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RESULTS OF THE MAGNETIC & METEOROLOGICAL OBSERVATIONS

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

1931

UNDER THE DIRECTION OF

SIR FRANK DYSON, K.B.E., F.R.S.

ASTRONOMER ROYAL

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THE ROYAL OBSERVATORY, GREENWICH

AND

ABINGER MAGNETIC STATION, SURREY.

MAGNETIC AND METEOROLOGICAL OBSERVATIONS, 1931.

Introduction.

In the present volume a brief account is given of the instruments and methods, of reduction now in use. Other information, principally of an historical nature, may be found in the Introductions to the volumes for 1909 and previous years.

Personal Establishment and Arrangements.

During the year 1931 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 :—F. W. Reece, N. Harrild and Miss E. W. Clack.

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. 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 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.

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 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°·2 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 (by Messrs. Elliott Brothers) is used in conjunction with a telescope (by E. R. Watts & Son) mounted independently on the same pier. 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 to the stem of a large tree situated approximately 80 yards from the telescope to the north. Frequent determinations of the azimuth of this mark are made by means of observations of Polaris, and the values are found to be substantially constant.

In observing Polaris, both direct and reflected view of the star is taken during each observation, the effect of error of level of the telescope being entirely eliminated by this means. Reflection is obtained from the surface of mercury contained in a shallow copper dish.

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.

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, four 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 angles.

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 by 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 1931 is based were verified in January 1931 and again in February 1932. The factor at present adopted to convert the measure from international units of current 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 values of horizontal force obtained with this instrument are subject to a correction of -2γ for the effect of the field of the declination magnet which is suspended permanently at a distance of about 12 feet geographically to the north. The effect was determined experimentally by reversal of the magnet. The application of the correction is made in the reduction of the observations.

A re-arrangement of the apparatus for measuring current was made at the end of June, as the result of which a further small correction of $+1\gamma$, due to the field of the control magnet of the Broca galvanometer became necessary. This correction has been applied to the monthly mean values of horizontal force for July to December in Table XII.

A KEW-PATTERN UNIFILAR MAGNETOMETER by Messrs. C. F. Casella & Co. (No. 181) is also in occasional use to determine absolute horizontal force. Deflection observations are made at three distances, namely, 22·5 cms., 30 cms. and 40 cms. 31 observations of the moment of inertia of the collimator magnet were made during the year 1931. The magnet was dismounted and cleaned on July 1. The mean observed value of log. K from 8 determinations before July 1 was 2·42390; from 23 determinations subsequent to July 1 the mean value was 2·42378. These values have been used in the reductions and are 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 83 determinations made during the year are +9·46 and −1337 respectively.

The values used in the reduction of the 1931 observations, however, are the mean values obtained from all the observations made during the years 1924–31. These values are: P = +9·95, Q = −1531. The application of this rule to the reduction of observations made in previous years would necessitate a correction of $+3\gamma$ to observations made in 1929, and -2γ to observations made in 1930.

VERTICAL FORCE COIL-MAGNETOMETER.—This instrument, designed by 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.

A full description of the instrument is published in *Proceedings of the Royal Society*, 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 special feature of the instrument is the means adopted for ascertaining when the vertical component of the earth's field is exactly annulled.

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 Dip 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 $2{\cdot}62\gamma$ per mm. between January 1 and May 6, and $2{\cdot}60\gamma$ per mm. for 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 the reduction in sensitivity referred to below.

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 is supported in a frame above the mirror, so as to reflect the light in a horizontal direction; a single lens is placed beneath to focus the light on the recording drum. The prism frame is adjustable in azimuth in order to enable the trace to be brought to any desired part of the sheet. 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 centrally pierced 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 degree of sensitivity to which the variometer was at first adjusted was rather high and seemed to be gradually increasing. It was diminished to about one-third on 1926, September 14. The scale value is obtained by electro-magnetic deflections. The radius of the coil used in these experiments is 30·15 cms. The scale value adopted in 1931 from January 1 to March 24 was 1 mm. = 2·45γ. The mean of the scale values adopted during the remainder of the year was 2·36γ per mm., the change being due to an adjustment of level of the instrument on March 24. 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.

In the case of declination, ten observations are made, on an average, each weekday, and four in the case of horizontal intensity. Previous to 1929 the base-line value for vertical force traces was 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).

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.F. and V.F. 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.

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. The dates in 1931 are February 13–14, 24 ; June 1–2, 26–27 ; July 23–24 ; October 4–5, 29–30–31. October 12–13 is added as containing interesting movements. 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.

At the foot of each plate, scales, in C.G.S. measure, are given for each of the magnetic registers.

On p. D 60 is printed a table giving the mean annual values of Magnetic Elements determined at the Royal Observatory, Greenwich, over the whole period of observation, together with those determined at the Abinger Station since 1925.

F. W. DYSON.

ROYAL OBSERVATORY, GREENWICH.

1932, *June* 28.

ROYAL OBSERVATORY, GREENWICH.

ABINGER MAGNETIC STATION.

Results of Magnetic Observations

1931

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

January. 12° + 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	18·3	18·1	18·2	18·6	18·7	18·9	18·7	18·6	18·8	19·1	21·1	21·1	20·8	20·0	20·1	20·0	20·0	19·3	18·9	19·4	18·9	19·5	12·4	16·9
2	18·6	17·9	18·7	17·8	17·5	18·2	19·4	18·6	18·2	18·5	19·5	20·8	21·1	21·2	21·1	20·5	19·7	19·3	18·8	18·6	18·8	17·7	19·0	19·5
3*	19·2	19·4	19·5	19·7	19·1	18·8	18·8	18·8	18·7	19·3	20·2	19·7	19·7	20·1	19·2	18·8	18·7	18·7	18·3	18·3	18·3	18·4	18·5	18·7
4	18·6	19·2	19·3	19·3	19·0	19·2	19·1	19·0	19·3	20·0	20·8	20·8	20·7	20·0	19·5	19·5	19·4	19·0	18·8	18·7	18·7	18·3	18·4	18·7
5	18·6	18·6	19·1	19·1	19·2	18·9	18·5	18·5	19·1	19·9	20·3	20·8	20·7	20·1	19·6	19·5	19·4	19·1	18·8	18·3	18·4	18·4	18·5	18·4
6	18·2	18·5	18·1	18·2	19·1	18·5	18·5	18·7	18·5	19·2	19·7	20·5	21·5	20·7	20·2	20·3	19·8	19·3	19·0	18·2	18·0	18·3	18·3	18·6
7*	18·7	19·0	19·3	19·7	19·3	19·0	18·8	18·6	18·4	19·2	19·8	20·4	20·1	19·7	19·5	19·7	19·7	19·2	19·1	18·7	18·5	18·3	18·0	18·0
8*	18·1	18·9	19·0	19·0	18·9	18·6	18·4	18·6	18·7	19·4	19·7	20·4	20·6	19·6	18·7	19·0	19·5	19·0	19·0	18·6	18·5	18·3	18·5	18·4
9	18·4	19·1	16·5	12·2	13·8	15·5	17·8	17·9	19·4	20·2	21·1	20·9	23·7	20·8	21·4	22·2	21·1	20·4	19·3	18·5	19·7	17·6	16·8	10·8
10**	11·7	16·1	17·3	18·2	17·2	17·6	17·7	19·1	20·4	20·6	21·1	21·7	21·3	19·4	19·1	18·7	18·5	18·6	18·8	14·0	13·0	17·2	17·6	18·0
11	17·3	17·9	18·8	18·2	18·1	18·0	18·0	18·4	19·0	19·9	20·7	21·4	20·5	19·1	18·7	18·9	19·9	19·5	19·0	18·5	17·0	18·1	16·1	17·8
12	17·2	16·8	17·5	18·2	18·2	18·1	17·5	17·6	17·5	18·7	20·3	21·2	20·3	19·8	19·9	20·1	19·6	20·1	19·4	19·3	18·2	17·4	17·7	15·9
13	17·0	17·0	17·5	17·6	18·0	17·8	17·5	18·0	18·4	19·5	20·5	21·3	21·1	19·9	19·6	19·0	19·4	18·9	18·6	17·9	17·6	17·3	17·1	18·3
14	18·2	18·1	18·0	18·2	18·1	18·0	17·7	17·7	18·0	19·4	20·7	20·9	20·5	19·5	18·6	18·7	18·8	18·5	18·0	18·0	17·9	17·8	17·8	16·9
15	16·4	16·4	16·0	17·4	18·0	18·4	17·8	17·4	17·7	18·7	19·8	22·4	21·0	19·8	19·2	19·2	19·2	19·4	19·2	18·2	16·7	17·8	16·7	16·5
16**	17·4	13·7	16·4	16·7	17·4	19·6	19·4	19·2	20·8	22·2	22·9	24·2	21·6	20·5	17·7	15·9	18·1	10·5	12·7	12·2	15·9	11·5	11·5	13·5
17**	12·7	17·6	19·0	20·6	21·1	19·6	19·6	17·8	19·0	19·0	20·5	21·7	23·0	21·3	19·0	13·0	16·8	17·4	11·5	15·8	16·7	16·7	15·3	16·6
18**	16·9	16·6	15·9	17·9	18·0	18·9	21·5	19·9	21·9	24·9	23·2	22·4	22·2	20·5	19·5	18·9	17·7	13·6	13·2	16·7	15·3	16·9	15·9	19·4
19	19·2	18·4	18·6	18·3	18·3	18·1	17·9	17·7	18·2	18·4	18·6	20·2	21·4	20·9	18·6	18·2	18·2	17·9	17·7	16·9	13·7	15·9	17·1	17·4
20	18·2	17·6	17·4	17·6	17·8	17·8	17·5	17·5	17·7	18·0	18·8	19·9	20·8	19·6	19·7	18·5	16·8	16·6	17·5	17·1	16·4	17·0	15·3	15·7
21	18·1	17·6	17·8	18·1	18·9	17·6	18·0	18·1	18·6	19·1	19·6	19·8	20·2	20·2	19·0	18·6	18·3	17·9	17·2	16·3	16·6	15·3	16·6	16·8
22	17·2	17·4	18·4	18·9	19·4	17·4	17·4	17·5	17·7	17·8	17·4	18·2	20·2	19·7	19·0	18·4	18·7	18·2	17·4	17·4	17·2	17·1	16·7	16·8
23	17·8	17·5	16·9	17·5	18·1	17·7	17·6	17·8	18·1	18·1	17·8	18·2	18·9	19·0	18·6	18·5	19·3	18·1	17·7	17·5	17·0	16·8	15·7	16·5
24*	17·0	17·6	17·8	18·0	17·6	17·2	17·5	17·5	16·8	16·8	18·0	18·5	19·4	19·5	18·5	18·3	18·5	18·3	17·9	17·7	17·5	17·5	17·3	17·2
25**	17·4	17·8	18·2	18·4	18·5	18·5	18·7	18·5	19·2	18·9	18·8	19·1	19·8	20·4	19·8	19·4	19·5	19·5	18·6	13·7	11·4	8·4	6·5	9·1
26	10·9	17·7	17·9	18·0	18·4	18·9	19·0	20·4	20·3	19·7	20·4	20·4	20·4	20·4	19·2	18·4	18·4	18·4	17·9	17·5	17·9	17·7	17·4	17·8
27	17·8	18·0	18·4	18·4	18·2	17·9	17·7	17·8	18·2	18·7	19·4	19·8	19·8	19·8	20·1	20·4	21·4	20·4	19·0	17·1	16·2	13·6	11·4	14·2
28	17·6	15·9	19·4	14·7	15·4	15·7	16·8	17·1	16·8	17·4	19·0	20·9	20·8	20·6	19·4	18·8	19·0	19·1	18·1	17·7	17·8	17·4	17·4	19·4
29	17·2	17·3	17·5	17·5	17·8	18·3	17·4	17·5	17·8	18·8	20·0	20·8	23·4	24·1	19·6	20·9	20·7	17·8	18·4	17·8	17·7	16·4	17·4	18·0
30*	17·4	18·2	18·4	18·4	18·1	17·7	17·4	17·7	17·4	18·4	19·0	19·1	19·8	19·9	18·9	17·8	18·2	18·3	18·0	17·9	17·8	17·5	17·8	17·9
31	18·0	18·3	18·1	18·3	18·3	17·4	17·0	16·9	16·8	17·3	18·3	19·3	19·7	20·2	19·6	19·2	19·4	19·8	18·5	13·9	18·1	17·6	17·3	16·2
Mean	17·3	17·7	18·0	18·0	18·2	18·1	18·2	18·2	18·6	19·2	19·9	20·5	20·8	20·2	19·4	19·0	19·1	18·4	17·9	17·3	17·1	16·9	16·4	16·9
Mean*	18·1	18·6	18·8	19·0	18·6	18·3	18·2	18·2	18·0	18·6	19·3	19·6	19·9	19·8	19·0	18·7	18·9	18·7	18·5	18·2	18·1	18·0	18·0	18·0
Mean**	15·2	16·4	17·4	18·4	18·4	18·8	19·4	18·9	20·3	21·1	21·3	21·8	21·6	20·4	19·0	17·2	18·1	15·9	15·0	14·5	14·5	14·1	13·4	15·3

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	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	16·2	17·2	17·4	18·2	18·5	19·5	18·2	18·2	17·7	17·2	17·7	18·2	18·9	19·3	19·2	18·5	18·8	18·6	18·3	18·2	16·2	15·7	13·7	15·2
2	15·3	12·0	16·3	17·0	17·9	17·3	16·5	17·1	17·3	17·3	18·3	19·8	20·3	20·3	20·5	20·3	19·9	19·4	18·3	17·9	17·7	16·0	15·3	18·1
3	17·9	16·9	18·3	16·3	19·3	17·3	15·8	16·3	17·4	17·7	18·3	20·3	20·5	20·8	20·3	19·9	19·6	19·0	18·6	18·3	17·6	17·3	17·6	18·1
4	18·3	18·7	18·7	17·7	18·3	17·5	17·1	18·0	17·4	18·6	21·3	21·3	20·6	21·2	19·8	19·6	19·6	19·6	19·0	18·2	17·9	12·2	14·2	17·2
5	17·1	17·1	14·8	15·4	16·1	17·1	17·5	17·3	17·4	18·0	19·0	20·3	20·3	19·9	18·9	18·4	18·3	18·3	17·9	17·9	17·8	14·8	16·8	16·3
6*	16·7	17·4	17·7	17·7	17·7	17·2	16·5	16·7	17·2	17·7	18·7	20·0	20·9	20·7	19·6	18·9	18·6	18·6	18·6	18·4	18·3	17·5	17·6	17·7
7	17·5	17·5	17·8	17·7	17·3	17·1	16·6	17·0	16·7	17·3	19·0	21·2	22·6	22·5	21·1	19·8	18·8	18·9	18·6	18·3	17·9	17·1	13·6	14·6
8	13·6	14·1	13·6	14·6	15·6	16·1	16·6	16·6	17·2	18·1	18·7	19·8	19·7	19·3	19·0	18·7	18·8	18·7	18·6	17·9	17·7	16·6	15·7	16·2
9	16·3	17·0	17·4	17·5	17·3	17·3	17·0	17·8	18·5	18·9	19·9	19·9	21·0	20·4	19·4	19·5	19·3	18·3	19·1	18·5	18·1	16·1	17·0	17·0
10*	17·2	16·4	15·8	16·6	16·6	16·6	17·2	17·5	17·8	18·6	19·6	20·7	20·2	19·7	19·8	19·4	18·9	18·6	18·6	18·3	18·3	17·6	17·6	17·5
11	17·9	17·8	17·4	17·4	17·4	17·2	16·7	16·8	16·4	16·4	17·8	18·6	20·0	21·2	21·4	20·4	19·5	19·2	18·4	17·1	18·9	18·0	17·8	17·5
12*	17·4	17·5	17·5	17·5	17·5	17·4	17·4	17·3	17·2	17·2	18·6	19·6	20·2	20·4	20·0	19·3	19·1	18·6	18·1	18·2	18·1	18·1	17·8	17·2
13**	16·3	15·0	16·6	16·5	15·0	15·1	17·1	19·0	19·0	18·3	20·0	22·0	22·9	21·5	21·4	21·3	20·1	18·5	15·7	14·4	14·6	3·0	12·2	14·4
14**	19·5	19·0	16·4	18·6	20·2	20·9	19·2	18·4	18·9	18·9	19·7	18·8	21·0	20·9	16·7	19·7	17·0	16·2	15·2	15·8	16·7	13·7	14·2	17·4
15**	15·9	16·2	18·8	19·8	19·6	19·1	18·1	17·9	18·8	18·0	19·3	19·3	19·9	19·9	19·4	16·6	15·4	15·5	13·4	14·5	15·3	14·9	15·1	17·2
16	20·9	18·9	17·9	17·9	19·1	18·9	17·4	17·4	16·9	16·6	18·6	19·9	20·4	21·3	20·2	19·9	19·0	18·6	17·9	17·9	17·5	17·4	17·6	17·5
17	17·5	17·7	17·8	17·8	17·8	17·9	17·5	17·6	16·9	17·1	18·8	20·4	21·2	20·9	20·4	19·7	18·8	16·7	17·7	17·1	17·4	16·8	16·7	16·7
18	17·9	18·1	17·6	17·6	17·6	17·6	17·1	16·6	16·4	16·3	17·6	18·9	19·8	20·5	20·3	18·5	17·8	16·9	17·5	17·9	17·5	17·3	17·2	16·6
19	16·5	17·5	17·5	17·3	17·3	17·0	16·9	16·9	16·4	16·5	18·5	20·9	22·2	21·7	21·0	19·3	18·5	18·5	17·0	17·5	17·2	17·0	17·2	17·0
20*	16·5	16·5	15·1	17·1	17·3	16·7	16·7	16·5	16·0	16·6	18·5	19·2	20·5	21·5	21·0	20·4	19·5	19·4	18·7	18·2	17·1	17·2	17·0	16·7
21*	17·0	17·5	17·5	17·5	17·5	16·6	16·5	15·9	15·5	15·5	16·9	18·5	19·7	21·4	20·8	19·6	18·5	18·3	17·6	17·5	17·3	16·5	16·5	16·6
22	17·0	17·1	17·0	16·9	16·7	16·5	16·5	16·5	16·2	16·5	18·5	21·1	22·5	22·5	22·0	19·8	18·6	18·7	18·3	16·2	18·0	17·1	17·0	16·7
23	17·1	16·5	16·2	16·5	16·2	16·3	15·9	15·5	15·5	16·4	18·0	20·5	22·6	22·6	21·6	19·6	18·3	18·2	17·9	17·6	17·4	17·1	14·1	14·1
24**	15·0	13·7	16·6	13·7	13·7	14·7	14·6	15·7	14·1	14·6	18·0	20·2	24·8	29·8	29·8	30·8	27·3	24·1	26·8	17·8	15·3	12·1	10·8	14·3
25**	17·0	18·2	16·9	16·9	16·4	16·1	15·9	15·9	15·7	15·9	17·2	19·9	21·3	23·0	24·1	23·5	24·9	21·1	22·9	21·0	17·6	12·3	15·0	12·0
26	4·7	10·2	14·5	14·3	15·4	16·2	16·2	17·4	17·1	17·0	18·0	21·1	21·2	22·2	22·7	20·5	19·2	18·7	18·1	17·4	16·7	13·2	13·9	14·2
27	14·8	15·3	13·3	15·0	16·0	15·8	16·1	15·9	17·6	17·0	19·7	22·2	22·9	23·7	23·1	23·4	16·8	17·4	16·5	11·0	15·8	17·3	16·5	16·5
28	16·4	16·7	16·8	17·9	16·4	15·8	16·4	16·1	15·8	15·4	16·8	18·0	18·8	19·4	20·4	19·4	18·1	17·4	17·0	17·4	16·4	17·4	16·4	16·7
Mean	16·5	16·6	16·8	17·0	17·2	17·1	16·8	17·0	17·0	17·1	18·6	20·0	21·0	21·4	20·9	20·2	19·2	18·6	18·2	17·4	17·2	15·6	15·8	16·3
Mean*	17·0	17·1	16·7	17·3	17·3	16·9	16·9	16·8	16·7	17·1	18·5	19·6	20·3	20·7	20·2	19·5	18·9	18·7	18·3	18·1	17·8	17·4	17·3	17·1
Mean**	16·7	16·4	17·1	17·1	17·0	17·2	17·0	17·4	17·3	17·1	18·8	20·0	22·0	23·0	22·3	22·4	20·9	19·1	18·8	16·7	15·9	11·2	13·5	15·1

