SUPPLIED FOR THE PUBLIC SERVICE.

RESULTS OF THE MAGNETIC & METEOROLOGICAL OBSERVATIONS

MADE AT THE ABINGER MAGNETIC STATION, SURREY AND THE ROYAL OBSERVATORY, GREENWICH RESPECTIVELY IN THE YEAR

1933

UNDER THE DIRECTION OF

H. SPENCER JONES, Sc.D., F.R.S.

ASTRONOMER ROYAL

Published by Order of the Board of Admiralty in Obedience to His Majesty's Command

LONDON

PUBLISHED BY HIS MAJESTY'S STATIONERY OFFICE

To be purchased directly from H.M. STATIONERY OFFICE at the following addresses
Adastral House, Kingsway, London, W.C.2; 120, George Street, Edinburgh 2
York Street, Manchester 1; 1, St. Andrew's Crescent, Cardiff
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1934

Price 10s. 0d. Net

31—31—0—33

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THE ROYAL OBSERVATORY, GREENWICH

AND

ABINGER MAGNETIC STATION, SURREY.

MAGNETIC AND METEOROLOGICAL OBSERVATIONS, 1933.

Introduction.

During the year 1933 the staff employed in the Magnetic and Meteorological Department of the Royal Observatory consisted of W. M. Witchell, Superintendent, W. Stevens, G. F. Wells, P. L. Rickerby and three computers. Computers employed during the year were :—Miss Clack, N. Harrild, W. J. H. Dennis and F. E. Deeks.

On account of electric railways in the neighbourhood of Greenwich, magnetic observations are made at an out-station about six miles from the town of Dorking in Surrey, and one and a half miles from the village of Abinger Common. Mr. Stevens, resident observer and assistant-in-charge of the station, is assisted by Mr. Rickerby.

The Magnetic Station at Abinger, near Dorking, Surrey.

The Station was established in 1924 on a site on the northern slope of Leith Hill, 800 feet above sea level. It is approximately 26 miles from the Royal Observatory in a direction a little south of south-west. The nearest railway track approaches to about 2½ miles. The adopted geographical position is Latitude 51° 11′ 5·2″ N., Longitude 0° 23′ 12·1″ W.

General Description of the Buildings and Instruments of the Magnetic Observatory.

The Magnetic Pavilion for absolute observations is constructed of carefully chosen non-magnetic materials, and measures approximately 28 feet by 15 feet. It contains four circular tables stoutly built of hard wood into concrete piers which are free from contact with the floor. On the north pier is mounted the declination instrument, on the central pier the coil magnetometer for observing horizontal intensity, on the

south-east pier the coil-magnetometer for observing vertical intensity, and on the south-west pier the dip inductor.

A smaller pavilion, measuring 16 feet by 12 feet, erected in 1926 for the testing and standardising of magnetic instruments (work formerly carried on at Kew Observatory), is situated about 40 feet south-east of the Magnetic Pavilion, and contains three concrete piers passing through the floor without contact.

The unifilar magnetometer, mounted until August 1928 in the Magnetic Pavilion, is at present used in the Testing Pavilion. It has been ascertained by interchange of two coil-magnetometers, simultaneously operated, that as regards horizontal intensity the site difference is negligible.

A second pavilion, 20 feet in length and breadth, suitable for comparative observations and more convenient than the first for standardising magnetic instruments, was completed in 1932. It occupies a position on the north-east of the pavilion for absolute observations corresponding to that of the testing pavilion on the south-east and contains three circular wooden tables built into concrete piers free from contact with the floor, similar to those in the Magnetic Pavilion.

The Magnetograph House stands 50 feet east of the Magnetic Pavilion in which the absolute magnetic observations are made. The recording instruments are situated in an inner chamber 15 feet long, 12 feet wide, and 8 feet high. This chamber is supported on small concrete piers and is surrounded by an outer chamber, whose walls of non-conducting material are nearly 2 feet thick. Between the walls of the two chambers is an air space of from 2 to 3 feet. The inner chamber is electrically heated by about 50 suitably insulated low-temperature non-magnetic metallic resistance strips, each consuming 25 watts. The current used is alternating, and is therefore without effect upon the magnetic registration.

A small power-house with storage battery and alternating generator for the supply of electric current required in lighting and heating is situated about 125 yards south of the observation houses.

The temperature of the Magnetograph House is controlled by a thermostat placed in the centre of the room, at the same level as the magnetic instruments. This actuates a relay, which switches the electric current into or out of the heating circuits. The departure from a mean temperature is not more than $0^{\circ}\cdot2$ C.

The centres of the three instrument piers are situated as follows : For the horizontal force instrument, 2 feet west and 2 feet 6 inches south of the north-east angle of the room ; for the declination instrument, 5 feet 6 inches west and 5 feet south of the same angle ; for the vertical force instrument, 2 feet east and 3 feet north of the south-west angle. The two piers which support the recording mechanism occupy the north-west and south-east corners of the room, their longer sides being in the direction at right angles to the meridian. The clocks can be wound and the recording drums inserted or removed through shuttered openings in the wall of the inner chamber. The temperature in the chamber is read daily from a thermometer attached to the horizontal force instrument.

The horizontal force and declination instruments record on the south-east drum ; the vertical force instrument on the other drum. Both drums are horizontal and are 10 inches long by $5\frac{1}{2}$ inches in diameter. Their normal period of revolution is 30 hours and the time scale 15 mm. to the hour. The registering beams of light are focussed on the drum by an adjustable cylindrical lens. Two horizontal straight-filament lamps mounted at suitable heights on the north and south walls of the chamber provide the time-registration for the photographic sheets. The lamps are illumined for a period of one second centred at each exact hour of Greenwich mean time, the current being controlled by a relay connected to a mean solar clock in the computing room. The effect is to produce narrow dark hour-lines right across the photographic records.

The error of the clock is observed daily by comparison with a radio time signal from one of the official broadcasting stations. Correction is made by magnetically altering the rate until the observed error has been removed. The error thus seldom exceeds one second.

It should be mentioned that in order to dispense with the necessity of continuously running an alternator in circuit with the storage battery, the illuminating lamps for the recording drums and also the hourly-signal lamps are lit by *direct* current, special care being taken with the return circuit. Experiments have shown that, with the precautions taken, the effect of this current on the variometer records is negligible. Alternating current for heating the chamber or for general illumination is supplied as required, the alternating generator being started and stopped automatically by the thermostat at the same time as the heating circuit is switched in and out. Very considerable saving in running cost is effected by this device.

INSTRUMENTS.

DECLINATION MAGNET FOR ABSOLUTE DETERMINATIONS.—A hollow cylindrical magnet with scale and collimating lens is used in conjunction with a small telescope mounted independently on the same pier. The magnet is suspended by tungsten wire, of diameter 0·02 mm. Frequent reversals are made to eliminate the collimation error of the magnet from the results, and the position of torsional zero of the suspension wire is also frequently checked. 90° of torsion deflects the magnet about 3′ of arc. The telescope has a six-inch circle on which azimuths are read by means of two microscope-micrometers to 1″ of arc. An azimuth-mark is fixed on the top of a concrete pillar, 10 feet high, erected at the northern extremity of the Observatory grounds at a distance of approximately 300 feet from the observing pier. Determinations of the azimuth of this mark are made at frequent intervals by means of observations of Polaris. During each observation of Polaris, both direct and reflected views are taken. The effect of error of level of the telescope is thus entirely eliminated. Reflection is obtained from the surface of mercury contained in a shallow copper dish.

ABSOLUTE HORIZONTAL FORCE INSTRUMENTS.

THE SCHUSTER-SMITH COIL MAGNETOMETER.—This instrument has been lent to the Observatory by the Director of the National Physical Laboratory. It is the second constructed of the type and is rather smaller than the original instrument, a detailed description of which is to be found in *Philosophical Transactions of the Royal Society*, Vol. 223 (1923), pp. 175-200. It is erected on a pier in the centre of the absolute observation pavilion and was brought into use as the standard instrument for observation of horizontal force on 1927, February 1. In general, eight independent determinations are made each week-day.

The following is a brief description of the instrument and the method employed in measuring horizontal force :—

A hollow marble cylinder of 50 cms. diameter rests, with its axis horizontal, on a brass support which can be turned in azimuth. The azimuth may be read to 10″ of arc from a graduated circle on the base-plate, by the usual vernier attachment. On the periphery of the cylinder, near each end and at a mean distance of 25 cms. from each other, are two windings, in series, of ten turns of bare silver wire, the method of winding the ten loops in a double spiral being that adopted in the original instrument

referred to above. The whole forms a Helmholtz-Gaugain system at the centre of which a very uniform magnetic field parallel to the axis exists when an electric current is passing through the coils.

A chromium-steel magnet, 15 mm. long and 2 mm. square in cross section is supported horizontally in a light vertical aluminium frame, which frame carries also a small concave mirror and a damping vane, and is suspended by a single silk fibre in a suspension tube passing through a hole in the upper surface of the cylinder. A square box with optically-plane glass sides supports the tube and encloses the magnet frame, allowing the mirror to project an image of a source of light during observation. The suspension fibre is adjusted so that the magnet hangs at the centre of the coil system.

To afford an easy means of reading the azimuth of the cylinder and the indications of the magnet, graduated ivorine scales are placed horizontally on stands at a distance of a little over 7 feet from the pier, and spots of light are reflected to them by small concave mirrors in the instrument.

Situated outside the observing pavilion, at the south-west corner, is a storage battery of 25 cells which produces the current required for the observation. The amount of current employed is very accurately adjusted to a specific quantity by rheostat according to the indications of a Broca galvanometer in a potentiometer circuit in which the E.M.F. across a known resistance is balanced against that of a Weston standard cell.

Careful precaution is exercised in arranging the circuits both to eliminate accidental magnetic fields and to secure the highest degree of insulation. The latter has been found, in practice, to be of great importance, especially with regard to the insulation of the galvanometer circuit, as any stray current here will lead to a difference of potential between the terminals of the standard cell and the standard resistance. It is desirable that the resistance of the galvanometer should be as low as possible consistent with sensitivity.

Theory of the observation :—

If a horizontal magnetic field whose intensity is slightly greater than that of the earth is imposed at an angle of nearly 180° with the earth's field, a position angle can be found at which the resultant of the two forces becomes directed at right angles to the earth's field. The intensity F of the imposed field, and its angle α with the

earth's field being known, the horizontal intensity of the earth's field can then be calculated from the simple relation : $H=F \cos \alpha$.

An observation proceeds as follows :—

Torsion having been eliminated from the suspension thread by substituting a copper piece for the magnet, the magnet is replaced and allowed to hang freely in the earth's field. The position, on the appropriate scale, of the spot of light reflected by the magnet-mirror is noted. This scale is normally on the west side of the instrument. By optical methods, reference marks on two other scales placed respectively to the magnetic north and south of the instrument are adjusted accurately to points 90° from the spot reflected by the magnet-mirror. A current is next passed round the coil in the direction which produces a field augmenting that of the earth, and the coil is turned in azimuth until the addition of the imposed field produces no alteration in the direction of the magnet. The axis of the coil is then accurately parallel to the earth's field, and the coil-mirror can be adjusted so that it reflects a spot of light to the reference mark, *i.e.*, to the zero graduation of the north scale, as already set.

The current is now reversed in the coil by a commutator switch and the coil is turned until the resultant force on the magnet is in a direction at right angles to the earth's field. This is indicated on either the north or south scale by the magnet-mirror which is carried round 90° by the magnet. The azimuth angle through which the coil has been turned is read from the north scale, and the coil is then turned to an approximately equal angle on the opposite side of the magnetic meridian. This reverses the direction of the resultant force ; and a further small adjustment of the coil brings the spot of light reflected by the magnet-mirror accurately to the reference mark on the opposite scale to that last used. A second reading of the azimuth of the coil then completes the observation.

The suspension box and tube are turned by the observer as the magnet turns, so that no torsional change is introduced. The effect of any small error in the assumed direction of the earth's horizontal field, due, say, to residual torsion on the suspension thread, is eliminated on taking the mean of the two results.

After preliminary details have been gone over, a complete observation of horizontal intensity is readily obtained in two minutes.

The constants of the coil and of the potentiometer at various standard temperatures have been precisely determined at the National Physical Laboratory and

are checked from time to time. The dimensions of the coil were re-examined in November 1931. The electrical constants on which the reduction of observations made in 1933 is based were verified in December 1932 and again in September 1933. The factor at present adopted to convert the measure of current from international units to C.G.S. units is 0·99997.

If F be the factor of the coil and i be the current passing in ampères, then the intensity of the field at the centre of the coil in γ units is $Fi \times 10^4$. The adopted value of the factor "F" of the coil is $3{\cdot}59570\ (1-4{\cdot}3t \times 10^{-6})$, t being temperature Centigrade.

The observed value of horizontal force obtained with this instrument is subject to a correction of -1γ for the effect of the field of magnets in instruments placed permanently in the vicinity. The effect is determined experimentally by reversal of the magnets. The correction is applied in the reduction of the observation.

A KEW-PATTERN UNIFILAR MAGNETOMETER by Messrs. C. F. Casella & Co. (No. 181) is also used to determine absolute horizontal force. Deflection observations are made at three distances, namely, 22·5 cms., 30 cms. and 40 cms. 32 observations of the moment of inertia of the collimator magnet were made during the year 1933. The mean observed value of log. K from these determinations was 2·42381. This value has been used in the reductions and is based on the Greenwich Standard Inertia Cylinder. (See Appendix II of the Magnetic Results, 1926).

The mean values of the distribution constants P and Q derived from 240 determinations made during the year are +9·83 and −1525 respectively.

The values used in the reduction of the 1933 observations, however, are the mean values obtained from all the observations made during the years 1924–33. These values are: P = +9·90, Q = −1517.

VERTICAL FORCE COIL-MAGNETOMETER.—This instrument, designed by the late Dr. W. D. Dye, F.R.S., for direct measurement of vertical force, and constructed under his supervision at the National Physical Laboratory, Teddington, has been lent to the Royal Observatory by the Director of the National Physical Laboratory. It is erected on the south-east pier of the observing pavilion, and was adopted as the standard for observation of vertical force from 1929 January 1.

A full description of the instrument is published in *Proceedings of the Royal Society*, Ser. A Vol. 117 (1928), pp. 434–458.

In brief, the instrument consists of a Helmholtz-Gaugain Coil wound on a marble cylinder, the axis of which is vertical as truly as can be determined, together with accessory apparatus for accurately controlling and measuring the current passed through the coil, and for testing the resultant field at its centre.

The observation consists in an adjustment of the current until the artificial field imposed at the centre of the coil exactly annuls the vertical component of the earth's field. The intensity of this component is then easily calculable from a knowledge of the dimensions of the coil and the amount of current indicated by potentiometer measurement. (*cf.* p. D 13).

The adopted value of the factor is $F=3{\cdot}59643\ (1-7{\cdot}9\ t\times10^{-6})$.

The constants of the potentiometer in use during the year for the measurement of the current were determined at the National Physical Laboratory in January 1933 and were checked in September and again in December.

The special feature of the instrument is the means adopted for ascertaining when the vertical component of the earth's field is exactly annulled at the centre of the marble cylinder.

This consists of a diamond-shaped vibrating test-coil about 2 cms. long suspended by bronze strip stretched horizontally between two supports and carrying a light plane mirror. The principle of the instrument requires that the axis of rotation of the detector coil should be horizontal and its plane vertical, in the equilibrium position. The method of securing these adjustments is included in the full description of the instrument mentioned above.

A weak alternating current, supplied from a generator at some distance from the instrument, passes through the test coil. The reaction between this current and the magnetic field causes the coil to receive an alternating rotatory force which will only vanish when the vertical field is annulled. The resulting vibration is brought to a maximum by adjustment of the generator frequency to synchronism with the natural frequency of the coil (about 15 per second), and high sensitivity is thus obtained. Microscopic vibration is exhibited by projection, from the mirror, of an image of cross wires to a screen erected about 2 metres distant.

ABSOLUTE INCLINATION INSTRUMENT.—An Earth Inductor by The Cambridge Instrument Co., in conjunction with a Broca galvanometer, is used to determine

magnetic inclination. About six determinations are made each week. Observations are made in four positions to eliminate any small errors arising from slight asymmetry in the instrument. After the first adjustment, the coil-support is reversed about a horizontal axis and a second adjustment is obtained: the instrument is then reversed in azimuth and two further adjustments are made. The circle for the measurement of inclination is 8 inches in diameter, and is read by means of microscope micrometers to one second of arc. The levels on the base can likewise be read to one second. A detailed description of the inductor will be found in the volume for 1915. Since 1929, January 1, the observations of inclination have not been used for determination of vertical force.

THE DECLINATION VARIOMETER.—The magnet is a single short needle of chromium steel, 10 mm. long and 0·4 mm. in diameter. The mirror for reflecting a beam of light on to the recording drum is $2\frac{1}{2}$ mm. square, and is fastened by shellac to a small piece of stout aluminium foil. The foil is shaped above the mirror to form two small V hooks, by which it is hung on to the magnet. A small mica damping vane is fixed to the foil below the mirror, and the needle is rendered aperiodic by adjusting brass damping plates on either side of the vane. Adjustment of the beam of light is made solely by adjusting the position of the illuminating lamp, which has sliding attachment to a vertical wooden pillar capable of being fixed in any desired position in the room.

A very fine quartz filament ·003 mm. in diameter forms the suspension-thread, and the displacement produced by revolving the torsion head 360° is only a fraction of a minute of arc. The distance of the magnet-mirror from the recording cylinder is such that the geometric scale-value at the centre of the photographic sheet is 0′·610 per mm. As the beam is not normal to the drum, however, the scale value varies from 0′·605 at the top of the sheet to 0′·615 at the bottom. Expressed as magnetic force the corresponding mean scale-value would be 3·29γ per mm. at the present time.

A base-line mirror, with lens, is mounted rigidly on the pier at the side of the variometer and serves to provide a common base line for both declination and horizontal force records.

THE HORIZONTAL FORCE VARIOMETER.—The general construction of the instrument is in all respects similar to that of the declination variometer. The suspension filament is of quartz ·012 mm. diameter. The needle is adjusted to a position at right angles to the magnetic meridian by means of the torsion

head in the following manner. Orientation marks have been drawn on the western wall of the room subtending successive degrees of azimuth at the centre of the variometer pier. An ordinary magnetometer distance-bar securely held beneath the base of the variometer in a wooden frame is by this means easily set at right angles to the magnetic meridian, and upon it is placed, about 25 cms. from the variometer, the usual carrier with a magnet mounted in position. A relatively strong magnetic field is thus imposed at right angles to that of the earth, and the torsion head is adjusted until the needle of the variometer is negligibly disturbed by the reversal of the imposed field. The magnet is then transferred to an equal distance on the opposite side of the variometer, and the experiment is repeated. Any error due to imperfect correspondence of the centre of the distance-bar with the point of suspension of the variometer needle is eliminated by setting the torsion head to the mean position.

An adjustment of orientation was made on March 24, 1930, by which the needle will be maintained within 20′ of the correct azimuth until the end of 1934.

The scale value of the variometer is determined from the deflections produced electro-magnetically by passing measured current through a Helmholtz coil of 50 cms. radius which envelopes the instrument. The factor for the coil is determined, absolutely, by using the coil in the same manner to deflect the needle of the declination variometer. The horizontal force at the time of the experiment being known, the strength of the field necessary to produce the observed deflection is readily computed.

The adopted scale value was 2·60γ per mm. from January 1 to April 30 and 2·61γ per mm. during the remainder of the year.

THE QUARTZ-THREAD VERTICAL FORCE VARIOMETER.—For a detailed description of this instrument reference may be made to the *Philosophical Magazine*, vol. vii., sixth series (1904), p. 393. The base of the instrument consists of a metal casting with uprights at the two ends, carrying attachments for the ends of the quartz fibre which supports the magnet system. By an ingenious arrangement the length of the frame carrying the horizontal quartz fibre which suspends the magnet system is defined by quartz tubes. The metal rods composing the sides of the frame pass through these tubes, and, by the reaction of stiff springs, press the ends of the frame firmly on to the ends of the quartz tubes. Alteration in temperature does not, by this means, give rise to a change in tension of the suspension thread, which different co-efficients of expansion would otherwise produce. The instrument was carefully adjusted at Greenwich for elimination of other temperature effects, in the manner

explained in the description given in the *Philosophical Magazine,* but a small effect has developed since 1927.

The magnet system consists of two magnets, 8 cms. long and 1 mm. in diameter, which are attached by small platinum stirrups to two rods of fused quartz; these are fused to a quartz plate, the upper surface of which is optically worked and platinised to form a plane mirror. The quartz rods are drawn out at their other ends into fibres of about 0·008 to 0·010 cm. diameter; one of these is fused to a coiled quartz spring. The quartz spring and the other fibre are soldered to small brass rods fitting into clamps at the two ends of the metal base. The thread is under sufficient tension to stretch the spring through about two millimetres. A right-angled prism, supported in a frame above the mirror, reflects the light from the illuminating lamp on to the mirror and then, after reflection from the mirror, back in a horizontal direction to the recording drum. A single lens, placed between the mirror and the prism, brings the light to a focus on the drum: The prism frame is adjustable in azimuth to enable the trace to be brought to any desired part of the drum. An adjustable mirror beneath the quartz fibre and adjacent to the mirror of the magnet system serves to give a base line.

The sensitiveness of the instrument is varied by raising or lowering the centre of gravity of the magnet system. Coarse adjustment is obtained by means of small aluminium discs pierced centrally to allow them to rest on a slender vertical quartz pin provided for this purpose at one side of the mirror. To obtain fine adjustment a small vertical screw is fixed at the opposite side of the mirror and a small piece of aluminium can be moved up and down the screw.

The scale value is obtained by electro-magnetic deflections. The radius of the coil used in these experiments is 30·15 cms. The mean of the scale values adopted during the year 1933 was 2·40γ per mm. Slight deviations from the mean value occur when the standard temperature of the room is raised or lowered. The value is sensibly uniform over the range allowed by the photographic sheet.

MAGNETIC REDUCTIONS.

The time used is Greenwich Mean Time.

The estimated mean ordinates of the photographic traces for each hour are measured from the base-lines by the aid of an etched glass scale, the hour being the period of sixty minutes *commencing* at the time named in the table—and from the tables of these measures are obtained the mean monthly values for each hour of the

day, and the mean daily value of the element for each day of the month. The daily mean is taken from the 24 hourly mean ordinates.

Base-line values are adopted from smooth curves drawn through points plotted on a chart, each point representing the mean result from several independent observations.

Ten observations of declination, eight of horizontal intensity and six of vertical intensity are made, on an average, each week-day. Previous to 1929 the base-line values for vertical force traces were computed from absolute observations of inclination combined with simultaneous values of horizontal intensity taken from the magnetograms. From 1929 January 1, the values have been obtained directly from observations of vertical intensity with the coil-magnetometer. A discontinuity arises in the definitive values of vertical force at the time of changing the method of deriving the base-line value of the magnetograms.

The magnetograph chamber being maintained at a sensibly constant temperature, no temperature corrections are required in general. When the seasonal changes are made in the temperature at which the chamber is maintained, new values are adopted from the hour at which control is observed to be established, and during the period of change interpolated values are applied at hourly intervals.

ARRANGEMENT OF RESULTS.

Tables I to III contain the hourly results for declination, horizontal force and vertical force respectively.

Table IV gives for each element the mean daily value, the maximum and minimum values with the times of their occurrence, and the daily range.

Then follow in Tables V to VII the monthly and annual mean diurnal inequalities for all days, and for quiet and disturbed days as selected by the International Committee. In addition to monthly and annual values there are also given mean values of the diurnal inequalities grouped into the seasonal periods, Winter (that is January, February, November, December), Equinox (March, April, September, October) and Summer (May, June, July, August). The values in these tables have *not* been adjusted for the effect of non-cyclic change.

From the inequalities in declination, horizontal force and vertical force, corresponding inequalities in north force, west force and inclination have been computed and appear at the same opening of the page. In general, the computations are carried to one significant figure beyond the actual figure printed.

The inequalities in north force, west force and vertical force (that is in X, –Y, Z) have been subjected to harmonic analysis, the results being given in Tables VIII and IX. In the case of the International Quiet and Disturbed Days, the inequalities were adjusted for non-cyclic change before analysis, but in analysing the results for "All" Days the non-cyclic change was ignored. The phase angles in Table IX are corrected to refer to Abinger Local Mean Time.

In Table X is given the mean diurnal range in declination, horizontal force and vertical force for each month, for the year and for the seasons. The corresponding results for quiet and disturbed days are also given. The quantities are derived from Tables V to VII.

Table XI gives in similar arrangement the non-cyclic change 24^h minus 0^h. The quantities were computed from Tables I to III, the value for 0^h or 24^h being taken as the mean of the last value on one day and the first on the next.

Table XII contains the mean monthly and annual values of the components of magnetic force collected together. In this table corrections have been applied, when necessary, to the values of H. and V. taken from Table IV, to remove the effect of any small secular changes in potentiometer constants found at the periodical re-measurement of the constants at the National Physical Laboratory.

Tables XIII to XV contain the daily values of the base lines of the magnetograms deduced from absolute observations of declination, horizontal and vertical force.

On p. D 61 is printed a table giving mean annual values of Magnetic Elements determined at the Royal Observatory, Greenwich, over the whole period of observation. Included in the Table for the first time are results of observations of declination made in 1818 and 1819. These observations were taken with a Dollond magnet thrice daily from June 1818 to December 1819. As a general rule the times of observation were 8 a.m., noon and 4 p.m., and there were comparatively few intermissions. The results were published in detail in "Astronomical Observations at the Royal Observatory" (Vol. III, 1820) by John Pond, Astronomer Royal. Corrections for a presumed diurnal inequality have been applied to the monthly means according to the hour of observation, the quantities being derived from a year—1910—in a corresponding relation to the cycle of solar activity.

A table follows giving the values determined at the Abinger Station since 1925.

Reduced copies of the magnetograms for certain disturbed days have been printed in each volume since 1882. The days are now those selected at De Bilt for

the International Committee, the time-limits of the traces being determined in consultation with the Director of Val Joyeux Observatory, University of Paris, with a view to the comparison of the results of the two stations. These dates in 1933 are April 30–May 1, May 1–2, August 5–6, September 8–9. Where two days are mentioned together, it is to be understood that the reference is to a series of 24 consecutive hours comprising parts of two consecutive days.

The plates are preceded by a brief descriptive summary of significant magnetic motions (superposed on the ordinary diurnal movement) recorded during the year.

With regard to the plates, on each day three distinct registers are given, viz.: declination, horizontal force, and vertical force marked D, H and V respectively.

At the foot of each plate, scales, in C.G.S. measure, are given for each of the magnetic registers and a datum line is marked for each trace at the side of the diagrams.

Upward motion indicates increase of declination west and increase of force in all cases.

SPECIAL OBSERVATIONS IN CONNECTION WITH THE INTERNATIONAL POLAR YEAR, 1932–33.

In connection with the second "International Polar Year," the photographic records of the variations in the magnetic elements have been taken on a time-scale of 180 mm. to the hour on the days in each month specified by the International Commission.

The periods covered by these "quick runs" are as follows:

	d	h		d	h		d	h		d	h
January	11	0	to	13	0	May	10	0	to	12	0
	25	0		27	0		24	0		26	0
February	8	0		10	0	June	7	0		9	0
	22	0		24	0		21	0		23	0
March	8	0		10	0	July	12	0		14	0
	22	0		24	0		26	0		28	0
April	12	0		14	0	August	9	0		11	0
	26	0		28	0		23	0		25	0

H. SPENCER JONES.

ROYAL OBSERVATORY, GREENWICH.

1934 *May* 7.

ROYAL OBSERVATORY, GREENWICH.

ABINGER MAGNETIC STATION.

Results of Magnetic Observations

1933

GREENWICH MAGNETIC AND METEOROLOGICAL RESULTS 1933

D2*

TABLE I.—HOURLY MEANS OF MAGNETIC DECLINATION AT THE ABINGER MAGNETIC STATION.

	0h	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Noon	13h	14h	15h	16h	17h	18h	19h	20h	21h	22h	23h	24h
January.	11° + Tabular Quantities.																								
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
1**	53·3	53·9	56·3	57·7	57·7	56·7	56·3	56·7	57·0	56·5	57·3	57·1	58·5	60·2	59·7	59·8	58·4	57·4	57·3	51·7	48·3	53·2	54·8	56·3	
2	56·9	57·7	55·4	55·3	56·7	56·7	57·0	56·7	57·0	56·4	57·4	57·1	58·9	58·1	57·8	57·2	57·2	57·4	56·8	54·4	56·0	55·3	53·7	54·9	
3	55·3	57·1	55·0	55·7	56·3	56·6	56·5	56·4	56·4	57·0	57·2	57·6	60·5	59·1	58·0	57·3	56·9	56·8	56·6	56·5	55·9	56·1	55·3	54·9	
4*	55·1	54·5	56·0	55·9	56·1	56·3	56·1	55·8	55·3	56·0	56·7	57·4	58·8	59·5	58·0	57·4	57·1	56·1	56·2	56·2	56·1	55·8	55·7	55·8	
5*	56·2	56·4	56·2	56·2	56·5	56·3	55·9	55·6	55·4	55·5	56·5	57·6	58·4	58·0	57·2	56·8	56·6	56·3	56·1	56·1	56·1	56·0	56·0	55·9	
6	55·6	55·4	55·4	54·3	54·5	54·8	54·6	55·9	56·6	56·4	59·8	61·8	62·2	62·4	58·3	58·9	57·0	56·0	55·7	53·7	54·8	55·6	55·1	52·8	
7	52·9	56·1	57·5	58·8	56·8	54·9	55·2	55·0	55·0	55·6	56·7	57·8	58·3	58·0	56·7	56·8	56·3	56·3	57·7	57·4	56·5	56·2	55·8	55·8	
8	55·5	56·0	57·1	57·2	57·0	56·7	56·7	55·8	55·7	56·4	57·7	58·7	59·4	58·7	57·7	56·7	55·9	55·7	55·7	55·5	55·2	54·8	54·7	54·8	
9	56·0	56·3	57·0	56·6	56·4	56·3	56·0	55·4	54·8	55·4	56·7	57·6	57·7	57·4	57·1	57·5	57·7	56·9	56·3	55·8	54·8	54·7	54·4	55·3	
10*	55·9	56·4	56·8	56·8	56·9	56·1	55·8	55·4	54·6	54·4	55·0	56·3	57·4	57·6	56·8	56·8	56·7	56·4	56·3	56·3	55·5	55·3	55·3	55·7	
11*	55·8	56·0	56·4	56·7	56·7	56·2	56·1	55·7	54·7	54·9	56·3	56·9	59·2	59·5	58·4	58·1	56·9	56·5	56·2	55·8	55·7	55·5	55·4	55·7	
12	55·9	56·6	56·6	56·6	56·6	56·2	56·2	55·7	55·0	54·6	55·0	56·3	58·1	58·5	57·2	56·9	56·9	56·7	56·3	56·0	55·9	55·5	55·5	54·6	
13	54·8	55·5	56·7	57·1	56·8	56·5	56·8	56·6	56·2	56·2	57·3	57·8	58·8	58·2	57·3	57·5	57·2	57·1	57·3	56·7	56·4	55·5	55·2	56·2	
14	56·2	56·6	57·4	57·1	57·0	56·8	56·7	56·1	55·7	55·9	56·3	57·3	58·7	58·6	58·2	57·7	57·4	57·5	57·2	57·2	53·6	51·6	48·5	52·2	
15	53·8	56·8	58·2	58·2	57·2	61·5	58·8	62·0	60·8	60·6	58·8	59·8	59·8	59·2	59·0	57·3	57·1	56·8	56·0	55·1	54·9	52·8	52·1	56·0	
16	56·0	57·0	59·1	57·0	56·9	57·1	57·4	56·9	57·1	56·8	56·9	58·6	59·1	59·1	58·4	57·2	57·1	57·1	57·0	56·2	56·1	56·1	56·1	56·1	
17	56·0	56·7	56·9	57·0	57·7	57·4	57·0	56·6	56·5	57·0	58·0	58·6	58·8	57·9	56·9	56·9	57·2	57·2	57·2	56·9	56·5	56·1	55·8	55·3	
18	55·8	56·3	56·4	56·9	57·5	57·5	56·9	56·3	55·8	55·8	56·3	57·7	59·1	59·1	58·1	57·8	57·4	57·4	56·8	55·7	55·8	55·8	55·8	55·8	
19**	56·6	56·7	57·1	57·7	57·7	57·1	57·7	57·6	56·5	57·3	58·3	59·1	61·4	60·4	59·9	58·6	55·7	58·4	57·2	53·5	54·9	55·9	54·2	51·0	
20	54·2	57·7	58·7	56·7	61·9	60·2	60·9	60·3	57·7	57·6	58·7	58·9	60·4	60·0	59·7	57·7	56·7	56·6	56·7	56·3	56·1	55·9	56·1	55·7	
21*	56·6	57·0	57·3	57·1	57·2	57·0	56·7	56·2	55·8	56·2	56·5	58·7	59·6	59·7	58·7	58·0	57·4	57·3	57·1	57·0	56·8	55·7	56·3	56·8	
22**	57·1	57·4	57·3	57·5	56·6	57·1	57·6	56·0	55·6	55·7	56·6	57·9	59·8	59·5	59·2	60·1	60·3	57·5	51·3	51·1	51·4	49·3	50·0	51·7	
23	53·5	53·0	56·0	57·0	56·1	57·0	56·5	55·3	55·5	55·7	57·9	58·2	59·8	61·6	60·0	59·0	59·4	58·2	57·6	52·4	55·0	54·0	49·5	47·1	
24	54·5	60·0	55·7	56·0	55·4	55·5	55·2	55·4	55·4	56·7	58·9	60·0	60·2	61·0	59·0	58·4	59·0	58·6	57·3	56·5	55·5	55·3	54·5	53·1	
25	52·2	56·6	56·0	55·5	57·0	56·5	55·6	55·3	55·3	55·4	58·0	60·2	61·5	61·5	60·0	59·9	58·7	58·2	56·5	56·1	53·5	54·8	54·0	49·4	
26	53·6	54·8	56·2	52·4	54·2	53·4	55·4	54·7	53·9	54·5	56·5	57·4	61·2	61·8	62·0	59·5	60·3	59·3	55·5	54·3	50·1	52·7	53·8	52·7	
27**	52·1	54·1	54·9	55·3	55·6	57·2	55·8	55·4	55·0	55·5	57·0	57·7	59·5	60·1	60·2	58·1	58·0	49·2	53·3	52·0	49·4	54·8	50·9	54·9	
28**	54·1	53·0	56·3	57·4	55·5	55·8	56·3	56·0	55·5	55·6	57·0	58·3	60·0	56·0	58·3	56·0	55·2	58·0	52·2	56·1	55·2	51·0	50·3	51·9	
29	52·0	54·5	55·1	56·8	56·3	56·8	56·2	56·0	55·5	56·0	56·1	57·6	60·0	60·3	61·0	59·5	56·5	56·9	56·6	54·9	53·0	54·0	54·1	56·2	
30	55·6	56·6	54·3	55·0	54·2	55·2	55·4	55·6	55·6	55·0	56·0	57·6	60·5	60·2	58·9	57·8	56·6	56·7	56·7	56·2	55·6	51·8	53·1	53·7	
31	55·2	55·9	55·0	55·2	56·0	55·6	55·8	55·6	55·2	55·2	55·2	57·2	59·9	60·2	57·7	57·4	57·3	55·3	55·8	55·8	55·5	52·7	53·4	53·8	
Mean	55·0	56·1	56·5	56·5	56·6	56·6	56·5	56·3	55·9	56·1	57·1	58·1	59·5	59·4	58·6	57·9	57·4	56·8	56·2	55·3	54·7	54·5	54·1	54·3	
Mean*	55·9	56·1	56·5	56·5	56·7	56·4	56·1	55·7	55·2	55·4	56·2	57·4	58·7	58·9	57·8	57·4	56·9	56·5	56·4	56·3	56·0	55·7	55·7	56·0	
Mean**	54·6	55·0	56·4	57·1	56·6	56·8	56·7	56·3	55·9	56·1	57·2	58·0	59·8	59·2	59·5	58·5	57·5	56·1	54·3	52·9	51·8	52·8	52·0	53·2	
February.	11° + Tabular Quantities.																								
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
1	54·8	55·1	55·4	55·5	55·5	55·5	55·8	55·5	55·5	55·8	56·7	57·7	59·1	59·6	58·6	57·4	57·1	56·7	56·0	56·0	55·9	55·6	54·1	54·0	
2	55·1	54·9	54·3	53·4	53·3	51·3	53·0	54·1	55·4	56·3	57·4	57·4	58·6	58·4	59·0	58·0	57·1	58·9	56·9	56·2	55·6	55·1	55·5	55·7	
3	56·2	56·4	56·4	56·0	56·2	56·2	56·0	55·7	55·7	56·0	56·7	58·2	59·5	60·0	59·6	58·3	57·8	57·3	56·7	56·5	56·3	56·1	55·2	51·4	
4	54·7	55·8	56·0	56·0	56·0	55·8	56·0	56·0	56·1	57·1	58·4	58·5	59·4	59·1	57·9	57·3	57·5	57·7	55·4	54·5	55·9	55·4	54·4	55·4	
5	54·9	56·1	57·5	55·7	54·4	55·5	56·2	56·6	56·4	56·3	56·2	56·3	56·9	56·9	56·8	56·8	56·8	56·8	56·8	56·5	56·1	55·9	55·9	56·0	
6*	56·1	56·1	57·5	55·9	55·2	54·3	54·9	54·7	54·8	55·1	56·7	58·5	59·2	59·2	58·1	56·9	56·4	56·3	56·2	56·1	55·3	55·3	55·9	56·2	
7	56·4	56·7	56·9	56·7	56·7	55·5	55·4	55·0	55·5	57·1	57·8	60·1	60·2	59·6	58·6	58·1	57·9	57·5	56·2	55·9	55·6	56·0	56·1	55·9	
8	55·8	56·2	55·9	56·3	56·6	55·9	55·6	55·1	54·7	56·1	57·5	58·6	59·8	59·7	58·4	58·1	57·0	56·8	56·4	55·7	54·0	52·7	54·3	54·0	
9	55·4	55·4	57·9	56·8	54·4	54·9	54·4	54·9	54·5	55·1	55·8	57·1	59·2	59·3	59·4	59·5	58·4	57·2	57·0	57·2	56·5	55·2	55·5	55·3	
10	55·0	54·8	54·5	55·0	54·3	54·6	55·0	55·1	55·3	55·6	57·0	58·0	58·4	58·2	58·0	57·0	56·6	56·4	56·2	55·9	55·5	54·0	55·2	55·0	
11*	54·9	55·4	55·8	55·8	55·6	55·3	55·2	55·2	55·3	55·8	56·9	57·8	58·1	58·4	58·0	56·9	56·8	57·0	57·1	56·5	55·6	55·6	55·7	55·6	
12	56·0	56·1	56·0	56·1	56·1	55·9	55·6	55·6	55·8	56·7	57·7	58·2	58·3	57·5	56·2	55·3	55·6	56·0	56·3	56·1	56·0	56·0	55·9	55·9	
13*	56·0	56·2	56·3	56·2	55·9	55·7	55·4	55·1	55·0	54·6	54·8	55·2	56·0	56·2	55·8	54·8	54·6	55·3	56·0	56·1	56·3	56·7	56·5	56·1	
14	56·2	55·4	55·8	56·7	56·1	56·2	56·3	56·6	57·0	56·5	57·9	58·9	58·6	58·9	57·9	56·9	56·7	56·4	55·4	51·4	48·4	54·5	54·9	55·1	
15	54·7	56·5	55·2	55·6	56·2	57·0	55·7	55·7	56·3	56·2	56·8	59·6	59·6	59·6	58·6	56·8	52·9	56·1	55·5	55·8	55·0	52·2	53·6	54·5	
16*	55·0	55·5	55·8	55·6	55·7	55·6	55·6	55·5	55·0	55·0	56·4	57·0	58·3	58·5	58·1	57·1	56·2	55·8	55·6	55·5	55·4	55·2	55·5	55·5	
17*	55·3	55·4	55·4	55·5	55·8	55·5	55·6	55·4	54·6	54·0	55·4	57·4	58·3	58·7	58·2	57·2	56·1	55·8	55·7	55·7	55·6	55·6	55·7	55·6	
18	55·6	55·6	55·7	55·8	55·7	55·4	55·3	54·9	54·2	54·1	55·2	57·2	58·2	58·2	57·7	57·3	57·2	57·3	57·1	56·6	55·0	55·2	54·1	53·8	
19**	54·0	52·6	51·2	52·7	54·7	54·8	55·2	55·9	55·7	55·2	58·2	60·7	63·7	64·0	64·6	58·6	58·9	56·2	46·2	44·2	51·3	52·7	54·1	53·7	
20	43·7	47·9	50·8	52·0	54·6	55·1	55·1	54·7	55·1	56·2	59·0	59·6	61·2	60·5	60·1	58·7	58·4	57·2	56·1	54·7	56·0	55·1	54·2	53·3	
21**	53·1	52·9	55·0	52·4	55·2	51·9	54·0	53·5	54·7	55·1	57·3	60·5	61·8	61·4	59·0	59·9	51·8	58·5	53·0	52·5	55·0	52·0	50·5	49·7	
22**	58·8	49·2	52·9	56·9	54·9	56·9	56·8	55·0	56·5	55·5	57·5	56·9	59·9	58·3	57·6	53·8	57·6	55·1	43·3	48·6	54·3	53·7	55·7	58·6	
23**	55·1	54·6	57·4	58·8	53·8	53·8	55·1	58·4	56·3	55·6	55·9	57·8	58·8	60·7	59·8	57·5	51·8	50·8	56·2	45·5	52·5	49·3	53·7	49·0	
24**	52·7	54·7	52·4	54·2	54·4	54·2	54·7	58·5	60·7	56·1	56·9	59·2	59·1	61·0	61·7	57·3	52·0	48·1	46·0	54·8	55·6	45·7	44·9	53·1	
25	52·0	53·5	54·6	56·3	56·5	54·7	55·3	55·7	56·1	57·5	57·4	59·0	59·7	58·9	59·1	57·0	55·4	56·1	50·0	53·1	55·1	55·1	56·0	51·2	
26	49·7	50·7	54·5	55·0	52·0	53·8	55·4	55·7	54·9	54·9	57·2	58·2	58·2	59·8	58·5	56·8	56·7	55·5	54·8	54·9	49·2	48·7	47·0	50·9	
27	52·8	53·9	55·9	56·8	54·8	54·2	55·2	54·7	54·3	54·7	56·5	57·5	58·3	58·3	58·8	57·3	56·2	55·6	55·5	55·6	54·8	54·2	53·5	51·6	
28	50·9	52·8	53·4	54·1	54·7	54·5	54·3	53·5	52·9	52·5	54·2	56·8	58·0	58·6	58·6	58·1	57·0	56·4	55·6	55·4	54·9	55·0	51·4	52·0	
Mean	54·3	54·5	55·2	55·5	55·2	55·0	55·3	55·4	55·5	55·6	56·8	58·1	59·1	59·2	58·7	57·3	56·2	56·1	54·6	54·4	54·7	54·1	54·1	54·1	
Mean*	55·5	55·7	56·2	55·8	55·6	55·3	55·3	55·2	54·9	54·9	56·0	57·2	58·0	58·2	57·6	56·6	56·0	56·0	56·1	56·0	55·6	55·7	55·9	55·8	
Mean**	54·7	52·8	53·8	55·0	54·6	54·3	55·2	56·3	56·8	55·5	57·2	59·0	60·7	61·1	60·5	57·4	54·4	53·7	48·9	49·1	53·7	50·7	51·8	52·8	

* Denotes an International Quiet Day. ** Denotes an International Disturbed Day.

TABLE I.—HOURLY MEANS OF MAGNETIC DECLINATION AT ABINGER—*continued.*

	0h	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Noon	13h	14h	15h	16h	17h	18h	19h	20h	21h	22h	23h	24h
March.	11° + Tabular Quantities.																								
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
1	52·7	52·5	52·2	53·1	54·3	54·6	54·7	54·2	53·1	53·0	54·4	56·3	59·2	59·7	60·3	59·2	58·2	57·7	56·6	54·8	53·0	54·2	54·2	53·3	
2	52·6	54·4	56·0	54·7	54·8	54·4	54·6	54·1	53·9	53·8	55·1	57·4	59·6	60·4	60·2	58·4	57·1	56·7	55·9	54·4	54·0	52·7	52·9	53·1	
3	54·5	54·8	54·6	54·9	54·6	54·2	54·3	54·2	53·7	54·1	55·7	57·1	58·9	60·5	60·6	61·0	60·4	59·2	58·0	56·2	53·5	54·2	54·7	54·7	
4	54·6	56·1	55·0	55·3	54·9	54·6	54·6	54·3	53·2	53·9	54·2	57·0	57·5	58·0	57·5	57·0	56·1	56·0	56·0	55·1	55·0	54·5	53·9	54·2	
5*	54·3	54·2	54·5	54·6	54·3	54·4	54·6	54·4	53·4	53·7	55·3	57·1	59·3	59·8	59·5	58·2	56·6	55·8	55·5	55·1	55·4	54·4	54·6	54·8	
6*	54·6	54·8	54·8	55·3	54·8	54·6	54·9	54·4	53·4	54·4	56·4	57·1	60·6	60·9	59·8	57·7	56·2	56·3	56·3	55·9	55·8	55·3	55·3	55·5	
7*	55·4	55·3	55·2	55·1	54·8	54·4	54·7	54·2	53·5	53·2	55·2	57·7	59·2	59·9	59·1	57·8	56·3	56·5	55·9	55·7	55·7	55·6	54·2	55·2	
8	55·4	56·0	55·3	55·1	54·6	54·3	53·7	52·6	51·0	51·6	54·2	56·9	58·6	59·1	58·9	58·2	56·0	56·3	55·9	55·1	55·0	55·6	53·0	54·1	
9*	53·5	54·6	54·0	54·5	54·1	54·2	53·4	52·6	51·6	52·6	55·4	57·5	58·9	59·6	58·8	57·2	55·6	55·5	55·4	54·8	54·6	55·1	54·7	54·6	
10	53·6	53·6	53·5	53·6	56·1	55·1	54·5	53·7	53·1	53·1	54·6	55·5	60·3	61·6	60·7	59·0	57·1	56·4	55·5	55·7	54·2	52·5	53·5	54·6	
11	52·5	54·9	51·0	52·5	53·3	53·1	53·4	52·7	52·4	52·6	53·9	57·9	60·4	60·5	60·0	58·5	57·0	56·0	55·0	54·5	53·9	54·4	55·4	55·4	
12	55·4	55·4	54·6	54·8	55·0	54·8	54·4	53·0	51·9	52·2	54·4	57·5	59·3	60·1	59·7	57·8	56·5	56·0	55·6	55·3	55·0	54·6	54·8	54·4	
13	54·1	55·1	54·9	54·8	56·2	53·7	54·4	54·5	53·1	53·2	55·1	58·7	59·9	59·7	59·3	58·6	56·7	55·9	54·6	54·6	54·6	54·6	54·6	54·5	
14	54·7	54·6	54·8	55·4	55·0	57·3	56·3	55·2	53·7	53·1	54·2	57·3	57·9	58·7	58·4	57·7	55·7	54·6	54·3	54·8	54·8	54·6	54·4	54·3	
15	54·6	54·3	54·8	54·8	54·8	54·8	54·9	53·9	52·8	52·3	54·1	57·3	59·7	59·6	58·7	57·9	56·3	55·1	54·8	54·9	54·8	53·8	53·8	54·1	
16*	54·9	55·1	54·9	54·9	55·0	54·7	54·7	54·0	52·9	52·7	54·2	56·9	59·2	59·8	59·2	58·2	56·4	55·4	54·9	55·1	54·8	54·8	54·4	54·8	
17	54·8	54·6	54·2	54·4	54·5	54·3	54·4	53·5	52·2	52·0	54·0	57·5	59·0	61·2	61·0	58·4	56·3	55·9	55·3	55·2	54·0	52·9	53·3	52·9	
18**	53·6	53·1	55·7	53·6	54·5	54·5	51·2	51·5	51·2	52·0	55·1	58·0	59·7	61·0	62·4	62·4	57·7	55·6	55·4	55·4	55·0	54·4	48·0	46·3	
19**	42·0	55·0	50·7	53·6	52·7	52·5	52·7	53·2	53·0	54·1	55·3	58·3	60·1	61·7	60·5	59·1	59·7	56·4	52·1	48·1	50·1	38·6	48·8	50·7	
20**	51·9	57·8	55·8	49·0	52·1	54·1	55·1	53·4	52·9	53·7	56·0	56·7	58·6	59·0	58·5	58·4	53·7	47·7	51·4	50·9	51·4	52·2	55·2	53·2	
21	55·2	57·0	52·7	52·9	54·1	53·0	54·0	53·6	53·2	55·0	57·4	60·0	59·5	59·9	59·1	57·3	55·7	53·0	55·1	55·4	54·6	51·8	49·4	52·3	
22	51·7	44·1	50·3	54·2	49·6	51·8	53·1	53·7	53·2	54·1	56·7	59·2	58·7	60·7	58·3	57·8	52·3	53·3	50·3	51·7	53·0	53·2	52·8	54·1	
23**	56·0	58·5	55·7	53·1	51·3	57·7	54·3	53·7	52·2	52·6	54·7	58·0	58·2	57·2	60·2	58·0	53·4	50·9	52·6	53·7	51·7	45·6	47·5	50·7	
24**	49·6	51·8	51·3	52·0	52·7	53·5	58·4	55·5	55·5	55·2	56·6	59·6	59·5	59·8	60·5	55·1	56·9	50·1	49·9	51·2	53·9	49·8	53·6	52·6	
25	53·1	52·1	54·5	58·1	55·3	54·3	57·0	57·2	54·8	54·7	56·4	57·7	59·5	59·1	59·0	57·4	55·3	54·5	53·2	51·2	52·9	53·9	53·5	53·1	
26	53·6	54·0	53·8	53·6	53·7	53·4	52·5	51·8	52·0	54·9	54·9	57·7	59·4	59·9	59·8	59·3	58·1	56·9	56·6	56·4	55·7	55·4	54·9	54·5	
27	54·0	54·5	54·5	54·4	54·8	54·3	54·8	54·2	51·4	52·3	55·8	60·3	63·3	65·3	64·7	60·3	59·7	57·7	53·0	50·0	52·0	54·0	54·3	53·8	
28	54·7	53·8	54·1	57·4	53·5	53·5	53·0	52·0	51·0	52·1	54·5	56·8	58·4	61·6	60·7	58·2	56·7	51·5	53·6	52·9	50·8	52·5	53·5	54·0	
29	52·9	54·6	53·8	53·5	54·9	54·5	54·0	53·1	52·8	54·6	56·0	59·5	61·5	63·5	61·9	60·9	57·2	56·2	54·8	54·7	54·6	53·3	52·7	52·5	
30	54·1	53·7	55·4	55·6	54·2	53·3	52·8	51·8	52·1	52·3	55·1	58·2	59·8	61·6	60·4	58·3	56·3	54·7	54·6	54·6	54·1	54·1	53·7	56·2	
31	54·2	54·9	51·8	51·0	53·2	53·2	53·1	51·9	51·0	51·7	53·7	57·6	59·7	60·2	61·3	61·1	58·7	57·0	53·1	55·0	55·1	54·7	53·8	54·2	
Mean	53·5	54·4	54·0	54·2	54·1	54·2	54·3	53·6	52·8	53·2	55·1	57·8	59·5	60·3	60·0	58·5	56·6	55·2	54·6	54·1	54·0	53·1	53·3	53·6	
Mean*	54·5	54·8	54·7	54·9	54·6	54·5	54·5	53·9	53·0	53·3	55·3	57·3	59·4	60·0	59·3	57·8	56·2	55·9	55·6	55·3	55·3	55·0	54·6	55·0	
Mean**	50·6	55·2	53·8	52·3	52·7	54·5	54·3	53·5	53·0	53·5	55·5	58·1	59·2	59·7	60·4	58·6	56·3	52·1	52·3	51·9	52·4	48·1	50·6	50·7	
April.	11° + Tabular Quantities.																								
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
1	54·1	53·3	54·5	56·8	54·7	52·9	53·2	52·7	52·7	54·1	57·3	58·7	60·7	61·4	61·4	59·4	57·0	55·3	53·6	52·7	54·6	53·8	53·5	50·7	
2	52·8	53·2	52·7	52·3	52·6	52·3	52·4	51·7	51·3	51·7	52·1	54·4	58·7	59·7	59·1	57·1	55·5	54·7	54·1	51·7	49·7	49·2	49·7	52·1	
3	53·7	54·0	52·4	52·4	52·9	54·4	52·7	51·8	50·9	52·7	55·7	59·2	59·7	60·8	60·7	59·5	57·9	57·1	55·7	54·1	53·0	53·6	53·2	52·4	
4	52·1	55·7	55·1	48·0	52·6	51·8	51·1	50·7	50·1	50·8	52·6	55·7	58·7	60·7	60·3	58·6	57·1	56·1	55·4	54·7	54·7	54·6	54·1	53·7	
5	52·8	53·0	51·6	51·5	51·0	52·2	51·8	50·9	50·2	50·8	53·2	55·8	57·9	60·4	60·1	59·0	56·8	54·8	54·1	53·6	52·5	52·5	52·2	51·2	
6	49·9	52·4	52·8	52·4	52·8	51·9	53·1	52·9	51·4	51·4	54·1	57·4	60·0	60·8	59·5	58·8	57·4	55·3	54·6	54·1	51·0	48·0	51·6	53·7	
7	54·0	54·2	53·3	52·6	53·0	53·0	51·0	50·2	49·8	50·8	54·1	56·5	60·7	60·7	61·5	59·9	54·0	55·1	54·9	52·4	44·0	50·0	54·0	54·0	
8	54·3	54·6	54·8	53·9	53·7	52·7	51·9	52·0	51·0	51·6	54·0	57·0	59·6	60·6	60·0	59·3	57·3	53·0	50·6	53·6	54·6	53·3	53·6	53·5	
9	52·4	52·2	53·5	53·5	54·1	53·5	52·5	52·1	52·7	52·9	54·9	58·5	60·4	60·7	60·0	57·0	55·5	54·6	53·6	53·1	53·8	53·9	53·7	53·5	
10	54·2	53·8	53·4	52·9	52·5	52·9	52·4	50·9	51·5	51·4	53·1	56·9	59·9	60·5	59·3	55·1	54·5	53·8	51·1	52·5	53·9	54·2	54·0	54·0	
11*	54·1	54·1	53·9	53·5	53·0	52·7	51·6	50·6	50·6	52·6	54·1	57·6	59·8	60·6	59·0	57·6	56·0	54·7	54·2	54·2	53·6	53·6	52·6	53·5	
12*	53·7	53·8	53·4	53·7	53·2	52·5	51·6	50·6	50·2	51·3	53·2	55·6	58·6	59·6	58·0	56·2	54·6	54·1	54·1	54·3	53·8	53·8	53·7	53·6	
13*	53·7	53·2	53·2	53·1	52·6	52·6	52·0	50·6	49·7	51·0	52·5	54·4	57·0	58·5	57·8	56·4	55·4	54·9	54·2	54·2	54·1	53·8	53·4	53·4	
14	53·5	53·5	53·6	53·2	53·2	52·9	51·8	50·8	49·6	50·3	52·7	56·7	60·7	62·2	60·0	59·0	58·6	57·5	56·3	54·8	52·1	53·7	51·7	49·8	
15**	51·2	51·3	51·0	51·3	51·1	54·0	52·4	51·5	50·6	51·1	53·6	56·5	59·3	60·8	61·0	59·0	57·4	57·3	55·8	54·5	49·0	47·5	45·0	46·0	
16**	49·9	51·2	49·7	50·9	52·2	54·4	51·5	50·5	51·2	51·9	53·9	56·3	59·4	61·9	59·9	57·5	57·9	57·0	53·1	43·1	49·4	53·4	52·5	46·9	
17**	46·6	47·2	48·7	53·5	50·9	52·2	53·8	53·5	51·2	51·7	53·9	57·4	61·9	62·1	60·9	62·9	57·1	56·2	55·9	54·9	52·9	47·8	47·9	48·5	
18	49·7	54·9	51·8	51·2	51·8	54·3	53·8	54·4	51·9	52·5	53·8	57·5	59·6	61·3	60·4	57·9	54·7	54·1	50·0	50·1	51·2	50·0	46·4	49·7	
19**	48·6	50·2	55·2	53·9	51·5	51·1	51·0	54·0	52·7	53·5	55·7	59·4	60·3	59·1	60·1	56·3	56·2	55·2	53·6	51·4	49·3	53·6	55·7	51·7	
20	51·4	52·3	53·0	52·2	51·8	56·2	54·4	50·9	51·3	52·5	56·1	56·4	58·8	60·2	57·3	56·8	55·8	54·5	53·4	50·3	51·1	51·3	52·6	54·2	
21	56·2	53·6	52·2	51·9	52·0	51·6	50·5	50·5	50·1	51·8	54·4	57·6	59·1	59·7	59·5	57·1	55·7	55·6	51·2	47·0	49·7	52·6	49·9	49·2	
22	48·6	49·5	51·5	52·4	52·4	53·0	50·5	50·1	50·9	55·0	56·5	59·5	60·9	60·5	58·8	56·0	56·2	51·7	54·2	53·5	52·0	51·7	49·6	49·3	
23	50·8	52·4	52·0	53·0	51·5	51·5	55·0	52·2	50·4	52·0	54·4	58·4	61·3	62·3	59·9	57·9	55·5	53·4	53·5	50·4	46·4	49·4	49·6	49·0	
24	54·0	51·5	52·3	51·7	52·4	52·1	51·4	50·0	49·9	51·5	54·1	58·0	59·4	60·0	58·6	55·1	54·6	54·7	53·1	51·6	53·1	52·6	53·7	49·5	
25	50·6	51·7	52·5	51·3	51·6	51·8	51·1	50·8	51·3	52·7	56·0	58·6	61·2	60·6	59·8	57·9	55·9	52·9	53·0	52·3	51·6	52·1	52·0	52·3	
26	56·1	52·1	50·2	50·9	51·1	50·6	49·6	49·7	50·1	51·2	54·2	57·4	61·3	62·9	58·5	57·3	56·7	55·0	52·5	47·5	47·9	50·5	51·1	52·3	
27	52·4	52·5	52·4	51·4	49·6	50·7	50·1	49·7	49·8	52·1	54·5	57·0	59·6	60·0	57·8	56·0	55·3	54·4	53·0	52·1	52·8	48·1	46·6	48·1	
28*	48·1	50·5	53·9	51·0	50·7	50·1	49·5	49·2	49·7	51·1	53·3	55·3	57·5	59·7	58·3	56·8	55·6	54·9	54·2	53·3	52·8	52·0	53·2	52·2	
29*	51·1	51·7	51·7	51·2	50·7	50·7	50·2	49·7	49·8	51·8	54·6	57·7	60·0	59·7	58·2	57·7	55·7	54·8	53·9	52·7	52·9	52·9	52·7	53·2	
30**	51·7	51·9	51·9	51·7	51·4	50·7	49·9	49·8	50·2	51·8	54·0	55·9	57·7	58·1	57·5	57·8	58·3	55·7	57·4	56·8	52·3	41·7	48·7	46·7	
Mean	52·1	52·5	52·6	52·3	52·2	52·4	51·8	51·2	50·8	51·9	54·2	57·1	59·7	60·5	59·4	57·8	56·2	55·0	53·8	52·4	51·7	51·5	51·6	51·3	
Mean*	52·1	52·7	53·2	52·5	52·0	51·7	51·0	50·1	50·0	51·6	53·5	56·1	58·6	59·6	58·3	56·9	55·5	54·7	54·1	53·7	53·4	53·2	53·1	53·2	
Mean**	49·6	50·4	51·3	52·3	51·4	52·5	51·7	51·9	51·2	52·0	54·2	57·1	59·7	60·4	59·9	58·7	57·4	56·3	55·2	52·1	50·6	48·8	50·0	48·0	

* Denotes an International Quiet Day. ** Denotes an International Disturbed Day.

TABLE I.—HOURLY MEANS OF MAGNETIC DECLINATION AT ABINGER—*continued.*

	0h	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Noon	13h	14h	15h	16h	17h	18h	19h	20h	21h	22h	23h	24h
May.													11° + Tabular Quantities.												
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
1**	49·1	51·8	51·3	50·3	49·7	48·6	47·7	48·7	49·9	52·1	55·0	58·7	64·3	66·1	67·7	66·3	65·2	64·7	49·7	52·2	43·4	52·6	44·1	53·5	
2	61·4	51·3	49·8	49·6	50·6	50·4	50·8	52·0	52·4	52·3	52·9	54·4	54·8	55·2	54·9	54·8	55·1	53·9	53·4	52·9	52·9	51·8	48·6	49·7	
3	50·4	52·8	51·2	50·6	49·7	49·8	49·6	49·6	49·8	51·6	53·7	54·8	54·5	55·2	55·8	55·7	55·2	55·2	50·4	51·8	53·3	53·6	52·4	50·1	
4	49·9	51·5	52·3	55·3	54·3	52·0	51·5	51·2	51·3	51·5	52·5	53·9	55·5	56·0	56·6	56·9	56·9	54·2	52·0	45·7	52·3	53·5	53·0	53·0	
5	53·5	52·7	52·1	52·1	51·1	52·1	53·0	49·4	49·5	51·1	53·1	55·4	57·7	58·6	58·1	56·9	55·9	54·8	53·9	53·1	48·6	50·7	53·5	54·5	
6	52·4	55·4	57·3	52·5	51·7	50·1	48·0	47·6	48·5	51·5	54·3	56·3	58·3	58·5	56·8	56·4	54·7	53·3	52·9	51·9	51·0	52·4	53·3	54·2	
7	57·5	52·6	51·6	50·9	50·5	48·6	48·7	49·4	50·7	51·7	55·0	57·0	57·8	57·8	55·5	53·8	53·0	52·0	51·7	51·8	52·3	52·5	52·6	52·9	
8	52·7	53·5	52·9	52·4	51·4	50·3	48·8	48·1	49·4	51·2	53·2	56·0	57·6	57·6	56·2	54·5	54·1	52·6	52·2	52·6	53·1	53·3	53·2	52·8	
9*	52·7	52·6	52·5	52·1	51·2	50·3	49·1	48·6	49·1	50·2	52·6	55·8	57·8	58·0	57·0	55·6	54·2	53·1	52·9	53·0	53·2	53·5	53·2	53·0	
10*	52·5	52·5	51·9	52·2	51·5	50·3	48·5	48·4	50·0	51·5	52·9	55·7	58·0	58·3	57·5	55·9	54·4	53·1	52·7	52·4	52·5	52·4	52·5	52·5	
11	52·6	54·1	52·4	52·1	52·4	50·8	49·8	49·4	50·2	52·9	56·4	59·3	60·8	60·9	59·4	57·4	55·4	54·1	51·7	51·9	52·1	52·6	52·5	52·6	
12*	52·7	52·8	52·8	52·3	51·2	49·7	48·9	48·4	48·7	50·5	53·5	56·8	59·3	59·3	57·9	55·8	53·8	53·3	52·9	53·1	52·8	52·7	51·2	51·6	
13	52·0	52·1	51·4	51·5	52·7	53·8	51·1	49·3	49·4	51·2	55·0	57·9	58·0	58·7	58·8	57·7	56·3	54·6	52·4	52·8	51·5	49·2	51·8	51·3	
14	48·8	48·2	51·0	51·5	50·5	49·4	49·1	48·0	49·2	51·3	53·5	56·6	59·7	60·3	60·0	59·4	58·6	57·4	53·9	51·3	47·3	44·1	45·3	46·3	
15	49·4	50·3	50·8	51·3	51·3	50·3	47·7	47·7	49·3	51·9	54·2	54·9	55·3	56·6	56·3	55·8	55·3	55·0	53·6	52·8	52·6	51·8	51·7	48·9	
16	47·7	51·8	51·7	50·8	50·4	49·8	49·1	49·4	49·7	50·8	52·6	54·9	55·8	55·7	54·9	54·4	53·8	53·5	52·2	49·7	51·4	51·3	49·9	49·9	
17	50·2	52·6	51·4	50·3	50·0	49·6	49·5	49·8	50·8	51·4	53·6	55·6	56·3	56·6	56·7	56·7	56·1	55·5	53·2	51·4	51·4	50·9	47·5	48·7	
18**	45·7	46·6	48·3	51·3	50·8	48·1	49·4	50·3	51·3	51·4	55·3	57·3	58·7	57·1	56·7	55·2	53·8	53·5	51·3	50·4	51·7	51·4	51·7	51·9	
19	52·1	52·3	52·6	51·0	49·8	48·7	47·3	47·6	48·2	49·9	52·3	54·3	56·4	56·5	55·7	55·5	54·5	54·5	51·8	51·8	47·6	48·6	52·0	52·1	
20	52·1	51·9	51·0	50·4	50·5	48·5	48·5	48·9	50·2	51·3	53·5	55·8	57·5	57·6	56·6	56·0	55·9	54·7	53·7	53·3	52·9	51·2	50·7	51·5	
21	51·8	52·0	52·4	51·4	50·2	49·1	49·1	49·6	51·4	53·2	55·2	57·0	58·3	58·0	56·4	54·8	53·4	53·2	52·8	52·2	53·2	53·4	53·3	53·5	
22	54·2	53·6	52·7	51·3	50·2	48·3	49·4	49·6	51·2	52·8	55·2	58·5	59·8	59·6	57·8	56·3	55·1	53·9	53·2	53·3	53·3	53·4	52·3	52·5	
23	53·4	52·8	52·4	51·7	50·3	48·8	47·4	48·4	50·1	53·4	57·4	59·4	59·1	59·4	57·5	55·9	53·8	52·1	52·5	52·1	52·4	52·4	51·3	51·1	
24*	51·4	51·0	51·4	50·9	49·5	47·5	46·5	46·9	48·5	51·5	54·7	58·0	60·0	59·6	58·3	56·5	54·9	54·3	53·5	53·5	52·9	52·8	52·3	52·5	
25	51·8	53·8	50·4	50·4	49·4	48·3	47·3	46·9	47·3	48·9	52·1	56·3	58·0	58·3	58·3	57·2	55·2	53·9	53·1	53·2	53·0	53·1	52·6	52·3	
26*	52·0	52·0	52·4	52·0	50·4	49·2	48·0	47·7	48·3	50·7	53·9	56·2	56·9	57·7	57·2	55·4	53·9	53·2	52·8	52·7	52·2	52·3	52·2	52·2	
27	52·2	52·2	52·0	51·5	50·4	49·1	48·7	48·4	48·8	50·9	52·9	54·6	57·4	58·3	57·9	57·7	57·0	54·8	52·6	51·9	53·2	52·8	50·3	50·0	
28	50·7	50·8	44·7	46·3	46·7	45·7	46·1	46·3	48·3	50·8	53·2	55·7	57·5	57·5	56·5	55·7	55·2	54·5	53·8	53·3	52·9	52·8	52·6	52·2	
29**	51·8	52·0	51·7	51·6	50·0	49·0	48·1	47·6	47·6	49·5	52·6	55·1	57·6	58·5	58·6	58·0	57·8	55·8	55·2	53·6	47·6	47·6	50·7	50·9	
30**	49·6	52·1	52·1	50·8	50·4	47·6	47·1	47·3	48·6	51·6	53·8	56·9	59·6	61·0	60·6	60·1	60·9	58·2	56·0	54·0	53·6	53·1	53·1	51·2	
31**	50·3	51·3	50·5	52·7	55·3	53·6	49·2	49·0	47·8	48·9	51·2	53·5	55·3	57·3	57·8	56·6	56·4	55·5	54·5	52·6	53·4	52·4	51·6	51·9	
Mean	51·8	52·0	51·6	51·3	50·8	49·6	48·8	48·7	49·5	51·3	53·8	56·2	57·9	58·3	57·6	56·6	55·7	54·6	52·9	52·2	51·7	51·8	51·4	51·7	
Mean*	52·3	52·2	52·2	51·9	50·8	49·4	48·2	48·0	48·9	50·9	53·5	56·5	58·4	58·6	57·6	55·8	54·2	53·4	53·0	52·9	52·7	52·7	52·3	52·4	
Mean**	49·3	50·8	50·8	51·3	51·2	49·4	48·3	48·6	49·0	50·7	53·6	56·3	59·1	60·0	60·3	59·2	58·8	57·5	53·3	52·6	49·9	51·4	50·2	51·9	
June.													11° + Tabular Quantities.												
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
1**	50·7	51·0	54·0	53·8	49·0	53·5	49·6	49·6	48·2	49·3	51·8	54·1	55·9	57·0	57·1	56·6	54·8	54·7	53·8	51·9	52·1	52·6	52·4	52·9	
2	52·6	54·0	52·6	51·1	50·9	49·9	49·0	48·2	48·8	51·0	53·6	55·6	55·6	57·5	56·5	55·2	53·9	53·1	53·1	53·3	52·9	52·7	53·1	52·6	
3	52·0	51·8	51·4	50·1	49·6	48·9	48·6	50·4	51·3	51·2	53·4	55·6	57·5	58·0	57·0	55·1	54·0	53·5	53·3	52·8	52·7	52·5	52·4	52·3	
4	52·0	53·0	52·3	51·3	50·7	49·5	48·6	48·5	49·4	50·9	53·5	56·5	57·0	58·0	57·4	55·4	53·6	53·0	52·1	52·4	52·6	52·3	52·4	52·0	
5*	53·1	52·9	51·6	50·6	48·6	46·6	46·2	46·4	48·0	49·6	51·8	54·4	56·0	56·1	56·2	55·0	53·5	52·8	52·7	52·5	51·9	51·7	51·7	51·6	
6*	52·0	51·7	51·8	51·4	50·7	48·4	47·6	48·3	47·7	48·7	51·2	53·1	54·7	55·6	55·3	54·4	53·6	52·7	52·2	52·2	52·6	52·6	52·2	51·7	
7	51·8	52·0	52·0	51·8	49·3	47·7	48·4	49·0	49·8	51·9	54·5	57·2	58·6	58·8	57·6	55·5	53·5	52·9	52·9	53·3	53·4	53·2	52·8	52·3	
8	50·5	49·2	47·8	48·7	46·4	48·3	49·0	48·4	49·3	52·6	56·2	60·0	58·8	58·5	58·9	57·7	56·2	54·2	54·4	52·6	51·7	49·5	48·9	48·1	
9	50·8	50·3	49·5	49·9	50·5	49·4	47·7	49·8	49·1	51·7	54·1	56·3	57·9	58·4	58·3	56·8	56·2	54·4	53·2	52·3	51·7	51·7	51·7	51·7	
10	51·6	51·1	51·4	50·5	49·5	48·5	48·0	47·9	47·5	48·0	50·1	52·1	55·0	56·7	57·9	57·5	55·7	54·2	53·4	52·2	51·0	51·2	51·2	51·1	
11	51·0	51·1	51·4	50·8	49·1	47·5	48·0	47·7	48·2	49·7	51·6	54·2	54·9	54·5	55·9	55·5	54·9	54·1	53·4	52·6	51·8	51·2	50·9	50·9	
12	51·2	51·9	50·8	50·1	50·8	48·8	48·3	48·2	48·9	49·7	51·1	54·0	55·7	56·7	57·0	55·7	55·6	54·0	53·8	54·2	53·4	52·0	49·7	47·5	
13**	48·9	44·8	48·7	47·9	44·9	46·7	46·8	45·4	50·1	49·8	51·7	55·5	58·8	61·2	61·8	57·7	57·2	55·6	51·2	53·0	52·3	53·4	49·7	42·8	
14**	44·8	45·0	47·0	48·8	48·8	49·1	48·1	48·7	48·3	50·1	51·6	54·0	55·2	56·5	56·8	54·7	54·0	53·8	52·4	52·0	52·0	51·9	50·2	50·3	
15	49·2	50·7	46·4	49·7	48·5	47·8	47·3	47·8	48·1	48·9	51·5	53·3	53·9	55·5	56·0	55·3	54·7	53·4	53·1	53·0	53·0	52·0	52·0	51·5	
16*	51·1	51·0	50·7	50·7	49·5	48·5	47·6	47·0	47·0	49·1	51·9	54·6	56·8	57·0	56·6	55·3	53·6	52·6	52·3	52·3	51·4	51·2	51·3	51·9	
17	51·2	51·1	51·1	50·6	48·8	47·1	47·2	48·0	48·3	51·0	52·5	54·5	56·5	57·0	56·0	54·3	54·0	53·5	52·6	52·4	52·2	51·6	51·4	51·5	
18*	51·4	50·9	51·4	50·9	50·2	48·8	47·4	46·7	46·8	48·7	51·3	54·0	55·0	54·9	55·7	54·7	53·1	52·2	52·1	51·9	52·0	52·1	51·3	50·6	
19	49·3	49·8	50·6	49·9	48·6	48·0	47·0	47·4	49·5	51·3	53·6	57·1	57·7	58·3	58·2	57·4	57·4	56·6	54·9	53·8	52·1	49·9	47·1	48·6	
20**	48·0	44·4	43·0	43·1	42·4	48·4	48·7	48·4	47·7	51·2	54·6	57·2	60·0	61·6	61·0	58·9	57·9	56·3	55·3	54·5	53·6	52·5	51·8	51·4	
21	50·6	50·2	49·6	49·5	48·7	48·5	49·4	50·7	49·8	50·2	51·5	54·8	56·5	57·0	57·2	55·9	55·1	54·8	53·6	52·1	52·0	51·1	50·3	50·8	
22	52·9	51·1	49·0	48·5	48·5	47·5	45·9	46·2	46·9	48·5	51·1	53·1	54·7	56·0	55·9	54·6	53·8	53·0	53·6	52·3	52·6	52·2	51·6	51·4	
23	51·5	51·4	51·2	50·6	49·5	48·6	47·8	47·0	46·5	48·6	51·7	54·1	55·1	55·8	56·3	55·3	54·2	53·8	53·7	53·1	52·3	52·2	50·1	50·0	
24*	49·9	49·1	49·1	49·3	48·1	47·9	47·9	46·7	46·0	47·6	51·1	54·8	56·3	56·5	56·0	55·6	54·1	53·3	53·3	53·1	52·7	52·0	51·5	51·1	
25	51·1	51·4	50·9	50·3	49·2	48·2	47·4	46·1	46·3	48·2	51·3	54·6	57·9	60·1	60·1	59·1	57·1	54·6	53·2	51·2	50·2	52·1	47·5	49·4	
26	50·3	50·2	48·3	48·8	47·6	47·9	48·7	48·2	46·8	48·5	50·8	52·7	55·5	57·4	58·2	56·7	55·8	53·7	51·8	51·5	52·2	52·2	51·8	52·0	
27	51·4	51·4	51·0	50·1	49·0	48·0	47·5	47·8	47·8	49·1	52·5	53·6	56·6	59·3	61·0	59·3	57·0	55·0	53·6	52·6	52·2	51·8	51·4	52·5	
28**	49·9	46·4	47·8	48·1	49·1	48·1	47·1	46·7	47·0	48·7	50·9	52·8	54·4	57·9	59·6	58·4	57·2	55·8	55·2	53·7	52·0	51·0	52·0	50·0	
29	47·8	50·8	50·5	49·0	46·3	47·2	48·0	47·3	47·5	48·2	49·7	51·8	54·0	55·7	57·0	55·0	53·6	54·0	52·6	52·1	52·0	51·8	51·4	50·7	
30	50·0	50·3	51·8	52·6	52·0	49·0	47·0	46·7	46·0	48·0	50·0	52·7	55·7	56·0	56·6	56·3	55·2	53·9	52·4	51·9	51·9	51·5	51·2	51·6	
Mean	50·6	50·3	50·2	50·0	48·8	48·4	47·9	47·8	48·1	49·7	52·1	54·6	56·3	57·3	57·5	56·2	55·0	54·0	53·2	52·6	52·2	51·9	51·1	50·8	
Mean*	51·5	51·1	50·9	50·6	49·4	48·0	47·3	47·0	47·1	48·7	51·5	54·2	55·8	56·0	56·0	55·0	53·6	52·7	52·5	52·4	52·1	51·9	51·6	51·4	
Mean**	48·5	46·3	48·1	48·3	46·8	49·2	48·1	47·8	48·3	49·8	52·1	54·7	56·9	58·8	59·3	57·3	56·2	55·2	53·6	53·0	52·4	52·3	51·2	49·5	

* Denotes an International Quiet Day. ** Denotes an International Disturbed Day.

