highest adopted mean temperature	1896	59·3°
Lowest ,, ,, ,,	1907	51·5°
Greatest fall of rain	1907	8·705 in.
Least ,, ...	1925	0·282 in.
Greatest fall of rain in one day ...	1857 (8th)	2·093 in.
Greatest No. of days on which ·005 in. or more rain fell ...	†1912	27
Least ,, ,, ,,	1887	4
*Greatest hourly velocity of wind...	1897 (16th)	45 mls.
*Greatest No. of miles registered ...	1877	8384
*Least ,, ,, ,, ...	1915	3967

* *Since* 1867 *only.* † *And in* 1907.

JULY, 1935.

Results of Observations taken during the Month.		Mean for the last 88 years.
Mean Reading of the Barometer ..... inches	29·683	29·525
Highest ,, on the 24th ..... ,,	29·912	29·904
Lowest ,, on the 20th ..... ,,	29·084	29·003
Range of Barometer Readings ..... ,,	0·828	0·901
Highest Reading of a Max. Therm. on the 13th...	77·8	78·2
Lowest Reading of a Min. Therm. on the 30th...	43·0	43·1
Range of Thermometer Readings.....	34·8	35·1
Mean of Highest Daily Readings	67·4	67·2
Mean of Lowest Daily Readings	53·1	51·5
Mean Daily Range	14·3	15·7
Deduced Mean Temp. (from mean of Max. and Min.)	58·4	57·7
Mean Temperature from Dry Bulb	60·6	58·2
Adopted Mean Temperature	59·5	58·0
Mean Temperature of Evaporation	56·6	54·9
Mean Temperature of Dew Point	53·2	52·0
Mean elastic force of Vapour ..... inches	0·405	0·389
Mean weight of Vapour in a cub. ft. of air, grains	4·5	4·4
Mean additional weight required for saturation ,,	1·4	1·1
Mean degree of Humidity (saturation 100)	77	81
Mean weight of a cubic foot of air ..... grains	527·3	527·3
Mean amount of Cloud (0—10)	6·4	7·4
Fall of Rain ..... inches	2·990	4·023
Greatest Rainfall in one day (14th)..... ,,	0·852	0·876
No. of days on which ·005 in. or more Rain fell...	13	16·8

Wind :—Direction	N	NE	E	SE	S	SW	W	NW
No. of days.....	0	3	2	0	1	2	21	2
Mean Velocity in miles per hr.	0	5·3	4·2	0	7·2	6·8	9·1	7·0
Total No. of miles.....	0	379	200	0	173	325	4570	338

		Mean*
Total No. of miles registered	5985	6309
Greatest hourly velocity (5th, at 0900 G.M.T., Dir. W.)	28	28

* *For the last* 68 *years.*

JULY, 1935.

DIFFERENCES.

The signs + and — mean respectively above and below the MONTHLY average.

Mean barometric pressure	+	0·158 in.
Monthly range „	—	0·073 in.
Mean of highest daily temperatures	+	0·2°
Mean of lowest „ „	+	1·6°
Mean daily range	—	1·4°
Adopted mean temperature	+	1·5°
Total rainfall	—	1·033 in.

Heavy Rain on the 3rd and 14th. Fog on the 1st and 26th. Thunder on the 14th. Lightning on the 14th. Solar Halo on the 28th.

EXTREME READINGS FOR JULY,

During 88 Years.

Highest reading of Barometer ...	1911 (10th) ...	...30·203 in.
Lowest „ „ ...	1922 (6th) ...	...28·493 in.
Highest temperature	1901 (20th) ...	... 89·0°
Lowest „	1857 (1st) ...	... 36·0°
Highest adopted mean temperature	1901	... 63·2°
Lowest „ „	1922	... 54·0°
Greatest fall of rain	1888	... 8·475 in.
Least „	1868	... 0·669 in.
Greatest fall of rain in one day ...	1888 (2nd) ...	... 2·482 in.
Greatest No. of days on which ·005 in. or more rain fell ...	1920	... 28
Least „ „ „ ...	†1917	... 8
*Greatest hourly velocity of wind...	1892 (8th) ...	... 44 mls.
*Greatest No. of miles registered ...	1879	... 8288
*Least „ „ „ ...	1913	... 4577

* *Since* 1867 *only.* † *And in other years.*

AUGUST, 1935.

Results of Observations taken during the Month.		Mean for the last 88 years
Mean Reading of the Barometer ..... inches	29·551	29·494
Highest „ on the 6th ..... „	30·005	29·898
Lowest „ on the 26th ..... „	29·008	28·949
Range of Barometer Readings ..... „	0·997	0·949
Highest Reading of a Max. Therm. on the 21st...	77·8	75·9
Lowest Reading of a Min. Therm. on the 28th...	40·8	42·1
Range of Thermometer Readings.....	37·0	33·8
Mean of Highest Daily Readings	68·2	66·1
Mean of Lowest Daily Readings	52·4	51·0
Mean Daily Range	15·8	15·1
Deduced Mean Temp. (from mean of Max. and Min.)	58·6	56·9
Mean Temperature from Dry Bulb	60·1	57·8
Adopted Mean Temperature	59·4	57·4
Mean Temperature of Evaporation	56·0	54·5
Mean Temperature of Dew Point	52·4	51·8
Mean elastic force of Vapour ..... inches	0·394	0·387
Mean weight of Vapour in a cub. ft. of air, grains	4·4	4·3
Mean additional weight required for saturation „	1·4	1·0
Mean degree of Humidity (saturation 100)	76	81
Mean weight of a cubic foot of air ..... grains	525·6	527·2
Mean amount of Cloud (0—10)	5·9	7·3
Fall of Rain ..... inches	1·637	5·083
Greatest Rainfall in one day (26th)..... „	0·620	1·064
No. of days on which ·005 in. or more Rain fell...	11	18·6

Wind :—Direction	N	NE	E	SE	S	SW	W	NW
No. of days.....	1	2	1	0	1	6	19	1
Mean Velocity in miles per hr.	3·8	5·3	3·9	0	7·7	5·9	5·3	5·0
Total No. of miles.....	91	252	94	0	185	843	2420	120

		Mean*
Total No. of miles registered	4005	6253
Greatest hourly velocity (26th, at 2100 G.M.T., Dir. S.).	25	30

* *For the last* 68 *years.*

AUGUST, 1935.

DIFFERENCES.

The signs + and — mean respectively above and below the MONTHLY average.

Mean barometric pressure	+	0·057 in.
Monthly range ,, ...	+	0·048 in.
Mean of highest daily temperatures	+	2·1°
Mean of lowest ,, ,, ...	+	1·4°
Mean daily range	+	0·7°
Adopted mean temperature	+	2·0°
Total rainfall	—	3·446 in.

Heavy Rain on the 26th. Fog on the 6th, 7th and 18th. Thunder on the 17th and 28th. Lightning on the 17th, 27th and 28th. Solar Halo on the 1st, 9th and 26th.

EXTREME READINGS FOR AUGUST,

During 88 Years.

Highest reading of Barometer ...	1932 (22nd) ...	...30·208 in.
Lowest ,, ,, ...	1917 (28th) ...	...28·156 in.
Highest temperature	1868 (2nd)	88·0°
Lowest ,, ...	1887 (13th)	33·4°
Highest adopted mean temperature	1911	62·1°
Lowest ,, ,, ...	1848	52·5°
Greatest fall of rain	1891	9·869 in.
Least ,, ...	1935	1·637 in.
Greatest fall of rain in one day ...	1929 (23rd)	2·350 in.
Greatest No. of days on which ·005 in. or more rain fell ...	1891	27
Least ,, ,, ,, ...	1880	6
*Greatest hourly velocity of wind...	1903 (31st)	45 mls.
*Greatest No. of miles registered ...	1903	8486
*Least ,, ,, ,, ...	1915	3918

* *Since* 1867 *only.*

SEPTEMBER, 1935.

Results of Observations taken during the Month.		Mean for the last 88 years.
Mean Reading of the Barometer ..... inches	29·341	29·542
Highest „ on the 8th ..... „	29·842	30·005
Lowest „ on the 17th ..... „	28·483	28·890
Range of Barometer Readings ..... „	1·359	1·115
Highest Reading of a Max. Therm. on the 12th...	66·0	71·7
Lowest Reading of a Min. Therm. on the 26th...	38·0	36·8
Range of Thermometer Readings.....	28·0	34·9
Mean of Highest Daily Readings	60·0	61·7
Mean of Lowest Daily Readings	49·0	47·4
Mean Daily Range	11·0	14·3
Deduced Mean Temp. (from mean of Max. and Min.)	53·2	53·3
Mean Temperature from Dry Bulb	54·8	54·3
Adopted Mean Temperature	54·0	53·8
Mean Temperature of Evaporation	51·3	51·1
Mean Temperature of Dew Point	48·0	48·4
Mean elastic force of Vapour ..... inches	0·333	0·340
Mean weight of Vapour in a cub. ft. of air, grains	3·8	3·9
Mean additional weight required for saturation „	1·1	0·9
Mean degree of Humidity (saturation 100)	77	82
Mean weight of a cubic foot of air ..... grains	527·5	532·4
Mean amount of Cloud (0—10)	8·0	6·7
Fall of Rain ..... inches	8·756	4·366
Greatest Rainfall in one day (21st)..... „	2·064	0·995
No. of days on which ·005 in. or more Rain fell...	22	16·5

Wind :—Direction	N	NE	E	SE	S	SW	W	NW
No. of days.....	0	3	1	1	5	6	13	1
Mean Velocity in miles per hr.	0	4·2	6·6	7·6	9·8	12·5	12·7	6·8
Total No. of miles.....	0	301	159	182	1180	1805	3968	162

		Mean*
Total No. of miles registered	7757	6031
Greatest hourly velocity (17th, at 1230 G.M.T., Dir. W.)	33	31

* *For the last* 68 *years.*

SEPTEMBER, 1935.