* 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.	12° + Tabular Quantities.																								
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
1	16·7	16·9	15·8	16·9	16·4	16·3	16·1	16·3	16·3	17·3	19·0	19·3	22·2	21·6	21·3	20·2	18·7	18·2	17·8	18·0	17·7	17·5	17·4	17·2	
2	17·2	17·2	17·1	17·1	16·6	16·7	16·8	17·1	16·5	17·3	19·4	21·2	21·5	22·1	22·2	23·0	20·3	18·9	19·9	19·2	18·2	16·9	17·2	17·3	
3	17·8	18·0	17·0	17·8	21·8	14·0	14·8	14·4	15·9	17·8	19·3	21·3	22·2	23·7	23·7	21·6	19·7	16·6	16·8	17·0	16·2	16·2	15·7	15·7	
4	16·5	16·6	16·7	16·8	15·9	15·6	15·9	15·3	14·9	15·9	17·6	20·1	20·7	20·8	20·0	18·9	17·1	17·3	17·6	17·6	17·5	17·4	15·9	15·4	
5	16·1	16·6	17·0	16·6	16·6	16·6	16·2	15·8	15·1	15·1	18·0	21·8	23·5	24·8	23·5	20·8	18·5	17·5	16·0	14·9	16·3	16·8	16·8	17·2	
6*	17·1	17·6	17·6	17·1	16·8	16·4	15·9	15·3	15·0	15·6	17·6	19·9	21·3	22·3	21·8	19·8	17·8	16·5	16·4	16·0	15·0	15·3	15·5	16·2	
7	16·6	17·0	17·0	17·0	17·0	16·3	15·7	14·7	14·0	14·5	16·0	19·8	21·5	23·0	23·2	21·5	19·1	18·1	18·1	17·9	17·5	17·2	16·5	15·7	
8	14·9	16·9	15·5	16·2	16·1	16·1	15·9	14·9	14·4	14·9	16·9	18·9	22·3	23·9	23·1	21·1	19·8	18·9	19·7	17·3	17·0	16·6	16·2	15·5	
9	15·1	15·1	15·3	16·1	16·2	14·7	15·7	14·4	13·7	13·7	16·3	19·2	22·6	23·1	23·3	20·9	19·2	17·6	17·7	17·6	16·4	15·7	16·1	16·6	
10	16·0	16·0	16·0	16·6	16·7	16·5	16·4	15·1	15·0	15·5	17·4	19·4	21·0	21·8	21·9	22·4	21·9	19·4	18·9	18·6	18·3	16·4	15·0	15·1	
11*	15·9	16·4	17·2	16·6	17·4	16·9	16·4	16·1	15·9	16·6	17·7	19·5	20·9	21·1	20·4	19·3	17·4	17·4	17·4	17·4	18·0	17·7	17·4	16·8	
12**	15·6	15·2	15·5	16·0	16·3	15·8	15·6	14·6	14·3	15·4	17·5	20·5	21·4	22·0	22·5	20·7	18·8	19·1	19·2	17·2	13·8	5·8	10·6	14·0	
13**	15·8	22·0	16·6	17·5	18·5	18·5	17·1	15·5	16·0	16·5	19·0	22·5	20·8	22·0	21·4	19·8	17·7	16·5	12·0	2·5	11·5	14·0	14·5	11·2	
14**	11·5	16·5	14·5	15·5	16·2	16·2	15·8	14·0	14·5	14·5	18·5	20·0	22·0	21·9	20·0	19·3	17·8	16·2	15·8	17·2	16·5	16·8	15·4	16·0	
15	17·9	16·0	15·7	15·9	16·4	16·2	16·0	15·1	14·6	15·4	16·2	18·6	20·5	20·1	20·3	19·6	16·9	16·2	16·8	16·9	16·7	16·7	16·7	16·6	
16	15·1	15·8	15·5	16·7	16·8	15·7	14·9	14·7	13·7	14·7	17·4	21·1	22·3	22·8	22·3	20·6	18·3	17·0	16·6	16·4	16·6	16·6	16·7	16·5	
17	16·6	16·6	16·9	17·0	16·4	15·9	15·0	14·0	12·4	12·4	15·4	18·9	21·5	23·6	22·7	21·1	18·6	17·2	16·3	15·0	15·7	16·4	16·8	17·0	
18*	17·0	17·4	17·3	17·0	16·8	16·2	15·5	14·0	12·6	14·0	16·8	19·3	21·6	22·2	21·3	19·6	17·7	16·7	17·1	16·8	16·7	16·6	17·1	16·8	
19*	17·2	17·2	17·2	17·6	16·8	15·8	14·8	13·1	11·8	12·9	15·8	20·3	22·3	23·1	22·8	20·6	18·4	17·2	16·4	15·4	15·7	16·0	16·5	16·8	
20	16·8	17·5	17·1	16·5	16·2	15·9	15·5	14·0	12·7	13·5	15·9	19·6	22·8	23·2	22·9	20·7	19·0	18·0	18·2	18·1	18·3	17·3	16·7	15·6	
21**	10·3	11·5	12·4	10·8	10·8	12·7	13·7	13·6	13·3	14·8	17·8	22·4	25·8	26·8	25·7	21·8	19·7	17·5	17·5	17·4	14·7	8·4	11·9	10·9	
22	13·4	14·0	17·5	13·0	14·2	15·6	14·9	13·7	13·8	15·1	17·3	19·4	21·1	21·7	21·1	19·6	18·1	17·2	17·5	17·6	16·1	15·4	13·7	12·3	
23	12·5	12·6	14·8	13·7	17·3	14·6	14·0	14·3	14·4	15·3	17·1	19·4	20·4	20·5	20·2	18·6	17·5	16·7	17·2	16·6	16·5	17·1	17·5	13·9	
24	15·2	14·2	14·6	12·9	12·6	12·5	12·6	12·8	13·4	15·3	16·7	20·2	21·7	22·4	—	—	—	16·6	16·3	16·4	16·3	15·9	16·0	15·6	
25	14·5	14·1	13·6	13·6	13·4	12·4	12·9	12·6	13·8	15·9	17·4	19·9	20·9	20·9	19·4	18·4	17·4	17·0	15·5	15·4	14·3	10·9	13·6	15·1	
26**	14·2	7·8	10·8	14·9	14·2	14·2	15·0	14·9	14·2	14·8	16·6	19·9	20·9	22·3	21·1	19·0	18·3	17·5	17·5	17·0	16·9	16·9	16·4	15·5	
27	15·3	16·2	15·8	14·7	15·8	16·8	16·3	14·9	14·3	16·3	17·8	21·3	21·9	21·5	20·8	20·4	18·0	17·4	16·8	16·9	15·6	14·8	15·6	15·8	
28	16·9	17·0	15·2	14·7	16·8	14·7	14·7	14·4	14·7	15·0	16·7	18·7	20·5	20·0	18·5	17·3	16·8	16·8	17·3	15·7	15·3	15·0	15·7	15·4	
29	15·7	14·3	15·4	14·3	15·0	14·5	14·2	14·3	14·3	13·9	15·7	18·1	19·9	20·2	19·6	18·6	17·2	16·6	16·1	15·9	15·8	15·6	16·6	16·6	
30*	16·5	16·5	15·9	16·2	16·0	15·6	14·7	14·0	13·4	14·4	16·0	18·7	21·2	20·8	19·4	17·4	16·1	15·8	15·7	15·9	16·3	16·5	16·6	16·9	
31	16·5	16·5	16·3	16·2	16·2	16·2	15·2	13·6	12·5	13·1	16·4	21·6	24·4	25·4	23·1	20·3	18·0	16·5	16·5	16·5	16·3	16·5	16·6	16·6	
Mean	15·6	16·0	15·9	15·9	16·3	15·7	15·4	14·6	14·3	15·1	17·2	20·0	21·7	22·3	21·7	20·1	18·3	17·3	17·1	16·4	16·3	15·6	15·8	15·6	
Mean*	16·7	17·0	17·0	16·9	16·8	16·2	15·5	14·5	13·7	14·7	16·8	19·5	21·5	21·9	21·1	19·3	17·5	16·7	16·6	16·3	16·3	16·4	16·7	16·7	
Mean**	13·5	14·6	14·0	14·9	15·2	15·5	15·4	14·5	14·5	15·2	17·9	21·1	22·2	23·0	22·1	20·1	18·5	17·4	16·4	14·3	14·7	12·4	13·8	13·5	
April.	12° + Tabular Quantities.																								
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
1**	16·4	16·2	15·9	15·9	15·5	14·8	13·9	12·4	11·8	13·2	16·8	19·8	22·7	23·0	22·1	20·7	18·7	17·8	16·7	9·7	15·3	16·1	15·7	14·8	
2	14·0	13·3	14·9	15·7	15·0	14·0	13·7	12·7	12·2	13·7	17·0	19·7	21·5	22·3	21·5	19·3	17·8	17·0	16·4	16·3	15·9	15·8	15·9	16·1	
3**	16·2	15·9	15·7	15·5	15·2	14·0	13·3	13·4	13·0	14·0	16·8	21·0	22·5	22·0	21·7	20·4	18·1	17·6	17·2	16·1	16·1	12·5	13·1	16·1	
4	16·2	16·4	16·3	15·8	15·9	15·2	14·2	12·7	11·8	12·7	15·1	18·6	21·6	23·0	21·3	19·7	18·3	15·3	11·8	15·3	15·6	14·3	13·2	14·9	
5	13·9	14·6	15·3	14·3	15·3	15·3	14·1	12·6	11·8	13·5	17·1	19·3	22·3	23·3	21·6	19·7	18·0	16·3	16·3	16·3	16·3	16·3	16·1	15·9	
6*	15·8	15·8	15·9	15·9	15·7	15·6	14·6	13·2	11·8	12·4	14·1	17·5	21·6	23·3	22·7	20·8	19·3	17·3	16·3	16·3	16·3	16·0	15·9	15·8	
7	15·4	15·5	15·4	15·2	15·4	14·9	13·9	12·4	11·2	11·9	14·9	17·9	20·5	22·3	21·3	19·4	18·2	17·3	16·9	16·7	16·5	15·6	15·0	14·7	
8	15·7	14·5	14·9	14·9	14·8	14·8	14·3	13·0	11·8	11·9	13·9	17·1	19·7	21·7	22·4	20·9	18·4	17·4	16·8	16·5	16·4	15·3	15·3	13·0	
9	12·5	13·0	12·6	12·8	12·6	12·6	12·5	11·9	12·6	13·7	15·3	17·6	19·5	22·1	21·0	20·2	18·1	17·5	18·3	17·8	17·3	16·5	14·5	12·3	
10**	13·2	13·3	14·6	14·6	11·6	12·4	12·3	12·6	12·2	13·6	15·9	19·5	23·2	23·3	22·1	21·2	18·4	16·1	14·7	12·7	13·7	14·2	16·2	15·3	
11	15·1	14·9	14·8	14·5	13·8	13·6	12·5	12·6	13·8	13·8	16·4	19·9	21·2	23·0	20·3	17·6	16·7	15·3	14·8	13·8	14·4	15·8	16·1	15·8	
12*	15·4	15·4	15·1	14·7	14·5	13·8	13·1	12·0	12·0	13·5	15·5	17·8	20·1	20·7	19·9	18·3	16·7	15·5	14·9	15·0	15·2	15·6	15·9	15·9	
13*	15·9	15·9	15·5	14·9	14·4	13·7	12·9	11·4	10·5	11·6	13·9	16·6	18·7	19·2	18·0	16·6	15·7	15·3	15·2	15·2	15·7	15·9	15·9	15·9	
14*	15·9	15·8	15·4	15·0	14·8	14·1	13·3	11·8	11·0	12·4	15·0	17·9	20·0	20·9	20·5	19·5	18·7	18·1	17·2	16·2	16·2	16·0	15·1	15·3	
15	15·1	15·0	14·7	14·4	13·9	13·1	13·5	12·1	12·0	13·5	15·1	17·1	19·3	21·0	21·0	19·3	18·3	17·3	16·5	15·5	14·8	14·9	15·4	15·2	
16	15·5	15·8	14·5	15·0	14·6	13·6	12·4	11·3	10·3	10·7	13·8	16·7	19·6	20·6	20·2	18·8	17·5	16·9	17·0	16·5	16·5	16·2	16·0	15·5	
17	15·0	15·6	14·7	14·8	14·0	13·0	11·9	11·1	11·4	12·3	15·0	18·7	21·1	21·4	19·7	18·7	17·7	16·5	15·9	16·3	16·4	14·9	14·8	15·3	
18	15·1	14·8	13·8	12·8	9·9	10·1	11·1	11·8	11·2	12·5	14·3	18·5	21·8	22·8	21·8	19·8	18·1	16·6	15·1	14·4	12·2	14·8	15·4	15·7	
19**	15·7	16·7	15·3	14·4	14·2	13·2	12·7	11·7	11·5	12·5	15·1	18·3	20·1	20·8	22·1	21·2	19·7	17·1	16·2	13·7	6·8	10·7	10·7	9·4	
20**	9·9	11·1	8·7	11·6	12·8	11·6	11·2	12·0	13·8	14·6	20·4	21·6	22·0	22·7	22·5	20·3	17·9	16·5	15·8	15·6	15·4	15·3	15·3	15·1	
21	15·1	14·7	14·7	14·3	13·9	13·3	11·8	10·4	9·9	11·4	13·4	17·4	20·2	21·3	20·1	18·1	16·9	16·3	15·8	15·9	15·3	15·2	14·9	14·7	
22	14·6	14·3	13·6	13·9	12·9	12·8	11·8	11·2	11·8	12·5	15·2	17·3	20·2	20·4	19·5	18·3	17·8	17·2	15·7	14·9	14·8	14·2	14·5	15·2	
23	15·8	13·7	13·1	13·4	13·0	13·1	12·9	12·1	11·7	13·0	14·7	16·6	20·2	21·1	20·3	19·3	18·3	16·8	15·6	15·2	15·2	15·1	14·4	13·8	
24	12·4	12·1	11·7	12·0	11·4	11·4	10·8	10·9	11·9	12·5	14·4	16·6	19·3	20·9	20·3	19·0	18·4	17·4	16·6	16·2	16·0	15·7	15·2	13·6	
25	13·4	13·8	13·6	13·4	12·8	11·4	11·5	10·9	10·2	12·0	14·8	16·8	18·8	20·2	20·2	19·2	19·1	18·7	17·9	16·2	14·3	15·5	15·0	14·7	
26	14·8	14·3	13·9	13·5	12·6	13·0	13·6	13·2	14·9	16·1	17·2	18·3	19·0	19·2	18·0	17·0	17·0	17·1	16·7	16·3	16·1	15·2	14·2	13·7	
27	13·7	15·2	14·9	13·7	13·6	13·1	13·1	12·9	13·1	14·1	16·5	18·8	19·1	19·0	18·0	16·9	16·4	16·4	15·6	15·6	15·4	15·4	15·4	15·4	
28	15·5	15·4	15·2	14·7	14·0	13·4	13·2	12·0	11·6	13·4	15·5	19·0	20·9	20·8	18·8	16·8	15·8	15·4	15·4	15·5	15·7	15·1	15·2	15·5	
29*	15·0	15·2	14·8	14·1	13·4	13·4	12·4	11·6	12·0	14·4	17·5	19·3	20·0	19·4	17·8	16·4	15·8	15·4	15·4	15·3	15·4	15·4	15·4	15·4	
30	14·9	15·5	14·2	14·1	13·0	11·8	11·2	10·9	11·9	14·2	16·3	19·1	20·1	20·1	19·1	17·6	16·6	15·9	15·5	15·0	15·1	15·2	15·2	15·5	
Mean	14·8	14·8	14·5	14·3	13·8	13·3	12·8	12·0	11·9	13·1	15·6	18·3	20·6	21·4	20·8	19·0	17·8	16·7	16·0	15·4	15·2	15·2	15·0	14·9	
Mean*	15·6	15·6	15·3	14·9	14·6	14·1	13·3	12·0	11·5	12·9	15·2	17·8	20·1	20·7	19·8	18·3	17·2	16·3	15·8	15·6	15·8	15·8	15·6	15·7	
Mean**	14·3	14·6	14·0	14·4	13·9	13·2	12·7	12·4	12·5	13·6	17·0	20·0	22·1	22·4	22·1	20·8	18·6	17·0	16·1	13·6	13·5	13·8	14·2	14·1	

* 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.	12° + Tabular Quantities.																								
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
1	15·2	14·9	14·1	14·0	13·3	12·3	11·0	11·3	11·6	13·8	15·8	18·2	19·3	19·7	19·6	18·7	17·6	16·7	16·0	15·9	16·0	15·9	15·9	15·6	
2	15·8	15·4	15·0	13·7	13·4	11·6	11·9	11·6	12·4	14·0	16·0	17·7	20·3	20·1	19·9	17·8	16·8	16·4	15·8	15·6	15·4	15·3	15·0	14·9	
3	15·1	15·0	14·9	14·3	13·6	12·9	12·9	12·2	11·9	14·1	16·4	18·3	20·4	21·0	20·4	18·9	17·4	16·4	16·1	15·6	15·2	15·0	13·9	14·4	
4	14·4	15·3	15·4	13·4	11·9	11·4	10·9	10·6	10·2	11·9	14·9	16·9	18·7	20·4	19·7	18·1	17·2	16·5	15·8	15·4	14·9	14·3	13·8	14·7	
5	14·1	13·7	13·7	13·3	13·3	11·6	11·2	10·8	10·7	11·7	14·7	18·7	20·1	20·9	21·6	20·2	19·1	18·1	16·6	15·1	12·7	13·6	12·2	13·2	
6**	14·1	14·5	15·6	13·4	11·1	10·2	8·1	7·6	12·5	13·8	17·1	20·6	19·5	20·6	19·9	19·0	17·9	16·6	15·4	15·1	15·1	15·1	14·3	14·2	
7**	14·0	14·0	14·9	19·2	14·2	8·4	7·0	8·0	10·6	12·6	15·2	18·9	20·0	20·4	20·7	17·6	16·3	15·9	15·1	13·8	12·5	14·5	14·2	13·6	
8	13·9	15·4	16·4	14·0	12·5	11·9	10·7	10·0	10·2	11·0	13·5	15·9	17·8	19·0	18·2	16·5	15·1	15·0	13·8	14·4	14·9	15·0	14·9	14·9	
9*	14·7	14·7	14·2	14·0	12·5	11·6	10·7	10·4	11·1	13·0	15·5	17·8	18·7	18·7	17·0	15·8	14·7	14·5	14·5	15·0	15·1	15·0	14·9	14·8	
10*	15·0	14·7	14·1	13·7	13·0	11·6	10·6	10·6	11·8	14·1	16·6	18·5	20·1	19·4	18·5	17·6	16·7	16·3	16·2	15·9	15·6	15·4	15·2	14·8	
11	14·7	14·2	14·0	13·9	11·9	9·2	8·7	9·2	10·9	12·8	16·2	19·5	20·6	20·3	19·3	16·9	16·3	16·3	16·3	14·6	10·6	7·5	7·3	11·6	
12	10·4	13·4	13·0	14·9	15·2	11·3	12·1	11·3	12·6	15·1	18·2	22·7	22·9	22·4	20·4	17·7	15·8	14·1	13·6	14·4	14·6	12·1	12·4	13·4	
13**	13·2	13·7	13·4	12·5	10·6	9·2	9·1	9·9	10·6	12·7	15·5	18·8	19·8	20·5	18·8	17·1	16·5	16·4	15·5	13·0	6·5	7·5	11·8	9·5	
14**	9·6	11·0	8·6	8·8	8·5	7·3	7·1	7·3	9·3	12·6	16·3	19·3	19·9	20·0	19·0	17·6	16·9	16·2	15·0	12·6	12·2	12·8	10·4	7·1	
15**	9·2	14·6	13·2	11·7	11·9	9·6	9·5	8·1	11·0	11·4	13·8	17·4	20·7	19·8	17·9	17·0	15·9	14·9	13·8	10·0	12·6	13·8	13·9	13·7	
16	13·5	13·9	13·6	13·4	11·2	11·5	13·2	14·0	13·2	13·7	16·6	18·7	19·8	19·3	19·1	16·3	15·7	15·5	15·1	13·6	14·1	13·7	13·6	14·8	
17	13·0	14·2	14·5	14·1	14·6	11·9	10·5	10·3	11·2	11·5	13·2	16·2	18·3	19·6	19·0	17·6	16·4	15·2	14·8	12·7	14·0	14·4	14·7	13·6	
18	13·6	14·4	14·8	11·8	10·2	10·0	9·3	9·1	10·3	12·6	16·8	20·8	23·2	23·0	22·2	19·6	17·6	15·6	13·7	13·6	12·6	13·1	13·2	11·7	
19	11·9	11·3	11·0	11·6	11·1	10·7	10·5	10·4	11·5	13·6	16·0	18·4	20·6	21·2	20·2	18·8	16·7	15·2	14·5	14·4	14·3	14·0	14·0	13·9	
20	13·9	13·4	13·6	13·3	12·4	11·4	10·8	10·4	11·2	13·4	16·9	20·9	23·0	23·7	23·0	21·7	20·0	18·3	16·6	15·1	14·2	13·1	12·5	9·6	
21	10·8	12·0	13·1	13·6	13·0	11·7	11·4	12·0	11·8	13·2	16·3	19·4	21·1	21·9	20·6	18·6	17·0	16·0	15·5	14·8	14·5	14·5	14·2	14·5	
22*	14·7	14·5	14·5	14·3	13·0	11·0	10·1	9·8	10·4	12·1	15·1	18·6	20·6	21·2	20·6	19·7	17·3	16·2	16·1	14·7	14·7	15·1	15·0	14·9	
23*	15·1	14·8	14·1	14·3	12·2	10·4	9·7	9·3	9·9	11·9	13·9	16·4	19·0	19·4	18·6	17·6	16·4	15·4	15·0	15·4	15·7	15·6	14·9	14·7	
24	15·4	14·5	14·3	13·8	12·8	11·5	10·6	10·8	11·8	14·3	16·3	18·2	19·5	19·4	18·8	17·8	16·8	16·3	15·8	16·0	15·8	15·5	15·0	14·8	
25	14·7	14·7	14·2	13·5	11·3	9·7	9·6	10·2	11·8	13·8	15·7	17·6	18·9	18·3	17·3	16·6	16·5	16·2	16·3	16·7	16·1	16·1	14·1	14·4	
26	13·7	13·6	13·2	13·7	15·6	16·3	15·0	14·0	14·0	14·9	16·7	18·4	18·4	17·8	17·1	16·4	16·8	16·2	15·1	15·4	15·8	15·9	15·3	15·1	
27	15·2	14·5	13·9	13·4	11·9	12·1	12·3	12·5	12·4	13·4	15·9	18·8	19·6	19·8	18·9	17·2	15·6	15·0	14·5	14·1	14·8	14·7	14·6	14·5	
28*	14·5	14·6	14·3	13·5	11·9	10·4	9·4	9·1	10·5	13·0	16·2	17·8	19·5	18·6	17·5	15·6	13·9	13·5	14·3	14·6	14·7	14·7	14·9	14·6	
29	15·1	15·3	14·5	13·4	12·1	10·5	9·9	10·6	11·3	14·2	17·1	20·1	22·2	22·8	21·6	19·2	17·1	15·6	14·6	14·4	14·4	14·5	14·5	14·5	
30	14·5	14·6	14·4	13·6	12·2	10·6	9·2	9·0	10·2	12·4	15·0	17·8	19·2	19·0	18·6	17·0	15·0	13·8	13·3	13·4	13·7	14·5	14·8	14·8	
31	14·7	14·6	14·6	13·7	13·0	10·9	9·6	9·5	10·1	12·9	16·5	19·4	20·5	20·8	20·6	18·8	16·7	14·5	14·3	14·9	15·0	15·2	14·8	14·6	
Mean	13·8	14·2	14·0	13·5	12·4	11·0	10·4	10·3	11·3	13·1	15·8	18·6	20·1	20·3	19·5	17·9	16·6	15·8	15·1	14·5	14·1	14·1	13·9	13·7	
Mean*	14·8	14·7	14·2	14·0	12·5	11·0	10·1	9·8	10·7	12·8	15·5	17·8	19·6	19·5	18·4	17·3	15·8	15·2	15·2	15·1	15·2	15·2	15·0	14·8	
Mean**	12·0	13·6	13·1	13·1	11·3	8·9	8·2	8·2	10·8	12·6	15·6	19·0	20·0	20·3	19·3	17·7	16·7	16·0	15·0	12·9	11·8	12·7	12·9	11·6	
June.	12° + Tabular Quantities.																								
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
1	14·5	14·3	14·1	14·0	12·4	10·6	9·3	8·2	8·9	11·5	14·8	19·3	21·5	22·3	21·1	19·8	20·1	19·7	18·2	17·6	16·3	14·1	9·1	10·7	
2**	12·4	12·9	12·3	9·8	11·1	16·4	11·4	11·0	10·4	13·7	19·2	21·4	22·1	23·5	23·5	21·9	18·5	16·7	14·5	13·3	13·1	12·2	14·5	15·7	
3	14·0	12·0	12·2	13·1	12·6	13·6	12·2	10·8	10·5	13·1	16·6	17·9	18·7	19·6	18·7	17·6	16·0	15·1	14·6	14·6	14·8	14·5	14·2	15·4	
4	15·7	14·1	13·7	13·7	12·3	10·3	10·1	10·3	11·3	12·9	15·7	17·7	18·9	19·6	19·0	17·3	16·1	15·1	14·4	14·3	14·6	14·5	14·2	14·3	
5*	14·1	13·8	13·3	12·8	11·0	8·8	8·4	8·9	9·4	11·8	14·8	18·1	20·9	20·8	19·1	16·8	15·6	15·1	15·2	15·2	13·5	14·1	14·3	14·9	
6	14·1	13·6	12·5	12·3	11·6	10·0	9·0	8·9	11·0	12·6	14·4	17·1	19·0	21·0	20·6	18·9	18·2	15·5	12·7	13·4	14·2	14·3	14·4	14·6	
7	14·9	15·5	14·5	13·6	12·1	10·7	10·7	10·9	10·5	11·2	14·5	17·4	20·9	21·1	21·2	19·3	17·9	16·4	15·1	14·5	13·9	12·2	11·9	13·4	
8	14·0	13·5	13·0	12·0	11·2	11·6	9·9	9·0	9·4	11·0	13·7	16·4	18·7	20·3	21·0	20·8	19·9	19·2	17·8	14·9	10·3	13·7	11·4	10·4	
9**	6·0	7·7	13·5	15·1	18·2	16·3	12·3	11·4	9·4	11·4	13·5	16·3	17·5	19·2	19·0	18·4	19·0	17·0	15·5	15·0	14·5	14·4	13·1	12·0	
10	11·8	11·7	11·1	10·1	8·1	8·1	9·1	12·6	11·1	12·6	14·6	16·4	18·2	19·6	20·6	19·6	18·2	17·3	15·7	14·6	14·2	13·7	13·5	13·7	
11	13·9	13·9	13·2	9·5	8·5	7·8	8·6	11·0	12·2	14·2	16·2	18·8	20·2	19·8	20·0	18·1	16·8	16·2	15·2	14·6	14·2	13·9	13·1	8·0	
12	6·8	7·3	8·7	10·8	9·8	8·7	8·7	8·6	10·3	14·4	15·7	18·3	22·3	22·6	21·3	19·8	17·2	16·7	14·0	12·7	13·3	12·9	11·5	11·3	
13	12·7	13·8	12·8	12·3	11·4	9·8	8·4	8·4	9·4	11·4	14·8	17·2	19·2	18·9	20·0	19·3	17·9	16·9	15·4	13·4	12·9	12·0	13·7	14·5	
14	13·5	11·5	12·0	12·3	13·7	10·3	8·6	8·6	9·4	11·4	13·4	14·7	16·6	17·9	17·0	16·6	16·5	15·8	14·9	12·3	13·9	13·7	13·4	13·2	
15*	11·2	10·7	11·0	10·2	9·7	9·7	8·1	7·2	6·7	9·2	12·7	15·3	16·9	18·1	17·9	17·2	16·2	16·1	15·1	14·5	14·1	13·8	13·6	13·3	
16*	12·8	12·8	12·5	12·1	11·5	10·8	9·7	8·7	8·9	10·5	13·1	15·8	17·7	19·5	19·7	18·2	17·1	16·1	15·5	15·1	14·8	14·6	13·7	11·7	
17*	11·1	12·5	13·1	12·8	11·9	10·8	10·3	10·0	9·6	11·5	14·8	17·7	18·8	19·8	19·7	18·5	17·1	16·1	15·3	14·8	14·9	14·1	13·1	13·1	
18	14·0	14·0	13·3	12·8	11·2	9·9	8·7	8·6	9·7	11·3	13·3	16·3	18·6	20·1	19·6	18·5	16·6	15·1	14·6	14·1	13·9	13·6	13·5	13·5	
19	13·4	13·6	13·3	12·6	11·5	9·7	8·6	9·1	9·1	10·4	12·6	15·5	17·2	18·4	18·7	18·5	17·5	16·1	14·6	14·4	13·6	13·3	13·4	13·6	
20	13·2	13·3	14·2	12·9	11·6	9·8	8·3	7·2	8·3	10·2	12·7	16·5	18·8	19·7	20·5	18·6	16·7	15·6	14·7	13·9	13·8	13·7	13·7	14·0	
21	14·3	13·9	13·8	14·1	12·1	10·6	9·3	8·3	9·3	10·3	11·8	14·2	17·4	17·4	18·6	19·9	19·9	18·9	18·1	16·2	14·5	14·4	14·2	13·6	
22	13·5	12·8	13·0	12·4	11·5	11·3	10·7	9·5	9·2	9·5	12·1	15·5	17·6	18·1	18·5	16·9	15·6	14·9	13·6	13·7	14·1	13·5	13·4	13·7	
23	13·7	13·7	13·1	10·7	10·7	10·0	9·4	10·2	11·1	12·8	14·2	15·9	18·0	18·1	18·2	16·8	15·8	14·8	13·9	14·7	14·8	14·9	14·3	12·2	
24	13·0	12·3	12·5	13·1	11·7	9·5	10·3	10·3	10·4	10·8	12·3	14·9	15·5	15·8	16·0	16·0	15·3	14·8	14·6	14·5	13·6	11·4	13·0	13·4	
25*	12·9	12·9	12·2	11·4	10·8	10·2	9·9	10·2	10·1	11·0	13·0	15·9	18·1	18·5	17·2	16·0	15·8	16·0	16·0	15·4	15·0	15·2	15·0	14·7	
26**	14·0	13·7	13·3	12·6	11·5	9·8	9·0	8·9	9·1	11·3	13·9	15·7	17·0	17·3	17·6	20·8	22·3	19·3	19·4	17·8	16·2	16·8	8·9	6·3	
27**	10·2	12·2	13·2	14·2	11·7	8·2	7·2	8·4	11·0	13·5	18·3	21·7	21·3	20·9	19·6	20·0	15·3	14·0	14·2	14·3	13·2	11·1	11·7	14·2	
28**	14·2	8·2	9·0	12·1	12·2	9·7	8·3	8·9	10·9	12·5	15·1	16·1	20·2	20·7	19·7	18·2	16·9	16·1	14·2	13·4	8·9	9·7	8·3	8·5	
29	12·2	12·0	12·2	12·0	11·2	9·2	8·0	7·9	8·5	10·5	13·2	14·9	16·2	17·1	17·7	16·8	15·4	14·2	13·8	13·7	13·4	13·2	13·2	13·2	
30	13·2	13·2	13·1	12·2	10·2	9·1	8·7	9·1	9·5	11·5	14·1	16·1	16·0	15·5	15·6	16·5	17·0	16·0	14·3	13·0	13·1	13·4	13·2	13·1	
Mean	12·8	12·6	12·7	12·3	11·5	10·4	9·4	9·4	9·8	11·7	14·3	16·8	18·7	19·4	19·2	18·4	17·3	16·2	15·2	14·5	13·9	13·6	13·0	12·8	
Mean*	12·4	12·5	12·4	11·9	12·0	10·1	9·3	9·0	8·9	10·8	13·7	16·6	18·5	19·3	18·7	17·3	16·4	15·9	15·4	15·0	14·5	14·4	13·9	13·5	
Mean**	11·4	10·9	12·3	12·8	12·9	12·1	9·6	9·7	10·2	12·5	16·0	18·2	19·6	20·3	19·9	19·9	18·4	16·6	15·6	14·8	13·2	13·8	11·3	11·3	