TABLE I.—HOURLY MEANS OF MAGNETIC DECLINATION AT ABINGER—*continued.*

	0h	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Noon	13h	14h	15h	16h	17h	18h	19h	20h	21h	22h	23h	24h
July.	11° + Tabular Quantities.																								
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
1	51·3	51·3	50·4	49·3	48·6	47·9	47·5	48·0	48·6	49·2	50·5	53·0	55·3	55·6	56·0	55·2	53·6	53·0	52·7	51·8	51·1	51·5	52·3	54·6	
2	50·6	49·2	50·1	49·4	48·3	46·1	47·2	47·7	47·6	48·8	50·7	53·5	56·1	57·1	57·2	55·3	52·8	51·3	51·5	51·7	52·2	52·4	51·8	51·7	
3	52·3	50·5	48·5	48·0	47·4	46·6	46·4	46·5	46·7	48·1	49·7	51·9	54·0	54·8	55·0	54·6	54·1	53·4	53·0	52·0	51·9	51·6	51·5	51·6	
4	51·2	51·3	51·3	51·5	48·7	47·7	47·5	47·1	47·1	48·1	50·6	52·9	53·9	55·5	56·6	55·8	55·1	54·5	53·3	52·3	49·7	51·3	51·7	51·3	
5	50·7	52·0	51·9	48·4	47·7	46·8	45·7	46·3	47·3	48·2	49·8	52·3	53·1	53·7	54·9	54·9	53·4	52·4	51·6	51·9	51·7	51·6	51·7	51·5	
6	50·8	50·1	49·0	48·7	47·2	47·0	46·3	47·0	47·7	50·0	53·7	55·0	55·9	56·5	56·1	54·8	53·3	52·3	51·4	51·0	51·3	51·5	51·4	51·4	
7	51·3	51·3	51·1	50·9	49·9	47·9	46·9	46·1	45·6	47·9	52·7	56·3	57·3	56·7	55·3	54·7	54·0	52·4	51·9	51·4	51·0	50·7	51·1	51·3	
8	51·3	50·5	50·7	50·0	48·9	48·2	46·5	46·3	46·4	48·5	51·9	55·4	58·5	60·5	60·6	58·6	56·0	53·2	52·5	52·4	53·1	54·1	53·5	48·9	
9**	49·7	47·9	47·0	47·5	47·3	47·0	47·9	50·9	53·1	53·7	53·9	57·3	60·4	59·3	57·3	55·3	53·8	53·0	51·3	49·0	52·3	52·9	52·3	51·9	
10	51·1	50·4	50·3	49·5	50·6	49·3	46·8	47·5	48·0	50·0	52·3	54·5	56·9	56·9	56·4	54·9	54·4	54·2	53·8	48·3	50·1	53·4	50·1	49·6	
11	50·0	53·0	50·4	48·4	47·1	46·9	46·3	46·4	46·3	48·4	51·4	55·1	56·5	58·7	60·9	58·5	56·8	54·9	53·8	52·5	51·9	51·5	51·2	51·0	
12	49·1	49·4	50·9	52·3	49·3	47·3	46·8	46·8	46·8	49·0	50·7	53·1	55·1	56·7	55·8	54·2	53·2	53·0	52·2	51·1	51·5	51·3	51·3	51·8	
13*	51·0	50·2	49·5	49·4	48·2	47·8	47·4	46·8	47·4	48·6	49·7	50·5	52·2	54·0	54·8	54·1	53·1	52·6	52·7	52·5	52·4	52·1	51·6	51·1	
14*	51·3	49·3	48·2	48·0	47·9	47·8	47·4	47·3	46·4	47·6	49·5	52·4	54·3	54·8	54·0	53·2	53·3	52·9	52·6	51·1	51·6	51·5	50·9	50·8	
15*	50·0	50·2	49·9	49·9	48·9	47·8	46·8	46·0	46·4	47·7	50·1	52·4	53·8	54·8	54·7	53·3	52·4	52·3	53·0	52·4	52·3	51·9	50·9	49·9	
16	50·0	49·5	49·2	49·1	48·4	47·3	46·4	46·4	46·8	49·3	51·5	52·8	55·2	56·3	56·3	55·8	55·3	54·3	52·6	51·5	50·9	51·0	51·0	50·9	
17**	51·1	49·6	49·2	48·4	47·8	46·2	47·3	48·1	48·0	49·2	52·0	54·8	57·4	59·1	59·5	56·7	55·0	53·4	52·4	52·4	51·2	51·9	49·2	50·0	
18	50·3	51·4	49·0	48·1	46·0	48·0	47·9	48·9	47·3	48·4	51·1	54·0	55·0	55·4	54·7	54·3	53·6	53·0	51·8	50·0	49·6	51·1	51·0	51·0	
19	50·6	50·4	50·6	51·0	48·8	48·6	48·6	48·9	47·7	47·2	49·6	52·8	55·4	56·5	54·9	52·5	52·1	51·9	51·7	51·2	51·0	49·6	49·5	50·1	
20	51·7	52·4	50·6	51·4	50·8	48·7	47·7	46·7	48·1	51·1	52·0	54·8	58·7	60·0	58·8	55·6	52·7	50·3	49·9	50·4	50·7	50·6	50·7	51·2	
21*	51·9	51·9	51·7	51·1	48·1	45·9	45·2	46·0	46·8	48·4	50·6	54·0	55·7	55·5	55·5	54·4	53·1	51·9	51·2	50·8	50·9	51·0	51·3	51·1	
22	50·9	51·5	52·8	49·6	49·0	48·0	47·8	48·0	48·2	49·5	51·6	54·2	56·5	57·5	57·9	55·8	53·8	52·5	51·6	51·4	51·0	50·9	50·7	50·7	
23**	50·9	50·6	48·8	48·3	48·0	47·1	46·6	46·1	45·6	46·4	49·6	53·7	57·0	58·6	57·9	56·3	56·6	55·3	53·9	52·0	51·0	51·1	42·2	45·3	
24**	45·7	47·1	50·7	53·1	48·9	47·0	45·7	50·0	53·6	50·8	52·2	55·9	56·8	55·9	56·6	52·2	50·7	52·3	52·6	52·3	52·0	51·0	50·3	49·8	
25	50·1	50·9	50·9	50·5	50·0	48·9	48·3	47·9	48·2	48·7	50·7	55·1	57·4	56·4	55·5	54·3	53·0	51·3	51·2	51·3	50·8	50·6	49·6	49·9	
26	51·1	50·6	50·3	50·1	49·1	48·2	47·4	46·6	46·4	48·0	50·1	52·5	54·5	57·0	58·3	57·2	55·5	53·2	53·3	52·1	51·3	51·3	50·8	49·1	
27**	48·3	47·5	48·4	48·6	48·0	47·2	46·6	44·7	45·3	47·3	51·8	54·7	57·7	57·8	56·6	55·4	54·1	53·0	51·7	50·3	48·2	47·6	50·8	48·9	
28	48·3	49·0	49·4	49·3	49·2	48·2	46·3	45·9	46·6	47·4	49·7	52·8	55·3	56·8	57·5	56·4	53·9	52·3	50·7	49·9	50·7	50·8	50·8	50·0	
29	49·7	50·1	50·3	49·8	48·5	47·2	47·3	47·1	47·0	48·7	51·2	53·4	55·5	56·7	55·9	54·5	53·1	52·5	51·8	51·4	51·5	51·5	51·3	51·0	
30*	50·5	50·7	50·1	49·9	48·9	47·5	46·9	46·9	47·8	49·1	52·3	55·0	55·8	54·4	53·4	52·7	51·9	51·3	51·4	51·5	51·9	51·9	50·4	50·8	
31	50·3	49·9	49·9	49·3	48·3	46·9	46·3	46·8	47·7	49·4	51·7	52·8	53·8	53·8	54·1	53·3	52·5	52·4	51·0	49·9	51·4	51·9	51·9	51·2	
Mean	50·4	50·3	50·0	49·6	48·5	47·5	47·0	47·2	47·5	48·8	51·1	53·8	55·8	56·6	56·4	55·0	53·8	52·8	52·1	51·3	51·2	51·4	50·8	50·6	
Mean*	50·9	50·5	49·9	49·7	48·4	47·4	46·7	46·6	47·0	48·3	50·4	52·9	54·4	54·7	54·5	53·5	52·8	52·2	52·2	51·7	51·8	51·7	51·0	50·7	
Mean**	49·1	48·5	48·8	49·2	48·0	46·9	46·8	48·0	49·1	49·5	51·9	55·3	57·7	58·1	57·6	55·2	54·0	53·4	52·4	51·2	50·9	50·9	49·0	49·2	
August.	11° + Tabular Quantities.																								
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
1*	50·6	50·2	50·2	49·9	48·8	47·4	46·3	45·7	45·9	47·9	50·8	53·3	55·3	56·4	55·7	53·6	52·1	50·7	50·9	51·7	51·7	51·8	51·5	50·9	
2	50·3	50·1	49·8	49·7	48·2	46·5	46·5	47·1	48·1	49·8	52·7	54·3	56·2	56·6	55·6	53·6	51·8	50·9	50·7	51·2	51·0	49·6	50·2	50·7	
3	50·5	49·9	49·6	47·8	46·9	45·0	45·6	46·1	47·1	49·2	51·4	53·3	54·5	54·9	54·2	52·7	51·4	50·3	49·8	49·9	50·3	50·2	49·8	49·5	
4	49·6	49·8	49·2	49·3	49·0	47·9	46·9	46·9	47·6	49·5	51·6	52·7	54·6	54·6	53·6	52·5	52·3	52·4	51·7	51·8	51·4	51·7	50·9	49·6	
5**	47·9	48·7	48·4	48·2	46·9	46·0	46·9	47·6	47·9	49·7	52·3	57·8	61·6	65·4	69·5	67·8	65·9	60·5	48·9	38·0	46·7	51·2	50·8	49·4	
6**	48·1	47·3	45·2	47·7	46·1	44·9	45·9	46·1	47·4	48·1	51·0	53·8	55·0	55·9	56·1	54·2	52·4	50·7	47·0	48·6	49·5	50·3	50·3	49·9	
7	49·7	50·1	50·8	48·9	47·7	46·6	46·7	47·0	48·2	49·2	51·4	52·7	54·2	53·8	53·4	52·7	51·7	49·7	49·5	49·7	49·7	49·6	48·0	45·6	
8	48·4	48·6	49·4	46·7	46·1	45·7	45·3	45·6	46·9	48·6	51·1	55·1	56·6	57·0	54·5	52·0	50·4	49·6	49·3	49·8	50·0	50·1	48·5	46·9	
9*	47·4	48·0	48·2	48·3	47·7	46·4	46·1	45·7	46·4	48·7	51·9	55·0	57·2	58·2	56·2	54·0	52·1	51·0	50·5	50·6	50·5	50·0	49·8	50·8	
10*	49·0	48·9	49·9	49·9	48·4	47·3	46·8	46·7	47·6	48·9	51·4	54·5	57·9	58·6	56·9	55·4	53·5	51·5	50·1	50·4	50·8	50·4	50·2	50·2	
11*	49·8	49·6	49·3	49·3	49·2	47·9	47·3	45·9	45·3	47·0	49·5	51·9	54·7	54·7	54·1	52·9	51·3	50·6	50·1	50·7	50·9	50·7	49·7	49·2	
12	49·2	49·3	48·7	48·7	47·7	47·0	46·3	46·5	48·2	50·3	52·3	54·3	56·9	56·1	54·6	53·1	51·8	50·7	51·3	51·7	51·6	51·5	50·7	49·5	
13**	48·6	47·2	48·1	47·8	47·2	45·6	44·8	45·1	46·7	50·7	53·1	55·6	56·6	57·5	57·2	56·7	54·0	51·4	51·7	40·2	43·2	46·2	45·2	43·9	
14	48·6	48·6	49·2	50·2	47·8	47·1	47·1	47·2	47·0	49·4	52·2	55·2	56·2	56·5	55·2	53·5	52·2	51·2	51·2	51·2	51·2	48·6	48·6	50·2	
15	50·3	50·6	51·3	49·3	47·9	48·8	47·3	46·3	48·3	50·0	52·5	56·3	57·6	56·3	53·3	52·0	50·3	50·1	46·3	49·3	51·0	51·3	50·8	50·3	
16	50·4	50·3	49·4	49·4	48·7	47·4	46·5	46·5	47·4	48·9	51·0	52·5	54·3	54·3	53·3	51·8	50·7	49·7	49·4	50·2	50·2	50·0	49·2	49·5	
17	49·9	49·2	51·5	50·0	47·5	47·4	48·7	50·5	51·6	52·6	52·7	54·4	56·9	57·1	54·6	52·4	51·4	50·6	48·6	47·4	47·8	50·1	50·1	50·1	
18**	48·1	48·1	49·1	48·8	48·2	48·1	52·5	50·1	48·6	50·1	51·1	53·6	54·3	54·1	53·9	54·9	54·1	52·8	49·7	43·1	42·6	43·0	47·0	49·3	
19	48·3	43·7	50·2	50·0	50·8	50·1	51·0	52·0	49·3	49·7	50·6	54·0	53·9	54·9	54·8	53·4	52·5	52·0	51·1	50·1	48·9	47·1	48·6	48·8	
20	48·8	49·8	50·2	49·3	49·5	48·1	47·5	47·1	47·1	49·1	52·1	54·6	55·6	55·1	53·1	53·1	52·1	53·1	50·5	47·1	50·2	46·1	44·2	47·2	
21**	48·9	50·1	51·8	49·2	48·1	48·1	47·4	47·6	48·9	51·5	53·9	57·3	57·3	55·5	57·3	56·4	48·0	50·5	50·3	47·1	45·5	49·4	49·8	50·6	
22	51·6	51·2	50·2	49·1	48·2	47·0	46·1	46·7	47·7	50·6	51·8	53·4	54·1	54·1	53·6	51·9	50·9	50·4	50·5	50·8	50·6	50·3	49·9	49·6	
23	49·6	49·6	49·8	49·5	48·3	48·0	47·6	47·9	49·0	50·6	51·7	54·7	55·6	56·7	58·0	53·7	52·6	51·0	47·5	46·9	49·7	47·6	46·1	49·0	
24	49·7	50·2	50·8	49·9	48·2	46·7	46·2	46·2	50·5	53·9	54·7	57·7	58·2	57·3	57·3	54·7	52·2	49·3	48·2	44·0	45·3	48·9	48·6	48·3	
25	49·5	52·8	50·4	48·6	50·4	50·4	48·9	48·9	48·2	49·9	52·1	53·8	55·2	54·9	53·8	52·0	50·7	50·3	49·5	50·0	50·7	51·0	50·3	50·3	
26	50·5	51·1	47·9	45·0	46·1	44·6	45·2	46·1	47·7	49·8	52·8	56·2	57·2	56·2	54·8	53·2	52·8	51·9	51·1	50·0	49·3	50·3	49·9	49·8	
27	49·8	50·9	49·6	49·4	49·9	48·7	48·9	47·4	48·0	49·3	51·1	53·4	55·4	56·0	53·9	52·1	51·1	50·8	50·6	50·0	50·4	50·0	49·2	49·6	
28	49·9	50·1	50·2	49·6	48·9	48·7	48·2	48·0	48·0	49·6	53·1	55·6	57·2	56·8	55·8	54·3	52·6	51·7	51·9	51·7	51·4	50·1	50·0	49·6	
29	49·2	48·5	48·5	48·4	47·4	47·3	46·9	47·9	48·6	50·5	53·5	55·2	56·2	55·2	54·0	52·2	50·5	50·1	50·5	50·7	50·5	50·1	49·9	49·6	
30	49·2	49·3	48·9	48·4	48·1	46·9	45·5	45·9	45·4	47·0	49·9	52·4	53·5	53·4	52·3	50·3	50·1	50·6	51·1	51·0	50·6	50·4	49·8	49·0	
31*	48·4	48·3	48·2	48·1	47·7	47·8	47·7	47·4	47·9	49·6	52·2	54·3	54·2	53·8	51·8	50·2	49·3	50·2	50·8	50·5	49·7	49·0	48·2	49·4	
Mean	49·4	49·4	49·5	48·9	48·1	47·3	47·1	47·2	47·8	49·7	51·9	54·5	55·9	56·1	55·2	53·7	52·1	51·2	50·0	48·9	49·5	49·6	49·2	49·2	
Mean*	49·0	49·0	49·2	49·1	48·4	47·4	46·8	46·3	46·6	48·4	51·2	53·8	55·9	56·3	54·9	53·2	51·7	50·8	50·5	50·8	50·7	50·4	49·9	50·1	
Mean**	48·3	48·3	48·5	48·3	47·3	46·5	47·5	47·3	47·9	50·0	52·3	55·6	57·0	57·7	58·8	58·0	54·9	53·2	49·5	43·4	45·5	48·0	48·6	48·6	

* Denotes an International Quiet Day. ** Denotes an International Disturbed Day.

TABLE I.—HOURLY MEANS OF MAGNETIC DECLINATION AT ABINGER—*continued.*

September. 11° + Tabular Quantities.

	0h	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Noon	13h	14h	15h	16h	17h	18h	19h	20h	21h	22h	23h	24h
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
1	49·1	48·3	46·9	45·9	46·4	46·9	46·5	46·2	47·7	50·8	54·2	56·3	56·9	56·0	53·8	52·3	50·9	49·0	49·8	50·2	49·2	47·8	49·5	49·5
2	49·1	49·0	49·0	48·0	46·2	46·7	45·4	45·0	46·1	48·7	51·5	55·0	56·0	56·1	54·3	52·0	50·5	50·1	50·1	50·5	50·1	49·2	45·4	45·5
3*	49·0	49·1	48·5	48·6	48·1	47·1	46·2	46·0	45·8	48·1	51·4	54·9	55·5	54·6	52·7	50·9	49·7	49·6	49·9	50·2	49·6	49·4	49·2	49·2
4	48·7	49·5	48·5	48·1	47·4	47·9	47·0	46·7	48·2	50·5	52·3	54·3	55·6	55·3	53·4	51·4	50·7	50·0	49·5	47·4	47·4	48·6	48·8	49·0
5*	49·0	48·8	48·4	48·3	47·4	46·5	46·0	46·2	47·4	49·6	52·4	55·3	56·2	54·9	52·6	50·9	50·5	50·8	50·7	50·4	50·3	49·5	49·4	49·3
6*	49·3	49·1	48·9	48·1	47·3	46·4	45·3	45·3	46·3	48·8	51·3	54·3	55·3	54·9	53·3	52·2	51·1	51·0	50·8	50·8	50·0	47·3	49·7	49·3
7	47·9	48·3	47·3	47·3	47·3	46·6	46·1	47·1	48·7	50·3	53·7	56·3	57·7	57·3	54·3	51·3	50·5	50·5	50·6	50·5	50·4	49·5	49·3	49·1
8	47·8	46·9	48·4	47·2	45·3	45·2	45·2	46·2	47·2	50·9	53·6	55·7	57·0	56·6	55·0	53·0	51·5	51·2	50·2	50·6	50·2	49·2	49·2	46·6
9**	44·7	46·5	47·2	46·1	50·6	57·6	58·6	56·9	52·2	53·8	51·4	52·7	57·4	57·1	55·6	53·1	51·5	48·0	46·5	47·7	46·2	49·1	47·2	45·1
10**	47·8	48·2	52·0	49·1	48·6	50·1	47·1	45·9	46·3	48·1	49·5	51·6	52·0	53·3	52·5	51·2	49·6	46·6	47·0	48·3	48·3	49·1	48·1	50·1
11	48·5	49·7	48·4	49·0	48·1	48·2	48·5	48·1	49·2	48·6	49·7	51·5	53·7	53·1	53·1	51·8	50·1	49·2	48·3	48·6	48·8	49·1	49·1	49·4
12	48·9	47·1	50·0	51·8	50·1	47·7	47·2	47·6	47·8	49·4	51·8	53·4	54·1	53·9	52·4	50·5	48·5	48·7	48·9	49·1	48·4	48·5	48·7	48·1
13**	48·4	48·4	48·6	48·3	48·0	47·7	47·0	46·6	47·2	49·0	51·5	55·3	58·0	60·7	59·0	54·0	53·6	52·6	50·2	32·0	42·4	44·9	45·3	45·6
14**	47·2	48·9	47·1	48·0	47·0	47·2	47·8	47·8	48·1	49·7	52·3	54·6	54·2	54·8	53·1	51·9	49·7	45·5	44·9	44·5	48·0	44·7	44·5	47·9
15**	52·6	48·2	48·7	51·6	56·6	56·1	49·2	47·3	47·7	48·7	52·2	55·3	58·2	57·3	54·8	52·8	50·1	45·6	48·2	48·8	49·5	46·8	48·0	47·6
16	48·9	48·8	48·3	48·1	47·7	47·5	47·5	47·9	47·9	49·5	52·7	54·1	55·0	54·0	53·4	51·9	45·5	49·3	50·5	50·2	48·1	43·8	48·0	48·0
17	48·1	50·5	51·1	47·8	47·1	47·1	47·1	47·1	48·0	49·6	52·4	54·1	55·8	54·1	52·7	50·4	50·3	50·3	50·5	49·1	43·7	48·5	49·5	49·3
18	49·7	45·1	40·1	41·8	46·1	46·4	45·7	46·1	47·1	49·8	52·0	54·8	55·1	54·5	53·0	50·8	49·4	48·8	49·0	49·0	48·1	48·8	49·3	49·8
19	49·7	49·2	49·7	49·3	48·5	47·7	47·7	47·7	48·3	48·8	52·7	54·9	54·7	53·9	53·0	52·6	50·3	51·5	50·6	49·8	47·0	45·9	46·1	51·6
20	46·2	45·2	48·4	48·2	50·4	49·7	46·7	46·1	46·0	48·0	51·2	53·7	54·6	54·4	52·4	50·2	49·3	47·0	48·3	48·3	47·8	48·1	48·3	48·5
21	52·2	48·6	49·0	51·5	47·6	47·5	47·2	46·7	47·4	49·2	51·5	53·3	54·5	53·2	51·3	50·0	49·1	48·6	48·9	49·1	49·1	45·5	46·7	48·1
22	48·0	51·9	49·0	47·6	48·0	48·2	47·2	46·4	47·7	50·0	54·0	56·3	56·5	54·3	52·6	50·2	49·6	49·2	49·0	49·0	49·0	48·6	48·3	47·1
23*	46·5	49·2	47·2	47·9	47·5	47·9	47·9	46·9	46·9	47·9	50·8	52·9	53·9	53·8	52·8	51·6	50·3	50·7	50·0	49·7	49·3	48·8	47·8	47·3
24*	50·0	51·1	50·1	48·1	48·0	47·0	47·1	46·3	46·2	48·0	51·0	54·1	55·1	55·3	53·7	51·9	50·8	50·3	49·8	49·1	48·7	48·8	48·8	48·7
25	48·3	48·4	48·7	47·2	47·9	47·9	47·1	45·6	45·9	48·5	52·6	54·4	55·8	55·7	54·7	53·7	52·6	50·2	48·7	49·5	49·5	47·8	44·7	45·7
26	46·8	47·0	47·3	47·3	47·3	46·9	46·7	46·3	46·7	48·2	50·7	52·5	53·7	52·9	52·1	50·7	50·2	49·8	49·4	49·3	49·4	46·6	43·3	44·9
27	46·0	46·9	46·9	47·0	46·9	47·1	47·1	47·2	47·1	48·4	50·6	52·4	53·1	53·1	52·4	51·8	50·8	50·3	50·2	49·0	48·2	49·2	47·4	47·0
28	48·1	48·4	45·3	46·8	46·7	47·6	47·3	46·3	45·9	47·1	49·3	51·0	52·0	52·3	51·5	50·4	49·8	49·6	49·8	49·3	47·4	46·2	50·9	47·4
29	44·9	45·9	47·9	47·6	46·6	48·4	47·2	46·6	46·8	48·3	50·5	52·4	52·9	52·9	52·5	52·4	51·5	50·5	49·1	48·3	49·9	49·7	49·3	49·4
30	48·5	48·5	48·5	48·1	47·8	47·9	47·5	46·7	46·5	47·4	49·2	50·9	52·1	52·9	52·5	51·5	49·6	49·4	48·6	44·8	45·4	47·5	48·8	49·1
Mean	48·3	48·4	48·2	48·0	48·0	48·1	47·3	47·0	47·3	49·1	51·7	53·9	55·1	54·8	53·4	51·7	50·3	49·5	49·3	48·4	48·3	47·9	48·0	48·1
Mean*	48·8	49·5	48·6	48·2	47·7	47·0	46·5	46·1	46·5	48·5	51·4	54·3	55·2	54·7	53·0	51·5	50·5	50·5	50·2	50·0	49·6	48·8	49·0	48·8
Mean**	48·1	48·0	48·7	48·6	50·2	51·7	49·9	48·9	48·3	49·9	51·4	53·9	56·0	56·6	55·0	52·6	50·9	47·7	47·4	44·3	46·9	46·9	46·6	47·3

October. 11° + Tabular Quantities.

	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
1*	48·8	48·8	48·5	48·8	48·5	47·8	47·1	46·1	45·7	46·7	48·7	51·4	53·1	52·8	51·6	50·5	49·5	49·7	49·6	49·5	49·5	59·3	48·6	48·3
2	48·9	49·0	49·1	48·5	48·2	47·1	46·9	45·9	46·2	47·4	49·5	53·2	54·4	53·9	52·7	51·0	50·2	49·9	49·6	49·3	48·5	48·4	47·4	47·5
3	47·8	48·3	48·7	48·6	48·3	48·5	48·1	46·8	45·4	45·6	47·7	51·0	53·1	53·7	53·1	51·7	50·8	50·3	50·2	49·7	49·1	49·1	48·6	48·1
4	47·9	48·8	48·5	48·6	48·7	50·0	48·5	46·4	44·6	44·9	47·2	50·9	53·3	54·3	54·4	53·3	51·9	50·2	49·8	48·5	47·8	47·7	49·2	46·3
5**	47·0	45·8	45·1	47·1	46·9	47·6	48·0	47·0	47·1	47·8	51·6	55·7	55·9	56·5	54·7	52·1	50·2	49·6	48·5	47·3	47·6	41·7	44·9	45·6
6	48·5	47·4	49·4	50·3	46·6	47·4	46·8	46·3	46·2	48·8	49·9	54·0	54·0	54·6	53·6	51·3	49·0	47·4	47·4	47·4	48·0	48·3	48·3	48·2
7**	48·5	48·7	47·7	44·8	47·7	49·5	51·5	52·6	50·0	50·2	52·2	51·4	51·8	53·1	52·9	51·3	48·8	38·5	47·3	48·2	42·8	42·0	43·8	45·6
8	51·5	48·9	47·6	51·0	50·9	47·9	47·5	46·4	46·9	47·7	50·3	51·9	53·4	52·9	51·0	50·0	49·0	45·3	47·8	47·0	47·0	47·5	47·3	47·0
9**	47·9	48·1	50·0	52·7	53·5	48·4	48·4	47·1	46·1	48·2	49·4	53·3	55·2	53·5	52·3	50·8	49·8	47·9	45·2	40·4	45·7	48·1	48·6	44·3
10	42·9	50·8	48·5	48·3	49·5	48·3	50·1	51·4	51·2	49·2	50·8	52·7	54·4	53·4	51·1	50·1	44·4	45·7	43·9	44·9	46·6	45·4	47·4	50·3
11	49·4	48·8	50·8	49·5	48·1	48·5	48·5	49·2	47·9	48·3	49·5	51·3	51·5	51·5	50·4	49·4	48·3	48·3	47·9	45·6	46·3	47·4	45·7	38·5
12	47·8	48·7	42·4	45·3	47·0	52·1	54·2	50·3	47·5	47·2	50·0	53·1	54·8	53·4	51·6	49·8	48·4	48·8	48·3	48·3	48·2	48·4	48·1	48·1
13**	48·1	48·2	48·2	48·2	48·1	48·1	47·8	46·7	45·8	46·4	48·5	53·3	53·7	55·9	56·4	51·0	51·7	51·0	49·8	49·3	48·7	48·4	48·3	43·6
14**	44·8	49·7	48·0	46·6	47·3	47·3	47·8	47·8	47·1	47·9	50·4	50·8	54·0	52·5	50·2	49·4	47·5	42·5	38·7	44·3	40·5	46·1	47·4	47·0
15	47·6	48·2	49·2	50·0	47·7	47·0	47·2	46·7	46·6	47·8	49·3	51·7	52·4	51·4	51·0	48·6	48·4	48·4	48·2	45·4	46·9	47·3	47·4	47·5
16*	47·6	47·7	48·4	47·9	47·4	47·0	47·0	47·1	46·9	47·3	49·4	51·2	51·0	51·1	50·2	49·2	48·8	49·3	48·6	48·2	48·1	48·1	47·5	48·3
17	48·0	48·1	48·3	48·1	48·0	47·5	47·5	46·3	46·0	47·0	49·1	51·9	52·6	52·2	51·5	50·8	49·1	48·7	48·2	48·6	47·9	45·9	44·9	43·9
18	40·6	42·4	45·4	45·8	46·8	47·4	50·2	49·4	49·2	48·0	49·5	51·9	52·8	53·0	52·7	48·8	48·1	48·6	48·2	48·1	43·2	44·1	45·6	46·6
19	49·5	48·0	48·0	48·1	48·0	47·5	47·1	46·5	45·8	46·2	48·0	50·5	51·8	51·9	50·8	49·6	48·7	48·7	48·4	48·1	47·9	47·6	46·7	46·5
20	46·3	47·9	48·0	48·2	48·3	47·6	47·6	47·0	45·5	46·5	49·5	52·3	53·3	52·8	52·1	50·5	49·8	49·8	49·6	48·6	47·8	46·3	46·1	46·2
21*	46·4	47·4	47·7	48·3	48·1	47·9	47·5	46·4	45·6	46·4	48·4	51·4	52·5	52·4	51·7	50·7	49·4	50·0	49·4	48·4	48·4	48·0	48·1	47·9
22	47·9	48·0	47·6	47·8	47·7	47·3	47·3	46·6	47·3	47·4	48·0	50·3	52·4	53·0	52·4	50·4	49·5	49·5	49·5	49·5	48·5	48·4	47·8	47·5
23	47·7	48·7	48·7	48·8	48·5	48·6	48·7	47·8	47·1	47·3	49·5	51·8	51·9	51·9	50·9	50·3	50·0	49·9	49·4	49·1	48·4	45·5	46·8	47·3
24	47·4	48·2	48·2	48·3	48·2	47·8	48·1	47·2	46·5	46·5	48·3	50·2	52·2	52·0	54·8	55·3	54·6	51·8	50·1	49·3	48·2	47·8	46·5	44·8
25	42·2	43·8	47·0	45·8	47·3	48·2	48·0	47·4	47·8	47·1	49·3	50·2	51·5	51·8	51·2	51·7	49·7	48·9	49·0	45·7	47·2	47·3	45·6	46·4
26	47·5	46·6	46·5	46·4	46·9	46·9	47·5	48·1	46·2	46·5	48·3	50·8	51·4	51·3	51·7	47·5	49·1	49·2	48·7	48·7	48·0	42·6	46·4	47·6
27	47·8	47·7	48·3	47·4	48·4	48·0	48·6	47·9	47·0	46·7	48·4	50·2	51·1	51·6	50·7	49·4	49·0	48·6	48·2	48·1	47·9	47·4	46·9	47·1
28*	47·0	46·7	45·9	46·8	47·4	47·5	47·6	47·6	47·2	47·4	49·6	51·6	51·5	50·5	49·8	49·1	49·0	48·5	48·0	47·9	47·5	47·7	47·7	47·5
29*	48·4	48·3	47·9	48·9	48·4	47·6	47·5	46·5	46·1	46·5	48·4	50·1	51·1	50·5	50·1	49·2	48·4	48·3	47·9	47·5	47·6	47·5	47·5	47·5
30	47·9	48·0	47·6	47·5	47·3	47·0	47·5	46·9	46·1	46·9	49·5	52·5	52·8	52·8	52·4	51·7	49·7	49·4	48·5	48·1	47·6	47·4	47·3	47·5
31	47·6	48·1	48·1	48·0	47·8	47·5	47·5	46·8	46·5	46·5	49·3	52·0	53·3	52·3	52·1	51·8	50·3	49·5	48·9	48·2	47·7	47·5	47·4	47·5
Mean	47·3	47·9	47·9	48·1	48·1	48·0	48·2	47·5	46·8	47·2	49·3	51·8	52·8	52·7	52·0	50·5	49·4	48·5	48·2	47·7	47·3	46·9	47·1	46·7
Mean*	47·6	47·8	47·7	48·1	48·0	47·6	47·3	46·7	46·3	46·9	48·9	51·1	51·8	51·5	50·7	49·7	49·0	49·2	48·7	48·3	48·2	48·1	47·9	47·9
Mean**	47·3	48·1	47·8	47·9	48·7	48·2	48·7	48·2	47·2	48·1	50·4	52·9	54·1	54·3	53·3	50·9	49·6	45·9	45·9	45·9	45·1	45·3	46·6	45·2

* Denotes an International Quiet Day. ** Denotes an International Disturbed Day.

TABLE I.—HOURLY MEANS OF MAGNETIC DECLINATION AT ABINGER—*continued.*

	0h	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Noon	13h	14h	15h	16h	17h	18h	19h	20h	21h	22h	23h	24h
November.	11° + Tabular Quantities.																								
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
1	47·5	48·0	48·1	48·2	48·5	48·5	47·5	47·8	48·0	47·9	49·5	51·7	53·3	53·0	50·8	49·9	48·9	48·6	47·6	46·1	45·8	46·1	46·6	47·1	
2	47·7	48·5	48·2	47·7	47·5	47·2	47·0	46·7	46·2	48·1	50·6	51·9	51·8	51·8	50·4	49·8	50·1	48·2	46·8	44·6	44·8	45·8	47·5	48·1	
3	48·3	48·3	48·8	48·3	46·8	47·6	47·8	47·1	46·8	47·6	48·8	50·5	51·8	50·8	50·7	50·9	49·9	49·3	42·1	47·6	46·5	41·7	45·2	46·7	
4	48·5	48·7	47·9	48·8	49·1	48·7	47·6	46·8	46·6	47·6	48·5	50·6	51·5	51·1	49·6	49·5	50·2	49·5	48·6	45·8	39·1	43·1	45·5	46·1	
5	47·5	48·2	48·5	48·5	48·3	49·0	48·1	47·1	46·7	47·7	49·1	51·3	51·2	50·4	49·9	49·0	48·1	45·5	44·8	44·9	43·9	44·0	46·4	45·4	
6**	45·4	47·0	50·9	47·3	47·3	46·3	49·4	47·3	45·1	44·9	47·4	50·4	52·4	52·8	51·4	51·5	51·4	45·9	43·9	46·3	44·0	41·9	42·6	43·0	
7**	47·0	48·9	47·7	49·0	49·0	49·0	49·5	50·1	47·6	47·1	48·6	48·1	50·8	50·4	49·1	48·9	39·4	46·7	45·0	44·1	36·8	41·8	44·0	46·3	
8**	47·8	52·2	46·9	45·9	47·7	55·1	55·8	55·8	52·6	52·8	49·6	50·0	50·2	51·5	48·5	49·1	47·7	46·7	47·6	45·3	43·6	43·5	42·3	46·7	
9	48·6	47·4	47·1	47·3	49·4	48·7	49·8	48·1	48·2	48·1	49·7	50·2	51·1	51·0	49·5	48·4	47·5	48·0	46·6	47·7	42·6	45·1	47·2	47·1	
10	47·3	47·6	47·7	48·2	52·6	48·5	48·7	48·5	47·4	47·9	49·2	50·6	51·0	51·5	50·5	50·2	48·9	48·4	47·7	45·9	46·1	46·9	44·9	44·9	
11**	44·4	48·7	47·3	48·9	48·4	47·4	47·8	48·5	48·7	48·8	49·8	52·1	51·7	49·5	50·3	47·7	47·7	48·4	46·0	46·0	45·3	45·9	45·3	46·9	
12	48·6	47·6	47·6	47·1	48·6	47·6	46·8	46·6	46·2	47·4	48·8	50·1	50·5	49·8	48·5	47·7	47·9	46·7	43·1	45·5	46·6	46·1	46·4	44·5	
13	45·9	47·0	47·0	47·0	47·3	47·5	47·5	47·4	47·5	47·7	48·0	48·5	49·0	49·1	48·2	47·8	47·5	45·0	47·0	47·5	47·2	47·0	47·2	47·4	
14*	47·4	47·5	47·8	47·9	47·9	47·5	47·8	47·6	47·1	48·0	48·6	48·7	49·0	48·9	48·4	48·0	47·1	47·5	47·5	47·5	46·2	46·5	46·8	46·0	
15*	46·9	47·8	47·5	48·0	47·9	47·6	47·5	46·6	45·9	46·3	48·0	48·6	49·4	50·0	49·2	48·5	48·4	47·5	47·4	47·2	47·0	46·6	47·0	47·3	
16	47·6	47·6	47·6	48·0	48·0	47·8	47·0	47·8	47·6	47·5	48·5	50·0	50·9	51·3	49·9	48·6	48·0	47·3	47·2	47·1	46·6	46·9	46·9	47·2	
17*	46·9	45·9	46·2	47·3	47·4	47·2	46·8	46·5	46·1	46·7	48·4	49·0	48·9	48·7	48·2	48·3	48·3	48·2	48·5	47·6	46·3	46·3	46·3	46·6	
18	45·3	45·2	46·8	47·9	46·9	45·7	45·3	45·8	45·9	46·7	48·2	48·9	49·3	49·3	48·3	48·3	48·9	48·3	47·9	47·3	46·5	46·3	46·3	46·8	
19	47·2	47·3	47·4	48·4	47·7	47·0	46·2	46·0	46·4	47·4	49·0	49·0	49·5	48·7	48·1	47·8	47·8	48·3	47·4	46·9	46·1	44·5	43·2	40·4	
20	38·2	42·9	45·6	47·1	47·6	47·0	46·9	46·8	46·7	46·5	46·7	48·2	49·1	49·3	48·5	48·2	48·0	47·8	47·2	46·9	44·4	39·9	45·3	45·6	
21	43·4	39·8	43·5	45·6	46·8	46·8	46·6	46·6	46·7	46·7	48·3	49·0	49·3	49·9	50·1	44·7	48·8	48·6	47·7	47·3	46·7	44·7	43·6	45·2	
22	44·3	46·0	48·2	48·2	47·1	46·9	47·3	47·3	47·2	47·6	48·6	49·1	50·3	50·2	49·7	49·3	49·4	49·2	48·6	46·7	46·3	46·7	46·4	46·2	
23	45·6	45·7	45·2	46·0	46·1	44·5	46·1	46·2	46·7	47·1	48·6	49·2	49·8	50·3	50·0	48·6	47·2	47·0	47·0	47·5	45·9	43·9	46·4	47·2	
24*	47·0	47·5	48·0	47·7	47·1	46·8	47·0	47·8	47·5	47·9	49·0	50·0	50·7	50·5	49·9	49·0	48·8	48·6	48·5	48·1	47·8	47·5	47·5	47·4	
25	48·2	47·9	48·0	48·1	48·0	48·1	48·2	48·1	48·0	47·9	48·6	49·3	50·3	50·0	49·3	48·6	48·2	47·9	45·9	46·5	46·1	46·8	46·3	46·3	
26*	46·3	46·9	47·5	47·2	47·6	47·4	47·3	47·3	47·4	47·8	48·3	48·7	49·5	49·0	48·7	48·0	48·3	47·8	47·3	46·9	46·8	46·5	46·5	46·6	
27**	46·4	46·9	46·7	46·4	46·4	46·4	47·1	46·8	46·8	47·2	48·7	50·1	49·9	49·4	48·3	48·2	47·9	48·5	48·1	48·4	42·7	40·3	44·0	44·8	
28	45·2	46·8	47·3	47·3	46·8	46·6	46·8	50·4	51·1	50·0	50·4	49·7	49·5	49·5	50·3	49·2	47·7	48·2	47·8	46·8	46·7	46·5	46·5	46·2	
29	45·7	46·1	46·3	47·9	47·1	46·4	46·6	47·0	47·1	47·9	48·9	49·6	49·6	49·8	49·2	48·9	47·8	45·0	47·2	46·5	45·7	46·1	46·2	47·0	
30	46·0	47·1	48·2	47·6	46·9	46·6	46·3	46·4	45·9	46·9	48·4	48·9	49·7	48·9	48·2	47·7	47·4	47·0	46·9	44·7	44·9	46·2	46·5	46·9	
Mean	46·4	47·1	47·4	47·6	47·8	47·6	47·7	47·6	47·3	47·7	48·8	49·7	50·4	50·2	49·4	48·7	48·1	47·7	46·8	46·6	45·2	45·0	45·8	46·1	
Mean*	46·9	47·1	47·4	47·6	47·6	47·3	47·3	47·2	46·8	47·3	48·5	49·0	49·5	49·4	48·9	48·4	48·2	47·9	47·8	47·5	46·8	46·7	46·8	46·8	
Mean**	46·2	48·7	47·9	47·5	47·8	48·8	49·9	49·7	48·2	48·2	48·8	50·1	51·0	50·7	49·5	49·1	46·8	47·2	46·1	46·0	42·5	42·7	43·6	45·5	
December.	11° + Tabular Quantities.																								
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
1*	46·8	47·8	47·3	47·8	47·3	47·1	46·8	46·6	46·3	47·0	48·6	49·5	49·2	48·8	48·1	47·7	47·3	47·3	47·2	47·0	46·6	46·6	46·8	47·0	
2	47·3	47·7	48·0	48·3	47·3	46·4	47·0	47·0	47·0	47·9	48·9	49·5	49·3	49·0	48·3	48·0	47·8	48·0	47·0	46·5	46·0	44·9	44·0	46·0	
3**	48·3	47·7	47·8	48·0	48·0	47·8	47·4	47·1	47·4	48·1	49·4	50·5	52·6	53·3	52·0	50·4	49·0	48·0	47·3	39·6	44·0	38·0	41·5	46·0	
4**	47·2	47·5	47·9	48·3	49·9	50·4	52·9	52·4	49·0	47·4	49·4	50·5	51·8	50·8	49·7	45·6	47·6	42·5	42·5	45·1	44·6	44·7	46·1	46·6	
5**	46·9	47·0	47·4	48·2	51·1	49·5	48·8	49·2	49·0	48·0	49·2	49·0	49·8	50·1	42·4	44·8	47·2	41·2	46·4	44·7	42·3	41·3	41·1	43·8	
6	44·3	46·1	46·6	45·6	47·5	46·9	46·8	46·7	46·7	46·6	47·6	49·6	48·7	49·2	47·7	45·7	46·7	46·9	46·9	46·2	45·8	43·2	44·1	45·7	
7	46·8	49·0	47·9	47·1	47·1	47·2	47·8	47·8	47·2	47·6	48·4	48·4	49·8	46·9	47·9	47·4	47·1	46·9	46·2	40·2	46·5	45·7	43·9	45·6	
8	45·9	47·0	47·9	47·2	47·3	47·0	47·2	46·6	46·4	47·2	48·5	49·0	49·1	49·1	48·4	47·2	47·5	47·0	47·0	46·0	46·0	46·4	46·0	46·3	
9**	46·7	47·0	47·5	47·8	47·8	47·5	47·0	47·1	46·8	47·0	48·5	49·6	50·5	50·4	49·7	48·1	47·4	45·3	44·6	38·7	36·5	37·0	36·0	43·0	
10**	44·3	46·8	47·1	47·9	48·3	48·0	48·0	47·5	48·1	48·7	49·5	50·0	49·5	49·3	48·7	48·4	48·0	44·9	43·3	41·2	43·0	43·7	44·9	43·6	
11	45·9	46·3	47·2	48·1	47·7	47·6	47·3	46·8	46·3	46·4	47·8	48·8	49·3	49·2	48·4	47·4	48·2	48·3	45·1	47·3	46·3	46·0	44·6	45·6	
12	46·0	46·9	47·8	47·8	47·7	47·4	47·3	47·3	47·2	47·4	48·4	49·5	49·4	49·3	48·5	48·3	49·1	49·3	48·0	47·0	46·8	45·9	46·5	46·4	
13	46·4	47·9	47·9	47·8	47·3	46·9	47·0	47·0	47·0	47·4	48·5	49·7	50·0	49·8	48·9	48·5	47·2	47·6	47·5	46·5	46·7	46·1	46·0	46·4	
14*	46·3	47·2	47·3	47·4	47·3	47·0	47·0	47·0	47·2	47·3	49·2	50·1	49·9	49·6	48·3	47·7	47·5	47·2	46·7	46·9	46·2	46·4	46·9	47·5	
15*	47·6	47·7	48·1	48·0	47·6	47·6	47·3	47·1	47·1	48·0	49·2	49·7	49·7	49·6	49·1	48·6	47·5	46·9	46·6	46·5	45·1	45·6	46·7	47·4	
16	47·5	47·6	47·7	47·6	47·7	47·5	47·0	46·8	46·6	46·7	47·5	48·2	49·4	49·3	48·4	47·9	47·6	48·5	47·9	48·3	46·5	45·7	45·2	45·6	
17	46·6	47·1	47·6	47·6	47·6	47·6	46·8	46·7	46·8	47·8	48·7	49·1	50·7	49·0	48·1	47·9	47·9	48·0	48·0	47·8	46·8	44·1	44·5	45·3	
18	45·7	45·6	43·6	43·2	45·0	44·9	46·9	46·9	46·7	47·8	48·4	48·4	49·2	48·9	48·3	47·6	47·4	47·3	48·0	43·6	47·8	45·1	38·9	44·8	
19	45·2	47·1	50·4	46·8	47·4	46·8	47·1	47·3	47·5	47·5	47·4	48·5	48·9	49·5	50·1	47·9	47·8	47·6	46·9	46·8	44·9	45·7	45·8	44·9	
20	45·6	46·2	46·5	46·9	46·9	46·9	46·9	46·3	46·5	47·2	47·9	48·9	50·0	49·9	48·4	47·0	46·4	46·9	46·9	46·9	45·0	43·2	45·2	45·5	
21	45·9	46·3	46·2	46·3	46·0	46·1	46·6	46·4	46·0	46·9	48·0	48·5	48·3	48·1	48·0	47·2	47·0	47·3	47·0	44·3	46·5	46·0	45·7	46·0	
22	46·2	46·9	46·9	46·7	47·2	47·0	46·2	46·2	45·9	45·9	46·9	47·6	48·9	49·3	48·5	46·9	48·0	48·1	46·7	46·5	46·0	43·4	40·9	44·4	
23	46·0	46·8	46·7	46·4	46·7	46·3	46·3	45·9	45·8	46·0	47·3	48·2	49·0	48·2	47·4	46·8	46·4	47·1	47·2	46·3	45·9	45·2	44·8	45·8	
24*	46·0	45·8	46·0	45·9	46·2	46·0	46·2	46·2	46·3	46·4	46·7	47·2	48·4	48·9	48·2	47·2	46·9	47·3	47·1	47·0	46·3	45·6	45·4	45·8	
25	46·6	47·0	47·0	46·4	46·8	46·9	46·6	46·2	46·3	47·6	48·4	49·1	50·1	50·1	49·1	47·9	48·2	48·3	46·5	46·3	46·5	45·8	44·3	44·7	
26	46·4	47·0	47·9	47·4	47·0	46·5	46·5	46·4	46·9	47·4	48·1	49·0	50·0	49·2	47·8	47·0	46·8	46·6	46·5	45·5	44·9	44·3	45·5	46·0	
27	46·9	47·1	46·3	46·0	46·2	46·2	46·3	45·7	45·0	45·8	46·9	48·0	49·0	48·0	47·8	47·3	46·7	46·4	47·4	47·6	46·4	45·4	45·5	45·7	
28	45·9	46·0	46·0	46·1	46·4	46·1	46·2	45·7	45·1	45·8	47·1	48·1	49·1	48·7	48·0	48·1	47·5	47·5	46·6	46·1	44·7	44·1	43·9	36·4	
29	41·5	44·2	44·0	42·1	44·8	45·9	46·1	45·6	44·6	45·2	46·0	46·8	47·3	47·3	46·8	46·9	46·6	47·0	46·3	44·8	44·9	45·2	45·3	45·6	
30*	46·2	46·5	46·4	46·8	46·8	45·9	45·9	45·5	45·1	45·7	46·7	47·3	48·2	48·0	47·3	46·6	46·7	46·6	46·3	46·3	45·8	45·8	45·2	45·7	
31	46·3	46·5	47·2	47·3	47·4	47·1	46·4	45·9	45·4	46·3	46·9	47·4	48·3	48·1	47·3	47·1	47·1	46·9	46·8	46·2	45·5	45·4	45·4	46·0	
Mean	46·2	46·9	47·1	46·9	47·3	47·0	47·1	46·9	46·6	47·0	48·1	48·8	49·5	49·2	48·3	47·5	47·4	46·9	46·6	45·5	45·4	44·6	44·4	45·3	
Mean*	46·6	47·0	47·0	47·2	47·0	46·7	46·6	46·5	46·4	46·9	48·1	48·8	49·1	49·0	48·2	47·6	47·2	47·1	46·8	46·7	46·0	46·0	46·2	46·7	
Mean**	46·7	47·2	47·5	48·0	49·0	48·6	48·8	48·7	48·1	47·8	49·2	49·9	50·8	50·8	48·5	47·5	47·8	44·4	44·8	41·9	42·1	40·9	41·9	44·6	

* Denotes an International Quiet Day. ** Denotes an International Disturbed Day.

TABLE II.—HOURLY MEANS OF HORIZONTAL COMPONENT OF MAGNETIC FORCE AT ABINGER.

	0h	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Noon	13h	14h	15h	16h	17h	18h	19h	20h	21h	22h	23h	24h
January.	18000 γ + Tabular Quantities (in γ).																								
1**	534	527	527	532	534	540	540	541	543	539	534	533	535	538	533	527	525	527	527	517	531	515	524	526
2	524	529	533	526	530	536	536	538	530	530	529	527	525	533	536	534	533	531	518	517	528	536	532	525
3	525	530	533	532	532	533	537	539	538	538	536	534	538	533	539	538	537	536	537	533	533	536	534	532
4*	532	535	534	536	538	539	540	539	533	528	528	528	530	535	533	534	536	533	538	538	538	538	537	534
5*	533	533	534	534	536	539	542	541	542	539	535	537	539	540	542	541	541	541	541	541	541	540	540	540
6	540	539	540	542	538	553	563	545	541	527	501	510	511	508	504	524	521	524	526	534	536	530	530	527
7	528	525	529	530	539	537	533	533	530	525	524	525	527	526	528	528	517	502	516	527	533	533	534	531
8	530	535	536	533	537	543	549	543	535	532	533	527	520	520	531	535	536	533	529	532	533	533	539	543
9	539	536	537	538	540	542	543	547	541	540	542	546	544	540	539	536	526	531	530	532	528	531	541	536
10*	535	536	537	539	539	542	543	543	543	538	535	532	530	528	535	540	539	536	531	533	535	535	536	536
11*	536	538	538	539	541	544	545	546	545	540	535	528	531	535	533	535	535	536	536	537	535	534	536	537
12	536	538	542	541	543	546	547	549	546	541	537	537	539	545	541	539	543	546	543	543	541	538	539	538
13	537	536	538	541	543	545	546	547	548	546	543	541	544	545	543	541	540	542	541	538	538	539	536	539
14	536	536	541	539	541	544	546	549	547	542	538	537	536	540	542	545	545	545	542	542	545	524	514	508
15	524	530	535	536	539	536	565	537	504	516	519	508	506	511	515	519	520	523	521	520	522	534	529	518
16	521	527	531	529	532	541	533	528	517	511	514	511	508	520	523	517	524	529	532	534	533	533	534	534
17	532	533	534	537	539	540	542	544	533	511	528	532	529	529	533	533	535	533	533	536	535	536	533	533
18	533	533	533	535	538	542	541	539	538	532	523	521	524	531	531	533	536	536	536	538	538	533	538	538
19**	537	536	537	538	546	542	544	541	538	541	537	535	536	528	512	487	495	507	515	515	524	523	519	520
20	523	529	533	535	534	564	550	549	536	527	523	523	528	528	528	531	528	529	533	533	531	531	531	534
21*	531	532	533	536	538	541	544	544	541	538	531	528	528	533	533	536	536	540	541	541	538	534	534	532
22**	532	532	533	534	536	538	542	538	536	530	526	523	521	522	(520)	517	506	491	490	511	515	530	497	512
23	525	523	511	516	522	526	532	529	526	522	521	513	516	515	506	526	526	522	521	517	514	531	542	514
24	517	535	513	512	521	527	529	525	525	522	520	510	509	523	530	531	528	512	525	522	522	525	522	522
25	517	525	527	525	525	532	539	533	520	517	520	517	520	522	509	508	515	524	522	527	533	523	514	522
26	521	523	547	527	532	534	533	531	527	514	521	526	528	531	518	515	520	517	537	534	539	528	523	521
27**	521	546	533	529	519	531	534	534	524	514	503	517	522	531	532	527	520	511	510	505	507	544	521	510
28**	533	521	532	532	528	531	531	529	520	512	508	511	517	511	521	515	518	521	528	523	533	522	512	544
29	521	521	526	525	531	527	531	533	531	521	513	515	509	506	518	507	509	516	521	532	545	535	524	529
30	528	530	529	522	534	529	536	532	537	519	511	514	523	528	527	515	523	533	533	531	526	531	518	518
31	524	523	527	524	529	533	533	529	528	529	523	520	523	521	526	533	526	526	531	530	532	546	533	527
Mean	529	531	533	532	535	539	541	539	534	528	526	525	526	528	528	527	527	527	529	530	532	532	529	528
Mean*	533	535	535	537	538	541	543	543	541	537	532	531	532	534	535	537	537	537	537	538	537	536	537	536
Mean**	531	532	532	533	533	536	538	537	532	527	522	524	526	526	524	515	513	511	514	514	522	527	515	522
February.	18000 γ + Tabular Quantities (in γ).																								
1	526	527	527	529	532	532	533	533	533	527	520	521	527	531	532	533	533	533	535	534	535	533	541	535
2	536	536	533	536	544	548	544	540	538	536	533	529	522	522	528	518	511	514	531	527	528	538	532	532
3	532	535	536	536	537	540	539	537	537	534	527	521	513	514	520	528	532	537	539	538	539	536	532	533
4	541	536	533	536	536	538	539	539	537	529	534	540	541	539	536	533	527	529	538	540	535	535	531	534
5	532	537	539	543	543	544	542	544	548	548	541	539	538	536	533	533	536	542	544	544	542	541	540	539
6*	536	538	539	539	537	542	542	539	535	531	531	530	528	529	532	532	533	533	536	537	537	540	543	544
7	545	544	545	545	543	552	553	561	560	550	539	544	541	532	533	538	539	536	539	543	540	544	540	538
8	537	538	537	538	537	540	539	542	529	526	530	531	534	533	534	537	538	539	539	538	534	537	535	534
9	537	535	538	545	542	544	542	539	533	532	530	531	531	530	531	530	529	533	534	530	522	524	530	533
10	538	536	532	539	543	540	539	539	538	532	530	525	527	529	533	532	537	539	538	539	538	535	535	534
11*	535	537	538	538	539	540	540	542	542	535	534	532	538	544	548	544	542	540	537	538	539	539	539	539
12	540	543	543	545	548	546	545	541	542	540	540	543	544	543	539	533	530	532	533	535	535	535	537	538
13*	539	542	543	542	541	540	539	538	531	523	520	520	530	532	534	535	536	536	537	538	537	538	537	538
14	540	546	545	545	547	547	543	543	544	543	539	533	526	522	533	534	535	537	537	509	520	534	537	537
15	527	542	546	539	542	539	544	547	539	533	529	529	520	525	528	516	508	504	528	534	536	545	538	537
16*	532	534	534	536	536	536	539	537	532	526	522	520	525	525	527	530	533	534	535	535	534	535	534	533
17*	533	533	534	536	538	540	540	539	536	529	523	522	524	529	534	537	538	540	543	543	543	541	539	539
18	540	542	542	542	543	543	545	546	540	534	532	531	536	539	543	544	543	540	536	534	537	537	537	534
19**	532	530	541	534	537	541	552	552	548	547	547	513	509	511	505	502	507	514	517	526	499	519	522	561
20	527	495	498	513	510	517	523	525	530	511	515	527	507	512	521	507	513	518	507	514	525	525	526	550
21**	530	522	518	550	553	531	521	526	529	522	516	509	506	509	491	486	502	508	512	539	522	525	581	511
22**	572	528	514	513	506	499	518	514	514	518	513	510	515	507	509	515	523	520	530	521	512	525	544	535
23**	517	520	528	525	530	528	533	513	520	522	518	520	524	521	497	491	502	505	512	526	523	526	512	528
24**	515	520	515	512	516	518	523	518	524	524	520	487	510	505	495	489	516	506	488	507	521	552	563	511
25	514	521	514	513	524	525	528	518	512	510	486	501	514	518	523	521	526	530	523	529	524	533	552	509
26	514	518	515	537	521	524	508	520	519	518	516	505	520	523	518	521	518	523	526	529	529	573	521	515
27	518	521	520	527	530	525	524	526	531	524	512	503	513	516	520	519	521	525	524	526	527	540	539	532
28	525	517	521	524	529	530	531	529	523	515	512	510	517	524	528	531	533	535	535	535	535	535	533	522
Mean	533	531	531	534	535	535	536	535	534	529	525	522	524	525	525	524	527	528	530	532	530	536	538	533
Mean*	535	537	538	538	538	540	540	539	535	529	526	525	529	532	535	536	536	537	538	538	538	539	538	539
Mean**	533	524	523	527	528	523	529	525	527	527	523	508	513	511	499	497	510	511	512	524	515	529	544	529

* Denotes an International Quiet Day. ** Denotes an International Disturbed Day.

TABLE II.—HOURLY MEANS OF HORIZONTAL COMPONENT OF MAGNETIC FORCE AT ABINGER—*continued.*

	0h	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Noon	13h	14h	15h	16h	17h	18h	19h	20h	21h	22h	23h	24h
March.	18000 γ + Tabular Quantities (in γ).																								
1	529	527	533	530	531	535	534	532	529	522	516	516	526	524	525	529	528	532	538	533	534	533	534	543	
2	545	531	537	537	540	544	541	539	535	530	525	522	533	538	541	539	539	539	539	536	532	534	531	533	
3	531	531	536	537	542	544	544	542	543	540	538	531	533	531	534	537	530	527	538	538	537	540	535	534	
4	535	536	539	534	542	544	549	549	548	536	531	532	526	529	531	534	536	536	534	529	531	535	536	535	
5*	536	535	535	537	539	542	540	539	540	536	529	526	525	530	535	538	538	538	542	541	543	541	541	540	
6*	539	539	537	541	542	545	547	551	547	541	532	532	536	534	532	534	534	539	543	543	544	543	542	540	
7*	540	541	542	542	544	546	545	548	550	544	540	538	539	539	535	536	539	540	542	544	544	546	552	548	
8	547	546	544	550	551	552	552	553	548	540	535	534	530	532	534	535	539	540	544	549	542	538	534	538	
9*	539	537	537	537	539	542	542	539	533	532	530	527	527	534	536	539	540	542	544	544	542	545	543	543	
10	536	546	539	537	540	546	547	550	547	539	534	537	543	544	542	541	545	546	547	547	542	534	542	543	
11	544	568	550	530	533	544	541	542	537	531	521	524	515	519	533	532	528	531	536	537	542	539	542	542	
12	541	541	542	539	539	541	541	542	534	526	520	519	521	528	532	538	535	536	538	544	541	539	539	547	
13	542	542	544	548	547	553	547	549	546	539	535	538	536	539	549	538	516	524	536	537	539	542	541	541	
14	544	543	543	546	550	540	547	538	532	527	523	526	524	543	547	540	530	531	530	532	536	538	537	536	
15	537	538	539	541	542	542	542	545	544	538	530	521	513	519	534	538	538	538	539	539	538	537	538	537	
16*	540	540	541	541	542	545	544	545	542	534	529	529	535	538	541	542	541	540	538	542	541	541	541	540	
17	542	545	544	545	545	548	548	550	548	536	526	529	529	530	529	540	547	541	541	544	548	552	548	549	
18**	549	546	558	572	565	580	549	538	531	522	517	507	517	528	540	518	529	546	524	542	547	548	580	502	
19**	510	528	525	532	535	528	531	537	532	525	518	516	529	532	531	547	522	519	525	553	518	517	521	533	
20**	530	535	535	529	516	519	527	526	527	514	486	503	516	524	528	536	519	509	503	549	535	529	551	529	
21	533	541	545	537	532	529	527	520	514	477	458	491	514	527	513	525	510	518	529	537	541	537	549	524	
22	548	535	509	523	532	538	521	526	521	503	521	487	509	514	511	519	538	528	555	526	554	554	541	535	
23**	540	536	532	541	517	523	545	540	527	521	509	514	500	522	518	509	517	538	534	536	544	541	525	521	
24**	519	533	515	523	536	527	508	523	518	505	500	506	506	530	531	534	521	535	521	513	521	534	552	553	
25	524	527	517	514	530	523	515	508	497	498	497	500	502	565	518	518	528	526	528	533	528	531	534	532	
26	528	525	528	527	528	530	531	526	505	498	512	519	522	530	531	536	530	532	531	539	543	543	545	540	
27	541	543	543	541	546	548	543	548	534	514	516	522	506	519	509	527	545	507	530	523	519	527	532	533	
28	540	530	531	532	530	530	530	526	526	524	515	519	526	533	518	519	527	532	532	530	544	537	543	560	
29	532	531	534	534	530	536	536	537	519	506	493	510	531	536	535	531	531	531	531	539	539	540	557	540	
30	531	534	533	531	534	531	528	523	518	516	515	515	520	525	526	527	532	536	539	536	535	538	543	544	
31	541	547	541	531	534	536	537	536	528	519	506	510	526	535	540	535	536	538	535	543	541	541	543	557	
Mean	537	538	536	537	538	540	538	538	532	524	518	519	523	529	531	533	532	533	535	538	538	539	542	539	
Mean*	539	538	538	540	541	544	544	544	542	537	532	530	532	535	536	538	539	540	542	543	543	543	544	542	
Mean**	530	536	533	539	534	535	532	533	527	517	506	509	514	527	530	529	522	529	521	539	533	534	546	528	
April.	18000 γ + Tabular Quantities (in γ).																								
1	547	541	535	538	540	544	541	540	531	528	524	518	528	531	541	536	536	531	536	534	547	541	539	544	
2	541	534	535	536	540	539	539	539	537	532	528	528	526	526	530	532	536	536	541	532	530	524	528	531	
3	541	539	531	532	532	541	544	547	531	511	499	492	499	528	528	531	532	531	534	534	534	538	545	540	
4	542	542	562	534	525	538	541	533	533	526	521	519	519	525	530	534	537	539	538	540	539	545	546	539	
5	534	536	530	533	536	537	545	543	538	526	516	513	516	522	521	523	526	533	536	540	540	540	541	542	
6	542	533	540	534	538	542	540	534	531	526	521	513	510	515	519	533	542	546	548	548	540	537	539	540	
7	542	542	538	536	534	545	543	545	533	523	518	510	513	514	526	518	527	543	536	540	530	531	536	537	
8	536	536	537	533	536	537	541	531	526	534	523	516	521	525	528	533	533	535	546	541	544	546	548	559	
9	546	534	537	541	541	541	538	528	516	497	506	513	516	522	519	520	534	537	538	539	542	544	544	546	
10	544	539	540	542	542	537	535	533	526	526	514	515	521	527	521	537	542	542	542	545	545	542	543	545	
11*	541	538	539	541	541	537	537	538	527	529	525	529	530	531	531	537	538	538	537	540	538	538	540	543	
12*	540	543	543	543	546	542	543	540	535	530	520	518	520	528	537	543	543	543	540	543	545	544	543	543	
13*	544	543	544	544	544	544	544	541	533	515	514	515	523	536	537	544	546	550	544	544	544	545	544	546	
14	545	545	545	545	546	547	547	545	539	531	525	520	522	522	525	542	537	535	536	530	531	540	535	537	
15**	537	538	539	537	540	533	543	538	536	533	524	517	514	519	530	535	538	547	534	516	514	501	505	516	
16**	525	537	537	527	522	534	535	530	522	514	509	513	511	516	507	535	543	537	540	540	528	535	544	571	
17**	561	532	518	535	537	532	520	522	519	511	488	468	478	485	526	520	516	518	530	537	544	547	555	539	
18	528	541	545	521	526	514	534	531	520	515	512	510	502	500	502	518	534	546	537	539	532	526	536	520	
19**	540	534	519	525	524	528	531	510	516	514	500	490	493	519	524	532	536	533	549	551	542	533	562	538	
20	529	528	529	531	534	514	517	525	515	503	496	503	528	527	520	534	519	529	532	539	548	534	532	537	
21	537	540	525	533	523	525	524	514	513	504	492	499	514	522	530	533	547	545	533	543	533	539	594	535	
22	535	536	522	527	517	520	529	502	483	488	500	507	512	522	512	533	533	551	546	543	574	559	540	540	
23	533	533	533	534	535	526	503	525	525	517	512	518	520	507	506	523	535	536	537	527	559	527	535	535	
24	535	530	530	527	530	520	520	515	506	497	504	518	528	539	540	536	540	541	534	534	538	536	552	549	
25	534	530	530	531	531	531	531	525	514	502	502	511	519	526	547	540	534	548	540	539	536	535	538	543	
26	560	541	536	531	533	534	531	522	516	516	517	524	522	519	530	547	550	534	532	537	541	533	534	537	
27	536	534	536	533	534	531	531	528	517	511	513	520	531	534	536	534	540	537	538	548	554	549	546	542	
28*	531	534	537	533	532	534	530	523	521	513	512	519	521	528	530	538	540	547	543	541	540	533	539	546	
29*	549	540	536	534	534	535	532	527	519	514	517	520	520	519	534	539	545	549	549	544	544	541	545	543	
30**	542	538	537	537	538	539	537	535	527	515	512	518	523	527	536	549	573	559	569	583	557	538	554	548	
Mean	540	537	536	534	534	534	534	530	524	517	512	513	517	522	527	534	538	540	540	540	541	537	543	541	
Mean*	541	540	540	539	539	538	537	534	527	520	518	520	523	528	534	540	542	545	543	542	542	540	542	544	
Mean**	541	536	530	532	532	533	533	527	524	517	507	501	504	513	525	534	541	539	544	545	537	531	544	542	

* Denotes an International Quiet Day. ** Denotes an International Disturbed Day.

TABLE II.—HOURLY MEANS OF HORIZONTAL COMPONENT OF MAGNETIC FORCE AT ABINGER—*continued.*

	0h	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Noon	13h	14h	15h	16h	17h	18h	19h	20h	21h	22h	23h	24h
May.	18000 γ + Tabular Quantities (in γ).																								
1**	525	22	522	524	525	525	544	538	528	530	523	530	530	490	530	529	560	509	466	491	470	485	478	494	
2	471	520	505	504	507	507	503	501	504	501	502	504	504	507	511	515	516	524	531	529	527	524	538	525	
3	527	520	526	517	528	520	518	505	513	516	514	494	504	515	520	528	533	532	522	533	533	536	540	544	
4	535	528	526	533	538	537	529	533	528	524	520	515	517	518	528	516	527	533	534	548	529	534	533	534	
5	538	535	530	534	530	528	530	535	526	517	512	517	520	514	536	536	547	545	540	542	540	538	543	552	
6	545	545	555	537	521	516	526	523	511	503	498	497	518	517	532	534	535	539	541	533	540	540	543	563	
7	560	539	533	535	535	531	521	517	513	511	510	509	511	511	518	534	535	538	537	535	538	540	539	538	
8	535	538	533	534	533	532	531	528	522	518	514	520	526	529	531	540	540	540	546	542	545	547	545	543	
9*	541	540	537	537	535	533	527	520	516	513	517	523	527	530	534	540	540	542	545	545	543	544	545	544	
10*	543	539	537	538	541	534	528	520	504	514	521	529	534	536	540	543	540	542	544	546	546	545	544	542	
11	542	546	546	539	544	541	539	533	525	513	507	510	524	533	533	541	540	546	544	547	543	544	543	544	
12*	541	541	542	546	546	542	538	528	519	515	520	527	529	531	537	540	544	553	554	554	555	554	547	549	
13	549	551	549	542	538	550	556	549	537	528	519	519	512	525	535	541	549	551	547	547	549	550	544	543	
14	558	538	541	542	544	542	538	530	518	527	534	540	534	540	549	547	532	544	549	547	529	528	524	523	
15	527	529	529	534	549	537	523	517	513	514	510	515	517	517	520	532	542	555	552	549	543	551	568	545	
16	529	527	533	533	533	535	530	520	514	510	514	516	516	525	525	531	538	551	556	554	544	541	531	535	
17	531	537	542	534	534	531	529	527	525	523	521	521	523	527	537	535	549	563	553	544	541	541	532	543	
18**	546	529	538	525	538	508	521	500	510	497	482	496	495	504	515	522	531	547	544	548	542	541	545	546	
19	540	533	528	529	528	529	525	520	519	512	511	509	512	509	520	534	540	545	553	553	546	540	534	535	
20	538	541	540	533	531	526	525	522	521	521	527	526	527	531	533	545	542	541	544	547	549	546	552	545	
21	540	541	541	541	541	533	517	518	521	519	524	527	527	527	531	535	540	543	547	546	545	542	541	547	
22	547	551	542	540	543	537	529	521	514	517	525	534	532	529	524	544	542	540	545	550	545	545	551	546	
23	545	541	538	537	538	530	525	520	520	525	528	529	535	535	534	537	535	550	557	555	549	559	551	545	
24*	542	541	(541)	(541)	541	536	530	524	516	521	529	529	530	535	551	547	554	561	562	560	557	553	552	551	
25	551	562	548	546	545	540	540	532	516	511	513	523	520	523	535	537	546	555	562	565	560	556	554	552	
26*	550	546	546	545	545	543	537	531	525	520	521	526	532	539	542	543	541	545	546	550	552	551	551	549	
27	549	548	548	550	550	544	539	532	531	535	537	539	543	541	548	561	557	570	554	546	554	557	552	541	
28	544	561	552	541	539	533	533	528	520	520	524	526	526	530	535	542	549	552	554	553	548	547	549	548	
29**	549	549	549	551	553	550	552	549	539	531	531	531	539	544	546	546	545	543	560	554	537	548	547	554	
30**	543	552	541	541	536	536	533	521	507	502	502	507	507	513	518	530	556	536	552	544	554	552	552	558	
31**	553	549	546	549	547	542	531	536	531	531	520	516	524	532	489	524	544	557	546	544	545	549	549	548	
Mean	540	540	538	537	537	533	531	525	520	517	517	520	522	524	530	536	542	545	545	545	542	543	543	543	
Mean*	543	541	541	541	542	538	532	525	516	517	522	527	530	534	541	543	544	549	550	551	551	549	548	547	
Mean**	543	540	539	538	540	532	536	529	523	518	512	516	519	517	520	530	547	538	534	536	530	535	534	540	
June.	18000 γ + Tabular Quantities (in γ).																								
1**	545	544	546	552	556	560	539	526	528	528	522	520	514	522	525	547	552	544	542	548	550	539	537	537	
2	542	539	539	538	539	537	536	534	533	522	513	508	518	529	540	543	539	540	555	552	552	547	549	544	
3	547	547	542	540	543	542	531	519	513	519	524	524	523	532	536	543	545	540	540	546	546	549	544	540	
4	539	542	542	540	540	540	537	529	526	527	527	520	521	527	536	539	543	543	544	551	551	548	545	544	
5*	547	543	540	538	542	540	535	530	529	525	522	528	532	535	537	538	541	546	547	546	545	547	546	545	
6*	546	546	544	543	543	539	531	530	530	531	530	537	540	541	542	544	544	546	547	548	552	552	550	550	
7	552	558	549	550	546	539	532	532	527	526	530	531	541	544	545	554	557	554	551	551	555	558	558	558	
8	553	543	545	547	545	544	533	526	511	514	523	527	536	543	553	551	550	552	566	540	544	532	534	537	
9	530	541	535	529	527	532	530	529	523	520	519	518	510	511	519	535	531	530	541	544	540	540	537	537	
10	542	535	535	535	535	534	531	529	524	521	515	514	514	519	535	554	548	548	553	550	548	544	540	538	
11	538	541	541	543	546	542	538	529	520	514	515	513	519	528	541	542	548	551	550	549	548	547	541	541	
12	540	542	539	540	542	544	542	534	526	521	519	518	516	522	534	543	549	553	559	556	555	550	544	543	
13**	557	550	555	591	548	526	528	516	506	510	507	505	511	524	527	540	538	543	558	551	551	545	538	535	
14**	531	540	527	531	529	529	527	504	496	507	513	504	504	522	526	524	535	546	548	553	552	547	547	560	
15	541	544	549	551	537	533	528	529	530	521	510	517	522	527	531	540	542	552	555	552	552	556	557	547	
16*	541	539	539	539	539	538	533	528	523	521	523	523	521	524	536	541	543	544	544	552	549	548	546	544	
17	540	542	541	541	542	540	535	538	534	533	534	539	531	523	528	535	544	548	546	549	549	542	545	542	
18*	540	539	539	539	538	537	538	536	534	533	536	531	528	531	538	543	544	545	547	545	542	547	550	553	
19	551	540	541	541	541	544	544	540	537	537	543	544	537	542	546	549	554	554	558	559	552	549	545	545	
20**	548	571	551	558	547	540	540	554	532	510	511	524	532	542	528	536	561	559	564	561	559	558	568	553	
21	556	547	543	541	539	533	525	518	523	528	519	525	509	525	536	546	549	555	556	555	555	558	558	560	
22	559	557	549	545	546	539	534	530	519	520	522	534	539	541	549	552	554	548	552	550	552	550	549	549	
23	548	547	547	546	547	544	535	527	521	516	519	530	537	545	550	552	553	552	554	553	552	553	550	548	
24*	548	551	550	553	556	551	543	532	524	518	522	532	545	550	553	559	558	560	562	556	556	553	551	550	
25	549	550	552	552	553	553	547	539	531	522	530	531	537	544	556	569	561	553	567	537	540	554	546	547	
26	551	559	549	552	545	534	533	531	526	517	510	527	532	535	541	544	545	540	540	543	546	551	551	551	
27	551	548	548	551	553	551	546	543	524	506	509	527	528	538	527	536	556	555	556	551	552	553	551	556	
28**	573	561	545	545	549	546	538	537	532	522	522	522	533	543	535	540	549	545	564	553	553	561	555	561	
29	551	556	551	558	548	535	533	532	519	520	519	521	519	525	532	535	553	564	554	555	549	543	543	547	
30	543	544	548	540	546	548	544	535	522	517	521	518	519	521	534	549	547	551	549	552	551	549	547	552	
Mean	547	547	544	546	544	541	536	531	524	521	521	524	526	532	537	544	548	549	552	550	550	549	547	547	
Mean*	544	544	542	542	544	541	536	531	528	526	527	530	533	536	541	545	546	548	549	549	549	549	549	548	
Mean**	551	553	545	555	546	540	534	527	519	515	515	515	519	531	528	537	547	547	555	553	553	550	549	549	

* Denotes an International Quiet Day. ** Denotes an International Disturbed Day.