DIFFERENCES.

The signs + and — mean respectively above and below the MONTHLY average.

Mean barometric pressure	—	0·201 in.
Monthly range ,, ...	+	0·244 in
Mean of highest daily temperatures	—	1·7°
Mean of lowest ,, ,, ...	+	1·6°
Mean daily range	—	3·3°
Adopted mean temperature	+	0·2°
Total rainfall	+	4·391 in.

Hail on the 17th and 30th. Heavy Rain on the 16th, 21st, 24th and 30th. Fog on the 22nd. Thunder on the 1st, 2nd, 4th, 14th, 17th and 22nd. Lightning on the 1st, 2nd, 17th, 22nd and 24th. Solar Halo on the 1st, 6th, 10th, 18th and 29th.

EXTREME READINGS FOR SEPTEMBER,

During 88 Years.

Highest reading of Barometer ...	1851 (15th) ...	...30·247 in.
Lowest ,, ,, ...	1918 (23rd) ...	...28·210 in.
Highest temperature	1868 (6th)	85·0°
Lowest ,, ...	†1885 (25th)	29·8°
Highest adopted Mean temperature	1865	59·1°
Lowest ,, ,, ...	1863	50·9°
Greatest fall of rain	1918	...12·620 in.
Least ,, ...	1910	0·652 in.
Greatest fall of rain in one day ...	1932 (2nd)	2·800 in.
Greatest No. of days on which ·005 in. or more rain fell ...	1918	29
Least ,, ,, ,,	†1915	6
*Greatest hourly velocity of wind...	1875 (26th)	53 mls.
*Greatest No. of miles registered ...	1869	9053
*Least ,, ,, ,, ...	1888	3261

* *Since* 1867 *only.* † *And in other years.*

OCTOBER, 1935.

Results of Observations taken during the Month.			Mean for the last 88 years.
Mean Reading of the Barometer	inches	29·305	29·443
Highest ,, on the 16th	,,	29·860	30·018
Lowest ,, on the 2nd	,,	28·543	28·682
Range of Barometer Readings	,,	1·317	1·336
Highest Reading of a Max. Therm. on the 15th...		59·5	63·9
Lowest Reading of a Min. Therm. on the 21st...		28·3	29·9
Range of Thermometer Readings.....		31·2	34·0
Mean of Highest Daily Readings		52·3	54·3
Mean of Lowest Daily Readings		43·0	42·2
Mean Daily Range		9·3	12·1
Deduced Mean Temp. (from mean of Max. and Min.)		46·7	47·3
Mean Temperature from Dry Bulb		48·0	48·1
Adopted Mean Temperature		47·4	47·8
Mean Temperature of Evaporation		45·8	45·5
Mean Temperature of Dew Point		43·4	43·1
Mean elastic force of Vapour	inches	0·281	0·279
Mean weight of Vapour in a cub. ft. of air,	grains	3·2	3·2
Mean additional weight required for saturation	,,	0·6	0·6
Mean degree of Humidity (saturation 100)		83	84
Mean weight of a cubic foot of air	grains	534·5	537·3
Mean amount of Cloud (0—10)		8·0	7·3
Fall of Rain	inches	10·842	5·074
Greatest Rainfall in one day (27th).....	,,	1·938	0·994
No. of days on which ·005 in. or more Rain fell...		23	19·0

Wind :—Direction	N	NE	E	SE	S	SW	W	NW
No. of days.....	2	2	0	0	7	6	12	2
Mean Velocity in miles per hr.	7·1	5·9	0	0	7·1	13·7	16·5	7·5
Total No. of miles.....	341	283	0	0	1189	1976	4740	360

		Mean*
Total No. of miles registered	8889	6864
Greatest hourly velocity (19th, at 1200 G.M.T., Dir. W.)	44	37

* *For the last* 68 *years.*

OCTOBER, 1935.

DIFFERENCES.

The signs + and — mean respectively above and below the MONTHLY average.

Mean barometric pressure	—	0·138 in.
Monthly range ,, ...	—	0·019 in.
Mean of highest daily temperatures	—	2·0°
Mean of lowest ,, ,, ...	+	0·8°
Mean daily range	—	2·8°
Adopted mean temperature	—	0·4°
Total rainfall	+	5·768 in.

Ground Frost on the 2nd, 21st, 22nd, 23rd and 26th. Hail on the 9th, 10th and 29th. Heavy Rain on the 8th, 9th, 18th, 23rd, 26th, 27th, 28th and 30th. Gales of Wind on the 19th and 27th. Fog on the 26th. Thunder on the 8th, 9th, 10th and 29th. Lightning on the 8th, 9th, 10th and 29th.

EXTREME READINGS FOR OCTOBER, During 88 Years.

Highest reading of Barometer ...	1884 (5th) ...	...30·306 in.
Lowest ,, ,, ...	1862 (19th) ...	...28·139 in.
Highest temperature	1890 (12th) ...	... 74·0°
Lowest ,, ...	1895 (28th) ...	... 17·8°
Highest adopted mean temperature	1921	... 53·8°
Lowest ,, ,,	1895	... 42·8°
Greatest fall of rain	1870	...13·437 in.
Least ,, ...	1922	... 0·918 in.
Greatest fall of rain in one day ...	1870 (8th) ...	... 2·529 in.
Greatest No. of days on which ·005 ins. or more rain fell ...	†1934	... 29
Least ,, ,, ,, ...	1920	... 8
*Greatest hourly velocity of wind...	1877 (15th) ...	... 52 mls.
*Greatest No. of miles registered ...	1934	... 9925
*Least ,, ,, ,, ...	1915	... 3965

* *Since* 1867 *only.* † *And in other years.*

NOVEMBER, 1935.

Results of Observations taken during the Month.		Mean for the last 88 years.
Mean Reading of the Barometer ..... inches	29·186	29·456
Highest ,, on the 25th ..... ,,	29·719	30·062
Lowest ,, on the 30th ..... ,,	28·395	28·573
Range of Barometer Readings ..... ,,	1·324	1·489
Highest Reading of a Max. Therm. on the 3rd ...	60·1	55·7
Lowest Reading of a Min. Therm. on the 24th...	28·8	25·7
Range of Thermometer Readings.....	31·3	30·0
Mean of Highest Daily Readings	47·3	47·1
Mean of Lowest Daily Readings	39·4	36·9
Mean Daily Range	7·9	10·2
Deduced Mean Temp. (from mean of Max. and Min.)	43·0	41·6
Mean Temperature from Dry Bulb	43·5	42·1
Adopted Mean Temperature	43·3	41·9
Mean Temperature of Evaporation	41·9	39·9
Mean Temperature of Dew Point	40·0	38·2
Mean elastic force of Vapour ..... inches	0·248	0·232
Mean weight of Vapour in a cub. ft. of air, grains	2·8	2·8
Mean additional weight required for saturation ,,	0·4	0·4
Mean degree of Humidity (saturation 100)	87	87
Mean weight of a cubic foot of air ..... grains	537·3	544·3
Mean amount of Cloud (0—10)	8·0	7·4
Fall of Rain ..... inches	4·810	4·455
Greatest Rainfall in one day (14th)..... ,,	0·672	0·992
No. of days on which ·005 in. or more Rain fell...	24	18·2

Wind :—Direction	N	NE	E	SE	S	SW	W	NW
No. of days.....	2	2	5	1	9	4	7	0
Mean Velocity in miles per hr.	6·1	5·7	10·0	5·1	8·0	8·9	14·5	0
Total No. of miles.....	294	273	1204	123	1735	852	2428	0

		Mean*
Total No. of miles registered	6909	7054
Greatest hourly velocity (30th, at 2030 G.M.T., Dir. W.S.W.).....	37	40

* *For the last* 68 *years.*

NOVEMBER, 1935.

DIFFERENCES.

The signs + and — mean respectively above and below the MONTHLY average.