* 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.	12° + Tabular Quantities.																								
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
1	13·0	12·9	12·9	12·7	11·0	9·2	9·0	9·8	10·2	12·5	15·3	19·0	19·4	19·3	19·0	17·3	16·0	15·0	14·3	14·1	13·8	13·5	12·4	12·6	
2	13·1	11·8	11·5	11·2	9·5	8·0	7·0	8·5	10·4	11·8	14·4	17·6	19·6	20·6	20·5	19·5	16·4	13·5	12·6	12·7	12·0	11·0	7·0	8·6	
3	9·7	10·6	11·1	10·4	8·4	7·0	7·1	8·2	8·3	10·3	12·6	15·8	18·1	20·0	20·6	19·1	17·9	16·2	14·0	12·0	11·8	13·1	13·0	12·6	
4	12·9	12·5	12·5	12·4	11·2	10·5	9·7	8·1	8·2	10·1	13·1	16·3	18·5	20·5	21·5	20·1	17·7	15·7	14·4	13·1	6·7	9·7	10·9	12·1	
5	12·0	11·7	11·5	11·5	12·2	11·2	10·8	9·6	9·5	10·5	12·0	14·4	16·3	18·1	19·6	19·1	17·3	15·7	14·3	13·3	13·3	13·2	12·4	12·1	
6	12·3	12·0	11·3	11·0	9·7	8·4	8·5	8·9	9·3	10·6	12·8	15·4	17·1	18·5	18·2	18·3	17·8	15·8	13·0	13·2	13·5	13·9	13·8	13·5	
7	12·9	12·7	12·5	11·7	10·2	8·9	8·2	8·3	8·5	9·6	12·3	15·5	17·9	19·9	20·2	18·9	17·4	16·4	15·0	14·0	14·0	14·5	12·0	11·3	
8	12·7	11·1	10·9	11·1	9·9	7·9	6·5	6·6	7·2	9·2	11·7	14·5	16·5	17·8	18·2	17·8	16·0	14·3	13·9	13·6	13·7	13·6	13·5	12·9	
9*	12·1	11·8	11·8	11·6	11·0	8·9	7·7	7·4	8·8	10·8	13·8	16·6	18·5	18·4	18·1	17·1	16·2	15·4	14·8	14·7	14·3	13·8	13·4	12·5	
10*	12·3	12·1	10·9	10·9	10·5	9·9	9·3	9·0	10·0	11·5	13·5	15·8	16·8	17·7	18·0	16·7	16·0	14·8	14·1	13·9	14·4	13·9	12·5	12·8	
11	11·2	11·0	11·2	11·0	11·0	9·7	10·4	11·5	11·2	12·7	14·9	17·1	19·1	21·0	21·0	20·0	18·4	17·0	17·9	15·7	14·3	13·2	11·8	10·7	
12	10·1	10·1	8·1	9·3	8·1	7·9	8·3	9·2	10·7	12·9	15·1	17·7	19·6	19·2	17·6	16·2	15·3	14·1	14·1	14·1	14·7	14·6	14·1	13·6	
13	13·6	14·0	12·9	11·2	7·8	7·1	7·5	8·8	9·9	11·4	14·1	16·6	18·6	18·9	18·1	16·3	15·7	14·5	14·1	14·6	14·6	14·3	14·1	14·0	
14	13·1	13·1	12·3	12·0	9·9	8·7	9·1	8·0	8·5	10·7	15·3	19·1	18·6	19·8	20·3	18·9	17·3	14·7	12·5	12·6	13·9	13·8	13·6	13·6	
15	13·1	13·3	13·2	12·0*	12·3	10·5	8·9	8·6	11·5	13·6	13·8	16·1	18·6	20·1	19·8	18·2	16·6	14·7	13·1	12·8	12·5	12·7	11·5	12·1	
16	12·4	12·5	14·2	11·5	10·5	9·9	9·1	9·1	7·8	8·2	10·1	14·0	17·1	19·7	20·1	18·1	15·5	14·1	13·2	13·1	13·0	13·1	13·5	13·1	
17	13·1	12·8	12·2	11·9	11·0	9·5	8·2	7·5	8·7	11·2	13·7	16·6	18·7	18·9	18·1	16·1	14·7	13·5	13·1	13·1	13·6	13·6	13·4	12·7	
18	12·5	12·7	12·5	12·4	10·8	9·7	9·7	10·1	10·7	11·1	14·1	15·6	17·1	18·9	17·7	16·5	14·9	14·1	13·9	13·8	13·5	13·0	11·9	12·3	
19*	12·2	12·5	12·1	12·6	12·1	9·7	8·1	7·8	8·2	10·1	13·1	16·1	18·4	19·6	19·4	16·6	14·9	14·0	13·5	13·3	13·5	13·3	12·7	13·0	
20*	12·9	12·8	12·4	12·8	11·7	10·4	9·3	7·9	7·5	9·7	13·4	16·5	19·1	19·8	19·2	17·8	15·5	14·4	13·8	13·8	13·9	14·1	14·0	13·0	
21*	12·2	12·2	12·3	11·0	11·1	10·0	11·0	9·0	9·6	11·9	14·5	16·0	16·6	17·2	17·8	16·7	16·2	15·4	14·2	13·7	12·6	12·8	13·6	13·6	
22	12·8	12·1	12·0	11·7	11·1	9·9	9·6	9·4	9·7	11·7	13·2	14·9	16·8	18·4	18·0	16·6	15·0	14·5	13·5	13·1	13·1	13·3	13·5	13·4	
23**	13·1	12·8	12·9	12·0	9·2	9·0	7·0	6·2	8·2	10·9	14·6	19·9	21·0	20·2	19·8	19·9	17·2	14·2	16·5	12·1	10·9	13·0	13·7	13·6	
24**	10·0	8·8	8·7	12·8	9·8	7·8	8·3	9·0	9·8	12·8	13·8	14·8	16·7	16·2	15·1	13·5	12·8	12·8	13·3	13·8	13·6	13·2	12·4	12·3	
25**	12·5	10·5	10·3	11·6	11·8	10·9	10·2	9·7	10·6	12·6	14·3	15·0	17·5	19·9	17·5	17·1	15·6	13·3	14·8	15·3	12·9	13·6	11·9	11·7	
26**	11·5	7·7	8·5	9·4	11·3	10·9	11·0	11·4	11·0	10·5	12·3	14·5	17·0	17·3	16·3	15·4	14·5	13·3	13·4	11·3	11·4	12·1	12·3	12·7	
27	12·9	11·9	11·8	11·5	10·5	9·5	9·0	9·2	10·7	12·4	13·9	16·0	17·8	18·3	17·3	15·6	14·3	13·3	13·3	13·4	12·3	12·2	12·9	13·1	
28**	12·8	12·2	11·7	11·6	12·4	10·6	7·9	7·9	9·0	11·4	15·3	20·2	21·6	21·6	19·4	17·9	17·1	16·1	14·5	10·4	11·6	11·2	13·1	12·8	
29	10·0	10·7	12·2	12·0	11·4	11·1	12·4	11·3	10·3	10·4	12·4	16·5	19·4	20·9	19·7	17·6	15·7	14·4	14·4	14·4	13·8	11·9	11·3	10·9	
30	10·9	10·9	10·0	13·3	11·2	8·5	8·4	8·5	9·8	12·2	14·0	17·0	19·6	20·0	18·0	15·7	13·7	12·1	12·1	12·6	12·1	9·9	10·9	11·1	
31	11·7	13·2	12·1	11·3	11·6	10·1	9·2	8·8	9·3	10·4	13·1	15·5	18·4	20·1	19·2	16·1	14·5	13·4	12·8	13·1	13·2	13·1	12·7	12·4	
Mean	12·2	11·8	11·6	11·6	10·7	9·4	8·9	8·8	9·5	11·2	13·6	16·3	18·3	19·3	18·8	17·4	15·9	14·5	14·0	13·4	13·0	13·0	12·6	12·5	
Mean*	12·3	12·3	11·9	11·8	11·3	9·8	9·1	8·2	8·8	10·8	13·7	16·2	17·9	18·5	18·5	17·0	15·8	14·8	14·1	13·9	13·7	13·6	13·2	13·0	
Mean**	12·0	10·4	10·4	11·5	10·9	9·8	8·9	8·8	9·7	11·6	14·1	16·9	18·8	19·0	17·6	16·8	15·4	13·9	14·5	12·6	12·1	12·6	12·7	12·6	
August.	12° + Tabular Quantities.																								
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
1	12·1	12·0	11·7	11·1	10·6	9·4	9·2	9·4	10·1	11·9	13·7	16·5	18·6	18·4	16·9	15·7	15·5	14·9	13·9	13·4	11·8	11·0	11·0	11·6	
2*	11·9	12·1	12·0	11·9	11·8	9·9	9·3	9·1	9·4	11·4	13·9	16·9	18·4	18·4	17·6	15·9	14·8	14·5	14·0	13·8	13·5	12·9	12·5	11·9	
3	11·3	10·8	9·6	7·7	7·6	5·6	7·1	10·4	10·1	11·6	14·3	16·1	18·4	19·4	18·5	16·3	15·0	13·5	12·8	13·1	13·1	12·8	12·8	12·3	
4	11·5	10·9	11·1	11·9	9·9	8·4	8·5	9·8	10·4	10·7	13·9	16·6	18·7	19·7	18·9	17·2	15·4	14·0	13·9	13·3	11·9	12·9	12·4	12·2	
5	12·0	11·8	10·9	10·9	8·9	9·0	8·6	8·1	8·4	10·9	13·9	17·1	18·3	19·8	19·3	16·9	16·3	14·9	13·5	12·6	11·6	11·7	10·3	10·9	
6	11·3	12·5	11·0	9·0	9·0	8·1	8·9	9·1	10·4	12·6	16·3	18·3	19·7	19·0	17·3	15·7	15·0	14·7	14·4	13·7	13·3	13·0	12·4	11·9	
7	11·4	11·0	9·6	9·5	8·3	8·2	8·8	8·9	9·6	12·3	15·0	19·1	21·6	23·5	21·5	19·7	18·1	15·8	14·7	14·7	14·0	13·2	12·9	12·6	
8**	13·0	8·2	7·7	11·7	11·7	12·2	12·7	12·2	13·0	13·7	16·2	17·0	18·8	18·6	17·2	14·0	15·1	14·5	14·5	7·5	10·3	12·1	10·5	12·0	
9**	15·4	8·9	14·6	9·1	8·1	9·3	9·3	11·1	9·8	9·6	13·3	17·3	19·2	18·6	19·6	13·8	15·4	14·2	14·1	13·1	8·5	9·5	11·1	12·1	
10	12·1	12·6	11·4	11·0	11·0	11·5	11·4	10·9	10·7	11·5	13·9	16·9	17·4	17·3	15·6	14·6	13·8	12·0	12·5	12·7	12·7	11·5	11·7	10·7	
11	11·1	9·1	9·6	12·0	15·9	13·6	14·6	10·5	9·6	10·7	13·6	16·6	17·8	18·4	18·5	16·5	13·8	11·9	12·2	11·6	11·4	11·2	11·3	11·8	
12*	11·8	12·2	12·2	11·5	9·7	8·1	7·5	7·7	7·6	10·5	12·5	14·5	15·7	15·9	15·9	14·7	15·2	13·5	13·1	12·1	12·5	13·0	12·5	11·5	
13	10·6	10·2	9·6	10·6	10·0	10·1	10·4	10·6	10·8	11·9	13·6	15·3	15·4	14·4	14·7	13·5	12·7	13·2	13·6	13·5	13·2	12·4	11·7	11·3	
14	11·8	12·1	12·3	12·3	13·0	12·8	9·5	8·8	10·7	11·7	14·7	16·8	17·8	16·9	15·9	13·9	12·0	10·9	10·7	11·0	10·0	11·5	11·5	12·0	
15	12·3	12·4	12·1	12·6	10·7	10·1	9·1	8·8	9·2	10·4	12·7	14·8	17·6	17·7	16·9	15·2	13·9	12·9	12·3	12·9	11·3	8·8	9·9	10·3	
16	11·4	11·9	12·0	12·5	11·4	10·7	9·4	9·2	8·4	9·8	13·0	17·4	20·4	21·9	21·9	19·9	18·0	16·0	12·9	11·7	12·0	11·5	8·1	10·5	
17*	10·7	11·3	11·4	11·0	10·2	8·8	8·6	8·2	8·4	10·2	13·6	15·1	17·1	17·7	17·2	15·7	14·7	13·4	12·7	12·4	12·3	12·3	12·2	11·1	
18*	11·4	12·8	12·8	12·2	11·6	10·8	10·8	9·8	9·8	11·3	14·1	16·8	18·9	20·8	19·9	18·5	16·4	14·6	13·8	13·7	12·8	12·8	13·1	13·1	
19	12·9	9·7	9·7	9·7	9·3	8·6	8·2	7·8	8·7	11·4	14·7	18·7	20·3	19·4	17·8	16·0	14·6	13·6	13·2	12·2	11·8	10·7	8·9	11·3	
20**	6·5	9·5	10·5	11·5	10·6	10·6	15·5	17·5	12·1	13·1	13·2	16·8	16·5	17·7	19·3	14·9	14·3	14·0	12·8	7·1	9·4	10·7	10·8	13·1	
21**	12·9	10·8	10·7	12·4	13·3	14·2	13·5	15·0	11·4	11·4	13·5	16·8	18·6	18·4	17·2	14·1	11·2	9·9	11·2	11·3	11·1	10·7	10·5	8·4	
22	10·1	10·9	11·1	11·4	10·9	10·4	9·6	9·1	9·5	11·1	13·1	15·1	16·0	16·1	15·5	14·0	12·3	10·9	11·7	11·4	11·0	10·6	11·8	11·9	
23	12·5	13·6	13·7	12·2	10·6	9·7	8·7	7·8	8·7	10·8	14·0	16·8	18·5	18·5	17·1	15·3	13·1	12·7	12·1	12·6	12·5	12·4	12·4	11·2	
24	11·3	10·4	11·3	11·1	11·6	10·4	8·3	7·3	8·6	9·8	12·7	16·3	17·9	18·9	18·1	16·7	14·8	11·6	12·2	13·5	13·4	11·2	9·5	8·0	
25**	9·0	10·1	5·3	10·8	9·1	9·7	6·5	8·6	8·7	8·7	13·6	16·1	17·6	19·4	20·2	15·0	13·1	12·1	10·2	10·6	12·1	10·0	12·2	11·2	
26	11·0	10·6	11·4	12·0	9·0	9·0	8·0	7·7	8·5	11·5	15·5	17·6	16·5	16·7	15·6	14·7	14·0	13·0	10·5	10·6	11·5	14·0	14·4	7·3	
27	7·5	8·5	9·3	8·5	7·5	7·2	7·1	7·0	8·5	10·0	12·7	14·9	17·0	18·3	17·3	14·8	15·8	14·0	12·2	12·7	12·9	8·4	7·0	5·3	
28	4·4	3·2	7·8	11·2	9·7	8·6	7·9	7·5	10·4	12·0	12·3	17·0	18·8	19·8	16·7	15·2	13·0	11·7	11·2	11·2	10·3	11·2	11·2	11·2	
29	13·2	13·3	12·3	10·8	10·5	10·9	10·1	9·3	9·1	10·5	13·3	16·3	18·6	19·9	19·8	17·5	14·7	12·4	11·4	9·9	8·4	8·9	10·9	11·5	
30*	12·4	11·9	11·1	10·9	10·9	10·2	9·4	8·5	8·5	10·0	13·5	17·8	21·2	21·5	19·8	17·2	14·1	12·1	11·6	11·6	10·6	9·6	10·6	11·0	
31	11·0	10·7	11·7	9·1	8·6	8·7	7·1	6·7	7·1	9·0	12·8	15·8	18·3	18·9	17·7	15·8	14·4	13·0	11·3	12·1	12·5	10·2	10·1	10·5	
Mean	11·2	10·8	10·9	11·0	10·4	9·8	9·5	9·4	9·6	11·0	13·8	16·6	18·3	18·7	17·9	15·8	14·5	13·2	12·6	12·1	11·7	11·4	11·2	11·0	
Mean*	11·6	12·1	11·9	11·5	10·8	9·6	9·1	8·7	8·7	10·7	13·5	16·2	18·3	18·9	18·1	16·4	15·0	13·6	13·0	12·7	12·3	12·1	12·2	11·7	
Mean**	11·4	9·5	9·8	11·1	10·6	11·2	11·5	12·9	11·0	11·3	14·0	16·8	18·1	18·5	18·7	14·4	13·8	12·9	12·6	9·9	10·3	10·6	11·0	11·4	