TABLE II.—HOURLY MEANS OF HORIZONTAL COMPONENT OF MAGNETIC FORCE AT ABINGER—*continued.*

	0h	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Noon	13h	14h	15h	16h	17h	18h	19h	20h	21h	22h	23h	24h
July.	18000 γ + Tabular Quantities (in γ).																								
1	548	545	541	540	543	543	542	537	531	523	517	526	524	536	543	547	550	560	566	562	554	551	553	556	
2	551	549	544	546	547	543	531	527	522	519	520	526	528	521	522	535	537	548	554	552	552	552	553	550	
3	551	563	550	551	559	555	549	547	543	538	535	539	540	542	545	546	550	560	551	551	549	550	549	552	
4	549	550	549	550	548	543	543	540	538	536	534	533	532	541	538	543	550	553	560	556	555	549	548	545	
5	542	539	547	550	542	542	541	534	537	529	528	532	537	539	538	536	536	547	549	549	551	551	554	556	
6	555	553	546	542	538	545	546	541	530	522	518	522	533	536	536	536	536	541	547	554	551	551	551	548	
7	547	545	546	546	549	548	543	536	522	513	515	526	540	541	547	553	555	550	553	554	555	547	549	557	
8	555	548	548	552	552	546	538	528	516	501	495	508	523	533	546	558	565	557	558	555	573	589	593	579	
9**	570	552	545	546	548	548	541	524	512	488	515	529	495	518	535	531	540	545	544	547	538	542	540	540	
10	540	540	540	538	535	537	532	529	519	511	520	514	518	523	526	537	551	558	561	565	548	559	554	546	
11	538	540	538	546	545	543	537	528	522	507	507	504	511	540	550	534	549	550	548	546	547	544	545	547	
12	550	540	536	536	547	543	530	520	519	518	516	517	514	527	540	548	552	560	546	551	548	544	540	549	
13*	541	539	539	541	543	538	536	530	522	519	520	527	533	535	543	556	547	544	547	551	554	550	547	548	
14*	553	544	540	539	538	539	536	532	528	526	526	526	520	523	533	538	540	549	556	556	549	548	544	547	
15*	544	543	540	540	542	540	535	535	536	531	524	522	518	524	536	541	544	552	556	554	553	551	549	548	
16	546	546	544	543	546	543	542	538	527	518	516	517	524	530	535	548	554	561	560	560	555	546	550	547	
17**	554	554	550	551	555	552	547	545	539	543	541	536	534	530	514	535	548	551	554	559	560	559	557	552	
18	557	569	555	553	543	543	535	524	521	513	524	534	526	527	547	538	553	543	551	550	546	543	544	547	
19	545	544	543	546	542	539	537	532	532	529	527	524	534	547	552	556	559	552	549	545	546	545	550	545	
20	544	548	546	543	549	548	546	537	526	513	531	539	533	522	525	529	530	534	544	547	547	548	546	547	
21*	545	544	545	541	545	542	537	527	522	519	514	519	521	529	535	542	539	542	539	542	547	551	551	552	
22	550	551	562	552	548	548	543	539	532	522	521	522	532	532	533	546	546	554	555	557	554	549	549	550	
23**	551	559	550	545	545	545	537	528	525	528	522	520	529	533	507	555	544	538	542	547	563	560	568	556	
24**	545	545	542	531	539	536	534	500	495	508	514	500	493	512	526	512	546	542	545	547	543	540	543	543	
25	539	536	534	535	537	531	527	524	516	514	504	513	509	526	533	540	532	536	537	539	541	543	542	545	
26	540	537	535	535	534	536	532	534	525	516	507	514	523	530	538	547	536	542	546	548	551	550	550	563	
27**	554	543	554	550	560	553	538	533	518	507	505	519	514	521	541	538	538	542	544	548	547	538	551	550	
28	534	538	539	539	542	540	531	521	513	508	509	510	515	523	535	539	540	547	550	551	549	544	543	542	
29	540	544	542	548	545	546	544	539	530	522	514	513	506	510	533	532	538	543	549	550	550	548	548	545	
30*	544	539	540	537	538	539	535	531	526	520	516	512	522	528	537	546	546	550	550	554	550	547	547	548	
31	548	543	542	541	543	544	540	540	531	531	536	536	534	533	535	532	538	542	550	553	549	549	549	553	
Mean	547	546	544	544	545	543	538	532	525	519	519	522	523	529	536	541	545	548	550	552	551	550	550	550	
Mean*	545	542	541	540	541	540	536	531	527	523	520	521	523	528	537	545	543	547	550	551	551	549	548	549	
Mean**	555	551	546	545	549	547	539	526	518	515	519	521	513	523	525	534	543	544	546	550	550	548	552	548	
August.	18000 γ + Tabular Quantities (in γ).																								
1*	551	549	546	546	544	543	543	538	530	524	524	522	525	535	547	556	558	555	554	554	550	547	546	548	
2	546	545	548	549	548	546	543	537	530	524	528	529	539	548	546	545	540	546	548	552	553	553	549	546	
3	550	547	524	544	545	539	536	532	527	527	533	537	540	540	540	543	544	546	546	548	547	548	545	543	
4	542	543	542	540	542	539	535	534	527	521	525	536	542	545	545	544	543	547	547	545	547	554	551	553	
5**	551	546	545	545	548	544	548	536	525	529	533	535	518	514	521	505	545	533	524	506	519	529	519	522	
6**	513	516	517	506	507	497	483	492	487	475	476	476	492	516	517	512	523	515	539	528	528	530	530	531	
7	532	531	530	519	521	516	514	506	494	486	488	493	506	517	527	535	532	537	535	532	531	533	537	536	
8	530	532	538	540	533	533	528	516	506	504	503	510	521	532	540	540	536	535	536	541	541	542	538	550	
9*	543	535	534	538	537	531	522	515	502	497	498	505	516	526	528	534	541	536	534	541	542	538	541	548	
10*	540	538	538	541	540	539	529	521	510	504	511	515	523	521	525	537	541	541	540	544	541	541	539	539	
11*	539	541	537	537	537	533	527	526	520	510	509	513	520	524	531	534	541	545	545	545	542	541	544	539	
12	536	535	535	537	536	534	529	524	519	521	519	518	524	527	531	542	548	551	561	554	551	549	544	546	
13**	549	539	537	537	538	539	539	535	528	526	513	505	516	531	528	537	539	531	539	543	539	537	558	548	
14	529	531	528	531	527	527	511	505	505	512	513	511	516	509	498	511	522	521	535	538	539	537	537	531	
15	534	536	543	538	533	527	526	521	513	512	512	503	509	514	527	535	535	534	536	550	547	546	543	540	
16	541	535	536	533	536	535	533	520	517	518	517	517	519	521	526	530	530	532	530	540	543	538	551	540	
17	538	536	535	543	542	535	537	519	512	529	529	528	529	512	498	514	526	532	523	525	527	532	535	540	
18**	543	532	527	529	529	529	523	532	527	519	517	519	521	525	534	532	525	540	540	561	558	535	535	539	
19	545	537	528	542	543	535	518	521	530	527	516	509	509	519	526	536	540	543	538	535	532	534	536	540	
20	544	536	537	535	532	538	522	525	522	519	519	525	526	526	532	532	546	554	540	543	545	544	563	532	
21**	535	532	531	536	524	526	509	514	506	489	482	492	492	518	531	528	545	527	524	527	546	530	531	534	
22	538	532	533	530	528	524	519	507	506	511	507	507	507	513	518	520	527	533	537	541	540	540	538	539	
23	541	544	543	542	540	541	540	527	502	506	520	528	524	533	504	523	541	533	529	553	539	535	536	535	
24	537	541	544	543	535	532	525	522	485	505	521	513	521	525	527	518	505	531	530	527	515	529	532	525	
25	537	528	532	538	535	525	517	494	504	505	498	497	501	504	513	521	530	533	532	543	544	546	540	541	
26	550	555	544	533	548	543	528	520	511	510	511	513	508	520	529	531	539	543	550	548	547	544	545	544	
27	541	546	541	540	539	536	529	522	515	507	517	524	529	537	537	535	538	537	543	542	539	540	544	543	
28	543	543	543	541	542	540	534	529	523	513	513	513	516	528	540	546	545	547	552	548	547	542	538	535	
29	548	542	538	539	540	535	523	522	524	524	522	516	517	523	530	534	536	539	542	543	544	544	543	543	
30	544	543	543	542	538	534	532	529	526	526	534	540	542	541	539	535	535	540	544	548	549	547	545	544	
31*	539	538	538	536	535	535	535	530	519	520	522	525	534	541	538	534	537	546	551	551	548	548	543	543	
Mean	540	538	537	537	536	533	528	522	515	513	514	515	519	525	528	532	537	538	540	542	541	540	541	540	
Mean*	542	540	539	540	539	536	531	526	516	511	513	516	524	529	534	539	544	545	545	547	545	543	543	543	
Mean**	538	533	531	531	529	527	520	522	515	508	504	505	508	521	526	523	535	529	533	533	538	532	535	535	

* Denotes an International Quiet Day. ** Denotes an International Disturbed Day.

TABLE II.—HOURLY MEANS OF HORIZONTAL COMPONENT OF MAGNETIC FORCE AT ABINGER—*continued.*

	0h	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	Noon	13h	14h	15h	16h	17h	18h	19h	20h	21h	22h	23h	24h
September.	18000 γ + Tabular Quantities (in γ).																								
1	545	550	541	536	539	538	536	528	522	517	516	522	531	528	528	537	537	537	546	552	551	556	552	547
2	545	552	542	547	542	535	533	527	516	517	521	531	531	541	537	536	539	542	544	550	552	547	552	548
3*	539	542	542	542	538	532	525	517	516	514	516	527	538	541	538	535	531	538	541	547	543	542	542	543
4	550	552	543	541	537	535	539	530	521	516	518	531	537	539	542	541	537	540	539	541	550	542	543	542
5*	545	545	546	544	545	539	528	519	511	508	511	518	531	545	542	542	544	545	547	548	551	547	545	545
6*	547	547	548	547	545	545	542	522	518	517	518	530	541	544	542	539	539	542	550	553	548	548	542	545
7	543	543	541	534	541	534	531	518	517	519	522	526	533	545	541	534	536	534	538	542	539	539	543	542
8	545	542	531	539	537	539	534	525	508	507	514	524	531	531	531	529	535	534	533	541	544	548	546	547
9**	547	551	549	559	553	596	504	444	418	419	454	463	452	433	442	472	477	486	493	493	501	519	506	503
10**	523	500	507	499	503	488	499	505	489	468	467	469	493	497	491	504	503	509	519	520	527	522	520	530
11	515	517	516	518	521	518	517	504	495	493	491	488	491	495	499	502	511	512	517	523	522	525	528	537
12	527	522	513	517	510	514	519	514	501	496	487	491	496	515	522	518	516	520	521	524	526	526	525	523
13**	522	522	522	522	522	522	520	519	512	507	501	509	516	516	511	496	488	483	501	531	526	499	506	523
14**	532	513	512	515	522	519	516	512	509	498	496	483	514	520	514	517	512	514	522	540	533	518	518	523
15**	526	520	526	509	525	501	532	524	516	505	489	483	482	473	501	508	501	521	509	513	526	529	539	530
16	524	531	519	517	515	521	517	514	509	486	489	506	515	513	510	506	517	525	525	527	530	550	525	529
17	526	527	532	533	530	530	523	509	516	511	518	525	538	536	534	528	531	527	535	527	518	527	533	532
18	540	559	541	518	514	517	516	514	491	496	493	516	521	542	540	531	522	519	521	525	530	527	527	529
19	528	529	526	526	529	531	533	522	514	513	519	522	526	534	540	522	506	516	519	527	529	535	533	549
20	546	536	526	532	522	527	526	521	511	514	519	519	523	525	522	526	519	515	525	529	525	530	530	534
21	542	538	527	529	536	540	533	525	517	509	504	513	524	519	527	530	530	533	534	533	538	545	539	536
22	536	542	540	537	534	531	527	519	506	500	501	504	509	519	522	519	524	530	533	533	533	536	546	538
23*	530	532	538	535	538	533	528	510	501	501	501	501	512	523	521	522	522	527	532	540	540	538	543	534
24*	534	546	540	535	536	538	534	522	510	502	502	500	509	521	522	519	521	534	538	541	540	538	538	537
25	545	538	538	531	530	529	528	523	511	502	503	507	512	523	534	524	518	510	512	529	534	529	528	534
26	532	531	531	530	529	529	530	525	520	518	523	523	523	523	530	536	541	544	538	540	533	534	538	532
27	534	536	540	542	541	534	533	530	523	515	515	515	519	526	530	535	535	540	541	533	535	535	544	533
28	536	541	531	531	536	535	533	531	523	517	513	511	513	517	524	530	537	543	547	540	533	540	551	551
29	530	526	529	533	534	540	543	545	540	524	519	520	518	523	528	536	533	537	519	535	536	538	541	538
30	538	536	536	535	536	534	534	537	536	530	525	525	525	528	526	524	524	533	534	531	534	533	534	534
Mean	536	536	532	531	531	531	527	519	510	505	506	510	517	521	523	523	523	526	529	534	534	535	535	536
Mean*	539	542	543	541	540	537	531	518	511	508	510	515	526	535	533	531	531	537	542	546	544	543	542	541
Mean**	530	521	523	521	525	525	514	501	489	479	481	481	491	488	492	499	496	503	509	519	523	517	518	522
October.	18000 γ + Tabular Quantities (in γ).																								
1*	535	536	536	534	535	532	533	533	531	526	523	523	527	534	536	533	535	536	538	537	541	548	547	543
2	541	543	541	541	545	542	542	536	530	520	516	518	525	524	527	529	530	533	537	537	537	544	543	542
3	540	540	540	542	541	541	541	541	537	530	520	520	529	538	540	541	541	542	545	545	543	545	541	550
4	542	541	544	541	537	542	547	547	535	523	517	516	514	522	531	529	528	524	525	526	532	538	550	535
5**	538	524	537	542	553	530	540	526	522	511	497	456	506	519	529	528	528	524	523	526	526	555	524	526
6	535	533	526	548	539	536	534	529	505	483	499	505	499	526	533	527	524	522	526	526	527	531	531	531
7**	533	544	557	542	535	529	516	521	516	492	477	478	525	529	527	521	513	508	500	521	524	547	535	518
8	534	525	530	521	533	535	527	505	497	470	480	495	505	512	513	521	519	526	529	527	538	548	540	536
9**	535	536	537	525	547	542	540	531	504	495	500	496	504	513	526	525	525	523	520	566	533	530	555	543
10	526	513	538	520	529	530	523	514	502	488	476	504	518	521	526	522	516	507	511	542	531	532	531	532
11	531	531	534	531	527	534	530	520	521	511	499	511	522	526	526	526	530	531	531	525	530	529	525	533
12	511	516	520	520	541	529	533	525	525	512	511	499	495	513	520	523	525	529	530	530	531	532	529	528
13**	527	528	528	530	532	535	534	532	530	518	508	504	501	506	490	503	534	543	542	540	540	539	539	565
14**	543	531	540	524	527	535	528	530	526	522	505	501	514	519	534	529	526	504	534	514	546	527	532	533
15	527	523	526	526	531	531	532	530	526	525	528	531	526	525	520	518	507	521	530	543	538	534	532	529
16*	532	528	529	529	529	535	535	529	527	521	521	513	518	528	527	524	521	527	534	536	537	534	535	535
17	538	531	532	535	537	539	537	533	531	526	524	526	528	531	528	524	523	529	530	531	533	538	567	546
18	554	534	533	536	538	542	509	505	507	510	515	503	497	491	499	491	521	525	523	523	541	523	520	525
19	530	529	528	527	527	528	529	525	522	518	516	518	524	528	528	524	521	528	530	530	530	530	530	544
20	531	530	530	533	534	537	530	525	521	515	512	517	529	536	532	525	520	530	532	529	528	528	528	530
21*	526	533	533	533	536	538	540	540	535	528	520	518	522	525	533	536	536	536	532	533	536	536	536	536
22	536	538	538	536	538	540	541	538	525	525	517	512	—	—	—	—	—	—	—	—	—	—	—	—
23	—	—	—	—	—	—	—	—	—	—	—	—	523	529	530	534	537	541	541	541	538	544	544	541
24	533	534	538	540	540	538	537	542	541	529	524	527	527	532	545	525	519	538	545	541	538	544	543	545
25	537	532	535	546	533	529	530	529	518	510	530	533	537	537	534	519	512	529	537	539	537	535	546	534
26	542	535	530	532	536	540	537	530	534	528	525	523	520	521	523	512	530	533	536	537	536	557	531	531
27	533	536	551	536	546	542	537	534	528	530	529	526	526	526	526	527	526	530	533	534	536	534	536	535
28*	536	533	530	529	533	537	537	533	532	532	524	520	520	523	521	526	528	530	533	535	536	536	535	536
29*	535	536	534	532	533	536	537	536	529	520	513	514	517	520	521	525	528	532	533	533	535	537	540	536
30	536	534	532	532	533	534	537	534	526	522	525	528	530	531	530	526	518	525	530	534	539	540	538	538
31	537	537	537	538	539	539	539	535	529	524	525	528	542	544	546	545	546	547	546	546	546	546	543	542
Mean	535	532	535	533	536	536	534	530	524	516	513	512	519	524	527	525	526	528	531	534	535	538	538	537
Mean*	533	533	532	531	533	536	536	534	531	525	520	518	521	526	528	529	530	532	534	535	537	538	539	537
Mean**	535	533	540	533	539	534	532	528	520	508	497	487	510	517	521	521	525	520	524	533	534	540	537	537

* Denotes an International Quiet Day. ** Denotes an International Disturbed Day.

TABLE VI.—*continued.*—MEAN DIURNAL INEQUALITIES OF THE GEOGRAPHICAL COMPONENTS OF MAGNETIC FORCE.

International Quiet Days.

NORTH COMPONENT.

Month and Season, 1933.	Greenwich Mean Time. Hour commencing— 0.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	− 2·5	− 1·2	− 1·4	+ 0·2	+ 1·6	+ 4·5	+ 6·5	+ 6·8	+ 5·6	+ 1·3	− 3·4	− 6·8	− 7·3	− 5·0	− 2·8	− 0·4	+ 0·3	+ 0·6	+ 0·9	+ 1·6	+ 1·3	+ 0·6	+ 0·9	− 0·2
Feb.	+ 0·1	+ 1·5	+ 1·8	+ 2·8	+ 3·0	+ 4·8	+ 5·1	+ 4·3	+ 0·8	− 5·4	− 9·4	**−11·8**	− 8·6	− 6·1	− 2·4	− 0·6	+ 0·8	+ 1·0	+ 1·9	+ 2·6	+ 2·8	+ 3·3	+ 2·9	+ 3·2
Mar.	+ 0·4	− 0·4	− 0·1	+ 0·8	+ 2·7	+ 5·6	+ 5·2	**+ 6·6**	+ 5·7	+ 0·4	− 7·1	−11·1	**−11·3**	− 9·4	− 7·8	− 4·3	− 0·9	+ 0·4	+ 2·2	+ 3·5	+ 3·5	+ 4·2	+ 5·2	+ 3·2
Apr.	+ 6·7	+ 4·8	+ 4·4	+ 4·4	+ 5·3	+ 4·7	+ 4·3	+ 1·9	− 4·6	−13·0	−17·7	−18·1	**−18·3**	−14·0	− 7·2	+ 0·6	+ 4·4	+ 8·2	+ 6·1	+ 6·3	+ 6·5	+ 4·8	+ 6·8	**+ 8·7**
May	+ 5·6	+ 3·7	+ 2·9	+ 4·0	+ 5·5	+ 3·1	− 1·0	− 8·1	−17·5	**−19·1**	−17·2	−15·4	−14·0	−10·5	− 2·9	+ 0·8	+ 3·7	+ 9·4	**+11·4**	**+12·2**	+12·1	+10·9	+ 9·8	+ 9·0
June	+ 3·4	+ 3·1	+ 2·1	+ 2·5	+ 5·0	+ 4·0	− 0·1	− 4·5	− 7·7	−11·9	**−13·9**	−13·5	−12·3	− 9·6	− 4·7	+ 0·1	+ 2·7	+ 5·8	+ 7·2	+ 7·3	+ 7·1	**+ 7·9**	+ 7·4	+ 7·5
July	+ 6·3	+ 3·3	+ 3·0	+ 2·1	+ 5·1	+ 4·7	+ 1·6	− 2·9	− 7·4	−12·6	−18·0	−19·5	**−19·6**	−15·1	− 6·1	+ 2·6	+ 2·1	+ 6·9	+ 9·0	**+11·4**	+10·4	+ 9·4	+ 8·4	+ 9·7
Aug.	+ 9·3	+ 7·2	+ 5·5	+ 6·5	+ 6·4	+ 5·2	+ 0·8	− 3·6	−13·6	−20·7	**−22·0**	−21·8	−16·7	−11·6	− 5·7	+ 1·3	+ 7·6	+ 9·5	+10·1	**+11·9**	+ 9·6	+ 8·4	+ 8·6	+ 9·1
Sept.	+ 7·2	+ 9·7	+11·1	+ 9·4	+ 9·8	+ 7·6	+ 2·3	−10·4	−17·5	−22·4	**−24·5**	−22·3	−12·5	− 3·6	− 3·5	− 3·3	− 2·2	+ 3·5	+ 8·1	**+12·4**	+11·5	+10·7	+ 9·9	+ 8·9
Oct.	+ 2·6	+ 2·8	+ 2·1	+ 0·7	+ 2·6	+ 5·4	+ 6·4	+ 5·0	+ 2·1	− 3·8	−11·2	**−16·2**	−13·9	− 8·4	− 5·9	− 3·7	− 2·1	+ 0·3	+ 2·6	+ 3·8	+ 6·1	+ 7·3	**+ 8·0**	+ 6·6
Nov.	− 0·7	− 0·1	+ 0·1	+ 0·5	+ 3·3	+ 6·3	**+ 6·5**	+ 6·1	+ 4·3	+ 1·2	− 3·4	**− 5·0**	− 4·2	− 3·9	− 3·9	− 4·7	− 4·3	− 3·0	+ 0·0	− 0·1	+ 0·4	+ 0·4	+ 1·8	+ 1·2
Dec.	− 2·7	− 3·2	− 2·8	− 2·2	+ 0·7	+ 2·8	**+ 4·5**	**+ 4·5**	+ 4·2	− 0·7	− 2·6	**− 4·9**	− 1·4	− 0·7	− 0·0	− 0·9	− 3·2	− 0·9	+ 0·6	− 0·1	+ 1·1	+ 1·1	+ 2·0	+ 0·7
Year	+ 3·0	+ 2·6	+ 2·4	+ 2·6	+ 4·3	+ 4·9	+ 3·5	+ 0·5	− 3·8	− 8·9	−12·5	**−13·9**	−11·7	− 8·2	− 4·4	− 1·0	+ 0·7	+ 3·5	+ 5·0	**+ 6·1**	+ 6·0	+ 5·8	+ 6·0	+ 5·6
Winter	− 1·5	− 0·8	− 0·6	+ 0·3	+ 2·2	+ 4·6	**+ 5·7**	+ 5·4	+ 3·7	− 0·9	− 4·7	**− 7·1**	− 5·4	− 3·9	− 2·3	− 1·7	− 1·6	− 0·6	+ 0·9	+ 1·0	+ 1·4	+ 1·4	+ 1·9	+ 1·2
Equinox	+ 4·2	+ 4·2	+ 4·4	+ 3·8	+ 5·1	+ 5·8	+ 4·6	+ 0·8	− 3·6	− 9·7	−15·1	**−16·9**	−14·0	− 8·9	− 6·1	− 2·7	− 0·2	+ 3·1	+ 4·8	+ 6·5	+ 6·9	+ 6·8	**+ 7·5**	+ 6·9
Summer	+ 6·2	+ 4·3	+ 3·4	+ 3·8	+ 5·5	+ 4·3	+ 0·3	− 4·8	−11·6	−16·1	**−17·8**	−17·6	−15·7	−11·7	− 4·9	+ 1·2	+ 4·0	+ 7·9	+ 9·4	**+10·7**	+ 9·8	+ 9·2	+ 8·6	+ 8·8

WEST COMPONENT.

	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	− 3·8	− 2·8	− 0·2	+ 0·2	+ 1·2	+ 0·2	− 0·8	− 2·9	**− 6·3**	− 5·9	− 2·5	+ 3·3	+10·4	**+11·9**	+ 6·6	+ 4·9	+ 2·4	+ 0·1	− 0·6	− 1·0	− 2·4	− 4·6	− 4·1	− 3·0
Feb.	− 3·2	− 1·4	+ 1·1	− 0·7	− 1·6	− 3·2	− 2·8	− 3·8	− 5·9	**− 7·4**	− 2·0	+ 3·8	+ 8·9	**+10·6**	+ 8·3	+ 2·9	+ 0·1	+ 0·2	+ 0·8	+ 0·2	− 1·6	− 1·3	− 0·4	− 0·7
Mar.	− 5·8	− 4·5	− 5·1	− 3·8	− 5·0	− 5·1	− 5·2	− 7·9	**−13·4**	−12·5	− 3·2	+ 6·8	+18·8	**+22·3**	+18·6	+11·4	+ 3·2	+ 1·8	+ 0·5	− 0·8	− 1·1	− 2·2	− 4·2	− 2·7
Apr.	− 7·7	− 5·2	− 2·2	− 6·2	− 8·5	−10·4	−14·6	−19·7	**−21·9**	−15·1	− 5·2	+ 9·0	+22·5	**+29·2**	+23·1	+17·5	+10·2	+ 6·7	+ 3·1	+ 1·1	− 0·6	− 2·1	− 2·3	− 1·5
May	− 2·1	− 3·0	− 3·0	− 4·5	−10·4	−18·4	−25·9	**−28·5**	−25·5	−15·0	− 0·0	+16·8	+27·6	**+29·3**	+25·4	+16·6	+ 8·4	+ 5·0	+ 3·0	+ 3·0	+ 1·8	+ 1·7	+ 1·1	− 0·9
June	+ 0·2	− 2·0	− 3·3	− 5·1	−11·0	−18·8	−23·5	−26·2	**−26·5**	−18·3	− 3·7	+11·4	+20·3	+22·3	**+23·1**	+18·8	+11·5	+ 7·4	+ 6·6	+ 6·0	+ 4·4	+ 3·4	+ 1·6	+ 0·4
July	+ 2·0	− 1·3	− 4·5	− 6·0	−12·3	−18·1	−22·2	**−23·9**	−22·9	−16·7	− 5·9	+ 7·1	+15·4	+18·2	**+18·9**	+15·6	+11·2	+ 9·1	+ 9·4	+ 7·1	+ 7·7	+ 6·7	+ 2·9	+ 1·6
Aug.	− 6·4	− 7·1	− 6·6	− 6·7	−10·8	−16·6	−20·4	−24·4	**−24·6**	−16·2	− 1·4	+13·2	+25·7	**+29·4**	+23·0	+15·0	+ 7·7	+ 3·3	+ 1·7	+ 3·7	+ 2·9	+ 0·8	− 1·9	**− 0·6**
Sept.	− 4·0	+ 0·4	− 3·9	− 6·6	− 9·5	−13·7	−17·5	**−22·2**	−21·6	−11·8	+ 3·7	+20·3	**+27·4**	+26·5	+17·3	+ 8·9	+ 3·5	+ 4·7	+ 4·4	+ 4·2	+ 1·5	− 3·2	− 2·2	− 3·6
Oct.	− 4·4	− 3·6	− 4·3	− 2·1	− 2·6	− 4·3	− 5·3	− 8·9	**−11·9**	−10·1	− 0·4	+10·9	**+15·3**	+14·3	+10·6	+ 5·8	+ 2·2	+ 3·5	+ 1·4	− 0·5	− 0·6	− 0·7	− 1·9	− 2·1
Nov.	− 4·5	− 3·2	− 1·6	− 0·3	+ 0·1	− 0·8	− 0·9	− 1·6	− 4·0	− 1·7	+ 3·5	+ 6·2	**+ 9·1**	+ 8·7	+ 5·7	+ 2·7	+ 1·8	+ 0·6	+ 0·8	− 1·3	− 4·7	**− 5·5**	− 4·4	− 4·8
Dec.	− 3·7	− 1·5	− 1·3	− 0·3	− 0·4	− 1·7	− 1·8	− 2·7	− 3·2	− 1·6	+ 4·6	+ 7·9	**+10·4**	+10·0	+ 5·9	+ 2·1	− 0·5	− 0·6	− 1·9	− 2·2	**− 6·1**	**− 6·1**	− 4·8	− 2·4
Year	+ 3·6	− 2·9	− 2·9	− 3·5	− 5·9	− 9·2	−11·7	−14·4	**−15·6**	−11·0	− 1·0	+ 9·7	+17·7	**+19·4**	+15·5	+10·2	+ 5·1	+ 3·5	+ 2·4	+ 1·6	+ 0·1	− 1·1	− 1·9	− 1·7
Winter	− 3·8	− 2·2	− 0·5	− 0·3	− 0·2	− 1·4	− 1·6	− 2·8	**− 4·9**	− 4·2	+ 0·9	+ 5·3	+ 9·7	**+10·3**	+ 6·6	+ 3·2	+ 1·0	+ 0·1	− 0·2	− 1·1	− 3·7	− 4·4	− 3·4	− 2·7
Equinox	− 5·5	− 3·2	− 3·9	− 4·7	− 6·4	− 8·4	−10·7	−14·7	**−17·2**	−12·4	− 1·3	+11·8	+21·0	**+23·1**	+17·4	+10·9	+ 4·8	+ 4·2	+ 2·4	+ 1·0	− 0·2	− 2·1	− 2·7	− 2·5
Summer	− 1·6	− 3·4	− 4·4	− 5·6	−11·1	−18·0	−23·0	**−25·8**	−24·9	−16·6	− 2·8	+12·1	+22·3	**+24·8**	+22·6	+16·5	+ 9·7	+ 6·2	+ 5·2	+ 5·0	+ 4·2	+ 3·2	+ 0·4	+ 0·1

VERTICAL COMPONENT.

	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	+ 1·2	0·0	− 0·6	− 1·0	− 1·4	− 0·4	− 0·8	− 0·6	− 1·4	− 2·4	− 2·8	**− 3·6**	− 2·8	+ 2·6	**+ 2·8**	+ 2·0	+ 1·4	+ 1·6	+ 2·2	+ 1·6	+ 1·2	+ 1·4	+ 1·2	+ 0·6
Feb.	+ 0·2	− 0·2	− 0·2	0·0	+ 0·8	+ 1·4	+ 0·8	+ 0·4	+ 1·2	− 1·0	− 3·8	**− 4·8**	− 4·2	− 2·2	+ 0·2	+ 1·8	+ 2·0	**+ 2·4**	+ 2·0	+ 1·6	+ 0·8	+ 0·6	+ 0·2	− 0·2
Mar.	+ 1·0	+ 0·8	− 0·4	− 0·2	− 0·2	+ 0·4	− 0·4	+ 1·8	+ 1·8	− 1·2	− 5·8	**− 9·8**	− 8·6	− 5·4	− 1·6	+ 4·0	**+ 6·2**	+ 3·8	+ 4·0	+ 3·8	+ 3·0	+ 2·6	+ 2·6	**+ 1·8**
Apr.	+ 0·8	+ 1·6	+ 1·6	+ 3·0	+ 5·0	+ 3·6	+ 4·6	+ 3·4	− 1·6	− 7·4	−11·2	−15·4	**−16·2**	−10·0	− 1·6	+ 2·8	+ 5·2	**+ 6·8**	+ 6·4	+ 6·0	+ 5·2	+ 4·8	+ 3·6	+ 1·6
May	+ 3·0	+ 3·2	+ 3·6	+ 5·0	+ 7·2	+ 5·4	+ 3·6	+ 1·8	− 3·0	− 7·6	−12·8	**−17·2**	−16·0	− 9·8	− 1·2	+ 3·8	+ 7·2	**+ 7·6**	+ 6·0	+ 2·8	+ 2·0	+ 1·6	+ 1·2	+ 1·6
June	+ 2·0	+ 1·4	+ 1·0	+ 1·8	+ 3·4	+ 2·2	+ 0·6	− 0·4	− 1·0	− 3·4	− 8·0	**−14·0**	−13·6	− 7·0	+ 0·2	+ 2·8	+ 6·0	**+ 7·4**	+ 7·0	+ 5·2	+ 2·8	+ 2·0	+ 1·4	+ 1·0
July	− 0·6	− 0·4	0·0	+ 1·6	+ 5·4	+ 5·2	+ 3·4	+ 2·8	+ 0·8	− 3·6	−10·0	−14·4	**−14·6**	−11·2	− 5·0	+ 1·8	+ 5·8	**+ 7·2**	+ 5·8	+ 4·6	+ 3·0	+ 1·8	+ 1·6	+ 1·0
Aug.	+ 0·4	+ 0·6	+ 0·8	+ 1·2	+ 4·0	+ 3·8	+ 4·2	+ 4·4	+ 1·2	− 5·0	− 9·6	−12·0	**−12·2**	− 7·4	− 2·0	+ 3·0	+ 5·0	**+ 6·4**	+ 5·4	+ 3·4	+ 2·6	+ 2·0	+ 1·4	+ 0·4
Sept.	+ 2·2	+ 1·0	+ 0·4	+ 1·4	+ 2·2	+ 2·6	+ 2·8	+ 2·2	− 1·6	− 7·6	−13·6	**−15·8**	− 9·6	− 3·4	+ 1·2	+ 4·8	**+ 5·2**	+ 4·8	+ 4·0	+ 4·0	+ 3·0	+ 2·8	+ 2·4	+ 2·2
Oct.	+ 1·9	+ 1·1	+ 0·1	− 0·1	− 0·7	− 0·3	− 0·3	+ 0·1	− 1·3	− 3·9	**− 7·7**	− 7·5	− 3·9	− 0·5	+ 2·7	**+ 4·7**	+ 4·1	+ 3·1	+ 2·5	+ 1·9	+ 1·7	+ 1·1	+ 1·3	+ 0·7
Nov.	0·0	− 0·6	− 1·4	− 1·6	− 1·8	− 1·2	− 2·0	− 2·0	− 1·8	− 3·4	**− 4·4**	− 3·2	− 1·4	+ 0·2	+ 1·8	+ 2·2	+ 3·0	+ 3·0	+ 2·8	+ 2·8	**+ 3·2**	+ 2·8	+ 2·4	+ 1·6
Dec.	**+ 2·5**	+ 1·3	+ 0·1	− 0·3	− 0·5	− 0·1	− 0·9	− 0·9	− 0·9	− 1·5	**− 2·3**	− 1·9	− 1·1	− 0·3	+ 0·5	+ 1·7	+ 0·7	+ 1·7	+ 0·7	+ 0·5	+ 0·7	+ 1·1	+ 0·5	− 0·3
Year	+ 1·2	+ 0·8	+ 0·4	+ 0·9	+ 2·0	+ 1·9	+ 1·3	+ 1·1	− 0·6	− 4·0	− 7·7	**−10·0**	− 8·7	− 4·5	− 0·2	+ 3·0	+ 4·3	**+ 4·7**	+ 4·1	+ 3·2	+ 2·4	+ 2·1	+ 1·7	**+ 1·0**
Winter	+ 1·0	+ 0·1	− 0·5	− 0·7	− 0·7	− 0·1	− 0·7	− 0·8	− 0·7	− 2·1	− 2·3	**− 3·4**	− 2·4	+ 0·1	+ 1·3	+ 1·9	+ 1·8	**+ 2·2**	+ 1·9	+ 1·6	+ 1·5	+ 1·5	+ 1·1	**+ 0·4**
Equinox	+ 1·5	+ 1·1	+ 0·4	+ 1·0	+ 1·6	+ 1·6	+ 1·7	+ 1·9	− 0·7	− 5·0	− 9·6	**−12·1**	− 9·6	− 4·8	+ 0·2	+ 4·1	**+ 5·2**	+ 4·6	+ 4·2	+ 3·9	+ 3·2	+ 2·8	**+ 2·5**	**+ 1·6**
Summer	+ 1·2	+ 1·2	+ 1·4	+ 2·4	+ 5·0	+ 4·2	+ 3·0	+ 2·1	− 0·5	− 4·9	−10·1	**−14·4**	−14·1	− 8·9	− 2·0	+ 2·9	+ 6·0	**+ 7·2**	+ 6·1	+ 4·0	+ 2·6	+ 1·9	**+ 1·4**	**+ 1·0**

TABLE VII.—MEAN DIURNAL INEQUALITIES OF THE MAGNETIC ELEMENTS—DECLINATION, INCLINATION AND HORIZONTAL FORCE.

International Disturbed Days.

DECLINATION WEST.

Month and Season, 1933.	Greenwich Mean Time. Hour commencing—																						
	0.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
Jan.	−1·38	−1·00	+0·36	+1·10	+0·60	+0·76	+0·72	+0·32	−0·10	+0·10	+1·22	+2·00	**+3·82**	+3·22	+3·44	+2·50	+1·50	+0·08	−1·76	−3·14	**−4·18**	−3·18	−3·98	−2·86
Feb.	−0·28	−2·22	−1·24	−0·02	−0·42	−0·70	+0·14	+1·24	+1·76	+0·48	+2·14	+4·00	+5·64	**+6·06**	+5·52	+2·40	−0·60	−1·28	**−6·08**	−5·90	−1·28	−4·34	−3·24	−2·20
Mar.	−3·54	+1·08	−0·32	−1·90	−1·50	+0·30	+0·18	−0·70	−1·20	−0·64	+1·38	+3·96	+5·06	+5·58	**+6·26**	+4·44	+2·12	−2·02	−1·88	−2·30	−1·74	**−6·04**	−3·54	−3·46
Apr.	−3·84	−3·08	−2·14	−1·18	−2·02	−0·96	−1·72	−1·58	−2·26	−1·44	+0·78	+3·66	+6·28	**+6·96**	+6·44	+5·26	+3·94	+2·84	+1·72	−1·30	−2·86	−4·64	−3·48	**−5·48**
May	−3·77	−2·31	−2·29	−1·73	−1·83	−3·69	**−4·77**	−4·49	−4·03	−2·37	+0·51	+3·23	+6·03	+6·93	**+7·21**	+6·17	+5·75	+4·47	+0·27	−0·51	−3·13	−1·65	−2·83	−1·19
June	−3·36	**−5·50**	−3·72	−3·48	−4·98	−2·66	−3·76	−4·06	−3·56	−2·00	+0·30	+2·90	+5·04	+7·02	**+7·44**	+5·44	+4·40	+3·42	+1·76	+1·20	+0·58	+0·46	−0·60	−2·34
July	−2·16	−2·76	−2·48	−2·12	−3·30	−4·40	**−4·48**	−3·34	−2·18	−1·82	+0·60	+3·98	+6·36	**+6·84**	+6·28	+3·88	+2·74	+2·10	+1·08	−0·10	−0·36	−0·40	−2·34	−2·12
Aug.	−2·14	−2·18	−1·94	−2·12	−3·16	−3·92	−2·96	−3·16	−2·56	−0·44	+1·82	+5·16	+6·50	+7·22	**+8·34**	+7·54	+4·42	+2·72	−0·94	**−7·06**	−4·96	−2·44	−1·84	−1·84
Sept.	−1·68	−1·78	−1·10	−1·20	+0·34	+1·92	+0·12	−0·92	−1·52	+0·04	+1·56	+4·08	+6·14	**+6·82**	+5·18	+2·78	+1·08	−2·16	−2·46	**−5·56**	−2·92	−2·90	−3·20	−2·56
Oct.	−1·30	−0·46	−0·76	−0·68	+0·14	−0·38	+0·14	−0·32	−1·34	−0·46	+1·86	+4·34	+5·56	**+5·74**	+4·74	+2·36	+1·04	−2·66	**−2·66**	−2·66	**−3·50**	−3·30	−1·96	−3·34
Nov.	−1·41	+1·13	+0·29	−0·11	+0·15	+1·23	+2·31	+2·09	+0·55	+0·55	+1·21	+2·53	**+3·39**	+3·11	+1·91	+1·47	−0·79	−0·37	−1·49	−1·59	**−5·13**	−4·93	−3·97	**−2·07**
Dec.	−0·22	+0·30	+0·64	+1·14	+2·12	+1·74	+1·92	+1·76	+1·16	+0·94	+2·30	+3·02	**+3·94**	+3·88	+1·60	+0·56	+0·94	−2·52	−2·08	−5·04	−4·82	**−5·96**	−4·98	−2·30
Year	−2·09	−1·56	−1·23	−1·03	−1·16	−0·90	−1·01	−1·10	−1·27	−0·59	+1·31	+3·57	+5·31	**+5·78**	+5·36	+3·73	+2·21	+0·39	−1·21	−2·82	−2·86	**−3·28**	−3·00	−2·65
Winter	−0·82	−0·45	+0·01	+0·53	+0·61	+0·76	+1·27	+1·35	+0·84	+0·52	+1·72	+2·89	**+4·20**	+4·07	+3·12	+1·73	+0·26	−1·02	−2·85	−3·92	−3·85	**−4·60**	−4·04	−2·36
Equinox	−2·59	−1·06	−1·08	−1·24	−0·76	+0·22	−0·32	−0·88	−1·58	−0·63	+1·40	+4·01	+5·76	**+6·28**	+5·66	+3·71	+2·05	−1·00	−1·32	−2·96	−2·76	**−4·22**	−3·05	−3·72
Summer	−2·86	−3·19	−2·61	−2·36	−3·32	−3·67	**−3·99**	−3·76	−3·08	−1·66	+0·81	+3·82	+5·98	+7·00	**+7·32**	+5·76	+4·33	+3·18	+0·54	−1·62	−1·97	−1·01	−1·90	−1·87

INCLINATION.

	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
Jan.	−0·49	−0·64	−0·64	−0·72	−0·69	−0·95	**−1·05**	−0·90	−0·61	−0·29	+0·04	−0·11	−0·25	−0·09	+0·17	+0·87	+1·16	**+1·29**	+1·19	+1·09	+0·48	−0·01	+0·81	+0·26
Feb.	−1·07	−0·47	−0·43	−0·75	−0·94	−0·49	−0·85	−0·48	−0·66	−0·66	−0·46	+0·53	+0·33	+0·70	+1·68	**+2·19**	+1·49	+1·29	+1·11	+0·22	+0·61	−0·40	**−1·67**	−0·85
Mar.	−0·14	−0·68	−0·57	−1·03	−0·65	−0·80	−0·57	−0·52	−0·06	+0·52	**+1·21**	+0·96	+0·72	−0·01	0·00	+0·35	+1·07	+0·68	+1·15	−0·17	+0·03	−0·17	**−1·09**	−0·14
Apr.	−0·87	−0·57	−0·20	−0·33	−0·29	−0·34	−0·34	+0·13	+0·28	+0·60	+1·23	**+1·46**	+1·33	+0·97	+0·39	−0·10	−0·47	−0·22	−0·58	−0·65	−0·08	+0·30	−0·77	**−0·95**
May	**−0·99**	−0·84	−0·82	−0·74	−0·90	−0·46	−0·66	−0·17	+0·20	+0·40	+0·79	+0·49	+0·31	+0·73	+0·93	+0·71	−0·01	+0·61	**+0·94**	+0·43	+0·55	−0·24	−0·26	−0·70
June	−0·88	−1·13	−0·30	**−1·51**	−0·80	−0·30	+0·16	+0·69	+1·30	**+1·46**	+1·39	+1·29	+1·10	+0·46	+0·79	+0·51	+0·06	+0·05	−0·52	−0·46	−0·56	−0·48	−0·56	−0·66
July	**−1·30**	−1·05	−0·75	−0·63	−0·90	−0·70	−0·19	+0·73	+1·27	+1·32	+0·92	+0·77	**+1·34**	+0·92	+0·98	+0·50	+0·04	+0·04	−0·08	−0·39	−0·58	−0·52	−0·89	−0·79
Aug.	**−0·94**	−0·58	−0·52	−0·50	−0·31	−0·14	+0·25	+0·12	+0·51	+0·84	**+0·93**	+0·81	+0·73	+0·16	+0·03	+0·48	−0·17	+0·32	+0·17	+0·10	−0·51	−0·30	−0·59	−0·74
Sept.	**−1·80**	−1·25	−1·38	−1·23	−1·56	−1·71	−0·92	+0·06	+0·88	**+1·60**	+1·51	+0·48	+0·92	+1·29	+1·36	+1·11	+1·47	+1·12	+0·60	−0·23	−0·83	−0·58	−0·72	−1·15
Oct.	−0·78	−0·74	**−1·25**	−0·76	−1·15	−0·78	−0·49	−0·17	+0·40	+1·08	+2·13	**+2·35**	+0·95	+0·59	+0·49	+0·61	+0·31	+0·65	+0·47	−0·28	−0·43	−0·90	−0·85	−0·95
Nov.	−0·72	**−1·39**	−1·12	−1·02	−0·93	−1·37	−1·38	−0·66	−0·02	+0·71	+0·43	+0·34	+0·42	+0·64	**+1·58**	+1·03	+0·95	+1·15	+1·26	+0·88	−0·19	−0·65	+0·26	−0·21
Dec.	−0·79	−0·65	−0·73	−0·99	−1·32	−1·62	−1·64	**−1·67**	−1·02	−0·49	−0·49	+0·29	+0·58	−0·07	+0·76	+0·96	+1·74	+2·18	**+2·20**	+1·77	+1·32	+0·35	−0·44	−0·28
Year	**−0·90**	−0·83	−0·73	−0·85	−0·87	−0·81	−0·64	−0·24	+0·21	+0·59	+0·80	**+0·81**	+0·71	+0·52	+0·76	+0·77	+0·64	+0·76	+0·66	+0·19	−0·02	−0·30	−0·56	−0·60
Winter	−0·77	−0·79	−0·73	−0·87	−0·97	−1·11	**−1·23**	−0·93	−0·58	−0·18	−0·12	+0·26	+0·27	+0·30	+1·05	+1·26	+1·34	**+1·48**	+1·44	+0·99	+0·56	−0·18	−0·26	−0·27
Equinox	−0·90	−0·81	−0·85	−0·84	**−0·91**	−0·91	−0·58	−0·13	+0·38	+0·95	**+1·52**	+1·31	+0·98	+0·71	+0·56	+0·49	+0·60	+0·56	+0·41	−0·33	−0·33	−0·34	−0·86	−0·80
Summer	**−1·03**	−0·90	−0·60	−0·85	−0·73	−0·40	−0·11	+0·34	+0·82	+1·01	**+1·01**	+0·84	+0·87	+0·57	+0·68	+0·55	−0·02	+0·26	+0·13	−0·08	−0·28	−0·39	−0·58	−0·72

HORIZONTAL FORCE.

	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	+ 6·2	+ 7·2	+ 7·2	+ 7·8	+ 7·4	+11·2	**+13·0**	+11·4	+ 7·0	+ 2·0	− 3·6	− 1·4	+ 1·0	+ 0·8	− 1·6	−10·6	−12·4	**−13·8**	−11·2	−11·0	− 3·2	+ 1·6	−10·6	− 2·8
Feb.	+12·6	+ 3·4	+ 2·6	+ 6·2	+ 7·8	+ 2·8	+ 8·8	+ 4·0	+ 6·4	+ 6·0	+ 2·2	−12·8	− 7·8	−10·0	−21·2	**−24·0**	−10·6	−10·0	− 8·8	+ 3·2	− 5·2	+ 8·8	**+23·8**	+ 8·6
Mar.	+ 1·2	+ 7·2	+ 4·6	+11·0	+ 5·4	+ 7·0	+ 3·6	+ 4·4	− 1·4	−11·0	**−22·4**	−19·2	−14·8	− 1·2	+ 1·2	+ 0·4	− 6·8	+ 1·0	− 7·0	+10·2	+ 4·6	+ 5·4	**+17·4**	− 0·8
Apr.	+11·2	+ 6·0	+ 0·2	+ 2·4	+ 2·4	+ 3·4	+ 3·4	− 2·8	− 5·8	−12·4	−23·2	**−28·6**	−26·0	−16·6	− 5·2	+ 4·4	+11·4	+ 9·0	+14·6	**+15·6**	+ 7·2	+ 1·0	+14·2	+12·6
May	**+12·0**	+ 9·0	+ 8·0	+ 6·8	+ 8·6	+ 1·0	+ 5·0	− 2·4	− 8·2	−13·0	**−19·6**	−15·2	−12·2	−14·6	−11·6	− 1·0	+16·0	+ 7·2	+ 2·4	+ 5·0	− 1·6	+ 3·8	+ 3·0	+ 8·8
June	+11·4	+13·8	+ 5·4	**+16·0**	+ 6·4	+ 0·8	− 5·0	−12·0	−20·6	−24·0	**−24·4**	**−24·4**	−20·6	− 8·8	−11·2	− 2·0	+ 7·6	+ 8·0	+15·8	+13·8	+13·6	+10·6	+ 9·6	+ 9·8
July	**+17·0**	+12·8	+ 8·4	+ 6·8	+11·6	+ 9·0	+ 1·6	−11·8	−20·0	−23·0	−18·4	−17·0	**−24·8**	−15·0	−13·2	− 3·6	+ 5·4	+ 5·8	+ 8·0	+11·8	+12·4	+10·0	+14·0	+10·4
Aug.	**+12·6**	+ 7·4	+ 5·8	+ 5·0	+ 3·6	+ 1·4	− 5·2	− 3·8	−11·0	−18·0	**−21·4**	−20·2	−17·8	− 4·8	+ 0·6	− 2·8	+ 9·8	+ 3·6	+ 7·6	+ 7·4	+12·4	+ 6·6	+ 9·0	+ 9·2
Sept.	**+23·0**	+14·2	+16·2	+13·8	+18·0	+18·2	+ 7·2	− 6·2	−18·2	**−27·6**	−25·6	−25·6	−15·6	−19·2	−15·2	− 7·6	−10·8	− 4·4	+ 1·8	+12·4	+15·6	+10·4	+10·8	+14·8
Oct.	+10·0	+ 7·4	**+14·6**	+ 7·4	+13·6	+ 9·0	+ 6·4	+ 2·8	− 5·6	−17·6	−27·8	**−38·2**	−15·2	− 8·0	− 4·0	− 4·0	0·0	− 4·8	− 1·4	+ 8·2	+ 8·6	+14·4	+11·8	+11·8
Nov.	+ 7·2	+14·6	+10·6	+10·2	+10·2	**+18·0**	+17·2	+ 7·6	− 1·0	−11·6	− 8·4	− 7·2	− 6·6	− 7·8	**−18·8**	− 9·2	− 8·0	−11·6	−12·8	− 7·6	+ 7·6	+ 9·8	− 4·4	+ 2·4
Dec.	+ 9·6	+ 7·2	+ 8·8	+12·6	+17·2	**+21·0**	+20·8	**+21·0**	+11·6	+ 3·2	+ 3·0	− 8·6	−10·2	+ 1·0	− 9·6	−10·0	−20·8	**−25·4**	−24·4	−18·6	−13·8	− 2·4	+ 5·4	+ 2·2
Year	**+11·2**	+ 9·2	+ 7·7	+ 8·8	+ 9·4	+ 8·6	+ 6·4	+ 1·0	− 5·6	−12·3	−15·8	**−18·2**	−14·2	− 8·7	− 9·1	− 5·8	− 1·6	− 3·0	− 1·3	+ 4·2	+ 4·9	+ 6·7	+ 8·7	+ 7·3
Winter	+ 8·9	+ 8·1	+ 7·3	+ 9·2	+10·7	+13·3	**+15·0**	+11·0	+ 6·0	− 0·1	− 1·7	− 7·5	− 5·9	− 4·0	−12·8	−13·5	−13·0	**−15·2**	−14·3	− 8·5	− 3·7	+ 4·5	+ 3·6	+ 2·6
Equinox	+11·4	+ 8·7	+ 8·9	+ 8·7	+ 9·9	+ 9·4	+ 5·2	− 0·5	− 7·8	−17·2	−24·8	**−27·9**	−17·9	−11·3	− 5·8	− 1·7	− 1·6	+ 0·2	+ 2·0	+11·6	+ 9·0	+ 7·8	**+13·6**	+ 9·6
Summer	**+13·3**	+10·8	+ 6·9	+ 8·7	+ 7·6	+ 3·1	− 0·9	− 7·5	−15·0	−19·5	**−21·0**	−19·2	−18·9	−10·8	− 8·9	− 2·4	+ 9·7	+ 6·2	+ 8·5	+ 9·5	+ 9·2	+ 7·8	+ 8·9	+ 9·6

TABLE VII.—*continued.*—MEAN DIURNAL INEQUALITIES OF THE GEOGRAPHICAL COMPONENTS OF MAGNETIC FORCE.

International Disturbed Days.

NORTH COMPONENT.

Month and Season, 1933.	Greenwich Mean Time. Hour commencing— 0.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Noon.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	+ 7·6	+ 8·2	+ 6·6	+ 6·4	+ 6·6	+10·1	**+11·9**	+10·8	+ 7·0	+ 1·9	− 4·9	− 3·6	− 3·3	− 2·8	− 5·4	−13·2	**−13·8**	−13·6	− 9·0	− 7·2	+ 1·6	+ 5·1	− 5·9	+ 0·5
Feb.	+12·6	+ 5·8	+ 3·9	+ 6·1	+ 8·1	+ 3·5	+ 8·5	+ 2·5	+ 4·3	+ 5·3	− 0·3	−17·0	−14·0	−16·6	**−26·9**	−26·2	− 9·7	− 8·4	− 1·8	+ 9·7	− 3·7	+13·5	**+26·9**	+10·9
Mar.	+ 5·1	+ 5·8	+ 4·9	+12·9	+ 7·0	+ 6·5	+ 3·3	+ 5·1	− 0·0	−10·0	**−23·5**	−23·2	−20·1	− 7·4	− 5·8	− 4·6	− 9·0	+ 3·2	− 4·7	+12·6	+ 6·5	+12·1	**+21·0**	+ 3·1
Apr.	+15·3	+ 9·3	+ 2·6	+ 3·7	+ 4·6	+ 4·4	+ 5·3	− 1·0	− 3·1	−10·5	−23·6	−32·1	**−32·5**	−24·0	−12·3	− 1·6	+ 6·7	+ 5·6	+12·4	+16·7	+10·3	+ 6·2	+17·8	**+18·5**
May	+16·0	**+11·4**	+10·4	+ 8·6	+10·5	+ 5·1	+10·2	+ 2·7	− 3·5	−10·1	−19·7	−18·5	−18·7	**−22·0**	−19·4	− 7·9	+ 9·2	+ 2·0	+ 2·1	+ 5·5	+ 2·0	+ 5·6	+ 6·1	+ 9·9
June	+14·9	**+19·7**	+ 9·5	+19·6	+11·8	+ 3·8	− 0·7	− 7·2	−16·2	−21·2	−24·2	**−27·1**	−25·7	−16·5	−19·3	− 8·1	+ 2·5	+ 4·0	+13·5	+12·2	+12·7	+ 9·9	+10·1	+12·2
July	**+19·1**	+15·6	+11·0	+ 9·0	+15·0	+13·7	+ 6·6	− 7·8	−17·1	−20·5	−18·7	−21·1	**−31·4**	−22·3	−19·9	− 7·9	+ 2·2	+ 3·3	+ 6·6	+11·7	+12·5	+10·2	+16·3	+12·6
Aug.	+14·7	+ 9·7	+ 7·8	+ 7·3	+ 7·1	+ 5·8	− 1·8	− 0·2	− 7·9	−17·1	−23·0	**−25·5**	−24·7	−12·8	− 8·8	−11·2	+ 4·6	+ 0·5	+ 8·5	+15·2	**+17·7**	+ 9·2	+10·9	+11·1
Sept.	**+24·4**	+15·9	+17·1	+14·9	+17·2	+15·7	+ 6·9	− 5·0	−16·1	−27·0	−26·8	**−29·6**	−22·1	−26·4	−20·7	−10·6	−11·8	− 1·9	+ 4·5	+18·4	+18·6	+13·4	+14·2	+17·3
Oct.	+11·2	+ 7·8	+15·1	+ 8·0	+13·1	+ 9·2	+ 6·1	+ 3·1	− 4·0	−16·7	−29·3	**−42·2**	−21·1	−14·3	− 9·2	− 6·6	− 1·2	− 1·7	+ 1·6	+11·0	+12·3	**+17·8**	+13·7	+15·3
Nov.	+ 8·6	+13·0	+10·1	+10·1	+ 9·8	**+16·2**	+14·2	+ 5·1	− 1·6	−12·0	− 9·6	− 9·9	−10·3	−11·1	**−20·5**	−10·7	− 6·9	−10·9	−10·9	− 5·7	+13·2	+15·1	+ 0·2	+ 4·7
Dec.	+ 9·6	+ 6·7	+ 7·9	+11·0	+14·5	**+18·6**	+18·2	+18·6	+10·0	+ 2·1	+ 0·4	−11·8	−14·4	− 3·4	−11·2	− 1·6	−21·4	**−22·0**	−21·5	−12·6	− 8·1	+ 4·3	+10·9	+ 4·7
Year	**+13·3**	+10·7	+ 8·9	+ 9·8	+10·4	+ 9·4	+ 7·4	+ 2·2	− 4·0	−11·3	−16·9	**−21·8**	−19·9	−15·0	−15·0	− 9·2	− 4·1	− 3·3	+ 0·1	+ 7·3	+ 8·0	+10·2	+11·9	+10·1
Winter	+ 9·6	+ 8·4	+ 7·1	+ 8·4	+ 9·8	+12·1	**+13·2**	+ 9·3	+ 4·9	− 0·7	− 3·6	−10·6	−10·5	− 8·5	**−16·0**	−12·9	−13·0	−13·7	−10·8	− 4·0	+ 0·8	+ 9·5	+ 8·0	+ 5·2
Equinox	+14·0	+ 9·7	+ 9·9	+ 9·9	+10·5	+ 9·0	+ 5·4	+ 0·6	− 5·8	−16·1	−25·8	**−31·8**	−24·0	−18·0	−12·0	− 5·9	− 3·8	+ 1·3	+ 3·5	+14·7	+11·9	+12·4	**+16·7**	+13·6
Summer	**+16·2**	+14·1	+ 9·7	+11·1	+11·1	+ 7·1	+ 3·6	− 3·1	−11·2	−17·2	−21·4	−23·1	**−25·1**	−18·4	−16·9	− 8·8	+ 4·6	+ 2·5	+ 7·7	+11·2	+11·2	+ 8·7	+10·9	**+11·5**

WEST COMPONENT.

	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	− 6·0	− 3·8	+ 3·4	+ 7·4	+ 4·7	+ 6·3	+ 6·5	+ 4·1	+ 0·9	+ 0·9	+ 5·7	+10·3	**+20·4**	+17·2	+17·8	+11·0	+ 5·3	− 2·5	−11·6	−18·9	−22·7	−16·5	**−23·2**	−15·7
Feb.	+ 1·1	−11·0	− 6·0	+ 1·2	− 0·6	− 3·1	+ 2·6	+ 7·4	+10·6	+ 3·8	+11·8	+18·5	+28·2	**+29·9**	+24·7	+ 7·7	− 5·4	− 8·8	**−33·9**	−30·5	− 7·8	−21·1	−12·2	− 9·8
Mar.	−18·4	+ 7·2	− 0·7	− 7·7	− 6·8	+ 3·0	+ 1·7	− 2·8	− 6·6	− 5·7	+ 2·6	+16·9	+23·6	+29·2	**+33·3**	+23·5	+ 9·8	−10·5	−11·4	−10·0	− 8·2	**−30·8**	−15·1	−18·4
Apr.	−18·0	−15·0	−11·3	− 5·7	−10·2	− 4·4	− 8·4	− 8·9	−13·1	−10·2	− 0·7	+13·4	+27·8	**+33·3**	+32·9	+28·7	+23·2	+16·9	+12·1	− 3·6	−13·6	−24·3	−15·4	**−26·3**
May	−17·4	−10·3	−10·4	− 7·7	− 7·9	−19·3	−24·2	**−24·2**	−23·0	−15·2	− 1·4	+13·9	+29·3	+33·6	**+35·7**	+32·4	+33·7	+25·1	+ 1·9	− 1·7	−16·9	− 7·9	−14·3	− 4·5
June	−15·4	**−26·2**	−18·5	−15·0	−25·0	−13·9	−20·9	−23·9	−23·1	−15·6	− 3·5	+10·2	+22·3	+35·2	**+37·0**	+28·3	+24·8	+19·7	+12·6	+ 9·2	+ 5·9	+ 4·6	− 1·2	−10·3
July	− 7·9	−11·9	−11·3	− 9·8	−15·0	−21·4	**−23·3**	−20·1	−15·7	−14·4	− 0·7	+17·5	+28·4	**+33·0**	+30·4	+19·7	+15·6	+12·3	+ 7·4	+ 1·9	+ 0·7	− 0·0	− 9·4	− 9·0
Aug.	− 8·7	−10·0	− 9·0	−10·2	−15·9	−20·4	−16·7	−17·5	−15·8	− 6·1	+ 5·2	+23·0	+30·6	+37·1	**+44·2**	+39·2	+25·4	+15·1	− 3·4	**−35·7**	−23·6	−11·5	− 7·8	− 7·8
Sept.	− 4·1	− 6·5	− 2·4	− 3·5	+ 5·5	+13·9	+ 2·1	− 6·1	−11·8	− 5·5	+ 2·9	+16·2	+29·2	**+32·0**	+24·2	+13·1	+ 3·5	−12·3	−12·6	**−26·8**	−12·3	−13·2	−14·6	−10·4
Oct.	− 4·8	− 0·9	− 1·0	− 2·1	+ 3·6	− 0·1	+ 2·1	− 1·1	− 8·2	− 6·1	+ 4·0	+15·0	+26·2	**+28·7**	+24·2	+11·6	+ 5·5	−15·0	−14·3	−12·3	**−16·7**	−14·4	− 7·9	−15·2
Nov.	− 5·9	− 9·0	− 3·7	− 1·5	− 2·9	+10·2	+15·8	+12·6	+ 2·7	+ 0·5	+ 4·6	+11·9	**+16·5**	+14·8	+ 6·2	+ 5·9	− 5·8	− 4·4	−10·5	−10·0	**−25·5**	−24·0	−21·9	−10·4
Dec.	+ 0·8	+ 3·1	+ 5·2	+ 8·6	+14·8	+13·6	+14·5	+13·7	+ 8·5	+ 5·6	+12·8	+14·2	+18·7	**+20·7**	+ 6·5	+ 0·9	+ 0·6	−18·6	−16·1	−30·5	−28·3	**−32·0**	−25·2	−11·7
Year	− 8·7	− 6·4	− 4·9	− 3·6	− 4·2	− 3·0	− 4·0	− 5·6	− 7·9	− 5·7	+ 3·6	+15·1	+25·1	**+28·7**	+26·4	+18·5	+11·4	+ 1·4	− 6·7	−14·1	−14·1	**−15·9**	−14·0	−12·5
Winter	− 2·5	− 0·7	+ 1·6	+ 4·7	+ 5·5	+ 6·8	+ 9·9	+ 9·5	+ 5·7	+ 2·7	+ 8·7	+13·7	**+21·0**	+20·7	+13·8	+ 6·4	− 1·3	− 8·6	−18·0	−22·5	−21·1	**−23·4**	−20·6	−11·9
Equinox	−11·3	− 3·8	− 3·9	− 4·8	− 2·0	+ 3·1	− 0·6	− 4·7	− 9·9	− 6·9	+ 2·2	+15·4	+26·7	**+30·8**	+28·7	+19·2	+10·5	− 5·2	− 6·6	−13·2	−12·7	−20·7	−13·3	−17·6
Summer	−12·4	−14·6	−12·3	−10·7	−16·0	−18·8	−21·3	**−21·4**	−19·4	−12·8	− 0·1	+16·2	+27·7	+14·7	**+36·8**	+29·9	+24·9	+18·1	+ 4·6	− 6·6	− 8·5	− 3·7	− 8·2	− 7·9

VERTICAL COMPONENT.

	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	− 2·4	− 5·2	− 5·2	− 6·4	− 6·6	− 6·4	− 5·8	− 4·4	− 4·8	− 5·2	− 6·8	**− 7·0**	− 6·2	− 1·4	+ 2·0	+ 5·0	+10·8	+12·4	**+14·8**	+12·0	+ 9·0	+ 3·4	+ 3·0	+ 2·4
Feb.	− 7·4	− 8·2	− 8·6	−11·2	**−14·0**	−10·4	− 8·8	− 7·2	− 7·8	− 8·6	−10·6	−11·2	− 7·0	+ 0·6	+ 8·4	+19·6	**+26·2**	+20·8	+17·8	+15·0	+ 8·8	+ 6·6	− 2·0	− 9·2
Mar.	− 2·2	− 6·6	− 8·8	− 9·8	− 9·8	−11·2	−11·4	− 7·4	− 5·2	− 7·6	−10·4	**−11·6**	− 9·6	− 3·2	+ 2·6	+13·0	+21·0	**+25·8**	+23·4	+17·8	+11·6	+ 6·6	+ 2·8	− 6·4
Apr.	− 3·6	− 5·6	− 6·6	− 5·8	− 4·4	− 3·8	− 3·6	− 2·2	− 3·8	− 8·2	−11·6	**−16·0**	−14·6	− 5·0	+ 1·4	+ 6·8	+10·4	+13·2	+14·0	+13·6	**+14·2**	+12·8	+ 6·4	− 3·4
May	− 6·2	− 8·0	− 9·6	−11·0	−13·2	−11·0	−11·4	−12·0	−16·4	−18·2	**−18·6**	−17·4	− 8·8	+ 5·0	+21·8	+36·6	**+37·8**	**+37·8**	+26·4	+15·0	+ 0·6	− 2·2	− 3·8	
June	− 3·6	− 7·0	+ 2·0	**−14·6**	−12·6	− 8·6	− 6·0	− 4·2	− 3·2	− 5·4	− 9·0	−12·4	−10·0	− 4·4	+ 1·0	+12·8	+19·4	**+20·2**	+18·8	+16·0	+12·4	+ 8·2	+ 3·2	0·0
July	− 5·2	− 6·6	− 6·0	− 5·8	− 4·2	− 3·2	− 2·8	− 2·4	− 2·8	− 8·0	−11·0	**−13·0**	−11·2	− 3·0	+ 3·0	+ 9·0	+13·6	+14·8	**+15·6**	+14·0	+ 8·8	+ 5·6	+ 2·2	− 3·2
Aug.	− 3·2	− 2·8	− 4·4	− 5·6	− 2·4	− 1·6	− 3·4	− 4·8	− 7·8	−13·0	−17·4	**−18·8**	−16·0	− 5·6	+ 2·4	+ 9·8	+16·8	+19·2	**+23·2**	+20·6	+11·2	+ 5·0	+ 0·6	− 4·2
Sept.	− 8·6	− 9·8	−10·0	−10·4	−11·8	**−16·4**	−14·8	−12·2	−12·0	− 8·8	− 7·6	− 8·4	− 4·6	− 0·2	+11·4	+20·6	+25·2	**+28·2**	+24·6	+21·0	+ 7·6	+ 4·2	+ 0·4	− 5·0
Oct.	− 3·4	− 8·2	− 8·8	**− 9·0**	− 8·0	− 5·8	− 2·2	+ 0·8	+ 0·6	− 3·6	− 8·6	− 7·8	− 2·8	+ 1·8	+ 7·6	+11·6	+10·6	+11·4	**+13·0**	+ 9·4	+ 5·2	+ 2·4	− 1·6	− 5·2
Nov.	− 7·9	**−13·7**	**−13·7**	−11·3	− 8·3	− 5·1	− 7·5	− 5·3	− 3·1	− 2·3	− 4·7	− 5·1	− 0·9	+ 3·7	+10·5	+13·9	**+14·1**	+12·5	+13·7	+12·5	+11·1	+ 0·3	− 1·5	− 1·7
Dec.	− 4·9	− 5·5	− 4·9	− 4·9	− 5·5	− 6·7	− 8·3	− 8·5	− 8·3	− 9·1	**− 9·9**	**− 9·9**	− 3·9	− 0·1	+ 3·7	+ 9·7	+11·7	+16·1	**+18·7**	+17·5	+13·3	+ 6·5	− 2·7	− 4·5
Year	− 4·9	− 7·3	− 7·1	− 8·7	− 8·2	− 7·7	− 7·1	− 5·8	− 5·9	− 8·0	−10·5	**−11·7**	− 8·7	− 2·1	+ 4·9	+12·8	+18·0	+19·4	**+19·6**	+16·3	+10·7	+ 5·2	+ 0·7	− 3·7
Winter	− 5·7	− 8·2	− 8·1	− 8·5	**− 8·6**	− 7·2	− 7·6	− 6·4	− 6·0	− 6·3	− 8·0	− 8·3	− 4·5	+ 0·7	+ 6·2	+12·1	**+15·7**	+15·5	+16·3	+14·3	+10·6	+ 4·2	− 0·8	− 3·3
Equinox	− 4·5	− 7·6	− 8·6	− 8·8	− 8·5	− 9·3	− 8·0	− 5·3	− 5·1	− 7·1	− 9·6	**−11·0**	− 7·9	− 1·7	+ 5·8	+13·0	+16·8	**+19·7**	+18·8	+15·5	+ 9·7	+ 6·5	+ 2·0	− 5·0
Summer	− 4·6	− 6·1	− 4·5	− 8·9	− 7·6	− 6·7	− 5·8	− 5·7	− 6·5	−10·7	−13·9	**−15·7**	−13·7	− 5·5	+ 2·9	+13·4	+21·6	+23·0	**+23·9**	+19·3	+11·9	+ 4·9	+ 1·0	− 2·8

TABLE VIII.—HARMONIC COMPONENTS OF THE DIURNAL INEQUALITY OF MAGNETIC FORCE.

Values of a_n, b_n in the series $\Sigma (a_n \cos nt + b_n \sin nt)$, t being reckoned in hours from Greenwich Mean Midnight and converted into arc at the rate of 15° to each hour.

Month and Season.	North Force.								West Force.								Vertical Force.							
	a_1	b_1	a_2	b_2	a_3	b_3	a_4	b_4	a_1	b_1	a_2	b_2	a_3	b_3	a_4	b_4	a_1	b_1	a_2	b_2	a_3	b_3	a_4	b_4
"ALL" DAYS.																								
1933.	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
Jan.	+ 3·6	+ 3·8	− 3·3	− 1·9	+ 0·8	− 1·9	− 0·4	+ 1·1	− 8·1	+ 0·6	+ 0·0	+ 5·8	− 1·9	− 1·0	+ 0·9	+ 1·7	+ 0·8	− 4·5	− 1·6	+ 0·0	+ 0·9	− 0·3	+ 0·0	− 0·3
Feb.	+ 6·3	+ 3·0	− 2·5	− 2·9	+ 1·1	− 1·2	− 0·2	− 0·3	− 8·8	− 0·9	+ 2·7	+ 4·1	− 1·7	− 2·0	− 0·0	+ 0·9	+ 0·6	− 5·4	− 3·1	+ 0·0	+ 1·0	− 0·1	− 0·6	− 0·1
Mar.	+ 9·4	+ 1·4	− 4·4	− 1·5	+ 1·9	− 2·1	− 0·7	+ 1·0	− 9·3	− 6·1	+ 3·4	+ 9·0	− 1·9	− 4·9	+ 1·0	+ 2·3	+ 2·9	− 6·2	− 4·9	− 0·7	+ 2·4	+ 0·7	− 0·9	− 0·4
Apr.	+13·7	− 2·2	− 6·2	− 1·1	+ 3·2	− 0·8	+ 0·2	+ 0·2	−12·2	−10·0	+ 4·5	+11·5	− 2·4	− 3·7	+ 2·1	+ 1·8	+ 4·8	− 5·8	− 6·8	− 0·8	+ 1·9	− 0·3	− 1·1	− 0·3
May	+12·6	− 4·0	− 5·5	+ 0·4	+ 1·0	− 0·1	+ 0·9	− 0·4	− 9·1	−13·7	+ 7·0	+ 9·8	− 2·8	− 0·7	+ 1·0	− 0·6	+ 5·0	− 7·9	− 8·3	+ 0·6	+ 2·1	+ 0·1	− 0·2	− 0·2
June	+13·1	− 3·3	− 5·7	+ 1·7	+ 0·7	− 0·2	+ 0·4	− 0·3	− 7·7	−17·9	+ 5·2	+ 8·6	− 2·9	− 2·2	+ 0·1	+ 0·6	+ 4·0	− 5·3	− 5·8	+ 0·1	+ 2·1	+ 0·1	− 0·4	− 0·3
July	+14·2	− 2·8	− 6·5	+ 0·6	+ 1·0	− 1·2	+ 1·0	− 0·3	− 5·7	−16·3	+ 6·7	+ 8·7	− 2·8	− 2·5	+ 0·3	+ 0·7	+ 4·5	− 3·6	− 6·3	− 0·6	+ 1·9	+ 0·4	− 0·6	− 0·4
Aug.	+14·0	− 3·7	− 5·0	+ 1·6	+ 0·1	− 1·0	+ 0·7	− 0·2	− 9·9	−11·0	+ 8·8	+ 8·2	− 3·2	− 1·8	+ 0·5	+ 0·1	+ 4·5	− 4·4	− 6·4	+ 0·7	+ 2·4	− 0·6	− 0·5	+ 0·2
Sept.	+14·5	− 1·6	− 3·5	+ 2·0	+ 0·0	− 3·1	+ 0·8	+ 1·5	−10·1	− 6·8	+ 7·6	+ 6·6	− 4·6	− 2·4	+ 2·5	+ 0·9	+ 2·3	− 6·0	− 4·6	+ 0·6	+ 1·8	− 0·6	− 0·6	+ 0·2
Oct.	+11·3	+ 0·4	− 4·1	− 0·6	+ 1·0	− 3·1	− 0·4	+ 1·0	− 7·8	− 3·4	+ 3·3	+ 6·8	− 3·3	− 3·6	+ 1·8	+ 1·7	+ 0·3	− 4·7	− 3·3	+ 0·1	+ 1·8	− 0·6	− 0·8	+ 0·2
Nov.	+ 5·2	+ 3·5	− 2·2	− 1·5	+ 0·7	− 1·6	+ 0·5	+ 0·2	− 7·8	+ 1·9	+ 1·5	+ 4·9	− 1·2	− 0·7	+ 1·8	+ 0·6	+ 0·2	− 4·9	− 2·1	+ 0·4	+ 0·5	− 0·9	− 0·5	+ 0·2
Dec.	+ 1·1	+ 3·9	− 1·5	− 0·6	+ 1·3	− 2·3	− 0·6	+ 0·0	− 7·5	+ 2·5	+ 1·2	+ 4·8	− 1·5	+ 0·3	+ 1·5	+ 1·1	+ 1·4	− 3·8	− 1·8	− 0·1	+ 0·4	− 0·4	− 0·4	+ 0·3
Year	+ 9·9	− 0·2	− 4·2	− 0·3	+ 1·1	− 1·5	+ 0·2	+ 0·3	− 8·7	− 6·8	+ 4·3	+ 7·4	− 2·5	− 2·1	+ 1·1	+ 1·0	+ 2·6	− 5·2	− 4·6	+ 0·0	+ 1·6	− 0·2	− 0·6	− 0·0
W.	+ 4·1	+ 3·5	− 2·4	− 1·7	+ 1·0	− 1·8	− 0·2	+ 0·3	− 8·1	+ 1·0	+ 1·3	+ 4·9	− 1·6	− 0·8	+ 1·0	+ 1·1	+ 0·7	− 4·7	− 2·1	+ 0·1	+ 0·7	− 0·4	− 0·4	+ 0·2
Eq.	+12·3	− 0·5	− 4·5	− 0·3	+ 1·5	− 2·3	0·0	+ 1·0	− 9·9	− 6·6	+ 4·7	+ 8·5	− 3·1	− 3·6	+ 1·8	+ 1·7	+ 2·6	− 5·7	− 4·9	− 0·2	+ 2·0	− 0·2	− 0·9	− 0·1
S.	+13·5	− 3·5	− 5·7	+ 1·1	+ 0·7	− 0·6	+ 0·7	− 0·3	− 8·1	−14·8	+ 6·9	+ 8·6	− 2·9	− 1·8	+ 0·5	+ 0·2	+ 4·5	− 5·3	− 6·7	+ 0·2	+ 2·1	+ 0·0	− 0·4	− 0·2
QUIET DAYS.																								
Year	+ 7·5	− 0·7	− 4·3	+ 0·3	+ 1·1	− 1·3	+ 0·1	+ 0·4	− 4·1	− 7·8	+ 5·4	+ 6·3	− 3·0	− 1·7	+ 1·6	+ 1·3	+ 3·3	− 1·8	− 3·7	+ 0·6	+ 1·8	− 0·5	− 0·6	− 0·0
W.	+ 2·0	+ 2·2	− 2·9	− 1·0	+ 1·2	− 1·2	− 0·3	+ 0·7	− 3·7	− 0·8	+ 1·5	+ 3·4	− 1·8	− 1·0	+ 1·0	+ 0·9	+ 1·0	− 1·8	− 0·8	+ 0·1	+ 0·7	− 0·4	− 0·3	+ 0·1
Eq.	+ 9·3	− 0·1	− 4·7	+ 0·3	+ 1·3	− 1·4	− 0·1	+ 0·8	− 6·0	− 7·8	+ 5·1	+ 7·1	− 4·1	− 2·6	+ 1·8	+ 1·5	+ 3·9	− 2·1	− 4·0	+ 0·7	+ 2·3	− 0·8	− 0·9	+ 0·2
S.	+11·3	− 4·2	− 5·4	+ 1·5	+ 0·7	− 1·3	+ 0·6	− 0·2	− 4·6	−15·2	+ 7·8	+ 8·0	− 4·8	− 2·4	+ 0·6	+ 0·5	+ 5·0	− 1·3	− 6·0	+ 0·8	+ 2·5	+ 0·1	− 0·7	− 0·5
DISTURBED DAYS.																								
Year	+14·8	+ 1·3	− 4·3	− 1·6	+ 1·2	− 2·2	− 0·2	+ 0·1	−14·1	− 3·8	+ 4·1	+10·3	− 0·8	− 3·4	+ 1·0	+ 0·9	+ 1·1	−13·0	− 6·9	− 0·3	+ 1·8	+ 1·0	− 0·6	+ 0·1
W.	+ 8·6	+ 8·1	− 1·3	− 3·9	+ 0·5	− 3·1	− 0·5	+ 0·0	−12·9	+ 7·8	+ 3·4	+ 7·7	+ 0·4	− 2·5	+ 1·4	+ 1·7	− 0·4	−11·8	− 5·2	− 0·1	+ 0·9	+ 0·5	− 0·7	+ 0·3
Eq.	+18·3	− 1·0	− 6·5	− 0·7	+ 2·1	− 3·0	− 1·0	+ 1·0	−14·8	− 2·8	+ 3·4	+11·2	− 2·0	− 4·9	+ 1·1	+ 2·0	+ 0·7	−13·5	− 6·3	− 0·8	+ 1·9	+ 0·7	− 0·9	− 0·2
S.	+17·6	− 3·5	− 6·0	− 0·3	+ 1·1	− 0·6	+ 1·0	− 0·7	−13·3	−15·6	+ 4·3	+10·8	− 0·2	− 1·3	+ 0·5	− 2·7	+ 3·1	−13·9	− 9·2	+ 0·1	+ 2·5	+ 1·8	− 0·4	+ 0·3

TABLE IX.—HARMONIC COMPONENTS OF THE DIURNAL INEQUALITY OF MAGNETIC FORCE.