Mean barometric pressure	—	0·270 in.
Monthly range ,, ...	—	0·165 in.
Mean of highest daily temperatures	+	0·2°
Mean of lowest ,, ,, ...	+	2·5°
Mean daily range	—	2·3°
Adopted mean temperature	+	1·4°
Total rainfall	+	0·355 in.

Ground Frost on the 7th, 13th, 16th, 23rd, 24th and 25th. Hoar Frost on the 24th. Gale of Wind on the 30th. Fog on the 5th, 7th, 11th and 19th. Heavy Rain on the 14th and 30th.

EXTREME READINGS FOR NOVEMBER,

During 88 Years.

Highest reading of Barometer ...	1922 (15th) ...	...30·375 in.
Lowest ,, ,, ...	1891 (11th) ...	...27·938 in.
Highest temperature	1900 (1st)	62·4°
Lowest ,, ,, ...	1901 (15th)	17·5°
Highest adopted mean temperature	†1899	47·0°
Lowest ,, ,,	1915	36·3°
Greatest fall of rain	1866	9·026 in.
Least ,, ...	1855	1·158 in.
Greatest fall of rain in one day ...	1866 (16th)	3·700 in.
Greatest No. of days on which ·005 in. or more rain fell ...	1913	28
Least ,, ,, ,, ...	1848	6
*Greatest hourly velocity of wind...	1887 (1st)	62 mls.
*Greatest No. of miles registered ...	1888	12813
*Least ,, ,, ,, ...	1934	4419

* *Since* **1867** *only.* † *And in* **1881.**

DECEMBER, 1935.

Results of Observations taken during the Month		Mean for the last 88 years.
Mean Reading of the Barometer ..... inches	29·176	29·433
Highest ,, on the 10th ..... ,,	30·193	30·074
Lowest ,, on the 1st ..... ,,	28·389	28·539
Range of Barometer Readings ..... ,,	1·804	1·535
Highest Reading of a Max. Therm. on the 31st...	48·3	52·6
Lowest Reading of a Min. Therm. on the 21st...	17·0	22·0
Range of Thermometer Readings.....	31·3	30·6
Mean of Highest Daily Readings	40·4	43·4
Mean of Lowest Daily Readings	31·6	34·0
Mean Daily Range	8·8	9·4
Deduced Mean Temp. (from mean of Max. and Min.)	36·0	38·7
Mean Temperature from Dry Bulb	36·3	39·3
Adopted Mean Temperature	36·2	39·1
Mean Temperature of Evaporation	35·2	37·4
Mean Temperature of Dew Point	33·6	35·5
Mean elastic force of Vapour ..... inches	0·194	0·209
Mean weight of Vapour in a cub. ft. of air, grains	2·2	2·4
Mean additional weight required for saturation ,,	0·3	0·4
Mean degree of Humidity (saturation 100)	89	87
Mean weight of a cubic foot of air ..... grains	545·3	546·9
Mean amount of Cloud (0—10)	6·4	7·7
Fall of Rain ..... inches	3·590	4·605
Greatest Rainfall in one day (1st) ..... ,,	0·640	0·821
No. of days on which ·005 in. or more Rain fell...	19	20·1

Wind :—Direction	N	NE	E	SE	S	SW	W	NW
No. of days.....	5	2	5	2	6	1	9	1
Mean Velocity in miles per hr.	3·6	6·1	10·4	9·6	5·9	8·7	11·3	4·0
Total No. of miles.....	431	295	1249	462	852	209	2444	96

		Mean*
Total No. of miles registered	6038	7749
Greatest hourly velocity (1st, at 1800 G.M.T., Dir. W.S.W.)	34	42

* *For the last* 68 *years.*

DECEMBER, 1935.

DIFFERENCES.

The signs + and — mean respectively above and below the MONTHLY average.

Mean barometric pressure	—	0·257 in.
Monthly range ,, ...	+	0·269 in
Mean of highest daily temperatures	—	3·0°
Mean of lowest ,, ,, ...	—	2·4°
Mean daily range	—	0·6°
Adopted mean temperature	—	2·9°
Total rainfall	—	1·015 in.

Ground Frost on the 5th—7th, 11th, 13th—24th, and 29th. Hoar Frost on the 5th, 13th, 17th and 23rd. Snow on the 4th, 6th, 14th, 15th, 19th, 21st, 22nd and 24th. Hail on the 1st, 2nd, 3rd, and 15th. Heavy Rain on the 1st. Fog on the 5th—7th, 20th—23rd, 26th, 28th and 29th. Thunder on the 1st and 3rd. Lightning on the 1st, 2nd and 3rd. Lunar Halo on the 8th.

EXTREME READINGS FOR DECEMBER,

During 88 Years.

Highest reading of Barometer ...	1905 (12th) ...	...30·484 in.
Lowest ,, ,, ...	1886 (8th) ...	...27·350 in.
Highest temperature	1876 (9th)	58·1°
Lowest ,, ...	1860 (24th)	6·7°
Highest adopted mean temperature	1934	45·8°
Lowest ,, ,, ...	1878	30·3°
Greatest fall of rain	1918	...10·597 in.
Least ,, ...	1890	0·550 in.
Greatest fall of rain in one day ...	1870 (19th)	1·962 in.
Greatest No. of days on which ·005 in. or more rain fell ...	1918	30
Least ,, ,, ,, ...	†1890	8
*Greatest hourly velocity of wind...	1894 (22nd)	65 mls.
*Greatest No. of miles registered ...	1929	11493
*Least ,, ,, ,, ...	1933	4477

* *Since* 1867 *only.* † *And in* 1853.

Summary of Observations, 1935.

Results of Observations taken during the Year.		Mean for the last 88 Years
Readings of Barometer in inches.		
Mean of the Year	29·458	29·493
Highest Monthly Mean (January)	29·822	29·753
Lowest ,, ,, (December)	29·176	29·225
Highest Reading (January 20th)	30·326	30·300
Lowest ,, (February 24th)	28·271	28·218
Range	2·055	2·082
Thermometer, Fahrenheit.		
Highest Monthly Mean Temperature (July)	59·5	58·7
Lowest ,, ,, ,, (December)	36·2	35·8
Highest Reading of a Max. Therm. (June 23rd)	83·0	81·1
Lowest ,, Min. ,, (December 21st)	17·0	16·8
Range of Thermometer Readings	66·0	64·3
Mean of Highest Daily ,,	53·9	54·3
Mean of Lowest Daily ,,	42·6	41·2
Mean Daily Range	11·3	13·1
Deduced Mean Temp. (from Mean of Max. and Min.)	47·2	46·8
Mean Temperature from Dry Bulb	48·3	47·2
Adopted Mean Temperature of the Year	47·8	47·0
Mean Temperature of Evaporation	45·5	44·7
Mean Temperature of Dew Point	42·5	42·2
Mean elastic force of Vapour ... inches	0·272	0·275
Mean weight of Vapour in a cub. ft. of air...grns.	3·1	3·2
Mean additional weight required for saturation ,,	0·7	0·7
Mean degree of Humidity (saturation 100)	79	84
Mean weight of a cubic foot of air ... grns.	537·0	539·0
Mean amount of Cloud (0—10)	7·0	7·3
Total fall of Rain ... inches	53·274	47·460
Greatest Monthly Rainfall (October)	10·842	7·649
Least ,, ,, (May)	1·163	1·209
Greatest Rainfall in one day (September 21st)	2·064	1·667
No. of days per Month on which ·005 inch or more Rain fell	17·3	17·2

SUMMARY OF WIND, 1935.

Prevailing Direction	N	NE	E	SE	S	SW	W	NW
No. of days for each	29	50	30	11	49	48	133	15
Mean Velocity in miles per hour ...	6·8	6·7	9·8	7·5	8·6	10·5	11·1	8·6
Total No. of miles for each Direction	4763	8050	7060	1980	10108	12135	37431	3095

		Mean for the last 68 years.
Total No. of miles registered	84622	84681
Greatest Monthly Total (February)	9394	9870
Least ,, ,, (August)	4005	4866
Greatest recorded hourly velocity (October 19th).	44	50
Prevailing Direction of Wind	W.	W.

DIFFERENCES, 1935.

The signs + and — mean respectively above and below the YEARLY average.

Mean barometric pressure	—	0·035 in.
Yearly range	—	0·027 in.
Mean of highest daily temperatures	—	0·4°
Mean of lowest ,, ,, ...	+	1·4°
Mean daily range	—	1·8°
Adopted mean temperature	+	0·8°
Total rainfall	+	5·814 in.

ABSOLUTE EXTREMES

FOR THE LAST 88 YEARS.

Readings of Barometer, in inches.

Highest monthly mean	1932 (Feb.) ...	...	30·082
Lowest „ „	1868 (Dec.) ...	...	28·984
Highest yearly „	1921	...	29·615
Lowest „ „	1872	...	29·319
Greatest monthly range	1886 (Dec.) ...	...	2·795
Least „ „	1852 (July) ...	...	0·505
Highest reading	1896 (Jan. 9th)	...	30·597
Lowest „	1886 (Dec. 8th)	...	27·350
Extreme range	... ...	...	3·247

Thermometer, Fahrenheit.