* 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
September.	12° + Tabular Quantities.																								
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
1	11·6	15·6	10·2	9·1	10·4	9·8	7·6	7·9	8·1	9·0	10·0	14·1	17·4	19·0	18·4	16·5	14·7	13·2	12·2	11·2	11·7	11·5	11·2	11·3	
2*	11·0	10·2	10·4	10·5	11·1	10·2	9·0	7·7	7·3	8·8	12·2	16·0	18·5	18·3	17·3	15·9	14·3	13·3	12·7	12·6	12·3	11·6	11·3	10·7	
3	10·8	10·4	10·9	10·7	10·0	8·7	7·2	6·7	7·4	10·7	15·4	17·8	19·8	21·4	20·3	18·6	16·7	16·4	14·8	14·1	13·5	13·0	10·8	8·6	
4**	8·6	5·2	6·7	9·2	12·3	9·7	9·9	9·4	8·9	11·3	15·9	18·6	20·8	18·1	15·8	14·6	13·4	5·5	10·1	10·6	9·4	10·5	11·2	12·1	
5	13·5	11·5	15·1	11·8	12·2	9·6	8·6	7·6	8·3	9·3	11·9	16·3	18·5	18·1	16·4	14·6	12·8	11·8	9·8	7·8	7·9	9·0	9·4	12·7	
6**	11·2	13·1	13·7	15·4	10·4	9·5	8·2	9·0	12·4	17·0	17·0	18·2	20·8	18·8	17·1	15·0	8·0	10·5	11·9	11·7	7·7	8·1	10·2	10·1	
7	12·5	10·4	16·3	13·3	9·4	8·6	8·7	10·0	10·9	11·1	12·6	14·9	15·5	16·0	15·6	13·8	12·9	11·2	5·5	10·2	10·7	10·6	11·1	10·8	
8	11·3	11·1	11·2	10·8	10·4	10·8	11·2	10·8	11·3	12·3	14·3	16·8	17·7	19·3	18·3	16·6	14·4	8·6	8·1	8·9	6·5	1·8	7·5	9·8	
9	7·3	7·7	7·7	8·0	8·7	8·7	8·7	10·2	13·2	12·7	14·7	16·6	17·5	17·0	15·7	13·5	11·7	10·0	4·4	7·6	9·9	7·5	6·8	10·7	
10	13·2	10·5	9·4	9·2	10·7	9·7	8·2	7·5	8·7	10·7	14·7	17·7	18·0	17·2	15·8	14·8	12·1	7·7	9·0	10·5	11·2	11·7	11·5	11·2	
11	11·7	11·5	11·1	8·7	9·7	9·7	9·0	8·9	10·1	12·7	15·1	16·7	17·2	16·7	14·7	12·7	11·7	11·7	12·2	11·7	11·2	10·5	11·7	11·1	
12	11·7	10·0	8·9	9·7	9·7	9·7	9·0	9·0	9·4	11·7	14·7	17·2	19·2	18·4	16·7	13·1	11·9	11·7	10·9	7·7	10·3	10·7	9·9	10·2	
13	11·0	11·2	11·7	11·1	10·7	11·5	10·8	10·8	10·4	12·1	14·9	16·1	17·1	16·3	14·6	13·9	13·0	11·5	10·6	12·0	12·0	11·5	11·0	11·5	
14	11·5	11·5	12·5	12·5	12·0	11·0	10·1	9·0	9·9	12·2	14·7	18·1	19·8	20·2	17·3	16·3	15·5	12·0	11·3	11·3	10·2	4·8	7·3	9·3	
15**	9·0	9·4	13·8	12·4	10·8	10·4	8·9	7·9	8·6	12·4	16·1	18·8	20·2	21·7	22·1	20·0	17·8	15·8	5·8	4·2	10·6	8·5	5·3	8·9	
16**	7·6	14·6	6·5	6·9	9·5	10·0	10·4	10·0	11·1	13·6	12·8	14·7	16·1	14·2	15·8	15·8	11·5	13·2	12·5	11·7	10·5	5·5	3·2	3·0	
17**	4·1	14·9	13·1	14·1	18·3	16·8	14·3	13·4	12·8	11·8	12·5	13·3	14·1	15·4	15·8	14·7	13·8	11·2	10·8	8·3	7·9	8·3	9·3	10·3	
18*	11·1	10·7	10·8	10·9	11·0	10·5	9·4	8·2	7·8	9·0	11·5	13·1	15·2	15·1	13·7	13·4	13·0	12·4	11·5	11·4	10·4	9·0	9·5	11·9	
19*	9·8	10·1	10·8	11·0	11·1	10·6	9·8	9·0	8·5	9·9	12·5	15·5	16·9	17·1	15·8	14·6	13·5	13·0	11·6	11·2	11·5	10·6	8·9	10·0	
20	11·1	11·8	9·6	9·5	9·6	9·5	9·1	8·6	8·4	9·6	11·6	13·6	15·6	15·9	16·7	15·5	14·7	14·1	8·1	7·8	11·1	10·0	10·2	9·0	
21	13·4	4·2	4·0	7·4	8·9	7·8	8·2	9·4	8·4	8·6	12·4	17·4	17·8	16·4	14·8	13·2	11·6	11·5	12·0	10·7	10·2	11·0	11·3	10·2	
22	9·8	8·2	8·2	6·7	7·2	10·7	9·4	8·2	7·4	9·5	12·6	15·9	18·1	17·1	15·0	13·6	12·1	12·1	11·7	12·4	10·7	6·6	11·9	9·9	
23	9·4	10·0	9·0	8·5	8·0	8·5	8·7	8·1	8·4	9·7	11·0	14·9	15·8	16·9	18·9	12·5	12·6	12·3	11·7	11·7	10·3	10·9	10·4	8·0	
24	8·1	4·0	6·2	8·4	8·8	10·7	9·6	8·6	9·0	9·2	12·1	15·9	17·7	16·6	15·1	11·0	12·0	12·0	11·0	10·8	9·1	9·7	9·8	10·2	
25	12·4	11·4	10·0	11·1	10·7	10·4	9·4	8·4	7·9	9·0	11·0	14·3	16·4	15·8	14·1	13·5	12·6	12·1	12·1	11·6	10·4	10·7	7·5	8·5	
26	9·6	9·5	11·0	10·0	9·5	10·2	9·2	8·6	9·2	10·2	11·1	12·9	13·8	14·3	13·5	13·2	12·8	11·7	11·0	8·3	9·2	10·0	10·2	9·9	
27	9·3	8·8	5·3	6·5	8·4	9·1	8·6	8·7	8·7	9·7	11·3	14·3	15·8	15·6	15·3	14·3	12·9	12·6	10·8	7·1	10·8	10·7	10·3	10·4	
28*	10·4	10·8	10·3	10·6	10·6	10·3	9·5	8·5	8·1	9·3	11·4	13·5	15·3	15·9	15·4	14·7	14·2	13·7	12·9	10·7	10·8	11·1	10·5	9·8	
29*	9·9	10·6	10·7	10·3	10·3	9·9	9·5	8·2	7·7	8·7	11·7	14·5	15·5	15·3	14·9	13·9	13·3	13·3	14·1	10·1	11·8	11·7	11·4	10·9	
30	10·3	10·9	10·4	10·4	10·4	10·3	9·8	8·3	7·2	8·7	12·3	15·9	19·2	20·0	20·3	16·7	13·4	11·8	11·4	11·1	11·0	9·8	9·4	6·8	
Mean	10·4	10·3	10·2	10·2	10·4	10·1	9·3	8·9	9·2	10·7	13·1	15·8	17·4	17·3	16·4	14·7	13·2	11·9	10·8	10·2	10·4	9·6	9·7	9·9	
Mean*	10·4	10·5	10·6	10·7	10·8	10·3	9·4	8·3	7·9	9·1	11·9	14·5	16·3	16·3	15·4	14·5	13·7	13·1	12·6	11·2	11·4	10·8	10·3	10·7	
Mean**	8·1	11·4	10·8	11·6	12·3	11·3	10·3	9·9	10·8	13·2	14·9	16·7	18·4	17·6	17·3	16·0	12·9	11·2	10·2	9·3	9·2	8·2	7·8	8·9	
October.	12° + Tabular Quantities.																								
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
1	4·9	11·4	12·4	8·1	8·6	9·2	10·2	15·4	11·2	11·4	12·8	15·8	17·1	18·7	15·3	12·9	8·9	10·5	4·5	7·9	10·4	9·9	10·7	9·6	
2**	3·5	6·1	11·4	11·6	11·0	10·1	9·1	8·3	7·9	10·5	14·5	17·2	17·1	16·9	18·3	8·6	7·8	8·0	1·6	3·2	9·2	10·5	1·6	9·2	
3	9·1	10·4	9·9	11·3	11·6	10·7	10·7	10·3	9·3	10·7	12·3	13·8	14·7	14·7	14·1	12·4	10·2	10·8	9·8	11·4	11·1	10·3	10·1	10·1	
4	9·2	10·2	6·8	9·4	10·8	10·2	9·9	9·2	8·9	9·8	12·8	16·0	16·3	16·2	15·2	14·1	13·1	12·5	10·5	5·5	3·0	5·1	5·8	10·1	
5**	15·1	8·1	7·4	11·9	12·1	16·4	12·9	12·4	13·3	10·5	11·2	15·3	15·9	16·8	15·2	13·5	11·3	−1·1	8·2	8·4	7·6	9·9	9·4	8·5	
6	11·3	8·8	8·9	11·4	10·0	9·9	9·5	8·7	9·0	11·0	11·9	13·5	14·1	14·8	14·1	13·4	12·1	9·3	9·2	9·7	10·6	11·0	9·8	7·8	
7	10·2	8·1	7·7	8·6	10·1	9·7	10·2	10·7	9·2	8·8	9·9	13·3	14·4	14·8	13·6	12·5	11·0	9·2	11·0	10·8	10·6	10·5	10·5	10·6	
8	10·5	10·7	10·4	10·5	10·5	10·6	11·1	9·7	9·5	9·1	11·1	13·6	15·0	15·0	14·5	13·2	12·0	11·8	11·0	10·6	10·6	5·6	7·0	10·0	
9*	10·2	10·9	10·8	13·0	9·9	9·8	9·3	8·3	7·3	8·0	10·0	13·0	15·2	15·1	15·4	13·0	11·6	11·3	10·6	10·4	10·2	10·2	10·4	10·6	
10*	10·4	10·5	10·3	10·4	10·2	10·1	9·3	8·5	7·7	8·9	12·9	15·0	16·5	15·4	13·6	12·2	11·5	11·5	11·7	11·2	10·6	8·4	6·4	8·5	
11*	10·2	10·7	11·2	10·9	10·4	9·8	9·1	7·8	8·4	10·1	13·0	16·4	17·6	16·8	15·1	13·4	12·1	11·6	10·9	10·8	10·9	10·8	10·8	7·9	
12**	9·3	9·4	9·9	10·0	9·9	9·7	9·1	8·8	7·4	8·4	12·9	15·9	17·9	18·3	16·4	16·5	14·7	6·9	6·0	6·9	5·8	1·1	1·6	10·4	
13	1·5	4·0	8·5	12·0	16·5	18·3	15·5	10·3	9·0	10·5	11·8	15·0	12·4	16·1	11·9	8·9	10·9	10·4	8·9	8·3	9·4	9·9	10·0	10·3	
14	10·2	11·8	10·8	11·1	10·7	11·0	10·3	8·8	7·7	8·3	11·8	14·6	17·3	16·3	14·8	13·7	8·3	10·9	11·3	9·3	7·3	8·0	9·3	10·3	
15	10·5	11·6	10·1	10·4	12·3	10·8	10·3	10·4	10·9	10·9	13·4	16·3	18·2	17·4	15·3	14·3	13·5	5·8	10·3	11·0	9·8	8·5	9·0	10·2	
16*	9·1	13·3	10·1	10·6	11·6	10·6	10·5	9·1	7·7	7·9	10·5	12·8	14·6	14·5	14·6	14·0	13·6	12·2	11·1	10·4	9·6	9·6	9·8	9·1	
17	8·9	10·9	9·9	10·5	9·6	9·7	8·8	8·3	9·0	9·6	10·5	13·5	13·5	14·5	14·0	13·0	12·1	11·8	11·6	11·7	3·0	3·6	7·5	8·2	
18	7·7	9·2	7·5	7·6	8·8	8·9	8·1	7·5	7·4	8·7	12·2	18·1	13·0	16·0	16·1	16·5	17·1	12·5	11·8	10·0	9·0	6·6	7·4	8·8	
19	9·3	7·8	9·4	13·3	10·5	9·0	9·5	8·8	9·3	10·1	12·4	14·0	14·7	14·7	14·1	14·4	11·1	9·9	11·9	7·0	3·9	3·7	7·7	11·4	
20	9·7	8·7	10·4	9·7	9·9	9·7	8·9	8·0	7·1	7·9	10·7	12·3	13·5	14·4	13·8	11·7	10·9	10·7	10·2	4·2	7·8	9·5	10·7	13·4	
21	10·1	9·4	9·1	9·0	9·0	9·0	8·0	7·7	7·9	9·3	11·4	15·2	14·1	14·8	13·6	12·1	9·8	11·2	9·1	5·5	8·7	10·0	9·7	8·7	
22	11·5	14·1	8·9	7·1	10·1	8·8	7·7	8·1	8·4	10·1	12·5	15·9	14·5	14·5	13·3	12·2	9·3	11·2	7·8	9·3	10·1	10·1	9·9	10·7	
23	9·1	9·6	9·9	10·0	9·9	9·5	9·0	8·1	8·6	10·4	13·5	15·0	14·4	14·4	11·9	10·9	9·3	7·2	8·4	9·7	5·5	7·0	2·9	2·4	
24	8·1	9·7	10·6	10·7	12·9	13·6	9·5	9·4	9·1	10·5	11·9	14·1	14·3	13·2	11·9	11·5	11·1	10·9	10·1	10·1	9·9	9·5	8·7	9·6	
25*	9·4	10·2	10·4	10·1	10·0	9·4	9·2	8·6	7·8	8·9	11·9	14·3	14·7	13·8	11·9	10·7	10·3	11·3	10·8	10·2	10·0	8·6	9·3	9·1	
26	9·5	11·1	10·5	10·5	10·5	10·0	9·4	8·8	8·9	10·0	12·2	14·4	15·3	15·3	14·2	13·7	12·7	11·9	12·2	5·2	6·4	9·3	9·2	9·1	
27	9·7	9·4	9·3	8·7	10·0	9·6	9·1	8·1	7·5	9·2	10·8	15·9	17·5	18·6	14·0	16·6	15·9	14·6	4·5	7·1	8·1	9·4	9·7	9·5	
28	9·8	9·5	11·8	12·8	9·5	9·8	9·2	7·8	6·9	9·2	10·3	13·1	15·9	15·2	14·2	15·1	11·2	8·8	1·7	4·3	2·7	3·8	8·7	10·2	
29**	10·3	10·7	10·6	10·8	10·8	12·2	11·7	13·6	13·9	13·7	13·1	16·7	21·3	20·9	26·9	19·2	5·0	13·2	6·1	−1·8	1·0	−2·3	−5·3	1·7	
30**	3·5	6·1	8·6	8·7	16·7	15·7	14·0	14·0	9·7	11·2	9·2	12·0	13·3	14·4	13·3	10·3	5·3	3·8	2·3	0·1	4·8	4·4	5·6	8·8	
31	9·6	11·0	11·4	12·1	11·6	14·4	14·1	13·5	12·7	12·1	12·2	14·7	13·9	14·1	11·1	11·1	8·7	6·3	6·4	8·7	7·7	9·1	8·0	9·1	
Mean	9·1	9·8	9·8	10·4	10·8	10·9	10·1	9·6	9·0	9·9	11·9	14·7	15·4	15·7	14·6	13·1	11·1	9·9	8·8	8·0	7·9	7·8	7·8	9·2	
Mean*	9·9	11·1	10·6	11·0	10·4	9·9	9·5	8·5	7·8	8·8	11·7	14·3	15·7	15·1	14·1	12·7	11·8	11·6	11·0	10·6	10·3	9·5	9·3	9·0	
Mean**	8·3	8·1	9·6	10·6	12·1	12·8	11·4	11·4	10·4	10·9	12·2	15·4	17·1	17·5	18·0	13·6	8·8	6·2	4·8	3·4	5·7	4·7	2·6	7·7	

* 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.	12° + Tabular Quantities.																								
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
1	8·9	10·0	11·7	9·7	9·4	9·2	8·7	7·3	7·3	8·7	10·4	12·4	13·8	13·5	12·4	10·8	10·5	7·3	9·1	9·1	8·9	7·8	6·2	6·3	
2	9·3	10·9	9·9	9·4	9·5	9·6	9·9	9·1	8·2	8·3	10·7	12·7	13·9	14·0	12·5	11·9	9·6	7·6	9·2	8·8	9·1	8·9	8·2	6·2	
3	8·7	9·7	12·4	9·9	8·8	8·9	8·7	9·0	7·8	10·2	13·3	14·3	16·0	15·0	15·3	13·4	11·0	5·9	7·2	8·1	5·3	−1·7	2·5	7·5	
4	12·5	8·5	7·1	7·6	8·7	13·6	12·6	10·1	10·5	11·4	14·3	16·6	13·9	14·9	11·9	12·4	11·0	10·0	9·0	7·8	8·9	9·2	9·1	9·1	
5**	9·1	9·6	9·2	8·2	11·5	9·2	9·6	10·3	10·0	11·5	13·4	13·5	13·7	13·6	13·1	12·0	10·4	3·4	4·5	6·1	2·7	3·5	7·7	8·9	
6**	9·3	12·9	12·9	10·4	12·9	14·3	12·5	10·4	9·9	9·4	13·1	13·7	14·5	13·9	10·4	11·0	6·4	−0·4	9·9	8·0	8·4	5·3	4·8	6·4	
7	9·0	9·7	11·1	10·0	8·9	9·4	10·8	11·3	10·0	9·8	10·3	13·0	11·1	10·9	10·8	9·9	8·3	9·3	8·8	8·6	7·3	4·4	3·6	6·6	
8**	7·5	9·3	10·0	10·4	11·4	9·9	14·7	11·5	10·2	10·4	13·0	13·2	11·9	11·0	10·1	8·3	9·3	3·3	3·5	1·8	5·9	4·1	7·0	9·3	
9	10·8	8·7	11·2	8·9	11·5	10·8	9·1	7·5	7·4	7·4	9·9	11·9	12·5	12·6	12·7	10·5	8·0	9·1	8·8	7·5	4·0	5·3	2·6	4·5	
10	6·9	12·0	10·9	10·2	10·9	13·4	12·4	8·9	7·9	8·1	9·2	11·3	12·7	12·8	11·9	8·8	8·4	4·4	5·9	6·4	7·7	7·4	8·3	9·6	
11	10·4	9·6	9·8	10·1	9·7	9·5	9·5	8·5	8·5	8·3	9·0	12·0	12·3	11·0	12·6	10·3	5·9	9·5	8·8	7·9	7·5	7·6	8·5	8·6	
12*	9·0	9·2	9·6	9·9	9·9	9·2	9·0	8·6	7·4	7·3	9·0	11·0	11·8	11·7	11·9	12·0	11·1	10·5	9·8	9·6	9·5	8·9	9·1	8·7	
13	9·0	9·5	9·7	10·5	10·6	10·5	9·7	9·3	8·3	8·0	10·0	11·9	13·4	13·5	12·4	11·8	10·9	10·9	10·4	11·4	7·4	7·4	7·4	8·2	
14	5·3	6·9	8·6	10·3	9·0	8·8	9·6	8·9	8·5	8·3	10·9	13·0	14·5	14·5	13·0	11·2	15·2	14·2	12·2	4·2	6·1	8·6	7·8	7·8	
15	8·1	9·1	9·4	8·7	9·1	10·1	9·6	9·1	8·9	9·6	11·1	12·6	12·4	12·7	11·3	11·5	5·0	5·0	7·0	7·6	8·5	8·0	13·5	5·8	
16**	7·9	9·8	6·4	6·3	9·1	8·3	9·1	9·0	8·9	9·4	11·2	11·9	13·1	13·8	10·8	10·4	10·8	2·3	5·1	1·2	1·8	2·0	3·3	5·7	
17	7·3	8·8	9·7	9·0	9·4	8·4	8·9	10·3	11·0	10·7	11·9	12·7	12·3	13·0	9·7	11·3	10·0	3·7	3·9	7·1	9·1	8·8	6·8	5·7	
18	7·2	8·4	8·1	9·4	9·9	10·2	9·4	10·4	10·1	10·0	11·3	13·6	12·7	14·5	11·0	7·9	9·6	7·5	7·5	7·8	4·2	8·1	9·1	10·1	
19	8·2	8·0	9·1	7·3	8·1	8·6	9·1	9·5	9·6	10·6	10·8	11·8	10·8	12·2	8·7	9·7	10·3	8·9	6·7	0·8	0·9	4·3	6·2	7·3	
20	8·6	8·6	9·4	9·4	8·2	8·5	8·5	9·1	8·2	8·6	10·1	11·4	12·8	12·3	10·5	10·7	9·6	2·1	8·3	9·8	9·0	8·5	7·1	10·2	
21*	8·8	9·1	9·0	8·7	8·8	8·9	8·8	8·5	7·8	7·8	9·3	10·8	11·5	10·8	9·8	10·5	10·3	8·4	8·0	9·4	8·9	8·5	8·6	8·8	
22*	8·9	9·6	9·5	9·4	9·3	9·2	9·1	9·3	9·9	10·4	11·5	12·5	12·5	12·7	11·6	10·8	10·9	10·3	9·4	9·4	9·0	8·9	8·4	8·6	
23	8·9	9·5	9·5	9·6	9·5	9·4	9·0	8·8	8·0	8·5	10·1	11·3	12·3	12·0	11·3	11·0	10·5	9·9	9·3	9·0	8·9	3·6	7·2	8·6	
24	8·6	8·5	8·4	8·2	9·1	9·3	9·1	9·1	8·5	8·7	10·2	11·8	12·7	12·9	12·1	12·7	12·3	11·3	10·3	9·3	6·7	4·5	8·1	8·5	
25	9·1	9·5	10·3	10·5	9·4	9·0	9·1	8·7	8·4	8·5	10·2	11·4	12·3	12·2	11·5	11·1	10·8	11·0	10·3	9·5	9·5	8·4	6·9	8·1	
26**	7·4	8·4	10·0	6·6	7·4	9·9	9·3	8·7	8·5	8·6	9·5	13·0	13·6	16·0	17·1	15·4	15·6	10·2	9·2	8·2	4·1	1·6	2·3	6·6	
27	3·4	4·9	7·0	14·5	13·1	8·5	9·1	8·4	8·3	8·7	9·1	10·4	11·8	11·6	11·0	10·2	10·0	10·5	9·4	8·1	5·1	6·1	7·1	6·9	
28*	7·2	8·8	9·1	10·0	10·0	10·1	10·0	9·0	8·2	8·1	9·4	10·4	11·8	12·1	12·3	11·1	10·8	10·3	9·4	8·6	8·0	7·1	7·6	8·5	
29	9·1	9·5	9·7	10·2	10·1	9·5	8·4	8·5	8·4	8·5	9·6	10·5	11·3	11·1	11·0	10·7	10·0	8·1	9·1	8·9	8·2	7·4	7·1	4·1	
30*	6·1	8·0	8·5	9·0	9·8	9·3	10·2	9·8	9·5	9·9	11·0	11·2	11·7	11·2	10·1	9·9	9·5	9·4	9·0	8·9	8·9	8·5	8·7	8·5	
Mean	8·4	9·2	9·6	9·4	9·8	9·8	9·8	9·2	8·8	9·1	10·8	12·3	12·7	12·8	11·7	11·0	10·1	7·8	8·3	7·6	7·0	6·4	7·0	7·7	
Mean*	8·0	8·9	9·1	9·4	9·6	9·3	9·4	9·0	8·6	8·7	10·0	11·2	11·9	11·7	11·1	10·9	10·5	9·8	9·1	9·2	8·9	8·4	8·5	8·6	
Mean**	8·2	10·0	9·7	8·4	10·5	10·3	11·0	10·0	9·5	9·9	12·0	13·1	13·4	13·7	12·3	11·4	10·5	3·8	6·4	5·1	4·6	3·3	5·0	7·4	
December.	12° + Tabular Quantities.																								
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
1	8·8	9·2	9·4	9·5	10·0	9·4	9·0	10·7	10·0	8·7	9·2	10·4	12·8	12·0	11·5	9·9	9·2	9·1	6·5	4·8	4·4	3·5	5·7	7·5	
2**	7·1	7·9	6·7	8·8	9·5	9·9	10·0	10·3	12·6	13·4	13·6	14·2	13·9	14·9	11·4	7·5	11·4	10·1	7·1	2·2	−1·2	−2·7	5·6	7·4	
3**	10·5	5·1	6·1	8·4	11·6	12·7	9·9	10·4	10·4	12·0	12·0	11·0	11·1	11·7	8·4	4·7	8·5	7·4	3·8	1·9	−0·6	1·2	5·4	8·9	
4**	9·6	8·5	10·9	10·4	10·6	12·3	12·4	13·0	12·7	12·0	12·7	12·8	13·1	10·0	9·9	4·7	8·4	4·5	4·9	7·5	4·3	3·4	2·9	5·7	
5**	10·6	8·8	9·3	9·7	9·8	9·9	9·7	10·1	10·4	9·5	10·8	11·3	8·3	11·4	10·6	6·4	9·8	9·2	8·8	9·1	5·9	5·8	2·3	3·8	
6	7·8	8·8	10·2	13·1	11·8	8·9	8·8	8·4	9·4	9·9	10·8	10·8	10·6	12·8	10·8	8·0	6·2	9·0	5·8	5·8	8·2	7·8	6·3	6·8	
7	8·5	8·7	10·3	9·9	11·7	8·9	8·7	8·7	8·1	9·0	9·8	11·1	10·9	11·6	10·6	9·5	8·6	8·5	7·9	7·8	8·0	7·1	6·9	8·4	
8	8·5	9·5	9·9	10·1	10·0	9·4	9·0	9·0	8·3	8·5	9·7	10·6	11·6	11·3	10·7	9·9	9·2	8·9	9·2	8·6	7·8	7·9	7·5	9·0	
9	7·0	8·7	9·5	9·5	9·7	9·3	9·1	9·1	9·1	9·3	9·8	9·4	10·4	11·1	11·0	10·7	10·1	9·6	7·7	8·1	5·6	6·6	7·9	7·6	
10	8·3	8·3	8·1	7·1	8·2	9·5	8·8	9·1	11·9	11·9	12·3	12·5	10·2	10·2	10·0	9·6	9·2	8·8	8·6	8·2	8·1	6·2	6·2	4·8	
11**	5·9	7·0	8·0	8·7	8·7	8·1	8·4	8·5	8·3	8·7	9·9	11·3	10·4	10·2	11·2	11·4	13·9	11·9	11·5	9·6	0·2	8·6	4·5	2·6	
12	6·5	7·7	11·8	8·3	8·8	8·6	8·4	8·5	8·4	8·7	9·3	12·2	10·8	10·8	11·9	5·4	6·6	10·0	5·5	2·5	4·5	4·1	6·6	4·7	
13	7·4	7·2	8·5	10·5	9·4	9·0	8·7	8·5	8·5	8·5	9·5	11·0	10·3	10·9	9·5	8·8	10·9	7·9	8·5	8·5	5·7	4·5	6·7	6·5	
14	7·0	9·6	8·4	8·5	9·2	8·5	8·6	8·4	8·4	8·4	10·4	10·7	10·6	10·4	10·7	8·5	8·8	9·6	8·9	6·9	6·9	6·5	2·9	4·0	
15	7·0	7·9	9·1	8·9	9·1	9·4	8·6	9·4	8·4	8·6	8·9	9·4	11·4	11·4	9·4	9·4	8·4	3·7	9·4	7·3	5·9	1·4	5·3	6·7	
16	7·4	8·4	10·4	10·4	9·0	9·1	8·9	7·9	8·4	8·4	10·0	10·4	11·2	12·0	10·4	10·1	10·8	10·8	9·4	6·4	6·3	6·9	7·5	7·2	
17	8·4	9·7	5·2	8·6	6·8	10·2	8·1	8·1	8·1	7·9	9·3	10·1	11·0	10·7	11·0	10·6	10·6	10·4	9·9	8·9	7·5	5·4	7·2	7·8	
18	8·1	8·2	8·4	8·8	8·7	8·7	8·7	8·7	8·5	8·2	8·6	8·9	9·3	10·0	10·2	10·1	9·9	9·9	9·4	8·4	8·3	7·5	6·8	7·6	
19*	7·2	7·2	7·8	8·7	8·5	8·6	8·6	8·5	8·4	7·7	8·5	9·1	10·1	10·0	9·9	9·4	9·2	9·0	9·0	8·4	8·2	8·0	8·0	8·0	
20*	7·9	8·0	8·4	8·5	8·9	8·9	8·9	8·7	8·6	8·7	8·9	9·5	10·8	10·8	10·0	9·5	8·8	8·5	8·3	8·2	7·8	7·4	7·3	7·7	
21*	8·6	8·2	8·6	8·7	8·7	8·2	8·1	8·0	8·2	8·2	9·3	9·9	10·1	9·8	9·0	8·9	8·4	8·3	7·9	8·0	7·9	7·3	5·9	7·0	
22	6·9	7·9	8·3	7·6	8·7	6·0	6·4	6·9	7·2	7·9	9·1	9·9	10·4	10·3	10·1	10·1	9·1	9·1	8·6	8·7	8·1	7·8	4·7	5·9	
23	7·9	8·9	8·9	9·0	8·8	8·4	8·4	8·1	8·0	8·2	9·4	11·0	12·4	11·9	11·9	13·3	14·1	13·4	11·9	10·2	3·9	4·6	6·1	7·4	
24	8·1	7·2	7·8	8·7	8·5	8·6	8·8	8·3	8·0	8·4	9·3	10·3	10·9	10·9	10·1	9·5	8·9	8·2	8·0	7·5	7·4	7·7	7·3	7·2	
25	8·4	7·7	7·5	5·4	5·7	7·2	8·0	8·0	7·6	8·0	9·3	10·8	11·6	11·2	10·7	10·6	10·2	10·8	5·5	2·3	6·3	5·0	6·6	7·3	
26*	8·3	9·0	9·4	9·4	9·4	9·2	8·6	8·2	7·6	7·6	8·4	9·1	9·8	10·7	10·2	9·6	9·0	8·8	8·6	8·3	7·6	7·2	7·2	7·6	
27*	8·7	8·7	8·9	9·5	9·1	8·7	8·2	8·0	7·9	8·0	9·4	10·1	10·7	11·3	11·2	10·1	9·1	8·6	8·2	7·8	7·7	7·5	7·7	7·7	
28	8·2	8·7	8·8	8·8	8·8	8·6	8·2	8·2	8·4	9·2	10·3	11·3	11·6	11·3	11·5	10·8	11·3	10·6	12·0	7·8	7·4	6·9	6·1	2·3	
29	3·9	7·0	8·1	7·7	8·3	9·9	10·8	10·5	8·7	10·2	11·2	12·9	11·7	13·1	14·1	12·7	8·1	8·6	7·7	7·5	7·7	7·4	7·7	6·1	
30	1·3	10·7	6·5	6·3	12·6	8·4	9·4	9·4	9·8	10·3	10·9	13·4	11·9	12·0	8·4	9·2	8·9	8·8	8·3	6·8	6·7	5·0	1·3	2·0	
31	3·9	7·9	7·7	7·4	8·8	9·1	9·8	12·6	12·7	11·2	9·7	10·1	10·6	9·6	9·1	8·4	6·0	6·5	3·5	3·5	4·4	5·4	5·6	3·9	
Mean	7·5	8·3	8·6	8·9	9·3	9·1	8·9	9·0	9·1	9·2	10·0	10·8	11·0	11·2	10·5	9·3	9·4	9·0	8·1	7·0	6·0	5·8	6·0	6·4	
Mean*	8·1	8·2	8·6	9·0	8·9	8·7	8·5	8·3	8·1	8·0	8·9	9·5	10·3	10·5	10·1	9·5	8·9	8·6	8·4	8·1	7·8	7·5	7·2	7·6	
Mean**	8·7	7·5	8·2	9·2	10·0	10·6	10·1	10·5	10·9	11·1	11·8	12·1	11·4	11·6	10·3	6·9	10·4	8·6	7·2	6·1	1·7	3·3	4·1	5·7	