Values of c_n, a_n in the series $\Sigma c_n \sin (nT + a_n)$, T being reckoned in hours from Midnight, Abinger Local Mean Time, and converted into arc at the rate of 15° to each hour. New phase-angles expressing the inequalities relative to apparent local time may be obtained from the tabulated angles by applying corrections a, $2a$, $3a$, $4a$, respectively, where a has the following values :—

	° ′		° ′		° ′		° ′
January	+2 19	April	+0 4	July	+1 22	October	−3 28
February	+3 28	May	−0 51	August	+0 59	November	−3 42
March	+2 12	June	+0 5	September	−1 12	December	−1 6

	° ′
Winter	+0 12
Equinox	−0 36
Summer	+0 24

Month and Season.	North Force.								West Force.								Vertical Force.							
	c_1	a_1	c_2	a_2	c_3	a_3	c_4	a_4	c_1	a_1	c_2	a_2	c_3	a_3	c_4	a_4	c_1	a_1	c_2	a_2	c_3	a_3	c_4	a_4
"ALL" DAYS.																								
1933.	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°
Jan.	5·2	44·2	3·8	241·0	2·1	157·6	1·1	340·8	8·1	274·3	5·8	1·1	2·2	243·6	1·9	29·8	4·5	170·5	1·6	272·3	0·9	107·9	0·3	174·7
Feb.	7·0	65·4	3·8	221·9	1·6	139·7	0·3	214·7	8·9	264·8	4·9	33·9	2·6	220·2	0·9	0·2	5·5	174·3	3·1	271·5	1·0	96·9	0·6	271·0
Mar.	9·5	82·1	4·6	252·4	2·8	137·9	1·2	328·2	11·1	237·3	9·6	21·6	5·3	201·8	2·5	24·6	6·8	155·1	4·9	263·2	2·5	75·1	1·0	246·2
Apr.	13·9	99·7	6·3	260·8	3·3	104·6	0·3	46·5	15·7	231·1	12·4	21·9	4·5	214·0	2·7	51·3	7·6	140·9	6·8	263·8	2·0	99·2	1·1	256·6
May	13·2	107·9	5·5	275·1	1·0	95·4	1·0	117·1	16·4	213·8	12·0	36·4	2·9	257·0	1·2	123·8	9·3	148·1	8·3	275·0	2·1	87·3	0·3	225·1
June	13·5	104·8	6·0	287·6	0·7	110·9	0·5	134·9	19·5	203·5	10·0	31·8	3·6	233·2	0·6	13·8	6·6	143·5	5·8	272·1	2·1	88·4	0·5	232·3
July	14·5	101·6	6·5	275·7	1·6	142·7	1·0	105·9	17·3	199·7	11·0	38·3	3·7	229·0	0·7	21·7	5·7	128·6	6·3	265·0	1·9	78·5	0·7	283·3
Aug.	14·4	105·3	5·2	288·2	1·0	176·6	0·7	106·7	14·8	222·3	12·0	47·8	3·7	241·3	0·5	76·6	6·3	134·6	6·5	277·2	2·4	104·3	0·5	297·6
Sept.	14·6	96·8	4·1	301·0	3·1	180·6	1·7	30·3	12·2	236·6	10·1	50·2	5·2	244·0	2·6	72·0	6·4	159·6	4·6	278·3	1·9	107·8	0·7	293·3
Oct.	11·3	88·2	4·1	263·2	3·2	163·6	1·1	337·8	8·5	247·1	7·6	26·5	4·9	224·3	2·5	46·8	4·8	176·9	3·3	272·9	1·9	109·4	0·9	287·2
Nov.	6·2	56·4	2·6	235·7	1·7	158·6	0·6	65·4	8·0	284·1	5·1	17·6	1·4	239·2	1·9	71·7	4·9	175·4	2·1	281·2	1·0	152·6	0·5	291·4
Dec.	4·1	16·5	1·6	249·1	2·7	152·6	0·6	273·4	7·9	288·9	4·9	15·2	1·6	283·3	1·9	54·3	4·1	160·7	1·8	268·5	0·5	133·1	0·5	306·8
Year	9·9	91·3	4·2	266·4	1·9	146·9	0·4	33·0	11·0	232·4	8·6	31·1	3·3	231·3	1·5	49·8	5·8	153·7	4·6	271·2	1·6	98·3	0·6	261·2
W.	5·4	49·5	2·9	234·8	2·0	153·0	0·3	324·3	8·1	277·6	5·1	16·1	1·8	244·5	1·5	45·0	4·7	171·5	2·1	273·5	0·8	120·7	0·4	291·6
Eq.	12·3	92·8	4·5	267·6	2·7	146·9	1·0	1·5	11·9	236·8	9·7	29·8	4·8	221·4	2·5	49·0	6·3	156·0	4·9	268·6	2·0	96·6	0·9	267·5
S.	13·9	104·8	5·8	281·4	0·9	134·4	0·8	114·2	16·9	209·0	11·0	39·8	3·4	238·9	0·5	69·5	6·9	140·0	6·7	272·5	2·1	92·0	0·4	249·2
QUIET DAYS.																								
Year	7·6	95·7	4·3	274·5	1·7	141·8	0·4	12·3	8·8	208·4	8·3	41·2	3·5	241·4	2·1	53·4	3·8	118·3	3·7	279·4	1·9	105·2	0·6	262·3
W.	2·9	42·8	3·0	251·6	1·7	135·5	0·7	339·2	3·8	257·7	3·7	24·8	2·1	243·3	1·4	48·9	2·1	153·0	0·9	278·9	0·8	124·7	0·3	287·2
Eq.	9·3	91·0	4·7	274·2	1·9	139·6	0·8	309·8	9·8	218·0	8·7	36·4	4·9	239·5	2·3	50·7	4·5	118·2	4·1	280·4	2·5	110·5	1·0	286·0
S.	12·1	110·8	5·6	286·7	1·5	153·4	0·7	111·6	15·9	197·4	11·1	45·1	5·3	245·0	0·8	52·9	5·2	104·8	6·0	278·4	2·5	90·0	0·9	236·0
DISTURBED DAYS.																								
Year	14·9	85·4	4·6	250·6	2·5	152·1	0·2	308·4	14·6	255·5	11·1	22·6	3·5	194·8	1·3	50·2	13·1	175·4	6·9	268·7	2·0	62·5	0·7	283·0
W.	11·8	46·9	4·1	198·7	3·1	172·2	0·5	275·1	15·0	301·6	8·5	24·6	2·5	173·0	2·2	42·4	11·8	182·1	5·2	270·0	1·0	64·4	0·7	292·2
Eq.	18·3	93·4	6·5	264·8	3·6	145·8	1·4	317·6	15·1	259·7	11·7	17·8	5·3	203·0	2·3	30·8	13·5	177·6	6·4	263·6	2·0	70·4	0·9	262·3
S.	18·0	101·5	6·0	268·0	1·2	117·6	1·2	127·0	20·5	220·8	11·6	22·5	1·3	190·4	2·8	171·1	14·4	167·7	9·2	271·6	3·1	55·9	0·5	307·6

TABLE X.—RANGE of MEAN DIURNAL INEQUALITIES for the MONTHS, YEAR and SEASONS of 1933.

Month and Season.	"All" Days.			Quiet Days.			Disturbed Days.			"All" Days.			Quiet Days.			Disturbed Days.		
	D.	I.	H.	D.	I.	H.	D.	I.	H.	N.	W.	V.	N.	W.	V.	N.	W.	V.
	′	′	γ	′	′	γ	′	′	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
January	5·48	1·18	16·2	3·70	0·74	12·2	8·00	2·34	26·8	18·3	28·2	10·6	14·1	18·2	6·4	25·7	43·6	21·8
February	5·14	1·10	15·1	3·30	0·87	15·2	12·14	3·86	47·8	19·2	25·4	13·7	16·9	18·0	7·2	53·8	63·8	40·2
March	7·56	1·32	23·7	7·04	0·63	14·2	12·30	2·30	39·8	26·8	39·3	22·3	17·9	35·7	16·0	44·5	64·1	37·4
April	9·78	1·62	30·6	9·62	1·41	27·8	12·44	2·41	44·2	35·8	51·3	26·3	27·0	51·1	23·0	51·0	59·6	30·2
May	9·56	1·40	28·1	10·58	2·19	35·0	11·98	1·93	31·6	29·7	50·3	33·3	31·3	57·8	24·8	33·4	59·9	56·4
June	9·66	1·65	31·4	9·00	1·45	23·8	12·94	2·97	40·4	29·6	52·5	24·4	21·8	49·6	21·4	46·8	63·2	34·8
July	9·60	1·95	32·5	8·10	1·70	31·4	11·32	2·64	41·8	33·0	49·8	23·4	31·0	42·8	21·8	50·5	56·3	28·6
August	8·94	1·66	29·0	10·06	2·18	36·0	15·40	1·87	34·0	32·2	47·8	24·4	33·9	54·0	18·6	43·2	79·9	42·0
September	8·13	1·97	31·1	9·06	2·19	37·4	12·38	3·40	50·6	33·4	42·6	20·4	36·9	49·6	21·0	54·0	58·8	44·6
October	6·19	1·49	25·9	5·54	1·16	21·0	9·24	3·60	52·8	30·8	31·4	14·9	24·2	27·2	12·4	60·0	45·4	22·0
November	5·33	1·22	14·8	2·82	0·83	10·2	8·52	2·97	36·8	16·4	26·9	11·1	11·5	14·6	7·6	36·7	42·0	27·8
December	5·05	1·08	12·8	3·08	0·60	7·4	9·90	3·87	46·4	12·0	26·4	10·2	9·4	16·5	4·8	40·6	52·7	28·6
Year	7·54	1·47	24·3	6·83	1·33	22·6	11·38	2·85	41·1	26·4	39·3	19·6	23·0	36·3	15·4	45·0	57·4	34·5
Winter	5·25	1·15	14·7	3·23	0·76	11·3	9·64	3·26	39·5	16·5	26·7	11·4	13·0	16·8	6·5	39·2	50·5	29·6
Equinox	7·92	1·60	27·8	7·82	1·35	25·1	11·59	2·93	46·9	31·7	41·2	21·0	26·5	40·9	18·1	52·4	57·0	33·6
Summer	9·44	1·67	30·3	9·44	1·88	31·6	12·91	2·35	37·0	31·1	50·1	26·4	29·5	51·1	21·7	43·5	64·8	40·5

TABLE XI.—NON-CYCLIC CHANGE (24^h—0^h).

Month, 1933.	"All" Days.			Quiet Days.			Disturbed Days.		
	Declination West.	Horizontal Force.	Vertical Force.	Declination West.	Horizontal Force.	Vertical Force.	Declination West.	Horizontal Force.	Vertical Force.
	′	γ	γ	′	γ	γ	′	γ	γ
January	0·00	−0·7	−0·3	+0·36	+1·6	−1·6	−1·22	− 7·8	+1·6
February	−0·07	−0·0	+0·3	+0·40	+3·4	−1·2	−1·16	− 3·2	−5·8
March	+0·06	+0·8	−0·4	+0·32	+3·0	−0·8	−0·26	− 3·4	−3·4
April	−0·21	−0·1	+0·4	+0·76	+1·8	−0·2	−0·72	− 1·0	−2·4
May	+0·11	+0·3	−0·2	−0·04	+2·2	−1·4	+2·74	−11·6	−4·0
June	+0·07	+0·1	0·0	−0·18	+3·2	+0·6	+0·70	− 1·4	−0·4
July	−0·02	+0·1	−0·0	−0·44	+2·0	−0·8	+0·10	−11·6	+0·4
August	−0·05	−0·3	+0·3	+0·46	−1·8	0·0	+0·18	− 5·4	−1·2
September	−0·01	−0·3	+0·2	+0·60	+2·0	+0·6	+0·72	− 4·0	−0·6
October	−0·05	+0·2	+0·0	+0·48	+4·2	−1·0	−0·82	− 2·4	−4·6
November	−0·02	−0·3	+0·1	−0·02	+0·4	+1·4	+0·78	− 5·4	+2·6
December	−0·02	+0·2	−0·1	+0·36	+4·0	−3·0	−0·96	− 3·6	+0·2
Year 1933	—	—	—	+0·26	+2·2	−0·6	+0·01	− 5·1	−1·5

TABLE XII.—MEAN MONTHLY and ANNUAL VALUES of TERRESTRIAL MAGNETIC ELEMENTS at the ABINGER MAGNETIC STATION.

Month, 1933.	Declination (West).	Inclination.	Horizontal Force.	North Force.	West Force.	Vertical Force.	Total Force.
	° ′	° ′					
January	11 56·5	66 39·5	·18531	·18130	·03834	·42943	·46770
February	11 55·8	66 39·3	·18531	·18131	·03831	·42937	·46766
March	11 55·2	66 39·2	·18534	·18134	·03828	·42938	·46766
April	11 53·8	66 39·3	·18532	·18134	·03820	·42939	·46768
May	11 52·8	66 39·3	·18534	·18137	·03815	·42943	·46771
June	11 51·9	66 38·8	·18540	·18144	·03812	·42939	·46771
July	11 51·2	66 38·8	·18540	·18144	·03808	·42937	·46769
August	11 50·5	66 39·5	·18531	·18136	·03803	·42941	·46769
September	11 49·6	66 40·0	·18525	·18132	·03797	·42944	·46769
October	11 48·7	66 39·7	·18529	·18137	·03793	·42945	·46771
November	11 47·6	66 39·8	·18529	·18138	·03787	·42949	·46772
December	11 46·9	66 39·7	·18530	·18140	·03784	·42949	·46769
Year 1933	11 51·7	66 39·4	·18532	·18136	·03809	·42942	·46769

TABLE XIII.—DAILY MEAN VALUE OF THE BASE-LINE OF THE DECLINATION MAGNETOGRAMS AT ABINGER MAGNETIC STATION.

1933 Day	January	February	March	April	May	June	July	August	September	October	November	December
	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′
1	II. 49·4	II. 47·8	II. 48·2	II. 48·7	II. 48·7	II. 50·7	II. 50·1	II. 51·2	II. 51·0	II. 28·5	II. 25·6	II. 26·8 / 26·0
2	49·4	48·2	48·6	48·7	48·8	50·4	50·3	51·1	51·0	28·6	25·8	25·8
3	49·6	48·2	49·0	48·7	48·8	50·4	50·6	51·1	51·4	28·4	25·7	26·1
4	49·5	48·5	48·9	48·7	49·0	50·5	50·8	51·5	51·5	27·7	25·5	25·7
5	49·6	49·0	49·4	48·8	49·2	50·7	51·0	52·1	51·3	27·5	25·4	25·5
6	49·4	49·2	49·4	49·0	49·4	50·9	51·0	52·2	51·3	27·3	25·4	25·8
7	49·2	49·3	48·7	49·0	49·5	50·9	51·4	52·4	51·3	27·7	25·8	25·8
8	49·2	49·8	48·6	49·6	49·6	50·8	51·3	52·1	51·1	28·0	26·1	26·2
9	49·5	50·1	48·6	49·5	49·7	50·9	51·7	51·5	50·9	28·2	26·1	25·9
10	49·3	49·9	48·7	49·5	49·3	50·5	51·2	51·5	51·1	28·5	25·8	25·9
11	49·1	49·8	48·5	49·6	49·4	49·8	51·4	51·3	51·2	28·5	25·7	25·8
12	49·1	49·3	48·5	49·7	49·2	49·7	51·2	51·3	51·1	27·3	25·5	25·9
13	49·2	49·0	48·6	49·5	49·3	50·0	51·1	51·1	51·1	26·7	25·5	26·0
14	49·2	48·9	48·8	49·0	49·4	49·7	50·9	51·2	50·4	26·9	25·4	25·7
15	49·2	48·6	48·8	48·8	49·2	50·1	50·9	51·4	27·7	27·6	25·5	25·5
16	49·1	48·5	48·9	48·9	49·3	50·3	50·9	51·6	28·1	27·2	25·5	25·5
17	48·9	48·3	49·0	48·9	49·3	50·2	50·9	51·0	28·1	26·9	25·4	25·9
18	48·7	48·2	49·1	48·8	49·3	49·7	51·1	51·1	28·5	26·6	25·2	26·0
19	48·8	48·2	49·1	48·2	49·4	49·3	51·1	51·1	28·9	26·4	25·6	25·8
20	48·5	48·1	49·1	47·7	49·6	49·4	51·4	51·2	28·4	26·3	25·8	26·0
21	48·8	48·0	48·8	47·6	50·0	49·5	51·4	50·9	27·9	26·4	26·2	26·0
22	48·4	47·8	48·7	47·5	50·3	49·5	51·5	50·4	28·1	26·2	26·2	25·9
23	47·5	48·2	48·7	47·3	50·5	49·8	51·8	50·7	27·9	27·1	26·1	25·8
24	47·5	47·6	48·5	47·6	50·5	50·0	52·0	50·6	27·6	27·3	27·5	25·9
25	47·5	47·5	48·4	47·9	50·2	50·0	52·1	51·1	27·7	27·3	26·5	26·2
26	47·4	47·7	48·5	48·3	49·6	50·4	52·3	51·2	27·7	26·7	26·0	25·9
27	47·0	47·8	48·3	48·6	49·6	50·4	52·3	51·6	28·3	26·0	25·7	26·0
28	47·0	48·1	48·4	48·7	49·8	50·0	51·7	51·7	28·4	25·5	25·8 / 27·2	26·2
29	47·0		48·6	48·7	49·6	50·0	51·6	51·4	28·5	25·5	27·0	26·2
30	47·2		48·7	48·7	49·6	50·1	51·3	51·5	28·4	25·5	26·9	26·3
31	47·2		48·7		49·8		51·4	51·3				26·4

TABLE XIV.—RESULTS of the DETERMINATIONS of the ABSOLUTE VALUE OF HORIZONTAL FORCE from OBSERVATIONS made with the SCHUSTER-SMITH COIL MAGNETOMETER in the MAGNETIC PAVILION at ABINGER, with the DEDUCED VALUES of the BASE-LINE of the HORIZONTAL FORCE MAGNETOGRAMS.

Greenwich Mean Time, 1933.	No. of Obs.	Observed Horizontal Force.	Deduced Value of Base Line.
		γ	γ
Jan. 4. 22 23–22 39	8	18536	18628
5. 10 33–10 47	8	18537	18629
6. 12 32–13 2	12	18511	18628
7. 9 12– 9 33	10	18525	18628
9. 10 53–11 8	8	18545	18628
10. 14 40–14 57	10	18538	18628
11. 10 58–11 11	8	18531	18627
12. 16 39–16 53	8	18544	18627
13. 10 51–11 7	8	18540	18628
14. 10 13–10 27	8	18538	18628
16. 10 31–10 45	8	18516	18629
17. 11 56–12 6	8	18533	18631
18. 10 38–10 49	8	18524	18633
19. 11 27–11 43	10	18536	18632
20. 11 17–11 30	8	18523	18633
21. 10 40–10 52	8	18527	18633
23. 11 53–12 38	8	18512	18542
23. 16 14–16 31	8	18525	18543
24. 11 4–11 24	8	18516	18543
24. 13 4–13 20	8	18520	18544
25. 11 3–11 14	8	18518	18543
25. 12 24–12 32	6	18521	18544
26. 1 43– 1 57	5	18524	18544
26. 3 11– 3 18	3	18531	18543
26. 9 45–10 43	16	18519	18544
27. 10 56–11 22	8	18515	18614
27. 12 40–12 57	8	18523	18614
27. 16 12–16 24	6	18531	18614
28. 10 7–10 30	9	18505	18615
30. 10 40–10 58	8	18513	18614
31. 14 17–14 34	8	18528	18614
31. 17 11–17 18	4	18515	18615
Feb. 1. 9 59–10 18	8	18523	18615
1. 14 38–14 57	8	18535	18616
2. 9 57–10 13	8	18535	18614
2. 11 24–11 39	8	18530	18614
3. 11 18–11 34	8	18520	18613
3. 13 2–13 16	8	18511	18613
4. 10 26–10 50	8	18538	18615
6. 10 35–10 47	8	18529	18613
6. 11 30–11 43	8	18529	18613
7. 11 6–11 24	8	18542	18613
7. 12 55–13 10	8	18538	18614
8. 3 35– 3 53	10	18539	18611
8. 11 38–11 54	8	18535	18614
9. 3 4– 3 17	8	18544	18613
9. 11 39–11 52	8	18532	18612
10. 11 32–11 48	8	18525	18611
11. 11 23–11 39	8	18534	18612
13. 11 18–11 35	8	18520	18612
14. 11 21–11 37	8	18534	18614
15. 10 6–10 25	8	18529	18612
16. 15 33–15 55	8	18531	18612
17. 11 15–11 30	8	18523	18613
17. 14 22–14 30	2	18536	18614
17. 15 42–15 46	2	18539	18613
18. 13 3–13 17	8	18538	18613
20. 12 50–13 4	8	18494	18613
21. 11 28–11 46	8	18506	18612
Feb. 22. 9 49–10 0	6	18522	18612
22. 11 50–12 13	8	18514	18615
23. 5 16– 5 35	8	18528	18616
23. 10 30–10 44	8	18519	18616
24. 12 2–12 22	8	18499	(18612)
25. 11 35–11 51	8	18504	18616
27. 14 51–15 7	8	18519	18617
28. 11 38–11 53	8	18510	18616
Mar. 1. 8 7– 8 19	6	18530	18616
2. 11 33–11 51	8	18523	18618
3. 11 22–11 38	10	18529	18617
4. 12 35–12 48	8	18526	18617
6. 11 19–11 37	8	18532	18617
7. 11 57–12 15	10	18539	18613
8. 3 16– 3 32	10	18548	18611
8. 12 26–12 46	10	18533	18612
9. 3 26– 3 42	10	18536	18611
9. 19 17–19 36	10	18544	18612
10. 12 53–13 13	10	18545	18612
11. 12 45–13 5	10	18519	18611
13. 12 55–13 12	10	18535	18611
14. 12 33–12 51	10	18528	18611
15. 11 30–12 1	10	18513	18610
16. 11 49–12 5	10	18531	18610
17. 12 57–13 14	10	18530	18610
18. 12 51–13 8	10	18520	18610
20. 20 27–20 48	10	18528	18610
21. 13 0–13 17	10	18522	18610
22. 3 14– 3 35	10	18521	18610
22. 14 53–15 41	10	18517	18610
23. 3 31– 3 51	10	18545	18609
23. 11 28–11 49	10	18514	18610
24. 12 2–12 27	11	18507	18610
25. 10 2–10 20	10	18498	18608
27. 16 45–17 4	10	18542	18610
28. 13 0–13 19	10	18536	18609
29. 12 59–13 17	10	18538	18610
30. 11 45–12 1	10	18513	18608
31. 11 39–11 57	10	18519	18608
Apr. 1. 12 34–12 54	10	18530	18609
3. 14 30–14 49	10	18530	18609
4. 20 36–20 48	6	18545	18608
5. 15 46–16 9	10	18526	18608
6. 11 51–12 6	10	18506	18607
7. 11 20–11 39	10	18508	18608
7. 15 56–16 17	10	18508	18607
8. 11 11–11 32	10	18513	18632
9. 11 53–12 2	6	18516	18633
10. 13 41–14 2	10	18525	18633
11. 11 45–12 3	10	18527	18633
12. 1 33– 1 48	10	18542	18630
12. 7 13– 7 31	10	18539	18629
13. 1 18– 1 33	10	18542	18630
13. 6 45– 7 2	10	18541	18631
14. 11 36–11 53	10	18520	18632
15. 10 45–11 1	10	18523	18631
17. 9 32– 9 47	10	18506	18630
Apr. 18. 10 7–10 25	10	18510	18630
19. 9 21– 9 38	10	18514	18632
20. 15 44–16 3	10	18522	18633
21. 13 26–13 45	10	18524	18634
22. 11 54–12 11	10	18503	18634
24. 11 39–11 57	10	18519	18634
25. 10 51–11 9	10	18504	18634
26. 2 29– 2 55	10	18534	18632
26. 8 38– 8 56	11	18513	18631
27. 3 35– 3 54	10	18535	18633
27. 8 59– 9 14	10	18511	18631
28. 11 40–11 57	10	18517	18632
29. 11 42–12 0	10	18522	18632
May 1. 16 51–17 8	10	18550	18634
2. 10 45–11 0	10	18504	18632
3. 14 38–14 57	10	18522	18633
4. 10 28–10 49	10	18521	18632
5. 10 51–11 34	10	18515	18632
6. 11 59–12 19	10	18514	18632
8. 11 37–12 9	10	18521	18631
9. 12 5–12 20	10	18527	18632
10. 1 22– 1 43	10	18539	18631
10. 14 50–15 15	10	18540	18632
11. 1 48– 1 58	6	18552	18631
11. 13 46–14 34	10	18534	18632
12. 10 40–10 57	10	18522	18632
13. 11 20–11 41	10	18520	18632
15. 10 37–10 53	10	18506	18631
16. 9 54–10 29	10	18508	18631
17. 9 44–10 0	10	18522	18631
18. 10 43–11 1	10	18483	18632
19. 11 24–11 43	10	18508	18630
20. 11 48–12 5	10	18527	18631
22. 9 49–10 3	10	18518	18630
23. 14 6–14 27	10	18533	18631
24. 1 6– 1 20	8	18541	18629
24. 14 54–15 26	10	18545	18630
25. 1 40– 2 0	8	18561	18629
25. 11 36–12 16	10	18523	18630
26. 11 51–12 13	10	18528	18630
27. 9 20– 9 35	10	18534	18629
29. 11 8–11 24	10	18530	18631
30. 9 34–10 3	10	18496	18630
31. 9 54–10 7	8	18525	18630
June 1. 10 3–10 19	10	18523	18629
2. 10 8–10 25	10	18514	18654
3. 9 2– 9 15	8	18515	18654
5. 14 56–15 7	6	18536	18654
6. 12 5–12 19	8	18541	18654
7. 2 34– 2 52	8	18552	18656
7. 9 13– 9 25	8	18526	18654
8. 3 9– 3 26	8	18547	18654
8. 9 2– 9 16	8	18513	18653
9. 16 18–16 22	8	18540	18652
10. 11 32–11 47	8	18514	18652
12. 15 20–15 43	8	18546	18656
13. 13 39–13 57	10	18536	18657
14. 12 0–12 23	8	18497	18654
15. 9 47–10 2	8	18513	18654

Apr. 8. Temperature raised to 16°·0.

June 2. Temperature raised to 21°·0.

TABLE XIV.—RESULTS of the DETERMINATIONS of the ABSOLUTE VALUE of HORIZONTAL FORCE from OBSERVATIONS made with the SCHUSTER-SMITH COIL MAGNETOMETER in the MAGNETIC PAVILION at ABINGER, with the DEDUCED VALUES of the BASE-LINE of the HORIZONTAL FORCE MAGNETOGRAMS—*continued*.

Greenwich Mean Time, 1933.	No. of Obs.	Observed Horizontal Force.	Deduced Value of Base Line.
		γ	γ
June 16. 13 37–13 52	8	18526	18654
17. 9 50–10 4	8	18532	18654
19. 10 25–10 46	10	18545	18656
20. 11 46–12 10	10	18526	18657
21. 1 52– 2 35	10	18543	18656
21. 8 49– 9 3	10	18522	18654
22. 2 30– 2 54	10	18549	18656
22. 8 20– 8 39	10	18518	18655
23. 10 48–11 5	10	18524	18656
24. 11 39–11 56	10	18537	18656
26. 20 27–20 48	8	18547	18655
27. 7 31– 7 49	10	18541	18655
28. 10 18–10 36	10	18523	18655
29. 14 10–14 24	8	18541	18655
30. 13 59–14 12	8	18530	18655
July 1. 14 53–15 7	8	18546	18656
3. 14 22–14 35	8	18545	18655
4. 11 42–11 56	8	18531	18654
5. 9 45–10 0	8	18528	18654
6. 13 46–14 1	8	18534	18653
7. 8 41– 8 48	4	18517	18653
7. 12 2–12 15	8	18539	18654
8. 12 10–12 22	8	18522	18653
10. 10 52–11 11	10	18515	18651
10. 15 26–15 44	8	18540	18669
11. 13 42–14 2	10	18556	18670
12. 2 51– 3 10	8	18531	18668
12. 7 19– 7 37	10	18520	18666
13. 1 18– 1 32	8	18540	18668
13. 14 20–14 41	10	18542	18667
14. 9 27– 9 44	10	18526	18666
15. 9 15– 9 32	10	18532	18667
17. 16 6–16 21	8	18547	18668
18. 9 9– 9 23	8	18512	18667
19. 9 3– 9 16	8	18530	18666
19. 9 34– 9 48	8	18518	18667
21. 8 56– 9 11	8	18520	18665
22. 9 20– 9 34	8	18522	18664
24. 19 25–19 42	8	18546	18665
25. 11 51–12 14	8	18507	18665
26. 5 37– 5 48	4	18534	18664
26. 15 37–15 50	8	18547	18664
27. 4 19– 4 41	6	18561	18665
27. 20 50–21 7	8	18550	18663
28. 21 12–21 27	8	18545	18664
29. 11 36–11 50	8	18514	18664
31. 19 31–19 47	8	18552	18664
Aug. 1. 14 44–14 58	8	18551	18665
2. 9 17– 9 30	8	18525	18664
3. 9 7– 9 26	8	18524	18662
4. 16 12–16 27	8	18543	18663
5. 9 6– 9 21	8	18530	18661
7. 11 38–11 48	6	18493	18661
8. 13 33–13 47	8	18535	18663
9. 0 57– 1 9	8	18536	18662
9. 10 38–11 10	8	18497	18662
10. 1 24– 1 38	8	18539	18663
10. 10 51–11 7	8	18514	18662
Aug. 11. 13 38–13 54	8	18527	18662
12. 10 15–10 29	8	18518	18662
14. 11 17–11 32	8	18513	18664
15. 10 53–11 4	8	18512	18663
16. 10 57–11 9	8	18516	18663
17. 9 56–10 8	8	18528	18662
18. 10 19–10 49	8	18516	18662
19. 10 30–10 43	8	18514	18662
21. 9 56–10 9	8	18478	18662
22. 10 10–10 26	8	18507	18664
23. 1 45– 2 0	8	18544	18665
23. 11 18–11 33	8	18527	18665
24. 10 35–10 47	8	18523	18665
24. 14 12–14 27	8	18530	18665
25. 9 21– 9 38	9	18506	18665
26. 8 53– 9 9	8	18507	18664
28. 10 48–11 0	8	18512	18663
29. 14 24–14 39	8	18531	18664
30. 9 52–10 6	8	18530	18663
31. 11 14–11 28	8	18523	18663
Sept. 1. 10 23–10 37	8	18519	18662
2. 9 22– 9 36	8	18517	18662
4. 14 43–15 57	8	18542	18663
5. 14 52–15 5	8	18542	18662
6. 10 16–10 32	8	18519	18662
7. 11 28–11 46	8	18527	18662
8. 10 54–11 7	8	18519	18663
9. 11 45–12 5	8	18456	18664
11. 15 12–15 24	8	18495	18661
12. 9 49–10 1	8	18492	18663
13. 11 2–11 13	8	18503	18664
14. 9 58–10 9	8	18500	18662
15. 10 53–11 4	8	18482	18647
15. 14 40–14 46	4	18501	18650
16. 11 26–11 36	8	18509	18652
18. 20 14–20 31	10	18532	18651
19. 10 20–10 33	8	18517	18651
20. 15 7–15 20	8	18523	18651
21. 10 19–10 31	8	18505	18650
22. 10 41–10 53	8	18501	18650
23. 9 59–10 13	10	18502	18651
24. 19 47–19 59	6	18542	18688
25. 8 55– 9 19	12	18503	18686
25. 15 2–15 17	8	18531	18687
26. 9 3– 9 19	8	18519	18687
30. 9 1– 9 13	8	18532	18688
30. 10 34–10 52	10	18527	18687
Oct. 2. 8 59– 9 18	8	18524	18687
3. 8 53– 9 8	8	18525	18688
4. 9 16– 9 33	8	18525	18688
5. 10 7–10 23	8	18507	18688
6. 10 8–10 26	8	18493	18688
7. 8 59– 9 12	8	18501	18690
9. 10 7–10 20	8	18498	18687
10. 11 13–11 28	8	18503	18688
11. 9 56–10 12	8	18502	18687
Oct. 12. 9 57–10 14	8	18509	18688
13. 10 57–11 13	8	18510	18664
14. 9 55–10 15	10	18522	18662
16. 13 4–13 17	8	18527	18661
17. 9 59–10 11	8	18523	18663
18. 11 54–12 8	8	18495	18661
19. 11 48–12 4	8	18521	18661
20. 12 28–12 44	8	18532	18660
21. 9 46–10 2	10	18525	18662
23. 11 18–11 29	8	18515	18662
23. 17 2–17 14	8	18539	18662
24. 12 7–12 29	10	18524	18660
25. 9 57–10 17	10	18527	18660
26. 10 54–11 6	8	18522	18661
27. 11 21–11 45	10	18526	18661
28. 10 52–11 5	8	18522	18661
30. 11 38–11 58	10	18529	18662
31. 10 18–10 30	8	18527	18664
Nov. 1. 11 2–11 15	8	18530	18662
2. 9 55–10 9	10	18522	18663
3. 10 53–11 3	8	18528	18662
3. 15 12–15 27	8	18526	18663
4. 10 11–10 22	8	18508	18662
6. 17 0–17 15	8	18488	18662
7. 11 43–11 57	8	18500	18659
8. 11 41–11 57	8	18510	18662
9. 10 50–11 3	8	18509	18661
10. 11 41–11 55	8	18498	18662
11. 10 49–11 6	8	18521	18662
13. 11 45–12 0	8	18530	18662
14. 10 49–11 4	8	18535	18663
15. 12 47–13 6	10	18525	18663
16. 11 6–11 25	8	18532	18662
17. 15 12–15 35	10	18533	18662
18. 11 35–11 57	10	18540	18662
20. 12 37–12 56	10	18535	18662
21. 10 16–10 31	8	18538	18661
22. 10 18–10 33	8	18531	18662
23. 9 59–10 13	8	18532	18662
23. 18 18–18 24	4	18531	18686
24. 9 55–10 7	8	18529	18683
25. 10 20–10 43	8	18532	18684
27. 11 36–11 52	8	18538	18684
28. 16 5–16 20	8	18518	18711
29. 12 53–13 7	8	18532	18712
30. 10 1–10 16	8	18529	18712
Dec. 1. 10 5–10 19	8	18532	18712
2. 10 20–10 40	8	18526	18687
4. 10 12–10 37	8	18518	18686
5. 10 5–10 25	8	18509	18687
6. 11 54–12 7	8	18520	18687
7. 10 4–10 20	8	18531	18687
8. 10 9–10 23	8	18525	18687
9. 10 48–11 1	9	18526	18688
11. 16 39–16 53	8	18521	18688
12. 12 46–13 5	8	18536	18688

Oct. 12. Temperature lowered to 16°·0.

Dec. 1. Temperature lowered to 11°·0

TABLE XIV.—RESULTS of the DETERMINATIONS of the ABSOLUTE VALUE of HORIZONTAL FORCE from OBSERVATIONS made with the SCHUSTER-SMITH COIL MAGNETOMETER in the MAGNETIC PAVILION at ABINGER; with the DEDUCED VALUES of the BASE-LINE of the HORIZONTAL FORCE MAGNETOGRAMS—*continued*.

Greenwich Mean Time, 1933.	No. of Obs.	Observed Horizontal Force.	Deduced Value of Base Line.	Greenwich Mean Time, 1933.	No. of Obs.	Observed Horizontal Force.	Deduced Value of Base Line.	Greenwich Mean Time, 1933.	No. of Obs.	Observed Horizontal Force.	Deduced Value of Base Line.
h m h m		γ	γ	h m h m		γ	γ	h m h m		γ	γ
Dec. 13. 12 3–12 17	8	18535	18688	Dec. 19. 11 37–11 51	8	18528	18688	Dec. 26. 11 40–11 49	6	18533	18685
14. 10 28–10 55	8	18530	18687	20. 10 52–11 8	8	18526	18687	27. 12 33–12 50	8	18534	18687
15. 11 46–12 1	8	18536	18688	21. 10 54–11 20	8	18536	18687	28. 11 42–12 4	10	18538	18687
16. 10 49–11 3	8	18543	18687	22. 11 4–11 15	8	18525	18687	29. 10 48–11 1	8	18526	18687
18. 12 50–13 7	8	18538	18687	23. 10 54–11 7	8	18522	18687	30. 11 35–11 56	10	18533	18687

TABLE XIV (A).—RESULTS of the DETERMINATIONS of the ABSOLUTE VALUE of HORIZONTAL FORCE from OBSERVATIONS made with the UNIFILAR MAGNETOMETER CASELLA 181 in the TESTING HUTS at ABINGER, with the DEDUCED VALUES of the BASE-LINE of the HORIZONTAL FORCE MAGNETOGRAMS.

Greenwich Mean Time, 1933.	Observed Horizontal Force.	Deduced Value of Base Line.
	γ	γ
Jan. 2. 15 0–16 4	18537	18631
4. 10 3–11 37	18529	18629
4. 12 23–13 24	18537	18633
5. 11 32–12 49	18536	18626
6. 10 7–11 8	18504	18631
6. 14 38–15 38	18526	18627
9. 20 39–21 44	18529	18627
10. 11 22–12 27	18534	18630
11. 19 2–19 57	18540	18632
12. 14 47–15 46	18543	18630
13. 11 42–12 55	18547	18631
14. 10 40–11 45	18540	18631
16. 10 54–11 48	18511	18628
Mar. 3. 11 21–12 51	18533	18618
3. 16 2–17 16	18527	18614
4. 10 41–11 48	18527	18612
6. 10 48–11 56	18525	18610
6. 15 58–17 9	18533	18611
7. 11 29–13 2	18536	18610
8. 14 58–16 7	18537	18614
9. 14 30–15 32	18540	18615
10. 14 52–15 46	18544	18614
11. 11 19–12 6	18521	18609
13. 11 21–12 24	18537	18612
14. 14 42–15 36	18547	18614
15. 12 32–13 19	18514	18609
16. 12 30–13 21	18533	18607
17. 11 22–12 6	18528	18609
18. 19 46–20 38	18547	18612
21. 15 7–16 6	18528	18613
22. 10 58–11 56	18498	18619
23. 10 26–11 21	18515	18612
30. 15 17–16 35	18531	18612
31. 12 31–13 22	18532	18613
Apr. 1. 9 46–10 38	18527	18609
11. 9 5–10 18	18531	18635
12. 8 30– 9 42	18529	18629
13. 8 31– 9 30	18524	18630
18. 13 48–14 46	18506	18634
19. 14 23–15 11	18525	18637
21. 9 7–10 17	18499	18632
22. 9 13–10 10	18491	18636
24. 13 39–14 38	18547	18641
25. 10 40–11 30	18504	18631
26. 6 44– 7 32	18523	18631
27. 9 22–10 16	18507	18629
28. 13 51–14 45	18534	18636
29. 9 4–10 7	18514	18632
May 1. 13 59–14 49	18531	18644
2. 13 49–14 44	18517	18638
3. 13 33–14 27	18523	18637
4. 13 31–14 47	18530	18637
5. 15 10–16 23	18542	18637
8. 18 37–19 31	18552	18642
9. 13 33–14 37	18547	18644
10. 8 53– 9 59	18524	18643
May 11. 8 41– 9 44	18529	18644
12. 11 12–12 6	18542	18646
13. 9 0– 9 53	18537	18641
15. 14 24–15 24	18539	18643
16. 11 5–11 49	18532	18646
17. 10 14–11 2	18534	18644
18. 11 26–12 20	18500	18631
19. 10 2–10 52	18516	18636
20. 10 11–11 2	18525	18629
22. 13 58–15 54	18545	18641
23. 14 41–16 23	18531	18629
24. 8 45–10 23	18522	18633
26. 18 51–20 24	18547	18627
27. 9 1–10 24	18530	18624
27. 10 35–12 10	18553	18644
30. 13 31–14 25	18513	18625
31. 15 20–16 19	18532	18630
June 1. 9 4– 9 49	18525	18628
2. 14 6–15 4	18551	18662
6. 10 14–11 37	18544	18665
7. 6 25– 7 7	18526	18647
8. 8 11– 8 56	18512	18655
9. 14 13–15 15	18529	18660
10. 9 58–10 51	18521	18658
12. 14 33–15 24	18549	18663
13. 10 30–11 38	18509	18655
14. 10 24–11 29	18518	18663
15. 10 46–11 36	18521	18662
16. 10 58–11 55	18533	18665
17. 11 42–12 30	18557	18658
19. 13 43–14 42	18557	18670
20. 10 18–11 5	18523	18667
21. 6 23– 7 7	18528	18661
22. 6 15– 7 6	18533	18656
22. 10 30–11 28	18538	18667
23. 11 32–12 20	18546	18668
23. 14 45–15 38	18563	18666
24. 10 15–11 4	18533	18666
27. 8 54– 9 58	18511	18660
28. 15 1–16 7	18558	18673
29. 14 42–15 40	18536	18664
July 1. 11 3–12 2	18527	18656
3. 14 59–15 59	18552	18660
4. 14 15–15 17	18546	18662
6. 14 21–15 23	18544	18663
7. 13 46–14 38	18556	18664
11. 14 20–15 20	18549	18677
12. 9 9– 9 57	18524	18673
13. 14 50–15 42	18559	18674
14. 15 5–15 55	18546	18675
15. 10 59–11 55	18531	18676
18. 11 15–12 11	18543	18676
20. 11 7–12 3	18546	18673
22. 11 43–12 39	18544	18679
Aug. 3. 11 27–12 17	18553	18679
5. 11 10–12 2	18545	18676
Aug. 8. 10 22–11 30	18511	18676
10. 15 28–16 40	18548	18670
11. 9 31–10 39	18514	18667
12. 9 40–10 44	18510	18653
14. 10 1–10 58	18513	18662
15. 9 21–10 16	18511	18662
16. 9 8–10 10	18517	18662
17. 8 38– 9 23	18520	18663
18. 9 0– 9 44	18527	18668
19. 9 7– 9 53	18525	18660
21. 8 43– 9 30	18499	18666
22. 9 18–10 10	18513	18666
23. 8 42– 9 37	18501	18663
23. 11 18–12 26	18533	18671
24. 9 24–10 26	18524	18674
24. 14 19–15 16	18529	18665
25. 11 25–12 7	18504	18670
26. 7 57– 8 54	18516	18670
26. 9 25–10 33	18519	18673
28. 8 55– 9 58	18519	18669
28. 13 31–14 18	18539	18667
29. 11 14–12 11	18522	18669
30. 8 47– 9 37	18532	18670
31. 9 9–10 25	18527	18669
Sept. 1. 8 28– 9 2	18517	18661
2. 8 44– 9 35	18523	18667
2. 10 6–11 0	18526	18667
4. 10 11–10 59	18527	18671
5. 10 43–11 43	18523	18669
6. 13 28–14 9	18553	18671
7. 8 57–10 7	18530	18673
8. 8 53– 9 47	18514	18670
9. 8 51– 9 50	18424	18673
12. 8 39– 9 28	18503	18668
13. 9 12–10 12	18504	18663
19. 8 59– 9 55	18512	18649
20. 8 55–10 6	18513	18649
21. 9 9–10 3	18508	18649
22. 9 15–10 4	18497	18647
23. 9 6– 9 55	18496	18645
25. 8 15– 9 24	18496	18677
25. 13 38–14 41	18538	18696
26. 8 55– 9 50	18520	18689
27. 11 41–12 29	18522	18692
27. 14 0–14 45	18529	18686
28. 9 2– 9 55	18515	18685
28. 11 35–12 26	18517	18692
29. 8 59– 9 54	18528	18691
29. 10 16–11 6	18526	18694
30. 9 9–10 5	18532	18691
Oct. 2. 14 37–15 37	18535	18694
3. 8 3– 8 46	18537	18686
3. 9 0–10 5	18531	18689
4. 11 17–12 6	18524	18696
5. 8 58– 9 55	18517	18692
6. 8 55– 9 54	18487	18692
6. 10 15–11 9	18507	18692
7. 9 19–10 10	18487	18687

April 8. Temperature raised to 16°.0 June 2 Temperature raised to 21°.0.

TABLE XIV (A).—RESULTS of the DETERMINATIONS of the ABSOLUTE VALUE of HORIZONTAL FORCE from OBSERVATIONS made with the UNIFILAR MAGNETOMETER CASELLA 181 in the TESTING HUTS at ABINGER, with the DEDUCED VALUES of the BASE-LINE of the HORIZONTAL FORCE MAGNETOGRAMS.—*continued.*

Greenwich Mean Time, 1933.	Observed Horizontal Force.	Deduced Value of Base Line.	Greenwich Mean Time, 1933.	Observed Horizontal Force.	Deduced Value of Base Line.	Greenwich Mean Time, 1933.	Observed Horizontal Force.	Deduced Value of Base Line.
h m h m	γ	γ	h m h m	γ	γ	h m h m	γ	γ
Oct. 9. 12 24–13 18	18515	18695	Nov. 3. 9 55–10 51	18525	18663	Dec. 1. 11 53–12 59	18541	18721
10. 9 55–10 58	18481	18692	4. 9 19–10 5	18514	18665			
11. 9 22–10 10	18509	18689	6. 12 8–13 7	18520	18665	2. 9 44–10 38	18526	18686
12. 9 36–10 28	18513	18690	6. 15 9–16 19	18490	18669	4. 14 41–15 51	18523	18696
			7. 12 3–13 8	18517	18670	5. 12 23–13 23	18523	18698
13. 10 24–11 12	18510	18664	8. 15 19–16 18	18525	18670	6. 12 16–13 17	18527	18698
14. 9 46–10 43	18511	18660	9. 11 35–12 36	18511	18674	7. 11 42–12 44	18533	18695
16. 15 16–16 14	18532	18670	10. 12 2–13 5	18508	18671	8. 11 48–12 45	18539	18696
17. 11 35–12 38	18534	18670	11. 9 43–10 37	18518	18665	9. 11 18–12 14	18532	18694
18. 9 51–10 50	18521	18667	13. 15 26–16 31	18536	18670	11. 14 49–15 54	18525	18691
19. 9 55–10 54	18518	18663	14. 11 40–12 49	18541	18671	12. 9 54–10 54	18531	18691
20. 10 5–11 0	18514	18663	15. 11 46–12 50	18532	18670	13. 9 54–11 0	18542	18696
21. 9 55–10 54	18523	18664	16. 14 51–16 16	18550	18676	14. 11 0–12 8	18543	18697
23. 9 34–10 19	18510	—	18. 10 5–10 58	18550	18671	16. 11 48–12 48	18548	18697
23. 16 12–16 57	18530	18654	20. 14 26–15 29	18546	18675	18. 14 36–15 49	18550	18698
24. 8 35– 9 19	18529	18654	21. 12 26–13 28	18537	18668	19. 11 59–12 58	18540	18695
25. 10 9–10 54	18528	18658	22. 12 4–12 58	18543	18672	20. 11 11–12 5	18538	18696
26. 10 4–10 50	18527	18663	23. 14 40–15 41	18533	18667	21. 11 33–12 32	18550	18697
27. 10 33–11 17	18527	18660				22. 10 13–10 52	18536	18695
28. 9 24–10 9	18528	18658	24. 11 16–12 1	18535	18690	23. 11 13–12 15	18540	18700
30. 12 7–13 5	18536	18668	25. 11 58–13 2	18540	18690	28. 12 11–13 15	18548	18693
31. 10 5–11 6	18528	18665	27. 15 55–16 56	18553	18692	29. 10 17–11 6	18532	18691
						29. 11 7–11 52	18537	18695
			28. 14 29–15 35	18520	18725	30. 12 30–13 41	18550	18700
Nov. 1. 9 54–11 1	18529	18665	29. 11 34–12 33	18542	18721			
2. 9 56–10 57	18515	18663	30. 10 21–11 13	18531	18711			

Oct. 12. Temperature lowered to 16·0°.
Dec. 1. Temperature lowered to 11·0°.

TABLE XV.—DAILY VALUE of the BASE-LINE of the VERTICAL FORCE MAGNETOGRAMS at the ABINGER MAGNETIC STATION DEDUCED from OBSERVATIONS OF VERTICAL FORCE made with the DYE COIL-MAGNETOMETER.

1933 Day	January	February	March	April	May	June	July	August	September	October	November	December
	ϒ	ϒ	ϒ	ϒ	ϒ	ϒ	ϒ	ϒ	ϒ	ϒ	ϒ	ϒ
1	—	43130	43142	43143	43166	43173 / 205	43248	43177	—	—	43151	43141
2	—	127	146	—	167	217	—	184	—	43153	157	138
3	—	125	144	143	166	220	242	180	—	155	161	—
4	43123	128	144	141	164	—	241	180	—	159	157	139
5	121	125	—	144	166	219	242	179	43208	162	—	139
6	118	121	146	143	166	221	242	—	206	164	160	138
7	122	121	143	143	—	222	240	178	212	165	149	140
8	—	121	142	166	164	226	244	180	214	—	148	141
9	120	119	142	178	165	223	—	182	214	164	149	141
10	123	117	141	180	164	227	245 / 169	184	—	161	149	143
11	122	116	141	178	165	—	171	185	215	160	151	—
12	123	—	—	181	166	234	169	187	219	144	—	—
13	—	116	142	182	166	235	174	—	226	140	152	—
14	—	116	140	185	—	234	174	189	224	141	155	—
15	—	119	145	186	165	235	175	195	142	—	155	143
16	—	122	143	—	167	235	—	196	144	139	151	146
17	—	123	140	187	166	238	174	194	—	142	154	—
18	—	123	140	190	166	—	172	198	146	143	156	149
19	—	—	—	191	164	243	173	195	142	143	—	148
20	—	124	139	161	164	244	171	—	141	145	155	146
21	121	125	140	164	—	244	172	200	146	145	152	147
22	—	127	140	165	165	242	173	204	148	—	152	146
23	122	138	140	—	168	243	—	207	151	143	152	145
24	122	139	139	166	171	247	170	207	—	144	154	—
25	123	143	141	166	172	—	170	207	156	144	154	—
26	126	—	—	167	175	244	171	208	156	143	—	149
27	127	144	144	166	174	244	172	—	155	146	156	148
28	130	144	141	165	—	245	176	205	154	149	157	147
29	—		143	165	173	245	175	202	154	—	158	145
30	131		141	—	174	246	—	206	153	153	160	147
31	133		145		172		181	—		154		—

April 8. Temperature raised to 16°·0.
June 1. Temperature raised to 21°·0.
Oct. 12. Temperature lowered to 16°·0.
Dec. 1. Temperature lowered to 11°·0.

TABLE XV(A).—DAILY VALUE of the BASE-LINE of the VERTICAL FORCE MAGNETOGRAMS at the ABINGER MAGNETIC STATION, DEDUCED from OBSERVATIONS of MAGNETIC DIP made with the EARTH INDUCTOR.

1933 Day	January	February	March	April	May	June	July	August	September	October	November	December
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	—	43128	—	43153	43154	43213	43247	43189	43207	—	43153	43135
2	—	126	43148	—	166	225	—	184	212	43149	158	140
3	—	131	147	155	168	228	244	189	—	153	159	—
4	—	119	146	147	168	—	246	186	210	158	160	144
5	43123	130	—	—	162	226	245	183	208	161	—	140
6	118	123	152	149	157	232	248	—	219	158	158	144
7	—	117	144	153	—	231	243	188	213	164	152	146
8	—	128	145	183	168	232	245	187	214	—	155	146
9	—	117	146	183	163	227	—	187	210	165	151	146
10	—	124	138	186	162	235	248 / 169	181	—	165	157	—
11	—	115	142	188	165	—	174	185	224	160	147	145
12	—	—	—	192	167	238	171	190	221	—	—	148
13	121	120	142	201	164	245	173	—	236	137	157	148
14	122	116	147	192	—	246	172	180	240	140	155	149
15	—	126	143	198	165	246	172	190	155	—	159	151
16	120	121	148	—	169	234	—	194	160	140	156	149
17	129	120	143	204	168	245	179	198	158	145	156	—
18	133	122	146	200	168	—	171	197	150	—	151	149
19	136	—	—	188	166	255	180	202	141	142	—	152
20	135	124	146	158	166	251	178	—	139	146	158	148
21	127	126	140	170	—	251	176	203	144	150	158	150
22	—	136	143	162	169	243	177	215	152	—	155	153
23	131	144	145	—	172	243	—	202	146	150	154	143
24	132	147	144	164	179	247	172	206	—	150	152	—
25	129	141	144	170	173	—	178	211	161	150	152	—
26	124	—	—	167	179	246	185	208	156	146	—	150
27	126	146	146	165	179	256	188	—	153	146	155	150
28	134	143	143	162	169	248	180	205	151	154	159	153
29	—		148	158	—	244	177	205	157	—	158	152
30	125		152	—	178	250	—	207	158	153	157	154
31	126		141		173		184	212		152		—

April 8. Temperature raised to 16°·0.
June 1. Temperature raised to 21°·0.
Oct. 12. Temperature lowered to 16°·0.
Dec. 1. Temperature lowered to 11°·0.

MEAN ANNUAL VALUES OF MAGNETIC ELEMENTS DETERMINED AT THE ROYAL OBSERVATORY, GREENWICH, BETWEEN THE YEARS 1818–1925.

Year.	Declination West.	Horizontal Force.	Vertical Force.	Dip.	Year.	Declination West.	Horizontal Force.	Vertical Force.	Dip.
	° ′	C.G.S. Unit	C.G.S. Unit	° ′		° ′	C.G.S. Unit	C.G.S. Unit	° ′
1818	24 19·4†	..	..	..	1882	18 22·3	0·1806	0·4375	67 34·2
1819	24 21·6	..	..	..	1883	18 15·0	0·1812	0·4381	67 31·7
1841	23 16·2	..	..	..	1884	18 7·6	0·1814	0·4379	67 29·7
1842	23 14·6	..	..	..	1885	18 1·7	0·1817	0·4380	67 28·0
1843	23 11·7	..	..	69 0·6	1886	17 54·5	0·1818	0·4377	67 27·1
1844	23 15·3	..	..	69 0·3	1887	17 49·1	0·1819	0·4380	67 26·6
1845	22 56·7	..	..	68 57·5	1888	17 40·4	0·1822	0·4383	67 25·6
1846	22 49·6	0·1731	..	68 58·1	1889	17 34·9	0·1823	0·4380	67 24·3
1847	22 51·3	0·1736	..	68 59·0	1890	17 28·6	0·1825	0·4381	67 23·0
1848	22 51·8	0·1731	..	68 54·7	1891	17 23·4	0·1827	0·4380	67 21·5
1849	22 37·8	0·1733	..	68 51·3	1892	17 17·4	0·1829	0·4379	67 20·0
1850	22 23·5	0·1738	..	68 46·9	1893	17 11·4	0·1831	0·4373	67 17·9
1851	22 18·3	0·1744	..	68 40·4	1894	17 4·6	0·1831	0·4374	67 17·4
1852	22 17·9	0·1745	..	68 42·7	1895	16 57·4	0·1834	0·4378	67 16·1
1853	22 10·1	0·1748	..	68 44·6	1896	16 51·7	0·1835	0·4382	67 15·1
1854	22 0·8	0·1749	..	68 47·7	1897	16 45·8	0·1838	0·4377	67 13·5
1855	21 48·4	0·1756	..	68 44·6	1898	16 39·2	0·1840	0·4377	67 12·1
1856	21 43·5	0·1759	..	68 43·5	1899	16 34·2	0·1843	0·4380	67 10·5
1857	21 35·4	0·1769	..	68 31·1	1900	16 29·0	0·1846	0·4380	67 8·8
1858	21 30·3	0·1762	..	68 28·3	1901	16 26·0	0·1850	0·4381	67 6·4
1859	21 23·5	0·1761	..	68 26·9	1902	16 22·8	0·1852	0·4377	67 3·8
1860	21 14·3	..	..	68 30·1	1903	16 19·1	0·1852	0·4368	67 1·2
1861	21 5·5	0·1773	..	68 24·6	1904	16 15·0	0·1854	0·4359	66 57·6
					1905	16 9·9	0·1854	0·4355	66 56·3
1861		0·1759		68 15·8	1906	16 3·6	0·1854	0·4353	66 55·6
1862	20 52·6	0·1763	0·4403	68 9·6	1907	15 59·8	0·1855	0·4357	66 56·2
1863	20 45·9	0·1764	0·4396	68 7·0	1908	15 53·5	0·1854	0·4356	66 56·3
1864	..	0·1767	0·4393	68 4·1	1909	15 47·6	0·1854	0·4348	66 54·1
1865	20 33·9	0·1767	0·4388	68 2·7	1910	15 41·2	0·1855	0·4345	66 52·8
1866	20 28·0	0·1773	0·4397	68 1·3	1911	15 33·0	0·1855	0·4342	66 52·1
1867	20 20·5	0·1777	0·4392	67 57·2	1912	15 24·3	0·1855	0·4340	66 51·8
1868	20 13·1	0·1779	0·4395	67 56·5	1913	15 15·2	0·1853	0·4333	66 50·5
1869	20 4·1	0·1782	0·4396	67 54·8					
1870	19 53·0	0·1784	0·4392	67 52·5	1914	15 6·3	0·1853	0·4333	66 50·8
1871	19 41·9	0·1786	0·4389	67 50·3	1915	14 56·5	0·1851	0·4331	66 51·6
1872	19 36·8	0·1789	0·4383	67 47·8	1916	14 46·9	0·1848	0·4326	66 52·2
1873	19 33·4	0·1793	0·4386	67 45·8	1917	14 37·1	0·1848	0·4330*	66 53·0
1874	19 28·9	0·1797	0·4387	67 43·6	1918	14 27·8	0·1846	0·4325	66 52·8
1875	19 21·2	0·1797	0·4383	67 42·4	1919	14 18·2	0·1845	0·4324	66 53·3
1876	19 8·3	0·1799	0·4383	67 41·0	1920	14 8·6	0·1845	0·4325	66 53·6
1877	18 57·2	0·1800	0·4381	67 39·7	1921	13 57·6	0·1845	0·4322	66 53·0
1878	18 49·3	0·1802	0·4382	67 38·2	1922	13 46·7	0·1844	0·4318	66 52·3
1879	18 40·5	0·1805	0·4382	67 37·0	1923	13 35·1	0·1843	0·4314	66 51·9
1880	18 32·6	0·1805	0·4380	67 35·7	1924	13 22·8	0·1843	0·4311	66 51·6
1881	18 27·1	0·1807	0·4379	67 34·7	1925	13 9·9	0·1841	0·4308	66 51·4

In 1818 and 1819 numerous observations of Declination were made with a Dollond needle. See Introduction, p. D19.

In 1861 new Unifilar Apparatus for absolute Horizontal Force and the Airy Dip-Circle were introduced, both sets of apparatus being used in that year. In 1864 the excavation of the Magnetic Basement caused the suspension of complete Declination Observations. From 1914 the Dip was determined with an Inductor.

N.B.—In the above table the values of Vertical Force for the years 1862–1913 inclusive were computed from the corresponding values of Horizontal Force and Dip, the values of Dip being the mean of all the absolute observations taken in any year, and the time of observation approximating to noon on the average. Beginning with 1914 the values of Dip have been computed from the corresponding annual mean values of Horizontal and Vertical Force.

† Mean of seven months June to December.

* Mean of ten months, March to December.

MEAN ANNUAL VALUES OF MAGNETIC ELEMENTS DETERMINED AT THE ABINGER MAGNETIC STATION, FOR THE YEARS 1925–1933.

Year.	Declination West.	Horizontal Intensity.	Vertical Intensity.	Inclination.
	° ′	C.G.S. Unit	C.G.S. Unit	° ′
1925	13 22·7	0·18597	0·42946	66 35·1
1926	13 10·4	0·18581	0·42947	66 36·3
1927	12 58·4	0·18575	0·42932	66 36·2
1928	12 47·0	0·18564	0·42941	66 37·3
1929	12 35·8	0·18555	0·42918	66 37·2
1930	12 24·6	0·18542	0·42924	66 38·2
1931	12 13·7	0·18543	0·42923	66 38·1
1932	12 2·6	0·18536	0·42940	66 39·1
1933	11 51·7	0·18532	0·42942	66 39·4

The values of Inclination are computed from the corresponding values of horizontal and vertical intensity.

Commencing with the years 1927 and 1929 respectively, the values of horizontal and vertical intensity are based upon observations with Coil-magnetometers.

MAGNETIC DISTURBANCES.

The following notes briefly summarise, month by month, the magnetic conditions exhibited by the traces of Declination, Horizontal Intensity, and Vertical Intensity recorded at the Abinger Magnetic Station in the year 1933.

January.—During the first two days slight general unsteadiness prevailed, and at $1^d.20^h$ there was a wave in H ($+80\gamma$). From $3^d.3^h$ to $6^d.4^h$ conditions were quiet, and although brief periods of irregular movement occurred on 5th, 6th and 7th, conditions remained practically quiet until the evening of 14th. At $14^d.20^h$ pronounced unsteadiness rapidly developed in H and D and there was a period during which H varied 100γ. The unsteadiness died away after lasting about eighteen hours and with the exception of an isolated bay in H at $17^d.9^h$ the traces showed no further irregularity until $19^d.12^h$. During the ensuing twenty-four hours several movements approaching 10′ in D took place, while between $15^h.30^m$ and $16^h.0^m$ on 19^d. V increased 30γ. From $20^d.12^h$ to $22^d.14^h$ conditions were again almost quiet. A period of general disturbance then set in which, though moderating on 24th and after 30th, lasted till the end of the month. During this period the principal movements were: $22^d.21^h$, a wave in H ($+80\gamma$); $23^d.21\frac{1}{2}^h$ to $24^d.1^h$ temporary decrease in D (10′); $24^d.1^h$, wave in H ($+50\gamma$); $27^d.17^h$ to $28^d.3^h$ several fluctuations in D approaching 10′; $27^d.21^h$ a wave in H ($+80\gamma$) and a sharp decrease in V (30γ); $28^d.13^h$ to 21^h four waves in D ($-5'$) at regular intervals.

The range in Declination during the month was from 11° 41′·9 on 1st to 12° 7′·1 on 15th; in horizontal intensity, from ·18465 on 19th to ·18586 on 27th; in vertical intensity, from ·42909 on 24th to ·42973 on 22nd.

February.—The traces showed occasional slight disturbance on most days during the first half of the month, although the movements were negligible in the period 10^d—13^d. From $16^d.0^h$ to $18^d.12^h$ was a completely quiet period. Thereafter unsteadiness became increasingly apparent and by $19^d.12^h$ had developed to a condition of moderate disturbance, a condition which persisted with little or no intermission until the end of 26th. During this period a number of quite large movements occurred, more particularly in the H trace. The principal movements were: in H, at $20^d.0^h$, (-100γ); at $21^d.22^h$ a wave $+110\gamma$; at $22^d.0^h$ a wave $+100\gamma$; at $24^d.22^h$ a wave $+100\gamma$; at $27^d.21^h$ a wave $+80\gamma$; in V, $19^d.23^h$ to $20^d.4^h$, a temporary decrease 40γ; $21^d.4^h$ to 6^h. a temporary decrease 30γ; $21^d.13^h$ to 16^h a steady increase of 70γ subsiding in two stages at 16^h and 22^h respectively; $23^d.13^h$ to 17^h a general increase of 70γ. Notable movements in D during the same period were: at $19^d.18^h$ to 20^h a wave $-18'$; $19^d.23^h$—$20^d.1^h$ a temporary decrease of 15′; $21^d.16^h$ a sharp wave $-20'$; $22^d.18^h$ to 20^h a wave $-20'$. After $26^d.0^h$ the disturbance rapidly died away, the traces being steady, with the exception of a few small movements, for the remainder of the month.

The range in declination during the month was from 11° 37′·2 to 12° 8′·0, both on 19th; in horizontal intensity, from ·18437 to ·18623, both on 21st; in vertical intensity, from ·42899 on 20th to ·42996 on 21st.

March.—The first three days' traces showed slight unsteadiness which was followed by a period of almost complete quiet lasting until $7^d.22^h$. The slight unsteadiness then re-appeared, and in the H trace resembled at times an oscillation in its regularity. This was especially the case between $12^d.12^h$ and $14^d.6^h$. There was a prominent movement in all traces at $11^d.1^h$. No significant movements took place on 16th and 17th, but in the early hours of 18th a period of disturbance began which lasted until the end of 24th. During this disturbance many large movements occurred. The most noteworthy were: a double wave in H at $18^d.22\frac{1}{2}^h$–24^h ($+100\gamma$, -80γ), accompanied by waves in D ($-15'$, $-20'$) and in V (-50γ); three waves in D between $19^d.18^h$ and $20^d.3^h$, each more than 20′; a wave in H ($+100\gamma$) at $19^d.19^h$; a rapid decrease in V at $20^d.1\frac{1}{2}^h$ (40γ); a wave in D at $22^d.0^h$ to 3^h ($-20'$). From 25th to the end of the month the conditions were unsteady, generally, with prominent bays appearing in the H and D traces once or twice each day. The largest of these was in H at $28^d.23^h$ ($+60\gamma$).

The range in declination during the month was from 11° 32′·0 on 19th to 12° 8′·2 on 27th; in horizontal intensity, from ·18444 on 21st to ·18637 on 18th; in vertical intensity, from ·42902 on 18th to ·42982 on 23rd.

April.—The month as a whole was not characterised by any specially active disturbance. On the other hand general unsteadiness of traces was almost continuous throughout the month. There was a nearly quiet period from 11th to 14th. The period of maximum disturbance extended from 16th to 23rd, and during this period there were several instances of movements exceeding 10′ in D and 50γ in H. The most prominent movement of all occurred at $21^d.22^h$ when a wave of $+100\gamma$ in H was accompanied by a related decrease in V of 40γ. On the last day of the month, that is at $30^d.16^h.28^m$, there was an abrupt movement in all traces typical of the sudden commencement of a large disturbance. The movement was most pronounced in H, the change being from -30γ to $+60\gamma$ in less than four minutes. Although a large wave in D ($-20'$) appeared some four hours later and there was some unsteadiness in all traces, the main disturbance did not develop until the afternoon of the next day (May 1).

The range in declination during the month was from 11°.37′·4 on 30th to 12°.7′·7 on 17th; in horizontal intensity, from ·18454 on 17th to ·18635 on 21st; in vertical intensity, from ·42908 on 5th and 15th to ·42977 on 15th.

May.—A highly active, though comparatively short-lived, disturbance took place on 1st. The traces are reproduced on Plates I–II. (See also notes for April). After the disturbance died away, irregularities in the traces prevailed

to a greater or less degree until the end of 8th. The most prominent movement occurred at $4^d.18\frac{1}{2}^h$ when there was a wave in D (−20′), and in H (−80γ). 9^d to 12^d was a nearly quiet period. On 13th a general unsteadiness began which later, from 16^d to 18^d, assumed the appearance of regular fluctuation, many small oscillations in H and D being superposed on a sequence of larger waves having an amplitude of 30 to 50γ. The small oscillations continued to be a feature of the H and D traces to the end of the month, although 26th and the first half of 27th were practically quiet. The concluding days of the month were marked by a return of the conditions noted in the middle days, with, however, rather smaller amplitudes.

The range in declination during the month was from 11°.34′·6 to 12°.15′·9 both on 1st; in horizontal intensity, from ·18416 to ·18631, both on 1st; in vertical intensity, from ·42878 on 2nd to ·43091 on 1st.

June.—The continuous slight undulation in H and D noted in the previous month persisted to a diminishing extent throughout the first five days. Other movements were insignificant. Unsteadiness appeared on 8th and 9th, and later developed the oscillatory character described above. Especially was this to be seen in the H trace on 13th and 14th, during which period there were also considerable fluctuations in all traces, independent of the oscillation. The largest of these took place between 2^h and 5^h on 13th (+80γ in H, −40γ in V). The period $12^d.22^h$ to $14^d.2^h$ was the most disturbed part of the month. Subsequently conditions reverted to the prevailing type, i.e. slight general unsteadiness with a marked oscillatory tendency at intervals, and so continued to the end of the month. $26^d.15^h$—24^h and $28^d.12^h$ to $29^d.6^h$ may be mentioned as periods of temporarily increased activity.

The range in declination during the month was from 11°.38′·8 to 12°.3′·8 both on 13th; in horizontal intensity, from ·18483 on 14th to ·18608 on 13th; in vertical intensity, from ·42887 to ·42971, both on 13th.

July.—There were not many days in the month on which disturbance above a general unsteadiness was to be seen on the traces. The more active periods were $8^d.20^h$ to $11^d.18^h$, $17^d.12^h$ to $18^d.20^h$, $23^d.10^h$ to $24^d.17^h$. Of these, the last-mentioned period might perhaps be classed as one of true disturbance. The movements, though of no great amplitude, were very numerous in H and V, and were preceded at $23^d.9^h.44^m$ by an abrupt change of H having the appearance of a "sudden commencement." There was a wave in H at $23^d.14^h$–15^h (−80γ), and the disturbance concluded at $24^d.15^h$–17^h with waves in D (−10′), H (−80γ) and V (+20γ). The period $14^d.0^h$–$16^d.10^h$ was nearly quiet. On the days which have not been specifically mentioned slight general unsteadiness was usually to be seen.

The range in declination during the month was from 11°.37′·5 on 23rd to 12°.2′·4 on 9th and 11th; in horizontal intensity, from ·18460 on 24th to ·18600 on 8th; in vertical intensity, from ·42910 on 6th to ·42982 on 24th.

August.—The month began with relatively quiet magnetic conditions which lasted for four days. On the morning of 5th a disturbance rapidly developed characterised chiefly by marked unsteadiness in H and culminating about $5^d.19^h$ in large movements in both D and H. In D the movement was a wave, −27′; in H there were oscillations over a range of 130γ. Between $5^d.12^h$ and $5^d.18^h$ V increased almost 100γ. The traces are reproduced in Plate III. Normal unsteadiness was resumed by $7^d.0^h$. The period from $9^d.0^h$ to $12^d.9^h$ was practically quiet. A short period of disturbance then occurred lasting from $13^d.12^h$ to $14^d.4^h$ in which the principal movements were a wave in D (−20′) at $13^d.19^h$ and a rapid decrease in V (−30γ) at $13^d.22\frac{1}{2}^h$. A few isolated waves appeared on the traces between $14^d.6^h$ and $17^d.6^h$. Unsteadiness developed again during the afternoon of 17th reaching a maximum between 16^h and 21^h on 18th when five successive waves in H occurred, averaging +60γ, and D suffered an oscillatory decrease amounting to 15′. The unsteadiness prevailed in varying extent until the end of 27th (excepting a nearly quiet interval $22^d.6^h$–$23^d.6^h$), after which the movements were few and unimportant during the remainder of the month.

The range in declination during the month was from 11°.29′·6 to 12°.11′·5, both on 5th; in horizontal intensity, from ·18459 on 5th to ·18596 on 18th; in vertical intensity, from ·42911 on 1st and 12th to ·43007 on 5th.

September.—Numerous small irregularities in H were to be seen on the first two days of the month, but conditions on the whole were relatively quiet until $7^d.12^h$, the period $5^d.0^h$ to $6^d.6^h$ being without any obvious disturbance. From $8^d.12^h$ all traces began to show irregularity and at $9^d.5^h$ this changed to larger movements, more or less oscillatory in character. A very large decrease in H (160γ) occurred between $9^d.6^h$ and $9^d.8\frac{1}{2}^h$, preceded by a surge in the opposite direction (+100γ), and the value remained much below normal for twelve hours or more. Related movements also took place in D (+18′) at $9^d.4\frac{1}{2}^h$ and in V (−40γ). The latter trace recovered its normal position in about six hours, though in common with the others it was subject to considerable fluctuation until $10^d.8^h$. The traces for part of this disturbed period are reproduced in Plate IV. A gradual diminution in the fluctuation took place during 10^d–11^d, and from $12^d.15^h$ until $13^d.10^h$ there was little irregularity. At $13^d.12^h$ marked oscillation developed in H accompanied by a rapid increase in V (+60γ) which continued till $13^d.16^h$. The disturbance culminated with a very steep wave in D at $13^d.19\frac{1}{4}^h$–$20\frac{1}{4}^h$ (−32′), accompanied by a similar wave in H (+150γ) at $19\frac{1}{2}^h$–$20\frac{1}{2}^h$ and by a very rapid fall in V (60γ) between $19\frac{3}{4}^h$ and $20\frac{1}{2}^h$. During the following two days several movements took place exceeding 10′ in D and 50γ in H. Unsteadiness or fluctuation persisted to a greater or less extent throughout the remainder of the month, the only days on which there was an approach to quiet conditions being 24th and 30th.

The range in declination during the month was from 11°.17′·6 on 13th to 12°.3′·2 on 9th; in horizontal intensity, from ·18363 on 9th to ·18632 on 13th; in vertical intensity, from ·42885 on 9th to ·43005 on 13th.

October.—The first three days of the month were practically quiet. There was, however, a curious sequence of small regular oscillations in all traces during the early hours of 2nd, which interrupted their generally steady character.

On 4th irregularities began to develop. At $5^d.12^h$–13^h a sharp increase in H occurred (80γ) and there was a somewhat similar movement at $7^d.11^h$–12^h. During the period $5^d.12^h$ to $12^d.12^h$ several waves exceeding 10′ in D and 50γ in H appeared. The largest of these was a wave in D (−18′) at $7^d.17^h$, and a wave in H (+80γ) at $9^d.19^h$. A double wave in D (∓10′) at $11^d.23^h$ to $12^d.2^h$ was accompanied by a wave in V (−40γ). Activity then ceased abruptly for almost 24 hours. Further prominent movements occurred on 13th and 14th—a wave in H (−60γ) at $13^d.15^h$, another at $14^d.0^h$ (+90γ), and a wave in D (−15′) at $14^d.18^h$. From $16^d.0^h$ to $17^d.0^h$ movements were insignificant, but not entirely absent. General unsteadiness, with a definitely oscillatory tendency at times, prevailed throughout 18th, after which day there was an interval of relatively quiet conditions lasting until $24^d.12^h$. During the period $24^d.12^h$ to $27^d.12^h$ irregularity was very marked, though small in amplitude, but afterwards the tendency to a quiet state increased and the last four days were without significant movements.

The range in declination during the month was from 11°.33′·0 on 7th to 11°.59′·0 on 13th; in horizontal intensity, from ·18439 on 5th to ·18613 on 13th; in vertical intensity, from ·42905 on 12th to ·42982 on 7th.

November.—There was almost continuous minor disturbance throughout the month. This increased notably on 4th and reached a maximum on 6th and 7th, after which it declined to relative quiet from 14th to 19th. During the period of maximum disturbance several movements of about 15′ appeared in D and there was one of 100γ in H, namely a wave in the positive direction at $7^d.20\frac{3}{4}^h$. The V trace also showed considerable irregularity on 6th and 7th, indicating a variation of 70γ in less than twelve hours. Short periods of disturbance occurred near midnight on 19th, 20th, 21st and 27th. Apart from these the general characteristic during the remainder of the month was a state of slight unsteadiness with occasional tendency to oscillation. There was no day in the month on which the traces were entirely without disturbance.

The range in declination during the month was from 11°.27′·9 on 7th to 11°.58′·3 on 8th; in horizontal intensity, from ·18445 on 6th and 8th to ·18604 on 7th; in vertical intensity, from ·42921 on 7th to ·42987 on 6th.

December.—Nearly quiet conditions prevailed until the evening of 3rd. From $3^d.19^h$ unsteadiness rapidly increased and there were many small movements of an oscillatory type. Disturbance was at a maximum during the second half of 5th when movements of −15′ in D and −60γ in H were shown. It then subsided considerably, the period $8^d.0^h$–$9^d.12^h$ being nearly quiet again. At $9^d.14^h$ a brisk disturbance set in which lasted until $10^d.2^h$ and included a temporary increase of 50γ in V and a temporary decrease of 100γ in H and 10′ in D. A similar disturbance, of slightly less amplitude, took place between corresponding times twenty-four hours later. This was followed by a period of relative quiescence lasting from $11^d.6^h$ to $16^d.16^h$, during the earlier part of which, however, slight continuous undulation appeared on both H and D traces at irregular intervals. From $16^d.16^h$ undulation was again pronounced, while a condition of general unsteadiness gradually developed. This subsided after 18^d–19^d until $23^d.0^h$, by which time conditions were nearly quiet and so remained, in general, to the end of the year, though slight unsteadiness was occasionally apparent and there were two prominent bays in the H and D traces at $29^d.0^h$–3^h.

The range in declination during the month was from 11°.29′·8 on 9th to 11°.55′·6 on 4th; in horizontal intensity, from ·18439 on 9th to ·18570 on 10th; in vertical intensity, from ·42933 on 4th to ·42998 on 9th.