Highest monthly mean temperature ...	1901 (July) ...	63·2
Lowest „ „ ...	1855 (Feb.) ...	28·6
Highest yearly „ „ ...	1921	49·4
Lowest „ „ „ ...	1879	44·1
Highest reading „ ...	1901 (July 20th)	89·0
Lowest „ „ ...	1881 (Jan 15th)	4·6

Weight of Vapour in a cubic foot of air (grains).

Greatest monthly mean	1852 and 1927 (July)	5·1
Least „ „	†1895 (Feb.)	1·4

† *And in* 1855 (*Feb.*).

ABSOLUTE EXTREMES

FOR THE LAST 88 YEARS—*Continued.*

Rainfall, in inches.

Greatest Rainfall in one day	...	1866 (Nov. 16th)	... 3·700
Greatest ,, ,, month	...	1870 (Oct.)	... 13·437
Least ,, ,, ,,	...	1932 (Feb.)	... 0·123
Greatest ,, ,, year	...	1923	... 63·558
Least ,, ,, ,,	...	1887	... 31·250
Days on which ·005 in. or more Rain fell :			
Greatest No. in one month	...	1890 (Jan.) and 1918 (Dec.)	... 30
Least ,, ,,	...	1852 (Mar.)	... 3
Greatest ,, year	...	1872	... 281
Least ,, ,,	...	1855	... 135

* *Wind.*

Greatest hourly velocity, in miles		1894 (Dec. 22)	... 65
Greatest No. of miles registered in a month	... ...	1888 (Nov.)	... 12813
Least ,,	...	1917 (Feb.)	... 3160
Greatest Mean No. ,, ,,	...	January	... 8279
Least ,, ,, ,,	...	September	... 6031
Greatest No. ,, ,, year		1868	... 102395
Least ,, ,, ,, ,,		1915	... 70623

* *Record dates from* 1867 *only.*

DATES OF OCCASIONAL PHENOMENA.

1935	Frost	Hoar Frost	Snow	Hail	Heavy Rain
January	6-10, 13, 14, 17, 18, 22, 26-30	7, 9, 28	6, 7, 9, 11, 13, 25, 28	11, 25	1, 11, 24
February	3, 6-9, 23-28	18	22-25, 27	2, 4, 14, 22	1, 3, 5, 15, 20
March	1, 2, 4, 5, 8-14, 16, 28		9, 10		23
April	2, 3, 5-8, 12, 13, 15, 23, 25, 28		4, 5, 6	5-6, 17	16
May	13-19, 22, 23		14, 17	14	16
June				4	
July					3, 14
August					26
September				17, 30	16, 21, 24, 30
October	2, 21, 22, 23, 26			9, 10, 29	8, 9, 18, 23, 26, 27, 28, 30
November	7, 13, 16, 23, 24, 25	24			14, 30
December	5-7, 11, 13-24, 29	5, 13, 17, 23	4, 6, 14, 15, 19, 21, 22, 24	1, 2, 3, 15	1

1935	Gales of Wind	Fog	Thunder	Lightning	Lunar Halo	Solar Halo	Aurora Borealis
January		1, 9, 15, 22, 29, 30		26			27
February	1, 16, 20	13	14, 21	14, 21	12		1
March		1, 2, 21, 28				19, 28	14
April	10	30	14, 20, 22, 23	22, 23	7, 12	6, 8, 9, 13, 16	
May						3, 6, 12, 15	
June	7	6	3, 4, 5, 7, 14, 23, 25	4-7, 23		6, 9, 17	
July		1, 26	14	14		28	
August		6, 7, 18	17, 28	17, 27, 28		1, 9, 26	
September		22	1, 2, 4, 14, 17, 22	1, 2, 17, 22, 24		1, 6, 10, 18, 29	
October	19, 27	26	8, 9, 10, 29	8, 9, 10, 29			
November	30	5, 7, 11, 19					
December		5-7, 20-23, 26, 28, 29	1, 3	1, 2, 3	8		

MONTHLY TOTALS FOR EACH HOUR OF RECORDED SUNSHINE.

1935. Local apparent time	4–5	5–6	6–7	7–8	8–9	9–10	10–11	11–12	12–1	1–2	2–3	3–4	4–5	5–6	6–7	7–8	8–9
January ...	...	...	...	...	1·7	6·4	8·0	6·1	5·8	9·1	6·1	2·9	...	...	...	...	...
February ...	...	...	...	1·0	3·3	3·9	3·5	5·3	5·0	3·0	4·2	2·6	0·3	...	...	...	...
March ...	...	...	0·1	2·3	5·0	7·2	10·4	11·6	13·1	12·1	10·1	8·2	6·6	1·8	...	...	...
April ...	...	3·2	10·2	11·5	10·2	13·3	14·0	12·4	14·5	13·8	15·3	13·0	12·4	7·9	2·6	...	...
May ...	2·5	11·3	14·5	18·2	20·9	21·8	22·3	21·7	21·7	22·6	23·2	22·5	21·5	19·3	12·7	4·0	...
June ...	3·2	7·2	9·9	12·7	14·4	14·4	13·9	14·7	12·4	12·5	12·3	13·3	13·4	10·5	8·4	2·7	...
July ...	1·2	10·4	12·8	15·3	14·5	15·1	15·4	15·9	16·9	17·3	18·5	18·3	15·5	13·4	9·7	1·9	...
August ...	0·1	4·5	10·0	11·4	15·0	15·5	17·9	18·4	19·6	19·6	19·6	16·4	17·0	16·9	10·7	0·5	...
September ..	...	...	2·7	6·3	10·7	10·8	13·1	14·3	13·3	13·5	13·9	8·6	5·4	3·6	0·2	...	...
October ...	...	...	...	3·1	5·6	7·5	8·2	7·0	6·0	5·7	4·1	4·8	2·5	0·1	...	...	...
November...	...	...	...	...	0·6	4·0	6·8	6·5	7·3	7·9	6·9	1·1	...	...	...	...	...
December ...	...	...	...	...	0·1	4·0	6·3	7·9	6·9	6·2	5·1	0·2	...	...	...	...	...
Sums...	7·0	36·6	60·2	81·8	102·0	123·9	139·8	141·8	142·5	143·3	139·3	111·9	94·6	73·5	44·3	9·1	...

TOTAL AMOUNT OF SUNSHINE RECORDED ON EACH DAY.

1935	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
January ...	...	...	...	5·8	1·5	2·2	1·1	1·3	...	...	...	5·3	0·3	3·0	...	...	3·0
February ...	...	3·7	...	0·5	...	6·4	2·1	0·2	0·1	0·1	...	0·1	...	2·2	...	0·3	0·4
March ...	1·1	...	...	7·6	4·1	0·9	1·3	0·9	0·4	4·0	8·9	10·1	6·6	4·7	1·1	0·1	0·4
April ...	3·3	4·0	8·2	4 8	7·6	8·2	2·7	5·9	3·8	3·9	9·9	10·5	1·1	2·6	1·8	0·2	0·3
May ...	0·1	0·3	4·3	8·5	10·2	11·0	9·6	7·9	4·4	14·1	10·2	8·0	10·2	11·7	6·7	6·0	2·1
June ...	10·5	0·2	7·0	0·2	1·3	1·6	4·2	12·0	7·6	0·4	3·9	5·8	9·5	6·4	13·7	6·9	9·4
July ...	0·7	5·9	7·3	4·3	3·5	10·9	13·6	9·8	13·3	5·0	4·4	7·2	11·4	2·6	7·6	1·1	2·6
August ...	1·4	13·5	11·0	7·3	1·5	11·5	10·5	13·0	9·9	13·0	5·3	9·9	11·3	0·7	5·6	0·1	0·3
September ..	2·6	4·5	0·7	7·8	2·2	10·3	11·0	7·6	0·1	1·0	5·8	0·3	9·4	3·7	2·3	2·7	1·9
October ...	1·5	...	4·0	....	...	9·1	1·0	4·8	...	4·6	4·2	6·3	0·5	0·9	1·2	1·1	2·0
November...	1·1	0·9	3·1	...	...	5·8	2·5	0·2	2·2	2·1	0·2	2·7	0·3	...	0·5	6·0	...
December ...	3·6	0·8	2·0	2·1	1·6	...	...	1·1	2·3	4·2	0·6	...	0·5	1·3	1·0	5·4	1·3