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

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

January. 18000 γ + Tabular Quantities (in γ).

	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	548	545	543	545	551	556	558	558	558	556	556	556	556	558	557	558	556	558	562	559	553	544	528	532	
2	543	540	553	551	551	553	552	556	553	551	548	551	552	553	549	553	556	556	557	556	555	548	556	552	
3*	549	551	551	550	552	553	553	555	556	555	556	556	560	561	558	556	556	556	555	553	552	551	549	549	
4	551	551	553	554	555	553	553	554	555	553	547	553	561	561	558	552	552	553	552	553	553	552	552	553	
5	553	551	553	553	553	556	556	554	554	555	556	558	561	561	559	558	558	559	557	556	555	555	551	548	
6	550	551	558	560	564	567	567	563	559	557	556	553	558	559	562	561	561	562	560	559	556	554	554	554	
7*	554	556	557	559	559	562	564	563	559	557	557	556	557	560	563	562	559	559	559	560	559	554	554	555	
8*	555	555	557	558	561	564	565	562	560	557	555	556	559	564	563	559	559	562	562	562	561	559	558	559	
9	557	555	567	562	554	567	567	570	566	562	556	552	561	554	552	546	549	550	554	550	549	536	525	523	
10**	529	528	526	536	544	553	555	559	543	546	544	542	541	547	547	541	538	545	540	558	556	544	540	540	
11	541	538	543	546	549	550	551	546	541	538	541	543	549	554	554	551	547	539	540	541	536	536	533	543	
12	545	538	541	544	547	552	555	553	548	549	548	545	545	544	543	546	552	548	550	549	549	552	548	548	
13	547	544	546	546	549	552	552	550	548	548	544	548	550	552	551	549	546	547	549	550	552	553	554	551	
14	548	548	548	549	551	551	551	548	547	544	545	554	556	556	554	551	553	556	558	555	555	554	552	548	
15	543	543	543	546	551	552	554	554	548	554	557	563	558	558	553	548	551	553	553	551	553	553	545	550	
16**	549	545	551	557	566	562	562	562	554	540	545	551	543	553	532	532	524	522	540	535	535	533	545	564	
17**	527	531	544	552	550	557	547	541	543	536	522	494	502	520	526	514	539	542	546	541	540	540	539	557	
18**	549	541	537	541	547	550	552	552	520	518	541	547	548	548	537	515	514	524	527	545	543	537	540	544	
19	536	535	535	542	546	548	549	543	543	541	531	533	541	548	543	545	545	546	545	545	537	543	543	561	
20	558	539	544	548	551	551	553	553	552	548	548	549	551	547	544	526	531	514	525	531	541	544	541	559	
21	545	544	545	549	551	558	559	561	560	556	552	552	557	555	551	548	548	543	540	539	543	544	548	548	
22	547	546	548	547	550	551	556	560	557	541	542	544	544	547	547	549	551	552	552	551	549	550	549	547	
23	559	551	551	551	550	554	557	558	559	550	550	550	552	557	555	544	542	543	547	550	550	549	552	552	
24*	548	549	551	551	557	562	562	560	560	562	560	553	556	560	557	553	551	555	560	560	560	558	557	555	
25**	555	555	556	557	558	560	563	560	563	562	557	555	556	557	555	559	563	562	551	531	513	503	497	500	
26	505	524	534	530	538	544	545	547	550	540	538	534	535	537	540	543	545	548	542	545	547	547	544	542	
27	540	540	541	542	547	548	550	547	544	542	542	541	543	549	544	540	536	541	540	539	539	536	524	521	
28	536	534	555	541	539	549	548	547	539	531	530	525	520	533	544	542	544	547	541	543	542	541	540	557	
29	542	541	540	542	545	547	550	551	552	551	547	534	526	531	527	536	534	542	547	547	544	541	545	546	
30*	544	545	547	547	547	551	551	551	546	540	534	526	537	546	549	550	551	551	551	551	551	549	551	550	
31	549	549	549	546	549	551	551	550	549	543	538	538	538	541	538	539	541	542	545	541	549	549	549	556	
Mean	545	544	547	549	551	554	555	555	551	548	547	546	548	551	549	546	547	548	549	549	548	546	544	547	
Mean*	550	551	553	553	555	558	559	558	556	554	552	549	554	558	558	556	555	557	557	557	557	554	554	554	
Mean**	542	540	543	549	553	556	556	555	545	540	542	538	538	545	539	532	536	539	541	542	537	531	532	541	

February. 18000 γ + Tabular Quantities (in γ).

	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	554	547	545	549	551	554	560	556	554	544	541	539	538	542	546	546	544	548	551	547	547	530	528	525	
2	559	525	530	533	534	551	547	551	543	528	535	539	535	539	543	542	541	541	546	547	546	542	543	543	
3	547	546	566	543	554	571	556	552	555	545	538	535	535	539	545	543	537	543	544	541	541	545	546	546	
4	546	546	547	546	545	551	559	552	535	528	535	534	538	543	541	540	543	544	548	549	542	541	531	540	
5	546	559	552	540	544	549	551	553	549	542	535	537	543	548	551	551	552	553	554	555	550	543	546	545	
6*	544	544	544	549	548	547	551	549	549	543	538	537	539	547	553	556	558	555	554	553	547	542	544	554	
7	549	548	550	552	557	560	557	554	549	537	530	540	545	551	557	556	556	556	559	556	558	554	547	537	
8	537	534	531	535	541	547	550	548	546	546	544	543	542	546	546	546	548	549	551	551	551	547	548	543	
9	541	550	550	549	550	553	555	552	551	551	553	550	547	547	546	553	551	547	551	554	554	549	549	546	
10*	547	546	542	546	547	550	554	557	556	555	554	555	554	556	554	551	552	554	555	555	556	554	554	552	
11	551	549	548	549	549	553	556	556	550	549	546	549	546	547	546	545	549	551	547	547	538	541	543	546	
12*	548	547	548	549	550	553	555	556	556	554	552	551	551	551	550	546	545	546	549	550	553	554	554	554	
13**	556	551	546	556	554	555	556	564	573	584	589	589	583	556	561	553	543	530	526	522	535	573	532	530	
14**	551	555	546	526	541	554	556	551	554	546	523	521	532	520	528	535	520	541	538	550	543	546	572	549	
15**	542	541	543	538	541	538	538	545	525	517	525	512	525	527	515	512	512	528	522	546	547	559	539	546	
16	546	532	541	546	541	541	543	548	541	537	536	535	539	542	538	542	543	543	546	546	547	549	549	548	
17	547	544	545	546	548	549	552	554	549	539	528	529	533	535	541	543	545	542	548	551	552	551	554	556	
18	554	550	549	549	550	552	551	550	545	535	526	533	539	546	549	547	546	540	545	551	554	551	552	553	
19	554	551	552	553	554	555	556	556	551	543	538	541	546	549	551	551	550	538	535	545	549	549	550	553	
20*	554	555	546	545	550	553	550	550	549	543	537	534	543	550	551	551	551	554	556	555	551	551	551	551	
21*	549	549	550	551	553	553	551	547	542	527	527	530	539	544	545	549	549	549	551	554	553	550	549	551	
22	550	549	550	550	551	552	552	551	545	534	526	532	540	543	542	546	551	554	551	546	549	549	551	551	
23	551	552	550	547	549	551	555	555	549	543	537	533	535	542	547	547	543	547	553	555	556	555	549	545	
24**	550	547	554	555	555	551	580	555	543	540	533	509	499	526	528	528	512	509	503	473	495	513	516	522	
25**	526	523	520	524	526	530	529	529	526	523	521	519	522	528	525	526	522	505	513	523	513	529	541	546	
26	527	522	524	522	529	535	542	532	532	529	526	533	528	533	533	514	529	540	541	543	543	560	544	535	
27	532	532	538	535	537	542	544	538	528	536	533	514	509	522	530	535	538	541	541	551	548	546	543	551	
28	544	543	541	542	543	551	549	544	542	538	539	537	535	537	541	546	546	542	543	546	543	549	544	549	
Mean	547	544	545	544	546	550	552	550	546	541	537	536	538	541	543	543	542	543	544	545	545	547	545	545	
Mean*	548	548	546	548	550	551	552	552	550	544	542	541	545	550	551	551	551	552	553	553	552	550	550	552	
Mean**	545	543	542	540	543	546	552	549	544	542	538	530	532	531	531	531	522	523	520	523	527	544	540	539	

* 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	546	545	543	549	549	543	549	550	550	540	535	542	543	538	542	542	545	545	551	553	550	549	551	553	
2	550	549	547	548	548	548	552	555	553	549	549	546	543	554	551	538	522	532	524	534	537	545	566	548	
3	547	549	549	545	564	547	544	543	524	537	532	531	535	541	538	538	541	531	538	543	556	551	559	546	
4	546	545	545	546	549	549	546	546	542	533	531	531	537	541	548	549	546	551	553	553	554	552	558	565	
5	552	547	549	548	547	549	551	552	546	539	535	535	535	543	551	551	548	546	547	551	551	553	553	552	
6*	551	550	551	554	555	554	555	555	547	533	526	522	521	537	542	547	547	554	552	549	547	548	551	551	
7	549	548	549	552	553	552	554	553	544	531	525	522	519	529	541	547	549	546	552	555	560	560	556	556	
8	566	556	550	548	550	552	555	555	544	537	528	523	533	543	550	554	560	560	548	548	543	543	546	557	
9	557	543	544	545	552	552	552	552	545	533	526	523	523	531	542	541	545	542	536	542	549	559	551	547	
10	550	546	545	546	548	550	550	547	538	532	529	530	537	543	552	555	531	543	563	561	563	557	555	552	
11*	549	548	549	548	548	553	551	552	546	534	532	529	529	533	539	548	550	551	555	557	557	555	557	553	
12**	563	558	553	555	558	560	558	550	544	536	531	534	534	540	547	546	553	560	553	549	529	536	555	542	
13**	538	545	537	545	550	543	542	542	541	529	524	524	514	534	540	543	534	538	544	570	538	537	550	551	
14**	521	532	533	532	537	547	546	537	533	514	517	521	522	519	523	536	536	532	534	546	550	550	553	549	
15	555	552	547	544	544	548	547	547	537	536	528	527	523	531	541	545	545	551	553	553	555	555	555	558	
16	558	550	546	547	550	552	549	542	539	533	523	511	513	525	533	540	549	553	554	555	556	557	555	554	
17	554	553	555	554	553	554	554	550	540	529	521	515	514	521	525	532	540	544	548	544	548	554	555	554	
18*	554	556	553	553	554	555	555	553	545	534	521	522	529	536	540	547	551	553	554	554	554	554	554	555	
19*	554	553	553	555	555	555	554	549	540	528	521	523	527	532	541	546	548	550	553	550	555	553	557	555	
20	555	557	559	555	557	558	557	554	546	536	529	531	532	533	542	545	554	563	569	571	572	565	556	553	
21**	548	542	548	552	555	558	553	552	545	539	526	524	515	528	537	537	542	543	543	548	540	549	545	542	
22	549	549	546	541	539	540	545	541	531	531	531	532	535	540	545	549	549	549	550	551	549	541	538	530	
23	537	539	537	537	546	545	540	535	531	525	524	526	533	539	541	543	552	543	548	554	542	541	542	544	
24	544	536	547	542	541	547	544	539	537	531	523	523	—	—	—	—	—	547	549	546	547	547	548	548	
25	548	548	551	550	550	547	555	551	534	531	518	524	536	537	545	546	546	553	541	530	527	533	546	550	
26**	567	550	536	536	542	538	539	545	546	541	536	533	530	525	522	541	543	546	551	550	549	548	547	547	
27	557	551	548	548	547	549	557	554	549	541	524	524	521	532	538	541	543	550	548	543	541	553	546	545	
28	549	550	545	543	545	551	547	538	536	530	529	530	541	547	551	551	549	543	549	553	555	553	552	554	
29	555	548	543	549	548	559	559	551	544	533	536	536	538	540	543	547	543	545	549	556	549	546	558	549	
30*	549	549	548	548	548	549	547	543	543	540	538	543	550	553	555	554	551	549	550	552	552	554	557	557	
31	554	554	555	555	556	558	559	552	543	538	531	539	538	534	542	553	550	550	552	555	556	556	558	558	
Mean	551	549	547	548	550	551	551	548	542	534	529	528	530	536	541	545	545	547	549	551	550	550	553	551	
Mean*	551	551	551	552	552	553	552	550	544	534	528	528	531	538	543	548	549	551	551	552	553	553	555	554	
Mean**	547	545	541	544	548	549	548	545	542	532	527	527	523	529	534	541	542	544	545	553	541	544	550	546	
April.	18000 γ + Tabular Quantities (in γ).																								
1**	556	555	554	555	555	554	552	548	539	531	529	534	544	551	550	551	544	541	539	539	550	555	556	550	
2	550	544	542	547	548	548	545	543	537	526	518	534	546	555	560	559	560	560	558	562	560	560	565	570	
3**	570	565	564	560	558	554	547	547	541	535	529	529	538	544	555	546	539	539	535	526	525	544	552	546	
4	544	544	546	547	546	547	544	542	534	521	514	520	534	534	537	542	550	548	548	543	546	550	539	552	
5	563	552	556	550	546	547	547	542	532	519	516	524	531	542	547	552	553	552	555	555	555	555	555	555	
6*	555	555	556	555	555	558	555	551	544	534	522	522	525	533	536	544	552	557	559	559	558	558	556	558	
7	558	555	555	555	555	558	559	557	551	539	531	529	535	546	550	555	560	563	565	565	564	560	559	563	
8	566	559	557	558	560	562	564	562	558	548	536	532	538	551	556	558	555	563	567	568	568	566	566	569	
9	560	557	554	557	561	562	561	560	548	538	531	530	538	543	553	559	557	566	573	577	574	574	576	578	
10**	568	555	559	565	577	554	556	551	535	532	527	525	532	527	540	551	553	557	556	552	545	551	557	563	
11	555	550	548	548	550	553	551	544	531	530	522	513	509	523	517	535	549	561	559	546	556	556	556	555	
12*	552	549	548	548	548	548	548	545	540	530	527	527	530	531	535	540	545	548	551	552	553	555	554	555	
13*	552	551	548	548	548	551	551	550	550	546	538	531	538	543	544	545	542	552	555	557	555	557	557	560	
14*	558	556	556	556	555	556	554	551	547	543	538	535	542	546	549	551	550	555	560	563	563	567	570	563	
15	560	559	560	559	559	558	556	551	547	539	529	534	543	548	551	547	558	560	559	556	554	559	563	564	
16	564	565	565	555	556	558	555	552	546	537	526	524	536	542	549	557	563	566	572	570	572	572	575	572	
17	570	566	567	564	564	564	559	555	549	540	534	537	543	551	554	559	558	562	566	569	568	570	569	570	
18	562	558	563	574	554	549	548	546	540	526	517	523	528	536	545	546	554	557	551	549	553	556	555	556	
19**	557	557	554	551	549	551	546	538	529	524	521	528	531	548	566	573	564	560	543	557	550	530	528	543	
20**	554	545	546	530	557	541	538	521	519	498	474	500	523	526	530	537	545	549	551	552	555	553	553	550	
21	551	551	551	550	550	549	547	545	534	528	524	528	536	543	554	559	561	562	563	566	557	559	558	557	
22	562	557	557	557	551	546	548	540	534	526	521	517	527	536	545	549	559	551	547	555	552	555	554	555	
23	567	554	546	546	548	546	547	547	542	536	523	519	528	526	539	555	551	554	554	556	556	557	558	558	
24	566	554	549	549	549	549	549	542	537	527	518	519	527	532	540	550	559	562	563	563	563	563	562	566	
25	561	559	556	556	556	553	550	552	548	540	535	535	542	546	553	557	562	569	566	562	562	567	569	558	
26	558	556	556	562	558	545	549	540	541	540	540	539	537	537	540	548	553	561	563	561	563	556	552	557	
27	554	549	550	549	550	550	551	552	548	541	537	539	541	547	552	556	554	557	555	553	556	558	558	557	
28	556	553	553	553	553	553	556	558	556	547	539	542	548	556	552	557	558	563	560	563	567	566	569	567	
29*	562	560	558	556	553	551	550	548	547	542	536	537	538	539	542	550	551	557	561	559	560	559	561	561	
30	560	564	558	556	557	554	553	553	554	548	542	540	545	548	551	552	553	558	560	558	559	558	559	560	
Mean	559	555	554	555	554	552	551	548	542	534	527	528	535	541	546	551	554	557	557	557	557	558	559	560	
Mean*	556	554	553	553	552	553	552	549	546	539	532	530	535	538	541	546	548	554	557	558	558	559	560	559	
Mean**	561	555	555	552	559	551	548	541	533	524	516	523	534	539	548	552	549	549	545	545	545	547	549	550	