The absolute maximum and minimum values respectively of the elements recorded during the year were:

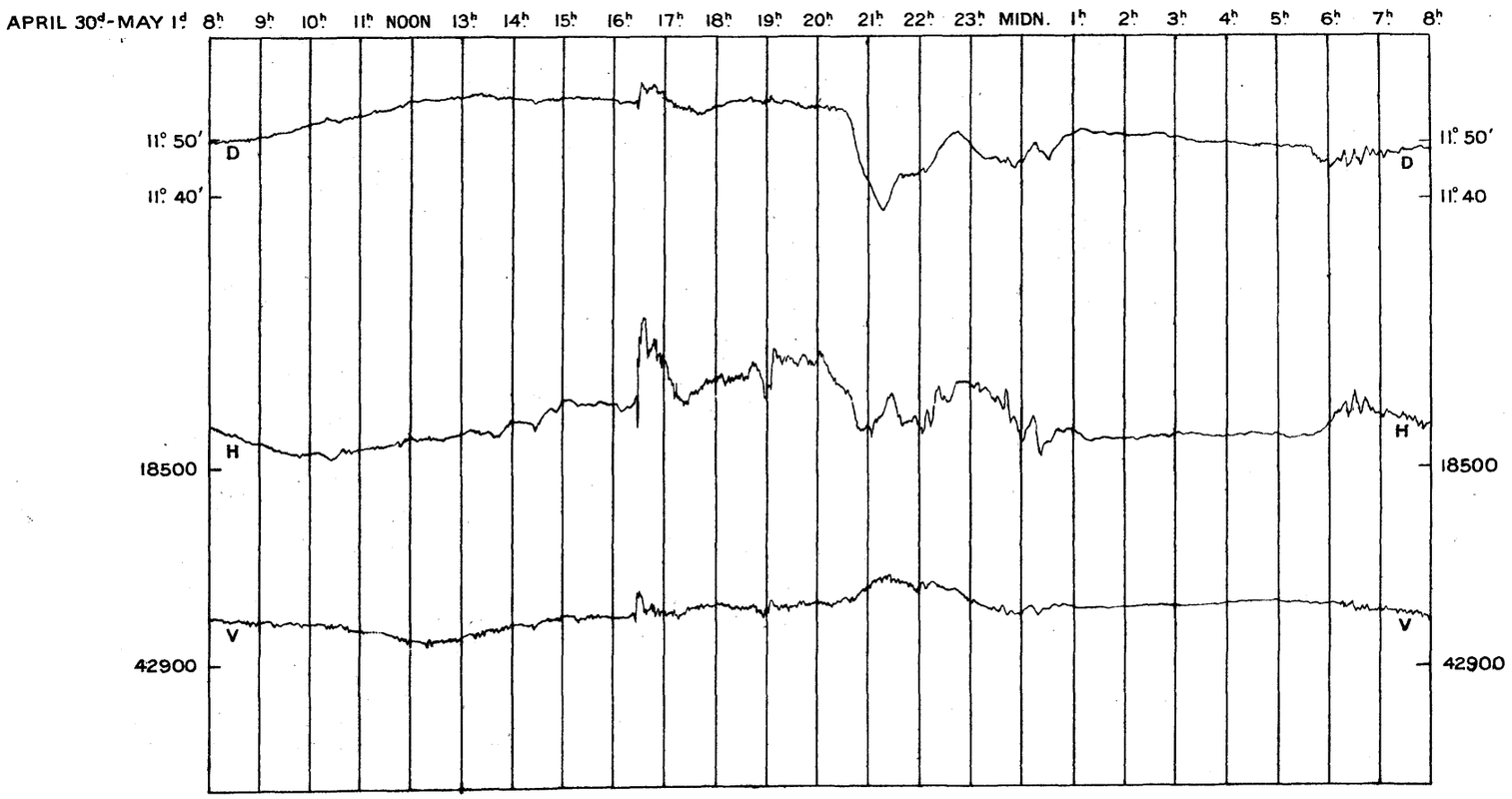
Declination: 12°.15′·9 on May 1st; 11°.17′·6 on September 13th.

Horizontal Intensity: ·18637 on March 18th; ·18363 on September 9th.

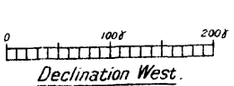
Vertical Intensity: ·43091 on May 1st; ·42878 on May 2nd.

Plate I.

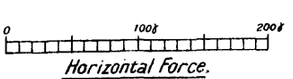
MAGNETIC DISTURBANCES AS RECORDED AT THE ABINGER MAGNETIC STATION IN THE YEAR 1933.



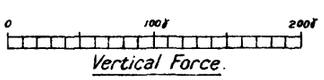
SCALES FOR MAGNETIC ELEMENTS IN C.G.S. UNITS.



Declination West.



Horizontal Force.



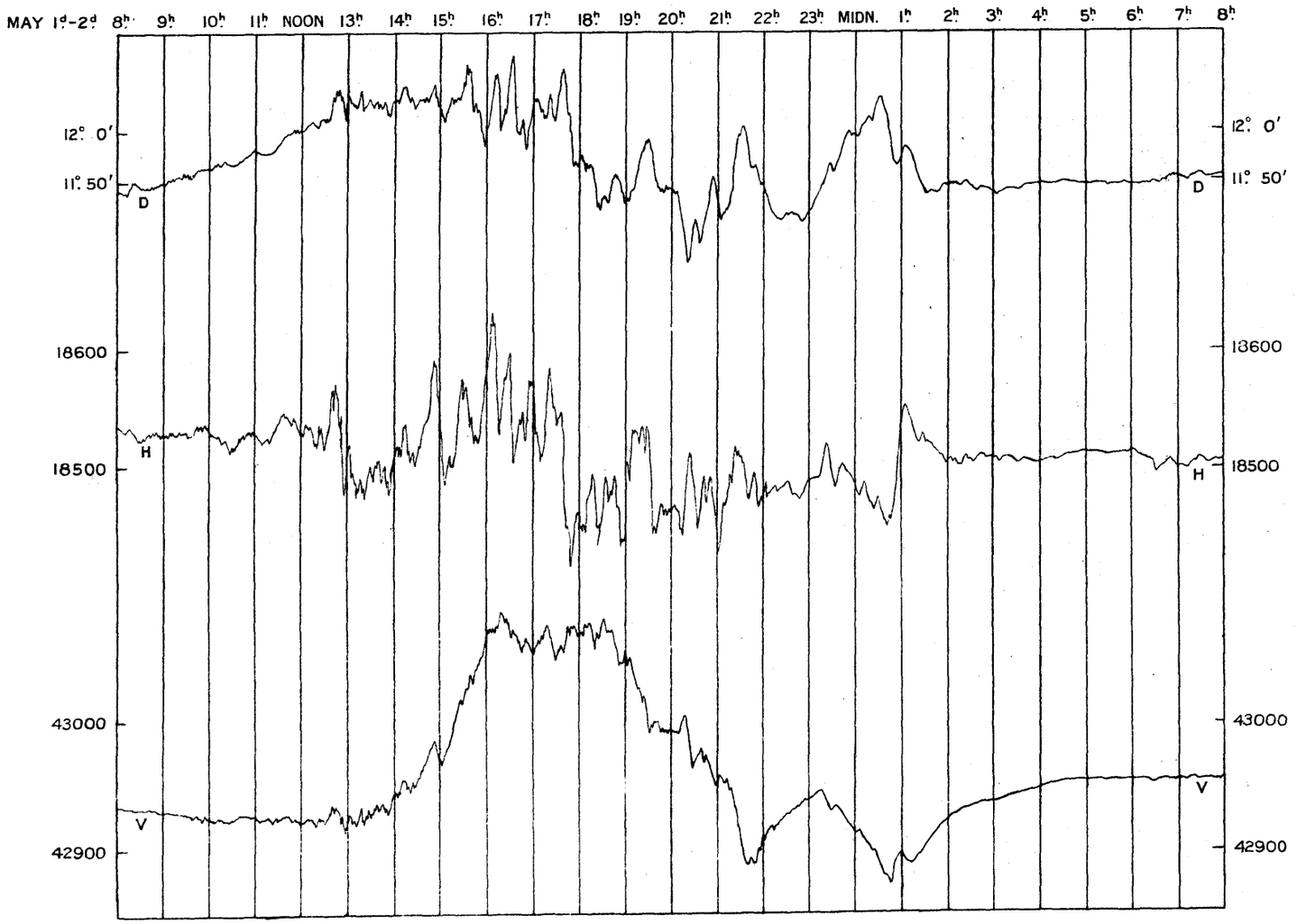
Vertical Force.

710, 330 A, 362.565, 7/34.

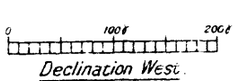
Malby & Sons, Lith.

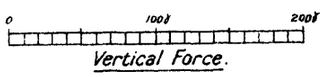
Plate II.

MAGNETIC DISTURBANCES AS RECORDED AT THE ABINGER MAGNETIC STATION IN THE YEAR 1933.

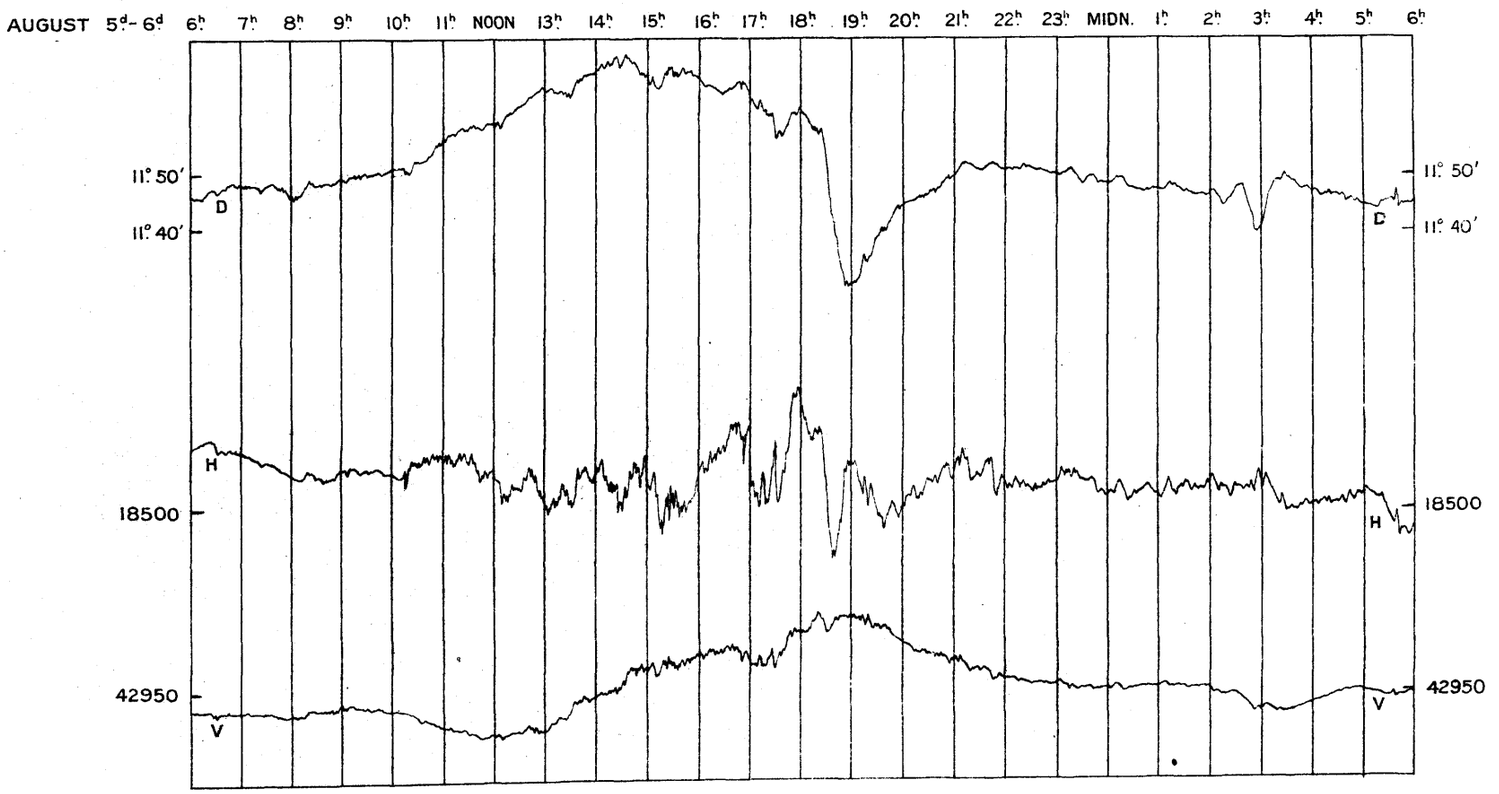


SCALES FOR MAGNETIC ELEMENTS IN C.G.S. UNITS.

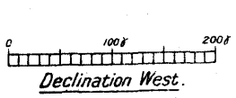


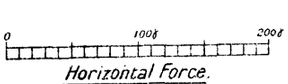


MAGNETIC DISTURBANCES AS RECORDED AT THE ABINGER MAGNETIC STATION IN THE YEAR 1933.



SCALES FOR MAGNETIC ELEMENTS IN C.G.S. UNITS.





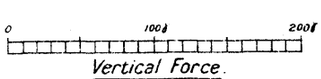
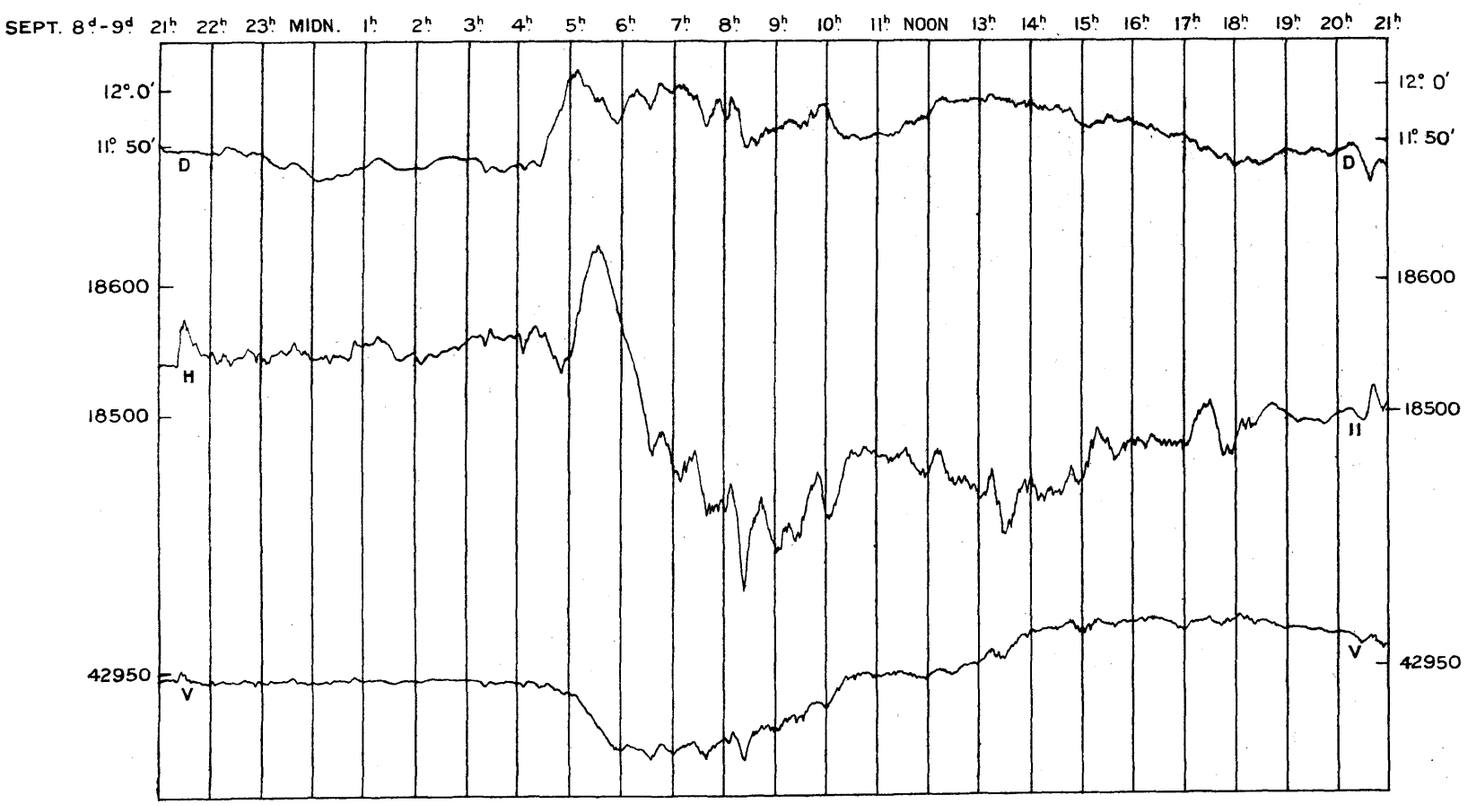
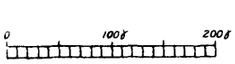


Plate IV.

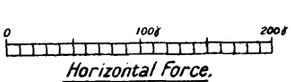
MAGNETIC DISTURBANCES AS RECORDED AT THE ABINGER MAGNETIC STATION IN THE YEAR 1933.



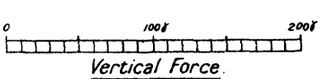
SCALES FOR MAGNETIC ELEMENTS IN C.G.S. UNITS.



Declination West.



Horizontal Force.



Vertical Force.

GREENWICH METEOROLOGICAL OBSERVATIONS, 1933.

INTRODUCTION.

Meteorological Instruments.

The majority of the meteorological instruments are situated in an enclosure in Greenwich Park, 350 yards to the east of the Astronomical Observatory. In the enclosure there are the thermometers used for ordinary eye observations, the photographic wet-bulb and dry-bulb thermometers, thermometers for solar and terrestrial radiation, two earth thermometers, and two rain-gauges.

The anemometers, the self-registering rain gauge and the sunshine recorder are fixed above the roof of the Octagon Room (the ancient part of the Observatory).

Subjects of Observation in the year 1933.

The observations comprise eye observations of the ordinary meteorological instruments, including the barometer, dry- and wet-bulb thermometers, radiation and earth thermometers; continuous photographic record of the variations of the barometer, dry- and wet-bulb thermometers; continuous automatic record of the direction, pressure and velocity of the wind, and of the amount of rain; registration of the duration of sunshine, and, at night, of the visibility of stars near the Pole; general record of ordinary atmospheric changes of weather, including numerical estimation of the amount of cloud, estimations of "visibility", and occasional phenomena. Registration of atmospheric potential gradient was discontinued at the end of June.

Greenwich mean time, reckoning from midnight to midnight, and counting from 0 to 24 hours, has been employed throughout the meteorological section, except in regard to the sunshine registers (see p. E 7).

STANDARD BAROMETER.—The standard barometer is Newman No. 64. Its tube is $0^{in.}\cdot565$ in diameter, and the depression of the mercury due to capillary action is $0^{in.}\cdot002$, but no correction is applied on this account. The cistern is of glass, and the graduated scale and attached rod are of brass; at its lower end the rod terminates in a point of ivory, which in observation is made just to meet the reflected image of the point as seen in the mercury. The scale is divided to $0^{in.}\cdot05$, subdivided by vernier to $0^{in.}\cdot002$. The barometer was mounted in 1840 on the southern wall of the western arm of the Upper Magnet Room at a height above mean sea level of 159 feet. It was transferred to the New Magnetograph House on 1917 April 3, where the height above mean sea level is 152 feet. (See also p. E 9.)

The barometer is read at 9h., 12h. (noon), 15h., 21h., every day. Each reading is corrected by application of an index-correction, and reduced to the temperature 32°F. The readings thus found are used to determine the value of the instrumental base-line on the photographic record.

THE PHOTOGRAPHIC BAROMETER.—A siphon barometer is employed which, at its open end, operates a plunger resting on the surface of the mercury. On account of the optical magnification associated with a moving mirror at some distance from the recording drum, the motion of the plunger must be mechanically reduced in being transferred to the arm which carries the mirror. In the actual arrangement two levers are used. One is connected to the stem of the plunger resting on the free surface of the mercury and is 12 inches long from plunger to pivot. A pin with a rounded conical point is screwed into this lever at a distance of 1 inch from the pivot. On this pin rests the plane under-surface of a shorter lever, which is 4 inches long from its pivots to this pin, and is set at right angles to the first lever. Both levers are approximately horizontal in their mean position. On the short lever is mounted the moving mirror of the instrument horizontally in a suitable frame attached to the lever, just above the pivots of the latter. The first lever lies east and west, so that the axis about which the mirror turns is in the same direction. The recording drum is horizontal and the motion of the beam of light is transformed so as to be horizontal by a fixed right-angled prism supported above the mirror. A lens of suitable focus is mounted in a vertical plane in front of the prism, and brings the beam of light from the straight-filament lamp to a focus on the drum. A base-line mirror, similar to the moving mirror, is mounted in a vertical plane behind the lower half of this lens. Provision is made for all necessary adjustments of the directions of the two beams of light. The weight of the plunger and lever mechanism is relieved

by a balance weight on the far side of the pivot, so that the plunger rests on the mercury surface without appreciably depressing it.

The instrument is 12 feet from the recording drum. At this distance the calculated scale value of the record is 3 in. on the sheet for 1 in. change of height of the mercury column of the standard barometer. (Both arms are, near the surface of the mercury, of the same bore, so that the plunger moves through one half the change of the indication of the standard barometer.)

The scale value of the instrument is, in effect, determined experimentally by comparison with the readings of the standard barometer. The base-line values corresponding to the four daily readings of the latter are represented graphically by points on a chart. The adopted value at any time is read from a smooth curve drawn through the points.

The photographic sheets being $9\frac{1}{4}$ inches wide, a range of over 3 inches barometric motion can be included, and change of zero is unnecessary.

DRY- AND WET-BULB THERMOMETERS.—The standard dry- and wet-bulb thermometers and maximum and minimum self-registering thermometers, both dry and wet, are mounted on a revolving frame planned by Sir George Airy. This, together with details of the thermometers and the corrections applicable to them, may be found fully described in the volumes for 1912 and previous years.

Since 1899 January 4 this stand has occupied an open position in the Magnetic Pavilion Enclosure.

The corrections to be applied to the thermometers in ordinary use are determined by comparison with the standard thermometer No. 515, kindly supplied to the Royal Observatory by the Kew Committee of the Royal Society.

The dry-bulb thermometer used throughout the year was Negretti and Zambra, No. 45354. The correction $-0^{\circ}\cdot4$ has been applied to the readings of this thermometer. The wet-bulb thermometer used throughout the year was Negretti and Zambra, No. 94737. The correction $-0^{\circ}\cdot2$ has been applied to the readings of this thermometer.

The dry- and wet-bulb thermometers are read at 9h., 12h. (noon), 15h., 21h. every day. Readings of the maximum and minimum thermometers are taken at 9h., 15h., and 21h. every day. Those of the dry- and wet-bulb thermometers are employed to correct the indications of the photographic dry- and wet-bulb thermometers.

PHOTOGRAPHIC DRY-BULB AND WET-BULB THERMOMETERS.—The apparatus, which has been in use since 1887, was designed by Sir William Christie. Until 1917 it stood in substantially the same position in the Observatory grounds, to the north of the New Observatory. It was transferred to the Magnetic Pavilion Enclosure on 1917 February 21. It is placed in a shed 8 feet square, standing upon posts about 8 feet high, and open to the north. The apparatus is screened from the direct rays of the sun, without impeding the circulation of the air. The recording mechanism is similar in general plan to that described in connection with the magnetometers. The traces consist of broad bands, due to the free passage of light (above the mercury column of the dry-bulb thermometer, and through an air bubble in that of the wet-bulb thermometer) to the drum, crossed by fine lines caused by the shadows of the graduations of the thermometer tubes. The two traces fall on the same part of the cylinder as regards time scale. The stems of the thermometers are placed close together, each being covered by a vertical metal plate having a fine vertical slit, so that light passes through only at such parts of the bore of the tube as do not contain mercury. Further details of the thermometers and recording arrangements may be found in the volume for 1912. The scale value of the records is approximately 10° per inch.

RADIATION THERMOMETERS.—These thermometers are placed in the Magnetic Pavilion Enclosure, in an open position about 50 feet south-west of the building. The thermometer for solar radiation is a mercurial maximum thermometer with its bulb blackened and enclosed in a glass sphere from which the air has been exhausted. The thermometer employed was Negretti and Zambra, No. K2254. The thermometer for radiation to the sky is a spirit minimum thermometer, Negretti and Zambra, No. D11197. The thermometers are laid on short grass, freely exposed to the sky.

EARTH THERMOMETERS.—There are two thermometers now in use, the bulbs of which are sunk to depths of 4 feet and 1 foot respectively below the surface. Both thermometers are read daily at noon, the readings of the former being given in the daily results.

OSLER'S ANEMOMETER.—This self-registering anemometer, devised by Mr. A. F. Osler, for continuous registration of the direction and pressure of the wind and of the amount of rain, is fixed above the north-western turret of the ancient part of the Observatory. The direction of the wind is registered by means of a large vane (9ft. 2in. in length), connected by gearing with a rack-work carrying a pencil; the latter marks on a flat horizontally moving sheet of paper. The vane is 25 feet above the roof of the Octagon Room, 60 feet above the adjacent ground, and 215 feet above the mean level of the sea. A fixed mark on the north-eastern turret, in a known azimuth, as determined by celestial observation, is used for examining at any time the position of the direction plate over the registering table, to which reference is made by means of a direction pointer when adjusting a new sheet on the travelling board.

A circular pressure plate with an area of 192 square inches is attached 2 feet below the vane; moving with the latter, it is always kept directed against the wind. A light wind causes the plate to compress slender springs, the motion being registered on the horizontal sheet by a pencil connected with the plate by a flexible brass chain, which is always in tension. Higher wind pressures bring stiffer springs into play behind the plate, and the two sets of springs are adjusted by screws and clamps so as to afford fixed scales on the sheet, the scale for light winds being double that for heavy winds. The scale is determined experimentally in lbs. per square foot from time to time.

The recording sheet is changed daily at noon. The time scale, ordinarily 15mm. to the hour, can be increased 24-fold by altering the gearing.

ROBINSON'S ANEMOMETER.—This instrument, for registration of the horizontal movement of the air, is mounted above the roof of the Octagon Room. It was brought into use in 1866, and is of smaller size than that now usual, the four hemispherical cups being 5 inches in diameter, the centre of each cup being 15 inches distant from the vertical axis of rotation. The cups are 21 feet above the roof of the Octagon Room, 56 feet above the adjacent ground, and 211 feet above the mean level of the sea. A motion of the recording pencil through 1 inch corresponds approximately to horizontal motion of the air through 100 miles. The time scale is the same as for the Osler Anemometer and the sheet is changed daily at noon.

The values of wind velocity V given by the instrumental readings are three times the actual velocity v of the cups. From tests made by Mr. W. H. Dines

at Hersham in 1889, on his whirling machine, it would appear that the relation between V and v is more correctly given by

$$V=4{\cdot}0+2{\cdot}0\,v,$$

and that the instrument fails to record wind velocities less than 4 miles per hour. The values of the wind velocity given by the formula $V=3\,v$ would thus be too high when V exceeds 12. Since the two formulæ agree, however, for V=12, the mean values of the wind velocity (which seldom differ much from 12) will be approximately correct in either case and until 1931, for the sake of continuity and simplicity, the formula $V=3v$ was retained in use, although the greatest hourly measures according to the revised formula were given in a table at the end of the volumes.

In the present volume, however, all measures are calculated from the revised formula.

RAIN GAUGES.—During the year 1933 three rain gauges were employed, placed at different elevations above the ground.

The gauge No. 1 forms part of the Osler Anemometer apparatus, and is self-registering, the record being made on the sheet on which the direction and pressure of the wind are recorded. The apparatus is fully described in volumes previous to 1914.

Gauge No. 6 is an 8-inch circular gauge placed with the receiving surface 5 inches above the ground. No. 8 is a newer gauge of the same diameter, but of the modified Snowdon pattern adopted by the Meteorological Office, having its receiving surface 1 foot above the ground. It was brought into use 1908 January 1, being fixed SW by W from No. 6 with a clear space of 6 feet between the rims. No. 6 is the standard gauge, and is read daily at 9h., 15h., and 21h. Greenwich Mean Time. No. 8 is used as a check on the readings of No. 6 and is read at 9h. only as a rule. The gauges are also read at midnight on the last day of each calendar month.

The erection in the Magnetic Pavilion Enclosure of a building to the north-west of Gauges 6 and 8 to accommodate a large equatorial telescope made desirable the removal of these gauges to new positions. The removal was carried out on 1932, September 29, the new sites being approximately 42 feet east of the old ones.

The present height of the Standard Gauge above mean sea-level is 5 feet 9 inches less than in its old position in the Observatory Grounds, before its removal to the Pavilion Enclosure in 1899 January.

The monthly amounts of rain collected in gauges Nos. 6 and 8 are given on page E 46 of the Meteorological Results.

SUNSHINE RECORDER.—The hourly results relate to *apparent* time. The instrument in use is of the Campbell-Stokes pattern, with 4-inch glass globe. It was examined at the Meteorological Office on September 13, 1926, and was found to be in satisfactory condition. It now bears the serial number M.O. 113. The recorded durations are those of *bright* sunshine, no register being obtained when the sun shines faintly through fog or cloud, or is very near the horizon. Conformity with Meteorological Office standards of measurement is maintained as far as possible, and with this in view independent measures of nine selected sunshine cards taken from the months of February, March and June, 1933, have been made at the Meteorological Office. These showed close agreement with the Greenwich estimations.

NIGHT-SKY RECORDER.—The object of this instrument is to supplement the daily sunshine record, in so far as it gives an indication of the amount of cloud.

It consists of a small camera constructed of wood, mounted on a brick pier in the courtyard, to the north of the Transit Pavilion, and permanently directed towards the Celestial Pole.

The lens is of 18·8 inches focal length and 0·8 inch aperture. The actual camera is enclosed in a larger box about twice its length, extending nine inches beyond the lens. The lens itself is further surrounded by a hood. Adequate protection from dew is thus obtained, and also from rain, except when driven hard from the north. The photographic plates used are ordinary quarter-plate ($3\frac{1}{4}$ inches by $4\frac{1}{4}$). Exposure is intended to be made during the period that the sun remains more than 10° below the horizon. The period thus centres approximately to apparent midnight, but in practice the mean times of commencing and ending the exposure are not varied at intervals of less than seven days.

The traces selected for measurement are those of Polaris and of δ Ursæ Minoris. The measurement is effected by means of a glass scale, on which pairs of concentric circles are photographically imprinted. The radii of these circles are slightly greater and slightly less than the radius of the trace to be measured, and the circles are divided into a time scale of hour-angle, with ten-minute units. The plate is placed over the scale in a measuring frame, and adjusted so that the trace is concentric with the containing circles on the scale. The hour-angle of the star, according to the scale, at the commencement and ending of the various portions of the trace is then read off to the nearest minute of time.

The correction for error of orientation of the plate is made during the computation of mean time corresponding to hour-angle of star, in the following manner :— Whenever the sky is seen to be clear at the commencement of exposure, the difference between the hour-angle given by the scale for the beginning of the trace and the corresponding mean time noted by the observer is taken as the quantity to be applied to the scale readings throughout the night, due allowance being made for the acceleration of sidereal time over mean time. When the sky is not clear at commencement, a computed quantity is used which includes an adopted mean value of the error of orientation. Variations in the error of orientation are found seldom to exceed two or three minutes of time, and are unimportant to the records.

Meteorological Reductions.

The results given in the Meteorological Section refer to the civil day, commencing at midnight, except in the case of the Night-Sky Recorder, for which they relate to the period from dusk on the day named, to dawn of the following day.

All results in regard to atmospheric pressure, temperature of the air and of evaporation, with deductions therefrom, are derived from the photographic records, excepting that the maximum and minimum values of air temperature are those given by eye-observation of the ordinary maximum and minimum thermometers at 9h., 15h., and 21h., reference being made, however, to the photographic register when necessary to obtain the values corresponding to the civil day from midnight to midnight. The hourly readings for the elements mentioned are measured direct from the photographic curves, and reduced so as to be based fundamentally, both as regards scale and zero, on the readings of the standard barometer and dry- and wet-bulb thermometers.

The barometer results are not reduced to sea-level, neither are they corrected for the effect of gravity, by reduction to the latitude of 45°. The monthly mean barometer reading is, however, corrected for the effect of the change of site of April, 1917 before deducing the deviation from the mean of sixty-five years 1841–1905 (pp. E 14–36). This correction, amounting to −·007 inch, was by oversight omitted in the years 1917–1926.

From 1926 January 1 the mean daily temperature of the dew-point and degree of humidity have been deduced from the mean daily temperatures of the air and of evaporation by use of *Hygrometric Tables* issued by the Meteorological Office, Air Ministry.

In the same way the mean hourly values of the dew-point temperature and degree of humidity in each month (pages E 41 and E 42) have been calculated from the corresponding mean hourly values of air and evaporation temperatures (pages E 40 and E 41).

The excess of the mean temperature of the air on each day above the average of sixty-five years, given in the "Daily Results of the Meteorological Observations," is found by comparing the numbers contained in column 6 with a table of average daily temperatures found by smoothing the accidental irregularities of the daily means deduced from the observations for the sixty-five years 1841–1905. In this series the mean daily temperature from 1841 to 1847 depends usually on 12 observations daily, in 1848 on 6 observations daily, and from 1849 to 1905 on 24 hourly readings from the photographic record. The smoothed numbers are given in Table VII, *Reduction of the Greenwich Meteorological Observations*, Part IV and also in the introduction for 1910.

The daily register of rain contained in column 16 is that recorded by the gauge No. 6, whose receiving surface is 5 inches above the ground. This gauge is read at 9h., 15h., and 21h. Greenwich Mean Time. The continuous record of Osler's self-registering gauge shows whether the amounts measured at 9h. are to be placed to the same, or to the preceding civil day; and in cases in which rain fell both before and after midnight, also gives the means of ascertaining the proper proportion of the 9h. amount which should be placed to each civil day. The number of days of rain given in the footnotes, and in the abstract tables, pages E 39 and E 46, is formed from the records of gauge No 6. In this numeration only those days are counted on which the fall amounted to or exceeded $0^{in.}\cdot005$.

No particular explanation of the anemometric results seems necessary. It may be understood generally that the greatest pressures usually occur in gusts of short duration. The "Mean of 24 Hourly Measures" was in former years the mean of 24 measures of pressure taken *at* each hour; but commencing with 1887 January 1, it is the mean of measures, each one of which is the average pressure during the hour of which the nominal hour is the middle point.

With regard to the "Proportions of Wind referred to the cardinal points" in the monthly summary on pp. E 14–37, formerly the figures were such that the whole month was represented by the number of days in the month. In this volume a change has been made, and the whole month is now represented by 100, so that the figures are the equivalent of "percentages."

The mean amount of cloud given in the footnotes on the right-hand pages E 15 to E 37, and in the abstract table, page E 39, is the mean found from observations made at 9h., 12h. (noon), 15h., and 21h. of each civil day.

For understanding the divisions of time under the heading "Clouds and Weather," the following remarks are necessary:—The day is divided by columns into two parts (from midnight to noon, and from noon to midnight), and each of these parts is subdivided into two or three parts by colons (:). Thus, when there is a single colon in the first column, it denotes that the indications before it apply (roughly) to the interval from midnight to 6h. and those following it to the interval from 6h. to noon. When there are two colons in the first column, it is to be understood that the twelve hours are divided into three nearly equal parts of four hours each. And similarly for the second column.

As regards the notation for clouds and weather, the following are the symbols which denote actual phenomena:—

a,	*aurora*	glm,	*gloom*	s,	*stratus*
ci,	*cirrus*	h,	*haze*	sc,	*scud*
cl,	*clouds*	ha,	*halo*	sh, shs,	*shower* (*s*)
co,	*corona*	hl,	*hail*	sl,	*sleet*
cu,	*cumulus*	l,	*lightning*	sm,	*storm*
d,	*dew*	m,	*mist*	sn,	*snow*
f,	*fog*	n,	*nimbus*	sq, sqs,	*squall* (*s*)
fr,	*frost*	prh,	*parhelion*	t,	*thunder*
fr.-cu,	*fracto cumulus*	prs,	*paraselene*	w,	*wind*
g,	*gale*	r,	*rain*		

The following are qualifying symbols used in conjunction with the above :—

c,	*continued*	li,	*light*	so,	*solar*
fq,	*frequent*	lu,	*lunar*	st,	*strong*
fr,	*frozen*	m,	*misty*	th,	*thin*
gt,	*great*	oc,	*occasional*	tk,	*thick*
ho,	*hoar*	p,	*partial (ly)*	v,	*variable*
hy,	*heavy*	slt,	*slight*	vv,	*very variable*

These symbols are used in combination : thus c-hy-r denotes continued heavy rain ; t-sm, thunderstorm ; p-cl, partially cloudy ; m-r, misty rain ; and so on. In regard to clouds, cl is omitted when the type is specified ; thus ci-cu denotes cirro-cumulus clouds.

Howard's nomenclature is used for clouds, and the figure indicates the proportion of sky covered by cloud, an overcast sky being represented by 10.

H. SPENCER JONES.

ROYAL OBSERVATORY, GREENWICH.
1934, *May* 7.

ROYAL OBSERVATORY, GREENWICH.

Results of Meteorological Observations

1933

MONTH and DAY, 1933.	Barometer. Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	Temperature. Of the Air. Highest.	Lowest.	Daily Range.	Mean of 24 Hourly Values.	Excess above Average of 65 Years.	Of Evaporation. Mean of 24 Hourly Values.	Of the Dew Point. Deduced Mean Daily Value.	Difference between the Air Temperature and Dew Point Temperature. Mean.	Greatest.	Least.	Degree of Humidity (Saturation = 100).	Temperature. Of Radiation. Highest in Sun's Rays.	Lowest on the Grass.	Of the Earth 4 ft. below the Surface of the Soil.	Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Daily Duration of Sunshine.	Sun above Horizon.
	in.	°	°	°	°	°	°	°	°	°	°		°	°	°	in.	hours	hours
Jan. 1	29·706	49·9	43·0	6·9	46·8	+ 8·2	45·2	43·1	3·7	5·3	1·2	87	64·6	39·0	46·5	0·024	1·3	7·9
2	29·635	51·2	45·3	5·9	48·8	+10·4	46·7	44·4	4·4	7·1	3·4	84	58·0	41·3	46·4	0·018	0·0	7·9
3	29·610	53·2	43·2	10·0	49·6	+11·3	47·2	44·6	5·0	11·8	2·8	83	64·1	35·9	46·4	0·092	0·0	8·0
4	29·829	50·0	40·2	9·8	45·6	+ 7·3	44·1	42·2	3·4	6·1	1·7	88	70·0	30·3	46·3	0·008	0·7	8·0
5	29·791	50·4	35·1	15·3	44·4	+ 6·2	41·8	38·3	6·1	8·9	2·9	79	49·7	29·2	46·4	0·165	0·0	8·0
6	30·056	46·0	34·9	11·1	40·9	+ 2·8	38·7	35·4	5·5	9·4	2·8	80	63·5	30·6	46·4	0·019	4·2	8·0
7	30·282	48·0	31·2	16·8	40·3	+ 2·3	39·3	37·9	2·4	5·3	0·7	91	59·6	27·6	46·2	0·004*	0·3	8·1
8	30·185	51·2	47·4	3·8	49·3	+11·4	48·0	46·6	2·7	5·8	1·8	90	52·0	44·4	46·4	0·214	0·0	8·1
9	30·360	50·7	32·2	18·5	45·7	+ 7·8	43·4	40·5	5·2	9·5	1·6	82	67·7	24·7	46·2	0·002	4·1	8·1
10	30·364	41·0	28·2	12·8	35·0	− 2·9	33·7	31·4	3·6	6·4	0·2	87	47·1	23·4	46·0	0·004*	1·3	8·1
11	30·006	44·9	39·0	5·9	41·8	+ 3·9	40·0	37·5	4·3	8·2	1·1	84	45·6	34·2	46·0	0·071	0·0	8·2
12	30·057	41·0	27·5	13·5	35·9	− 2·0	34·4	31·8	4·1	9·6	1·3	85	56·0	21·8	46·0	0·000	1·7	8·2
13	30·070	38·9	27·1	11·8	33·7	− 4·3	33·4	32·9	0·8	3·3	0·2	97	39·6	21·6	45·8	0·077	0·0	8·2
14	30·038	39·0	29·0	10·0	35·6	− 2·4	35·0	33·9	1·7	3·7	0·4	94	58·5	25·8	45·6	0·000	0·6	8·3
15	29·483	40·4	31·6	8·8	36·2	− 1·9	35·1	33·1	3·1	6·2	0·6	89	44·2	29·0	45·4	0·028	0·0	8·3
16	29·254	37·9	34·9	3·0	36·0	− 2·3	34·7	32·4	3·6	6·8	1·7	87	38·0	29·1	45·0	0·065	0·0	8·4
17	29·252	39·5	31·9	7·6	34·7	− 3·8	33·3	31·1	3·6	7·9	2·2	85	56·6	28·8	45·0	0·003	0·9	8·4
18	29·387	36·1	27·9	8·2	33·0	− 5·6	31·9	30·0	3·0	6·5	1·3	89	54·1	23·5	44·8	0·009	2·7	8·5
19	29·695	38·0	32·8	5·2	35·8	− 2·9	34·9	33·3	2·5	3·1	0·7	91	38·4	30·8	44·7	0·028	0·0	8·5
20	30·101	37·9	33·6	4·3	35·8	− 3·0	34·2	31·4	4·4	7·4	1·3	84	43·5	27·0	44·4	0·000	0·1	8·6
21	30·491	35·9	28·3	7·6	32·9	− 5·9	31·4	28·8	4·1	11·2	1·6	85	65·7	21·8	44·2	0·000	2·3	8·6
22	30·535	33·6	24·7	8·9	29·4	− 9·4	28·2	25·4	4·0	8·3	1·2	84	40·3	17·0	44·0	0·000	0·0	8·6
23	30·515	33·8	20·0	13·8	27·0	−11·9	25·8	22·1	4·9	6·1	1·0	82	38·3	13·1	43·9	0·000	0·0	8·7
24	30·449	30·8	28·6	2·2	30·0	− 8·9	27·7	22·3	7·7	8·0	3·6	73	36·0	22·9	43·8	0·000	0·0	8·7
25	30·360	33·9	27·2	6·7	30·8	− 8·3	27·9	21·1	9·7	12·5	3·7	67	69·6	20·2	43·5	0·000	4·8	8·8
26	30·229	34·0	25·4	8·6	28·8	−10·5	26·8	21·9	6·9	9·3	3·3	75	63·6	18·6	43·1	0·000	1·9	8·8
27	30·128	34·2	24·9	9·3	30·1	− 9·4	28·4	24·6	5·5	9·3	3·6	79	51·0	19·9	42·9	0·000	1·5	8·9
28	30·001	37·1	23·9	13·2	31·2	− 8·4	29·3	25·2	6·0	10·4	1·4	79	64·4	15·1	42·8	0·000	3·1	9·0
29	29·616	40·2	33·8	6·4	35·8	− 3·9	33·8	30·1	5·7	14·0	2·8	80	69·7	28·8	42·5	0·000	1·9	9·0
30	29·366	43·0	33·0	10·0	36·9	− 2·8	36·0	34·4	2·5	4·9	0·4	91	45·6	28·5	42·1	0·147	0·0	9·0
31	29·717	49·4	33·8	15·6	41·8	+ 2·1	40·1	37·7	4·1	7·9	2·2	85	70·3	28·7	42·0	0·009	0·7	9·1
Means	29·954	41·6	32·2	9·4	37·4	− 1·2	35·8	33·1	4·3	7·7	1·8	84·4	54·4	26·9	44·9	Sum 0·987	1·1	8·4
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

The results apply to the civil day, except Columns 19 to 22 (Record of the Night Sky), which relate to the period extending from dusk on the civil day named, to dawn of the following day.

The mean reading of the Barometer (Column 1) and the mean temperatures of the Air and Evaporation (Columns 5 and 7) are deduced from the photographic records. The average temperature (Column 6) is deduced from the 65 years' observations, 1841–1905. The temperature of the Dew Point (Column 8) and the Degree of Humidity (Column 12) are deduced from the corresponding temperatures of the Air and Evaporation by means of Hygrometrical Tables published by the Meteorological Office, Air Ministry. The mean difference between the Air and Dew Point Temperatures (Column 9) is the difference between the numbers in Columns 5 and 8, and the Greatest and Least Differences (Columns 10 and 11) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers. The readings in Column 15 are taken daily at noon.

The values given in Columns 2, 3, 4, 13, and 14 are derived from eye-readings of self-registering thermometers.

*Rainfall (Column 16). The amounts entered on January 7 and 10, are derived from frost.

The mean reading of the *Barometer* for the month was 29·954 in., being 0·153 in. higher than the average for the 65 years, 1841–1905.

TEMPERATURE OF THE AIR.

The highest in the month was 53°·2 on January 3; the lowest in the month was 20°·0 on January 23; and the range was 33°·2.
The mean of all the highest daily readings in the month was 41°·6, being 1°·5 lower than the average for the 65 years, 1841–1905.
The mean of all the lowest daily readings in the month was 32°·2, being 1°·5 lower than the average for the 65 years, 1841–1905.
The mean of the daily ranges was 9°·4, being equal to the average for the 65 years, 1841–1905.
The mean for the month was 37°·4 being 1°·2 lower than the average for the 65 years, 1841–1905.

MONTH and DAY, 1933.	Record of the Night Sky. Polaris Duration.	Polaris Fraction of Total Exposure.	δ Ursæ Minoris. Duration.	δ Ursæ Minoris. Fraction of Total Exposure.	Wind as Deduced from Self-registering Anemometers. Osler's. General Direction. A.M.	P.M.	Pressure on the Square Foot. Greatest.	Mean of 24 Hourly Measures.	Robinson's Horizontal Movement of the Air.	Clouds and Weather. A.M.	P.M.
	hours		hours				lbs.	lbs.	miles.		
Jan. 1	8·0	0·58	6·0	0·44	SW : SSW	SSW : S	3·1	0·55	337	8,m.-r : 0 : 7	8, alt.-s, n, m.-r. v.-cl : 5
2	0·0	0·00	0·0	0·00	S : SSW	SSW	12·9	1·87	470	v.-cl, slt.-m.-r : 9, s.-cu	10, alt.-s, w: 10,c.-m.-r,w: 10,slt.-m.-r,st.-w
3	11·4	0·83	10·5	0·76	SSW : SW	SW : SSW	11·0	2·11	469	10, c.-m.-r, st.-w : 10, c.-m-r, w : 9	10, th.-cl : 5 : 3, d
4	8·7	0·63	7·7	0·56	SSW	SSW	2·6	0·33	308	1, ho.-fr : 9, slt.-m.-r	7,m.-r : 0 : 3
5	10·8	0·79	9·8	0·71	SSW : NW	WNW:WSW:SSW	10·0	1·13	357	8 : 10, r, slt.-m.-r, slt.-m	10, alt.-s, slt.-m : 0, slt.-m : 0, slt.-m, ho.-fr
6	13·7	1·00	13·6	0·99	SSW : WSW	WSW	4·1	0·37	342	8, slt.-m, r : 0, m	8, ci, ci.-s, m : 0, m : 0, m, d
7	1·2	0·09	0·7	0·05	WSW : SW	SW : SSW	1·9	0·18	274	0, m, ho.-fr : 0, m, ho.-fr : 8, ci, f, m	8, m, so.-ha : 9, ci, m : 10
8	0·0	0·00	0·0	0·00	SW : WSW	WSW	3·9	0·86	415	10, r : 10, r : 10, m.-r	10, m, oc.-m.-r : 10, w
9	9·7	0·71	7·5	0·55	W : NW : N	NNE : Calm	3·0	0·35	277	10 : 10, m.-r : 7	2, fr.-cu : 0, m, f, ho.-fr
10	1·3	0·10	1·2	0·09	SW : Calm	SW : WSW	0·9	0·07	215	0, f, tk.-f, ho.-fr : 0, tk.-f, f	9, f : 10, m, slt.-m
11	8·8	0·64	7·1	0·51	SW : WSW	NW : N : NNE	2·1	0·29	289	10, m : 10, m, slt.-m.-r	10,m,f,m.-r: 10, m.-r : 10
12	6·2	0·45	1·3	0·09	NNE : N	NE : Calm	1·2	0·12	208	3, ho.-fr : 1, ho.-fr : 3, f, m	5, m : 0, m, f : 0, f, ho.-fr
13	0·0	0·00	0·0	0·00	WSW : Calm	Calm : NNE	0·2	0·02	186	tk.-f, ho.-fr 6, f, ho.-fr : 10, slt.-m.-r, f	10, m.-r, f, tk.-f : 10,slt.-m.-r, f, m : 10, slt.-m.-r, m
14	10·1	0·76	8·8	0·66	NNE : Calm	Calm : S	0·2	0·00	148	10, m : 10, f : 10, f	2, f, tk.-f : 9, m : 2, ho.-fr, lu.-ha
15	0·0	0·00	0·0	0·00	S : SSW	SSW : S	2·8	0·53	324	7, lu.-ha : 10, s, fr.-s	10, slt.-m.-r : 10, slt.-m.-r
16	0·6	0·04	0·0	0·00	S : SW : NW	NW : W	2·1	0·23	288	10, m.-r : 10, m, m.-r, f	10, m.-r, m : 10 : 10
17	0·0	0·00	0·0	0·00	WSW : SW	WSW	0·6	0·05	238	9, lu.-ha : 9 : 8, f, m, prh	9, m : 10, m, slt.-m.-r : 10, m
18	4·3	0·32	3·5	0·26	WSW	WSW : S	0·2	0·01	218	10 : 10 : 0, f, m	0, m : 0, m : 8, r, m
19	0·7	0·05	0·0	0·00	Calm : N	Calm	0·2	0·03	170	10, r, m : 10, s, sh, f	10, slt.-m.-r, f : 10, m
20	6·4	0·48	3·4	0·26	E	ENE : NE	1·6	0·10	225	10 : 10 : 7, m	7 : 2 : v.-cl, ho.-fr
21	10·2	0·77	7·3	0·55	E : ESE	E : ESE	2·6	0·19	238	8, ho.-fr : 8	7, fr.-cu : 1 : 1, ho.-fr
22	12·9	0·98	12·3	0·93	Calm	E : Calm	1·1	0·08	189	v.-cl, ho.-fr : 9 : 10, m, slt.-sn	10, slt.-sn : 0, m, ho.-fr
23	3·3	0·25	1·1	0·08	Calm	N : NE	0·4	0·05	166	0, ho.-fr : 6, m : tk.-f	tk.-f, m : v.-cl : 5
24	0·0	0·00	0·0	0·00	ENE	NE : ENE	4·2	0·96	374	10, slt.-m.-r : 10, oc.-slt.-sn	10, slt.-sn.-sh : 10
25	13·3	1·00	13·2	0·99	NE	NE	6·1	1·26	418	10 : 10 : 5, w	1, w : 1, ho.-fr
26	10·4	0·78	7·7	0·61	NE	ENE : NE	2·8	0·33	298	1, ho.-fr : 1, ho.-fr : 5, m	1 : 1, ho.-fr
27	6·7	0·51	6·1	0·46	NE	ENE : E	3·0	0·44	320	9, ho.-fr : 10 : 10, s.-cu, m	3, s.-cu : 9 : 10
28	2·5	0·20	1·7	0·13	NE : E	ENE : E	2·1	0·26	266	2, ho.-fr : 0, ho.-fr : 1, f, slt.-m	1, slt.-m : 10, ho.-fr, slt.-m
29	2·2	0·17	1·8	0·14	E	ENE : E	2·0	0·39	286	10, slt.-m : 9, slt.-m : 2, m	5, ci.-cu : 9 : 10, m.-r
30	11·1	0·87	8·7	0·68	E : Calm	WNW : WSW	1·7	0·13	242	10, m.-r : 10, m.-r, r, f	10, r, slt.-r, tk.-f, m, glm : 0, m, hy.-d
31	1·4	0·10	0·8	0·06	WSW	SW : SSW	4·2	0·70	373	v.-cl, ho.-fr: 1, ho.-fr : th.-cl, m	9, s.-cu : 9, r, w
Means	5·7	0·42	4·6	0·34	..	..	..	0·45	288		
Number of Column for Reference.	19	20	21	22	23	24	25	26	27	28	29

The mean *Temperature of Evaporation* for the month was 35°·8, being 1°·4 lower than
The mean *Temperature of the Dew Point* for the month was 33°·1, being 2°·0 lower than
The mean *Degree of Humidity* for the month was 84·4, being 2·4 less than
The mean *Elastic Force of Vapour* for the month was 0·189in., being 0·016in. less than
} the average for the 65 years, 1841–1905.

The mean amount of *Cloud* for the month (a clear sky being represented by 0 and an overcast sky by 10) was 7·0.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·131. The maximum daily amount of *Sunshine* was 4·8 hours on January 25

The highest reading of the *Solar Radiation Thermometer* was 70°·3 on January 31; and the lowest reading of the *Terrestrial Radiation Thermometer* was 13°·1 on January 23.

The *Proportions of Wind* referred to the cardinal points were N. 15, E. 22, S. 25, W. 24, calm or nearly calm conditions, 14, the whole month being represented by 100.

The *Greatest Pressure of the Wind* in the month was 12·9 lbs. on the square foot on January 2. The mean daily *Horizontal Movement of the Air* for the month was 288 miles; the greatest daily value was 470 miles on January 2, and the least daily value was 148 miles on January 14.

Rain (0·005in. or over) fell on 15 days in the month, amounting to 0·987in., as measured by Gauge No. 6 partly sunk below the ground; being 0·894in. less than the average fall for the 65 years, 1841–1905.

MONTH and DAY 1933.	Barometer. Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	Temperature. Of the Air. Highest.	Lowest.	Daily Range.	Mean of 24 Hourly Values.	Excess above Average of 65 Years.	Of Evaporation. Mean of 24 Hourly Values.	Of the Dew Point. Deduced Mean Daily Value.	Difference between the Air Temperature and Dew Point Temperature. Mean.	Greatest.	Least.	Degree of Humidity (Saturation = 100).	Temperature. Of Radiation. Highest in Sun's Rays.	Lowest on the Grass.	Of the Earth 4 ft. below the Surface of the Soil.	Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Daily Duration of Sunshine.	Sun above Horizon.
	in.	°	°	°	°	°	°	°	°	°	°		°	°	°	in.	hours	hours
Feb. 1	29·464	53·2	45·5	7·7	49·4	+ 9·8	47·6	45·6	3·8	6·7	2·6	87	59·0	37·7	42·0	0·113	0·0	9·1
2	29·595	49·8	35·7	14·1	43·7	+ 4·2	40·2	35·0	8·7	17·9	2·7	71	79·9	27·9	42·0	0·107	5·4	9·2
3	29·883	47·2	28·0	19·2	38·7	− 0·8	36·5	32·9	5·8	14·3	0·8	79	79·2	22·5	42·1	0·102	2·3	9·3
4	29·692	54·2	47·0	7·2	51·6	+12·1	50·1	48·6	3·0	6·0	1·4	89	57·2	44·6	42·4	0·052	0·0	9·3
5	29·661	57·2	49·1	8·1	52·6	+13·0	49·6	46·4	6·2	11·1	3·6	79	72·4	43·9	42·7	0·000	0·8	9·4
6	29·793	53·1	45·3	7·8	49·5	+ 9·9	47·3	44·9	4·6	8·0	2·7	84	70·7	41·7	42·9	0·018	0·1	9·4
7	29·418	52·0	44·3	7·7	48·3	+ 8·8	46·5	44·5	3·8	7·7	2·2	86	65·5	38·7	43·1	0·073	0·0	9·5
8	29·737	55·2	42·3	12·9	49·8	+10·5	48·4	46·9	2·9	6·6	1·4	90	59·0	37·8	43·5	0·015	0·0	9·5
9	29·877	54·5	48·0	6·5	52·0	+12·9	49·8	47·5	4·5	8·8	3·3	85	60·8	42·4	43·7	0·000	0·0	9·6
10	29·927	53·4	36·9	16·5	45·4	+ 6·5	43·2	40·3	5·1	8·2	1·8	83	87·3	33·2	43·9	0·381	0·4	9·7
11	30·282	42·8	33·1	9·7	37·0	− 1·8	34·1	28·8	8·2	15·7	3·3	72	86·4	27·2	44·0	0·000	5·1	9·7
12	30·382	43·4	31·0	12·4	37·9	− 0·9	34·8	29·3	8·6	11·2	3·9	71	58·2	23·9	44·0	0·000	1·8	9·8
13	30·362	45·0	34·7	10·3	40·5	+ 1·5	37·1	31·6	8·9	15·0	3·4	69	84·1	23·0	44·0	0·000	4·9	9·9
14	30·172	45·2	26·1	19·1	36·5	− 2·8	33·3	27·1	9·4	14·6	0·4	69	75·7	19·1	43·9	0·004*	3·8	9·9
15	29·981	41·9	33·9	8·0	36·4	− 3·0	33·6	28·4	8·0	13·3	4·9	72	76·1	26·8	43·8	0·000	1·3	10·0
16	30·055	44·0	34·5	9·5	38·4	− 1·1	34·5	27·1	11·3	15·2	7·4	64	71·7	24·9	43·7	0·000	0·9	10·1
17	30·012	44·1	36·1	8·0	40·3	+ 0·7	36·7	30·7	9·6	20·3	3·4	68	73·1	28·9	43·3	0·000	1·3	10·1
18	29·710	38·8	30·7	8·1	34·7	− 4·8	33·0	29·9	4·8	12·2	1·3	82	75·3	26·7	43·1	0·000	1·5	10·2
19	29·723	39·5	28·5	11·0	33·9	− 5·6	32·4	29·7	4·2	6·8	0·7	84	65·6	23·2	43·0	0·018	0·5	10·2
20	30·041	36·7	26·2	10·5	31·6	− 7·9	29·7	25·9	5·7	12·4	1·0	80	50·7	20·7	43·0	0·005	0·0	10·3
21	29·837	43·0	31·1	11·9	37·6	− 2·0	34·5	28·9	8·7	21·5	2·5	71	82·2	27·6	43·0	0·041	2·6	10·4
22	29·753	38·8	29·8	9·0	33·5	− 6·2	31·0	26·3	7·2	12·8	2·8	75	66·1	25·2	42·9	0·000	2·6	10·4
23	29·664	38·9	24·2	14·7	32·0	− 7·8	29·7	25·2	6·8	16·2	1·9	75	70·7	17·6	42·7	0·000	3·2	10·5
24	29·451	36·6	22·2	14·4	30·8	− 9·2	28·9	24·8	6·0	11·1	1·3	78	45·3	16·3	42·5	0·238	0·0	10·6
25	29·415	40·3	34·3	6·0	37·1	− 3·0	35·1	31·7	5·4	11·8	2·5	81	49·7	32·6	42·4	0·184	0·0	10·6
26	29·374	44·8	36·3	8·5	39·6	− 0·6	37·9	35·4	4·2	11·2	2·3	85	62·8	33·1	42·2	0·319	0·0	10·7
27	29·433	51·0	39·2	11·8	44·0	+ 3·7	41·7	38·6	5·4	14·7	3·3	81	91·8	34·6	42·0	0·043	3·6	10·8
28	29·698	53·5	35·2	18·3	42·9	+ 2·6	41·2	38·8	4·1	10·0	0·7	85	88·7	27·8	42·0	0·000	1·2	10·8
Means	29·800	46·4	35·3	11·0	40·9	+ 1·4	38·5	34·7	6·2	12·2	2·5	78·4	70·2	29·6	43·0	Sum 1·713	1·5	10·0
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

The results apply to the civil day, except Columns 19 to 22 (Record of the Night Sky), which relate to the period extending from dusk on the civil day named, to dawn of the following day.

The mean reading of the Barometer (Column 1) and the mean temperatures of the Air and Evaporation (Columns 5 and 7) are deduced from the photographic records. The average temperature (Column 6) is deduced from the 65 years' observations, 1841–1905. The temperature of the Dew Point (Column 8) and the Degree of Humidity (Column 12) are deduced from the corresponding temperatures of the Air and Evaporation by means of Hygrometrical Tables published by the Meteorological Office, Air Ministry. The mean difference between the Air and Dew Point Temperatures (Column 9) is the difference between the numbers in Columns 5 and 8, and the Greatest and Least Differences (Columns 10 and 11) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers. The readings in Column 15 are taken daily at noon.

The values given in Columns 2, 3, 4, 13, and 14 are derived from eye-readings of self-registering thermometers.

*Rainfall (Column 16). The amount entered on February 14 is derived from frost.

The mean reading of the *Barometer* for the month was 29·800in., being 0·009in. lower than the average for the 65 years, 1841–1905.

TEMPERATURE OF THE AIR.

The highest in the month was 57°·2 on February 5; the lowest in the month was 22°·2 on February 24; and the range was 35°·0.

The mean of all the highest daily readings in the month was 46°·4, being 1°·2 higher than the average for the 65 years, 1841–1905.

The mean of all the lowest daily readings in the month was 35°·3, being 1°·1 higher than the average for the 65 years, 1841–1905.

The mean of the daily ranges was 11°·0, being equal to the average for the 65 years, 1841–1905.

The mean for the month was 40°·9, being 1°·4 higher than the average for the 65 years, 1841–1905.

MONTH and DAY 1933.	Record of the Night Sky. Polaris. Duration.	Polaris. Fraction of Total Exposure.	δ Ursæ Minoris. Duration.	δ Ursæ Minoris. Fraction of Total Exposure.	Wind as Deduced from Self-registering Anemometers. Osler's. General Direction. A.M.	P.M.	Pressure on the Square Foot. Greatest	Mean of 24 Hourly Measures.	Robinson's. Horizontal Movement of the Air.	Clouds and Weather. A.M.	P.M.
	hours.		hours.				lbs.	lbs.	miles		
Feb. 1	0·0	0·00	0·0	0·00	SW	SW	11·6	3·44	560	9, w : 10, m.-r, w : 10, m.-r, st.-w	10, fr.-s, st.-w : 10, fr.-s, w : 10, m.-r, r, w
2	11·3	0·89	10·9	0·86	SW : NW : WNW	WNW : W : WSW	3·1	0·70	368	10, r : 5, m	1, alt.-cu : 8, th.-cl, lu.-ha : 0, ho.-fr
3	0·0	0·00	0·0	0·00	WSW : SW	S : SSW	2·4	0·15	238	0, ho.-fr : 0, ho.-fr : 6, f	10, ci.-s, so.-ha : 10, slt.-m.-r, m.-r, c.-r
4	0·1	0·01	0·1	0·01	SW	SW	4·8	1·41	445	10, r, m.-r, w : 10, w : 10, s, fr.-s	10, m.-r, w : 10, m.-r, w : 10, slt.-m.-r
5	4·9	0·40	4·7	0·38	SW	WSW	10·8	2·72	557	10, w : 9, slt.-m.-r, w	9, fr.-s, st.-w : 7, slt.-m.-r, st.-w : 8, w
6	0·4	0·04	0·3	0·03	WSW	SW : SSW	3·4	0·56	310	10 : 9, s.-cu	10, s.-cu : 10, slt.-sh, r
7	7·5	0·61	5·6	0·46	SSW : SW	WSW	5·5	1·12	391	10, sh : 10. r, slt.-m.-r : 10, m.-r, w	10, w : 10, oc.-slt.-m -r, w : 1
8	0·3	0·03	0·1	0·01	WSW : SW	WSW	4·2	0·57	320	9, lu.-ha : 10, m.-r, m : 10, m.-r, m	10, slt.-m : 10 : 10, slt.-sh
9	4·4	0·36	1·3	0·11	WSW : SW	SW : WSW	4·8	1·41	432	10 : 8 : 10, s.-cu, w	10, w : 9, w : 9, lu.-ha
10	6·5	0·53	5·9	0·48	WSW	Var : NE	4·2	0·60	297	9, lu.-la : 9, slt.-sh	9, r, hy.-r, hl, t : 10, slt.-sh, t, l, r : 10
11	6·4	0·55	4·9	0·42	NNE	NE	4·3	0·88	361	1, ho.-fr : 1, ho.-fr : 4, slt.-sn.-sh	8, cu, fr.-cu : 2 : 9
12	0·0	0·00	0·0	0·00	NNE : N : Calm	Calm	0·7	0·05	155	9 : 0, ho.-fr, h, f, m	3, h : 10 : 10, f
13	11·7	1·00	9·2	0·78	Calm : NNE	N : Calm : NNW	1·9	0·11	186	10 : 10 : v.-cl, h	0, h : 0, m, ho.-fr
14	5·9	0·50	5·3	0·45	Calm : N	NNE : N	2·6	0·30	228	0, ho.-fr : 0, m, ho.-fr : 0, h	v.-cl : v.-cl
15	5·1	0·44	4·5	0·39	N	N	1·8	0·44	277	8 : 9	8, sn.-sh, slt.-sn : 1
16	0·5	0·04	0·2	0·02	N	Calm : WSW	1·1	0·15	215	9 : 10, m : 7, m, h	9 : 6, f : 10
17	2·7	0·23	1·2	0·10	WSW : N	N : NW	1·6	0·30	277	10, m.-r : 9 : 10, m	5, h : 1, h : 6, slt.-m
18	2·8	0·24	2·2	0·19	NW : N	N	2·9	0·55	303	8, m.-r : 8 : 10, slt.-sn	8, s.-cu : 9
19	7·8	0·68	6·5	0·57	N	N : NNE	5·8	0·75	327	9 : 10, sn : 10, slt.-sn	9, sn.-shs : v.-cl, slt.-sn
20	0·3	0·03	0·0	0·00	N : Calm	Calm : WSW	1·6	0·15	225	v.-cl : 9, f	th.-cl, f : 1, f : 10, sn
21	7·2	0·63	6·1	0·53	WSW : NW	N : NNW	3·9	0·57	318	10, r : 10 : 7	5, fr.-cu, slt.-sn : 10, fq.-sn : v.-cl
22	8·7	0·76	7·9	0·69	N	N	6·8	1·50	411	v.-cl, sn : 0 : 2, sn	9, slt.-sn, w : v.-cl : 1
23	7·2	0·63	3·8	0·33	N	N : NNW · Calm	3·8	0·56	274	6 : 8 : 4, fr.-cu	8, fr.-cu, sn : 0, f, m, ho.-fr
24	0·4	0·03	0·0	0·00	S : SE	SE : SSE	7·0	1·14	357	0, m, ho.-fr : 10 : 10, sn	10, c.-sn, w : 10, slt.-m.-r, slt.-sl
25	0·0	0·00	0·0	0·00	SSE	SE : SSE	5·2	1·45	376	10, m.-r : 10, sl, fq.-sn.-shs	10, oc.-slt.-m.-r : 10, r, slt.-m.-r, m.-r
26	0·0	0·00	0·0	0·00	SE	SE : SSE	3·5	0·82	306	10, m.-r : 10, so.-ha	10, c.-m.-r : 10, c.-m.-r, slt.-m.-r
27	4·0	0·36	0·9	0·09	SE : S	SSW : SSE	4·7	0·66	287	10, slt.-m.-r : 10, m.-r : 8	8 : v.-cl : 9
28	11·0	1·00	10·4	0·95	SSE : S	SSW : S : Calm	0·6	0·08	202	6, th.-cl, d : 9, ci-s, so.-ha	8, s.-cu : 0, ho.-fr
Means	4·2	0·36	3·3	0·28	..	..	..	0·83	322		
Number of Column for Reference.	19	20	21	22	23	24	25	26	27	28	29

The mean *Temperature of Evaporation* for the month was 38°·5, being 0°·8 higher than
The mean *Temperature of the Dew Point* for the month was 34°·7, being 0°·3 lower than
The mean *Degree of Humidity* for the month was 78·4, being 5·2 less than
The mean *Elastic Force of Vapour* for the month was 0·201in., being 0·003in. less than
} the average for the 65 years, 1841–1905.

The mean amount of *Cloud* for the month (a clear sky being represented by 0 and an overcast sky by 10) was 7·4.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·155. The maximum daily amount of *Sunshine* was 5·4 hours on February 2.

The highest reading of the *Solar Radiation Thermometer* was 91°·8 on February 27; and the lowest reading 0 the *Terrestrial Radiation Thermometer* was 16°·3 on February 24.

The *Proportions of Wind* referred to the cardinal points were N. 30, E. 8, S. 25, W. 26, calm or nearly calm conditions, 11, the whole month being represented by 100.

The *Greatest Pressure of the Wind* in the month was 11·6 lbs. on the square foot on February 1. The mean daily *Horizontal Movement of the Air* for the month was 322 miles; the greatest daily value was 560 miles on February 1, and the least daily value was 155 miles on February 12.

Rain (0·005in. or over) fell on 15 days in the month, amounting to 1·713in., as measured by gauge No. 6 partly sunk below the ground; being 0·233in. greater than the average fall for the 65 years, 1841–1905.

MONTH and DAY, 1933.	Barometer.	Temperature. Of the Air.					Temperature. Of Evaporation.	Temperature. Of the Dew Point.	Difference between the Air Temperature and Dew Point Temperature.			Degree of Humidity (Saturation = 100).	Temperature. Of Radiation.		Temperature. Of the Earth 4 ft. below the Surface of the Soil.	Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Daily Duration of Sunshine.	Sun above Horizon.
	Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	Highest.	Lowest.	Daily Range.	Mean of 24 Hourly Values.	Excess above Average of 65 Years.	Mean of 24 Hourly Values.	Deduced Mean Daily Value.	Mean.	Greatest.	Least.		Highest in Sun's Rays.	Lowest on the Grass.				
	in.	°	°	°	°	°	°	°	°	°	°		°	°	°	in.	hours	hours
Mar. 1	29·717	50·0	35·1	14·9	41·2	+ 0·8	39·8	37·9	3·3	9·0	0·2	88	77·0	27·7	42·1	0·162	0·1	10·9
2	29·386	51·6	38·9	12·7	45·0	+ 4·6	44·1	43·1	1·9	7·9	0·2	93	71·5	34·6	42·2	0·065	0·0	11·0
3	29·050	52·7	48·8	3·9	50·8	+10·3	49·6	48·4	2·4	4·2	1·1	91	59·2	46·3	42·3	0·237	0·0	11·0
4	29·111	55·0	43·6	11·4	48·7	+ 8·0	46·2	43·4	5·3	13·8	1·9	81	95·5	37·8	42·5	0·032	3·1	11·1
5	29·476	56·2	40·0	16·2	47·1	+ 6·2	43·7	39·4	7·7	19·3	3·5	74	102·2	33·6	43·0	0·000	6·4	11·1
6	29·407	55·0	41·3	13·7	47·1	+ 6·1	45·1	42·7	4·4	12·5	1·9	85	98·1	35·6	43·1	0·286	2·7	11·2
7	29·746	54·9	35·0	19·9	45·5	+ 4·5	42·7	39·0	6·5	16·1	1·3	78	96·2	28·2	43·4	0·123	5·2	11·3
8	30·236	56·7	32·7	24·0	44·5	+ 3·4	41·2	36·5	8·0	22·8	1·6	73	105·7	26·0	43·6	0·000	8·0	11·4
9	30·218	52·8	41·8	11·0	46·9	+ 5·9	43·4	39·0	7·9	13·4	2·7	73	71·1	34·7	43·6	0·003	0·0	11·4
10	30·020	57·7	35·1	22·6	45·9	+ 5·0	42·2	37·1	8·8	15·9	1·8	71	102·7	24·9	43·8	0·000	8·9	11·5
11	29·842	55·9	36·9	19·0	45·1	+ 4·1	42·2	38·2	6·9	12·8	0·9	77	99·1	26·8	43·9	0·000	9·3	11·5
12	29·887	57·6	30·0	27·6	42·6	+ 1·5	40·2	36·7	5·9	18·0	0·6	79	101·0	25·3	43·9	0·001*	7·6	11·6
13	29·955	52·8	28·4	24·4	40·1	− 1·2	38·8	37·0	3·1	9·0	0·7	88	66·0	20·9	43·8	0·000	0·1	11·7
14	29·991	57·9	37·0	20·9	47·1	+ 5·6	43·1	37·9	9·2	18·5	0·9	70	100·8	28·1	43·9	0·002	6·1	11·7
15	29·881	54·9	40·1	14·8	46·7	+ 5·0	44·0	40·7	6·0	10·6	3·0	79	83·8	33·6	43·8	0·000	0·0	11·8
16	29·377	51·9	44·7	7·2	48·8	+ 6·9	47·8	46·8	2·0	4·7	1·6	92	59·1	42·0	43·9	0·338	0·0	11·9
17	28·849	50·6	40·3	10·3	46·8	+ 4·8	45·1	43·1	3·7	7·8	2·8	87	67·0	39·1	43·9	0·436	0·0	11·9
18	29·043	52·6	40·0	12·6	44·4	+ 2·4	41·6	37·7	6·7	17·9	3·1	77	99·3	37·1	44·0	0·110	4·4	12·0
19	29·086	57·6	43·3	14·3	47·2	+ 5·3	44·6	41·5	5·7	15·6	2·4	80	100·6	38·1	44·1	0·283	2·8	12·1
20	29·610	47·3	30·7	16·6	41·8	− 0·1	38·9	34·3	7·5	17·8	0·6	75	87·1	22·2	44·2	0·154	3·7	12·1
21	30·247	58·2	28·7	29·5	41·5	− 0·4	38·3	33·3	8·2	18·1	0·3	73	104·6	20·8	44·5	0·003*	6·7	12·2
22	30·198	59·7	32·1	27·6	45·5	+ 3·5	39·8	30·7	14·8	28·9	3·1	56	112·6	21·6	44·5	0·000	10·6	12·3
23	30·125	53·0	36·6	16·4	44·5	+ 2·3	39·3	30·9	13·6	23·0	8·0	59	105·2	29·0	44·5	0·000	10·5	12·3
24	30·145	51·8	34·2	17·6	42·4	− 0·0	37·1	27·7	14·7	22·6	3·8	56	106·0	27·1	44·5	0·000	10·7	12·4
25	30·117	55·4	31·1	24·3	42·8	+ 0·1	38·6	31·9	10·9	26·5	1·6	65	106·9	19·9	44·5	0·000	10·8	12·5
26	30·150	57·7	25·9	31·8	43·9	+ 0·9	39·2	31·6	12·3	23·8	0·8	62	111·7	17·0	44·5	0·000	9·8	12·5
27	30·159	61·1	33·1	28·0	46·4	+ 3·1	41·2	33·4	13·0	26·4	3·3	60	113·9	20·1	44·4	0·000	10·3	12·6
28	30·026	64·1	30·8	33·3	47·6	+ 3·9	42·2	34·4	13·2	30·1	2·5	60	118·7	19·0	44·5	0·000	10·5	12·7
29	29·840	66·1	31·5	34·6	48·5	+ 4·4	42·6	34·2	14·3	26·4	3·2	57	112·5	20·7	44·5	0·000	10·1	12·7
30	29·824	60·3	37·3	23·0	44·4	− 0·1	41·5	37·5	6·9	22·3	2·2	76	120·1	29·8	44·5	0·181	3·3	12·8
31	29·937	56·9	35·1	21·8	44·6	− 0·3	40·8	35·1	9·5	18·9	2·7	69	104·9	27·9	44·6	0·001*	5·9	12·8
Means	29·763	55·7	36·1	19·5	45·3	+ 3·4	42·1	37·5	7·9	17·2	2·1	74·3	95·5	28·9	43·8	Sum 2·417	5·4	11·9
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

The results apply to the civil day, except Columns 19 to 22 (Record of the Night Sky), which relate to the period extending from dusk on the civil day named, to dawn of the following day.

The mean reading of the Barometer (Column 1) and the mean temperatures of the Air and Evaporation (Columns 5 and 7) are deduced from the photographic records. The average temperature (Column 6) is deduced from the 65 years' observations, 1841–1905. The temperature of the Dew Point (Column 8) and the Degree of Humidity (Column 12) are deduced from the corresponding temperatures of the Air and Evaporation by means of Hygrometrical Tables published by the Meteorological Office, Air Ministry. The mean difference between the Air and Dew Point Temperatures (Column 9) is the difference between the numbers in Columns 5 and 8, and the Greatest and Least Differences (Columns 10 and 11) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers. The readings in Column 15 are taken daily at noon.

The values given in Columns 2, 3, 4, 13, and 14 are derived from eye-readings of self-registering thermometers.

*Rainfall (Column 16). The amounts entered on March 12, 21, 31 are derived from dew or hoar frost.

The mean reading of the *Barometer* for the month was 29·763in., being 0·010in. higher than the average for the 65 years, 1841–1905.

TEMPERATURE OF THE AIR.

The highest in the month was 66°·1 on March 29; the lowest in the month was 25°·9 on March 26; and the range was 40°·2.

The mean of all the highest daily readings in the month was 55°·7, being 5°·9 higher than the average for the 65 years, 1841–1905.

The mean of all the lowest daily readings in the month was 36°·1, being 1°·0 higher than the average for the 65 years, 1841–1905.

The mean of the daily ranges was 19°·5, being 4°·8 greater than the average for the 65 years, 1841–1905.

The mean for the month was 45°·3, being 3°·4 higher than the average for the 65 years, 1841–1905.