TOTAL AMOUNT OF SUNSHINE RECORDED ON EACH DAY—*(continued).*

1935	18	19	20	21	22	23	24	25	26	27	28	29	30	31	MONTHLY Total	MONTHLY Percen.
January ...	...	...	...	0·8	...	...	...	1·2	6·1	7·7	2·0	4·2	...	0·6	46·1	18·6
February ...	...	0·4	...	0·7	0·2	3·1	3·0	...	8·5	...	0·1	...	...	...	32·1	11·8
March ...	2·7	0·1	2·8	3·8	0·3	...	2·0	0·8	8·7	7·5	7·0	0·6	...	...	88·5	24·2
April ...	6·1	1·0	1·9	8·9	2·0	3·5	4·8	1·6	13·0	8·4	12·3	9·2	2·8	...	154·3	36·8
May ...	9·1	1·8	10·6	12·1	14·6	12·5	12·8	14·8	12·5	14·7	2·0	14·4	12·2	11 3	280·7	56·9
June ...	0·1	0·3	2·2	1·5	12·5	7·7	14·1	10·8	1·8	...	8·9	14·8	0·6	...	175·9	34·6
July ...	4·4	1·8	8·3	9·8	1·3	9·2	7·6	10·1	2·1	...	8·1	10·9	14·3	13·0	212·1	41·7
August ...	6·1	0·8	10·2	9·8	11·3	2·6	4·3	9·9	1·5	9·6	7·5	5·3	0·2	8·2	213·1	46·6
September ..	4·4	1·9	7·3	...	0·1	7·9	...	8·4	0·5	2·9	0·1	5·9	3·1	...	116·4	30·7
October ...	1·3	0·5	6·4	2·5	0·3	0·7	...	0·3	...	...	...	1·3	...	0·1	54·6	16·7
November...	...	0·8	...	...	0·2	5·1	1·8	1·7	2·8	0·1	0·2	0·4	0·4	...	41·1	16·1
December ..	...	...	...	...	3·8	3·5	...	0·6	...	...	0·1	0·8	...	0·1	36·7	15 9

SUMMARY OF SUNSHINE.

	Bright Sunshine Recorded					
	1935			Mean for the last 55 years		
	Number of		Percentage of Possible Sunshine	Number of		Percentage of Possible Sunshine
	Days	Hours		Days	Hours	
January ...	16	46·1	18·6	14·9	34·3	13·8
February ...	18	32·1	11·8	17·7	56·1	20·5
March ...	26	88·5	24·2	24·5	103·9	28·4
April ...	30	154·3	36·8	26·6	144·3	34·5
May ...	31	280·7	56·9	27·8	183·1	37·2
June ...	29	175·9	34·6	28·1	187·0	36·9
July ...	30	212·1	41·7	28·5	169·7	33·4
August ...	31	213·1	46·6	27·8	151·1	32·7
September ..	28	116·4	30·7	25·7	125·4	33·0
October ...	22	54·6	16·7	23·8	86·5	26·5
November ..	23	41·1	16·1	18·0	46·9	18·4
December ...	20	36·7	15·9	14·1	27·7	12·0
Year ...	304	1451·6	32·5	277·4	1316·0	29·5

SUMMARY OF SUNSHINE—*Continued.*

EXTREMES FOR THE LAST 55 YEARS.

Month	Number of Days on which Sunshine was recorded				Number of Hours Sunshine was recorded				Percentage of Possible Sunshine			
	Greatest		Least		Greatest		Least		Greatest		Least	
Jan.	23	*1933	8	1898	64·2	1881	12·3	1913	25·9	1881	5·0	1913
Feb.	24	1895	11	1882	89·3	1887	29·6	1882	32·8	1887	10·9	1882
Mar.	30	1929	17	1904	178·9	1929	56·8	1912	48·9	1929	15·5	1912
April	30	*1935	22	1920	223·7	1893	80·7	1920	53·4	1893	19·3	1920
May	31	*1935	22	1886	280·7	1935	79·7	1906	56·9	1935	16·2	1906
June	30	*1896	24	*1888	272·5	1887	85·2	1912	53·6	1887	16·8	1912
July	31	*1882	24	1920	263·4	1911	98·0	1888	51·7	1911	19·3	1888
Aug.	31	*1886	23	1894	235·2	1899	74·1	1912	51·5	1899	16·2	1912
Sept.	30	1914	21	1897	204·1	1933	62·9	1896	53·9	1933	16·6	1896
Oct.	29	*1933	17	1889	134·9	1899	50·0	1889	41·4	1899	15·3	1889
Nov.	24	1925	9	1897	89·9	1925	18·5	1891	33·8	1915	7·2	1891
Dec.	20	*1935	6	1882	60·1	1886	7·4	1912	26·0	1886	3·2	1912
Year	307	1933	251	1903	1613·7	1887	927·6	1912	36·1	1887	20·7	1912

* *And in other years.*

HORIZONTAL MAGNETIC DIRECTION.

Horizontal Magnetical Direction, West of North (from daily measures of the continuous curves).

1935.	MEANS OF *				Mean for the month *	Mean daily range †	Highest reading of the month	Lowest reading of the month	Monthly range
	Highest readings	Lowest readings	4 a.m. readings	4 p.m. readings					
	12° +						12° +	12° +	
	′	′	′	′	′	′	′	′	′
January ...	60·0	55·8	58·4	58·4	58·2	12·1	67·8	33·8	34·0
February ...	61·0	54·8	57·4	58·8	58·0	13·0	68·8	37·8	31·0
March	62·0	52·4	54·4	59·4	57·1	15·9	73·8	29·8	44·0
April	59·8	51·2	53·8	57·8	55·7	13·2	71·8	40·8	31·0
May	58·4	49·2	52·6	56·0	54·1	13·5	67·8	25·8	42·0
June	58·4	47·4	51·6	56·2	53·4	15·7	70·8	26·8	44·0
July	57·2	47·6	49·2	55·0	52·3	13·9	64·8	38·8	26·0
August ...	56·6	46·2	48·6	52·8	51·1	12·9	61·8	35·8	26·0
September ...	55·4	45·8	48·0	52·0	50·3	17·4	68·8	29·8	39·0
October ...	54·2	44·8	48·6	51·4	49·8	16·5	67·8	22·8	45·0
November ...	52·4	46·6	48·6	50·4	49·5	12·9	58·8	25·8	33·0
December ...	51·0	45·4	47·6	49·4	48·4	13·3	59·8	28·8	31.0
Means	57·2	48·9	51·6	54·8	53·2	14·2	66·9	31·4	35·5

Mean for the year ... ... 12° 53′·2 W.

* *For the 5 quietest days.* † *Includes all days.*

HORIZONTAL MAGNETIC FORCE.

Horizontal Magnetic Force in C. G. S. Units (from daily measures of the continuous curves).

The figures in the columns are entered to the unit 10^{-5} C.G.S.

1935	MEANS OF * Highest readings	Lowest readings	4 a.m. readings	4 p m. readings	Mean for the month *	Mean daily range †	Highest reading of the month	Lowest reading of the month	Monthly range
	17000 +						17000 +		
January ...	188	167	178	177	178	48·1	214	84	130
February ...	178	158	168	170	169	49·5	228	97	131
March ...	178	150	162	166	164	54·5	223	97	126
April	172	139	161	164	161	64·4	228	17	211
May	165	127	151	153	149	57·2	228	97	131
June	162	115	143	149	142	77·7	264	48	216
July	151	107	126	137	130	65·7	210	48	162
August ...	142	107	131	136	129	54·0	205	71	134
September ...	140	101	126	130	125	74·3	237	- 1	238
October ...	153	107	134	140	134	68·0	178	44	134
November ...	158	137	144	150	147	48·2	187	62	125
December ...	163	142	152	155	154	49·5	196	80	116
Means... ...	163	130	148	152	148	59·3	217	62	155

Mean for the year ... ... ·17148 C. G. S. Units.

* *For the* **5** *quietest days.* † *Includes all days.*

ABSOLUTE MEASURES—SUMMARY.

DIRECTION			FORCE.		
1935	Declination Corrected	Inclination	Horizontal	Vertical	Total
	° ′	° ′	C. G. S. UNITS.		
	12 +	68 +	0·17000+	0·44000+	0·47000+
January ...	58·5	52·0	163	402	604
February ...	58·1	51·3	150	342	543
March ...	57·5	49·1	147	253	459
April	55·3	52·2	159	334	598
May	53·2	50·6	148	312	514
June	52·0	50.1	154	315	514
July	54·3	50·0	136	256	458
August ...	53·1	50·7	145	305	506
September ...	50·2	52·4	140	356	552
October ...	49·8	50·7	144	302	503
November ...	48·8	51·4	147	335	536
December ...	46·6	48·4	147	220	429
	° ′	° ′			
Means ...	12 53·1 W.	68 50·7	0·17148	0·44311	0·47501

DATES OF MAGNETIC DISTURBANCES.

The disturbances are divided generally into three classes, *small*, *moderate*, and *greater*; these are indicated by the initial letters of the classes, and the letter c denotes *calm*. Very great disturbances are marked v.g. The days are civil days.