* 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	563	562	556	553	552	552	548	543	542	540	539	532	544	548	554	559	568	571	571	568	567	567	567	566	
2	566	564	567	558	561	558	558	556	547	537	536	534	540	545	554	558	563	566	566	563	563	561	561	561	
3	559	560	563	562	560	556	558	566	553	542	541	544	551	555	554	561	562	563	562	562	557	558	563	562	
4	562	565	565	558	557	562	558	565	561	550	539	539	544	550	550	560	566	567	566	563	557	558	558	560	
5	558	556	557	556	562	561	561	558	556	547	532	529	529	544	548	550	561	568	566	560	563	560	564	563	
6**	561	560	565	563	561	569	568	564	550	555	527	521	533	543	541	555	551	557	560	559	556	551	548	548	
7**	553	565	575	597	610	547	544	549	543	524	508	479	510	517	515	534	549	548	545	547	561	548	548	548	
8	543	543	540	541	543	541	536	534	528	519	518	517	530	533	545	546	550	551	553	557	553	552	550	549	
9*	548	548	545	545	547	547	543	541	538	538	537	540	540	544	545	552	552	557	557	554	553	553	553	553	
10*	553	553	547	547	548	548	549	548	545	536	532	536	549	554	558	560	561	560	560	560	561	561	562	560	
11	560	558	560	560	561	558	557	557	559	554	554	557	556	560	560	552	562	578	575	557	541	539	547	541	
12	538	547	541	541	553	532	528	537	534	526	528	530	538	539	541	544	549	557	557	557	555	562	552	552	
13**	551	546	546	547	552	552	541	536	536	536	532	531	528	531	537	550	565	573	567	561	545	553	548	550	
14**	543	546	546	554	551	540	536	536	534	532	535	539	537	542	541	546	559	574	573	564	554	591	558	567	
15**	541	531	557	563	554	515	530	505	500	508	511	513	528	531	534	541	549	560	552	565	549	546	549	549	
16	546	544	546	546	541	533	518	519	534	538	538	534	544	542	549	540	551	559	554	544	549	547	546	548	
17	557	547	541	540	533	536	541	534	531	536	537	537	534	541	549	554	554	560	560	559	555	554	557	554	
18	557	558	562	556	550	531	529	530	539	546	540	534	538	540	546	546	545	549	559	558	549	547	545	546	
19	544	551	550	546	544	544	540	531	529	532	531	537	539	541	546	546	544	557	562	562	559	557	557	557	
20	555	553	558	553	553	552	546	538	527	522	524	531	532	551	553	557	567	564	557	546	559	553	554	544	
21	549	551	554	554	554	550	549	542	536	529	534	541	550	548	555	561	564	565	565	558	557	554	555	555	
22*	555	556	557	555	555	554	551	541	532	526	524	525	538	537	544	554	558	563	559	559	559	557	557	556	
23*	557	559	554	554	557	557	553	544	535	529	523	525	528	536	550	559	565	566	569	568	566	565	566	566	
24	567	564	564	564	564	562	562	560	551	541	534	538	545	542	555	564	570	565	566	567	564	564	564	562	
25	559	559	557	555	555	551	549	549	549	547	549	549	551	547	553	566	572	571	559	565	572	575	575	580	
26	584	563	569	570	567	580	575	560	538	529	533	538	533	528	531	552	574	546	564	568	560	559	558	557	
27	553	554	549	554	551	544	543	532	528	532	531	544	546	548	550	550	555	559	559	559	553	551	550	548	
28*	549	548	546	545	545	540	535	528	526	527	531	538	543	547	551	553	553	556	557	557	558	557	559	559	
29	557	557	554	553	554	554	551	548	544	544	549	550	558	560	558	531	557	560	563	565	562	557	557	557	
30	557	557	556	555	556	557	553	546	541	540	545	553	559	554	554	551	554	563	561	562	563	562	560	560	
31	559	560	562	559	558	555	551	544	536	533	537	545	547	549	558	560	563	559	562	567	567	568	570	569	
Mean	555	554	555	555	555	550	547	543	539	535	533	534	540	544	548	552	559	562	562	560	558	558	557	556	
Mean*	552	553	550	549	550	549	546	540	535	531	529	533	540	544	550	556	558	560	560	560	559	559	559	559	
Mean**	550	550	558	565	566	545	544	538	533	531	523	517	527	533	534	545	555	562	559	559	553	558	550	552	
June.	18000 γ + Tabular Quantities (in γ).																								
1	570	567	562	567	567	564	558	548	532	525	528	537	541	542	554	575	590	602	578	582	584	594	572	546	
2**	568	569	564	566	564	564	547	539	518	482	510	518	525	536	535	528	548	548	552	549	555	546	547	557	
3	561	546	543	544	543	528	531	523	519	518	517	520	528	539	547	559	557	562	563	558	558	557	555	558	
4	554	553	553	552	555	549	542	531	525	523	520	524	539	542	547	551	557	563	562	559	560	559	554	553	
5*	552	551	551	554	556	550	547	545	541	539	538	535	538	546	556	561	563	568	567	569	571	566	565	565	
6	570	577	564	570	565	561	554	544	529	525	532	545	542	541	542	559	567	568	583	572	564	559	559	562	
7	559	563	559	558	559	560	554	546	536	526	517	527	536	532	544	546	559	556	557	563	566	560	562	555	
8	554	553	553	555	553	553	550	545	540	537	537	539	537	345	550	556	563	567	587	590	563	563	573	556	
9**	544	546	565	534	542	526	506	523	513	508	497	504	497	509	518	540	549	551	556	549	548	546	549	556	
10	543	538	539	541	541	551	530	536	528	530	539	539	551	548	543	536	560	574	569	569	570	564	560	563	
11	559	548	567	546	542	533	526	527	530	529	520	521	525	539	556	544	553	561	567	567	561	561	566	574	
12	561	551	544	541	539	541	541	538	528	520	529	540	539	534	546	569	554	561	557	559	551	552	553	551	
13	547	548	546	543	542	538	534	529	525	530	534	533	533	529	551	550	550	557	559	557	561	561	555	561	
14	559	551	547	547	543	544	539	535	534	533	535	538	544	541	550	554	552	559	563	563	555	554	550	554	
15*	563	548	548	548	542	545	535	528	525	528	535	546	546	550	557	557	558	560	561	558	561	559	556	560	
16*	556	556	555	555	554	548	546	546	547	541	541	542	543	547	548	556	561	567	574	572	569	567	568	569	
17*	560	560	560	561	560	556	552	547	540	532	537	541	545	555	565	567	569	562	559	563	571	569	566	563	
18	564	564	573	564	564	561	558	550	546	537	534	532	534	538	548	553	559	568	568	565	562	557	556	558	
19	563	564	563	563	566	565	556	551	543	532	517	529	527	536	548	558	559	566	571	573	566	566	562	561	
20	561	560	559	560	562	566	558	545	527	515	517	524	533	538	556	555	554	559	564	566	563	564	563	560	
21	558	558	558	559	561	563	559	548	543	543	540	539	537	534	547	555	553	573	583	572	577	572	569	568	
22	568	565	566	566	567	568	563	556	558	550	536	529	527	529	541	553	562	570	561	571	573	570	560	564	
23	565	564	562	560	562	561	556	554	551	549	545	540	534	534	546	555	562	568	564	567	565	565	562	566	
24	559	556	554	557	562	557	554	548	550	545	540	541	544	547	553	558	550	555	565	570	566	562	562	560	
25*	560	559	559	557	554	562	561	588	548	538	530	535	539	544	544	549	554	559	566	568	569	568	569	565	
26**	564	561	560	560	562	564	560	552	544	536	540	547	548	548	548	600	574	588	578	591	593	595	572	548	
27**	553	555	560	553	557	553	552	545	539	542	541	534	531	546	536	553	536	556	561	563	556	553	559	567	
28**	568	560	565	543	547	555	540	539	522	524	510	524	531	526	532	533	549	555	574	581	576	549	565	564	
29	545	546	550	549	544	546	536	531	525	531	530	516	533	536	544	560	561	563	565	559	561	557	560	557	
30	556	554	553	551	550	543	540	535	530	524	527	541	557	559	554	551	558	558	562	562	559	558	557	556	
Mean	559	556	557	554	554	553	546	541	535	530	529	533	536	540	547	555	558	564	567	567	565	562	561	560	
Mean*	558	555	555	555	553	552	548	545	540	536	536	540	542	548	554	558	561	563	565	566	568	566	565	564	
Mean**	559	558	563	551	554	552	541	540	527	518	520	525	526	533	534	551	551	560	564	567	566	558	558	558	

* 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	554	555	556	557	557	552	544	538	527	522	523	532	541	552	558	565	563	566	563	563	565	563	564	565	
2	563	561	556	558	571	568	562	556	541	530	530	540	550	540	544	563	564	567	574	578	572	556	558	548	
3	547	546	550	550	553	546	536	527	530	536	536	536	537	535	544	549	563	565	558	564	565	558	557	553	
4	558	554	556	556	556	550	544	543	533	527	520	524	530	537	549	560	564	574	572	571	576	565	557	558	
5	556	554	553	553	552	553	553	550	540	528	519	509	513	524	536	553	563	566	564	567	567	570	569	558	
6	553	552	549	553	555	553	550	546	545	540	535	531	527	535	533	549	566	571	574	570	565	560	557	554	
7	553	551	555	558	557	565	560	554	547	538	528	530	538	544	549	555	564	572	577	575	564	570	559	554	
8	560	560	556	559	564	559	551	546	547	547	544	534	536	538	546	557	559	564	566	564	564	564	560	559	
9*	554	553	554	557	559	560	556	554	549	542	541	539	536	540	545	553	560	562	564	568	571	567	559	561	
10*	554	554	553	553	554	554	553	552	549	538	532	535	542	547	551	553	557	559	558	567	569	571	667	566	
11	566	566	564	566	570	560	545	555	557	553	550	538	546	557	546	549	555	571	586	575	573	575	557	558	
12	557	562	566	558	553	547	546	544	538	537	544	542	546	547	551	557	567	563	566	570	571	573	573	571	
13	569	566	563	561	553	554	553	542	536	533	526	534	536	545	557	560	557	557	560	571	567	568	571	568	
14	561	557	555	553	554	551	542	547	542	513	488	515	545	562	558	553	562	549	546	566	563	563	559	560	
15	555	557	557	558	551	549	546	536	502	519	540	538	541	542	551	557	546	545	555	559	564	559	562	566	
16	556	562	566	546	557	554	547	538	535	523	519	520	524	536	549	552	557	557	556	554	555	559	558	564	
17	568	565	553	550	547	546	540	531	520	523	530	532	533	534	546	550	553	553	558	559	557	558	560	563	
18	565	560	559	558	559	560	557	540	536	529	534	541	544	550	554	552	555	561	563	563	562	559	557	554	
19*	555	555	557	558	559	557	549	543	531	528	527	534	538	549	557	557	564	563	559	562	562	559	559	555	
20*	554	555	557	559	559	558	555	550	541	531	531	537	541	539	541	554	559	567	571	566	567	566	563	559	
21**	559	557	563	562	564	560	560	550	544	538	531	525	525	535	549	551	560	572	570	564	563	565	563	559	
22	557	551	554	553	557	554	554	552	544	534	528	528	538	550	558	557	557	559	561	562	562	562	560	559	
23**	557	555	559	572	579	587	580	570	557	546	518	518	517	547	567	583	567	535	545	544	556	551	553	546	
24**	553	537	543	540	545	540	538	535	516	486	510	525	534	541	540	549	542	550	554	554	553	554	556	553	
25**	554	551	547	547	539	544	527	544	538	517	499	501	528	513	525	525	523	547	553	554	558	560	553	570	
26**	538	551	557	552	528	549	538	531	531	523	518	516	518	507	522	544	557	556	551	547	556	551	551	554	
27	552	546	543	541	540	536	537	529	521	518	519	525	536	549	555	564	555	549	559	560	554	550	556	558	
28**	560	566	568	558	548	562	560	545	537	521	521	505	523	544	538	547	547	553	551	557	549	563	570	560	
29	549	544	543	549	548	533	527	532	533	523	516	522	528	544	542	556	553	548	557	554	556	557	557	549	
30	549	546	544	543	550	547	541	531	515	525	521	525	536	544	551	555	549	547	551	558	555	556	551	548	
31	546	541	544	547	547	547	545	537	526	523	518	519	523	536	549	551	554	552	553	553	553	551	551	551	
Mean	556	555	555	554	554	553	548	544	536	529	526	527	534	541	547	554	557	559	561	563	562	561	560	558	
Mean*	555	555	557	558	559	558	555	550	543	535	532	534	536	542	549	554	560	565	564	565	566	566	562	560	
Mean**	552	552	555	554	548	556	549	545	536	519	513	513	524	530	538	550	547	548	551	551	554	556	557	557	
August.	18000 γ + Tabular Quantities (in γ).																								
1	551	551	551	551	550	554	551	545	539	537	536	546	552	553	549	550	549	557	562	559	561	557	551	547	
2*	546	546	547	549	549	547	541	536	529	527	522	527	538	548	554	555	558	559	559	556	555	556	554	558	
3	562	567	572	567	562	555	539	538	539	533	519	508	530	535	535	541	549	550	553	557	557	557	555	554	
4	553	549	548	556	554	553	548	535	524	520	514	522	529	541	541	551	554	557	559	559	549	553	553	552	
5	553	553	552	552	554	551	549	542	532	526	521	524	535	543	546	544	566	556	545	548	546	545	547	543	
6	545	555	549	544	547	548	544	538	530	534	536	540	552	531	535	542	547	552	568	558	559	560	560	563	
7	563	565	564	565	572	571	566	557	540	529	519	523	531	533	516	544	533	539	549	557	558	558	562	570	
8**	571	562	547	547	548	546	555	553	540	536	534	527	534	536	535	549	544	555	552	543	548	504	555	552	
9**	570	547	544	553	554	547	531	521	532	538	529	521	518	539	539	539	535	539	545	547	575	542	540	540	
10	543	543	543	540	545	538	547	539	533	526	521	521	523	531	536	536	536	531	545	549	557	568	555	554	
11	561	544	548	539	544	549	537	544	534	516	514	521	521	532	532	532	529	541	549	548	549	546	547	548	
12*	548	548	547	542	544	539	536	527	529	534	534	543	544	540	535	534	541	545	543	549	554	549	552	550	
13	553	552	545	545	544	544	545	540	533	533	535	545	557	559	565	549	536	547	558	552	557	557	553	550	
14	550	550	550	550	545	548	548	543	532	530	537	548	550	552	545	548	543	548	546	548	556	549	549	549	
15	548	549	549	549	549	549	548	541	535	527	527	534	538	540	540	546	553	558	559	557	553	554	544	543	
16	555	559	557	547	552	550	545	543	531	530	522	523	519	543	563	561	557	545	537	553	556	550	566	556	
17*	543	546	548	548	549	544	533	527	522	519	523	528	544	546	550	550	549	548	550	551	553	554	555	559	
18*	552	551	550	550	550	553	550	545	542	528	527	531	535	540	537	548	550	556	550	557	559	559	560	560	
19	564	560	557	562	561	558	561	550	537	522	506	509	532	550	561	567	561	564	558	563	561	563	561	543	
20**	558	558	558	556	566	548	504	523	545	536	523	498	530	545	530	537	540	549	544	566	551	546	553	553	
21**	555	545	546	544	546	543	557	540	543	534	527	508	538	537	532	529	557	558	554	550	553	569	559	546	
22	538	539	540	543	543	541	540	535	531	536	548	558	561	553	550	547	540	552	550	550	548	551	550	549	
23	550	545	549	553	549	548	541	539	534	525	538	547	552	541	544	544	545	546	549	559	558	558	558	562	
24	571	554	554	554	557	558	554	545	542	541	545	546	553	554	548	553	554	553	554	558	560	552	546	553	
25**	550	547	552	536	532	557	543	524	522	519	521	490	521	523	531	524	553	556	568	547	544	563	557	545	
26	545	542	541	545	543	537	536	529	519	512	525	527	538	552	550	557	558	553	544	555	563	570	575	545	
27	543	540	543	547	546	540	528	519	520	529	540	534	544	541	533	542	563	549	557	555	558	557	567	567	
28	574	534	537	538	539	537	531	513	497	512	527	533	527	542	540	544	540	545	549	550	553	550	549	545	
29	557	549	546	545	542	534	540	540	531	527	531	537	540	544	542	537	537	538	548	548	553	546	546	546	
30*	546	545	544	544	544	542	540	533	524	516	518	527	536	548	553	551	553	552	557	555	554	553	549	547	
31	547	549	553	550	548	550	549	542	528	520	521	530	534	537	540	545	551	554	556	555	557	552	544	546	
Mean	554	550	549	549	549	548	543	537	531	528	527	528	537	542	542	545	548	550	552	554	555	555	554	551	
Mean*	547	547	547	547	547	545	540	534	529	525	525	531	539	544	546	548	550	552	552	554	555	554	554	555	
Mean**	561	552	549	547	549	548	538	532	536	533	527	509	528	536	533	536	546	551	553	551	554	557	553	547	

* 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	551	558	549	553	544	554	552	540	519	514	519	520	524	531	539	541	544	548	549	551	546	548	556	562	
2*	552	546	546	545	544	545	540	531	523	517	513	520	531	542	547	549	550	554	559	558	557	558	556	553	
3	557	554	554	554	556	561	563	559	562	548	538	540	539	541	541	541	535	540	559	572	565	565	561	576	
4**	567	584	550	536	558	559	524	537	530	501	484	491	497	506	535	537	532	556	542	532	545	546	545	543	
5	541	540	543	541	536	544	539	540	522	504	516	523	517	532	540	543	544	548	543	549	549	541	552	552	
6**	546	554	550	546	540	540	543	530	481	475	493	501	492	504	512	525	532	534	543	548	544	572	553	539	
7	546	539	528	543	546	545	537	509	512	524	519	509	509	521	524	528	531	538	557	544	544	544	548	543	
8	545	543	540	539	539	528	540	533	521	520	514	510	523	528	533	535	528	524	532	533	535	548	531	532	
9	551	542	539	559	544	549	541	530	522	525	532	537	542	539	532	525	534	529	530	525	534	550	532	541	
10	557	541	541	541	537	535	528	529	519	514	514	516	525	531	533	534	529	527	538	537	540	545	546	545	
11	546	552	551	549	544	538	538	538	521	511	501	523	533	533	538	537	540	547	546	551	547	548	551	547	
12	557	551	542	541	540	537	531	524	518	515	516	531	547	542	520	532	541	543	540	540	538	540	542	542	
13	541	542	542	543	539	540	533	531	522	525	523	538	541	538	540	539	538	530	545	548	551	546	543	546	
14	546	546	550	549	553	549	552	540	533	526	516	515	532	539	539	549	532	540	541	538	534	571	546	538	
15**	541	535	555	550	536	541	548	543	526	493	482	507	522	526	509	502	509	513	507	521	529	537	543	545	
16**	547	569	550	537	538	525	524	508	506	499	515	520	509	512	525	515	526	543	546	546	543	550	580	554	
17**	525	521	535	531	543	536	522	510	498	498	490	480	500	515	528	532	537	532	538	544	544	537	541	535	
18*	538	534	536	535	535	536	534	530	525	517	506	509	522	519	524	530	536	542	546	545	542	544	547	554	
19*	545	539	540	544	545	545	541	538	532	522	519	516	526	529	533	534	541	541	534	538	548	548	546	547	
20	545	554	555	552	550	547	549	544	537	531	531	534	542	545	547	537	547	555	523	525	527	540	549	529	
21	526	528	520	536	537	539	524	520	514	518	523	512	510	533	544	541	541	543	549	544	547	536	553	563	
22	545	536	527	534	533	529	543	536	528	521	519	522	527	529	538	543	546	544	537	539	545	534	555	540	
23	538	542	544	541	542	540	547	543	537	528	524	526	528	535	526	523	539	541	544	543	544	547	550	569	
24	563	550	534	535	548	541	540	518	509	521	522	526	518	520	525	534	539	541	543	542	548	543	546	544	
25	548	546	542	540	542	541	541	536	535	535	534	533	533	529	534	534	537	546	545	541	536	541	560	541	
26	543	543	555	550	537	536	539	531	525	518	524	531	529	526	529	534	531	539	540	544	537	538	541	546	
27	546	568	557	556	538	534	535	528	529	521	526	533	530	536	533	535	539	542	537	541	541	544	543	541	
28*	544	544	542	540	541	542	542	538	531	525	524	528	531	537	540	541	542	548	546	554	550	547	547	546	
29*	542	543	544	546	548	550	550	544	538	530	528	530	542	549	552	552	549	554	551	564	559	564	564	560	
30	559	559	561	562	559	555	554	548	543	533	522	522	521	515	507	507	531	540	537	538	541	540	543	561	
Mean	547	547	544	544	543	542	540	533	524	518	516	520	525	529	532	534	537	541	542	543	544	547	549	548	
Mean*	544	541	542	542	543	544	541	536	530	522	518	521	530	535	539	541	544	548	547	552	551	552	552	552	
Mean**	545	553	548	540	543	540	532	526	508	493	493	500	504	513	522	522	527	536	535	538	541	548	552	543	
October.	18000 γ + Tabular Quantities (in γ).																								
1	541	520	545	547	544	551	542	508	533	528	517	509	509	521	509	534	534	528	551	526	528	537	551	552	
2**	543	525	531	530	529	533	538	541	537	529	492	491	515	515	514	496	535	500	509	503	533	539	522	533	
3	524	522	507	521	529	522	525	516	517	519	517	517	520	529	530	535	534	536	545	544	543	541	543	545	
4	539	554	532	534	532	535	545	538	529	520	519	518	504	502	518	525	536	516	521	515	490	531	536	537	
5**	543	543	538	553	548	524	524	511	467	497	511	487	460	487	511	520	530	517	514	533	527	524	526	537	
6	560	540	524	523	528	536	539	540	528	508	503	502	513	519	524	524	528	527	527	539	538	538	554	550	
7	549	539	532	531	536	543	541	542	535	529	514	513	507	519	526	529	528	539	542	542	544	542	542	540	
8	537	537	537	539	546	550	552	537	531	524	521	522	521	526	529	528	531	539	540	542	542	535	539	538	
9*	539	540	535	538	548	545	548	544	536	531	526	526	526	515	520	525	532	537	543	541	543	544	545	546	
10*	544	543	544	543	540	544	540	536	528	520	527	514	527	539	544	546	544	528	541	546	548	546	548	549	
11*	548	541	542	542	542	541	541	532	520	514	515	524	532	535	536	539	540	549	550	553	552	550	554	552	
12**	553	545	543	544	545	547	545	543	532	520	512	518	538	542	526	523	505	488	500	504	504	491	551	514	
13	531	523	511	508	519	522	538	514	502	508	501	499	489	508	518	528	525	528	534	532	530	533	534	541	
14	539	529	532	528	529	530	530	528	523	515	501	498	507	514	525	519	522	537	534	534	533	530	531	534	
15	538	540	544	540	542	554	549	533	511	506	508	510	512	509	524	522	525	525	538	538	536	537	544	551	
16*	539	535	537	537	540	544	545	537	526	519	511	507	504	505	517	518	522	529	539	540	543	543	541	539	
17	546	552	542	547	561	543	544	538	530	523	512	505	503	526	532	537	544	550	552	547	532	529	530	537	
18	534	550	536	537	539	550	546	542	533	520	518	500	496	528	525	535	520	524	533	531	528	529	528	538	
19	538	535	529	543	543	546	527	537	525	508	521	505	535	539	536	530	518	524	540	533	559	529	542	542	
20	542	532	533	537	535	538	540	530	529	521	514	520	525	527	530	538	543	543	543	540	543	542	550	552	
21	542	543	536	538	539	543	542	536	529	517	510	526	524	539	536	534	529	535	540	551	543	547	547	544	
22	561	563	537	534	529	534	533	531	525	509	515	513	525	525	534	531	520	522	551	540	533	546	550	547	
23	540	537	537	538	538	539	539	531	528	531	529	527	527	539	538	536	532	542	547	543	550	568	551	512	
24	531	523	532	540	538	546	531	537	524	514	526	537	540	537	535	533	531	536	538	538	537	543	541	539	
25*	536	533	536	537	538	539	536	535	530	524	521	525	529	530	527	524	525	532	537	541	541	546	549	538	
26	533	538	540	540	542	543	539	533	524	521	522	526	528	531	534	538	541	542	542	513	519	533	537	539	
27	543	551	540	541	539	542	544	539	527	517	506	512	503	513	492	515	501	481	494	517	528	536	534	532	
28	532	534	537	538	539	536	531	527	520	494	496	520	517	501	527	526	500	501	497	466	486	518	523	527	
29**	527	524	528	531	533	536	540	528	523	500	481	472	415	439	455	437	451	427	447	437	493	469	475	494	
30**	505	504	514	516	490	516	480	480	495	466	451	465	490	472	451	464	462	482	507	528	490	516	508	512	
31	518	520	520	525	530	522	531	498	499	506	495	489	492	507	505	520	525	530	531	525	528	533	530	526	
Mean	539	536	533	536	537	539	537	530	523	515	510	510	511	517	520	523	523	522	530	529	531	534	537	537	
Mean*	541	538	539	539	542	543	542	537	528	522	520	519	524	525	529	530	533	535	542	544	545	546	547	545	
Mean**	534	528	531	535	529	531	525	521	511	502	489	487	484	491	491	488	497	483	495	501	509	508	516	518	