MONTH and DAY 1933.	Record of the Night Sky. Polaris. Duration.	Polaris. Fraction of Total Exposure.	δ Ursæ Minoris. Duration.	δ Ursæ Minoris. Fraction of Total Exposure.	Wind as Deduced from Self-registering Anemometers. Osler's. General Direction. A.M.	General Direction. P.M.	Pressure on the Square Foot. Greatest.	Pressure on the Square Foot. Mean of 24 Hourly Measures.	Robinson's Horizontal Movement of the Air.	Clouds and Weather. A.M.	Clouds and Weather. P.M.
	hours.		hours.				lbs.	lbs.	miles		
Mar. 1	2·7	0·24	1·8	0·16	SSE : ESE	ESE : E	1·7	0·29	243	0, ho.-fr : 9, alt.-s	10, so.-ha : 10, r
2	0·0	0·00	0·0	0·00	SSW : S	SE : S	1·4	0·19	240	7, r : 5 : 10, alt.-s, fr.-s	10, slt.-m-r, r : 10, oc.-slt.-m.-r
3	0·6	0·05	0·0	0·00	SSW	SSW	6·9	1·43	411	10, fq.-r : 10, fq.-r : 10,alt.-s,n,fq.-slt.-m.-r	10, alt.-s, fq.-m.-r : 10, fq.-m.-r
4	10·1	0·96	9·5	0·91	SSW : WSW	WSW : SW	5·8	0·97	376	9, m.-r : 10, n, fq.-m.-r	5, cu, s.-cu, h : 2 : th.-c, lu.-ha, d
5	3·1	0·29	2·2	0·21	SW : WSW	SW : SSW	4·0	0·77	350	4, d : 0 : 3, alt.-cu, ci	9, ci, fr.-cu, so.-ha : 9, th.-cl, lu.-ha
6	6·8	0·65	6·1	0·59	SSW	SW	6·7	1·42	390	10, r, w : 10, n, r, m.-r, w	8, ci, fr.-cu, cu, so.-ha : 9, lu.-ha d,
7	9·3	0·88	7·6	0·73	SW : Calm	WSW	6·2	0·29	271	7, ho.-fr, lu.-ha : 7,alt.-cu	8, s.-cu, slt.-sh : v.-cl,hy.-r,slt.-r,t,l,m: 2
8	0·0	0·00	0·0	0·00	WSW : Calm	SW : SSW	1·2	0·10	214	0, ho.-fr : 1,m, h	5, alt.-cu, cu : 10, th.-cl, lu-ha : 10, th.-cl, lu.-ha
9	8·0	0·76	7·0	0·67	SSW	SSW : Calm	1·6	0·22	226	10, m.-r : 10	10, alt.-s, s.-cu : 9
10	10·5	1·00	10·5	1·00	Calm : ESE	ESE	4·0	0·34	214	1, ho.-fr : 1, ci	1, ci, h : 0, slt.-m, d
11	10·0	1·00	10·0	1·00	Calm : E	ESE : Calm	1·7	0·23	219	0, slt.-m, ho.-fr : 0	3, alt.-cu : 0 : 0, d
12	10·0	1·00	9·8	0·98	Calm	E : Calm	0·8	0·03	143	0, m, ho.-fr : 0, tk.-f : 0, tk.-f, m	0, m : 0 : 0, slt.-m, ho.-fr
13	8·3	0·83	5·5	0·56	Calm	Calm : S : SW	0·1	0·00	156	0, m, ho.-fr : 0, f	0, f : 0, f : 0
14	6·0	0·60	2·4	0·24	WSW : W	NW : W : WSW	2·2	0·22	290	0 : 10, slt.-m.-r, f : v.-cl, f	3, s.-cu : v.-cl, th.-cl, h
15	0·3	0·03	0·1	0·01	SW	SW : SSW	2·6	0·51	309	9 : 10, alt.-s, so.-ha	10, alt.-s, fr.-s, so.-ha : 10
16	0·0	0·00	0·0	0·00	SSW : SW	SW	10·0	1·90	450	10, m.-r : 10, m,-r, w	10, alt.-s, n, m.-r, w : 10, m.-r, w
17	1·2	0·12	0·2	0·02	SW : SSE	SSW : SW	19·4	2·26	429	10, r, st.-w : 10, r	10, alt.-s, n, oc.-hy.-r, r : 10, m.-r
18	3·7	0·38	2·3	0·23	WSW : NW	W : SW	3·4	0·52	355	10, r : 9	7, s.-cu, shs : 3
19	1·6	0·17	1·2	0·12	SW : WSW	SW : WSW	12·0	2·19	464	10, m.-r, hy.-r : 9 : 9, r, slt.-m	8, alt.-s, fr.-s, n, shs : 7, r
20	9·6	0·98	8·3	0·85	NW	NNW : N : Calm	7·3	1·61	395	10, fq.-m.-r, st.-w : 8, w	7,s.-cu,n,r,hy.-r,hl : 1, r : 0, ho.-fr, h, f
21	9·3	0·97	8·7	0·89	SSW : SW	SW : SSW : S	1·0	0·12	241	0, ho.-fr, h : 0, h : 2, alt.-cu, h	7, alt.-cu, ci : 7 : 2, slt.-d
22	9·7	1·00	9·7	1·00	SSE : Calm	SE : ESE	2·8	0·27	249	0, ho.-fr : 1	3, ci : 4, th.-cl : 0
23	9·7	1·00	9·7	1·00	ESE	E : ESE	6·1	0·99	330	0 : 1, th.-cl	0 : 0
24	9·7	1·00	9·7	1·00	ESE : SE	E	2·8	0·52	289	0 : 1, ci	0 : 0
25	9·3	1·00	9·3	1·00	E : Calm	E	1·5	0·14	207	0, ho.-fr, h : 0, slt.-h	0, slt.-h : 0, slt.-h, ho.-fr
26	9·3	1·00	9·3	1·00	Calm	E : ENE	0·6	0·05	177	0, slt.-h, ho.-fr : 0, f, slt.-h	0, slt.-h : 0, ho.-fr
27	9·3	1·00	9·3	1·00	NE : NNE	NE : ESE : Calm	1·2	0·13	223	0, ho.-fr : 0	0 : 0
28	9·3	1·00	9·3	1·00	ENE : Calm	ESE : Calm	0·3	0·04	179	0, ho.-fr : 0, h	0 : 0, ho.-fr
29	5·5	0·59	5·5	0·59	Calm : WSW	WSW : SW	1·7	0·16	236	0, ho.-fr : 1, ci, slt.-h	2, s.-cu, ci : 0 : 0, d
30	9·0	0·98	8·9	0·97	SW : WSW	WSW	5·9	0·45	327	9, m.-r : 8, s.-cu, slt.-sh	9, s.-cu, n, r : 8, r : 0
31	4·3	0·47	2·8	0·30	WSW	SW	2·7	0·33	309	0 : 2, ci, d	9, s.-cu : 9, slt.-sh
Means	6·3	0·64	5·7	0·58	..	..	..	0·60	287		
Number of Column for Reference.	19	20	21	22	23	24	25	26	27	28	29

The mean *Temperature of Evaporation* for the month was 42°·1, being 2°·7 higher than
The mean *Temperature of the Dew Point* for the month was 37°·5, being 1°·9 higher than
The mean *Degree of Humidity* for the month was 74·3, being 3·8 less than
The mean *Elastic Force of Vapour* for the month was 0·224in., being 0·015in. greater than
} the average for the 65 years, 1841–1905.

The mean amount of *Cloud* for the month (a clear sky being represented by 0 and an overcast sky by 10) was 4·7.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·455. The maximum daily amount of *Sunshine* was 10·8 hours on March 25.

The highest reading of the *Solar Radiation Thermometer* was 120°·1 on March 30; and the lowest reading of the *Terrestrial Radiation Thermometer* was 17°·0 on March 26.

The *Proportions of Wind* referred to the cardinal points were N. 4, E. 18, S. 35, W. 26, calm or nearly calm conditions, 17, the whole month being represented by 100.

The *Greatest Pressure of the Wind* in the month was 19·4 lbs. on the square foot on March 17. The mean daily *Horizontal Movement of the Air* for the month was 287 miles; the greatest daily value was 464 miles on March 19, and the least daily value was 143 miles on March 12.

Rain (0·005in. or over) fell on 12 days in the month, amounting to 2·417in., as measured by gauge No. 6 partly sunk below the ground; being 0·897in. greater than the average fall for the 65 years, 1841–1905.

MONTH and DAY, 1933.	Barometer.	Temperature.							Difference between the Air Temperature and Dew Point Temperature.			Degree of Humidity (Saturation = 100).	Temperature			Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Daily Duration of Sunshine.	Sun above Horizon.
		Of the Air.					Of Evaporation.	Of the Dew Point.					Of Radiation.		Of the Earth 4 ft. below the Surface of the Soil.			
	Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	Highest.	Lowest.	Daily Range.	Mean of 24 Hourly Values.	Excess above Average of 65 Years.	Mean of 24 Hourly Values.	Deduced Mean Daily Value.	Mean.	Greatest.	Least.		Highest in Sun's Rays.	Lowest on the Grass.				
	in.	°	°	°	°	°	°	°	°	°	°		°	°	°	in.	hours	hours
April 1	29·981	53·5	42·0	11·5	48·1	+ 2·8	44·2	39·2	8·9	12·7	3·2	71	80·3	31·9	44·6	0·000	0·2	12·9
2	30·113	59·9	35·5	24·4	47·9	+ 2·2	42·4	34·5	13·4	21·0	3·8	59	110·9	27·1	44·9	0·000	6·1	13·0
3	30·033	62·1	43·2	18·9	51·1	+ 5·1	46·0	39·6	11·5	19·1	4·1	65	114·2	34·4	44·9	0·000	8·2	13·0
4	30·077	60·1	37·8	22·3	49·5	+ 3·3	44·8	38·9	10·6	18·9	1·5	67	109·9	29·1	45·0	0·000	6·1	13·1
5	30·117	58·2	36·5	21·7	47·8	+ 1·5	44·0	39·1	8·7	14·3	1·7	72	106·1	26·3	45·0	0·000	8·1	13·2
6	30·102	67·0	38·6	28·4	52·1	+ 5·8	47·3	41·8	10·3	17·0	1·9	68	115·3	29·7	45·2	0·000	5·9	13·2
7	30·057	72·0	45·9	26·1	56·5	+10·2	49·1	40·6	15·9	27·6	5·9	55	120·1	36·0	45·4	0·000	8·3	13·3
8	30·001	72·8	44·9	27·9	58·6	+12·5	49·6	39·1	19·5	37·5	8·6	49	124·8	34·2	45·8	0·000	10·9	13·4
9	29·982	62·7	42·7	20·0	53·2	+ 7·2	49·6	45·9	7·3	13·8	1·7	76	106·2	33·9	45·9	0·000	2·4	13·4
10	29·968	69·8	48·5	21·3	56·0	+10·1	51·4	46·8	9·2	19·0	5·0	71	122·0	40·3	46·1	0·000	6·7	13·5
11	29·831	71·7	45·2	26·5	58·5	+12·7	52·3	46·2	12·3	29·2	3·4	63	130·9	36·0	46·5	0·000	1·2	13·6
12	29·815	59·6	47·4	12·2	53·7	+ 7·8	50·3	46·9	6·8	8·7	2·8	78	69·3	41·2	46·6	0·018	0·0	13·6
13	30·136	57·0	37·8	19·2	47·6	+ 1·5	42·0	33·9	13·7	25·7	2·0	59	118·0	28·2	46·9	0·000	9·6	13·7
14	30·336	57·0	32·0	25·0	45·4	− 1·0	40·6	33·4	12·0	28·2	0·4	62	115·8	19·7	47·0	0·000	10·8	13·8
15	30·160	64·9	34·8	30·1	49·3	+ 2·5	43·9	36·7	12·6	27·0	4·8	62	121·6	22·1	47·2	0·000	3·8	13·8
16	29·975	66·1	39·9	26·2	52·5	+ 5·3	48·1	43·2	9·3	19·3	2·2	70	106·0	29·5	47·2	0·000	4·6	13·9
17	29·991	50·9	37·4	13·5	45·5	− 2·1	42·5	38·5	7·0	13·2	2·0	77	88·8	31·6	47·2	0·000	0·8	14·0
18	29·943	48·3	34·7	13·6	41·3	− 6·7	36·6	28·2	13·1	23·8	4·0	60	89·7	23·9	47·2	0·001	0·6	14·0
19	29·935	48·7	31·2	17·5	37·8	−10·5	34·8	29·5	8·3	21·4	2·2	72	120·3	20·1	47·2	0·067	8·0	14·1
20	29·811	46·0	32·5	13·5	39·3	− 9·2	36·9	33·0	6·3	13·2	1·2	78	96·1	24·8	47·0	0·153	1·9	14·1
21	29·939	49·6	35·6	14·0	41·9	− 6·8	37·3	29·3	12·6	23·7	2·4	61	102·0	26·7	47·0	0·000	3·0	14·2
22	30·046	48·5	33·1	15·4	41·7	− 7·0	37·6	30·8	10·9	17·2	4·4	65	75·6	22·8	47·0	0·000	0·1	14·3
23	29·931	57·1	30·5	26·6	44·9	− 3·7	41·1	35·5	9·4	22·6	2·7	69	101·1	23·0	47·0	0·000	1·7	14·3
24	29·815	54·8	44·2	10·6	49·6	+ 1·0	49·1	48·6	1·0	3·6	0·0	96	70·9	42·8	46·8	0·273	0·0	14·4
25	29·721	58·1	45·8	12·3	52·0	+ 3·4	51·2	50·5	1·5	5·2	0·4	94	75·3	39·5	46·9	0·184	0·4	14·5
26	29·737	62·0	44·0	18·0	52·7	+ 4·1	50·4	48·1	4·6	11·0	1·2	84	106·5	36·9	47·0	0·000	3·4	14·5
27	29·662	66·6	45·7	20·9	55·0	+ 6·3	50·9	46·8	8·2	18·9	1·4	74	128·2	36·9	47·1	0·041	3·2	14·6
28	29·645	64·8	41·4	23·4	51·1	+ 2·3	46·5	41·1	10·0	22·3	2·4	69	126·0	33·1	47·2	0·000	4·2	14·7
29	29·562	63·7	42·2	21·5	52·1	+ 3·1	48·8	45·3	6·8	15·6	1·7	78	116·4	33·9	47·5	0·022	3·0	14·7
30	29·598	67·2	44·0	23·2	52·9	+ 3·8	48·1	42·7	10·2	21·8	2·0	68	134·8	33·1	47·8	0·000	9·5	14·8
																Sum		
Means	29·934	60·0	39·8	20·2	49·5	+ 2·2	45·2	39·8	9·7	19·1	2·7	69·7	106·8	31·0	46·5	0·759	4·4	13·9
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

The results apply to the civil day, except Columns 19 to 22 (Record of the Night Sky), which relate to the period extending from dusk on the civil day named, to dawn of the following day.

The mean reading of the Barometer (Column 1) and the mean temperatures of the Air and Evaporation (Columns 5 and 7) are deduced from the photographic records. The average temperature (Column 6) is deduced from the 65 years' observations, 1841–1905. The temperature of the Dew Point (Column 8) and the Degree of Humidity (Column 12) are deduced from the corresponding temperatures of the Air and Evaporation by means of Hygrometrical Tables published by the Meteorological Office, Air Ministry. The mean difference between the Air and Dew Point Temperatures (Column 9) is the difference between the numbers in Columns 5 and 8, and the Greatest and Least Differences (Columns 10 and 11) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers. The readings in Column 15 are taken daily at noon.

The values given in Columns 2, 3, 4, 13, and 14 are derived from eye-readings of self-registering thermometers.

The mean reading of the *Barometer* for the month was 29·934in. being 0·179in. higher than the average for the 65 years, 1841–1905.

TEMPERATURE OF THE AIR.

The highest in the month was 72°·8 on April 8; the lowest in the month was 30°·5 on April 23; and the range was 42°·3.

The mean of all the highest daily readings in the month was 60°·0, being 2°·8 higher than the average for the 65 years, 1841–1905.

The mean of all the lowest daily readings in the month was 39°·8, being 0°·8 higher than the average for the 65 years, 1841–1905.

The mean of the daily ranges was 20°·2, being 2°·0 greater than the average for the 65 years, 1841–1905.

The mean for the month was 49°·5, being 2°·2 higher than the average for the 65 years, 1841–1905.

MONTH and DAY, 1933.	Record of the Night Sky. Polaris. Duration.	Polaris. Fraction of Total Exposure.	δ Ursæ Minoris. Duration.	δ Ursæ Minoris. Fraction of Total Exposure.	Wind as Deduced from Self-registering Anemometers. Osler's. General Direction. A.M.	P.M.	Pressure on the Square Foot. Greatest	Mean of 24 Hourly Measures.	Robinson's. Horizontal Movement of the Air.	Clouds and Weather. A.M.	P.M.
	hours.		hours.				lbs.	lbs.	miles.		
April 1	8·7	1·00	8·7	1·00	SW : WSW : W	W : NW	2·2	0·39	311	7, th.-cl : 5 : 9, fr.-s, n, slt.-shs	10, alt.-s, fr.-s : 9 : 1, slt.-h
2	2·7	0·32	0·5	0·05	WSW	WSW	5·5	0·56	353	0, ho.-fr : 3, ci, slt.-h, so.-ha	9, ci, oc.-so.-ha : 9, th.-cl
3	8·7	1·00	8·7	1·00	WSW	W : WSW	3·2	0·75	409	9, th.-cl : 7, th.-cl	7, ci, th.-cl : 0
4	8·7	1·00	8·4	0·96	WSW : WNW	WNW : W : WSW	1·1	0·14	267	0 : 8, d, slt.-m : 9, ci.-s	2, ci, slt.-h : 1 : 0, slt.-h, d
5	4·1	0·47	0·2	0·02	NNW : Calm	NNW : Calm	0·7	0·04	177	0, ho.-fr : 1, slt.-h : 8, s.-cu, slt-h	1, fr.-cu, slt.-h : 1, m, f
6	1·8	0·20	0·0	0·00	Calm	Calm : SW	0·2	0·01	168	9, m : 4, m : 6, slt.-h	8, fr.-cu, alt.-cu, slt.-h : 10, slt.-h
7	5·2	0·60	4·6	0·52	Calm	WSW : SW	0·5	0·03	176	9 : 1, slt.-h	3, fr.-cu, slt.-h : 3, slt.-h : 3
8	8·1	0·98	7·8	0·95	SW	WSW	1·3	0·11	245	9 : 1, slt.-h : 1, ci, slt-h	0 : 0
9	0·0	0·00	0·0	0·00	WSW : W	W : WNW	2·3	0·40	321	3 : 9, ci.-s, so.-ha	10, alt.-s, fr.-s, slt.-sh : 10
10	5·8	0·70	3·5	0·42	W : WSW	WSW : SSW	1·1	0·17	264	10 : 8, alt.-s, fr.-s	1, ci.-s : 8, th.-cl, oc.-lu.-ha
11	0·8	0·10	0·0	0·00	Calm : SSW	SW : WSW	2·9	0·26	243	10, th.-cl : 10, th.-cl, so.-ha	9, alt.-cu : 10 : 10
12	0·8	0·10	0·7	0·08	WSW : Calm	Calm : NE	3·0	0·16	220	10 : 10, alt.-s, m	10, alt.-s, oc.-slt.-m.-r : 10
13	8·3	1·00	8·3	1·00	NE	NE : ESE	1·6	0·30	255	9 : 1	2, s.-cu : 0, ho.-fr
14	8·3	1·00	8·3	1·00	Calm : ESE	E : S	0·7	0·09	204	0, ho.-fr : 0	1, s.-cu : 0, ho.-fr
15	7·5	1·00	7·5	1·00	SW	SW : WSW	1·9	0·19	273	0, ho.-fr : 4 : 8, ci	10, alt.-s, ci : 0
16	1·9	0·25	1·3	0·17	WSW : NW	NNW : ENE	0·7	0·07	223	0 : 1, m : 7, alt.-cu, m	9, s.-cu : 7 : 7, th.-cl
17	7·3	0·97	7·3	0·97	ENE	ENE : E	2·0	0·57	320	9 : 10 : 9, s.-cu	9, s.-cu : 7 : 0
18	7·5	1·00	7·5	1·00	NE : ENE	ENE : NE : NNE	3·0	0·58	329	1 : 6 : 9, s.-cu	9, s.-cu, n, slt.-r: 8 : 0, ho.-fr
19	7·0	0·94	6·9	0·92	N : NNE	ENE : NE	3·1	0·28	256	0, ho.-fr : 7, cu	5, cu : v.-cl, sl, shs : 1, ho.-fr
20	2·0	0·27	1·9	0·26	NNE : NE	NE	2·4	0·27	269	1, ho.-fr : 7 : 9, s.-cu, cu.-n, slt.-sh, hl, r	9, r, sh : 9, slt.-sh, hl, r : 9
21	2·3	0·31	2·0	0·27	NNE : NE	NE : NNE	2·0	0·27	288	7 : 2 : 9, s.-cu	9, s.-cu, cu: 7 : 6
22	5·3	0·70	4·9	0·66	Calm : N	NNW : SSW	0·9	0·05	190	10 : 9, alt.-cu	9, s, fr.-s : 9, m : 1, f, ho.-fr
23	0·0	0·00	0·0	0·00	SSE : SSW	SSW	2·1	0·34	282	5, ho.-fr : 9 : 9, s.-cu	9, s.-cu : 10 : 10
24	0·0	0·00	0·0	0·00	SSW : S	S	0·9	0·10	219	10, m.-r, r : 10, n, r, m,-r	10, alt.-s, fr.-s : 10, m.-r
25	5·1	0·73	4·5	0·64	S	SSW	1·0	0·13	231	10, m.-r : 10, slt.-sh, : 10, n, slt.-m.-r	10, n, c.-r : 5, slt.-r : v.-cl
26	0·6	0·07	0·5	0·06	SSW	SW : SSW	2·0	0·35	282	v.-cl : 9, slt.-sh	9, s.-cu : v.-cl : 8, slt.-sh
27	5·4	0·77	3·4	0·48	SSW : SW	WSW : W	1·7	0·27	282	10, m.-r : 10, c.-m.-r : 9, s.-cu	8, s.-cu : 9 : th.-cl, d
28	4·9	0·69	3·5	0·50	Calm : WSW	SW : WSW	0·8	0·08	217	Th.-cl, d : 7, d : 7, s.-cu	9, alt.-s, fr.-s, slt.-sh : 9 : 8
29	3·8	0·58	3·3	0·51	SSW : Calm : S	SW	1·7	0·11	213	8 : 8, sh : 9, n, slt.-r, t	9, s.-cu, slt-shs : 6 : 5
30	5·5	0·84	5·2	0·79	SW : SSW	Calm : SW	0·9	0·07	206	8 : 7 : 3, cu, s.-cu	7, cu, s.-cu: 7 : 7, d
Means	4·6	0·59	4·0	0·51	..	..	..	0·24	256		
Number of Column for Reference.	19	20	21	22	23	24	25	26	27	28	29

The mean *Temperature of Evaporation* for the month was 45°·2, being 1°·3 higher than
The mean *Temperature of the Dew Point* for the month was 39°·8, being 0°·2 higher than
The mean *Degree of Humidity* for the month was 69·7, being 4·8 less than
The mean *Elastic Force of Vapour* for the month was 0·246in., being 0·002in. greater than
} the average for the 65 years, 1841–1905.

The mean amount of *Cloud* for the month (a clear sky being represented by 0 and an overcast sky by 10) was 6·4.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·319. The maximum daily amount of *Sunshine* was 10·9 hours on April 8.

The highest reading of the *Solar Radiation Thermometer* was 134°·8 on April 30; and the lowest reading of the *Terrestrial Radiation Thermometer* was 19°·7 on April 14.

The *Proportions of Wind* referred to the cardinal points were N. 15, E. 13, S. 27, W. 31, calm or nearly calm conditions, 14, the whole month being represented by 100.

The *Greatest Pressure of the Wind* in the month was 5·5 lbs. on the square foot on April 2. The mean daily *Horizontal Movement of the Air* for the month was 256 miles; the greatest daily value was 409 miles on April 3, and the least daily value was 168 miles on April 6.

Rain (0·005in. or over) fell on 7 days in the month, amounting to 0·759in., as measured by gauge No. 6 partly sunk below the ground; being 0·807in. less than the average fall for the 65 years, 1841–1905.

MONTH and DAY 1933.	Barometer. Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	Temperature. Of the Air. Highest.	Lowest.	Daily Range.	Mean of 24 Hourly Values.	Excess above Average of 65 Years.	Of Evaporation. Mean of 24 Hourly Values.	Of the Dew Point. Deduced Mean Daily Value.	Difference between the Air Temperature and Dew Point Temperature. Mean.	Greatest.	Least.	Degree of Humidity (Saturation = 100).	Temperature. Of Radiation. Highest in Sun's Rays.	Lowest on the Grass.	Of the Earth 4 ft. below the Surface of the Soil.	Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Daily Duration of Sunshine.	Sun above Horizon.
	in.	°	°	°	°	°	°	°	°	°	°		°	°	°	in.	hours	hours
May 1	29·701	61·9	38·5	23·4	48·4	− 0·9	46·1	43·5	4·9	13·0	0·7	83	114·6	26·7	47·9	0·000	5·4	14·8
2	29·659	51·5	46·3	5·2	47·9	− 1·6	46·1	44·1	3·8	8·0	1·6	86	79·6	44·7	48·1	0·038	0·0	14·9
3	29·565	65·7	47·1	18·6	53·4	+ 3·6	51·1	48·9	4·5	11·4	1·8	84	112·7	39·5	48·2	0·023	1·9	14·9
4	29·741	72·0	44·1	27·9	58·8	+ 8·8	52·7	46·8	12·0	24·6	2·5	64	134·1	31·8	48·3	0·000	7·5	15·0
5	29·734	65·8	49·0	16·8	55·1	+ 4·8	52·4	49·9	5·2	15·0	1·9	83	130·0	42·1	48·5	0·378	3·8	15·0
6	29·567	70·2	46·0	24·2	56·3	+ 5·8	51·8	47·4	8·9	24·2	2·3	72	129·4	40·1	48·7	0·007	3·1	15·1
7	29·337	59·4	47·3	12·1	52·3	+ 1·6	49·9	47·4	4·9	14·1	1·4	83	104·0	45·1	48·9	0·503	0·4	15·2
8	29·583	67·8	49·7	18·1	56·3	+ 5·3	52·0	47·8	8·5	15·8	3·7	73	123·0	46·0	49·0	0·000	2·2	15·2
9	29·697	60·2	46·1	14·1	51·6	+ 0·4	47·4	42·6	9·0	22·5	4·0	71	120·1	41·8	49·2	0·121	4·9	15·3
10	29·690	59·5	46·2	13·3	51·4	− 0·1	47·7	43·6	7·8	13·1	3·4	74	109·0	41·2	49·4	0·007	0·9	15·3
11	29·803	58·8	45·1	13·7	51·8	− 0·0	48·0	43·8	8·0	11·4	3·0	74	95·2	38·1	49·5	0·010	1·2	15·4
12	29·811	66·9	46·4	20·5	55·1	+ 3·0	49·4	43·2	11·9	22·3	3·6	64	128·8	36·3	49·8	0·000	5·0	15·4
13	29·757	58·8	44·3	14·5	51·2	− 1·2	48·3	45·2	6·0	11·7	1·4	80	91·9	34·2	49·8	0·054	0·5	15·5
14	29·760	61·0	44·3	16·7	51·1	− 1·5	48·6	45·9	5·2	14·3	1·0	82	116·9	34·9	49·8	0·091	1·5	15·6
15	29·981	63·0	37·8	25·2	50·8	− 2·0	46·0	40·1	10·7	21·8	0·2	67	125·0	28·0	50·0	0·000	9·7	15·6
16	29·978	69·9	44·9	25·0	55·6	+ 2·6	50·7	45·7	9·9	23·3	2·5	69	125·1	39·0	50·0	0·000	1·2	15·7
17	29·963	66·1	48·0	18·1	55·1	+ 2·0	51·2	47·4	7·7	16·2	2·0	75	113·0	41·8	50·1	0·000	0·3	15·7
18	30·058	70·0	45·6	24·4	54·8	+ 1·5	50·9	47·2	7·6	17·6	2·2	75	132·7	36·8	50·3	0·000	3·0	15·7
19	29·957	73·6	42·1	31·5	57·9	+ 4·4	51·5	44·9	13·0	26·2	3·0	62	130·2	31·7	50·5	0·000	8·5	15·8
20	29·822	73·2	46·2	27·0	60·4	+ 6·6	51·4	41·7	18·7	36·6	4·0	50	135·6	33·2	50·8	0·000	10·6	15·8
21	29·813	74·4	48·4	26·0	61·0	+ 6·8	54·6	48·7	12·3	28·3	2·1	64	126·0	36·1	50·9	0·000	1·7	15·9
22	29·893	78·2	47·8	30·4	62·6	+ 8·0	55·3	48·6	14·0	26·9	2·0	60	139·1	35·1	51·1	0·141	9·3	15·9
23	29·915	79·2	48·6	30·6	62·3	+ 7·4	56·3	51·1	11·2	23·8	0·9	67	134·5	38·1	51·2	0·699	7·3	16·0
24	29·894	67·0	50·6	16·4	58·1	+ 2·8	53·3	48·8	9·3	14·2	3·5	71	120·0	40·0	51·7	0·025	4·5	16·0
25	29·772	60·7	48·3	12·4	54·7	− 0·8	48·0	40·1	14·6	25·9	3·5	57	117·3	46·6	51·7	0·010	6·8	16·1
26	29·790	62·3	48·0	14·3	53·9	− 1·9	48·9	43·3	10·6	15·5	4·2	68	114·1	41·9	51·9	0·007	0·4	16·1
27	29·764	67·1	44·8	22·3	53·0	− 3·0	49·6	46·0	7·0	22·0	2·0	77	127·1	35·7	52·0	0·067	3·0	16·1
28	29·897	65·8	43·4	22·4	54·0	− 2·2	48·8	42·7	11·3	19·9	3·0	66	137·8	36·5	52·0	0·055	9·9	16·2
29	29·916	63·1	47·7	15·4	55·5	− 0·9	51·4	47·3	8·2	17·1	1·2	74	133·0	34·9	52·0	0·000	5·6	16·2
30	29·879	64·1	46·7	17·4	54·3	− 2·4	50·2	46·0	8·3	19·0	2·2	74	133·5	33·3	52·1	0·000	7·8	16·2
31	29·786	69·1	46·1	23·0	56·8	− 0·3	51·2	45·4	11·4	25·9	3·8	66	138·1	38·6	52·2	0·000	4·9	16·3
Means	29·790	66·0	46·0	20·0	54·9	+ 1·8	50·3	45·6	9·2	19·4	2·4	71·5	121·7	37·7	50·2	Sum 2·236	4·3	15·6
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

The results apply to the civil day, except Columns 19 to 22 (Record of the Night Sky), which relate to the period extending from dusk on the civil day named, to dawn of the following day.

The mean reading of the Barometer (Column 1) and the mean temperatures of the Air and Evaporation (Columns 5 and 7) are deduced from the photographic records. The average temperature (Column 6) is deduced from the 65 years' observations, 1841–1905. The temperature of the Dew Point (Column 8) and the Degree of Humidity (Column 12) are deduced from the corresponding temperatures of the Air and Evaporation by means of Hygrometrical Tables published by the Meterological Office, Air Ministry. The mean difference between the Air and Dew Point Temperatures (Column 9) is the difference between the numbers in Columns 5 and 8, and the Greatest and Least Differences (Columns 10 and 11) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers. The readings in Column 15 are taken daily at noon.

The values given in Columns 2, 3, 4, 13, and 14 are derived from eye-readings of self-registering thermometers.

The mean reading of the *Barometer* for the month was 29·790in., being 0·011in. lower than the average for the 65 years, 1841–1905.

TEMPERATURE OF THE AIR.

The highest in the month was 79°·2 on May 23; the lowest in the month was 37°·8 on May 15; and the range was 41°·4.
The mean of all the highest daily readings in the month was 66°·0, being 2°·1 higher than average for the 65 years, 1841–1905.
The mean of all the lowest daily readings in the month was 46°·0, being 2°·3 higher than the average for the 65 years, 1841–1905.
The mean of the daily ranges was 20°·0, being 0°·2 less than the average for the 65 years, 1841–1905.
The mean for the month was 54°·9, being 1°·8 higher than the average for the 65 years, 1841–1905.

MONTH and DAY, 1933.	Record of the Night Sky. Polaris. Duration.	Polaris. Fraction of Total Exposure.	δ Ursæ Minoris. Duration.	δ Ursæ Minoris. Fraction of Total Exposure.	Wind as Deduced from Self-registering Anemometers. Osler's. General Direction. A.M.	General Direction. P.M.	Pressure on the Square Foot. Greatest.	Pressure on the Square Foot. Mean of 24 Hourly Measures.	Robinson's. Horizontal Movement of the Air.	Clouds and Weather. A.M.	Clouds and Weather. P.M.
	hours.		hours.				lbs.	lbs.	miles		
May 1	0·0	0·00	0·0	0·00	SSW : Calm : NE	ESE : ENE	2·2	0·30	256	0, d : 1, ho.-fr, m : 1, ci, slt.-h	8, alt.-cu, ci.-cu: 10 : 10
2	0·0	0·00	0·0	0·00	ENE	E : ENE	7·9	1·78	439	10 : 10, w	10, alt.-s, w, slt.-r, r: 10, slt.-r, r
3	6·4	0·99	6·4	0·99	ENE	Calm : SW	3·2	0·34	266	10, r : 10, m : 9, n, slt.-m, shs	9, slt.-m : 8 : 4, d
4	2·5	0·38	1·8	0·27	SW : Calm : S	SSE	1·5	0·14	223	5, d : 7, ci, ci.-s, so.-ha	9, th.-cl : 8, th.-cl : 7
5	5·7	0·88	5·3	0·82	Calm : WSW	SW : SSW	1·3	0·07	210	9 : 10, slt.-r, r 9, n, r	8, cu, ci : 5 : 6
6	0·0	0·00	0·0	0·00	S : SSW	S : SSW	3·9	0·14	227	1 : 9, so.-ha	8, ci, s.-cu, so.-ha: 9, r : 10, slt.-r
7	0·3	0·04	0·2	0·03	Calm : W	W : WSW	3·2	0·27	270	10, c.-r : 10, c.-r	9, n, fr.-s, s.-cu, slt.-r : 9, slt.-m.-r
8	0·8	0·14	0·7	0·12	W	W : WSW	2·3	0·42	343	10 : 10, slt.-m : 9, s.-cu, alt.-cu	9, alt.-s, fr.-s : 10, slt,-sh : 10
9	1·9	0·31	1·7	0·28	WSW : WNW	WNW : WSW	7·7	1·18	430	8 : 9, shs : 9, s.-cu, n, sh	9, shs, slt.-t.-sm: 6 : 9
10	0·7	0·12	0·4	0·07	WSW : WNW	NNW : N	4·7	0·77	357	9, slt.-r : 8 : 10, n, oc.-slt.-r	10 : 10, oc.-slt.-r : 10
11	3·2	0·54	2·3	0·38	NNW	Calm : NW	1·3	0·13	220	9 : 9	10, s.-cu, slt.-r : 10, slt.-m.-r, slt.-r
12	4·4	0·73	4·2	0·70	NNW : NW	NW	1·0	0·11	237	5 : 7 : 7, fr.-cu	7, fr.-cu, s.-cu : 9 : 2
13	0·0	0·00	0·0	0·00	Calm	Calm : SW	0·4	0·03	170	8, m : 10, m : 10, m, m.-r, r	9, alt.-s : 8 : 9, slt.-d
14	4·1	0·75	3·5	0·66	SW : NE	N : Calm	2·3	0·09	199	10, m.-r, r : 10, oc.-m.-r	9, n, r : 10, slt.-shs : 8, th.-cl
15	1·3	0·23	0·9	0·16	Calm : NNW	NNW : N : SE	1·4	0·16	213	7, th.-cl, slt.-m, ho.-fr : 2, slt.-h : 2, cu	5, cu, alt.-cu : 9 : 6
16	0·0	0·00	0·0	0·00	Calm	SW : Calm	0·7	0·06	175	9 : 10, oc.-so.-ha	9, s, fr.-s, s.-cu : 9, slt.-shs : 10
17	2·6	0·47	1·3	0·24	Calm	ESE	1·0	0·11	190	10 : 10, m : 10, slt.-h	9 : 8 : 9
18	5·5	1·00	5·2	0·95	Calm : SE.	Calm : SE	0·6	0·07	178	9, d : 7, s.-cu	8, s.-cu : 9 : 1
19	5·3	0·95	5·3	0·95	Calm : SSE	SSE : SE	0·7	0·10	188	0 : 1 : Th.-cl, so.-ha	Th.-cl, so.-ha : Th.-cl, so.-ha : 1
20	5·1	0·97	4·6	0·88	SE : S	SSE : S	2·9	0·43	254	4 : 5, alt.-cu, ci.-cu	5, alt.-cu, ci.-cu : 5, slt.-d
21	5·1	0·97	4·9	0·93	Calm : NE	NE : N	1·0	0·04	162	5 : 9	9, ci.-s, alt.-cu, slt.-sh: 5 : 3, d
22	5·3	1·00	5·3	1·00	Calm : NE	ESE : Calm	3·8	0·12	204	2, d : 2 : 0	1, cu : 9, r, t, l : 1
23	3·6	0·69	3·4	0·65	Calm : N	Var : NNW	1·4	0·09	185	4 : 6, slt.-h : 1, ci	9, slt.-r : 10, n, t.-sm, hy.-r: 9
24	0·1	0·02	0·1	0·02	NNW	N : Calm	1·6	0·28	247	4 : 9	8, s.-cu : 9 : 9, slt.-d, r
25	0·0	0·00	0·0	0·00	NW : NNW	NW : NNW	5·3	1·06	384	10, r : 8, w	9, fr.-s, s.-cu, w: v.-cl : 10, slt.-r
26	0·5	0·10	0·5	0·10	NW : NNW	NNW : Calm : NW	2·1	0·18	263	10 : 10, oc.-slt.-r : 9	9 : 9, slt.-m : 10
27	4·6	0·92	4·4	0·88	Calm : SE	SSW : NE	3·0	0·23	233	8 : 6 : 9, alt.-s, n, slt.-r	9, slt.-r, t : 10, r : 6
28	0·1	0·02	0·0	0·00	NE	NE : ESE	1·0	0·13	234	0 : 5	7, s.-cu : 5 : 10, r
29	2·1	0·41	2·0	0·39	S : Calm : N	N : NE	2·0	0·16	220	9 : 5	7, s.-cu, cu 9 : 2
30	1·2	0·24	1·0	0·20	Calm	Calm : S	0·9	0·05	183	10 : 3 : 8, s.-cu	9, s.-cu, cu: 1, slt.-h : 8, d
31	3·8	0·75	3·0	0·59	Calm : SE	SSE : SE	1·1	0·11	205	9 : 9	7, alt.-cu : 8
Means	2·5	0·44	2·2	0·40	..	..	..	0·30	244		
Number of Column for Reference.	19	20	21	22	23	24	25	26	27	28	29

The mean *Temperature of Evaporation* for the month was 50°·3, being 1°·3 higher than
The mean *Temperature of the Dew Point* for the month was 45°·6, being 0°·8 higher than
The mean *Degree of Humidity* for the month was 71·5, being 2·4 less than
The mean *Elastic Force of Vapour* for the month was 0·307in., being 0·009in. greater than
} the average for the 65 years, 1841–1905.

The mean amount of *Cloud* for the month (a clear sky being represented by 0 and an overcast sky by 10) was 7·5.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·274. The maximum daily amount of *Sunshine* was 10·6 hours on May 20.

The highest reading of the *Solar Radiation Thermometer* was 139°·1· on May 22; and the lowest reading of the *Terrestrial Radiation Thermometer* was 26°·7 on May 1.

The *Proportions of Wind* referred to the cardinal points were N. 19, E. 16, S. 18, W. 20, calm or nearly calm conditions, 27, the whole month being represented by 100.

The *Greatest Pressure of the Wind* in the month was 7·9 lbs. on the square foot on May 2. The mean daily *Horizontal Movement of the Air* for the month was 244 miles; the greatest daily value was 439 miles on May 2, and the least daily value was 162 miles on May 21.

Rain (0·005in. or over) fell on 17 days in the month, amounting to 2·236in., as measured by gauge No. 6 partly sunk below the ground; being 0·321in. greater than the average fall for the 65 years, 1841–1905.

MONTH and DAY, 1933.	Barometer.	Temperature.							Difference between the Air Temperature and Dew Point Temperature.			Degree of Humidity (Saturation = 100).	Temperature.			Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Daily Duration of Sunshine.	Sun above Horizon.
		Of the Air.					Of Evaporation.	Of the Dew Point.					Of Radiation.					
	Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	Highest.	Lowest.	Daily Range.	Mean of 24 Hourly Values.	Excess above Average of 65 Years.	Mean of 24 Hourly Values.	Deduced Mean Daily Value.	Mean.	Greatest.	Least.		Highest in Sun's Rays.	Lowest on the Grass.	Of the Earth 4 ft. below the Surface of the Soil.			
	in.	°	°	°	°	°	°	°	°	°	°		°	°	°	in.	hours	hours
June 1	29·839	72·9	45·0	27·9	59·9	+ 2·5	52·5	44·9	15·0	29·6	0·7	58	129·4	32·2	52·4	0·000	14·3	16·3
2	29·893	80·0	45·4	34·6	63·7	+ 5·9	54·8	46·4	17·3	38·2	1·9	53	134·8	34·9	52·7	0·000	12·6	16·3
3	29·858	80·5	50·7	29·8	67·3	+ 9·2	58·6	51·5	15·8	33·4	3·2	57	139·1	39·0	52·8	0·000	13·1	16·4
4	29·865	86·0	51·0	35·0	69·9	+11·6	60·8	53·8	16·1	34·0	1·4	56	140·4	38·0	53·0	0·000	14·6	16·4
5	29·854	85·9	52·6	33·3	69·9	+11·5	61·3	54·9	15·0	31·5	2·8	59	141·8	41·3	53·2	0·000	14·1	16·4
6	29·873	82·9	53·5	29·4	68·6	+10·3	60·3	53·9	14·7	31·8	1·8	60	140·7	41·3	53·5	0·000	12·7	16·5
7	29·888	80·2	52·3	27·9	67·6	+ 9·4	58·6	51·2	16·4	34·6	4·1	56	137·1	40·0	53·8	0·000	14·9	16·5
8	29·919	80·5	55·1	25·4	66·7	+ 8·6	58·0	50·7	16·0	31·5	5·3	56	139·1	42·3	54·0	0·000	14·6	16·5
9	30·035	73·5	53·2	20·3	61·7	+ 3·7	55·8	50·6	11·1	18·9	3·5	67	127·1	42·3	54·1	0·000	8·1	16·5
10	30·040	60·5	51·1	9·4	55·0	− 3·1	50·7	46·3	8·7	14·7	4·8	73	94·9	41·4	54·2	0·000	0·2	16·5
11	29·861	59·9	50·0	9·9	53·3	− 4·9	51·2	49·2	4·1	10·1	0·8	86	121·2	41·3	54·3	0·236	2·0	16·6
12	29·747	66·0	45·3	20·7	55·1	− 3·3	50·0	44·7	10·4	18·9	0·4	68	122·1	34·8	54·4	0·000	7·1	16·6
13	29·642	63·9	50·7	13·2	56·4	− 2·1	53·8	51·5	4·9	11·9	0·0	84	108·9	44·5	54·3	0·160	0·1	16·6
14	29·888	75·0	48·0	27·0	60·9	+ 2·2	56·2	52·2	8·7	18·2	0·1	73	134·9	37·9	54·4	0·000	9·6	16·6
15	29·842	77·8	52·7	25·1	66·1	+ 7·3	59·0	53·3	12·8	22·7	1·9	63	134·2	42·6	54·5	0·000	11·9	16·6
16	29·659	80·7	60·0	20·7	68·0	+ 9·1	60·7	55·2	12·8	25·6	3·5	63	137·2	55·2	54·7	0·000	8·4	16·6
17	29·262	65·2	50·6	14·6	57·6	− 1·4	52·3	47·1	10·5	19·6	0·9	68	131·6	43·4	54·7	0·295	7·4	16·6
18	29·195	62·8	46·5	16·3	52·4	− 6·8	49·5	46·4	6·0	10·8	2·5	80	121·7	39·2	54·9	0·135	2·2	16·6
19	29·174	67·9	50·3	17·6	55·8	− 3·7	52·3	48·9	6·9	13·3	1·8	77	130·3	43·4	55·0	0·283	3·1	16·6
20	29·219	69·3	47·9	21·4	56·5	− 3·4	53·1	49·9	6·6	14·2	0·6	78	132·7	39·9	55·0	0·025	3·4	16·6
21	29·315	70·9	47·5	23·4	57·3	− 3·0	52·9	48·8	8·5	16·6	1·3	73	136·1	37·3	55·1	0·000	7·0	16·6
22	29·526	69·6	44·0	25·6	56·9	− 3·7	53·2	49·7	7·2	16·8	0·4	77	110·8	32·2	55·1	0·001	4·1	16·6
23	29·545	77·4	50·6	26·8	61·6	+ 0·7	56·2	51·5	10·1	20·7	1·1	70	137·3	41·1	55·2	0·000	10·9	16·6
24	29·414	67·2	53·1	14·1	58·9	− 2·3	57·1	55·7	3·2	6·9	0·7	89	100·4	46·1	55·2	0·419	0·9	16·6
25	29·545	69·0	54·1	14·9	60·9	− 0·5	56·6	53·0	7·9	15·0	1·7	75	122·1	46·2	55·3	0·000	4·2	16·6
26	29·755	70·8	55·3	15·5	60·6	− 0·9	56·3	52·7	7·9	14·3	2·3	75	128·0	45·6	55·4	0·003	1·6	16·6
27	29·768	72·4	52·8	19·6	62·0	+ 0·4	54·4	47·3	14·7	28·6	2·1	58	133·3	44·1	55·6	0·001	11·5	16·6
28	29·675	68·4	52·1	16·3	59·4	− 2·2	53·9	48·8	10·6	14·6	5·7	68	119·4	43·5	55·7	0·000	4·3	16·6
29	29·783	69·0	50·1	18·9	59·2	− 2·4	52·7	46·3	12·9	18·6	2·4	62	127·9	36·1	55·8	0·000	7·0	16·6
30	29·906	74·5	52·6	21·9	63·2	+ 1·7	56·1	49·9	13·3	19·5	3·7	62	125·9	43·6	55·9	0·000	8·1	16·6
																Sum		
Means	29·693	72·7	50·8	21·9	61·1	+ 1·7	55·3	50·2	10·9	21·2	2·1	68·1	128·0	41·0	54·5	1·558	7·8	16·5
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

The results apply to the civil day, except Columns 19 to 22 (Record of the Night Sky), which relate to the period extending from dusk on the civil day named, to dawn of the following day.

The mean reading of the Barometer (Column 1) and the mean temperatures of the Air and Evaporation (Columns 5 and 7) are deduced from the photographic records. The average temperature (Column 6) is deduced from the 65 years' observations, 1841–1905. The temperature of the Dew Point (Column 8) and the Degree of Humidity (Column 12) are deduced from the corresponding temperatures of the Air and Evaporation by means of Hygrometrical Tables published by the Meteorological Office, Air Ministry. The mean difference between the Air and Dew Point Temperatures (Column 9) is the difference between the numbers in Columns 5 and 8, and the Greatest and Least Differences (Columns 10 and 11) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers. The readings in Column 15 are taken daily at noon.

The values given in Columns 2, 3, 4, 13, and 14 are derived from eye-readings of self-registering thermometers.

The mean reading of the *Barometer* for the month was 29·693in., being 0·129in. lower than the average for the 65 years, 1841–1905.

TEMPERATURE OF THE AIR

The highest in the month was 86°·0 on June 4; the lowest in the month was 44°·0 on June 22; and the range was 42°·0.

The mean of all the highest daily readings in the month was 72°·7, being 2°·0 higher than the average for the 65 years, 1841–1905.

The mean of all the lowest daily readings in the month was 50°·8, being 0°·9 higher than the average for the 65 years, 1841–1905.

The mean of the daily ranges was 21°·9 being 1°·1 greater than the average for the 65 years, 1841–1905.

The mean for the month was 61°·1, being 1°·7 higher than the average for the 65 years, 1841–1905.

MONTH and DAY, 1933.	Record of the Night Sky. Polaris. Duration.	Polaris. Fraction of Total Exposure.	δ Ursæ Minoris. Duration.	δ Ursæ Minoris. Fraction of Total Exposure.	Wind as Deduced from Self-registering Anemometers. Osler's. General Direction. A.M.	P.M.	Pressure on the Square Foot. Greatest.	Mean of 24 Hourly Measures.	Robinson's, Horizontal Movement of the Air.	Clouds and Weather. A.M.	P.M.
	hours.		hours.				lbs.	lbs.	miles.		
June 1	5·0	1·00	5·0	1·00	Calm : SE	SE : Calm	1·2	0·15	206	3 : 1 : 1	1, s.-cu : 1
2	5·0	1·00	5·0	1·00	Calm : SSE	S : SSE : Calm	1·2	0·14	218	2 : 2, ci	5, ci : 5, lu.-ha
3	4·5	1·00	4·5	1·00	Calm : SE	SE : Calm	2·6	0·33	240	4, th.-cl : th.-cl	th.-cl : 1
4	4·5	1·00	4·5	1·00	Calm : SE	SE : E	1·7	0·13	207	0 : 0 : 1, ci	0 : 1
5	4·5	1·00	4·5	1·00	Calm	ESE : Calm	1·0	0·06	180	1 : 1 : 0, slt.-h	1, fr.-cu : 0 : 0
6	4·5	1·00	4·5	1·00	Calm : E	ESE : Calm	1·8	0·15	202	0 : 0, slt.-m : 1, ci	4, ci : 7, th.-cl, so-ha : 2
7	4·5	1·00	4·5	1·00	Calm : ENE	E	3·7	0·42	254	0 : 0	0 : 1 : 0
8	4·5	1·00	4·5	1·00	Calm : NE	NE : ESE : ENE	3·2	0·36	257	0 : 0	1, fr.-cu : 1 : 2
9	2·0	0·44	1·6	0·35	NE : NNE	NNE	3·9	0·57	307	1 : 2 : 6, s.-cu	9, cu, s.-cu : 9
10	0·8	0·16	0·5	0·10	N	N : NNW	3·0	0·56	312	10 : 9, s.-cu	9, s.-cu, cu : 9 : 8, th.-cl
11	3·7	0·82	3·3	0·72	NNW : Calm	NE : NNE	3·5	0·09	198	10, r : 10, r : 10, m.-r, hy.-r	9, sh, r, hy.-r : 5
12	0·1	0·01	0·0	0·00	N : NNW	NNW	2·8	0·46	297	6 : 8, s.-cu, cu	7, s.-cu : 9 : 9
13	2·9	0·65	2·8	0·63	NW	Calm	2·0	0·17	210	10 : 10, r, m : 10	10, alt.-s, fr.-s : 9 : 8, d
14	2·4	0·54	2·1	0·48	Calm : ENE	ESE : Calm	1·7	0·17	199	1, d, slt.-h : 8, slt.-h : 2, fr.-cu	6, cu, fr.-cu : 6 : 2, slt.-d
15	0·5	0·12	0·3	0·07	Calm : ENE	Calm : S : SW	0·9	0·09	187	v.-cl : 1, slt.-h : 2, cu, s.-cu	2 : 7 : 9, t, l
16	0·0	0·00	0·0	0·00	Calm : NW : WSW	WSW : SW	2·1	0·30	254	10 10 : 1, slt.-h	5, cu, fr.-cu : 7 : 10, slt.-m.-r
17	3·5	0·77	3·1	0·70	SW : NW : W	W : WSW	6·5	1·40	408	10, slt.-m.-r, r : 8, s.-cu, w	v.-cl, s.-cu, shs : 8, t, l, shs : 9, slt.-m.-r
18	2·7	0·61	2·6	0·58	W : WSW	WSW	4·8	0·80	370	5 : 9 : 10, sh, r	10, n, shs, oc.-hy.-r : 10, shs : 7
19	4·3	0·95	4·3	0·95	WSW	W	2·7	0·38	290	8 : 10, m.-r, sh : 8, alt.-cu, cu.-n, sh, slt.-t.-sm	9, t.-sm : 9, t, sh : 7
20	0·5	0·11	0·3	0·07	WSW : SW	SSW : SW	1·7	0·20	243	0 : 6 : 9, alt.-cu, cu.-n	8, s.-cu, cu.-n : 9, m.-r : 9
21	4·5	1·00	4·5	1·00	SW	SSW	1·5	0·17	241	9 : 8 : 8, n, cu.-n	8, cu, s.-cu, slt.-sh : 7 : 2, d
22	2·5	0·55	2·5	0·55	Calm	SSE : Calm	1·7	0·05	159	1 : 8, slt.-h	10, cu.-n, t, l, slt.-r : 8, t, slt.-r, slt.-h : 9
23	2·5	0·56	1·8	0·40	WSW : W	WSW : SW	3·3	0·28	260	7, slt.-h : 2, cu, s.-cu, slt.-h	8, s.-cu, cu: 8 : 10
24	1·3	0·29	1·1	0·26	SW : Calm	Calm : SW	0·7	0·04	173	10, m.-r : 10 : 10, alt.-s, n, r	10, r, hy-r, m.-r, t : 8, oc.-t, l : 9
25	0·2	0·04	0·1	0·03	SSW : SE	E : NE	1·5	0·11	201	9 : 9, s.-cu, cu.-n	9, alt.-s, cu.-n : 8 : 6
26	0·4	0·10	0·4	0·10	NNE : N	N : NE	2·2	0·20	236	10 : 10	9, s.-cu : 9, slt.-r, t, l : 10
27	1·7	0·37	1·7	0·37	NE : N	NNW : WSW	1·1	0·18	233	9 : 2 : 1, cu	1, ci : 7 : 10, m.-r.-sh
28	4·2	0·93	4·1	0·92	NW	NNW : NE	1·7	0·25	256	6 : 5 : 8, ci, fr.-cu	9, alt.-s, s.-cu : 9 : 7
29	0·4	0·09	0·2	0·04	N	N : NE	1·7	0·17	233	6 : 8 : 9, s.-cu	6, s.-cu : 8 : 10
30	1·6	0·36	1·5	0·34	Calm	W	0·8	0·10	195	10 : 7 : 8, alt.-cu, cu, slt.-sh	9, s.-cu : 5 : 4
Means	2·7	0·58	2·5	0·56	..	..	..	0·28	241		
Number of Column for Reference.	19	20	21	22	23	24	25	26	27	28	29

The mean *Temperature of Evaporation* for the month was 55°·3, being 0°·4 higher than
The mean *Temperature of the Dew Point* for the month was 50°·2, being 0°·6 lower than
The mean *Degree of Humidity* for the month was 68·1, being 5·1 less than
The mean *Elastic Force of Vapour* for the month was 0·368in., being 0·007in. less than
} the average for the 65 years, 1841–1905.

The mean amount of *Cloud* for the month (a clear sky being represented by 0 and an overcast sky by 10) was 5·9.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·471. The maximum daily amount of *Sunshine* was 14·9 hours on June 7.

The highest reading of the *Solar Radiation Thermometer* was 141°·8 on June 5; and the lowest reading of the *Terrestrial Radiation Thermometer* was 32°·2 on June 1 and 22

The *Proportions of Wind* referred to the cardinal points were N. 22, E. 17, S. 16, W. 20, calm or nearly calm conditions, 25, the whole month being represented by 100.

The *Greatest Pressure of the Wind* in the month was 6·5 lbs. on the square foot on June 17. The mean daily *Horizontal Movement of the Air* for the month was 241 miles; the greatest daily value was 408 miles on June 17, and the least daily value was 159 miles on June 22.

Rain (0·005in. or over) fell on 7 days in the month, amounting to 1·558in., as measured by gauge No. 6 partly sunk below the ground; being 0·480in. less than the average fall for the 65 years, 1841–1905.

MONTH and DAY, 1933.	BAROMETER. Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	TEMPERATURE. Of the Air. Highest.	Lowest.	Daily Range.	Mean of 24 Hourly Values.	Excess above Average of 65 Years.	Of Evaporation. Mean of 24 Hourly Values.	Of the Dew Point. Deduced Mean Daily Value.	Difference between the Air Temperature and Dew Point Temperature. Mean.	Greatest.	Least.	Degree of Humidity (Saturation = 100).	TEMPERATURE. Of Radiation. Highest in Sun's Rays.	Lowest on the Grass.	Of the Earth 4 ft. below the Surface of the Soil.	Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Daily Duration of Sunshine.	Sun above Horizon.
	in.	°	°	°	°	°	°	°	°	°	°		°	°	°	in.	hours	hours
July 1	30·003	78·9	51·6	27·3	66·4	+ 4·9	58·8	52·6	13·8	22·8	4·3	61	137·0	38·8	56·0	0·000	12·0	16·6
2	30·159	73·1	55·9	17·2	65·6	+ 4·0	60·6	57·0	8·6	14·6	2·5	74	133·4	47·2	56·1	0·000	10·2	16·6
3	30·321	84·5	53·6	30·9	68·9	+ 7·1	61·5	56·1	12·8	23·4	1·3	63	142·0	43·4	56·3	0·000	14·7	16·5
4	30·329	84·0	55·4	28·6	71·2	+ 9·1	62·5	56·2	15·0	26·1	3·1	59	143·9	45·3	56·6	0·000	13·5	16·5
5	30·158	67·7	56·0	11·7	62·0	− 0·3	58·7	56·2	5·8	10·3	2·1	81	110·0	47·1	56·6	0·000	3·8	16·5
6	29·855	78·3	59·8	18·5	67·8	+ 5·4	62·9	59·6	8·2	16·3	2·1	75	133·8	57·8	56·9	0·000	8·0	16·5
7	29·746	86·9	59·4	27·5	70·9	+ 8·5	64·3	59·9	11·0	23·1	1·5	68	136·2	55·2	57·2	0·000	10·0	16·4
8	29·970	78·7	58·1	20·6	66·3	+ 3·9	60·0	55·2	11·1	18·8	2·9	68	140·4	49·7	57·2	0·000	7·3	16·4
9	29·953	76·7	56·9	19·8	64·6	+ 2·2	59·0	54·6	10·0	21·7	1·2	70	141·6	52·7	57·3	0·094	9·4	16·4
10	29·801	70·8	56·1	14·7	61·9	− 0·6	59·2	57·2	4·7	12·2	1·3	84	118·9	54·8	57·5	0·126	2·9	16·4
11	29·678	70·4	57·2	13·2	60·9	− 1·8	57·9	55·5	5·4	13·3	1·6	82	121·3	52·2	57·6	0·319	0·9	16·4
12	29·661	74·1	55·1	19·0	63·1	+ 0·2	57·3	52·5	10·6	19·5	2·2	69	136·2	50·1	57·8	0·000	6·5	16·3
13	29·553	63·8	54·5	9·3	59·3	− 3·8	57·0	55·1	4·2	7·1	1·8	86	85·2	48·8	57·7	0·152	0·0	16·3
14	29·466	74·7	56·4	18·3	63·8	+ 0·5	58·5	54·3	9·5	20·7	2·0	71	131·6	50·3	57·9	0·000	4·7	16·2
15	29·532	71·7	51·7	20·0	59·2	− 4·2	56·1	53·6	5·6	16·3	0·2	81	125·3	46·8	57·8	0·281	1·3	16·2
16	29·738	72·7	53·9	18·8	61·3	− 2·1	57·7	54·8	6·5	14·8	0·2	80	132·2	47·8	57·9	0·175	4·5	16·2
17	29·984	74·5	53·2	21·3	62·7	− 0·7	57·3	52·8	9·9	20·8	1·1	70	135·7	44·0	58·0	0·003	2·2	16·1
18	30·012	79·3	60·6	18·7	68·2	+ 4·9	64·3	61·8	6·4	15·2	1·2	80	122·3	54·8	58·1	0·001	1·7	16·1
19	29·900	84·0	57·2	26·8	69·6	+ 6·4	62·6	57·7	11·9	22·3	0·9	66	144·1	47·4	58·1	0·000	12·4	16·1
20	29·797	84·6	55·9	28·7	67·0	+ 3·8	62·6	59·6	7·4	17·5	1·5	77	137·3	46·0	58·1	0·137	5·0	16·0
21	29·831	78·7	59·6	19·1	68·1	+ 4·9	63·5	60·4	7·7	15·1	0·5	77	134·8	51·2	58·3	0·000	4·6	16·0
22	29·944	79·9	57·2	22·7	67·5	+ 4·4	61·8	57·8	9·7	23·9	0·1	71	136·0	45·2	58·5	0·003	8·6	15·9
23	30·039	83·0	58·3	24·7	69·0	+ 6·0	64·2	61·0	8·0	22·5	1·3	76	134·0	49·3	59·1	0·000	7·1	15·9
24	30·011	86·9	57·3	29·6	72·4	+ 9·5	64·6	59·4	13·0	26·9	0·1	64	142·7	46·8	59·0	0·000	13·0	15·8
25	29·901	85·4	60·0	25·4	71·3	+ 8·6	64·0	59·1	12·2	29·1	3·1	65	144·4	51·2	59·0	0·000	12·0	15·8
26	29·869	90·3	56·8	33·5	73·2	+10·7	64·7	59·0	14·2	30·2	1·6	61	147·1	47·9	59·3	0·000	14·2	15·7
27	29·765	95·0	62·2	32·8	75·9	+13·5	66·9	61·3	14·6	36·5	4·6	61	150·9	53·7	59·6	0·000	9·8	15·7
28	29·894	78·8	56·0	22·8	65·4	+ 3·1	58·2	52·2	13·2	25·3	4·7	63	142·9	48·6	59·6	0·000	9·2	15·6
29	29·694	74·5	58·1	16·4	64·1	+ 1·8	59·1	55·2	8·9	23·4	2·5	73	138·6	51·4	59·7	0·080	4·3	15·6
30	29·849	78·1	56·2	21·9	64·5	+ 2·2	58·3	53·4	11·1	25·6	3·6	67	139·8	50·9	59·8	0·000	9·0	15·6
31	29·709	66·3	60·0	6·3	63·0	+ 0·8	58·3	54·6	8·4	13·1	2·2	74	95·5	55·2	59·8	0·004	0·3	15·5
																Sum		
Means	29·875	78·3	56·8	21·5	66·3	+ 3·6	60·7	56·6	9·7	20·3	1·9	71·5	132·7	49·4	58·0	1·375	7·2	16·1
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

The results apply to the civil day, except Columns 19 to 22 (Record of the Night Sky), which relate to the period extending from dusk on the civil day named, to dawn of the following day.

The mean reading of the Barometer (Column 1) and the mean temperatures of the Air and Evaporation (Columns 5 and 7) are deduced from the photographic records. The average temperature (Column 6) is deduced from the 65 years' observations, 1841–1905. The temperature of the Dew Point (Column 8) and the Degree of Humidity (Column 12) are deduced from the corresponding temperatures of the Air and Evaporation by means of Hygrometrical Tables published by the Meteorological Office, Air Ministry. The mean difference between the Air and Dew Point Temperatures (Column 9) is the difference between the numbers in Columns 5 and 8, and the Greatest and Least Differences (Columns 10 and 11) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers. The readings in Column 15 are taken daily at noon.

The values given in Columns 2, 3, 4, 13, and 14 are derived from eye-readings of self-registering thermometers.

The mean reading of the *Barometer* for the month was 29·875in., being 0·069in. higher than the average for the 65 years, 1841–1905

TEMPERATURE OF THE AIR.

The highest in the month was 95°·0 on July 27; the lowest in the month was 51°·6 on July 1, and the range was 43°·4.
The mean of all the highest daily readings in the month was 78°·3, being 4°·1 higher than the average for the 65 years, 1841–1905.
The mean of all the lowest daily readings in the month was 56°·8, being 3°·5 higher than the average for the 65 years, 1841–1905.
The mean of the daily ranges was 21°·5, being 0°·6 greater than the average for the 65 years, 1841–1905.
The mean for the month was 66°·3, being 3°·6 higher than the average for the 65 years, 1841-1905.

MONTH and DAY, 1933.	Record of the Night Sky. Polaris. Duration.	Fraction of Total Exposure.	δ Ursæ Minoris. Duration.	Fraction of Total Exposure.	Wind as Deduced from Self-registering Anemometers. Osler's. General Direction. A.M.	P.M.	Pressure on the Square Foot. Greatest.	Mean of 24 Hourly Measures.	Robinson's. Horizontal Movement of the Air.	Clouds and Weather. A.M.	P.M.
	hours.		hours.				lbs.	lbs.	miles.		
July 1	2·1	0·46	1·9	0 43	Calm : NNW	NNE	0·8	0·10	195	9 : 1, fr.-cu	2, cu : 6 : 9
2	4·5	1·00	4·5	1 00	NE : ENE	ENE : ESE : Calm	1·1	0·20	211	6 : 5 : 9, s.-cu	7, s.-cu, cu: 1 : 0
3	..	..	..	..	Calm : ENE	NE : ESE : Calm	0·8	0·09	174	0 : 1, slt.-h : 1, alt.-cu	2, cu, fr.-cu : 1
4	4·3	0·94	4·1	0·91	Calm : E	SE : Calm	0·8	0·05	166	6 : 1 : 1, ci	0 : v.-cl
5	0·0	0·00	0·0	0·00	Calm : E	ESE	2·3	0·42	255	2 : 1 : 10, s.-cu	10, s.-cu : 10
6	3·1	0·68	2·9	0·65	E : ESE	E : ESE	3·0	0·38	255	10 : 9 : 5, s.-cu	th.-cl : th.-cl
7	4·2	0·94	4·1	0·92	E : SE : SSW	SW : WSW	4·2	0·52	279	8 : 3, cu, s.-cu	7, ci, cu : 8 : 2
8	0·3	0·05	0·1	0·02	SW	SW : S	2·4	0·37	267	2 : 8, s.-cu, alt.-cu	8, cu, fr.-cu : 4 : 8
9	0·8	0·18	0·7	0·15	SW : WSW	SW	3·8	0·65	323	9, r, m.-r : 7 : 7, cu, s.-cu	9, cu, s.-cu: 8 : 10, m.-r
10	2·3	0·48	2·2	0·46	SW : SSW	SSW : SW	4·0	0·84	343	10, m.-r, r : 10, m.-r	9, alt.-s, n, m.-r: 8, slt.-m.-r: 9
11	2·9	0·62	2·8	0·58	SW	SW	4·2	0·80	338	9 : 10 : 10, n, r	9, r : 10, r, hy.-r : 10
12	3·9	0·83	3·9	0·83	WSW	WSW	3·5	0·75	368	9 : 10 : 7, slt.-m.-r, w	6, fr.-cu, w : 1
13	0·7	0·15	0·6	0·13	SW : SSW	SSW : SW	5·2	1·09	360	6 : 10, sh : 10, r	10, r, slt.-m.-r : 10 : 10
14	4·7	0·98	4·6	0·98	SW : WSW	WSW : SW	5·7	1·21	407	10 : 10, sh : 8,s.-cu,slt.-sh,w	8,alt.-cu,n,sh,w : 7 : 2
15	0·2	0·04	0·2	0·04	SW : SSW	SSW : W : NNW	2·2	0·24	237	5 : 9, m.-r, r	9, alt.-cu, cu, n, r, hy.-r, t : 10, r
16	5·0	0·95	5·0	0·95	NNW : NW	WNW : Calm	3·5	0·22	236	9, sh : 9, alt.-cu, fr.-s, sh, t, l	9, hy.-r, t, l, r : 3
17	0·2	0·03	0·1	0·02	Calm : WSW	WSW	3·8	0·23	259	7 : 9, alt.-cu, ci	9, s.-cu, n, oc.-slt.-m, r : 9, slt.-m.-r
18	5·3	1·00	5·3	1·00	WSW : W	WSW : SW	0·7	0·10	217	9 : 9, s.-cu, n, slt.-m.-r, t	9, s.-cu : 1, d
19	5·1	0·97	4·9	0·93	SW	SW : Calm	1·2	0·11	215	1, d : 1 : 4, cu, ci	7, cu, ci : 6, ci : 1, slt.-d
20	4·4	0·84	4·3	0·82	Calm	Calm	0·2	0·01	134	4 : 9, n, m, slt.-r, r	5, alt.-cu, cu, n : 8, t : 4
21	4·0	0·76	3·7	0·71	Calm	NNE : E	1·1	0·06	165	7 : 9 : 9, alt.-cu	9, s.-cu, alt.-cu : 9, slt.-m, d
22	2·5	0·43	2·1	0·36	Calm	SE : S : Calm	0·4	0·03	170	7, d : 0	8, fr.-s : 8, sh : 4
23	5·5	0·97	5·5	0·97	Calm	Calm : ESE	0·3	0·02	161	8 : 8, alt.-cu, slt.-m : 5, alt.-cu	8, slt.-h : 1, slt.-h, d
24	5·4	0·95	5·3	0·93	Calm : WSW	WSW	0·9	0·08	199	0 : 1, d, slt.-h	2, fr.-cu, ci : 4 : 1
25	5·7	1·00	5·7	1·00	WSW : W	WSW : SW	1·0	0·12	235	1 : 5, ci, ci.-cu	1, ci : 0, d
26	5·7	1·00	5·7	1·00	WSW	WSW : SSW	1·2	0·07	211	0, d : 0	1, fr.-cu : 2 : 0, slt.-d
27	4·2	0·74	4·1	0·72	ENE : SE	SW : WSW	6·1	0·33	253	0 : 1 : 2, fr.-cu	9, oc.-slt.-r: 5 : 2
28	0·7	0·13	0·6	0·10	NW : WNW	WSW : SW	4·0	0·73	357	5 : 1 : 3, alt.-cu, ci	9, s.-cu, slt.-r : 9
29	1·1	0·17	1·0	0·15	SW : WSW	W : NW	4·0	0·62	320	9, sh : 9, r : 8, r, sh	9, cu, s.-cu, sh : 9, r : 9, r
30	2·2	0·35	1·9	0·31	NW : NNW	WSW : SW	2·5	0·43	284	9 : 8 : 9, s.-cu	8, s.-cu : 6 : 9
31	0·5	0·08	0·4	0·07	SW : WSW	WSW : W	7·5	1·95	502	9, oc.-m.-r, w : 9, s.-cu, w	10, s.-cu, w : 10, w : 8, w
Means	3·1	0·59	2·9	0·57	..	..	..	0·41	261		
Number of Column for Reference.	19	20	21	22	23	24	25	26	27	28	29

The mean *Temperature of Evaporation* for the month was 60°·7, being 2°·8 higher, than
The mean *Temperature of the Dew Point* for the month was 56°·6, being 2°·5 higher than
The mean *Degree of Humidity* for the month was 71·5, being 1·7 less than
The mean *Elastic Force of Vapour* for the month was 0·462in., being 0·041in. greater than
} the average for the 65 years, 1841–1905.

The mean amount of *Cloud* for the month (a clear sky being represented by 0 and an overcast sky by 10) was 6·1.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·446. The maximum daily amount of *Sunshine* was 14·7 hours on July 3.

The highest reading of the *Solar Radiation Thermometer* was 150°·9 on July 27; and the lowest reading of the *Terrestrial Radiation Thermometer* was 38°·8 on July 1.

The *Proportions of Wind* referred to the cardinal points were N. 6, E. 13, S. 24, W. 36, calm or nearly calm conditions, 21, the whole month being represented by 100.
The *Greatest Pressure of the Wind* in the month was 7·5 lbs. on the square foot on July 31. The mean daily *Horizontal Movement of the Air* for the month was 261 miles; the greatest daily value was 502 miles on July 31, and the least daily value was 134 miles on July 20.

Rain (0·005in. or over) fell on 8 days in the month, amounting to 1·375in., as measured by gauge No. 6 partly sunk below the ground; being 1·024in. less than the average fall for the 65 years, 1841–1905.

MONTH and DAY, 1933.	Barometer.	Temperature.							Difference between the Air Temperature and Dew Point Temperature.			Degree of Humidity (Saturation = 100).	Temperature.			Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Daily Duration of Sunshine.	Sun above Horizon.
		Of the Air.					Of Evaporation.	Of the Dew Point.					Of Radiation.		Of the Earth 4 ft. below the Surface of the Soil.			
	Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	Highest.	Lowest.	Daily Range.	Mean of 24 Hourly Values.	Excess above Average of 65 Years.	Mean of 24 Hourly Values.	Deduced Mean Daily Value.	Mean.	Greatest.	Least.		Highest in Sun's Rays.	Lowest on the Grass.				
	in.	°	°	°	°	°	°	°	°	°	°		°	°	°	in.	hours	hours
Aug. 1	30·063	76·1	58·7	17·4	66·3	+ 4·1	58·3	51·7	14·6	27·0	8·9	59	135·4	50·4	59·9	0·000	8·3	15·4
2	30·191	85·1	54·0	31·1	70·6	+ 8·5	61·9	55·5	15·1	33·6	3·3	59	146·8	44·8	60·0	0·000	9·6	15·4
3	30·165	80·4	64·0	16·4	72·6	+10·5	66·5	62·8	9·8	18·3	2·7	71	126·5	55·3	60·0	0·000	1·7	15·3
4	30·113	84·0	62·7	21·3	72·3	+10·2	66·2	62·5	9·8	21·9	1·3	71	145·1	53·9	60·0	0·000	9·3	15·3
5	30·061	83·7	60·3	23·4	70·4	+ 8·3	65·6	62·7	7·7	19·8	0·5	76	148·1	54·2	60·1	0·000	9·1	15·2
6	29·915	95·8	60·5	35·3	76·1	+13·9	67·6	62·4	13·7	31·7	0·1	63	149·4	52·2	60·3	0·000	8·3	15·2
7	29·838	91·7	64·2	27·5	76·4	+14·2	65·6	58·5	17·9	35·4	5·6	54	153·6	52·8	60·6	0·000	12·6	15·1
8	29·820	84·5	60·6	23·9	71·6	+ 9·3	63·7	58·3	13·3	25·9	3·3	63	144·1	54·5	60·6	0·000	10·7	15·1
9	29·875	87·5	55·5	32·0	71·2	+ 8·9	63·1	57·4	13·8	23·9	2·6	62	143·4	44·5	60·8	0·000	12·5	15·0
10	29·971	78·1	60·0	18·1	66·9	+ 4·6	57·7	49·8	17·1	30·7	9·3	54	140·5	56·6	60·8	0·000	6·9	14·9
11	29·964	73·0	58·0	15·0	61·9	− 0·5	57·3	53·6	8·3	21·3	2·9	74	139·3	54·1	60·9	0·071	1·2	14·9
12	30·097	72·0	54·1	17·9	62·6	+ 0·1	57·2	52·7	9·9	19·7	3·3	70	129·9	44·9	60·9	0·000	7·6	14·8
13	30·044	79·2	51·0	28·2	63·5	+ 1·0	57·0	51·5	12·0	33·4	1·0	65	141·2	39·8	61·0	0·000	11·0	14·8
14	29·748	72·8	55·1	17·7	63·6	+ 1·1	60·1	57·5	6·1	12·9	0·9	81	115·8	46·4	60·8	0·008	0·9	14·7
15	29·576	74·3	58·7	15·6	64·4	+ 2·0	60·2	57·1	7·3	20·2	0·3	77	132·0	51·0	60·7	0·121	3·4	14·7
16	29·577	73·9	54·9	19·0	63·6	+ 1·3	57·0	51·4	12·2	28·6	0·1	65	138·4	44·5	60·7	0·005	7·1	14·6
17	29·684	71·5	50·2	21·3	60·8	− 1·3	56·0	51·9	8·9	17·9	1·0	72	119·1	41·3	60·6	0·015	2·8	14·6
18	29·738	79·5	59·0	20·5	67·8	+ 5·9	60·3	54·6	13·2	27·2	0·9	62	142·1	53·2	60·7	0·000	9·1	14·5
19	29·807	75·2	56·1	19·1	64·3	+ 2·6	58·7	54·3	10·0	21·8	2·7	70	131·8	49·1	60·5	0·000	3·1	14·4
20	29·685	73·5	53·9	19·6	63·1	+ 1·6	55·2	47·9	15·2	26·4	6·9	58	139·4	46·4	60·4	0·004	8·8	14·4
21	29·594	71·0	51·8	19·2	58·8	− 2·5	53·3	48·0	10·8	26·6	4·3	68	133·5	44·6	60·5	0·051	4·5	14·3
22	29·564	70·7	48·3	22·4	58·7	− 2·4	53·6	48·8	9·9	27·6	0·0	70	126·3	41·6	60·4	0·122	5·3	14·3
23	29·529	69·5	52·6	16·9	59·3	− 1·6	53·5	48·1	11·2	25·3	0·3	67	125·9	46·6	60·3	0·000	7·1	14·2
24	29·853	74·9	47·1	27·8	60·6	− 0·2	54·6	49·1	11·5	27·2	1·7	66	127·7	38·6	60·2	0·000	8·5	14·1
25	29·952	80·1	48·9	31·2	63·8	+ 3·1	57·3	51·9	11·9	23·5	1·0	65	140·6	39·8	60·2	0·000	9·9	14·0
26	29·999	83·1	51·7	31·4	65·9	+ 5·2	58·5	52·4	13·5	28·1	1·7	62	139·5	40·2	60·2	0·000	12·3	14·0
27	30·019	89·0	53·1	35·9	69·1	+ 8·5	60·2	53·3	15·8	36·0	0·3	57	143·4	40·4	60·1	0·000	11·6	13·9
28	29·951	89·6	57·3	32·3	72·4	+12·0	62·3	54·8	17·6	34·4	4·3	54	144·3	45·6	60·2	0·000	12·5	13·9
29	29·829	89·9	55·6	34·3	72·2	+11·9	63·5	57·5	14·7	32·4	3·5	60	143·3	45·9	60·3	0·000	12·2	13·8
30	29·919	76·1	58·9	17·2	66·8	+ 6·7	59·0	52·7	14·1	27·0	2·4	60	144·4	49·7	60·2	0·000	9·2	13·7
31	30·048	76·1	53·1	23·0	63·3	+ 3·4	56·4	50·4	12·9	27·5	3·5	63	116·4	43·5	60·1	0·000	4·0	13·7
Means	29·877	79·4	55·8	23·6	66·5	+ 4·9	59·6	54·2	13·3	26·2	2·6	65·1	137·0	47·3	60·4	Sum 0·397	7·8	14·6
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

The results apply to the civil day, except Columns 19 to 22 (Record of the Night Sky), which relate to the period extending from dusk on the civil day named, to dawn of the following day.