1935	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1935
D.													D.
1	m	m	s	c	g	c	s	s	m	c	s	m	1
2	m	g	s	s	m	c	s	s	c	s	m	m	2
3	s	m	m	s	c	s	c	c	s	c	m	s	3
4	m	c	c	s	c	s	c	c	m	c	s	c	4
5	c	s	s	s	c	(s)	s	s	s	c	g	c	5
6	c	c	c	c	c	(s)	s	m	s	c	m	c	6
7	c	s	s	s	c	g	m	s	s	m	s	s	7
8	c	s	c	m	c	g	m	c	s	c	s	s	8
9	c	s	c	m	c	m	s	c	s	c	s	s	9
10	(c)	s	c	g	m	m	c	c	m	s	c	m	10
11	s	s	s	g	m	m	s	c	g	m	s	m	11
12	s	c	c	m	m	s	s	c	m	c	g	s	12
13	s	g	m	m	c	c	c	s	c	c	m	s	13
14	s	(m)	g	s	c	c	m	c	s	s	m	m	14
15	s	(s)	m	s	s	c	s	s	m	m	c	m	15
16	s	m	m	s	s	c	s	s	s	s	c	m	16
17	m	s	m	s	c	s	s	c	m	s	c	s	17
18	m	m	s	m	s	g	c	s	m	s	m	s	18
19	s	c	s	s	s	m	s	s	m	m	m	s	19
20	c	s	s	s	m	s	s	s	c	m	m	s	20
21	m	m	m	c	s	s	s	m	c	g	s	c	21
22	m	s	s	s	c	s	s	s	c	s	s	c	22
23	m	m	s	s	c	c	s	s	g	c	c	c	23
24	m	m	m	s	c	c	m	s	m	m	c	s	24
25	s	m	s	s	c	c	m	s	m	m	c	m	25
26	s	m	c	c	c	c	s	c	m	c	c	m	26
27	g	c	c	c	c	c	c	m	s	m	m	m	27
28	m	c	c	c	c	s	c	s	s	s	c	m	28
29	c		c	c	s	c	c	s	s	c	m	m	29
30	s		m	s	s	s	c	s	m	c	m	s	30
31	s		c		s		s	c		m		s	31
TOTAL c	8	6	11	7	17	12	9	11	5	13	9	6	116
TOTAL s	12	10	11	16	8	11	17	17	11	8	8	13	142
TOTAL m	10	10	8	5	5	4	5	3	12	9	11	12	94
TOTAL g	1	2	1	2	1	3	—	—	2	1	2	—	15
TOTAL vg	—	—	—	—	—	—	—	—	—	—	—	—	—

TOTALS

Note :—Character letters in brackets indicate incomplete records.

DATES OF SOLAR OBSERVATIONS

The Unit is $\frac{1}{5000}$th of the Disc.
NS—No Spots.

1934	Jan.	Feb.	March	April	May	June
DAY						
1	*0·58*		1·55	N.S.	*0·67*	2·17
2		0·46		N.S.	0·90	*3·93*
3	*1·85*		*1·29*	N.S.	2·08	6·22
4	1·62	N.S.	1·52	0·04	2·78	*4·52*
5	1·50		1·33	NS	5·04	3·50
6	1·66	2·78	0·80	N.S.	4·41	2·37
7	1·76	7·24	0·61	N.S.	4·70	2·97
8	1·54	n *5·15*	0·30	0·79	3·93	1·27
9	*1·82*	*3·23*	*0·52*	0·80	4·07	4·12
10	*1·67*	*1·04*	0·32	n *0·39*	4·56	3·44
11	*1·60*	*0·34*	2·79	0·14	3·27	2·65
12	2·34	0·18	1·82	0·51	2·27	2·26
13	*2·40*	*0·51*	3·19	1·22	2·54	2·15
14	2·64	0·70	3·47	2·75	1·58	1·59
15	*1·53*	*0·32*	2·98	3·24	1·56	1·37
16	*1·56*	*0·73*	*2·40*	1·66	0·64	2·04
17	1·13	n *0·23*	1·69		0·17	1·63
18	*0·22*	*0·12*	1·94	1·47	N.S.	*1·54*
19	*0·29*	n *0·22*	n *1·67*	1·25	N.S.	*3·38*
20	*0·09*	*0·49*	1·27	0·65	N.S.	4·08
21	0·09	0·21	0·54	0·53	N.S.	1·68
22	*0·15*	*0·10*	0·69	0·50	0·15	1·77
23	*0·29*	0·79	*0·19*	0·14	N.S.	1·80
24	*1·58*	1·34	0·08	0·17	0·30	2·86
25	4·58		N.S.	N.S.	0·12	4·75
26	4·25	1·15	0·09	N.S.	N.S.	6·40
27	2·80	*1·56*	0·04	N.S.	0·64	*9·72*
28	1·59	*1·54*	N.S.	N.S.	0·74	9·35
29	0·88		N.S.	0·09	0·83	9·03
30	*0·94*		*N.S.*	0·39	1·27	7·81
31	*0·95*		N.S.		1·57	
Mean	1·53	1·27	1·10	0·58	1·64	3·75

AND DISC AREAS OF SPOTS.

n—Incomplete observation at Stonyhurst.
Italics indicate Area from copy of Zurich drawing.

July	August	Sept.	October	Nov.	Dec.	1934
						DAY
n *9·28*	0·19	3·71	3·89	0·81	15·49	1
9·01	0·47	3·29	*4·81*	1·13	16·67	2
4·45	0·86	*4·21*	2·60	2·42	17·00	3
3·54	0·65	3·36	*4·01*	*7·88*	19·22	4
1·94	0·68	*3·07*	*3·56*	*7·51*	13·99	5
1·35	1·20	3·91	2·52	8·16	*14·67*	6
1·69	1·42	3·09	1·10	8·07	*13·45*	7
3·40	1·54	2·36	0·70	*10·21*	10·13	8
1·68	0·98	1·97		9·24	8·29	9
2·79	0·94	*2·60*	0·20	10·30	9·87	10
2·94	1·45	0·80	0·45	9·97	9·94	11
2·65	1·15	*0·60*	1·46	9·91	*10·35*	12
3·49	0·83	0·36	n *1·45*	10·52		13
4·54	0·56	0·48	2·49	*9·32*	7·77	14
2·53	0·74	0.38	2·59	9·84	*8·06*	15
3·63	*1·16*	1·24	3·40	10·40	6·61	16
2·33	*1·30*	0·98	3·83			17
2·84	1·62	0·78	n *7·26*	*10·97*	*6·02*	18
	1·88	0·90	*10·36*	7·43	*3·89*	19
3·55	4·14	1·24	6·39	*10·94*	2·95	20
2·57	5·51	*0·89*	5·54	*11·43*	*4·60*	21
2·44	5·76	1·54	7·52	n *10·90*	3·67	22
2·36	*5·21*	2·46	8·27	8·52	4·60	23
2·10	2·98	*4·03*		5·63	*3·74*	24
1·50	1·61	4·51		3·05	6·32	25
0·84		5·14	*6·34*	4·02	*7·16*	26
0·90	1·89	4·79		5·49	*6·93*	27
0·46		*3·16*		*8·15*	6·51	28
N.S.	2·06	2·25	2·53	n *10·95*	5·96	29
N.S.	2·30	2·48	*2·22*	*14·27*	5·33	30
0·27	2·90		0·71		*7·26*	31
2·70	1·88	2·35	3·70	8·19	8·84	Mean

SUN-SPOT STATISTICS, 1935.

The points for which the co-ordinates were measured are indicated as follows :—s—centre of chief spot, g—centre of group, p—centre of preceding, f—centre of following spot. In the last column is entered the day and decimal thereof on which the centre of the spot or group actually passed the central meridian, or would have done so if on the Solar Surface on the day in question. The " Types " are :—

I.—One or more small spots.

II.—A double spot or group of some magnitude.

III.—A train of spots of some magnitude.

IV.—A single large spot with or without small companions.

V.—Irregular group of larger spots.

Groups in Italics were not observed at Stonyhurst, but are taken from the Zurich drawings.