* 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
November.	18000 γ + Tabular Quantities (in γ).																								
1	522	524	526	528	532	533	533	533	512	496	495	499	508	515	524	528	516	509	526	529	532	528	544	531
2	528	534	535	533	540	544	543	537	534	521	510	506	515	521	514	513	502	517	519	530	534	532	532	540
3	531	530	531	540	542	549	544	545	532	506	506	516	523	519	519	513	524	523	530	529	527	516	518	527
4	552	547	538	540	539	538	532	529	526	499	484	492	500	514	501	514	523	526	529	534	534	535	534	531
5**	531	531	535	536	544	549	556	549	504	506	513	507	517	527	522	519	493	506	500	527	538	516	525	535
6**	530	521	527	526	531	553	545	538	533	516	497	486	500	513	519	531	518	522	531	533	540	542	539	521
7	535	530	521	529	529	533	528	529	526	518	514	516	497	516	527	528	536	542	536	533	534	540	544	539
8**	530	528	537	541	554	522	531	525	515	495	476	499	481	496	503	522	523	530	543	520	538	546	526	541
9	541	522	528	522	515	535	537	533	528	523	520	506	492	503	499	515	530	530	531	530	548	544	537	529
10	533	516	525	528	531	518	535	533	526	514	509	517	520	520	520	518	528	534	524	534	541	532	538	538
11	535	535	535	536	538	538	539	540	539	526	511	516	512	520	522	520	534	529	528	529	533	540	546	540
12*	537	535	536	539	542	544	543	543	537	530	524	522	532	540	535	536	537	542	542	544	546	542	543	542
13	543	543	547	556	556	557	557	555	548	548	531	528	538	538	539	540	542	548	550	534	520	530	535	544
14	529	532	529	534	538	542	553	550	544	527	525	519	498	511	517	533	528	532	528	545	534	534	534	534
15	537	536	540	543	542	539	540	540	536	532	528	521	514	514	534	537	534	532	512	525	530	531	569	527
16**	545	538	529	529	537	544	544	542	540	537	532	526	535	529	527	503	503	532	514	508	519	540	515	520
17	527	521	525	525	530	533	535	534	529	532	530	532	542	534	525	524	532	541	536	519	538	553	546	529
18	550	524	524	519	521	532	528	529	517	519	530	523	521	516	510	530	527	535	536	517	521	529	547	532
19	529	529	542	532	542	542	534	535	532	521	521	524	534	539	524	532	533	531	545	556	564	514	521	521
20	524	521	524	525	531	529	525	528	532	528	526	525	531	529	529	533	534	540	540	533	537	536	537	545
21*	532	532	533	534	532	537	536	538	543	542	538	539	536	529	530	539	539	540	543	540	540	540	540	537
22*	535	534	537	536	538	540	540	542	540	538	534	531	529	534	536	536	538	540	540	543	545	544	539	540
23	541	539	540	541	541	543	544	544	541	536	534	538	541	546	546	544	543	542	542	532	529	548	540	541
24	542	538	536	538	542	546	548	548	548	542	538	537	534	535	535	536	537	541	543	541	546	556	541	543
25	546	544	548	558	560	557	552	553	549	538	540	543	542	541	536	534	543	546	548	552	554	548	548	551
26**	551	546	561	552	551	553	554	551	553	546	542	547	500	478	478	481	504	519	517	502	491	515	513	535
27	537	523	530	518	532	550	538	530	529	531	534	532	530	530	529	529	530	516	515	533	539	522	554	533
28*	530	531	535	537	535	541	542	541	539	535	533	518	520	524	521	522	516	521	529	533	533	538	542	538
29	537	537	539	544	546	550	549	545	542	540	538	539	538	537	533	528	528	530	534	537	536	533	531	553
30*	545	533	537	539	544	547	542	547	540	545	541	533	534	535	533	534	538	542	544	546	544	542	538	537
Mean	536	532	534	535	539	541	541	540	534	526	522	521	521	523	523	526	527	531	532	532	536	536	537	536
Mean*	536	533	536	537	538	542	541	542	541	538	534	529	530	532	531	533	534	537	540	541	542	541	540	539
Mean**	537	533	538	537	543	544	546	541	529	520	512	513	507	509	510	511	508	522	521	518	525	532	524	530
December.	18000 γ + Tabular Quantities (in γ).																								
1	537	537	542	543	547	548	548	549	550	546	544	541	527	508	507	517	512	519	509	529	527	525	526	532
2**	532	541	545	534	537	541	545	548	542	540	536	507	500	518	517	520	527	532	534	534	570	506	519	547
3**	561	539	520	528	534	530	543	544	529	508	517	513	516	508	509	525	529	528	543	535	548	541	521	532
4**	525	528	528	535	538	533	547	539	519	532	525	507	515	512	515	497	510	515	541	527	536	539	553	523
5**	535	544	530	528	535	530	535	543	534	517	518	515	484	499	503	499	526	534	537	534	544	555	554	528
6	530	530	528	526	530	542	541	540	539	530	533	515	502	507	511	534	531	528	529	544	534	538	541	543
7	538	537	535	535	534	543	543	548	540	534	522	517	518	528	530	529	522	519	529	533	541	550	539	537
8	538	546	541	539	541	542	543	543	543	540	534	537	538	536	535	535	538	541	538	537	531	530	531	550
9	541	541	543	545	546	546	550	553	552	542	545	545	546	541	531	523	536	536	525	519	512	526	533	533
10	535	557	548	551	546	556	554	534	529	530	517	522	531	535	531	531	535	537	539	538	537	541	546	530
11**	529	528	533	535	538	543	541	542	543	538	533	535	548	552	549	550	536	537	542	527	544	529	523	530
12	525	521	529	530	526	530	536	538	538	531	528	508	510	532	535	514	536	536	539	557	526	535	537	528
13	527	529	529	529	531	532	537	539	539	536	536	536	539	539	510	517	527	534	536	537	531	533	540	536
14	526	530	530	531	535	538	538	538	542	542	539	537	534	543	542	534	536	532	532	534	544	540	545	532
15	527	526	528	531	536	545	547	545	539	535	527	529	538	539	536	537	531	534	534	544	538	562	517	529
16	530	530	533	535	541	539	543	538	542	543	537	532	536	539	535	539	526	529	528	539	535	528	546	543
17	534	552	538	533	536	557	547	548	552	548	542	537	520	528	535	539	539	543	547	535	536	535	538	536
18	535	534	535	534	537	541	542	546	550	549	546	541	541	544	544	537	537	537	541	542	538	539	539	535
19*	541	537	537	538	541	542	544	547	550	544	539	537	539	539	539	538	541	542	544	541	542	539	538	538
20*	537	536	538	538	542	542	543	544	546	543	542	540	539	538	538	541	541	543	543	543	542	543	542	537
21*	536	534	536	538	542	545	544	543	543	539	537	542	543	543	542	541	544	546	546	547	547	544	542	540
22	539	540	540	539	553	557	548	547	550	552	546	539	537	541	545	550	552	550	548	547	548	544	538	534
23	539	539	539	542	544	546	549	552	551	547	540	540	543	541	542	518	515	517	515	515	521	509	527	530
24	529	530	533	535	538	542	543	544	546	544	541	538	539	542	547	544	543	543	543	542	541	541	538	539
25	540	542	536	542	542	543	543	546	538	535	539	535	530	541	543	541	534	525	518	525	515	520	527	531
26*	534	535	536	537	541	541	543	546	544	541	533	534	537	542	541	543	541	541	537	536	534	535	543	539
27*	541	541	539	538	541	544	545	548	548	543	538	536	537	538	541	542	546	548	548	546	544	543	543	543
28	543	542	547	544	548	552	551	550	548	544	546	553	556	550	535	534	529	509	494	520	530	531	521	543
29	534	534	541	541	534	541	545	550	547	544	510	521	535	517	511	509	522	505	535	535	535	533	532	524
30	541	533	538	542	544	554	527	530	541	526	513	520	519	518	511	517	524	527	538	526	533	543	541	538
31	529	534	529	527	531	541	530	533	534	529	521	521	525	528	528	525	522	517	526	550	536	525	538	528
Mean	535	536	536	536	539	543	543	544	542	538	533	530	530	532	530	530	532	532	534	536	537	536	536	535
Mean*	538	537	537	538	541	543	544	546	546	542	538	538	539	540	540	541	543	544	544	543	542	541	542	539
Mean**	536	536	531	532	536	535	542	543	533	527	526	515	513	518	519	518	526	529	539	531	548	534	534	532

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

TABLE III.—HOURLY MEANS OF VERTICAL 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.	42000 γ + Tabular Quantities (in γ).																								
1	928	927	926	926	926	926	926	926	926	926	924	926	929	931	928	929	929	928	926	926	928	931	936	939	
2	934	931	927	925	924	925	924	925	925	925	925	927	928	927	927	927	927	927	927	927	927	927	929	927	
3*	927	926	925	925	924	924	924	924	923	925	925	925	927	926	926	927	927	927	925	925	925	925	925	927	
4	928	926	925	924	924	924	922	921	921	919	920	922	922	922	924	924	926	926	924	924	922	922	923	923	
5	923	923	923	923	923	923	923	922	921	922	923	923	924	927	926	925	926	926	925	924	922	921	921	923	
6	924	924	923	923	922	922	922	921	920	921	920	917	921	926	923	922	923	923	923	923	921	921	921	921	
7*	922	921	922	922	922	923	922	922	921	920	922	922	924	925	924	922	922	923	922	922	919	919	919	919	
8*	920	920	920	920	920	922	922	920	920	920	920	920	922	923	921	920	922	923	923	922	921	920	919	919	
9	919	919	914	914	915	917	918	916	916	916	919	921	921	920	921	922	926	927	927	928	927	930	933	938	
10**	933	929	929	927	925	922	924	921	919	921	924	926	929	929	927	925	929	930	930	932	925	925	925	925	
11	925	925	925	925	925	925	925	926	922	922	923	922	923	923	922	920	922	925	930	930	931	933	931	932	
12	924	925	925	924	925	926	925	925	922	922	923	922	925	927	928	928	928	929	930	930	929	928	929	930	
13	927	925	925	923	922	923	924	924	925	925	925	926	926	926	925	924	925	927	928	930	928	928	926	926	
14	925	923	922	921	921	921	922	922	924	926	927	927	928	930	926	924	925	925	924	924	923	924	924	925	
15	925	924	923	921	919	920	920	920	921	922	923	920	922	923	923	921	922	922	923	923	924	924	924	925	
16**	923	917	915	915	914	914	914	916	912	912	914	912	915	922	927	934	933	936	935	934	929	928	928	920	
17**	912	919	917	912	912	913	916	918	921	925	924	929	933	941	942	945	944	934	933	927	926	925	925	923	
18**	917	919	920	920	920	919	915	913	910	910	911	916	920	926	927	928	935	939	933	927	922	921	921	919	
19	916	919	921	922	921	921	921	920	921	920	921	919	921	925	927	927	927	926	926	924	926	924	924	922	
20	912	915	919	920	920	920	920	919	918	918	918	918	920	925	926	927	932	933	936	932	929	926	924	921	
21	918	919	919	919	919	919	918	918	914	913	913	912	910	915	920	919	922	924	924	924	924	922	920	919	
22	917	918	918	917	917	918	918	917	916	916	918	918	916	917	919	919	919	921	921	921	919	918	918	917	
23	912	912	913	914	915	917	917	913	914	916	919	918	915	917	922	921	923	924	924	924	922	922	920	920	
24*	920	917	917	918	919	920	918	918	917	917	916	914	912	916	917	917	918	920	921	920	920	920	917	917	
25**	917	915	915	916	917	917	917	917	915	915	914	913	912	913	915	915	915	916	916	922	927	932	932	929	
26	920	915	912	920	922	923	921	922	922	922	922	922	922	924	924	924	924	924	925	925	924	922	921	921	
27	919	918	917	918	918	920	920	919	920	921	921	921	920	923	923	923	923	923	923	927	927	925	925	928	
28	924	921	915	911	916	918	918	919	921	923	922	921	921	923	923	921	921	922	923	923	923	923	924	921	
29	915	917	917	917	918	920	920	920	920	920	921	920	920	923	929	929	927	929	927	924	923	924	923	922	
30*	920	918	917	917	917	919	918	919	922	924	924	922	920	921	922	920	919	919	919	918	919	918	918	917	
31	918	916	916	916	915	916	916	918	918	919	919	918	919	918	918	921	921	921	921	923	921	919	920	918	
Mean	921	921	920	920	920	921	920	920	920	920	921	921	922	924	924	924	925	926	926	925	924	924	924	924	
Mean*	922	920	920	920	920	922	921	921	921	921	921	921	921	922	922	921	922	922	922	921	921	920	920	920	
Mean**	920	920	919	918	918	917	917	917	915	917	917	919	922	926	928	929	931	931	929	928	926	926	926	923	
February.	42000 γ + Tabular Quantities (in γ).																								
1	917	915	917	917	915	915	914	914	917	917	918	919	918	917	919	918	917	917	917	917	920	923	926	928	
2	920	908	916	918	918	918	917	919	919	917	917	917	918	921	924	924	923	923	923	920	919	919	920	920	
3	920	919	915	912	913	909	905	907	909	910	911	913	918	920	922	922	922	921	921	921	921	921	920	919	
4	920	918	919	918	918	917	917	915	914	916	915	915	918	920	922	923	924	923	923	922	922	923	925	923	
5	923	918	912	914	916	918	918	916	915	912	911	913	916	918	921	921	922	922	922	921	921	921	919	919	
6*	920	919	919	920	920	921	921	918	916	914	913	914	915	917	920	921	923	922	922	920	920	920	920	920	
7	918	918	918	918	917	919	919	919	919	917	914	914	914	918	921	920	920	921	920	920	920	919	921	922	
8	922	922	923	924	924	922	920	920	920	919	916	916	916	918	919	920	921	921	922	922	921	922	922	921	
9	922	920	919	919	920	921	922	922	922	921	919	919	919	919	920	921	922	924	924	924	922	923	923	922	
10*	923	920	921	920	921	922	922	920	920	921	922	919	919	922	922	922	923	924	924	923	923	922	922	921	
11	922	921	921	921	921	922	922	922	924	922	918	916	917	917	921	921	922	923	924	926	927	928	928	927	
12*	924	922	922	920	921	921	922	920	922	919	918	918	918	917	919	922	923	925	924	924	924	922	923	922	
13**	921	918	920	918	915	918	918	914	913	912	908	903	901	906	913	917	922	929	937	940	935	917	907	916	
14**	917	908	903	907	906	909	909	911	913	912	914	922	927	925	935	935	935	935	931	929	925	928	923	905	
15**	912	915	917	915	915	915	915	920	919	923	923	921	927	933	941	952	952	946	941	937	928	922	919	920	
16	915	909	914	918	918	920	922	923	924	925	923	922	924	924	924	926	926	926	926	925	924	923	923	923	
17	923	923	924	923	923	923	923	922	923	922	920	924	926	926	929	932	933	931	930	928	925	924	924	922	
18	922	921	922	923	923	924	923	924	926	925	924	923	922	923	926	929	929	929	929	926	924	923	923	923	
19	922	921	922	922	921	923	921	920	921	921	919	918	919	921	927	931	931	929	930	930	926	925	924	923	
20*	921	919	920	921	921	923	923	923	924	921	920	918	918	918	921	924	924	924	924	923	923	923	922	921	
21*	922	922	922	922	922	923	924	924	925	925	923	922	922	925	926	927	926	926	926	925	924	922	922	922	
22	922	922	922	923	923	923	922	922	921	922	921	918	918	921	927	928	926	925	925	927	926	925	924	923	
23	923	921	922	923	924	924	923	922	922	919	917	916	916	913	918	923	926	927	927	926	924	924	924	924	
24**	924	923	917	915	917	914	901	905	914	917	915	918	926	928	935	953	976	984	1001	1009	994	968	957	950	
25**	943	940	940	938	937	937	937	935	935	933	929	928	929	934	939	946	951	959	959	956	956	959	945	934	
26	910	917	924	924	930	932	930	927	926	926	925	922	921	927	937	945	946	939	939	937	936	935	929	931	
27	932	932	930	930	929	930	929	930	932	929	925	919	923	927	930	937	940	939	938	938	933	932	931	929	
28	928	928	927	926	925	927	927	928	927	924	923	920	922	921	919	923	924	927	929	929	932	930	929	929	
Mean	922	920	920	920	921	921	920	920	921	920	919	918	920	921	925	928	930	930	931	930	928	927	925	924	
Mean*	922	920	921	921	921	922	922	921	921	920	919	918	918	920	922	923	924	924	924	923	923	922	922	921	
Mean**	923	921	919	919	918	919	916	917	919	919	918	918	922	925	933	941	947	951	954	954	948	939	930	925	

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

TABLE III.—HOURLY MEANS OF VERTICAL 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.	42000 γ + Tabular Quantities (in γ).																								
1	928	926	924	924	919	922	921	923	924	924	919	917	917	921	922	922	927	925	926	926	927	928	928	927
2	926	925	924	924	923	924	924	924	924	923	919	915	915	917	921	928	933	938	938	938	936	934	928	924
3	925	924	924	924	914	907	915	919	922	924	921	917	919	922	924	929	932	933	934	932	929	923	922	923
4	924	924	922	922	922	923	922	922	922	919	917	915	917	916	919	924	924	924	923	922	922	923	922	918
5	917	918	921	923	922	923	922	922	922	919	915	909	912	917	922	927	929	925	923	922	920	918	919	919
6*	919	919	919	920	920	921	921	922	919	918	916	914	912	914	920	927	927	928	927	925	923	923	922	920
7	920	920	920	920	920	920	921	923	923	918	913	914	914	915	918	921	927	925	925	923	921	920	920	919
8	916	915	915	917	919	920	921	922	920	915	912	911	910	909	914	920	926	923	922	926	927	925	922	922
9	908	913	915	917	916	916	920	923	925	920	913	908	908	911	919	925	931	931	930	928	926	922	919	919
10	917	917	916	918	919	921	922	924	922	917	912	911	909	909	914	925	927	927	926	923	921	921	922	920
11*	917	916	915	916	917	919	919	921	920	919	915	910	909	910	915	920	921	920	921	921	920	920	919	919
12**	918	912	913	914	915	917	918	921	922	917	912	908	906	907	909	913	916	918	922	924	933	926	918	911
13**	912	909	909	913	911	913	917	923	923	923	921	915	916	920	923	931	933	932	931	931	925	924	914	900
14**	906	907	911	916	917	920	921	924	923	919	913	913	916	921	928	931	933	933	931	928	926	924	926	924
15	921	917	916	918	918	918	920	921	923	922	920	916	916	922	926	929	929	927	924	923	923	922	922	923
16	919	918	919	920	920	920	921	924	923	921	913	909	909	913	917	922	926	924	923	922	921	921	921	921
17	923	921	919	918	917	918	921	924	924	921	913	909	910	913	919	925	930	929	929	928	927	924	923	923
18*	923	921	921	921	921	921	922	923	923	918	916	915	914	920	924	927	928	925	923	922	922	922	922	922
19*	924	923	923	924	922	923	925	926	926	920	914	908	909	914	919	924	928	926	925	926	924	924	924	923
20	923	923	922	922	922	923	923	924	922	918	911	909	906	913	918	925	930	925	923	922	919	919	921	922
21**	921	922	922	920	919	919	919	920	918	911	904	906	908	915	930	935	936	935	931	930	929	930	923	920
22	915	908	908	911	915	918	915	915	914	912	908	902	904	913	918	925	927	927	925	925	925	927	925	925
23	921	920	924	925	920	919	924	926	923	919	916	914	912	914	918	925	930	931	930	930	929	930	930	927
24	926	926	925	921	923	924	923	923	920	916	914	913	(915)	(916)	—	—	—	929	928	928	926	926	925	925
25	924	922	922	921	921	921	922	919	918	917	914	910	913	917	921	927	931	933	935	937	938	935	934	930
26**	925	905	913	920	923	925	927	927	924	918	911	904	909	913	919	925	928	929	929	928	926	926	927	928
27	925	917	918	919	919	917	918	922	921	916	910	909	911	918	923	928	929	929	930	930	930	929	928	928
28	924	917	919	921	920	921	924	925	925	922	916	916	918	921	926	928	930	928	928	928	929	928	928	927
29	922	918	921	921	921	916	916	919	919	918	913	906	913	917	921	928	929	928	928	928	927	929	925	925
30*	924	923	923	922	922	923	925	926	925	922	913	906	906	913	921	926	930	928	926	926	925	925	925	925
31	923	923	923	922	921	922	923	923	923	921	909	901	902	909	918	923	928	928	926	924	922	921	923	922
Mean	920	918	919	920	919	920	921	923	922	919	914	911	911	915	920	926	929	928	927	927	925	925	923	922
Mean*	921	920	920	921	920	921	922	924	923	919	915	911	910	914	920	925	927	925	924	924	923	923	922	922
Mean**	916	911	914	917	917	919	920	923	922	918	912	909	911	915	922	927	929	929	929	928	928	926	922	917
April.	42000 γ + Tabular Quantities (in γ).																								
1**	922	921	920	920	919	920	923	924	921	915	910	907	907	912	918	924	926	929	932	939	930	925	925	925
2	925	921	923	922	920	922	922	921	918	910	902	897	898	904	910	916	921	921	921	921	921	921	921	921
3**	919	918	918	918	918	919	923	922	918	909	900	892	895	901	913	923	937	941	943	943	942	938	929	925
4	925	925	925	924	924	925	925	925	921	913	909	903	905	909	916	923	927	930	933	929	926	925	923	921
5	915	914	915	916	918	920	923	922	916	909	902	897	898	908	915	922	924	925	924	923	922	921	922	922
6*	922	921	922	922	922	923	926	926	923	917	909	903	901	904	910	918	923	925	924	922	921	921	920	920
7	919	919	918	920	920	922	924	924	920	912	905	899	896	901	908	914	917	921	921	921	920	920	920	920
8	916	912	915	916	917	918	920	921	920	913	907	900	896	897	906	915	921	924	924	922	921	921	920	920
9	917	916	917	917	916	917	918	918	916	911	908	901	901	903	907	914	917	921	921	921	920	921	922	920
10**	917	917	915	904	898	904	910	911	909	904	903	900	897	904	913	921	927	933	934	934	931	931	924	917
11	916	918	919	921	921	924	928	925	921	919	911	909	914	921	928	932	933	931	929	928	930	927	926	925
12*	923	923	922	923	923	923	924	924	919	912	907	905	907	915	922	924	923	925	926	924	924	923	923	922
13*	921	921	921	920	921	921	921	919	916	912	907	903	901	905	912	917	918	920	920	920	920	920	920	920
14*	919	919	918	918	917	918	919	920	917	907	900	895	899	902	908	913	918	920	920	920	919	919	917	915
15	916	916	916	916	916	917	916	914	911	903	898	894	890	893	905	912	918	920	922	923	923	922	919	919
16	918	916	914	914	916	917	918	920	919	914	907	899	897	903	912	918	920	920	920	917	916	916	916	917
17	916	916	914	914	913	914	915	915	912	908	901	898	899	903	910	916	917	917	918	917	915	915	915	915
18	915	914	913	909	904	909	911	913	913	907	902	895	896	905	915	919	922	924	924	923	920	919	917	916
19**	916	914	913	915	917	917	918	918	917	911	903	896	896	903	910	915	923	932	937	934	927	919	922	912
20**	906	903	902	909	907	907	915	915	915	911	907	907	906	908	918	924	926	927	925	922	920	919	919	918
21	918	919	919	920	922	923	924	924	922	916	912	904	901	907	913	919	922	923	921	920	919	919	918	917
22	916	916	915	912	913	914	917	916	911	908	903	899	899	905	913	918	922	924	926	926	924	919	918	917
23	907	905	910	913	916	918	920	922	919	912	904	897	890	898	910	916	919	924	924	921	920	919	918	917
24	911	911	912	914	918	919	919	918	913	908	903	897	899	900	905	911	915	920	920	920	918	916	917	915
25	913	914	914	915	917	919	920	920	916	911	902	898	896	898	904	909	914	920	925	927	927	924	920	918
26	915	915	916	916	915	913	911	910	906	898	897	895	893	896	902	911	913	915	917	917	917	918	920	918
27	916	916	914	915	917	918	918	918	915	908	901	901	906	909	914	918	919	921	922	921	921	920	920	918
28	917	917	917	917	918	918	918	919	916	909	901	888	892	901	910	914	916	917	917	917	918	919	919	918
29*	916	915	916	916	918	919	919	919	912	902	899	898	902	912	919	921	921	921	921	919	918	918	919	919
30	918	917	914	915	917	916	913	909	905	895	893	889	889	896	906	912	916	918	919	919	919	919	919	919
Mean	917	916	916	916	917	918	919	919	916	910	904	899	899	904	912	918	921	924	924	924	922	921	920	919
Mean*	920	920	920	920	920	921	922	922	917	910	904	901	902	908	914	919	921	922	922	921	920	920	920	919
Mean**	916	915	914	913	912	913	918	918	916	910	905	900	900	906	914	921	928	932	934	934	930	926	924	919