The mean reading of the Barometer (Column 1) and the mean temperatures of the Air and Evaporation (Columns 5 and 7) are deduced from the photographic records. The average temperature (Column 6) is deduced from the 65 years' observations, 1841–1905. The temperature of the Dew Point (Column 8) and the Degree of Humidity (Column 12) are deduced from the corresponding temperatures of the Air and Evaporation by means of Hygrometrical Tables published by the Meteorological Office, Air Ministry. The mean difference between the Air and Dew Point Temperatures (Column 9) is the difference between the numbers in Columns 5 and 8, and the Greatest and Least Differences (Columns 10 and 11) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers. The readings in Column 15 are taken daily at noon.

The values given in Columns, 2, 3, 4, 13, and 14 are derived from eye-readings of self-registering thermometers.

The mean reading of the *Barometer* for the month was 29·877in., being 0·087in. higher than the average for the 65 years, 1841–1905.

TEMPERATURE OF THE AIR.

The highest in the month was 95°·8 on August 6; the lowest in the month was 47°·1 on August 24; and the range was 48°·7.
The mean of all the highest daily readings in the month was 79°·4, being 6°·7 higher than the average for the 65 years, 1841–1905.
The mean of all the lowest daily readings in the month was 55°·8, being 2°·8 higher than the average for the 65 years, 1841–1905.
The mean of the daily ranges was 23°·6, being 3°·9 greater than the average for the 65 years, 1841–1905.
The mean for the month was 66°·5, being 4°·9 higher than the average for the 65 years, 1841–1905.

MONTH and DAY, 1933.	Record of the Night Sky. Polaris. Duration.	Polaris. Fraction of Total Exposure.	δ Ursæ Minoris. Duration.	δ Ursæ Minoris. Fraction of Total Exposure.	Wind as Deduced from Self-registering Anemometers. Osler's. General Direction. A.M.	P.M.	Pressure on the Square Foot. Greatest.	Mean of 24 Hourly Measures.	Robinson's. Horizontal Movement of the Air.	Clouds and Weather. A.M.	P.M.
	hours		hours				lbs.	lbs.	miles		
Aug. 1	6·3	1·00	6·3	1·00	NW	NNW	4·2	0·81	338	10, w : 9 : 8, s.-cu	3, fr.-cu : 1, slt.-h
2	1·7	0·27	1·3	0·22	NW : WSW	WNW:NW:NNW	2·6	0·25	265	1, slt.-h : 3, slt.-h : 3, ci	4, ci : 9 : 9
3	4·8	0·77	4·7	0·75	N	N : Calm	1·7	0·12	196	9 : 10, s.-cu	9, alt.-cu, fr.-cu : 9, oc.-th.-cl : 3
4	..	..	..	..	Calm : ENE	ESE : E	2·0	0·20	192	5, slt.-h : 9, slt.-h : 7, alt.-cu	2, cu : 0 : 0
5	6·4	0·94	6·4	0·94	E : Calm	ESE : Calm	1·5	0·18	215	1, d, slt.-m : 9, s.-cu, slt.-m	v.-cl, h : 1, h : 0, h
6	6·3	0·93	6·1	0·89	Calm	SW : N	1·3	0·07	177	0, h, slt.-m : 1, s.-cu, slt.-m	7, s.-cu : 8, so.-ha : 5
7	6·6	0·98	6·5	0·96	N : Calm : WNW	WSW : W	2·5	0·25	249	3 : 1 : 3, s.-cu	4, ci, fr.-cu: 1 : 0
8	6·7	1·00	6·7	1·00	WSW : W	WNW : WSW : W	1·8	0·37	297	1 : 8, alt.-cu	4, fr.-cu : 1 : 0
9	1·7	0·26	1·2	0·18	WSW	W : NNE	1·7	0·26	273	0 : 1 : 2, alt.-cu, ci-cu	3,alt.-cu,ci.-cu : 7 : 5
10	2·5	0·36	2·0	0·29	NNE : NE	NE : E	2·5	0·30	271	9 : 8 : 4, alt.-cu	7,alt.-cu,ci.-cu,ci : 9
11	0·2	0·03	0·2	0·03	ENE	E : NE	4·0	0·64	315	8 : 9, alt.-s, slt.-m.-r	9, oc.-slt.-r, r : 9
12	7·1	0·98	6·9	0·95	NE : ENE	ENE : ESE	2·4	0·41	285	10 : 8, cu, fr.-s	5, fr.-cu : 1 : 0
13	6·5	0·89	6·3	0·87	E : SE	E : ENE	2·3	0·33	255	0 : 1 : 2, ci, ci.-s	8, alt.-s, fr.-s : 6 : 1
14	4·0	0·55	3·3	0·45	ENE : Calm	ENE : Calm	0·7	0·04	176	8 : 10, m, d : 10, alt.-s, m	9, slt.-r, slt.-m : 7, slt.-m : 7, slt.-m.-r
15	1·6	0·22	1·3	0·18	WSW : SW	SW : SSW	3·8	0·55	324	7 : 9, alt.-cu, fr.-s, slt-sh, r	9, sh : 9, slt.-shs, r, m.-r
16	7·3	1·00	7·3	1·00	WSW : NNW	NW : W : WSW	1·8	0·14	236	9, m.-r : 8, s.-cu	8, s.-cu : v.-cl : 0
17	3·3	0·45	2·4	0·33	WSW : SW	SW	5·1	0·93	354	1 : 8 : 9, alt.-cu, slt-sh	9, alt.-cu, fr.-s 9, slt.-m.-r : 9, m.-r
18	3·3	0·46	3·0	0·42	WSW	WSW	4·3	0·79	379	9 : 7 : 8, alt.-cu, fr.-s	5, cu, s.-cu, ci : 8 : 6
19	1·1	0·14	0·8	0·11	WSW	SW : WSW	1·8	0·30	288	7 : 7 : 9, alt.-cu, ci	9, alt.-cu, ci : 8
20	7·0	0·90	6·8	0·88	W : WSW	W : WSW	3·6	0·67	355	9 : 8 : 8, s.-cu, ci.-cu	7, s.-cu, shs : 4 : 1
21	5·8	0·74	5·5	0·70	WSW	WSW : WNW	3·7	0·44	306	5 : 9 : 9, alt.-cu, sh	8, oc.-r : 7
22	0·0	0·00	0·0	0·00	WSW : W	WSW : SW : SSE	2·8	0·38	285	3 : 8, s.-cu	8, th.-cl, so.-ha : 10, r : 10, r, slt.-m.-r
23	7·7	1·00	7·7	1·00	S : W : NW	WNW	3·4	0·67	351	10, slt.-m.-r : 8, s.-cu, fr.-s	8, s.-cu : 1 : 0
24	6·3	0·82	6·3	0·82	WSW : WNW	NW : SW	1·1	0·11	218	0, d : 0, slt.-h, d : 2	7, s.-cu : 9 : 4
25	6·5	0·85	6·3	0·82	SW : WSW	Calm : SSW	0·7	0·04	192	0 : 3, alt.-cu, ci.-cu	2, alt.-cu, cu : 0
26	8·0	1·00	8·0	1·00	Calm	SE : ESE : Calm	1·6	0·11	174	4, slt.-h, d : 1, ci, slt.-h	0 : 0
27	8·0	1·00	7·9	0·99	Calm : SSE	SSW : SSE	1·4	0·13	196	0, slt.-h : 1, ci, slt.-h	5, ci : 7 : 0
28	8·0	1·00	8·0	1·00	SSE : SSW	SSW : S	1·8	0·13	256	3 : 3 : 7, ci	th.-cl : th.-cl : 0
29	3·1	0·39	1·9	0·24	Calm	WSW : WNW	1·3	0·15	208	0 : 1, m : 0, slt.-h	1, fr.-cu : 3 : 8
30	7·2	0·90	6·7	0·84	NNW : N	N : Calm	1·2	0·21	244	v.-cl : 1, s.-cu	5, s.-cu : 3
31	1·3	0·16	1·1	0·14	N : Calm	Calm : WSW	1·4	0·09	199	3 : 7, h : 7, ci, slt.-h	9, s.-cu, slt.-h : 9
Means	4·9	0·67	4·6	0·63	..	..	..	0·32	260		
Number of Column for Reference.	19	20	21	22	23	24	25	26	27	28	29

The mean *Temperature of Evaporation* for the month was 59°·6, being 2°·1 higher than
The mean *Temperature of the Dew Point* for the month was 54°·2, being 0°·1 lower than
The mean *Degree of Humidity* for the month was 65·1, being 11·7 less than
The mean *Elastic Force of Vapour* for the month was 0·423in., being 0·001in. less than
} the average for the 65 years, 1841–1905.

The mean amount of *Cloud* for the month (a clear sky being represented by 0 and an overcast sky by 10) was 5·5.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·533. The maximum daily amount of *Sunshine* was 12·6 hours on August 7.

The highest reading of the *Solar Radiation Thermometer* was 153°·6 on August 7; and the lowest reading of the *Terrestrial Radiation Thermometer* was 38°·6 on August 24.

The *Proportions of Wind* referred to the cardinal points were N. 15, E. 15, S. 19, W. 35, calm, or nearly calm conditions, 16, the whole month being represented by 100.

The *Greatest Pressure of the Wind* in the month was 5·1 lbs. on the square foot on August 17. The mean daily *Horizontal Movement of the Air* for the month was 260 miles; the greatest daily value was 379 miles on August 18, and the least daily value was 174 miles on August 26.

Rain (0·005in. or over) fell on 7 days in the month, amounting to 0·397in. as measured by gauge No. 6 partly sunk below the ground; being 1·947in. less than the average fall for the 65 years, 1841–1905.

MONTH and DAY, 1933	Barometer. Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	Temperature. Of the Air. Highest.	Lowest.	Daily Range.	Mean of 24 Hourly Values.	Excess above Average of 65 Years.	Of Evaporation. Mean of 24 Hourly Values.	Of the Dew Point. Deduced Mean Daily Value.	Difference between the Air Temperature and Dew Point Temperature. Mean.	Greatest.	Least.	Degree of Humidity (Saturation = 100).	Temperature. Of Radiation. Highest in Sun's Rays.	Lowest on the Grass.	Of the Earth 4 ft. below the Surface of the Soil.	Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the ground.	Daily Duration of Sunshine.	Sun above Horizon.
	in.	°	°	°	°	°	°	°	°	°	°		°	°	°	in.	hours	hours
Sept. 1	29·958	74·2	55·6	18·6	64·0	+ 4·2	59·2	55·5	8·5	15·7	2·0	74	134·1	54·1	60·1	0·132	1·8	13·6
2	29·983	77·2	57·9	19·3	67·5	+ 7·8	59·8	53·8	13·7	28·8	3·4	61	134·0	47·5	60·5	0·000	10·1	13·5
3	30·048	80·8	52·0	28·8	66·4	+ 6·8	59·7	54·5	11·9	23·1	1·5	66	139·1	45·0	60·6	0·000	6·5	13·5
4	30·082	80·1	56·0	24·1	67·5	+ 8·0	60·7	55·7	11·8	22·7	2·6	66	135·8	49·2	60·6	0·000	11·4	13·4
5	30·027	74·9	55·7	19·2	64·1	+ 4·7	57·6	52·3	11·8	24·7	0·9	66	130·4	48·4	60·6	0·000	11·5	13·3
6	29·993	77·0	50·1	26·9	63·4	+ 4·2	56·1	49·7	13·7	30·6	1·1	61	136·2	38·6	60·7	0·000	11·2	13·3
7	30·129	73·9	57·1	16·8	64·2	+ 5·2	57·3	51·5	12·7	25·6	2·5	64	133·7	51·6	60·7	0·000	8·0	13·2
8	30·112	71·5	56·1	15·4	62·5	+ 3·7	56·2	50·7	11·8	25·6	3·1	66	127·4	51·1	60·6	0·000	11·1	13·2
9	30·079	73·1	55·0	18·1	63·4	+ 4·8	57·2	52·0	11·4	25·8	2·4	67	128·8	48·6	60·6	0·000	10·8	13·1
10	30·095	71·5	55·9	15·6	63·4	+ 5·0	56·8	51·2	12·2	32·0	1·8	65	126·6	49·5	60·4	0·000	11·3	13·0
11	30·012	73·6	55·0	18·6	63·1	+ 5·0	57·0	51·9	11·2	29·0	2·6	66	130·4	48·6	60·3	0·000	10·7	12·9
12	29·872	64·4	55·6	8·8	60·3	+ 2·3	58·9	57·9	2·4	8·1	1·6	92	75·6	53·9	60·2	0·238	0·0	12·9
13	29·786	64·0	53·0	11·0	56·8	− 1·0	54·4	52·4	4·4	10·9	1·2	85	96·3	50·3	60·2	0·461	1·1	12·8
14	29·976	64·1	45·3	18·8	54·4	− 3·3	48·9	42·8	11·6	20·4	2·5	65	119·9	34·9	60·2	0·000	10·1	12·8
15	30·148	70·8	40·8	30·0	54·3	− 3·3	49·3	43·9	10·4	23·7	0·9	68	121·9	32·2	60·1	0·000	10·5	12·7
16	30·001	73·7	43·1	30·6	57·6	+ 0·1	52·3	47·1	10·5	25·2	0·8	68	130·0	32·1	59·8	0·000	10·8	12·7
17	29·851	78·2	51·3	26·9	63·0	+ 5·8	58·4	54·8	8·2	20·8	2·0	75	130·5	42·2	59·8	0·004	7·9	12·6
18	29·738	71·1	53·3	17·8	64·0	+ 7·1	60·7	58·3	5·7	13·1	1·0	81	110·5	45·2	59·7	0·073	0·9	12·5
19	29·686	75·7	51·0	24·7	61·0	+ 4·5	56·5	52·8	8·2	19·3	1·5	74	131·5	43·0	59·7	0·000	7·2	12·4
20	29·513	69·9	52·1	17·8	58·3	+ 2·1	54·6	51·3	7·0	22·0	1·1	78	128·7	45·2	59·7	0·843	7·9	12·4
21	29·496	59·2	49·2	10·0	53·6	− 2·3	51·8	50·1	3·5	9·9	1·4	88	78·2	39·7	59·3	0·313	0·3	12·3
22	29·590	66·1	51·4	14·7	56·9	+ 1·3	53·0	49·3	7·6	18·0	1·1	76	126·3	44·3	59·3	0·000	6·2	12·3
23	29·339	59·1	48·1	11·0	53·5	− 1·9	52·3	51·2	2·3	6·3	0·6	92	68·7	38·2	59·1	0·265	0·0	12·2
24	29·338	65·0	49·1	15·9	54·9	− 0·4	52·8	50·8	4·1	12·4	0·4	86	124·5	42·9	59·0	0·056	4·6	12·1
25	29·586	62·8	48·7	14·1	55·5	+ 0·3	53·4	51·5	4·0	10·5	0·6	86	100·2	37·2	58·8	0·234	2·2	12·1
26	29·847	68·6	50·3	18·3	59·1	+ 3·9	56·1	53·6	5·5	14·2	1·4	82	116·7	39·9	58·8	0·089	5·5	12·0
27	29·883	65·5	56·2	9·3	60·0	+ 4·9	58·9	58·1	1·9	5·1	0·9	93	80·8	54·2	58·6	0·095	0·0	11·9
28	29·905	70·1	52·5	17·6	61·5	+ 6·6	59·9	58·7	2·8	9·0	0·1	91	111·9	43·6	58·6	0·000	2·2	11·9
29	29·957	69·1	52·1	17·0	59·0	+ 4·3	56·8	55·1	3·9	13·0	0·0	87	118·4	49·2	58·6	0·004*	5·9	11·8
30	29·986	67·1	55·2	11·9	60·3	+ 5·9	57·1	54·5	5·8	11·3	2·4	81	112·1	49·1	58·7	0·000	2·5	11·7
Means	29·867	70·4	52·2	18·3	60·4	+ 3·2	56·1	52·4	8·0	18·6	1·5	75·7	118·0	45·0	59·8	Sum 2·807	6·3	12·7
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

The results apply to the civil day, except Columns 19 to 22 (Record of the Night Sky), which relate to the period extending from dusk on the civil day named, to dawn of the following day.

The mean reading of the Barometer (Column 1) and the mean temperatures of the Air and Evaporation (Columns 5 and 7) are deduced from the photographic records. The average temperature (Column 6) is deduced from the 65 years' observations, 1841–1905. The temperature of the Dew Point (Column 8) and the Degree of Humidity (Column 12) are deduced from the corresponding temperatures of the Air and Evaporation by means of Hygrometrical Tables published by the Meteorological Office, Air Ministry. The mean difference between the Air and Dew Point Temperatures (Column 9) is the difference between the numbers in Columns 5 and 8, and the Greatest and Least Differences (Columns 10 and 11) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers. The readings in Column 15 are taken daily at noon.

The values given in Columns 2, 3, 4, 13, and 14 are derived from eye-readings of self-registering thermometers.

* Rainfall (Column 16.) The amount entered on September 29 is derived from wet fog.

The mean reading of the *Barometer* for the month was 29·867in., being 0·049in. higher than the average for the 65 years, 1841–1905.

TEMPERATURE OF THE AIR.

The highest in the month was 80°·8 on September 3; the lowest in the month was 40°·8 on September 15; and the range was 40°·0.

The mean of all the highest daily readings in the month was 70°·4, being 3°·1 higher than the average for the 65 years, 1841–1905.

The mean of all the lowest daily readings in the month was 52°·2, being 3°·1 higher than the average for the 65 years, 1841–1905.

The mean of the daily ranges was 18°·3, being 0°·1 greater than the average for the 65 years, 1841–1905.

The mean for the month was 60°·4, being 3°·2 higher than the average for the 65 years, 1841–1905.

MONTH and DAY, 1933.	Record of the Night Sky. Polaris. Duration.	Polaris. Fraction of Total Exposure.	δ Ursæ Minoris. Duration.	δ Ursæ Minoris. Fraction of Total Exposure.	Wind as Deduced from Self-registering Anemometers. Osler's. General Direction. A.M.	P.M.	Pressure on the Square Foot. Greatest.	Mean of 24 Hourly Measures.	Robinson's. Horizontal Movement of the Air.	Clouds and Weather. A.M.	P.M.
	hours.		hours.				lbs.	lbs.	miles.		
Sept. 1	1·3	0·16	0·8	0·10	WSW : W	WNW : WSW	1·2	0·20	266	10, r : 10, r : 9	9, alt.-cu, ci : 10, s.-cu : 9
2	8·5	1·00	8·5	1·00	NW : NNW	NNW : N	0·6	0·08	197	9 : 9 : 4, s.-cu	1, ci : 1, ci : 0
3	4·1	0·48	3·9	0·46	Calm	Calm : ESE	0·3	0·02	150	0 : 0, m, d : 2, ci, slt.-h	7, slt.-h : 9 : 9
4	8·5	1·00	8·5	1·00	Calm : E	E	1·2	0·12	192	7, slt.-h : 1, ci, slt.-h : 1, ci, slt.-h	1, slt.-h : 0, slt.-h : 0
5	8·5	1·00	8·5	1·00	E	E	2·9	0·36	251	1, m, d : 1, ci	1, ci : 1, ci
6	8·5	1·00	8·5	1·00	ENE	E : ENE : NE	1·3	0·22	251	1 : 1, ci	th.-cl, so.-ha : 1
7	8·5	1·00	8·5	1·00	NE : ENE	E : NE	5·0	0·87	329	th.-cl : 9 : th.-cl	5, ci : 8, lu.-ha
8	8·5	1·00	8·5	1·00	NE : ENE	ENE : NE	5·0	1·09	369	7 : 7 : 5, cu, s.-cu, w	1, fr.-cu, cu, w : 1 : 0
9	6·5	0·70	6·1	0·66	NNE : E	E : ENE	10·8	1·63	387	0 : 0 : 1, cu, fr.-cu	1, fr.-cu : 1 : 7
10	9·3	1·00	9·3	1·00	ENE : E	E : ENE : NE	7·0	1·27	357	6 : 1 : 0	1 : 1 : 0
11	2·5	0·27	2·0	0·22	ENE : E	E : ENE : NE	3·0	0·48	297	0 : 2, d : 3, s.-cu	1, ci : 9
12	0·0	0·00	0·0	0·00	NE	NE : NNE	2·7	0·26	296	10, r : 10, slt.-m.-r, m.-r	10, r : 10, r : 10, r, m.-r
13	4·6	0·49	4·5	0·48	NNE : N	NNW : WSW	1·5	0·22	275	10, m.-r, r : 10, r, m.-r	9, m.-r : 8 : 8
14	9·3	1·00	9·3	1·00	NNW	N : Calm	3·3	0·40	294	3 : 1 : 2, cu	6, s.-cu : 6 : 0
15	9·3	1·00	9·3	1·00	Calm : WSW	WSW : SSW	0·6	0·04	180	0, d : 2, d, slt.-m : 2, ci, slt.-h	2, ci, slt.-h : 2, ci, slt.-h : 0, slt.-h
16	4·7	0·48	4·3	0·44	Calm : SSE	SSE	1·0	0·06	189	0, slt.-m, d : 1, ci, ci.-s	2, ci : 2 : 4, d
17	1·4	0·14	1·3	0·13	Calm : SW	SW : SSW	1·7	0·15	218	8, sh : 9, sh : 5, alt.-cu	4, s.-cu : 4 : 9
18	7·9	0·82	6·6	0·68	SSW : WSW	NW : WSW	1·6	0·15	247	10, r, m.-r : 9, m.-r	9, s.-cu : 9 : 0, d
19	6·7	0·69	6·7	0·69	WSW : Calm	SW : SSW	1·0	0·10	215	6 : 9, d : 6, alt.-cu, ci	5, cu, s.-cu : 2 : 0
20	5·1	0·52	4·7	0·49	SSW : WSW	SSW : S	1·5	0·18	237	10, hy.-r : 10, t, l, hy.-r : 3, alt.-cu	3, fr.-cu : 1 : 8, m.-r
21	8·2	0·84	8·0	0·82	Calm : NNE	N	1·6	0·20	240	8 : 9 : 10, ci.-s, r, slt.-m	10, n, alt.-s, c.-r : 7 : 1
22	2·9	0·30	2·5	0·25	N	NNE : S	1·7	0·20	245	6, d : 7, alt.-cu, fr.-s	6, slt.-sh : 7 : 9
23	1·0	0·10	0·8	0·08	Calm : SE	SE : SW	1·7	0·20	232	8 : 10, d : 10, alt.-s, n, r	10, n, r : 9, r, sh : 9
24	0·8	0·07	0·2	0·02	WSW : SSW	Calm	0·7	0·07	200	9 : 4, cu, alt.-cu	9, slt.-r, r, m : 10, slt.-m : 9, slt.-m
25	7·1	0·69	6·7	0·66	Calm : S	SE : Calm	1·1	0·04	166	10, slt.-m.-r, r : 10, r, slt.-m.-r : 9, alt.-cu, cu, n	9, slt.-r : 1 : 1, d
26	0·1	0·01	0·1	0·01	NE : E	E : NE	1·6	0·23	250	9 : 9, slt.-m, d : 8, s.-cu, alt.-cu	6 : 10 : 10, r, l
27	0·3	0·02	0·1	0·01	NNE	NE : ENE	1·0	0·15	234	10, r : 10, m : 10, m	9, alt.-cu, s.-cu, slt.-m : 9, slt.-m : 10, d, slt.-m
28	4·5	0·44	3·7	0·36	NNE : NE	E : Calm	1·9	0·24	254	10, m : 10, m : 9, alt.-s, m	7, fr.-cu : 1 : 0, d, m, f
29	3·9	0·39	3·2	0·31	Calm : NE	NE : ENE	1·4	0·08	192	tk.-f : tk.-f : 2, f, m, p.-so.-ha	2 : 3, d : 10
30	0·2	0·02	0·1	0·01	NE	ENE	2·0	0·25	267	9 : 9, slt.-m, d : 9, slt.-m	6, fr.-cu . 10 : 10
Means	5·1	0·55	4·8	0·53	..	..	..	0·32	249		
Number of Column for Reference.	19	20	21	22	23	24	25	26	27	28	29

The mean *Temperature of Evaporation* for the month was 56°·1, being 2°·0 higher than
The mean *Temperature of the Dew Point* for the month was 52°·4, being 1°·3 higher than
The mean *Degree of Humidity* for the month was 75·7, being 4·2 less than
The mean *Elastic Force of Vapour* for the month was 0·396in., being 0·017in. greater than
} the average for the 65 years, 1841–1905.

The mean amount of *Cloud* for the month (a clear sky being represented by 0 and an overcast sky by 10) was 5·1.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·500. The maximum daily amount of *Sunshine* was 11·5 hours on September 5.

The highest reading of the *Solar Radiation Thermometer* was 139°·1 on September 3; and the lowest reading of the *Terrestrial Radiation Thermometer* was 32°·1 on September 16.

The *Proportions of Wind* referred to the cardinal points were N. 24, E. 33, S. 13, W. 11, calm or nearly calm conditions, 19, the whole month being represented by 100.

The *Greatest Pressure of the Wind* in the month was 10·8 lbs. on the square foot on September 9. The mean daily *Horizontal Movement of the Air* for the month was 249 miles; the greatest daily value was 387 miles on September 9, and the least daily value was 150 miles on September 3.

Rain (0·005in. or over) fell on 11 days in the month, amounting to 2·807in., as measured by gauge No. 6 partly sunk below the ground; being 0·659in. greater than the average fall for the 65 years, 1841–1905.

MONTH and DAY, 1933.	Barometer.	Temperature.							Difference between the Air Temperature and Dew Point Temperature.			Degree of Humidity (Saturation = 100).	Temperature.			Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground	Daily Duration of Sunshine.	Sun above Horizon.
		Of the Air.					Of Evaporation.	Of the Dew Point.					Of Radiation.		Of the Earth 4 ft. below the Surface of the Soil.			
	Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	Highest.	Lowest.	Daily Range.	Mean of 24 Hourly Values.	Excess above Average of 65 Years.	Mean of 24 Hourly Values.	Deduced Mean Daily Value.	Mean.	Greatest.	Least.		Highest in Sun's Rays.	Lowest on the Grass.				
	in.	°	°	°	°	°	°	°	°	°	°		°	°	°	in.	hours	hours
Oct. 1	29·998	63·1	58·5	4·6	60·6	+ 6·5	58·6	57·1	3·5	6·6	1·3	88	71·0	55·4	58·7	0·012	0·0	11·7
2	30·134	59·9	53·5	6·4	57·3	+ 3·6	54·5	52·1	5·2	10·3	1·5	83	74·2	49·2	58·6	0·020	0·0	11·6
3	30·149	60·1	46·1	14·0	53·5	+ 0·2	49·0	44·1	9·4	15·6	4·6	70	100·6	36·9	58·6	0·000	2·3	11·5
4	30·069	61·5	43·3	18·2	51·3	− 1·7	47·7	43·6	7·7	17·0	0·8	75	106·5	31·1	58·4	0·000	8·3	11·4
5	30·063	60·6	41·9	18·7	50·6	− 2·2	49·4	48·1	2·5	7·4	0·4	91	78·8	31·1	58·2	0·000	1·6	11·4
6	30·066	69·6	45·2	24·4	56·7	+ 4·2	54·5	52·7	4·0	15·3	0·4	86	113·3	39·0	58·1	0·001*	4·4	11·3
7	29·777	68·4	50·7	17·7	58·9	+ 6·6	57·3	56·1	2·8	8·7	0·8	90	103·7	42·9	58·0	0·080	1·5	11·3
8	29·474	66·2	53·7	12·5	60·9	+ 8·9	58·9	57·5	3·4	11·1	0·7	88	107·7	48·8	57·9	0·191	2·8	11·2
9	29·515	66·5	47·1	19·4	58·1	+ 6·5	55·7	53·7	4·4	12·4	0·8	85	109·9	41·1	57·8	0·032	4·8	11·2
10	29·393	68·2	60·4	7·8	63·6	+12·3	59·8	57·0	6·6	12·6	2·4	79	105·1	56·6	57·8	0·025	1·8	11·1
11	29·339	65·2	49·6	15·6	57·9	+ 7·0	54·0	50·5	7·4	19·0	2·2	76	110·8	42·0	57·8	0·072	6·2	11·0
12	29·851	60·0	43·8	16·2	51·6	+ 1·0	47·0	41·7	9·9	20·2	2·7	69	109·8	33·3	57·7	0·000	7·5	11 0
13	30·055	62·8	37·3	25·5	50·5	+ 0·2	47·1	43·2	7·3	13·8	1·2	76	115·9	27·5	57·6	0·000	5·0	10·9
14	29·927	61·1	49·6	11·5	54·3	+ 4·2	52·6	51·0	3·3	11·5	1·0	89	86·2	39·8	57·3	0·135	0·6	10·8
15	29·873	58·8	44·4	14·4	51·4	+ 1·5	48·4	45·2	6·2	17·2	0·4	79	108·1	36·2	57·2	0·007	3·7	10·8
16	29·639	56·8	43·8	13·0	50·1	+ 0·3	46·1	41·3	8·8	18·0	3·1	72	111·4	34·7	57·0	0·007	8·2	10·7
17	29·828	53·5	38·0	15·5	46·1	− 3·5	42·8	38·5	7·6	13·1	1·5	75	96·5	31·3	56·7	0·000	4·2	10·6
18	29·882	57·8	33·8	24·0	45·5	− 3·8	42·6	38·7	6·8	17·8	0·9	77	109·7	25·0	56·5	0·000	9·0	10·6
19	29·735	56·2	42·7	13·5	49·1	− 0·0	45·1	40·1	9·0	19·8	3·7	71	108·8	33·1	56·2	0·000	5·6	10·5
20	29·753	57·0	43·5	13·5	50·3	+ 1·5	46·7	42·5	7·8	15·1	3·1	74	113·9	36·1	56·0	0·000	5·8	10·4
21	29·699	56·0	48·0	8·0	52·0	+ 3·4	49·4	46·6	5·4	9·3	2·6	82	73·0	41·5	55·7	0·004	0·0	10·4
22	29·646	56·8	50·1	6·7	53·4	+ 5·1	52·9	52·4	1·0	2·4	0·3	97	65·9	45·8	55·4	0·095	0·0	10·3
23	29·682	62·0	49·1	12·9	55·6	+ 7·5	54·2	53·0	2·6	9·0	0·4	91	111·9	40·0	55·4	0·000	4·5	10·2
24	29·682	55·9	52·0	3·9	54·2	+ 6 3	53·0	52·0	2·2	4·5	1·1	92	61·3	47·0	55·2	0·044	0·0	10·2
25	29·760	53·1	40·0	13·1	49·2	+ 1·5	47·3	45·2	4·0	6·7	2·2	86	58·7	31·6	55·2	0·051	0·0	10·1
26	29·828	46·6	36·4	10·2	41·1	− 6·5	37·0	30·1	11·0	15·8	4·6	65	80·8	27·9	55·1	0·000	3·4	10·0
27	29·292	44·0	32·3	11·7	39·2	− 8·3	36·7	32·6	6·6	12·8	1·8	77	46·7	25·6	55·0	0·296	0·0	10·0
28	29·007	46·3	31·0	15·3	38·4	− 9·0	36·2	32·6	5·8	19·3	1·2	79	94·9	25·1	54·5	0·191	2·8	9·9
29	29·223	49·3	40·7	8·6	44·0	− 3·3	41·9	39·2	4·8	8·9	1·6	83	86·8	35·8	54·2	0·083	1·7	9·9
30	29·581	49·9	40·0	9·9	44·5	− 2·7	42·1	38·9	5·6	8·2	2·0	80	61·0	31·1	53·9	0·114	0·0	9·8
31	29·575	51·9	39·3	12·6	45·4	− 1·7	42·7	39·1	6·3	8·6	3·1	79	64·2	31·2	53·6	0·040	0·2	9·8
Means	29·726	58·2	44·7	13·5	51·5	+ 1·5	48·7	45·7	5·8	12·5	1·8	80·8	91·8	37·2	56·6	Sum 1·510	3·1	10·7
Number of Column for Reference	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

The results apply to the civil day, except Columns 19 to 22 (Record of the Night Sky), which relate to the period extending from dusk on the civil day named, to dawn of the following day.

The mean reading of the Barometer (Column 1) and the mean temperatures of the Air and Evaporation (Columns 5 and 7) are deduced from the photographic records. The average temperature (Column 6) is deduced from the 65 years' observations, 1841–1905. The temperature of the Dew Point (Column 8) and the Degree of Humidity (Column 12) are deduced from the corresponding temperatures of the Air and Evaporation by means of Hygrometrical Tables published by the Meteorological Office, Air Ministry. The mean difference between the Air and Dew Point Temperatures (Column 9) is the difference between the numbers in Columns 5 and 8, and the Greatest and Least Differences (Columns 10 and 11) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers. The readings in Column 15 are taken daily at noon.

The values given in Columns 2, 3, 4, 13 and 14 are derived from eye-readings of self-registering thermometers.

* Rainfall (Column 16). The amount entered on October 6 is derived from wet fog.

The mean reading of the *Barometer* for the month was 29·726in., being 0·002in. lower than the average for the 65 years, 1841–1905.

TEMPERATURE OF THE AIR.

The highest in the month was 69°·6 on October 6; the lowest in the month was 31°·0 on October 28; and the range was 38°·6.

The mean of all the highest daily readings in the month was 58°·2, being 0°·7 higher than the average for the 65 years, 1841–1905.

The mean of all the lowest daily readings in the month was 44°·7, being 1°·5 higher than the average for the 65 years, 1841–1905.

The mean of the daily ranges was 13°·5, being 0°·8 less than the average for the 65 years, 1841–1905.

The mean for the month was 51°·5 being 1°·5 higher than the average for the 65 years, 1841–1905.

MONTH and DAY, 1933.	Record of the Night Sky. Polaris. Duration.	Polaris. Fraction of Total Exposure.	δ Ursæ Minoris. Duration.	δ Ursæ Minoris. Fraction of Total Exposure.	Wind as Deduced from Self-registering Anemometers. Osler's. General Direction. A.M.	General Direction. P.M.	Pressure on the Square Foot. Greatest.	Pressure on the Square Foot. Mean of 24 Hourly Measures.	Robinson's Horizontal Movement of the Air.	Clouds and Weather. A.M.	Clouds and Weather. P.M.
	hours.		hours.				lbs.	lbs.	miles.		
Oct. 1	0·0	0·00	0·0	0·00	NE : ENE	ENE : NE : NNE	0·9	0·14	230	10, r, m.-r : 10, alt.-s	10, alt.-s : 10,slt.-m,slt.-m.-r: 10
2	1·3	0·13	1·1	0·10	NNE : NE	NE	1·6	0·26	287	10, m.-r : 10, alt.-s, n	10 : 10 : 9
3	7·3	0·68	7·2	0·67	NNE : NE	NE	1·0	0·16	255	9 : 5 : 8, alt.-cu, ci	9, s.-cu : 10 : 8
4	10·5	0·98	10·2	0·95	NNE : Calm	Calm	0·2	0·01	164	1, d : 0, m, slt.-h	0, slt.-h : 0, f, m, d
5	6·1	0·57	4·8	0·45	SW : Calm	Calm	0·1	0·00	166	0, m, d : 0, f, tk.-f, f	0, f : 0, f, m
6	5·7	0·53	4·4	0·41	Calm	SE : Calm	0·8	0·04	177	10, m : tk.-f : 0, f, m	6, ci : 1, m
7	1·3	0·11	0·4	0·04	Calm	Calm	0·2	0·00	162	9, m : 10, m, m.-r, r : 9,alt.-s,f,slt.-m,slt.-sh	8, alt.-cu, so.-ha: 9, d : 10, slt.-m.-r
8	7·5	0·66	7·1	0·63	Calm : SW	SW : WSW	2·0	0·24	267	10, r, slt.-m.-r : 9, s.-cu, alt.-cu, slt.-m.-r	9, oc.-slt.-m.-r : 9 : 5
9	0·6	0·06	0·3	0·02	SW : SSW	SSW	2·4	0·45	312	0, d : 6, s.-cu, cu, ci	9, s.-cu : 10, r, m.-r : 10, slt.-r
10	2·5	0·22	1·8	0·16	SSW : SW	SW : SSW	10·3	2·41	513	10, w : 10, slt.-r, w : 10,oc.-slt.-m.-r,w	9, w : 9, r, slt.-r,w : v.-cl, slt.-sh, w
11	11·3	1·00	11·3	1·00	SSW : W	WSW	10·9	1·95	488	10, sq.-r, w : 9, sq.-r, st.-w	6, cu, fr.-s, w : 0, w : 0, d
12	11·3	1·00	11·3	1·00	WSW : W	WNW : NW	2·2	0·30	303	0, d : 1, d : 3, fr.-cu	7, cu, ci : 0
13	3·3	0·29	1·5	0·14	SW	WSW : SW	1·4	0·17	256	0, ho.-fr : 7, alt.-cu	8, s.-cu : 9 : 10, sh
14	10·2	0·88	9·0	0·78	SSW : SW	SW : WSW	2·4	0·26	271	9 : 9, ci.-s, alt.-cu, slt.-r, r	10, slt.-m.-r, r : 3 : 3, slt.-m
15	3·5	0·30	2·3	0·20	WSW	WSW : SW	2·2	0·23	267	1 : 9, m, d : 4, slt.-m, so.-ha	9, alt.-cu, s.-cu : 10, r
16	..	..	..	..	WSW : W	W : WNW	6·3	0·82	389	v.-cl, m.-r, sh : 2, s.-cu	v.-cl, slt.-shs : v.-cl, shs : 1, slt.-m
17	9·4	0·82	8·5	0·74	WNW : W : NW	WNW : WSW	2·4	0·33	300	1, slt.-m : 1, slt.-m : 3, s.-cu	9, s.-cu : 2, f : 2, f
18	8·8	0·76	7·7	0·67	SW : Calm	SSW : SE	0·3	0·03	185	0, ho.-fr : 1, m	1, alt.-cu : 3, d
19	11·5	1·00	11·1	0·97	SE : SSE	SE : ESE	2·0	0·27	260	7 : 5 : 9, alt.-cu	1, ci.-cu : 0
20	1·6	0·14	0·8	0·07	ESE : E	E : ENE	9·0	1·05	372	0 : 8 : 7, ci, w	7, ci, fr.-cu, w : 9
21	0·2	0·02	0·1	0·01	ENE : E	E : Calm	4·2	0·48	299	10 : 10, s	9, s.-cu : 10, slt.-m.-r.-sh : 10, m.-r
22	3·5	0·29	2·9	0·24	Calm : NE	E : SE	0·8	0·05	186	10, m : 10, f : 10, tk.-f, f	10, r, m : 10, oc.-slt.-m.-r, slt.-m
23	2·7	0·23	0·9	0·07	S : Calm	Calm : E : ENE	0·2	0·01	172	8 : 9, m : 8	5, ci : 3, m : 10, m
24	0·0	0·00	0·0	0·00	NE	NE	2·9	0·37	314	10, r : 10, slt.-m.-r, m	10, slt.-m.-r, slt.-m : 10, oc.-slt.-m.-r
25	11·8	0·97	11·8	0·97	NNE : N	N	6·0	1·04	387	10, sh : 10,oc.-slt.-m.-r,slt.-m : 10, m.-r, w	10, oc.-slt.-m.-r, w : 0
26	5·3	0·44	4·5	0·37	NNW : NW	NW	9·0	1·74	463	0 : 1 : 4, fr.-cu, w	7, alt.-cu, w : 0, w
27	8·3	0·69	6·5	0·54	WNW : WSW	NW : W	3·8	0·48	356	8 : 10, c.-r : 10, c.-r	10, r, slt.-m : 1, slt.-m, ho.-fr
28	0·0	0·00	0·0	0·00	WSW : SW	SW : W	3·3	0·28	307	9, ho.-fr : 10 : 7,th.-cl,so.-ha	10, slt.-r : 10,r,hy.-r,m: 10, r, m.-r, n
29	2·3	0·19	1·7	0·14	NNW : N	N : NW	2·0	0·37	316	10, r, m.-r : 10, r, m.-r, slt.-m : 9, s.-cu	9, ci.-s, s.-cu : 10, slt.-m.-r, r : 9, r
30	0·0	0·00	0·0	0·00	NNW : NW	NNW : NW : WSW	3·8	0·34	309	9, m.-r : 8, r, m : 10, r, m	10, alt.-s, fr.-s, m : 10, m : th.-cl,m,d,lu.-ha
31	9·5	0·78	8·8	0·72	WSW	W : WSW	4·6	0·43	374	10 : 10 : 10, sh, oc.-m.-r	10,alt.-s,fr.-s,r,sh : 2, m : v.-cl
Means	5·1	0·46	4·6	0·40	..	..	..	0·47	294		
Number of Column for Reference.	19	20	21	22	23	24	25	26	27	28	29

The mean *Temperature of Evaporation* for the month was 48°·7, being 0°·8 higher than
The mean *Temperature of the Dew Point* for the month was 45°·7, being 0°·1 higher than
The mean *Degree of Humidity* for the month was 80·8, being 4·1 less than
The mean *Elastic Force of Vapour* for the month was 0·308in., being equal to
} the average for the 65 years, 1841–1905.

The mean amount of *Cloud* for the month (a clear sky being represented by 0 and an overcast sky by 10) was 6·6.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·289. The maximum daily amount of *Sunshine* was 9·0 hours on October 18.

The highest reading of the *Solar Radiation Thermometer* was 115°·9 on October 13; and the lowest reading of the *Terrestrial Radiation Thermometer* was 25°·0 on October 18.

The *Proportions of Wind* referred to the cardinal points were N. 21, E. 17, S. 18, W. 30, calm or nearly calm conditions, 14, the whole month being represented by 100.

The *Greatest Pressure of the Wind* in the month was 10·9 lbs. on the square foot on October 11. The mean daily *Horizontal Movement of the Air* for the month was 294 miles; the greatest daily value was 513 miles on October 10 and the least daily value was 162 miles on October 7.

Rain (0·005in. or over) fell on 18 days in the month, amounting to 1·510in., as measured by gauge No. 6 partly sunk below the ground; being 1·272in. less than the average fall for the 65 years, 1841–1905.

MONTH and DAY, 1933.	Barometer.	Temperature.							Difference between the Air Temperature and Dew Point Temperature.			Degree of Humidity (Saturation = 100).	Temperature			Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Daily Duration of Sunshine.	Sun above Horizon.
		Of the Air.					Of Evaporation.	Of the Dew Point.					Of Radiation.		Of the Earth 4 ft below the Surface of the Soil.			
	Means of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	Highest.	Lowest.	Daily Range.	Mean of 24 Hourly Values.	Excess above Average of 65 Years.	Mean of 24 Hourly Values.	Deduced Mean Daily Value.	Mean.	Greatest.	Least.		Highest in Sun's Rays.	Lowest on the Grass.				
	in.	°	°	°	°	°	°	°	°	°	°		°	°	°	in.	hours	hours
Nov. 1	29·696	52·7	42·5	10·2	47·9	+ 0·9	44·3	39·7	8·2	11·9	4·6	73	70·7	35·0	53·3	0·002	0·6	9·7
2	29·712	52·6	42·5	10·1	48·5	+ 1·7	44·1	38·4	10·1	16·1	3·2	68	66·6	35·0	52·1	0·011	1·1	9·6
3	29·829	48·1	39·2	8·9	43·5	− 3·1	40·6	36·5	7·0	13·3	2·3	76	84·0	32·0	52·9	0·009	4·7	9·6
4	29·928	48·3	38·3	10·0	43·5	− 2·9	41·2	38·0	5·5	7·9	1·5	81	78·1	30·8	52·7	0·032	2·9	9·5
5	29·973	50·1	33·4	16·7	40·9	− 5·2	39·5	37·6	3·3	10·7	0·4	87	88·1	25·1	52·5	0·000	1·1	9·5
6	29·958	50·2	33·3	16·9	44·0	− 1·8	43·2	42·3	1·7	4·3	0·0	93	59·5	25·0	52·2	0·085	0·0	9·4
7	30·010	56·1	48·3	7·8	51·8	+ 6·4	49·9	48·0	3·8	6·9	1·0	86	87·7	42·8	52·2	0·000	0·1	9·3
8	30·062	50·1	36·0	14·1	44·2	− 0·8	41·6	38·1	6·1	12·5	1·5	79	84·5	25·2	52·1	0·000	3·5	9·3
9	29·900	51·2	36·2	15·0	42·7	− 1·9	40·7	37·8	4·9	14·6	1·7	83	71·0	26·1	52·0	0·000	0·0	9·2
10	29·513	49·1	39·3	9·8	44·5	+ 0·2	42·0	38·6	5·9	10·5	1·3	80	81·8	30·8	51·9	0·101	1·5	9·2
11	29·356	42·6	36·3	6·3	39·1	− 4·9	38·2	36·8	2·3	4·3	0·7	92	44·5	25·8	51·6	0·000	0·0	9·1
12	29·457	48·0	36·6	11·4	42·2	− 1·5	40·2	37·3	4·9	8·8	0·7	83	61·6	27·1	51·3	0·014	0·1	9·1
13	29·594	46·8	32·2	14·6	40·3	− 3·2	38·4	35·6	4·7	11·4	1·4	83	64·3	23·6	51·2	0·165	0·3	9·0
14	29·538	46·7	35·2	11·5	39·8	− 3·5	38·8	37·3	2·5	6·9	1·5	91	55·8	25·7	51·0	0·000	0·3	9·0
15	29·158	49·9	34·7	15·2	43·7	+ 0·6	42·5	40·9	2·8	8·6	0·7	90	58·9	25·9	50·8	0·182	0·0	8·9
16	29·445	45·7	33·0	12·7	39·6	− 3·2	38·8	37·6	2·0	3·9	0·0	93	51·8	24·9	50·3	0·003*	0·0	8·8
17	29·695	47·0	41·3	5·7	43·9	+ 1·3	42·2	40·0	3·9	6·3	0·4	86	72·3	37·1	50·3	0·064	0·3	8·8
18	29·740	47·0	40·9	6·1	43·5	+ 1·1	42·8	41·9	1·6	4·3	0·4	94	50·0	39·1	50·1	0·020	0·0	8·8
19	29·676	53·6	44·8	8·8	48·8	+ 6·5	47·7	46·6	2·2	5·6	0·4	92	71·1	38·9	50·1	0·006	1·0	8·7
20	29·832	55·2	43·6	11·6	48·6	+ 6·4	47·9	47·2	1·4	4·4	0·0	95	69·1	35·1	50·1	0·007*	0·9	8·7
21	29·867	46·4	44·0	2·4	45·0	+ 2·9	43·8	42·4	2·6	4·5	0·9	91	48·0	41·5	50·1	0·006	0·0	8·6
22	29·857	46·7	43·7	3·0	45·0	+ 2·9	43·4	41·3	3·7	5·7	3·2	87	46·6	41·0	50·0	0·000	0·0	8·6
23	29·862	49·0	42·9	6·1	45·0	+ 3·0	43·3	41·1	3·9	9·2	2·4	86	64·2	32·9	50·0	0·004	0·1	8·5
24	29·756	46·7	40·9	5·8	43·5	+ 1·5	41·5	38·8	4·7	6·7	3·5	84	67·5	35·5	49·9	0·001	1·2	8·5
25	29·724	42·8	35·0	7·8	38·5	− 3·4	36·6	33·6	4·9	8·8	2·8	82	74·1	29·3	49·7	0·118	3·9	8·4
26	29·648	40·3	36·3	4·0	38·1	− 3·7	36·2	33·2	4·9	7·7	1·0	82	51·1	33·2	49·6	0·016	0·0	8·4
27	29·603	41·0	34·5	6·5	38·2	− 3·5	36·5	33·9	4·3	7·5	2·5	84	49·8	29·0	49·3	0·000	0·0	8·3
28	29·801	39·9	37·6	2·3	38·8	− 2·7	37·2	34·8	4·0	7·1	2·0	85	41·3	34·1	49·1	0·005	0·0	8·3
29	29·982	40·7	33·1	7·6	38·5	− 2·7	35·9	31·5	7·0	9·3	3·9	76	53·5	27·0	49·0	0·000	0·3	8·3
30	30·011	39·8	36·0	3·8	38·5	− 2·5	36·3	32·7	5·8	10·4	3·7	79	43·1	30·9	48·8	0·000	0·0	8·2
Means	29·739	47·5	38·4	9·1	43·0	− 0·5	41·2	38·7	4·4	8·3	1·7	84·7	63·7	31·5	50·9	Sum 0·851	0·8	8·9
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

The results apply to the civil day, except Columns 19 to 22 (Record of the Night Sky), which relate to the period extending from dusk on the civil day named, to dawn of the following day.

The mean reading of the Barometer (Column 1) and the mean temperatures of the Air and Evaporation (Columns 5 and 7) are deduced from the photographic records. The average temperature (Column 6) is deduced from the 65 years' observations, 1841–1905. The temperature of the Dew Point (Column 8) and the Degree of Humidity (Column 12) are deduced from the corresponding temperatures of the Air and Evaporation by means of Hygrometrical Tables published by the Meteorological Office, Air Ministry. The mean difference between the Air and Dew Point Temperatures (Column 9) is the difference between the numbers in Columns 5 and 8, and the Greatest and Least Differences (Columns 10 and 11) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers. The readings in Column 15 are taken daily at noon.

The values given in Columns 2, 3, 4, 13, and 14 are derived from eye-readings of self-registering thermometers.

*Rainfall (Column 16). The amounts entered on November 16 and 20 are derived from dew, frost or wet fog.

The mean reading of the *Barometer* for the month was 29·739in., being 0·026in. lower than the average for the 65 years, 1841–1905.

TEMPERATURE OF THE AIR.

The highest in the month was 56°·1 on November 7; the lowest in the month was 32°·2 on November 13; and the range was 23°·9.

The mean of all the highest daily readings in the month was 47°·5, being 1°·5 lower than the average for the 65 years, 1841–1905.

The mean of all the lowest daily readings in the month was 38°·4, being 0°·5 higher than the average for the 65 years, 1841–1905.

The mean of the daily ranges was 9°·1, being 2°·0 less than the average for the 65 years, 1841–1905.

The mean for the month was 43°·0, being 0°·5 lower than the average for the 65 years, 1841–1905.

MONTH and DAY, 1933.	Record of the Night Sky. Polaris. Duration.	Polaris. Fraction of Total Exposure.	δ Ursæ Minoris. Duration.	δ Ursæ Minoris. Fraction of Total Exposure.	Wind as Deduced from Self-registering Anemometers. Osler's. General Direction. A.M.	P.M.	Pressure on the Square Foot. Greatest.	Pressure on the Square Foot. Mean of 24 Hourly Measures.	Robinson's Horizontal Movement of the Air.	Clouds and Weather. A.M.	P.M.
	hours.		hours.				lbs.	lbs.	miles.		
Nov. 1	2·3	0·19	1·7	0·14	W : WNW	WNW : W	4·2	0·92	425	v.-cl, m.-r : v.-cl : 9	9, fr.-s, s.-cu, w, slt.-r : 9, w, slt.-r
2	4·5	0·37	3·7	0·30	W : WNW : NW	NW : NNW	6·0	1·33	449	8, sh, m.-r : 9, m.-r, w	6, s.-cu, w: 3, w : 9
3	6·0	0·49	5·9	0·48	NNW	NNW : N	3·0	0·63	340	8 : 1, ci	9, s.-cu, slt.-r : 4, slt.-sh
4	6·5	0·52	5·2	0·41	N	N : NNE	2·0	0·31	304	6 : 2 : 4, m	8, shs : 7, r, m : 2, m
5	5·5	0·44	3·1	0·25	NNW : Calm	Calm	0·3	0·04	180	9, m, ho.-fr : 8, m, f	9, ci.-cu, m: 9, m : f, ho.-fr
6	0·0	0·00	0·0	0·00	Calm : WSW	WSW	0·2	0·03	213	f, lu.-ha, ho.-fr : 10, f, slt.-m.-r : 10, f, oc.-slt.-m.-r	10, f, c.-m.-r : 10, f, c.-m.-r : 10, slt.-m.-r, f, m
7	3·1	0·25	2·3	0·18	NW : N	NNE	1·1	0·13	240	10, m : 9, s.-cu, m	9, s.-cu, slt.-m : 10, slt.-m : 10, sh
8	6·4	0·51	5·1	0·41	NE : Calm	Calm : SSE	0·7	0·03	188	9 : 1, ho.-fr, f : 0, f	1, ci, m : r, ci, m, f, ho.-fr : 10, f, d
9	4·9	0·39	4·3	0·34	Calm : S	S	0·2	0·01	187	8 : 9, ho.-fr, m	9, s.-cu : 1, ho.-fr : 9
10	4·1	0·33	3·5	0·28	SSW : NNW	NNW : NW	1·8	0·19	269	10, r : 10, r, m : 8, s.-cu	9, sh : 10
11	2·5	0·19	1·2	0·09	N : NNW	Calm : WSW	0·8	0·06	207	9 : 9, ho.-fr : 10, f	10, alt.-s, f : 10, f, ho.-fr
12	8·2	0·63	7·1	0·55	Calm : N	N	1·4	0·14	236	9, f, m : 10, m, r	9, m, m.-r : 9
13	6·1	0·47	5·1	0·39	Calm	Calm : SSW : NW	1·2	0·05	211	1, ho.-fr : 7 : 8, s.-cu, f	8, s.-cu, m: 10, m, r, hy.-r : 9, slt.-m.-r
14	1·5	0·12	1·1	0·08	NW : Calm	SW : SSE	1·8	0·09	231	1, ho.-fr : 5 : 1, f	1, f : 1, f, ho.-fr : 9
15	8·2	0·63	7·1	0·55	SE : S	WSW : Calm	3·0	0·23	250	10, m.-r : 10, r : 10, m.-r	10, m : 0, f, ho.-fr
16	0·3	0·03	0·0	0·00	Calm	NNE	1·0	0·08	211	tk.-f, ho.-fr : tk.-f	10, fr.-s, m : 10, m
17	0·3	0·03	0·3	0·03	N : NNE	N : NNE	2·7	0·37	333	10 : 10, slt.-m.-r: 8, r	9, alt.-cu, fr.-s, slt.-m : 10, slt.-m : 10, slt.-m.-r, slt.-m
18	0·0	0·00	0·0	0·00	NE	E : ENE	1·6	0·13	240	10, c.-slt.-m.-r : 10, c.-slt.-m.-r, f, m	10, alt.-s, m : 10, m, f
19	12·2	0·92	11·5	0·87	ENE : E	ENE : SE	1·1	0·06	220	10, f, m : 10, d : 9, m	9, f, sh : 0, f : 2, d
20	1·2	0·09	1·2	0·09	SSE : Calm	ENE : NE	0·5	0·03	204	1, d : th.-cl, f : 0, tk.-f	4, ci.-cu, alt.-cu, f : 10, f, d, slt.-m.-r
21	0·0	0·00	0·0	0·00	NE : NNE	NE : N	1·2	0·22	274	10 : 10, m, oc.-slt.-m.-r	10, m : 10, oc.-slt.-m.-r
22	0·0	0·00	0·0	0·00	N	NNW	0·5	0·08	215	10 : 10, m, slt.-m.-r	10, alt.-s, s.-cu, m, oc.-slt.-m.-r : 10, slt.-m, slt.-m.-r
23	2·2	0·17	1·3	0·10	NNW : N	N : NNW	0·7	0·10	232	10, slt.-m, slt.-m.-r : 9, m, m.-r	9, s.-cu, ci, slt.-m: 9, slt.-m
24	4·2	0·32	3·0	0·22	NNW : N	N	2·5	0·47	329	9, slt.-m, slt.-m.-r : 9, slt.-m, slt.-m.-r : 8, oc.-slt.-m.-r, slt.-m	9, alt.-s, n, oc.-shs: 9 : 9
25	3·5	0·26	0·6	0·04	N : NNE	NNE : NE	2·7	0·50	347	9, m.-r : v.-cl : 5	9, s.-cu, slt.-sh, hy.-sh.-sl: 9, sl.-sh : 9, sl.-sh
26	0·9	0·07	0·6	0·04	NE	NNE : NE	1·6	0·20	280	10, sl.-sh : 10, m : 9, m, sh	9, m, oc.-slt.-m.-r, r : 10
27	0·5	0·04	0·1	0·01	NE : Calm	Calm : NE	0·5	0·04	178	10 : 10, slt.-m.-r: 9, m	10, s.-cu, slt.-m : 10, slt.-m : 10, slt.-m, slt.-d, r
28	2·0	0·15	1·9	0·14	Calm : E	SE	1·0	0·09	199	10, r, slt.-r, slt.-m : 10, slt.-m	10, alt.-s, fr.-s : 10
29	0·0	0·00	0·0	0·00	SE : ESE	ESE : E	2·0	0·26	257	10 : 5 : 9, s.-cu	10, alt.-s, slt.-m : 10, slt.-m, slt.-d
30	2·7	0·20	2·3	0·17	Calm	Calm : S	0·6	0·01	165	10, slt.-m : 10, slt.-m	9, slt.-m : 10
Means	3·3	0·26	2·6	0·21	..	..	..	0·23	254		
Number of Column for Reference.	19	20	21	22	23	24	25	26	27	28	29

The mean *Temperature of Evaporation* for the month was 41°·2, being 0°·7 lower than
The mean *Temperature of the Dew Point* for the month was 38°·7, being 1°·0 lower than
The mean *Degree of Humidity* for the month was 84·7, being 1·9 less than
The mean *Elastic Force of Vapour* for the month was 0·235in., being 0·011in. less than
} the average for the 65 years, 1841–1905.

The mean amount of *Cloud* for the month (a clear sky being represented by 0 and an overcast sky by 10) was 8·0.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·089. The maximum daily amount of *Sunshine* was 4·7 hours on November 3.

The highest reading of the *Solar Radiation Thermometer* was 88°·1 on November 5; and the lowest reading of the *Terrestrial Radiation Thermometer* was 23°·6 on November 13.

The *Proportions of Wind* referred to the cardinal points were N. 40, E. 17, S. 10, W. 15, calm or nearly calm conditions, 18, the whole month being represented by 100.

The *Greatest Pressure of the Wind* in the month was 6·0 lbs. on the square foot on November 2. The mean daily *Horizontal Movement of the Air* for the month was 254 miles; the greatest daily value was 449 miles on November 2, and the least daily value was 165 miles on November 30.

Rain (0·005in. or over) fell on 15 days in the month, amounting to 0·851in., as measured by gauge No. 6 partly sunk below the ground; being 1·369in. less than the average fall for the 65 years, 1841–1905.

MONTH and DAY, 1933.	Barometer.	Temperature.							Difference between the Air Temperature and Dew Point Temperature.			Degree of Humidity (Saturation = 100).	Temperature.			Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Daily Duration of Sunshine.	Sun above Horizon.
		Of the Air.					Of Evaporation	Of the Dew Point.					Of Radiation.		Of the Earth 4 ft. below the Surface of the Soil.			
	Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	Highest.	Lowest.	Daily Range.	Mean of 24 Hourly Values.	Excess above Average of 65 Years.	Mean of 24 Hourly Values.	Deduced Mean Daily Value.	Mean.	Greatest.	Least.		Highest in Sun's Rays.	Lowest on the Grass.				
	in.	°	°	°	°	°	°	°	°	°	°		°	°	°	ins.	hours	hours
Dec. 1	29·929	38·4	30·4	8·0	35·4	− 5·5	33·6	30·3	5·1	8·0	3·6	82	43·8	26·1	48·6	0·000	0·0	8·2
2	30·088	39·2	32·0	7·2	36·1	− 4·8	33·6	29·1	7·0	8·9	3·7	75	42·9	26·1	48·3	0·000	0·0	8·2
3	30·329	39·4	32·3	7·1	36·8	− 4·3	33·8	28·2	8·6	12·5	5·2	71	64·2	27·7	48·1	0·000	4·0	8·1
4	30·175	34·7	29·0	5·7	32·3	− 9·0	30·7	27·7	4·6	9·5	3·1	83	42·7	26·8	47·8	0·000	0·0	8·1
5	30·126	35·1	29·2	5·9	32·5	− 9·0	31·3	28·9	3·6	5·6	0·8	87	37·9	23·5	47·5	0·000	0·0	8·1
6	29·972	35·2	25·1	10·1	30·6	−10·9	29·5	27·2	3·4	6·4	0·7	87	37·5	14·2	47·2	0·000	0·0	8·0
7	29·917	40·1	27·8	12·3	34·3	− 7·0	32·9	30·3	4·0	7·7	1·0	85	41·1	16·9	47·1	0·020	0·0	8·0
8	30·085	36·7	31·5	5·2	34·6	− 6·4	31·5	25·4	9·2	13·3	7·8	70	51·2	28·3	46·7	0·000	1·5	8·0
9	30·073	33·1	27·3	5·8	30·7	− 9·9	29·3	26·5	4·2	9·0	3·2	84	44·0	18·5	46·3	0·000	0·8	8·0
10	30·090	35·2	25·0	10·2	30·4	−10·0	28·7	25·0	5·4	9·6	0·5	80	49·7	13·1	46·2	0·000	3·9	8·0
11	30·034	39·4	31·7	7·7	35·9	− 4·3	33·3	28·5	7·4	11·8	4·6	74	45·6	29·0	46·0	0·000	0·0	7·9
12	29·670	37·3	30·4	6·9	33·7	− 6·6	32·3	30·1	3·6	8·5	2·4	85	40·8	28·0	45·7	0·000	0·0	7·9
13	29·631	37·3	29·2	8·1	34·1	− 6·4	30·8	24·3	9·8	16·6	9·1	67	46·4	24·3	45·5	0·000	0·0	7·9
14	29·812	32·6	25·4	7·2	29·0	−11·7	26·5	19·7	9·3	12·9	5·8	69	48·1	17·2	45·2	0·000	5·4	7·9
15	29·749	42·2	31·5	10·7	37·4	− 3·4	34·9	30·3	7·1	13·4	1·2	76	56·3	25·9	45·1	0·000	3·6	7·9
16	29·964	36·9	28·7	8·2	32·9	− 7·8	30·7	26·4	6·5	13·1	1·0	77	45·1	19·0	44·8	0·000	2·4	7·9
17	30·090	37·7	32·7	5·0	35·0	− 5·4	33·5	30·7	4·3	4·5	0·6	85	42·1	28·2	44·7	0·000	0·0	7·8
18	30·235	39·7	32·0	7·7	35·3	− 4·7	34·2	32·3	3·0	7·8	2·0	89	50·7	21·7	44·3	0·000	3·1	7·8
19	30·310	39·9	28·0	11·9	34·0	− 5·5	33·5	32·7	1·3	4·2	0·4	95	38·0	18·3	44·2	0·007	0·0	7·8
20	30·400	41·0	33·6	7·4	38·8	− 0·2	38·3	37·6	1·2	2·2	0·4	95	42·0	32·8	44·1	0·010	0·0	7·8
21	30·489	37·9	31·6	6·3	34·1	− 4·6	33·5	32·5	1·6	3·7	0·3	94	38·7	29·2	44·1	0·000	0·0	7·8
22	30·516	44·5	35·7	8·8	39·9	+ 1·5	37·1	32·5	7·4	11·6	0·8	75	48·6	30·1	44·1	0·000	0·0	7·8
23	30·518	42·0	36·4	5·6	38·9	+ 0·7	36·0	30·9	8·0	11·0	7·0	73	50·9	32·9	44·1	0·000	0·0	7·8
24	30·322	36·4	32·3	4·1	34·7	− 3·5	32·9	29·5	5·2	7·7	4·0	81	39·9	29·1	44·1	0·000	0·0	7·8
25	29·883	38·5	31·0	7·5	34·9	− 3·5	33·5	30·9	4·0	5·6	2·6	85	43·7	29·2	44·1	0·000	0·0	7·8
26	29·617	39·6	36·8	2·8	38·6	− 0·0	38·2	37·7	0·9	3·0	0·4	96	43·9	35·5	44·0	0·087	0·0	7·8
27	29·437	38·6	31·8	6·8	36·8	− 2·0	35·9	34·3	2·5	3·5	0·9	91	43·9	28·0	44·0	0·000	0·0	7·9
28	28·945	37·9	35·0	2·9	36·7	− 2·2	35·9	34·5	2·2	2·8	0·7	92	39·8	34·5	44·0	0·058	0·0	7·9
29	29·381	41·5	34·5	7·0	37·6	− 1·4	36·8	35·5	2·1	3·8	1·0	92	50·8	30·8	44·0	0·012	0·0	7·9
30	29·620	41·1	33·9	7·2	36·7	− 2·2	36·1	35·1	1·6	3·4	0·9	94	45·7	30·0	44·0	0·147	0·0	7·9
31	29·995	39·8	32·3	7·5	37·6	− 1·1	36·7	35·2	2·4	4·1	1·2	91	46·0	27·3	44·1	0·002	0·0	7·9
Means	29·981	38·4	31·1	7·3	35·0	− 4·9	33·4	30·3	4·7	7·9	2·5	83·2	45·2	25·9	45·4	Sum 0·343	0·8	7·9
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

The results apply to the civil day, except Columns 19 to 22 (Record of the Night Sky), which relate to the period extending from dusk on the civil day named, to dawn of the following day.

The mean reading of the Barometer (Column 1) and the mean temperatures of the Air and Evaporation (Columns 5 and 7) are deduced from the photographic records. The average temperature (Column 6) is deduced from the 65 years' observations, 1841–1905. The temperature of the Dew Point (Column 8) and the Degree of Humidity (Column 12) are deduced from the corresponding temperatures of the Air and Evaporation by means of Hygrometrical Tables published by the Meteorological Office, Air Ministry. The mean difference between the Air and Dew Point Temperatures (Column 9) is the difference between the numbers in Columns 5 and 8, and the Greatest and Least Differences (Columns 10 and 11) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers The readings in Column 15 are taken daily at noon..

The values given in Columns 2, 3, 4, 13, and 14 are derived from eye-readings of self-registering thermometers

The mean reading of the *Barometer* for the month was 29·981in., being 0·189in. higher than the average for the 65 years, 1841–1905.

TEMPERATURE OF THE AIR.

The highest in the month was 44°·5 on December 22 ; the lowest in the month was 25°·0 on December 10 ; and the range was 19°·5.

The mean of all the highest daily readings in the month was 38°·4, being 5°·8 lower than the average for the 65 years, 1841–1905.

The mean of all the lowest daily readings in the month was 31°·1, being 3°·9 lower than the average for the 65 years, 1841–1905.

The mean of the daily ranges was 7°·3, being 1°·9 less than the average for the 65 years, 1841–1905.

The mean for the month was 35°·0, being 4°·9 lower than the average for the 65 years, 1841–1905.

MONTH and DAY, 1933.	Record of the Night Sky. Polaris. Duration.	Polaris. Fraction of Total Exposure.	δ Ursæ Minoris. Duration.	δ Ursæ Minoris. Fraction of Total Exposure.	Wind as Deduced from Self-Registering Anemometers. Osler's. General Direction. A.M.	General Direction. P.M.	Pressure on the Square Foot. Greatest.	Pressure on the Square Foot. Mean of 24 Hourly Measures.	Robinson's Horizontal Movement of the Air.	Clouds and Weather. A.M.	Clouds and Weather. P.M.
	hours		hours.				lbs.	lbs.	miles.		
Dec. 1	12·8	0·95	10·6	0·78	SE : ESE	SE : ESE	1·8	0·30	266	10 : 9 : 10, s.-cu	10 : th.-cl, lu.-ha : th.-cl, lu.-ha
2	0·0	0·00	0·0	0·00	ESE	ENE : E	3·7	0·70	355	2, ho.-fr : 1 : 9	9, s.-cu : 10
3	8·8	0·64	6·4	0·47	NE : ENE	ENE	8·5	2·01	479	10, w : 10 : 8, w	1, s.-cu, w : 1 : 4
4	0·0	0·00	0·0	0·00	ENE : NE	E : ESE	5·8	1·17	394	9 : 9, slt.-m : 9, slt.-m	10, s.-cu : 10
5	10·7	0·78	10·1	0·74	E : ENE	ENE : NE	1·9	0·19	263	10 : 10, m, slt.-m	10, s, slt.-m : 1, slt.-m, ho.-fr
6	6·7	0·49	4·5	0·33	Calm	Calm	0·0	0·00	157	1 : 7, ho.-fr : 9, f, ho.-fr	7, f, ho.-fr : 1, f, ho.-fr : 3, f, ho.-fr
7	2·9	0·21	2·4	0·18	Calm	ENE : E	3·7	0·37	262	5, f, ho.-fr : 10, f, ho.-fr : 10,tk.-f,slt.-m.-r	10,slt.-m.-r,slt.-m : 10 : 10, m.-r
8	7·0	0·51	4·5	0·33	E	E	7·3	1·55	425	9 : 9 : 9, slt.-sn	v.-cl, slt.-sn, w : 9, w : 9
9	13·7	1·00	13·7	1·00	ENE : E	E : NE	2·6	0·56	332	8 : 9, s.-cu	7, s.-cu : 1, slt.-m, ho.-fr : 1, ho.-fr
10	0·3	0·02	0·2	0·01	NE	ENE : NE	2·3	0·32	306	0, ho.-fr : 0, ho.-fr, m, f	1, slt.-m : 10 : 10
11	0·0	0·00	0·0	0·00	NE	NNE : Calm : WSW	1·2	0·10	223	10 : 10 : 9, m, slt.-m	9, slt.-m : 10, m : 10, m
12	3·5	0·25	2·1	0·16	Calm	E : ENE	2·3	0·10	229	10, slt.-m : 10, slt.-m : 9, f	9, f : 8, slt.-ho.-fr
13	13·7	1·00	13·7	1·00	E : ENE	ENE	16·6	3·10	582	10, w : 10, w : 10, slt.-sn, w	9,ci,alt.-cu,st.-w : 1, w : 0, w
14	4·2	0·31	3·8	0·27	ENE : NE	NE : NNW	6·0	1·05	382	0, w : 0 : 0, w	1, w : 9, m
15	12·2	0·89	11·7	0·85	N : NE	NE	3·6	0·70	365	10, slt.-m.-r : v.-cl, m.-r : 1, m	5, ci : 4 : 3
16	3·2	0·23	1·8	0·13	NE : ENE	NE : Calm	1·3	0·07	196	1, ho.-fr : 1, f, slt.-m	2, ci.-cu : 9, m : 6,m,ho.-fr
17	6·4	0·46	5·0	0·36	Calm	Calm : NE : E	1·3	0·07	184	10, slt.-m : 10, f, m	10,alt.-s,m : 10 : 9
18	4·7	0·33	3·3	0·24	ENE : Calm	Calm	0·4	0·03	171	v.-cl, ho.-fr : 9 : 4, f, slt.-m	3, m : 10, m
19	0·0	0·00	0·0	0·00	Calm	Calm	0·0	0·00	150	2, ho.-fr : 9, m : 10, f	10, tk.-f, slt.-m.-r : 10, tk.-f
20	0·0	0·00	0·0	0·00	Calm	Calm	0·0	0·00	128	10, slt.-m.-r, tk.-f, m : 10, tk.-f, glm	10, tk.-f, f, glm : 10, f
21	0·0	0·00	0·0	0·00	Calm	WSW : Calm	0·2	0·01	176	10, f, slt.-m.-r : 10, f	4, f : 10, tk.-f : 10, tk.-f, f
22	1·2	0·08	0·7	0·05	Calm : WSW	WSW	0·5	0·06	207	10 : 10, f, m	9, s.-cu, m : 9, m
23	0·0	0·00	0·0	0·00	WSW : Calm	SW : Calm	0·4	0·04	189	10 : 10, m, slt.-m	9, slt.-m : 10
24	0·0	0·00	0·0	0·00	Calm	Calm : WSW	0·5	0·02	168	10 : 10, m	10, s.-cu, m : 10, slt.-m
25	0·7	0·05	0·3	0·02	WSW : SSW	Calm : SSW	0·5	0·07	221	10, slt.-m : 10, slt.-m, f	9, f, m : 10
26	0·0	0·00	0·0	0·00	S : Calm	Calm	0·5	0·02	135	10, slt.-m.-r, r : 10, slt.-m.-r, r, m	10, f, m.-r : 10, f
27	1·5	0·11	0·9	0·07	Calm : W	SW : SE	0·4	0·05	193	10, f : 9, f	10, m : 10, th.-cl, lu.-ha, ho.-fr
28	0·0	0·00	0·0	0·00	SE : ESE	E	1·6	0·32	281	10, slt.-m.-r, m.-r : 10, m, slt.-m.-r	10, s, n, oc.-slt.-m.-r, m : 10, slt.-m.-r
29	0·0	0·00	0·0	0·00	E : Calm	Calm	0·8	0·03	156	10 : 10, m.-r, sh : 9, m	9, s.-cu, m : 10, m
30	0·6	0·04	0·3	0·02	Calm : SW	SW : Var	3·0	0·13	225	10, m : 10, slt.-m : 10, f, r	9, f : 8 : 10, hy.-r, sl
31	0·7	0·05	0·5	0·04	NNW : N	NE : Calm	1·8	0·17	233	9, slt.-m.-r : 9, slt.-m, f	5, m : 9, m : 10, m, f, ho.-fr
Means	3·7	0·27	3·1	0·23	..	..	..	0·43	259		
Number of Column for Reference	19	20	21	22	23	24	25	26	27	28	29

The mean *Temperature of Evaporation* for the month was 33°·4, being 5°·1 lower than
The mean *Temperature of the Dew Point* for the month was 30°·3, being 6°·1 lower than
The mean *Degree of Humidity* for the month was 83·2, being 4·3 less, than
The mean *Elastic Force of Vapour* for the month was 0·168in., being 0·048in. less than
} the average for the 65 years, 1841–1905

The mean amount of *Cloud* for the month (a clear sky being represented by 0 and an overcast sky by 10) was 8·2.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·101. The maximum daily amount of *Sunshine* was 5·4 hours on December 14.

The highest reading of the *Solar Radiation Thermometer* was 64°·2 on December 3; and the lowest reading of the *Terrestrial Radiation Thermometer* was 13°·1 on December 10.

The *Proportions of Wind* referred to the cardinal points were N. 15, E. 36, S. 8, W. 9, calm or nearly calm conditions, 32, the whole month being represented by 100.

The *Greatest Pressure of the Wind* in the month was 16·6 lbs. on the square foot on December 13. The mean daily *Horizontal Movement of the Air* for the month was 259 miles; the greatest daily value was 582 miles on December 13, and the least daily value was 128 miles on December 20.

Rain (0·005in. or over) fell on 7 days in the month, amounting to 0·343in, as measured by gauge No. 6 partly sunk below the ground; being 1·484in. less than the average fall for the 65 years, 1841–1905.

HIGHEST and LOWEST READINGS of the BAROMETER, reduced to 32° FAHRENHEIT, as extracted from the PHOTOGRAPHIC RECORDS.