No. of Group	Date	Mean Latitude	Mean Longitude	Ref. Pt.	Max. Area	Mean Type	Central Meridian
		°	°				
1	Jan. 3—14 ...	—32·2	60·3	p	*1·82*	II	Jan. 8·6
		—29·5	53·4	s			,, 9·1
1₁	,, 1	*—26·9*	*120·5*	*s*	*0·07*	*I*	,, *4·0*
1₂	,, *3*	*—21·8*	*71·1*	*s*	*0·06*	*I*	,, *7·8*
2	,, 6—7 ...	+29·4	61·4	g	0·12	I	,, 8·5
3	,, 11—22 ...	—21·7	297·1	s_1	2·42	V	,, 18·0
		—19·9	296·5	s_2			,, 18·0
4	,, *22*	*—29·9*	*306·4*	*g*	*0·08*	*I*	,, *17·3*
5	,, 23—28 ...	—28·0	236·6	p	3·50	II	,, 22·6
		—29·1	227·9	f			,, 23·2
6	,, 23—Feb. 2	+28·5	159·0	p	1·74	II	,, 28·5
		+26·9	156·4	f			,, 28·7
7	Feb. 6—11 ...	—15·8	69·3	p	7·03	II	Feb. 4·3
		—17·1	60·1	f			,, 5·0
8	,, 6—13 ...	+22·3	346·6	s	*0·33*	I	,, 10·5
9	,, 14	—21·1	344·3	g	0·04	I	,, 10·7
9₁	,, *10*	*+22·8*	*44·0*	*g*	*0·07*	*I*	,, *6·2*
9₂	,, *11*	*—13·8*	*297·6*	*s*	*0·04*	*I*	,, *14·3*
10	,, 14—18 ...	+26·7	280·3	g	*0·61*	I	,, 15·6
10₁	,, *19—20* ...	*—13·7*	*276·4*	*g*	*0·13*	*I*	,, *15·9*
10₂	,, *19—20* ...	*—26·1*	*228·4*	*g*	*0·21*	*I*	,, *19·5*
11	,, 13—16 ...	+ 2·5	237·7	g	0·45	IV	,, 18·8

SUN-SPOT STATISTICS, 1935—*Contd.*

No. of Group	Date.	Mean Latitude	Mean Longitude	Ref. Pt.	Max. Area	Mean Type	Central Meridian
		°	°				
12	Feb. 20—22 ...	+28·2	150·1	s	0·21	I	Feb. 25·5
13	„ 23—27 ...	—22·3	160·7	g	1·34	I	„ 24·7
14	„ 26—Mar. 9	—17·5	72·5	s	1·55	IV	Mar. 3·4
14a	*„ 28 ... ...*	*—16·1*	*111·4*	*s*	*0·08*	*I*	*Feb. 28·4*
15	Mar. 9—17 ...	—16·7	278·6	g	1·56	V	Mar. 15·0
16	„ 10—19 ...	+ 0·2	276·6	s	1·93	IV	„ 15·2
17	„ 11—14 ...	+21·9	1·0	g	0·56	I	„ 8·8
18	„ 11—15 ...	—27·2	347·0	g	0·31	I	„ 9·8
19	„ 14—19 ...	+20·9	218·2	s	*0·45*	I	„ 19·6
20	„ 15	— 5·4	274·2	s	0·07	I	„ 15·4
21	„ 16—21 ...	+27·8	259·8	g	*1·39*	V	„ 16·5
22	„ 19—24 ...	—21·8	137·2	g	0·69	I	„ 25·8
23	„ 26—27 ...	—31·7	109·7	s	0·09	I	„ 27·9
24	April 4	—16·6	319·0	s	0·04	I	April 8·3
25	„ 8—13 ...	+23·0	305·7	g	0·79	I	„ 9·3
26	„ 9—10 ...	—21·8	326·6	g	0·24	I	„ 7·7
27	„ 11—13 ...	—26·2	195·4	g	0·10	I	„ 17·6
28	„ 12—22 ...	—34·6	218·9	s	3·24	IV	„ 15·9
28a	„ 21	—34·4	89·8	s	0·03	I	„ 25·6
29	„ 22—24 ...	—22·2	59·9	g	0·17	I	„ 27·9
30	„ 29—May 3	—22·6	327·4	s	0·12	I	May 4·9
31	„ 30— „ 8	+21·3	315·0	s	1·07	IV	„ 5·8
32	May 2—10 ...	—28·4	337·2	p	3·38	II	„ 4·2
		—29·2	327·7	f			„ 4·9
33	„ 2— 6 ...	—19·7	296·4	g	0·14	I	„ 7·2
34	„ 4	—19·9	317·7	s	0·13	I	„ 5·6
35	„ 5— 6 ...	+20·5	275·9	s	0·13	I	„ 8·8
36	„ 5—17 ...	—26·9	239·9	s	1·58	IV	„ 11·5
37	„ 7—16 ...	—20·1	244·3	p	2·06	II	„ 11·2
		—19·7	237·6	f			„ 11·7
38	„ 8	+21·1	272·6	g	0·09	I	„ 9·0
39	„ 13—15 ...	—18·6	184·4	s	0·25	I	„ 15·7
40	„ 11—15 ...	+27·1	172·6	s	0·15	I	„ 16·6
41	„ 22	—34·9	142·8	s	0·03	I	„ 18·9
42	„ 22	—24·4	126·6	g	0·12	I	„ 20·1
43	„ 24	+ 5·3	126·9	s	0·10	I	„ 20·1

SUN-SPOT STATISTICS, 1935—*Contd.*

No. of Group	Date	Mean Latitude	Mean Longitude	Ref. Pt.	Max. Area	Mean Type	Central Meridian
		°	°				
44	May 24—25 ...	—19·4	56·3	s	0·20	I	May 25·4
45	,, 25	—18·3	67·6	g	0·08	I	,, 24·5
46	,, 27—June 8	—29·4	312·1	s	6·09	IV	June 2·3
47	,, 29—31 ...	+17·0	300·1	s	0·13	I	,, 3·2
48	,, 30—June 6	+25·8	274·4	g	0·56	I	,, 5·1
49	June 5—11 ...	+27·6	195·9	s	0·83	IV	,, 11·0
50	,, 8—15 ...	—29·8	204·4	f	2·83	V	,, 10·4
51	,, 8—18 ...	+27·5	179·5	g	0·65	I	,, 12·3
52	,, 8—11 ...	—23·6	169·8	g	0·26	I	,, 13·0
53	,, 9—11 ...	—33·6	169·8	g	0·38	I	,, 13·0
54	,, 11—16 ...	+29·4	132·2	s	0·95	IV	,, 15·9
55	,, 15—20 ...	+14·7	78·6	s	0·46	I	,, 19·9
56	,, 15—23 ...	—17·9	59·4	g	2·28	II	,, 21·4
56$_1$	,, 20—22 ...	+29·5	114·9	s	0·21	I	,, 17·2
57	,, 18—29 ...	—17·7	24·4	s	1·74	IV	,, 24·0
58	,, 21—27 ...	—26·8	356·7	g	0·16	I	,, 26·1
59	,, 23—July 5	—23·8	307·3	s	*9·23*	IV	,, 29·8
59$_1$	*July 1 ... ...*	*—28·3*	*297·4*	*g*	*0·05*	*I*	,, *30·6*
60	,, 4—14 ...	+24·7	172·9	s	0·47	IV	July 10·0
61	,, 5—16 ...	—33·1	158·0	s	1·83	IV	,, 11·1
62	,, 8—14 ...	+22·3	142·2	g	0·67	I	,, 12·3
63	,, 8—20 ...	—18·1	120·1	s	*1·52*	IV	,, 14·0
64	,, 12—14 ...	—17·3	159·3	g	0·21	I	,, 11·0
65	,, 12—22 ...	—25·7	73·9	g	1·79	I	,, 17·5
66	,, 15—18 ...	—17·7	24·4	s	0·22	I	,, 21·2
67	,, 20—28 ...	+27·9	9·3	f	2·38	II	,, 22·3
68	,, 26	+17·9	28·4	s	0·03	I	,, 20·9
69	,, 31—Aug. 9	—15·5	194·6	s	0·58	I	Aug. 4·6
70	Aug. 3	—22·1	207·9	s	0·28	I	,, 3·5
71	,, 4—16 ...	—16·9	117·7	s	0·92	IV	,, 10·4
72	,, 6— 8 ...	+27·3	99·1	g	0·23	I	,, 11·8
73	,, 7—13 ...	—26·3	100·5	s	0·21	I	,, 11·7
74	,, 8	+25·9	187·9	g	0·09	I	,, 5·1
75	,, 10—14 ...	—19·7	101·9	g	0·12	I	,, 11·6
76	,, 10—13 ...	—15·2	52·9	g	0·25	I	,, 15·3
77	,, 12	+24·1	103·8	s	0·06	I	,, 11·4