MAXIMA.		MINIMA.		MAXIMA.		MINIMA.		MAXIMA.		MINIMA.	
Greenwich Mean Time, 1933.	Reading	Greenwich Mean Time, 1933.	Reading.	Greenwich Mean Time, 1933.	Reading.	Greenwich Mean Time, 1933.	Reading.	Greenwich Mean Time, 1933.	Reading	Greenwich Mean Time, 1933.	Reading.
January.		January.		May.		May.		September.		September.	
d. h. m.	in.	d. h. m.	in.	d. h. m.	in.	d. h. m.	in.	d. h. m	in.	d h. m.	in.
1. 10. 40	29·789	3. 5. 0	29.388	1. 23. 0	29·750	3. 5. 20	29·500			1. 16. 0	29·918
4. 9. 0	29·851	5. 4. 35	29·638	4. 10. 0	29·776	7. 5. 35	29·282	4. 7. 50	30·115	6. 3. 40	29·943
7. 10. 40	30·333	8. 13. 10	30·160	9. 20. 40	29·759	10. 11. 15	29·647	7. 21. 0	30·162	13. 18. 0	29·760
9. 21. 20	30·526	11. 15. 0	29·915	12. 23. 30	29·824	14. 5. 0	29·648	15. 10. 0	30·185	21. 5. 10	29·448
14. 4. 35	30·124	16. 5. 40	29·205	15. 22. 50	30·035	17. 3. 35	29·923	22. 11. 0	29·610	23. 18. 25	29·172
23. 10. 10	30·552	30. 12. 15	29·255	18. 7. 15	30·089	20. 17. 35	29·779				
31. 11. 10	29·780			22. 22. 40	29·943	25. 17. 55	29·736				
				26. 21. 15	29·811	27. 11. 0	29·718				
				28. 22. 45	29·952	31. 17. 0	29·760				
February.		February.						October.		October.	
								2. 20. 20	30·199	4. 17. 0	30·013
		2. 2. 20	29·314					6. 9. 0	30·112	8. 15. 10	29·432
3. 11. 0	29·965	4. 3. 40	29·632	June.		June.		9. 8. 0	29·561	11. 6. 35	28·992
4. 18. 35	29·745	5. 9. 30	29·601					13. 9. 0	30·093	14. 15. 50	29·850
6. 9. 20	29·899	7. 7. 20	29·316	2. 9. 20	29·912	3. 17. 0	29·825	15. 8. 0	29·948	16. 16. 0	29·593
11. 23. 20	30·423	15. 16. 0	29·930	9. 22. 0	30·087	13. 7. 0	29·581	18. 1. 25	29·932	19. 16. 0	29·674
16. 18. 35	30·102	19. 6. 0	29·628	14. 22. 35	29·936	18. 17. 20	29·148	20. 21. 0	29·806	22. 16. 0	29·605
20. 11. 30	30·101	24. 19. 0	29·349	20. 1. 55	29·260	20. 15. 50	29·177	23. 21. 20	29·722	24. 15. 0	29·650
25. 21. 0	29·468	27. 5. 45	29·305	23. 4. 0	29·583	24. 17. 55	29·380	26. 0. 40	29·890	28. 15. 30	28·969
				27. 0. 0	29·806	28. 16. 10	29·644	30. 21. 0	29·711	31. 14. 5	29·500
March.		March.									
1. 5. 0	29·796	4. 8. 45	28·988	July.		July.		November.		November.	
5. 13. 0	29·538	6. 6. 30	29·341								
8. 21. 30	30·306	11. 15. 15	29·802	4. 5. 0	30·364	7. 6. 10	29·681	1. 16. 0	29·770	2. 15. 50	29·691
14. 21. 40	30·020	17. 4. 25	28·864	8. 12. 20	29·999	11. 18. 30	29·610	8. 10. 20	30·092	11. 20. 0	29·301
17. 6. 40	28·972	17. 22. 40	28·704	12. 22. 30	29·736	14. 3. 30	29·356	13. 9. 15	29·651	13. 22. 0	29·512
18. 21. 0	29·234	19. 22. 0	28·935	14. 23. 5	29·603	15. 17. 40	29·468	14. 9. 30	29·616	15. 10. 40	29·046
21. 9. 40	30·277	23. 17. 10	30·085	18. 8. 10	30·040	20. 17. 10	29·759	17. 23. 0	29·765	19. 15. 55	29·641
24. 9. 0	30·179	25. 16. 25	30·082	24. 0. 10	30·060	27. 19. 0	29·716	23. 10. 20	29·889	27. 5. 0	29·569
27. 0. 10	30·199	29. 17. 30	29·781	28. 10. 35	29·956	29. 14. 10	29·616	30. 16. 40	30·046		
31. 9. 35	29·983			30. 10. 0	29·910	31. 4. 40	29·596				
				August.		August.		December.		December.	
April.		April.									
				2. 7. 0	30·223	7. 18. 0	29·782			1. 14. 45	29·874
		1. 3. 0	29·884	10. 22. 0	30·018	11. 16. 30	29·925	3. 9. 50	30·353	7. 4. 15	29·844
2. 8. 25	30·193	3. 17. 0	30·007	12. 23. 15	30·182	16. 4. 20	29·494	8. 11. 10	30·123	9. 5. 15	30·053
5. 10. 0	30·139	12. 5. 0	29·762	17. 8. 20	29·726	18. 1. 0	29·616	10. 10. 30	30·110	13. 1. 0	29·514
14. 9. 25	30·379	16. 17. 0	29·939	19. 9. 5	29·849	23. 3. 20	29·318	14. 8. 40	29·869	15. 5. 0	29·609
17. 9. 20	30·028	20. 15. 30	29·776	27. 7. 0	30·040	29. 16. 0	29·771	23. 9. 0	30·558	28. 8. 25	28·858
22. 16. 0	30·053	29. 18. 0	29·531	31. 10. 0	30·090			30. 10. 20	29·661	30. 17. 0	29·586

The readings in the above table are accurate, but the times are occasionally liable to uncertainty, as the barometer will sometimes remain at its extreme reading without sensible change for a considerable interval of time. In such cases the time given is the middle of the stationary period.
The time is Greenwich Mean Time.
The height of the barometer cistern above mean sea level is 152 feet; no correction has been applied to the readings to reduce to sea level.

HIGHEST and LOWEST READINGS of the BAROMETER in each MONTH for the YEAR 1933.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Highest.....	30·552	30·423	30·306	30·379	30·089	30·087	30·364	30·223	30·185	30·199	30·092	30·558
Lowest	29·205	29·305	28·704	29·531	29·282	29·148	29·356	29·318	29·172	28·969	29·046	28·858
Range	1·347	1·118	1·602	0·848	0·807	0·939	1·008	0·905	1·013	1·230	1·046	1·700

The highest reading in the year was 30·558in. on Dec. 23. The lowest reading in the year was 28·704in. on Mar. 17. The range of reading in the year was 1·854in.

MONTHLY RESULTS OF METEOROLOGICAL ELEMENTS for the YEAR 1933.

MONTH, 1933.	Mean Reading of the Barometer.	TEMPERATURE OF THE AIR. Highest.	Lowest.	Range in the Month.	Mean of all the Highest.	Mean of all the Lowest.	Mean of the Daily Ranges.	Monthly Mean.	Excess of Mean above the Average of 65 years.	Mean Temperature of Evaporation.	Mean Temperature of the Dew Point.	Mean Degree of Humidity. (Saturation = 100.)
	in.	°	°	°	°	°	°	°	°	°	°	
January	29·954	53·2	20·0	33·2	41·6	32·2	9·4	37·4	−1·2	35·8	33·1	84·4
February	29·800	57·2	22·2	35·0	46·4	35·3	11·0	40·9	+1·4	38·5	34·7	78·4
March	29·763	66·1	25·9	40·2	55·7	36·1	19·5	45·3	+3·4	42·1	37·5	74·3
April	29·934	72·8	30·5	42·3	60·0	39·8	20·2	49·5	+2·2	45·2	39·8	69·7
May	29·790	79·2	37·8	41·4	66·0	46·0	20·0	54·9	+1·8	50·3	45·6	71·5
June	29·693	86·0	44·0	42·0	72·7	50·8	21·9	61·1	+1·7	55·3	50·2	68·1
July	29·875	95·0	51·6	43·4	78·3	56·8	21·5	66·3	+3·6	60·7	56·6	71·5
August	29·877	95·8	47·1	48·7	79·4	55·8	23·6	66·5	+4·9	59·6	54·2	65·1
September	29·867	80·8	40·8	40·0	70·4	52·2	18·3	60·4	+3·2	56·1	52·4	75·7
October	29·726	69·6	31·0	38·6	58·2	44·7	13·5	51·5	+1·5	48·7	45·7	80·8
November	29·739	56·1	32·2	23·9	47·5	38·4	9·1	43·0	−0·5	41·2	38·7	84·7
December.....	29·981	44·5	25·0	19·5	38·4	31·1	7·3	35·0	−4·9	33·4	30·3	83·2
		Highest	**Lowest**	**Annual Range**								
Means	29·833	95·8	20·0	75·8	59·6	43·3	16·3	51·0	+1·4	47·2	43·2	75·6

MONTH, 1933.	Mean Elastic Force of Vapour.	Mean Temperature of the Earth 4 feet below the surface of the soil.	Mean Amount of Cloud (0-10).	RAIN. Number of Rainy Days (0·005 in. or over).	Amount collected in Gauge No. 6, whose receiving Surface is 5 inches above the Ground.	WIND. From Osler's Anemometer. Number of Hours of Prevalence of each Wind referred to different Points of Azimuth. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Number of Calm or nearly Calm Hours.	Mean Daily Pressure on the Square Foot.	From Robinson's Anemometer. Mean Daily Horizontal Movement of the Air.
	in.	°			in.	h	h	h	h	h	h	h	h	h	lbs.	miles.
January	0·189	44·9	7·0	15	0·987	35	121	98	13	92	183	78	23	101	0·45	288
February	0.201	43·0	7·4	15	1·713	162	38	3	69	54	164	71	36	75	0·83	322
March	0·224	43·8	4·7	12	2·417	9	21	90	64	98	246	62	25	129	0·60	287
April	0·246	46·5	6·4	7	0·759	36	100	43	8	83	208	105	33	104	0·24	256
May	0·307	50·2	7·5	17	2.236	66	71	53	56	72	71	67	91	197	0·30	244
June	0·368	54·5	5·9	7	1·558	102	70	59	62	36	95	71	46	179	0·28	241
July	0·462	58·0	6·1	8	1·375	16	25	66	26	30	272	108	43	158	0·41	261
August	0·423	60·4	5·5	7	0·397	55	47	76	33	37	178	132	65	121	0.32	260
September	0·396	59·8	5·1	11	2·807	65	177	137	29	45	73	28	33	133	0·32	249
October	0·308	56·6	6·6	18	1·510	63	105	56	39	31	170	108	66	106	0·47	294
November	0·235	50·9	8·0	15	0·851	186	108	46	45	39	33	46	88	129	0·23	254
December	0·168	45·4	8·2	7	0.343	28	158	173	41	15	54	34	7	234	0·43	259
Sums.....	..	..	..	139	16·953	823	1041	900	485	632	1747	910	556	1666	..	...
Means.....	0·294	51·2	6·5	..	..	..	..	..	..	..	..	..	..	..	0·41	268

The greatest recorded pressure of the wind on the square foot in the year was 19·4 lbs. on March 17.

The greatest recorded daily horizontal movement of the air in the year was 582 miles on December 13.

The least recorded daily horizontal movement of the air in the year was 128 miles on December 20.

MONTHLY MEAN READING OF THE BAROMETER AT EVERY HOUR OF THE DAY, AS DEDUCED FROM THE PHOTOGRAPHIC RECORDS.

1933.

Hour, Greenwich Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Yearly Means.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Midnight	29·952	29·809	29·760	29·947	29·796	29·699	29·883	29·875	29·875	29·739	29·732	29·982	29·837
1h	29·945	29·803	29·758	29·945	29·793	29·697	29·880	29·873	29·871	29·735	29·731	29·977	29·834
2	29·944	29·799	29·751	29·941	29·790	29·694	29·876	29·871	29·866	29·730	29·731	29·976	29·831
3	29·943	29·790	29·745	29·938	29·785	29·690	29·873	29·869	29·862	29·722	29·727	29·972	29·826
4	29·937	29·785	29·745	29·936	29·782	29·689	29·874	29·869	29·858	29·719	29·726	29·969	29·824
5	29·933	29·784	29·752	29·936	29·785	29·692	29·876	29·874	29·859	29·718	29·727	29·968	29·825
6	29·935	29·784	29·760	29·940	29·791	29·696	29·881	29·882	29·864	29·718	29·730	29·970	29·829
7	29·941	29·790	29·771	29·944	29·795	29·699	29·885	29·888	29·870	29·723	29·737	29·974	29·835
8	29·953	29·796	29·779	29·948	29·798	29·701	29·888	29·891	29·877	29·732	29·745	29·982	29·841
9	29·966	29·800	29·784	29·949	29·799	29·701	29·888	29·894	29·882	29·738	29·751	29·990	29·845
10	29·971	29·804	29·785	29·948	29·798	29·700	29·885	29·893	29·882	29·739	29·755	29·995	29·846
11	29·970	29·808	29·782	29·943	29·795	29·700	29·882	29·891	29·878	29·737	29·752	29·994	29·844
Noon	29·958	29·801	29·777	29·937	29·791	29·695	29·879	29·888	29·871	29·728	29·745	29·986	29·838
13h	29·950	29·796	29·770	29·931	29·786	29·691	29·874	29·882	29·864	29·721	29·740	29·978	29·832
14	29·947	29·789	29·759	29·923	29·782	29·684	29·867	29·874	29·858	29·714	29·734	29·972	29·825
15	29·950	29·788	29·752	29·913	29·777	29·680	29·864	29·865	29·853	29·711	29·733	29·974	29·822
16	29·953	29·789	29·749	29·909	29·774	29·676	29·859	29·861	29·850	29·710	29·734	29·977	29·820
17	29·957	29·796	29·750	29·910	29·774	29·674	29·855	29·860	29·852	29·714	29·737	29·979	29·821
18	29·960	29·805	29·757	29·913	29·779	29·678	29·857	29·861	29·855	29·722	29·740	29·982	29·826
19	29·966	29·813	29·764	29·920	29·786	29·684	29·862	29·866	29·863	29·725	29·745	29·985	29·832
20	29·967	29·816	29·767	29·930	29·796	29·692	29 870	29·875	29·870	29·728	29·748	29·988	29·837
21	29·968	29·818	29·769	29·937	29·802	29·703	29·879	29·881	29·875	29·731	29·749	29·989	29·842
22	29·965	29·816	29·767	29·939	29·804	29·706	29·881	29·883	29·878	29·730	29·749	29 989	29·842
23	29·963	29·814	29·765	29·940	29·804	29·708	29·882	29·884	29·879	29·727	29·749	29·990	29·842
24	29·958	29·813	29·763	29·940	29·801	29·705	29·879	29·880	29·875	29·726	29·748	29·987	29·840
Means 0h.–23h.	29·954	29·800	29·763	29·934	29·790	29·693	29·875	29·877	29·867	29·726	29·739	29·981	29·833
Means 1h.–24h.	29·954	29·800	29·763	29·934	29·790	29·693	29·875	29·877	29·867	29·725	29·739	29·981	29·833
No. of Days Employed	31	28	31	30	31	30	31	31	30	31	30	31	..

MONTHLY MEAN TEMPERATURE OF THE AIR AT EVERY HOUR OF THE DAY, AS DEDUCED FROM THE PHOTOGRAPHIC RECORDS.

1933.

Hour, Greenwich Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Yearly Means.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Midnight	36·1	39·4	41·1	44·4	49·8	54·8	60·5	60·7	55·7	49·3	42·0	34·2	47·3
1h	36·1	39·1	40·6	43·8	49·1	53·8	59·7	59·7	55·2	48·6	41·8	34·1	46·8
2	35·9	39·2	40·2	43·0	48·4	52·8	59·1	58·8	54·9	48·1	41·7	33·9	46·3
3	35·7	38·9	39·6	42·5	47·8	52·2	58·3	57·8	54·4	47·9	41·5	33·8	45·9
4	35·6	38·4	38·9	42·0	47·2	51·5	57·6	57·1	54·1	47·5	40·9	33·7	45·4
5	35·7	38·7	39·0	41·9	47·6	52·3	58·3	57·0	53·9	47·5	40·8	33·7	45·5
6	35·9	38·7	39·0	42·7	49·3	54·7	60·3	58·0	54·1	47·5	40·9	33·8	46·2
7	36·1	38·7	39·6	44·6	51·5	57·8	62·7	60·8	55·6	47·9	41·2	33·8	47·5
8	36·2	39·0	42·3	47·9	54·3	61·0	65·2	64·3	58·5	49·3	41·5	34·0	49·5
9	36·6	40·0	45·7	51·0	56·7	63·9	67·7	67·5	61·7	51·6	42·4	34·5	51·6
10	37·5	41·4	48·5	53·1	58·9	66·0	70·1	70·8	64·4	53·5	43·7	35·4	53·6
11	38·7	42·9	50·8	55·0	60·5	67·6	72·0	73·1	66·4	55·2	44·9	36·3	55·3
Noon	39·7	44·0	52·3	56·1	61·6	68·8	73·3	74·5	67·5	56·1	45·7	36·9	56·4
13h	40·2	44·4	53·1	57·2	62·6	69·3	74·3	75·7	68·4	56·8	46·3	37·4	57·1
14	40·4	44·8	53·5	57·5	63·0	69·4	74·7	76·4	68·4	57·1	46·4	37·3	57·4
15	40·0	44·6	52·9	57·7	62·6	69·3	74·6	77·2	68·1	56·4	45·8	36·8	57·2
16	39·4	44·1	52·2	57·3	62·1	68·8	74·1	75·8	67·3	55·5	45·1	36·1	56·5
17	38·7	43·1	50·4	55·7	60·6	67·9	73·3	74·1	65·4	53·9	44·3	35·6	55·3
18	38·2	42·1	48·5	53·9	58·5	66·2	71·4	71·5	63·2	52·8	43·5	35·4	53·8
19	37·6	41·3	46·4	51·7	56·7	64·1	69·2	69·0	61·2	52·0	43·0	35·2	52·3
20	37·2	40·6	44·9	49·7	54·2	61·2	66·4	66·4	59·9	51·4	42·5	35·1	50·8
21	36·9	40·0	43·7	47·7	52·6	58·8	64·0	64·5	58·5	50·5	42·4	35·0	49·5
22	36·7	39·6	42·9	46·5	51·7	57·3	62·8	63·1	57·2	49·8	42·2	34·7	48·7
23	36·5	39·2	42·2	45·4	50·6	56·0	61·7	61·9	56·5	49·4	42·0	34·4	48·0
24	36·0	39·1	41·4	44·4	50·1	55·1	60·5	60·7	55·7	48·8	41·8	34·0	47·3
Means 0h.–23h.	37·4	40·9	45·3	49·5	54·9	61·1	66·3	66·5	60·4	51·5	43·0	35·0	51·0
Means 1h.–24h.	37·4	40·9	45·3	49·5	54·9	61·1	66·3	66·5	60·4	51·5	43·0	35·0	51·0
No. of Days Employed	31	28	31	30	31	30	31	31	30	31	30	31	..

MONTHLY MEAN TEMPERATURE OF EVAPORATION AT EVERY HOUR OF THE DAY, AS DEDUCED FROM THE PHOTOGRAPHIC RECORDS.

1933.

Hour, Greenwich Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Yearly Means.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Midnight	34·6	37·6	39·4	42·2	47·8	52·2	58·4	57·5	53·8	47·5	40·5	32·7	45·3
1h	34·8	37·3	39·1	41·8	47·1	51·4	57·8	56·7	53·6	46·9	40·4	32·7	45·0
2	34·5	37·3	38·7	41·2	46·5	50·9	57·1	56·0	53·3	46·6	40·2	32·6	44·6
3	34·2	37·0	38·0	40·8	45·9	50·5	56·5	55·5	53·0	46·4	39·9	32·6	44·2
4	34·1	36·7	37·4	40·3	45·6	50·0	55·9	54·9	52·8	46·1	39·6	32·4	43·8
5	34·4	37·0	37·4	40·3	46·0	50·8	56·4	55·0	52·7	46·2	39·5	32·3	44·0
6	34·7	37·1	37·5	40·9	47·2	52·1	57·6	55·7	52·8	46·2	39·7	32·3	44·5
7	34·9	37·2	38·1	42·5	48·6	54·0	59·1	57·2	54·0	46·5	39·9	32·5	45·4
8	35·1	37·4	40·3	44·8	50·2	55·9	60·4	59·0	55·8	47·6	40·3	32·6	46·6
9	35·4	38·2	42·9	46·5	51·6	57·2	61·6	60·6	57·4	49·2	41·0	33·1	47·9
10	36·2	39·2	44·8	47·6	52·5	58·1	62·7	61·6	58·1	50·3	41·9	33·8	48·9
11	37·0	39·9	46·0	48·2	53·1	58·2	63·4	62·1	58·5	50·9	42·6	34·4	49·5
Noon	37·6	40·5	46·6	49·0	53·9	58·9	63·6	62·5	59·3	51·4	43·0	34·8	50·1
13h	37·9	40·6	47·0	49·6	54·2	59·1	64·1	62·9	59·4	51·6	43·2	35·0	50·4
14	38·0	40·8	47·1	49·8	54·4	59·2	64·3	63·1	59·4	51·7	43·3	35·0	50·5
15	37·7	40·6	46·6	50·0	54·3	59·3	64·5	63·5	59·3	51·5	42·9	34·7	50·4
16	37·3	40·3	46·0	49·7	54·0	58·7	64·2	63·2	58·8	50·9	42·4	34·3	50·0
17	36·9	39·8	45·1	48·9	53·1	58·5	63·8	62·6	58·1	50·3	41·9	34·0	49·4
18	36·6	39·3	44·1	48·0	52·5	57·8	62·9	62·0	57·6	49·7	41·5	33·9	48·8
19	36·2	38·7	43·1	46·9	51·6	57·0	62·3	61·2	57·0	49·4	41·1	33 6	48·2
20	35·9	38·1	42·2	45·6	50·5	56·0	61·2	60·2	56·3	48·9	40·9	33·5	47·4
21	35·6	37·9	41·5	44·3	49·7	54·7	60·3	59·5	55·7	48·4	40·9	33·4	46·8
22	35·2	37·7	40·9	43·6	49·1	53·9	59·7	59·1	55·3	48·0	40·8	33·2	46·4
23	34·9	37·6	40·3	43·1	48·4	53·3	59·0	58·4	54·6	47·6	40·6	32·9	45·9
24	34·6	37·4	39·6	42·2	47·9	52·4	58·4	57·6	53·9	47·0	40·3	32·6	45·3
Means 0h.–23h.	35·8	38·5	42·1	45·2	50·3	55·3	60·7	59·6	56·1	48·7	41·2	33·4	47·2
Means 1h.–24h.	35·8	38·5	42·1	45·2	50·3	55·3	60·7	59·6	56·1	48·7	41·2	33·4	47·2
No. of Days Employed	31	28	31	30	31	30	31	31	30	31	30	31	..

MONTHLY MEAN TEMPERATURE OF THE DEW POINT AT EVERY HOUR OF THE DAY, AS DEDUCED FROM THE CORRESPONDING AIR AND EVAPORATION TEMPERATURES.

1933.

Hour, Greenwich Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Yearly Means.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Midnight	32·1	34·9	37·0	39·3	45·6	49·8	56·8	54·9	52·2	45·5	38·5	30·0	43·1
1h	32·5	34·6	37·1	39·2	44·9	49·1	56·4	54·2	52·2	45·0	38·5	30·2	42·8
2	32·1	34·4	36·7	38·6	44·4	49·1	55·5	53·7	51·9	44·9	38·2	30·3	42·5
3	31·6	34·1	35·7	38·4	43·7	48·8	55·0	53·6	51·7	44·7	37·7	30·4	42·1
4	31·5	34·1	35·3	37·9	43·7	48·5	54·5	53·1	51·6	44·5	37·9	30·1	41·9
5	32·1	34·4	35·1	38·1	44·2	49·3	54·8	53·4	51·6	44·7	37·7	29·8	42·1
6	32·6	34·8	35·4	38·4	44·9	49·7	55·4	53·7	51·6	44·7	38·1	29·7	42·4
7	32·8	35·0	36·0	39·7	45·5	50·6	56·4	54·3	52·6	44·9	38·2	30·2	43·0
8	33·1	35·1	37·4	40·9	46·0	51·5	56·9	54·8	53·6	45·7	38·7	30·1	43·7
9	33·4	35·6	39·2	41·2	46·5	51·6	57·2	55·4	54·0	46·6	39·1	30·5	44·2
10	34·1	36·0	40·1	41·1	46·2	51·5	57·5	54·8	53·0	47·1	39·5	30·9	44·3
11	34·4	35·6	40·1	40·2	45·7	50·2	57·4	53·9	52·0	46·6	39·5	31·0	43·9
Noon	34·4	35·4	39·6	40·9	46·5	50·6	56·8	53·5	52·8	46·7	39·5	31·1	44·0
13h	34·3	34·9	39·6	41·0	46·1	50·6	57·0	53·4	52·2	46·3	39·2	30·7	43·8
14	34·3	34·8	39·3	41·2	46·1	50·8	57·1	53·2	52·2	46·2	39·3	30·9	43·8
15	34·1	34·5	38·8	41·7	46·3	51·1	57·6	53·4	52·3	46·6	39·1	30·9	43·9
16	34·0	34·6	38·2	41·1	46·2	50·2	57·4	54·0	51·9	46·2	38·7	31·1	43·6
17	34·1	35·0	38·3	41·2	45·6	50·6	57·2	54·1	52·0	46·7	38·7	31·2	43·7
18	34·2	35·0	38·4	41·1	46·7	50·7	56·8	55·0	53·0	46·4	38·8	31·2	43·9
19	34·0	34·7	38·8	41·3	46·5	51·0	57·4	55·4	53·6	46·6	38·4	30·7	44·0
20	33·8	34·2	38·5	40·6	46·8	51·5	57·5	55·5	53·3	46·2	38·7	30·5	43·9
21	33·5	34·7	38·5	40·0	46·7	51·1	57·6	55·7	53·4	46·1	38·8	30·4	43·9
22	32·8	34·9	38·0	40·0	46·3	50·8	57·4	56·1	53·6	46·0	38·9	30·4	43·8
23	32·2	35·3	37·6	40·1	46·0	50·9	57·0	55·7	53·0	45·6	38·7	30·2	43·5
24	32·2	34·9	37·1	39·3	45·5	49·9	56·8	55·1	52·3	45·0	38·3	30·1	43·0
Means 0h.–23h.	33·3	34·9	37·9	40·1	45·7	50·4	56·7	54·4	52·6	45·9	38·7	30·5	43·4
Means 1h.–24h.	33·3	34·9	37·9	40·1	45·7	50·4	56·7	54·4	52·6	45·8	38·7	30·5	43·4

MONTHLY MEAN DEGREE OF HUMIDITY (Saturation = 100) AT EVERY HOUR OF THE DAY, AS DEDUCED FROM THE CORRESPONDING AIR AND EVAPORATION TEMPERATURES.

Hour, Greenwich Mean Time.	1933. January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Yearly Means.
Midnight	85	84	85	82	86	83	87	81	87	87	87	84	85
1h	87	84	87	84	86	84	89	82	90	87	88	85	86
2	86	83	87	85	86	87	88	83	89	89	87	86	86
3	85	82	86	85	85	88	89	85	91	89	86	87	87
4	85	84	86	85	88	89	89	86	91	89	88	86	87
5	87	84	85	86	88	90	89	87	92	90	88	85	88
6	88	85	86	84	85	83	84	85	91	90	89	84	86
7	88	86	86	83	80	77	80	79	90	89	89	86	84
8	89	85	83	76	74	71	75	72	84	87	90	85	81
9	88	84	78	69	69	64	69	65	75	83	88	85	76
10	88	81	73	64	62	59	64	57	67	79	85	84	72
11	84	74	67	57	58	54	60	51	60	73	81	81	67
Noon	81	71	62	57	57	52	56	48	59	71	79	79	64
13h	79	69	60	55	55	52	55	46	56	68	76	77	62
14	78	68	59	54	54	52	54	45	56	67	76	78	62
15	79	68	59	54	55	52	56	44	57	70	77	79	63
16	81	69	59	55	56	51	56	47	58	71	79	82	64
17	83	73	64	58	58	54	57	50	62	76	80	84	67
18	85	76	68	62	64	57	60	56	70	79	84	85	71
19	87	78	75	68	69	63	66	61	76	82	84	84	74
20	88	78	78	71	76	71	73	68	79	82	86	84	78
21	87	81	82	76	80	76	79	73	83	85	87	84	81
22	85	83	83	78	82	79	83	78	88	87	88	84	83
23	84	86	84	82	84	83	84	80	88	87	88	84	84
24	86	85	84	82	84	83	87	82	88	86	87	85	85
Means 0h.–23h.	85	79	76	71	72	70	73	67	77	82	85	83	77
Means 1h.–24h.	85	79	76	71	72	70	73	67	77	82	85	83	77

TOTAL AMOUNT OF SUNSHINE REGISTERED IN EACH HOUR OF THE DAY IN EACH MONTH, AS DERIVED FROM THE RECORDS OF THE CAMPBELL-STOKES SELF-REGISTERING INSTRUMENT FOR THE YEAR 1933.

Month, 1933.	Registered duration of Sunshine in the Hour ending :— 5h	6h	7h	8h	9h	10h	11h	Noon.	13h	14h	15h	16h	17h	18h	19h	20h	Total Registered Duration of Sunshine in each Month.	Corresponding aggregate Period during which the Sun was above the Horizon.	Proportion of Sunshine.	Mean Altitude of the Sun at Noon.
	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h		°
January ..	—	—	—	—	0·1	2·3	5·9	8·4	7·9	6·7	2·8	—	—	—	—	—	34·1	261·0	0·131	18
February ..	—	—	—	0·2	2·2	6·0	5·6	7·4	6·9	7·6	4·8	1·9	0·7	—	—	—	43·3	279·0	0·155	26
March	—	—	3·0	13·4	15·6	17·0	18·4	17·3	17·2	18·6	17·8	16·8	11·3	1·2	—	—	167·6	368·0	0·455	37
April	—	1·2	5·4	13·3	12·7	13·0	12·8	11·7	12·9	11·6	12·1	11·2	9·7	5·0	0·1	—	132·7	415·6	0·319	48
May	0·4	3·8	7·2	11·7	13·3	11·8	11·7	11·7	12·1	11·7	11·7	7·3	8·5	6·4	3·3	0·2	132·8	483·9	0·274	57
June	4·0	13·7	19·2	19·4	18·1	16·9	15·3	15·5	16·8	17·5	18·1	15·4	17·3	15·0	10·7	1·1	234·0	496·3	0·471	62
July	2·7	9·8	13·9	16·3	15·1	17·1	19·1	16·4	18·1	18·3	17·0	15·9	17·4	14·7	9·6	1·7	223·1	499·8	0.446	60
August	—	5·8	14·6	17·7	18·4	20·6	21·9	19·3	19·4	20·3	21·7	18·3	17·2	16·5	9·4	—	241·1	452·2	0·533	52
September	—	—	4·5	12·1	14·9	18·1	19·8	19·1	18·6	18·7	18·3	19·9	16·7	9·5	—	—	190·2	380·1	0·500	41
October ..	—	—	0·1	4·7	9·3	11·7	13·4	13·1	11·8	10·7	10·0	7·7	3·4	—	—	—	95·9	331·6	0.289	30
November..	—	—	—	—	0·5	3·6	5·0	5·6	5·0	2·7	1·2	0·3	—	—	—	—	23·9	267·3	0.089	20
December ..	—	—	—	—	—	0·7	2·5	5·1	6·0	6·4	3·9	0·1	—	—	—	—	24·7	245·6	0·101	16
For the Year	7·1	34·3	67·9	108·8	120·2	138·8	151·4	150·6	152·7	150·8	139·4	114·8	102·2	68·3	33·1	3·0	1543·4	4480·4	0·344	..

The hours are reckoned from " apparent " midnight.

READINGS OF THERMOMETERS ON THE ORDINARY STAND IN THE MAGNETIC PAVILION ENCLOSURE IN THE YEAR 1933.

(The readings of the maximum and minimum thermometers apply to the twenty-four hours ending 21h.)

JANUARY.

Days of the Month.	Dry-Bulb Thermometers, 4 ft. above the Ground.						Wet-Bulb Thermometers, 4 ft. above the Ground.			
	Maximum.	Minimum.	9h	Noon.	15h	21h	9h	Noon.	15h	21h
d	°	°	°	°	°	°	°	°	°	°
1	49·9	43·0	45·1	49·0	48·1	46·3	44·5	46·9	46·1	44·8
2	51·2	45·3	49·3	50·5	50·1	48·7	47·7	47·7	47·4	47·5
3	53·2	45·4	50·2	51·1	49·8	46·7	47·8	46·7	46·2	44·7
4	50·0	40·2	46·5	48·6	47·4	46·9	45·3	47·1	45·8	45·0
5	50·4	36·8	45·7	45·1	44·1	36·8	44·0	42·4	40·7	35·3
6	46·0	34·9	40·5	44·9	45·8	39·2	38·9	40·9	41·7	38·2
7	45·3	31·2	35·5	44·5	44·5	45·0	35·2	42·2	42·3	43·8
8	51·2	44·8	48·5	49·8	51·1	50·1	47·9	49·2	49·7	48·3
9	50·7	38·3	47·8	46·8	46·1	38·3	44·9	43·6	42·6	36·9
10	41·0	28·2	28·6	35·3	40·2	40·8	28·4	33·3	38·4	38·5
11	44·9	40·0	41·6	42·3	43·7	42·5	39·8	41·8	42·5	40·5
12	42·9	32·6	33·7	38·6	39·6	32·6	32·9	36·4	35·8	31·8
13	38·5	27·1	32·5	35·7	37·0	38·5	31·8	35·4	36·8	37·8
14	39·0	30·7	35·1	37·1	37·1	31·6	34·9	36·3	36·7	31·6
15	40·4	29·0	38·6	40·1	38·7	35·4	37·0	37·8	37·7	34·7
16	37·9	34·7	35·3	36·6	37·6	35·2	34·5	35·2	35·4	33·8
17	39·5	31·9	33·1	36·6	38·1	33·3	31·6	34·2	35·7	32·6
18	36·1	27·9	32·5	35·7	35·6	30·3	31·7	33·8	33·6	29·7
19	38·0	30·0	35·4	36·8	37·6	37·2	34·8	35·9	36·7	36·9
20	37·9	33·6	34·6	37·6	37·4	34·3	33·7	35·3	34·9	33·5
21	35·9	29·1	33·5	35·4	34·6	29·5	30·8	32·8	33·7	29·0
22	33·6	25·0	32·2	33·6	31·6	26·6	31·7	32·8	29·8	25·0
23	33·8	20·0	23·3	27·3	33·6	30·0	22·5	26·5	31·0	29·4
24	30·8	28·6	30·3	30·5	29·6	29·5	27·6	28·2	27·6	26·8
25	33·9	27·2	31·6	33·2	32·9	27·7	29·0	29·7	29·4	25·6
26	34·0	25·4	26·8	32·4	33·7	27·9	25·3	29·8	29·9	26·7
27	34·2	24·9	29·3	32·8	32·9	32·7	27·9	29·7	30·1	31·7
28	37·1	23·9	27·4	35·2	36·3	33·7	26·4	32·4	32·6	31·9
29	40·2	33·5	34·1	39·6	38·7	34·7	33·2	35·8	35·3	33·3
30	43·0	33·9	37·7	42·6	37·4	35·3	37·6	42·6	36·7	33·8
31	49·4	33·0	39·3	45·9	48·2	45·7	37·8	43·3	45·2	44·3
Means	41·6	32·6	36·6	39·7	40·0	36·9	35·4	37·6	37·7	35·6

FEBRUARY.

Days of the Month.	Dry-Bulb Thermometers, 4 ft. above the Ground.						Wet-Bulb Thermometers, 4 ft. above the Ground.			
	Maximum.	Minimum.	9h	Noon.	15h	21h	9h	Noon.	15h	21h
d	°	°	°	°	°	°	°	°	°	°
1	53·2	45·4	47·5	51·6	53·0	51·4	46·7	50·0	50·8	49·4
2	51·5	38·6	40·6	45·2	44·7	38·6	36·7	39·2	38·8	36·0
3	47·2	28·0	30·9	44·1	44·8	43·2	29·7	39·8	40·5	42·0
4	54·2	42·9	52·3	53·6	53·2	50·6	50·5	51·8	52·1	48·7
5	57·2	49·1	52·8	55·3	56·2	51·0	49·8	51·8	50·8	48·3
6	53·1	45·9	49·2	50·5	48·6	45·9	46·8	47·6	46·8	44·9
7	52·0	45·1	48·6	51·2	51·4	47·0	47·4	48·2	48·3	45·1
8	55·2	42·3	48·2	52·9	54·6	53·6	47·7	52·1	53·1	51·5
9	54·5	50·0	52·2	53·1	52·5	50·8	50·3	51·0	50·5	46·9
10	53·4	39·0	47·8	50·6	45·4	39·5	45·9	47·3	43·6	36·8
11	42·8	33·1	35·6	40·2	41·2	35·6	33·7	36·0	35·8	33·2
12	43·4	31·0	33·8	39·6	43·2	38·9	31·2	35·8	39·0	36·9
13	45·0	37·0	41·7	44·3	44·2	38·9	39·9	38·8	38·2	35·4
14	45·2	26·1	32·7	42·5	44·6	37·5	30·3	37·8	38·6	34·6
15	41·9	33·9	35·7	38·6	39·6	35·6	33·6	34·9	34·9	33·3
16	44·0	34·2	36·6	41·4	43·2	40·1	33·8	36·3	37·5	36·6
17	44·1	38·0	40·3	42·3	43·6	38·5	38·7	36·8	36·8	34·8
18	38·8	30·7	31·5	35·0	38·4	33·6	30·1	33·7	33·5	32·6
19	39·5	32·0	33·4	35·1	37·1	32·2	32·8	33·0	34·8	30·9
20	36·7	26·2	28·9	32·6	35·6	35·2	28·6	31·0	31·4	32·4
21	43·0	31·2	40·2	42·6	42·6	32·0	37·1	36·4	35·2	30·5
22	38·8	29·8	32·6	36·6	38·6	32·5	30·7	33·1	34·1	30·1
23	38·9	27·0	31·0	36·6	38·6	27·3	30·0	32·4	33·1	25·8
24	36·6	22·2	32·2	35·6	32·6	33·6	30·5	31·6	32·0	33·5
25	40·3	33·6	35·0	38·2	39·6	36·8	34·0	36·0	36·3	35·4
26	44·8	36·0	38·6	44·1	40·5	40·6	35·8	40·2	39·7	39·7
27	51·0	39·5	45·0	48·3	50·5	40·3	42·8	44·4	44·9	38·6
28	53·5	36·4	44·4	51·1	50·4	38·4	43·1	47·4	46·4	38·2
Means	46·4	35·9	40·0	44·0	44·6	40·0	38·2	40·5	40·6	37·9

MARCH.

Days of the Month.	Dry-Bulb Thermometers, 4 ft. above the Ground.						Wet-Bulb Thermometers, 4 ft. above the Ground.			
	Maximum.	Minimum.	9h	Noon.	15h	21h	9h	Noon.	15h	21h
d	°	°	°	°	°	°	°	°	°	°
1	50·0	35·1	40·7	46·6	47·5	41·2	40·1	43·8	43·8	40·3
2	51·6	38·9	44·6	50·4	45·0	47·8	43·7	47·4	44·0	47·7
3	52·7	47·8	51·4	51·6	51·6	49·6	50·2	50·1	50·4	49·0
4	55·0	43·8	47·8	50·2	53·8	44·2	46·7	47·4	47·1	42·3
5	56·2	40·0	46·9	53·6	52·2	46·1	43·3	47·0	46·1	43·6
6	55·0	43·7	45·6	47·6	53·4	44·2	44·7	46·6	47·9	42·8
7	54·9	35·0	45·8	53·5	54·5	42·3	44·0	48·8	49·3	40·5
8	56·7	32·7	43·7	53·7	53·4	43·9	41·0	46·0	46·6	42·9
9	52·8	43·0	48·4	49·9	51·6	45·1	44·3	45·8	46·8	42·1
10	57·7	35·1	48·1	55·9	54·0	45·3	44·3	48·9	47·5	43·0
11	55·9	36·9	44·6	52·6	54·0	43·1	41·9	47·6	47·9	41·7
12	57·6	30·0	38·3	52·8	56·6	41·1	38·2	48·3	48·2	38·9
13	52·8	28·4	38·4	45·7	51·8	41·0	37·7	43·6	47·8	39·9
14	57·9	37·0	44·4	54·1	56·6	47·6	43·8	48·8	48·0	41·8
15	54·9	40·1	48·5	53·6	51·4	45·5	46·5	48·7	47·6	43·4
16	51·9	44·7	49·9	51·0	51·6	47·6	49·4	50·0	50·6	46·7
17	50·6	40·3	47·8	48·5	46·6	43·5	45·1	47·8	45·1	42·0
18	52·6	40·0	41·9	46·6	50·9	43·1	40·0	42·8	43·8	41·4
19	57·6	42·1	46·4	52·4	52·1	45·6	45·8	48·8	49·2	41·7
20	47·3	38·6	43·9	45·5	45·2	38·6	39·6	39·7	41·6	36·4
21	58·2	28·7	45·1	50·6	55·9	40·6	42·8	44·8	48·6	39·0
22	59·7	32·1	49·1	57·1	56·2	44·4	43·6	46·8	44·3	39·9
23	53·0	36·6	46·5	52·6	49·1	41·8	39·8	43·8	42·8	37·3
24	51·8	34·2	43·1	50·8	49·8	41·5	36·4	42·8	42·0	39·2
25	55·4	31·1	46·5	54·1	53·2	38·9	41·5	44·2	42·9	37·5
26	57·7	25·9	41·5	56·0	57·5	43·1	39·8	44·9	47·6	38·8
27	61·1	33·1	45·8	56·6	60·8	44·1	41·6	46·7	49·4	41·3
28	64·1	30·8	47·6	62·2	63·4	43·5	43·1	51·0	50·0	39·7
29	66·1	31·5	51·5	62·9	64·4	45·9	45·7	52·9	51·4	43·7
30	60·3	38·1	46·6	51·4	43·4	38·8	43·8	43·5	41·8	37·6
31	56·9	35·1	46·7	51·5	53·4	45·4	42·8	43·8	44·8	43·1
Means	55·7	36·5	45·7	52·3	52·9	43·7	42·9	46·6	46·6	41·5

APRIL.

Days of the Month.	Dry-Bulb Thermometers, 4 ft. above the Ground.						Wet-Bulb Thermometers, 4 ft. above the Ground.			
	Maximum.	Minimum.	9h	Noon.	15h	21h	9h	Noon.	15h	21h
d	°	°	°	°	°	°	°	°	°	°
1	53·5	43·1	49·4	52·6	52·8	45·8	46·5	46·8	47·1	40·5
2	59·9	35·5	47·8	54·5	58·6	48·2	42·0	45·9	48·9	43·4
3	62·1	43·2	50·4	57·6	61·4	48·5	46·0	49·4	51·8	45·4
4	60·1	37·8	49·4	55·7	59·6	51·3	45·7	48·7	49·8	46·7
5	58·2	36·5	48·6	54·7	57·0	45·1	44·6	48·4	49·3	43·4
6	67·0	38·6	54·6	61·2	62·7	53·3	48·9	52·8	54·6	48·5
7	72·0	45·9	56·8	64·6	69·9	53·4	49·6	51·9	55·9	47·7
8	72·8	44·9	58·5	68·0	71·9	56·5	48·8	52·5	55·3	50·0
9	62·7	42·7	54·6	59·6	58·4	53·6	49·8	53·6	53·7	49·9
10	69·8	49·3	52·1	61·3	68·7	52·7	49·0	54·6	58·7	50·0
11	71·7	45·2	64·0	70·2	69·7	56·6	55·4	59·7	57·9	51·7
12	59·6	48·3	53·0	57·4	59·1	52·6	50·2	52·7	55·1	46·8
13	57·0	42·1	48·6	54·5	55·3	42·9	43·3	44·5	45·6	40·8
14	57·0	32·0	49·2	55·8	56·6	42·8	44·9	46·0	46·6	38·6
15	64·9	34·8	51·6	60·4	63·2	49·3	46·6	50·6	53·0	45·2
16	66·1	39·9	53·6	62·2	63·9	49·9	49·6	54·6	55·1	48·7
17	50·9	39·9	46·6	48·6	48·6	40·1	43·0	44·2	43·7	37·1
18	48·3	36·0	44·5	45·7	45·8	38·6	39·2	39·9	39·6	33·9
19	48·7	31·2	39·6	46·5	43·4	37·5	35·6	38·7	38·1	35·4
20	46·0	32·5	41·4	44·5	42·5	39·8	38·2	41·7	39·8	37·8
21	49·6	35·6	43·0	45·9	48·2	40·0	38·6	39·1	39·2	35·2
22	48·5	35·1	45·5	46·5	47·6	36·2	40·0	40·7	41·6	34·2
23	57·1	30·5	51·1	54·2	52·4	47·3	45·8	46·8	46·4	44·1
24	54·8	44·2	48·5	51·1	54·4	51·6	47·9	50·4	52·8	51·5
25	58·1	46·3	55·8	54·6	52·6	46·4	53·6	53·8	52·2	46·0
26	62·0	44·0	53·5	59·9	61·7	49·5	50·8	55·3	56·9	48·4
27	66·6	49·4	53·2	58·8	65·2	52·2	52·2	52·9	55·6	45·7
28	64·8	41·4	54·5	57·1	57·6	49·4	49·1	49·8	49·8	46·9
29	63·7	42·2	57·9	58·7	58·1	50·2	52·6	54·3	52·0	48·2
30	67·2	44·7	53·3	60·6	63·6	51·1	49·0	50·8	53·9	47·9
Means	60·0	40·4	51·0	56·1	57·7	47·7	46·5	49·0	50·0	44·3

READINGS OF THERMOMETERS ON THE ORDINARY STAND IN THE MAGNETIC PAVILION ENCLOSURE—*continued.*

(The readings of the maximum and minimum thermometers apply to the twenty-four hours ending 21h.)

Days of the Month.	Dry-Bulb Thermometers, 4 ft. above the Ground.						Wet-Bulb Thermometers, 4 ft. above the Ground.			
	Maximum.	Minimum.	9h	Noon.	15h	21h	9h	Noon.	15h	21h
MAY.										
d	°	°	°	°	°	°	°	°	°	°
1	61·9	38·5	50·5	57·2	58·5	45·8	48·3	52·8	52·8	44·5
2	51·5	45·6	48·6	50·5	49·1	46·8	46·6	47·6	47·0	45·8
3	65·7	46·6	50·8	57·7	60·0	53·8	49·6	54·6	57·0	51·3
4	72·0	44·1	63·4	69·8	69·4	56·8	56·7	59·8	58·6	51·8
5	65·8	50·0	52·7	58·6	63·3	50·9	52·4	55·6	57·0	49·2
6	70·2	46·0	59·8	65·5	67·6	52·4	54·8	57·2	57·2	51·0
7	59·4	47·3	48·6	55·8	56·6	51·2	47·8	51·8	50·8	48·6
8	67·8	49·7	56·6	59·4	64·5	55·3	52·3	53·4	56·3	52·8
9	60·2	46·1	51·6	53·6	49·8	49·3	46·4	49·7	47·6	45·7
10	59·5	46·2	51·9	56·5	56·6	50·2	48·6	50·3	50·0	47·2
11	58·8	45·1	53·2	54·5	57·7	52·5	48·8	49·1	51·8	49·0
12	66·9	46·4	55·5	63·4	63·7	54·7	50·3	52·2	52·1	50·6
13	58·8	44·3	51·0	54·0	56·3	52·4	49·0	50·0	50·9	50·4
14	61·0	48·1	49·0	57·8	57·1	49·2	47·8	48·4	50·0	45·9
15	63·0	37·8	54·5	59·7	61·2	47·4	49·1	48·8	50·9	46·3
16	69·9	44·9	56·8	63·2	68·1	53·8	52·8	55·3	55·8	51·8
17	66·1	49·2	58·5	64·6	61·6	50·2	52·5	56·6	56·5	48·0
18	70·0	45·6	57·2	63·5	64·4	51·7	52·8	56·7	55·8	49·5
19	73·6	42·1	62·2	70·5	70·6	56·6	54·2	59·5	60·2	51·9
20	73·2	46·2	64·4	70·9	70·8	53·8	54·6	56·8	56·2	48·8
21	74·4	48·4	66·8	72·0	70·6	56·8	57·2	59·6	59·0	53·8
22	78·2	47·8	67·1	75·7	77·3	60·6	57·1	61·1	62·5	55·3
23	79·2	48·6	70·0	76·6	73·5	57·8	60·4	61·6	60·7	57·0
24	67·0	50·6	57·6	62·3	66·6	57·0	53·1	55·0	57·4	54·2
25	60·7	48·3	53·4	56·6	57·2	52·6	46·7	47·8	47·4	47·1
26	62·3	48·0	53·7	57·8	58·5	53·8	49·4	50·4	51·3	49·6
27	67·1	44·8	59·4	57·8	57·6	50·3	53·1	52·8	52·7	47·4
28	65·8	43·4	55·4	60·4	63·8	51·9	49·8	52·2	54·6	48·7
29	63·1	48·8	59·7	63·2	61·2	51·6	53·7	55·7	53·0	50·0
30	64·1	46·7	56·5	62·1	61·4	49·4	51·6	53·6	53·9	47·7
31	69·1	46·1	60·9	65·1	65·6	54·6	53·4	54·5	55·5	51·0
Means	66·0	46·2	56·7	61·6	62·6	52·6	51·6	53·9	54·3	49·7
JUNE.										
d	°	°	°	°	°	°	°	°	°	°
1	72·9	45·0	65·9	71·6	71·3	54·8	56·4	58·3	57·8	51·2
2	80·0	45·4	69·8	76·8	77·5	61·4	58·3	63·3	59·8	54·6
3	80·5	50·7	73·1	78·6	78·6	63·6	62·8	63·3	62·6	60·1
4	86·0	51·0	79·6	83·2	84·5	66·0	66·6	66·0	67·5	59·8
5	85·9	52·6	76·4	83·5	84·5	65·6	67·2	65·6	67·6	61·0
6	82·9	53·5	76·1	82·5	79·5	64·2	64·7	67·0	64·4	58·5
7	80·2	52·3	74·0	79·1	78·5	65·2	65·8	61·3	61·8	58·7
8	80·5	55·1	72·4	77·6	76·3	62·3	61·4	62·7	63·8	56·2
9	73·5	53·4	67·3	68·8	72·6	55·8	59·8	59·7	61·6	51·8
10	60·5	51·1	56·7	58·7	58·5	53·5	50·5	52·3	52·6	50·4
11	59·9	50·0	52·4	52·1	58·8	51·7	51·7	50·4	53·3	49·3
12	66·0	45·3	55·3	58·6	61·7	56·7	50·5	51·6	53·1	52·3
13	63·9	50·7	53·6	61·6	62·4	54·5	52·8	57·6	57·8	54·1
14	75·0	48·0	64·7	74·2	70·0	55·9	59·6	63·6	61·7	53·5
15	77·8	52·7	68·8	74·8	77·3	66·6	60·6	63·8	63·9	60·0
16	80·7	60·0	67·2	77·7	77·8	64·2	60·4	65·2	63·8	57·8
17	65·2	52·9	58·2	61·5	64·3	53·1	49·9	52·5	54·9	48·8
18	62·8	46·5	54·8	56·2	54·5	53·6	49·6	51·0	52·2	51·4
19	67·9	50·3	58·8	59·7	58·1	55·8	55·0	55·0	55·3	51·5
20	69·3	47·9	59·8	64·4	64·9	53·6	55·4	57·1	58·1	52·7
21	70·9	49·1	59·0	65·6	64·4	52·5	53·8	57·4	57·0	50·7
22	69·6	44·0	62·2	69·2	61·8	59·1	56·2	59·7	56·0	54·5
23	77·4	50·6	63·4	69·5	69·8	59·6	57·7	59·0	60·3	56·3
24	67·2	53·1	63·1	62·7	62·5	58·0	60·0	59·9	61·9	56·0
25	69·0	54·1	62·5	65·6	65·9	57·1	58·5	57·6	58·6	55·3
26	70·8	55·3	58·5	63·3	66·7	58·2	55·6	57·1	59·2	55·9
27	72·4	52·8	61·1	67·7	70·1	64·3	52·1	55·7	55·5	57·0
28	68·4	52·1	60·8	66·4	66·4	56·6	54·4	58·6	58·2	51·8
29	69·0	50·1	58·0	63·1	67·6	60·5	51·5	54·5	56·9	54·0
30	74·5	52·6	64·5	68·5	72·4	61·0	56·6	60·0	61·6	54·6
Means	72·7	50·9	63·9	68·8	69·3	58·8	57·2	58·9	59·3	54·7

Days of the Month.	Dry-Bulb Thermometers, 4 ft. above the Ground.						Wet-Bulb Thermometers, 4 ft. above the Ground.			
	Maximum.	Minimum.	9h	Noon.	15h	21h	9h	Noon.	15h	21h
JULY.										
d	°	°	°	°	°	°	°	°	°	°
1	78·9	51·6	64·6	73·4	76·8	69·6	57·0	62·0	63·5	63·8
2	73·1	58·5	68·5	68·3	71·5	61·5	61·9	61·6	63·3	58·3
3	84·5	53·6	72·6	81·1	83·3	65·3	64·6	68·4	69·3	59·1
4	84·0	55·4	77·6	81·2	83·6	68·2	64·3	67·2	68·8	63·5
5	68·3	56·0	65·6	64·6	64·8	59·2	61·4	60·4	60·6	57·7
6	78·3	59·1	65·6	74·3	76·1	66·6	61·8	64·5	66·9	63·8
7	86·9	60·6	79·2	83·3	79·1	63·8	70·4	71·7	65·6	59·1
8	78·7	58·1	68·3	69·6	76·1	60·6	60·5	61·8	64·0	58·0
9	76·7	56·9	66·7	74·6	72·2	60·7	59·3	62·6	62·0	56·4
10	70·8	56·1	60·7	64·2	66·3	61·4	59·7	62·0	63·1	58·5
11	70·4	57·2	64·5	59·7	67·5	58·3	57·8	58·4	61·1	57·0
12	74·1	55·1	63·0	69·6	71·5	62·0	58·2	61·8	61·8	55·0
13	63·8	54·5	60·6	57·8	61·4	61·3	57·3	57·0	60·4	58·3
14	74·7	57·6	64·9	70·4	69·7	59·7	59·6	61·7	61·4	56·8
15	71·7	51·7	62·4	67·6	62·4	56·5	58·2	58·9	57·6	55·8
16	72·7	53·9	62·0	67·4	71·6	60·3	58·0	59·9	64·0	56·9
17	74·5	53·2	63·0	70·2	64·9	62·7	58·0	60·0	59·4	59·2
18	79·3	60·6	67·8	73·3	76·5	66·4	64·0	67·3	67·4	64·3
19	84·0	57·2	72·7	80·5	83·4	64·2	63·4	67·8	69·6	60·6
20	84·6	55·9	64·6	75·6	80·2	68·0	62·7	64·6	70·0	63·8
21	78·7	59·6	69·4	75·1	78·5	65·1	64·0	66·3	68·3	63·1
22	79·9	57·2	70·7	77·1	76·4	64·3	60·4	63·7	65·0	61·6
23	80·3	58·3	70·1	76·5	78·4	66·1	64·6	65·9	68·6	64·7
24	86·9	57·3	74·6	82·2	84·8	72·0	65·7	68·3	69·8	66·6
25	85·4	60·0	72·3	73·6	84·7	67·9	65·3	65·6	67·8	64·8
26	90·3	56·8	73·4	83·6	88·1	70·1	64·6	67·3	71·1	64·8
27	95·0	62·2	81·7	94·4	82·5	72·0	71·1	72·0	69·2	66·0
28	78·8	56·0	65·8	72·5	74·0	62·9	57·8	60·3	62·6	59·6
29	74·4	58·1	60·4	72·6	66·7	61·6	59·6	62·6	57·9	57·4
30	78·1	56·2	62·6	72·5	73·5	62·6	58·0	62·7	61·5	58·6
31	66·3	60·0	62·9	65·6	64·8	62·7	59·2	58·6	58·3	57·6
Means	78·3	56·9	67·7	73·3	74·6	64·0	61·6	63·6	64·5	60·3
AUGUST.										
d	°	°	°	°	°	°	°	°	°	°
1	76·1	58·7	64·4	70·6	75·7	65·6	58·4	60·4	62·0	58·3
2	85·1	54·0	69·6	79·6	85·1	74·3	60·8	63·6	66·6	68·3
3	80·4	67·1	72·0	77·4	79·6	70·6	66·8	68·8	69·0	66·5
4	84·0	62·7	74·0	81·2	83·3	68·6	69·0	69·9	70·0	64·6
5	83·7	60·3	69·9	80·8	83·4	66·9	66·8	68·9	71·3	65·5
6	95·8	60·5	75·6	88·4	91·7	77·2	69·5	73·4	73·6	68·4
7	91·7	64·2	76·3	84·9	88·9	72·6	67·0	70·0	68·7	64·6
8	84·5	60·6	69·6	77·3	82·5	71·1	63·5	66·6	68·0	63·1
9	87·5	55·5	70·3	79·9	85·7	72·1	61·3	66·8	70·8	65·4
10	78·1	60·6	65·6	72·8	78·1	62·5	56·8	58·6	63·1	55·3
11	73·0	58·0	65·6	69·3	63·6	60·0	59·6	58·9	57·8	56·3
12	72·0	57·5	66·6	66·4	70·2	58·7	59·1	59·1	59·8	55·4
13	79·2	51·0	68·8	76·5	69·0	61·5	58·8	59·4	59·4	57·7
14	72·8	55·1	63·2	69·6	71·6	64·2	60·9	62·3	65·0	60·6
15	74·3	58·7	68·8	67·3	69·5	60·9	61·9	62·8	60·5	60·3
16	73·9	57·1	62·6	69·3	73·1	60·8	58·8	57·2	60·4	52·7
17	71·5	50·2	62·3	68·2	67·5	63·6	55·3	58·4	59·0	60·5
18	79·5	59·0	67·2	75·9	79·1	65·5	60·2	61·9	63·6	57·3
19	75·2	56·1	64·8	70·4	72·3	61·9	59·6	60·6	62·5	58·4
20	73·5	57·3	65·2	69·4	69·3	59·8	57·0	56·2	58·4	52·7
21	71·0	51·8	62·7	66·3	69·1	54·0	55·9	55·7	56·1	51·4
22	70·7	48·3	59·9	65·8	69·8	55·5	54·9	56·7	55·8	54·9
23	69·5	52·6	55·0	62·3	68·5	60·0	52·5	53·9	55·8	52·6
24	74·9	47·1	61·6	68·4	72·7	63·2	55·0	57·6	59·3	58·7
25	80·1	48·9	65·6	70·6	79·2	60·7	59·6	61·0	64·2	56·7
26	83·1	51·7	70·8	81·1	79·0	61·2	61·4	64·8	63·5	58·3
27	89·0	53·1	73·7	84·7	88·2	62·4	64·8	66·5	66·5	58·0
28	89·6	57·3	78·5	87·2	88·3	66·3	65·4	68·0	67·9	61·4
29	89·9	55·6	72·4	85·8	88·9	70·9	63·0	69·2	69·9	65·1
30	76·1	58·9	66·8	73·2	74·9	62·6	58·7	60·7	60·6	58·6
31	76·1	53·1	63·4	69·2	74·6	62·9	56·8	58·5	60·4	57·6
Means	79·4	56·2	67·5	74·5	77·2	64·5	60·6	62·5	63·5	59·5

READINGS OF THERMOMETERS ON THE ORDINARY STAND IN THE MAGNETIC PAVILION ENCLOSURE—*concluded.*

(The readings of the maximum and minimum thermometers apply to the twenty-four hours ending 21h.)

Days of the Month.	Dry-Bulb Thermometers, 4 ft. above the Ground.						Wet-Bulb Thermometers, 4 ft. above the Ground.			
	Maximum.	Minimum.	9h	Noon.	15h	21h	9h	Noon.	15h	21h
SEPTEMBER.										
d	°	°	°	°	°	°	°	°	°	°
1	74·2	55·6	60·4	69·2	71·6	66·4	57·7	62·8	62·6	62·0
2	77·2	61·5	65·5	73·0	75·8	67·0	60·0	61·0	59·8	60·6
3	80·8	52·0	67·2	77·6	78·8	65·6	62·4	64·3	65·1	60·0
4	80·1	56·0	72·4	77·8	78·1	62·8	63·2	65·8	64·8	60·1
5	74·9	55·7	68·2	73·6	71·6	60·3	60·1	61·1	59·1	56·5
6	77·0	50·1	66·3	75·3	74·2	62·1	58·9	59·1	59·4	55·9
7	73·9	57·1	68·1	72·5	71·6	60·8	61·9	58·5	58·8	56·5
8	71·5	56·1	65·3	69·7	69·9	59·6	58·8	57·9	56·9	54·9
9	73·1	55·0	67·9	71·8	71·8	61·5	57·0	58·8	59·2	58·8
10	71·5	56·4	67·5	70·7	70·4	60·2	56·5	56·9	57·3	56·0
11	73·6	55·0	65·6	72·8	71·3	62·0	60·4	59·8	60·3	57·6
12	64·4	56·9	62·8	64·4	61·7	57·1	60·6	60·4	60·2	56·0
13	64·0	53·0	54·3	56·1	61·6	58·4	53·7	55·3	57·5	53·4
14	64·1	46·2	52·9	61·4	63·6	52·5	47·6	53·3	53·4	49·5
15	70·8	40·8	56·6	66·4	69·8	49·5	51·6	55·5	57·8	47·8
16	73·7	43·1	64·3	71·4	73·0	53·3	57·6	61·4	59·8	51·7
17	78·2	51·3	62·6	74·8	75·6	63·4	59·1	63·8	64·1	61·5
18	71·1	58·9	65·4	69·3	68·8	58·9	62·8	63·5	61·9	55·8
19	75·7	51·0	61·3	67·7	73·6	57·7	57·0	60·0	62·6	56·3
20	69·9	52·1	57·2	64·4	68·6	52·3	55·8	58·0	58·6	50·8
21	59·2	49·2	57·6	56·6	53·7	53·7	54·1	53·7	52·8	51·9
22	66·1	51·9	58·6	62·1	64·0	54·6	55·0	55·1	55·2	52·4
23	59·1	48·1	56·7	56·4	54·1	54·6	54·2	54·8	53·1	54·4
24	65·0	49·1	55·3	63·5	58·3	52·6	52·2	57·0	54·9	52·4
25	62·8	51·0	56·0	61·1	58·9	52·3	54·3	56·4	56·8	50·6
26	68·6	48·7	60·8	68·1	66·4	59·2	59·0	60·8	60·4	57·8
27	65·5	56·2	59·2	60·9	65·2	60·8	58·0	60·2	62·4	60·0
28	70·1	55·4	61·8	69·0	66·4	56·4	60·6	64·5	63·1	55·7
29	69·1	52·1	54·5	63·8	69·2	58·3	54·2	59·7	61·4	56·8
30	67·1	55·2	59·7	64·7	65·6	60·4	57·0	59·7	60·0	57·6
Means	70·4	52·7	61·7	67·5	68·1	58·5	57·4	59·3	59·3	55·7
OCTOBER.										
d	°	°	°	°	°	°	°	°	°	°
1	63·1	58·5	60·6	62·4	62·8	60·5	59·1	59·6	59·6	58·3
2	60·5	54·7	56·4	58·1	59·2	54·8	54·3	54·6	54·0	52·0
3	60·1	46·1	54·0	58·1	57·2	52·2	49·4	50·2	51·6	49·1
4	61·5	43·3	52·7	58·6	61·5	46·3	49·0	51·3	53·1	45·6
5	60·6	41·9	47·6	57·1	59·5	53·5	47·5	54·3	56·6	53·3
6	69·6	45·2	54·4	62·0	69·6	56·2	54·4	58·7	61·3	55·9
7	68·4	50·7	58·3	65·7	67·9	58·7	57·3	60·8	63·7	58·6
8	66·2	57·9	62·1	64·6	63·9	59·1	59·8	60·1	60·0	58·0
9	66·5	47·1	59·6	66·3	62·9	61·6	57·0	60·1	59·3	59·0
10	68·2	60·4	63·3	65·2	67·6	64·5	60·0	60·0	60·9	60·4
11	65·2	52·0	52·6	60·5	59·4	52·4	50·6	53·6	52·5	48·6
12	60·0	45·4	53·6	58·0	56·6	49·6	49·3	50·0	48·8	45·6
13	62·8	37·3	52·7	60·6	59·6	52·0	48·4	53·9	53·5	50·0
14	61·1	51·4	57·3	55·7	55·3	51·6	54·4	54·5	54·8	50·6
15	58·8	44·4	49·9	57·7	56·9	52·9	48·4	49·5	50·5	49·9
16	56·8	44·8	50·9	56·4	52·2	44·9	46·3	48·7	46·7	41·8
17	53·5	40·7	46·8	51·8	52·4	44·5	43·4	46·5	46·3	42·3
18	57·8	33·8	46·6	56·4	56·9	45·5	43·6	48·8	50·9	44·1
19	56·2	42·7	51·3	55·2	54·3	47·2	47·8	48·0	46·7	44·0
20	57·0	43·5	51·6	56·0	54·6	52·3	47·4	49·0	49·6	49·0
21	56·0	48·0	52·6	54·4	55·2	51·9	49·9	50·3	50·8	50·5
22	56·8	50·1	51·1	55·6	55·8	56·3	51·1	54·9	54·8	55·9
23	62·0	49·1	55·4	61·5	61·3	52·8	54·8	58·0	57·3	52·6
24	55·9	52·4	53·5	54·6	55·6	52·7	52·9	53·9	53·4	51·9
25	53·1	42·6	52·6	50·6	49·4	42·7	50·6	49·8	46·9	40·3
26	46·6	36·4	41·2	45·1	46·0	40·1	37·5	39·9	39·9	35·6
27	44·0	35·3	42·9	42·8	42·6	35·5	42·4	41·6	38·3	33·5
28	46·3	31·0	37·5	44·1	44·4	42·2	34·8	38·4	39·1	41·0
29	49·3	40·7	42·4	46·8	48·5	42·9	41·0	43·6	44·3	40·7
30	49·9	40·0	41·8	47·1	49·2	42·7	40·6	44·5	45·2	40·8
31	51·9	39·3	46·2	50·4	49·7	44·4	43·2	47·7	45·5	42·7
Means	58·2	45·4	51·6	56·1	56·4	50·5	49·2	51·4	51·5	48·4

Days of the Month.	Dry-Bulb Thermometers, 4 ft. above the Ground.						Wet-Bulb Thermometers, 4 ft. above the Ground.			
	Maximum.	Minimum.	9h	Noon.	15h	21h	9h	Noon.	15h	21h
NOVEMBER.										
d	°	°	°	°	°	°	°	°	°	°
1	51·8	42·5	46·3	49·6	50·0	51·0	42·6	45·0	45·5	48·2
2	52·7	44·1	48·9	49·7	49·6	44·6	44·7	44·3	43·0	40·5
3	48·1	39·2	40·6	46·5	47·6	41·3	37·7	42·0	43·0	40·0
4	48·3	40·7	42·3	46·1	47·5	41·4	40·4	42·7	43·5	40·1
5	50·1	37·3	39·4	46·7	47·7	37·6	38·7	43·3	43·9	37·4
6	49·5	33·3	43·7	48·3	48·9	49·5	43·0	46·6	48·0	49·0
7	56·1	48·8	52·0	55·1	53·5	50·6	50·2	52·6	50·8	49·0
8	50·8	36·0	41·1	49·4	48·5	39·6	40·1	43·6	43·6	38·5
9	51·2	36·2	45·6	50·3	48·3	36·6	43·1	44·8	44·5	35·8
10	49·1	36·4	44·4	47·7	48·1	44·4	42·8	44·1	43·9	42·1
11	45·8	36·3	37·6	39·3	41·2	38·8	36·9	38·3	39·8	38·4
12	48·0	36·6	41·8	44·9	47·5	42·4	40·9	42·3	43·2	39·9
13	46·8	32·2	38·5	44·9	43·6	42·4	37·1	41·6	39·6	42·0
14	46·7	35·2	37·6	41·8	43·3	38·3	36·9	40·6	41·1	37·5
15	49·9	36·5	45·3	46·5	49·5	37·0	44·9	45·5	46·2	36·6
16	45·7	33·0	36·4	42·3	44·9	42·8	36·2	41·9	43·0	41·5
17	47·0	41·3	43·5	47·0	46·8	44·3	42·7	44·5	43·9	42·6
18	46·0	40·9	41·8	44·5	44·2	45·8	41·5	44·0	42·9	45·5
19	53·6	44·8	48·3	51·7	51·7	50·6	47·1	49·0	49·8	49·4
20	55·2	43·6	48·6	50·6	52·8	49·2	48·3	50·5	51·5	48·8
21	49·2	44·0	44·6	45·4	45·6	44·5	43·8	43·9	43·6	42·5
22	46·7	43·7	45·3	45·7	45·8	45·4	44·1	44·1	44·0	44·0
23	49·0	42·9	44·9	47·3	46·9	44·8	43·8	45·0	44·7	41·1
24	46·7	40·9	43·6	45·8	45·7	41·6	42·6	43·8	43·5	40·2
25	42·8	35·0	37·9	42·8	37·3	35·4	36·1	38·9	36·1	34·4
26	40·3	35·1	39·1	39·6	39·3	36·9	36·3	37·6	37·7	35·7
27	41·0	34·5	36·9	40·6	40·2	38·8	35·8	38·0	38·1	37·1
28	39·9	37·6	39·4	39·7	38·7	38·6	38·6	38·1	36·4	36·0
29	40·7	33·1	38·4	40·1	39·8	40·1	36·1	37·5	36·8	37·7
30	40·2	36·0	38·3	39·7	39·3	36·7	36·6	37·1	36·3	34·8
Means	47·6	38·6	42·4	45·7	45·8	42·4	41·0	43·0	42·9	40·9
DECEMBER.										
d	°	°	°	°	°	°	°	°	°	°
1	38·4	30·4	35·5	37·6	36·6	34·1	33·9	35·6	34·6	32·1
2	39·2	32·0	36·2	37·6	37·6	38·9	33·8	34·8	34·9	36·5
3	39·4	34·0	36·8	38·6	38·2	34·0	33·4	34·8	34·9	31·5
4	34·7	30·2	31·8	32·9	31·7	30·3	30·6	31·9	30·6	28·5
5	35·1	29·0	33·0	34·6	34·7	31·5	31·8	32·8	32·7	30·0
6	35·2	25·1	28·1	32·6	33·3	33·6	27·4	31·1	32·0	32·0
7	40·1	27·8	31·6	39·0	38·7	37·8	31·3	37·0	37·8	35·0
8	38·2	33·3	35·3	34·9	34·6	33·5	31·8	32·5	31·5	30·8
9	33·8	28·1	31·4	32·8	32·4	28·4	29·8	31·5	31·3	27·1
10	35·2	25·0	27·4	34·4	34·0	33·6	26·8	31·8	31·0	31·6
11	39·4	31·7	36·6	39·3	38·4	36·7	33·3	35·0	35·2	34·1
12	37·0	30·4	31·5	34·9	35·5	34·7	30·8	32·5	33·6	33·2
13	37·3	30·0	35·7	35·1	32·9	30·5	32·6	31·5	28·0	27·6
14	32·6	25·4	26·8	32·6	30·7	30·3	24·9	28·6	26·9	28·3
15	42·2	29·7	37·3	41·8	40·4	35·3	35·8	37·3	36·5	32·7
16	36·9	28·7	30·6	36·6	35·3	33·9	29·1	32·3	31·8	31·9
17	37·7	29·7	35·5	36·2	37·3	35·7	34·7	34·8	35·7	34·6
18	39·7	32·0	34·2	38·0	37·7	36·0	33·6	37·5	35·5	34·9
19	39·9	28·0	31·8	34·7	35·3	37·4	31·3	33·5	34·8	36·9
20	41·0	36·3	40·2	40·1	39·3	36·5	39·9	39·9	38·8	35·8
21	37·9	31·6	34·7	34·9	35·6	35·2	34·0	34·3	34·4	35·0
22	44·5	35·1	40·2	44·1	43·3	38·8	37·7	39·8	39·1	35·8
23	42·0	37·0	39·0	40·8	40·7	38·4	36·0	37·0	37·5	36·0
24	38·6	33·1	34·4	35·6	35·2	33·6	32·8	33·8	33·2	32·0
25	38·2	31·0	31·6	34·2	38·0	37·6	30·6	32·0	35·9	36·7
26	39·5	36·8	37·7	39·0	39·0	39·3	37·5	38·8	38·8	38·9
27	39·6	31·8	38·3	37·6	37·4	32·7	36·8	36·4	36·6	32·2
28	37·9	32·7	35·6	37·3	37·3	37·8	35·0	36·8	36·8	36·9
29	41·5	35·0	37·8	40·9	39·0	36·4	37·5	39·9	37·8	35·2
30	41·1	33·9	34·8	37·9	40·6	35·8	34·4	37·0	39·2	35·5
31	39·8	34·9	37·7	38·2	39·6	35·3	36·8	37·5	38·3	34·8
Means	38·5	31·3	34·5	36·9	36·8	35·0	33·1	34·8	34·7	33·4

AMOUNT OF RAIN COLLECTED IN EACH MONTH OF THE YEAR 1933.

Gauges partly sunk in the Ground in the Magnetic Pavilion Enclosure.	Monthly Amount of Rain collected in each Gauge.													Height of Receiving Surface.	
	Number of Gauge.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Sums.	Above the Ground.	Above Mean Sea Level.
		in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	ft. in.	ft. in.
	6	0·987	1·713	2·417	0·759	2·236	1·558	1·375	0·397	2·807	1·510	0·851	0·343	16·953	0 5	149 6
	8	0·972	1·682	2·201	0·719	2·196	1·538	1·329	0·369	2·783	1·454	0·846	0·328	16·417	1 0	150 1
Number of Rainy Days (0·005in. or over).	..	15	15	12	7	17	7	8	7	11	18	15	7	139	..	..

MEAN HOURLY MEASURES OF THE HORIZONTAL MOVEMENT OF THE AIR IN EACH MONTH, AND GREATEST HOURLY MEASURES, AS DERIVED FROM THE RECORDS OF ROBINSON'S ANEMOMETER.*

Hour Ending	1933.												
	January.	February	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Mean for the Year.
h	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Mile..	Miles.
1	12·2	12·9	10·7	9·7	9·5	8·6	9·1	9·5	8·8	10·9	10·5	10·1	10·2
2	12·0	13·3	10·8	10·0	9·2	8·6	9·4	9·7	9·1	10·8	10·8	10·3	10·3
3	11·5	12·6	11·2	9·6	9·1	8·3	9·4	9·2	8·7	10·9	10·4	10·6	10·1
4	11·6	12·6	11·2	9·5	8·9	8·7	9·4	9·5	9·1	11·1	10·5	10·6	10·2
5	11·6	12·6	11·6	9·6	9·2	9·3	9·5	9·5	8·9	11·3	10·5	10·6	10·3
6	11·3	12·3	11·1	9·2	9·5	8·6	9·3	9·0	9·0	11·0	10·3	10·5	10·1
7	11·3	12·5	11·1	9·3	9·5	9·2	9·8	9·9	9·4	11·5	10·1	10·6	10·3
8	10·6	12·4	10·8	9·7	9·8	9·4	10·2	9·7	9·1	11·8	10·2	10·5	10·3
9	10·9	12·8	10·7	10·7	9·9	9·9	10·6	10·9	10·1	12·5	10·6	10·8	10·9
10	10·7	13·6	11·7	11·0	10·6	10·2	10·8	10·7	10·9	12·8	10·6	10·7	11·2
11	11·9	14·1	12·7	11·3	10·9	10·6	11·0	11·1	11·7	13·8	10·5	10·9	11·7
Noon	12·8	14·6	13·5	11·5	11·3	11·6	12·4	11·7	12·6	14·4	10·9	11·8	12·4
13h	12·6	13·9	13·1.	11·8	10·5	10·4	12·1	11·8	11·6	13·3	10·1	11·1	11·9
14	12·5	14·3	14·1	11·7	10·9	10·8	12·8	11·9	11·8	13·7	10·6	11·8	12·2
15	13·1	14·4	14·2	11·5	11·0	11·8	13·2	12·8	12·3	13·9	10·9	12·4	12·6
16	12·6	14·9	15·1	12·1	11·3	11·8	12·9	12·8	11·7	13·3	10·5	11·4	12·5
17	12·9	14·2	14·5	12·3	11·8	11·5	12·6	12·7	11·6	12·7	10·5	11·5	12·4
18	12·6	14·3	13·0	11·7	11·8	12·0	12·3	13·1	11·5	12·8	11·0	11·4	12·3
19	12·3	14·1	12·6	11·6	11·2	11·0	12·0	12·3	10·8	12·3	10·9	10·7	11·8
20	12·5	13·2	11·5	10·6	10·3	10·7	11·4	11·3	10·6	12·3	11·1	10·1	11·3
21	12·1	13·3	10·8	10·9	9·9	10·0	10·7	10·9	10·3	12·2	10·6	10·2	11·0
22	11·9	13·2	10·6	10·4	9·5	9·5	10·4	10·0	10·4	11·6	10·6	10·2	10·7
23	12·2	12·7	10·4	10·3	9·4	9·2	10·3	10·2	9·8	11·5	10·7	10·1	10·6
Midnight	12·2	12·6	10·5	10·4	9·2	9·2	9·7	9·8	9·4	11·5	10·6	10·2	10·4
Means	12·0	13·4	12·0	10·7	10·2	10·0	10·9	10·8	10·4	12·2	10·6	10·8	11·2
Greatest Hourly Measures	30	30	33	24	25	23	26	20	25	28	23	34	..

* The measures are derived from the motion of the cups by the formula $V = 2v + 4$; where v is the hourly motion of the cups in miles. *See* Introduction.

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Wt.330/362 11.34 215 CT&CoLtd Gp330.