SUN-SPOT STATISTICS, 1935—*Contd.*

No. of Group	Date	Mean Latitude	Mean Longitude	Ref. Pt.	Max Area	Mean Type	Central Meridian
		°	°				
78	Aug. 13	+22·8	62·1	s	0·08	I	Aug. 14·6
79	„ 14	+21·9	141·3	s	0·09	I	„ 8·6
80	„ 14—25 ...	+18·3	340·7	s	*1·04*	IV	„ 20·7
81	„ 17—21 ...	—16·0	51·7	s	0·98	IV	„ 15·4
82	„ 18—25 ...	+28·0	1·0	p	4·92	II	„ 19·2
		+27·8	350·5	f			„ 20·0
83	„ 24—Sept. 6	+30·6	202·2	s	2·26	IV	„ 31·2
84	„ 28	—18·5	293·0	g	0·13	I	„ 24·3
85	„ 29—Sep. 10	+20·1	146·7	s	*3·56*	IV	Sept. 4·4
86	„ 31— „ 5	+26·9	125·2	g	0·14	I	„ 6·0
86_1	Sept. 6— 8 ...	+19·5	118·3	g	0·84	I	„ 6·6
86_2	„ *5*	*+24·2*	*134·4*	*g*	*0·08*	*I*	„ *5·4*
87	„ 2	—21·3	214·5	g	0·14	I	Aug. 30·3
88	„ 4	—37·0	183·2	s	0·05	I	Sept. 1·7
89	„ 4— 8 ...	+23·9	166·9	g	0·65	I	„ 2·9
90	„ 8—11 ...	—15·8	129·7	g	*1·49*	I	„ 5·7
91	„ 9—13 ...	+31·2	353·7	s	*0·33*	I	„ 16·0
91_1	„ *12*	*+20·9*	*86·5*	*g*	*0·18*	*I*	„ *9·0*
92	„ 13	+14·4	51·8	s	0·06	I	„ 11·6
93	„ 13	+27·8	20·7	g	0·17	I	„ 14·0
94	„ 14—19 ...	+26·6	327·2	g	0·84	I	„ 18·0
95	„ 14—21 ...	—24·4	304·8	g	0·52	III	„ 19·7
96	„ 17—28 ...	+25·0	251·2	s	1·50	IV	„ 23·8
97	„ 22—27 ...	+18·9	277·1	g	2·89	II	„ 21·8
98	„ 23—28 ...	+22·9	265·2	g	1·34	II	„ 22·7
99	„ 24—25 ...	+28·0	300·1	g	0·21	I	„ 20·1
100	„ 25—Oct. 3	—24·7	178·2	s	1·58	IV	„ 29·3
101	„ 26—30 ...	—23·1	155·4	g	0·34	I	Oct. 1·0
102	„ 26—Oct. 7	+22·6	139·3	s	0·54	I	„ 2·2
102_1	„ *28*	*+27·7*	*155·9*	*g*	*0·10*	*I*	„ *1·0*
103	„ 27—Oct. 8	—18·6	133·8	s	1·78	IV	„ 2·7
104	„ 29— „ 3	+21·8	127·2	s	0·31	I	„ 3·2
105	„ 29— „ 5	—17·3	110·4	g	*0·23*	I	„ 4·4
106	„ 30	+26·7	157·8	g	0·12	I	Sep. 30·8
107	Oct. 1— 8 ...	—15·7	82·3	g	*2·05*	III	Oct. 6·6
108	„ 1— 8 ...	+14·2	128·8	g	*1·43*	I	„ 3·0

SUN-SPOT STATISTICS, 1935—*Contd.*

No. of Group	Date	Mean Latitude	Mean Longitude	Ref. Pt.	Max. Area	Mean Type	Central Meridian
		°	°				
109	Oct. 6	—20·8	99·1	g	0·04	I	Oct. 5·3
110	,, 5— 8 ...	—18·0	32·3	s	0·21	I	,, 10·4
111	,, 10—16 ...	+21·0	310·2	s	0·21	I	,, 16·6
112	,, 11—16 ...	+26·0	302·3	s	0·17	I	,, 17·2
113	,, 11—20 ...	—22·8	311·8	g	0·57	I	,, 16·5
114	,, 12—16 ...	+18·6	3·9	g	0·63	I	,, 12·5
115	,, 13—20 ...	+22·4	336·3	g	*1·41*	III	,, 14·6
116	,, 13—26 ...	+23·6	269·6	s	*1·66*	IV	,, 19·7
117	,, 15—23 ...	+21·7	255·3	s	*5·89*	III	,, 20·7
118	,, 15—17 ...	+13·7	250·0	s	0·17	I	,, 21·1
119	,, 16—20 ...	—19·1	295·6	g	*0·49*	I	,, 17·7
120	,, 17—21 ...	—18·6	319·5	s	*1·06*	IV	,, 15·9
121	,, 17	— 7·6	312·2	s	0·04	I	,, 16·4
122	,, 17—18 ...	+27·5	303·4	g	0·05	I	,, 17·1
123	,, 17	+25·9	296·9	g	0·05	I	,, 17·6
124	,, 17—18 ...	+21·6	287·5	g	*0·08*	I	,, 18·3
125	,, 18—26 ...	+19·9	230·2	s	0·54	IV	,, 22·6
125$_1$	,, *19*	*—16·5*	*228·7*	*s*	*0·11*	*I*	,, *22·8*
126	,, 20—21 ...	—18·0	209·4	g	0·08	I	,, 24·2
127	,, 20—31 ...	+21·1	187·8	s	*3·02*	IV	,, 25·9
128	,, 21—Nov. 1	+18·0	176·3	s	*2·42*	IV	,, 26·7
128$_1$	,, *26*	*—19·8*	*130·6*	*s*	*0·07*	*I*	,, *30·2*
128$_2$	,, 26	*+15·8*	*122·1*	*s*	*0·07*	*I*	,, *30·8*
129	Nov. 1— 9 ...	—23·0	64·6	s	*1·89*	IV	Nov. 4·2
130	,, 3— 9 ...	+14·7	62·3	s	1·33	IV	,, 4·4
131	,, 3—15 ...	—28·1	356·4	s	*6·25*	IV	,, 9·4
132	,, 7—18 ...	+21·1	309·9	s	5·65	IV	,, 12·4
133	,, 7—14 ...	—13·7	312·9	s	*0·31*	I	,, 12·7
134	,, 11—18 ...	—23·1	305·3	g	3·24	V	,, 13·3
135	,, 11—23 ...	+23·4	253·8	s	1·52	IV	,, 17·2
136	,, 13—24 ...	+29·7	234·6	g	*2·51*	II	,, 18·6
137	,, 14—22 ...	+19·0	250·6	g	*2·89*	IV	,, 17·4
137$_1$	,, *14*	*+29·2*	*336·1*	*s*	*0·11*	*I*	,, *18·5*
138	,, 15—18 ...	—13·0	260·3	s	0·50	I	,, 16·7
139	,, 15—23 ...	—17·1	207·1	s	*0·46*	I	,, 20·7
140	,, 16—21 ...	+20·9	185·6	g	0·15	I	,, 22·3

SUN-SPOT STATISTICS, 1935—*Contd.*

No. of Group	Date	Mean Latitude	Mean Longitude	Ref. Pt.	Max Area	Mean Type	Central Meridian
		°	°				
141	Nov. 16—28 ...	—14·6	185·1	g	*8·62*	V	Nov. 22·4
142	„ 23—24 ...	—15·9	104·3	s	0·09	I	„ 28·5
143	„ 24	—15·7	172·6	s	0·07	I	„ 23·3
144	„ 25—Dec. 5	—22·5	70·2	s	0·63	IV	Dec. 1·1
145	„ 26— „ 2	—32·7	121·9	g	*2·50*	II	Nov. 27·2
146	„ 26— „ 9	—25·3	57·4	g	17·13	V	Dec. 2·1
147	Dec. 1—14 ...	—27·0	339·9	s	*2·15*	IV	„ 7·9
148	„ 5—10 ...	—25·4	305·4	s	*0·16*	I	„ 10·6
149	„ 7—12 ...	— 8·7	353·6	g	0·89	I	„ 6·9
150	„ 8—12 ...	—11·9	339·4	s	1·32	IV	„ 8·0
151	„ 6—19 ...	—21·4	284·1	p	*8·80*	II	„ 12·2
		—23·3	270·0	f			„ 13·2
151a	„ *7*	*+12·8*	*330·8*	*s*	*0·08*	*I*	„ *8·6*
152	„ 9—12 ...	+21·1	255·2	s	0·21	I	„ 14·4
153	„ 11	—13·8	333·2	s	0·15	I	„ 8·4
153a	„ *12*	*+18·7*	*348·0*	*g*	*0·09*	*I*	„ *7·3*
154	„ 12—18 ...	—16·6	209·4	g	*0·51*	I	„ 17·8
155	„ 14—25 ...	—14·5	192·0	s	*2·86*	IV	„ 19·2
156	„ 15—18 ...	+20·7	231·7	g	0·52	I	„ 16·2
156a	„ *15*	*+20·8*	*174·8*	*s*	*0·05*	*I*	„ *20·5*
156b	„ *15*	*+13·2*	*169·1*	*g*	*0·09*	*I*	„ *20·9*
157	„ 16—27 ...	—27·4	167·2	s	1·65	IV	„ 21·0
158	„ 20—31 ...	+13·9	93·9	s	*1·71*	IV	„ 26·6
159	„ 21—23 ...	+21·8	190·9	s	*0·19*	I	„ 19·3
160	„ 23—31 ...	—23·3	56·5	g	*2·81*	IV	„ 29·5
161	„ 25—31 ...	+14·1	41·7	g	*0·21*	I	„ 30·6
162	„ 24—31 ...	—23·0	36·8	s	*2·90*	IV	„ 30·9
163	„ 24—31 ...	—29·9	40·5	g	0·94	I	„ 30·7
164	„ 28—31 ...	+18·6	359·4	s	*0·63*	IV	Jan. 2·8
165	„ 29—31 ...	—11·6	349·3	s	*1·99*	IV	„ 3·6