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

TABLE III.—HOURLY MEANS OF VERTICAL 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.	42000 γ + Tabular Quantities (in γ).																								
1	917	915	914	916	919	919	917	913	909	903	899	897	898	898	907	910	917	918	917	915	915	914	915	916	
2	915	916	912	912	915	914	909	907	904	900	894	891	896	905	912	917	919	919	919	916	916	915	915	916	
3	916	916	917	916	915	912	912	908	906	902	898	894	898	902	910	918	919	922	922	922	920	920	919	917	
4	914	914	911	911	916	915	911	908	904	900	895	893	894	900	907	912	915	920	921	920	918	917	917	915	
5	915	915	916	917	917	917	915	914	909	905	899	893	894	901	909	913	918	924	927	925	925	921	919	915	
6**	914	915	913	912	915	916	913	906	905	897	890	892	894	902	928	[940]	952	953	951	944	938	933	931	929	
7**	924	924	922	900	875	871	889	898	896	894	899	904	909	916	925	932	935	937	935	934	929	923	923	920	
8	921	921	918	919	924	925	925	923	919	914	904	900	904	909	918	923	925	928	929	927	924	923	922	920	
9*	920	920	920	921	924	926	923	920	917	910	900	898	904	913	919	923	923	923	924	923	921	921	921	920	
10*	919	918	917	918	921	920	917	916	912	905	897	896	900	909	919	922	923	921	920	920	919	919	920	919	
11	918	918	916	916	920	921	918	912	907	903	896	894	895	901	909	914	919	925	933	938	938	931	926	919	
12	916	919	914	909	910	907	908	910	910	908	904	900	902	907	916	921	928	934	934	928	927	923	921	919	
13**	916	916	916	918	922	921	918	912	912	907	899	894	895	903	912	916	923	928	932	935	938	928	923	921	
14**	917	915	913	915	917	920	919	913	908	899	894	889	893	902	910	914	919	924	927	933	930	913	896	902	
15**	899	887	882	876	877	883	894	894	890	885	884	885	898	910	922	922	919	922	924	929	922	918	917	914	
16	909	911	911	908	907	907	908	909	910	898	888	889	899	908	918	918	922	922	920	920	918	917	917	913	
17	910	908	907	910	910	909	910	908	903	893	889	893	896	898	905	915	919	923	922	921	918	916	915	915	
18	915	913	906	904	906	909	907	907	909	905	895	894	905	913	920	925	928	930	928	926	924	923	921	920	
19	919	917	916	915	917	916	915	915	911	908	903	898	904	910	916	921	924	924	923	922	920	918	918	917	
20	917	917	916	916	919	919	920	920	918	913	902	895	893	901	911	918	926	934	938	935	929	927	926	921	
21	920	919	918	920	924	925	925	925	916	912	906	903	909	913	920	926	930	931	926	924	922	921	920	920	
22*	918	918	918	920	924	926	924	923	921	915	909	909	908	908	913	920	924	927	928	927	924	922	921	920	
23*	919	919	919	922	925	926	925	923	917	909	901	897	898	906	911	916	923	925	925	924	922	921	921	919	
24	917	917	917	918	921	921	916	911	910	904	900	893	893	898	910	915	919	922	923	922	919	919	919	918	
25	917	917	917	918	922	922	918	917	914	906	902	903	905	907	917	922	928	934	934	931	928	926	924	921	
26	918	917	916	918	919	912	908	908	905	898	899	899	903	910	918	926	933	937	942	934	930	927	926	924	
27	921	920	919	917	921	922	920	920	919	916	910	909	910	916	923	927	928	929	928	928	925	924	923	923	
28*	921	921	920	921	924	925	923	920	918	913	904	908	913	918	922	924	922	922	920	922	921	922	922	921	
29	920	918	916	918	921	921	918	914	914	911	902	894	901	910	919	921	926	926	926	923	921	921	921	921	
30	919	919	919	920	922	920	921	919	916	909	905	899	899	906	918	925	927	928	925	921	920	918	918	918	
31	917	917	918	919	920	918	912	909	905	899	895	892	894	899	908	917	922	925	924	920	917	917	917	917	
Mean	917	916	915	914	916	916	915	913	910	905	899	897	900	906	915	920	924	927	927	926	924	921	920	918	
Mean*	919	919	919	920	924	925	922	920	917	910	902	902	905	911	917	921	923	924	923	923	921	921	921	920	
Mean**	914	911	909	904	901	902	907	905	902	896	893	893	898	907	919	925	930	933	934	935	931	923	918	917	
June.	42000 γ + Tabular Quantities (in γ).																								
1	915	915	916	918	921	919	916	914	911	905	901	895	896	899	907	917	920	925	927	925	924	921	909	912	
2**	915	916	918	921	922	913	911	911	905	897	897	893	907	920	926	934	944	952	951	945	937	933	928	914	
3	901	908	914	921	922	923	923	922	916	904	897	895	898	910	917	926	928	930	931	928	927	926	924	922	
4	919	919	923	923	926	927	923	920	914	908	902	899	904	912	918	923	926	932	932	929	927	926	923	923	
5*	922	922	923	925	928	928	929	923	915	910	908	909	913	917	920	920	924	930	929	927	926	923	922	921	
6	918	913	912	917	920	921	920	918	916	909	905	896	896	903	916	925	928	937	941	935	929	927	926	923	
7	919	918	916	920	923	924	924	922	918	914	905	899	898	902	914	918	925	928	930	929	927	926	923	920	
8	920	919	918	920	923	924	927	927	921	914	899	895	902	910	917	924	928	924	935	937	939	932	927	916	
9**	914	909	894	881	881	883	895	905	916	914	912	912	919	925	929	934	939	942	945	941	935	932	930	924	
10	921	922	923	923	923	924	918	914	907	908	906	905	910	916	920	923	928	935	935	933	930	928	927	926	
11	923	922	916	906	911	915	914	914	916	909	901	901	907	911	920	924	927	926	927	927	926	926	926	920	
12	909	901	903	912	919	920	916	917	918	914	909	903	899	905	915	924	934	938	941	940	933	930	928	924	
13	922	921	922	923	924	922	921	921	918	915	910	903	905	911	923	926	927	931	930	932	929	927	925	922	
14	917	917	920	920	921	921	918	915	911	912	910	912	916	918	921	924	928	930	932	934	930	927	926	925	
15*	921	919	920	920	924	927	922	917	909	904	905	903	904	911	921	925	927	928	927	926	924	923	923	921	
16*	919	920	921	923	924	925	923	920	914	910	909	904	901	906	911	918	925	925	925	924	921	921	921	918	
17*	918	920	920	921	924	924	923	921	918	916	904	894	894	901	909	913	920	923	922	921	919	919	919	918	
18	918	919	914	915	919	922	917	917	914	913	911	906	907	907	913	920	928	931	930	925	923	920	920	919	
19	918	919	919	920	925	927	923	917	912	906	902	901	903	909	913	919	925	929	931	929	926	925	922	920	
20	919	919	920	920	925	927	926	928	928	924	917	910	904	905	909	912	922	928	928	926	922	920	919	918	
21	917	917	918	920	921	923	923	923	919	909	905	907	908	912	914	917	918	924	927	929	926	924	920	919	
22	918	917	918	919	922	923	922	920	912	907	903	906	907	912	920	927	935	936	934	929	927	926	925	923	
23	920	919	919	919	924	923	918	918	917	919	915	914	915	914	915	921	928	931	933	934	930	929	929	927	
24	926	925	926	929	931	932	931	927	925	924	921	913	912	914	919	921	925	928	931	930	930	929	927	925	
25*	923	922	922	922	924	924	922	918	913	909	900	899	905	909	914	918	925	922	921	923	922	922	922	920	
26**	920	919	920	920	922	920	920	919	920	915	907	902	902	905	906	910	910	917	918	919	921	920	916	911	
27**	914	916	914	912	912	916	918	919	918	914	908	902	913	917	924	930	941	944	943	938	931	929	924	919	
28**	914	906	906	902	906	913	917	915	913	904	902	905	912	914	921	926	930	931	932	934	932	928	922	912	
29	912	918	921	920	923	926	922	919	912	908	903	899	910	910	915	923	928	933	930	927	925	923	922	921	
30	922	922	922	922	924	923	922	921	916	911	905	904	907	911	917	919	926	929	929	926	924	921	920	920	
Mean	918	917	917	918	920	921	920	919	915	911	906	903	906	911	917	922	927	931	932	930	927	925	923	920	
Mean*	921	921	921	922	925	926	924	920	914	910	905	902	903	909	915	919	924	926	925	924	922	922	921	920	
Mean**	915	913	910	907	909	909	912	914	914	909	905	903	911	916	921	927	933	937	938	935	931	928	924	916	

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

TABLE III.—HOURLY MEANS OF VERTICAL 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.	42000 γ + Tabular Quantities (in γ).																								
1	922	922	922	924	926	925	925	925	919	915	909	902	900	907	919	921	924	928	927	923	919	920	920	917	
2	918	916	919	923	925	922	915	911	905	901	898	893	892	894	912	920	920	926	929	924	922	924	914	911	
3	914	916	917	919	922	922	922	920	919	913	907	900	900	901	910	919	926	928	933	931	925	921	920	919	
4	917	917	918	920	923	924	921	923	918	911	902	895	890	896	911	920	927	934	934	930	929	924	922	919	
5	918	918	918	921	922	921	921	917	913	906	900	900	906	909	916	922	928	930	930	926	923	921	917	915	
6	916	917	918	919	924	924	920	919	912	910	909	907	906	906	908	915	919	926	933	930	925	921	919	919	
7	918	919	919	919	922	921	916	916	913	907	906	907	907	908	914	920	922	925	929	928	926	920	920	919	
8	918	913	915	917	920	921	920	917	913	910	908	906	905	911	918	922	923	924	924	923	922	921	920	917	
9*	916	916	916	917	920	923	923	921	917	912	910	906	904	905	914	922	925	922	921	921	921	919	919	917	
10*	916	916	916	918	920	921	919	917	913	906	902	899	898	902	907	913	919	922	920	919	920	919	919	917	
11	914	913	913	914	917	917	916	916	919	916	906	898	898	895	901	913	921	926	926	926	926	924	922	923	
12	922	921	918	919	919	918	915	914	913	906	897	896	904	907	913	919	920	922	921	918	919	918	918	918	
13	919	918	918	919	922	923	920	921	921	917	915	914	911	914	917	923	928	928	928	928	923	922	921	920	
14	920	920	920	920	920	920	917	916	916	913	906	899	901	899	904	914	921	928	930	930	924	922	921	921	
15	920	919	921	919	923	921	920	916	913	914	912	909	912	913	923	929	931	931	931	927	926	925	924	920	
16	918	918	906	913	920	922	922	916	912	908	904	901	902	909	915	921	928	929	927	923	922	921	920	919	
17	917	911	913	917	922	923	921	921	920	917	911	906	906	914	923	928	931	930	925	922	920	919	919	919	
18	918	918	918	920	922	925	921	919	913	908	903	898	901	908	916	923	929	932	930	926	924	922	921	921	
19*	920	921	921	922	924	924	921	920	915	911	910	908	907	912	922	930	931	930	928	924	923	922	921	919	
20*	920	921	922	922	926	927	924	924	920	915	912	909	904	913	919	926	929	932	929	926	924	922	920	919	
21*	918	919	919	920	925	926	924	919	919	913	906	904	906	908	912	919	927	929	929	927	925	924	923	920	
22	918	918	918	919	923	923	924	923	920	920	917	911	906	911	919	924	923	923	924	924	924	923	920	919	
23**	918	917	917	916	916	917	912	910	905	899	894	901	896	901	910	927	950	958	951	949	946	931	929	920	
24**	903	911	914	917	919	923	925	925	921	919	924	919	913	914	926	929	928	929	931	930	927	927	926	925	
25**	922	917	918	918	919	919	917	920	917	908	910	912	913	920	933	939	947	950	945	942	937	931	926	921	
26**	906	907	908	908	912	917	918	917	912	908	908	908	908	917	924	931	931	931	930	931	931	928	927	924	
27	920	919	920	922	925	927	927	925	921	919	915	913	909	911	918	927	926	926	925	925	925	925	924	922	
28**	922	921	920	918	917	911	909	909	907	906	901	899	901	914	921	927	924	925	932	933	928	921	912	901	
29	908	915	917	916	916	915	914	915	916	914	910	903	907	913	922	930	932	930	923	920	921	921	918	918	
30	912	911	912	915	913	916	917	917	916	915	908	901	901	909	916	922	923	924	923	923	923	922	921	920	
31	918	916	917	919	922	923	921	918	912	909	906	902	899	902	910	916	922	924	922	921	921	919	918	918	
Mean	917	917	917	918	921	921	920	918	915	911	907	904	904	908	916	923	927	929	929	927	925	923	921	919	
Mean*	918	919	919	920	923	924	922	920	917	911	908	905	904	908	915	922	926	927	925	923	923	921	920	918	
Mean**	914	915	915	915	917	917	916	916	912	908	907	908	906	913	923	931	936	939	938	937	934	928	924	918	
August.	42000 γ + Tabular Quantities (in γ).																								
1	919	918	918	918	919	918	918	916	913	913	916	915	909	910	913	920	920	923	922	923	922	921	918	918	
2*	918	918	920	920	921	922	921	916	911	909	904	898	893	896	909	919	923	925	925	922	921	919	918	918	
3	915	915	911	908	911	910	911	910	901	901	901	901	905	912	920	924	925	927	924	920	920	919	919	918	
4	916	915	916	916	919	919	917	920	917	911	904	897	897	904	914	923	927	928	926	925	926	924	922	921	
5	919	919	919	919	920	922	921	919	914	908	907	900	902	907	914	923	928	933	934	934	933	932	928	926	
6	923	921	919	919	923	922	921	921	916	905	901	900	899	902	911	917	919	923	926	926	924	923	922	921	
7	919	919	919	917	919	919	920	921	924	925	917	915	913	916	926	939	941	945	941	932	928	927	925	922	
8**	911	902	908	914	915	916	916	915	914	913	905	904	905	909	916	931	932	932	935	943	939	923	921	922	
9**	901	903	897	894	903	907	914	914	917	910	904	900	903	918	926	941	941	938	934	934	931	924	924	924	
10	923	921	920	921	922	922	921	921	920	919	914	910	914	920	925	928	931	930	927	923	923	920	912	913	
11	904	900	906	907	900	896	902	908	909	907	908	902	904	915	920	925	927	929	926	924	923	922	922	919	
12*	918	916	914	915	916	919	920	916	910	897	886	887	893	902	910	914	919	920	918	919	919	919	920	919	
13	918	914	914	916	918	919	919	920	916	909	905	907	913	916	920	926	928	929	927	922	922	920	921	920	
14	921	921	921	921	921	919	919	919	914	910	902	901	903	914	922	928	930	931	928	925	924	922	922	921	
15	922	922	922	922	923	924	924	924	923	919	917	912	910	915	922	931	931	929	926	923	923	925	923	922	
16	921	913	912	912	913	916	915	920	917	913	906	904	907	914	924	930	934	937	938	936	932	927	923	913	
17*	917	921	920	925	928	928	929	928	922	919	913	912	915	916	925	934	936	936	932	929	927	926	924	922	
18*	922	922	922	923	927	928	930	928	922	914	904	899	899	906	916	928	931	933	930	928	928	924	923	921	
19	921	909	912	912	915	918	921	922	919	912	907	908	910	913	923	927	927	930	930	931	932	930	921	922	
20**	921	919	919	919	919	921	921	917	917	912	911	911	910	913	922	940	944	943	942	943	934	929	924	921	
21**	913	917	920	921	919	915	912	911	914	912	910	909	922	929	944	946	949	944	939	936	933	929	918	917	
22	919	922	923	923	926	928	929	929	925	912	906	904	904	910	916	918	922	928	925	925	926	926	925	923	
23	922	921	917	917	917	918	923	923	918	911	908	910	914	918	929	931	927	929	927	923	923	922	923	921	
24	919	915	917	918	919	917	916	916	914	906	900	905	908	912	917	920	925	930	933	929	929	930	932	928	
25**	922	925	923	921	901	906	907	909	907	906	902	901	919	925	933	941	946	946	940	932	929	926	918	919	
26	922	924	924	921	920	922	924	922	918	910	907	904	910	919	922	929	930	929	932	932	928	926	912	910	
27	917	921	922	923	924	925	923	921	920	916	911	908	911	916	921	930	933	932	928	924	923	923	917	910	
28	903	897	906	910	915	919	919	918	913	908	904	907	908	921	928	932	931	932	928	924	922	921	920	920	
29	920	916	916	919	920	919	918	918	917	914	911	915	916	919	924	926	927	927	925	924	925	922	921	919	
30*	919	919	920	922	923	923	924	923	920	914	906	896	894	902	913	917	923	925	924	922	922	920	921	919	
31	920	921	920	919	921	925	926	924	920	913	904	905	906	912	915	918	923	925	928	927	925	923	923	922	
Mean	918	916	917	917	918	919	919	919	916	911	907	905	907	913	921	928	930	931	930	928	926	924	921	920	
Mean*	919	919	919	921	923	924	925	922	917	911	903	898	899	904	915	922	926	928	926	924	923	922	921	920	
Mean**	914	913	913	914	911	913	914	913	914	911	906	905	912	919	928	940	942	941	938	938	933	926	921	921	

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

TABLE III.—HOURLY MEANS OF VERTICAL 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.	42000 γ + Tabular Quantities (in γ)																								
1	922	911	912	917	920	921	925	924	921	919	909	903	902	908	915	922	927	929	929	927	926	926	925	919	
2*	918	920	922	922	925	927	930	930	923	920	918	913	912	915	920	924	927	928	927	926	925	925	923	923	
3	923	922	923	922	924	926	927	924	916	907	908	904	902	910	923	938	941	940	936	934	931	931	931	924	
4**	917	906	897	890	903	908	913	920	920	916	913	917	924	936	945	943	944	956	949	945	943	934	931	925	
5	922	922	921	911	917	924	929	930	928	927	921	918	921	926	933	935	935	933	935	939	933	931	927	919	
6**	922	917	908	900	904	920	929	929	927	922	923	922	928	935	937	951	961	951	942	935	935	929	911	911	
7	905	910	909	892	902	909	917	917	925	925	921	917	921	925	927	932	935	936	937	931	930	930	928	927	
8	926	925	924	923	923	924	925	923	920	918	920	919	919	921	926	931	934	944	949	946	942	935	927	928	
9	919	920	919	914	911	914	916	919	918	917	916	913	913	920	929	931	934	940	947	942	938	934	929	925	
10	915	916	923	924	925	927	931	928	921	918	915	911	917	925	932	938	939	942	941	936	933	932	932	930	
11	930	928	926	923	925	927	931	930	927	920	918	919	923	929	933	933	933	933	931	930	930	929	929	928	
12	927	919	922	926	926	928	927	927	921	914	908	909	913	921	930	933	931	932	931	932	928	928	927	927	
13	927	927	927	926	926	926	927	926	915	899	894	897	900	905	914	921	924	924	923	921	921	920	921	919	
14	921	922	922	920	919	922	923	921	916	908	900	898	903	912	921	931	937	941	939	936	935	929	919	917	
15**	911	913	914	902	912	921	925	927	923	917	910	914	922	935	947	956	963	965	966	959	947	939	934	927	
16**	913	884	889	899	906	916	922	927	927	924	920	914	915	929	935	941	946	945	939	937	937	936	924	900	
17**	887	893	901	901	896	896	910	916	920	926	928	928	930	928	931	934	936	939	937	936	933	931	929	927	
18*	924	925	926	927	929	930	935	935	933	928	922	920	921	920	926	930	931	932	932	932	932	933	930	926	
19*	920	922	925	925	926	928	930	929	926	919	911	908	913	916	920	926	929	930	932	935	932	931	931	930	
20	927	922	919	920	920	923	926	926	926	922	918	915	913	916	922	923	926	927	937	949	950	943	935	931	
21	912	905	917	919	921	925	926	931	928	927	920	913	917	923	927	930	930	929	929	931	932	934	934	928	
22	920	919	916	919	924	924	926	927	925	924	920	917	917	920	925	927	929	929	932	934	934	935	919	923	
23	926	927	923	923	924	925	925	923	921	918	917	915	918	924	930	939	938	933	930	929	928	928	929	924	
24	911	911	915	918	914	910	914	917	918	919	915	913	918	926	936	945	941	934	930	928	928	928	927	927	
25	926	922	924	924	924	925	927	926	921	918	918	915	917	919	924	928	941	929	928	927	928	932	924	922	
26	925	926	923	916	917	922	924	924	920	918	917	916	919	922	924	929	929	929	930	929	928	929	929	928	
27	924	912	903	905	904	911	915	917	917	918	918	914	916	924	924	926	927	928	928	931	928	927	927	926	
28*	926	925	926	925	926	926	927	928	924	917	913	910	911	914	918	925	926	927	927	926	924	924	925	925	
29*	925	925	924	924	923	922	924	925	922	916	910	907	906	908	917	922	926	927	926	924	922	921	921	921	
30	920	920	919	919	919	921	921	921	917	910	905	907	913	925	934	933	938	936	933	932	931	929	926	902	
Mean	920	917	917	916	918	921	924	925	922	918	915	913	916	921	928	933	935	936	935	934	932	930	927	923	
Mean*	923	923	925	925	926	927	929	929	926	920	915	912	913	915	920	925	928	929	929	929	927	927	926	925	
Mean**	910	903	902	898	904	912	920	924	923	921	919	919	924	933	939	945	950	951	947	942	939	934	926	918	
October.	42000 + Tabular Quantities (in γ).																								
1	907	907	906	912	919	923	923	926	921	919	919	921	921	927	936	949	948	945	942	938	936	935	921	914	
2**	906	905	909	910	920	928	933	936	934	927	923	921	926	937	952	971	973	968	968	961	952	930	928	902	
3	897	903	909	918	922	924	933	934	934	929	924	923	929	931	931	937	939	941	938	936	935	935	933	931	
4	928	913	916	922	925	927	930	932	932	926	920	918	921	928	930	934	939	943	948	946	938	937	929	926	
5**	906	910	919	911	902	904	913	919	922	924	920	918	927	934	937	941	949	957	953	950	933	936	935	934	
6	914	910	915	917	921	926	928	931	931	929	925	925	926	929	932	934	935	938	939	938	935	934	933	925	
7	921	920	922	923	924	925	927	930	930	929	924	922	924	927	929	935	935	938	934	933	932	932	933	933	
8	931	930	928	927	925	924	923	924	924	923	921	919	918	922	927	931	930	931	931	930	931	932	930	930	
9*	930	928	926	924	920	923	923	926	927	927	926	924	924	927	932	937	935	932	931	930	929	930	930	930	
10*	931	929	928	928	927	927	929	931	931	927	923	921	926	926	928	933	934	936	934	932	932	933	931	931	
11*	928	928	929	929	930	929	931	931	929	925	921	921	926	932	937	939	936	933	931	930	929	929	931	928	
12**	927	927	929	931	932	932	933	933	932	921	915	913	916	923	932	938	950	970	975	962	956	950	932	885	
13	892	889	907	917	907	907	912	921	929	929	930	936	947	950	956	965	957	948	955	961	936	934	934	932	
14	926	927	929	932	933	934	937	940	939	936	929	926	932	938	942	947	949	948	944	942	942	940	938	936	
15	935	932	933	932	933	931	931	932	933	933	928	920	926	935	939	943	946	949	944	938	938	936	933	923	
16*	925	925	925	930	931	932	933	934	934	930	926	923	925	933	938	942	942	942	940	938	936	934	933	932	
17	931	923	922	926	923	925	928	930	929	927	925	923	922	926	930	935	936	933	933	933	938	941	941	937	
18	934	929	923	927	930	931	930	931	929	923	919	916	925	933	932	934	938	945	942	941	942	943	942	939	
19	934	932	931	926	922	926	928	930	929	927	925	921	928	930	935	940	943	946	943	942	941	937	930	926	
20	920	925	929	930	931	932	933	936	936	934	929	928	930	933	936	940	938	937	937	940	939	937	935	926	
21	923	927	929	930	931	932	933	935	934	931	927	925	925	931	932	937	937	937	937	937	932	931	930	929	
22	929	907	910	915	918	922	924	929	926	922	919	919	929	930	933	936	939	941	939	934	934	935	928	927	
23	928	929	928	928	928	928	928	929	926	920	915	919	926	931	934	936	936	936	933	932	931	926	916	921	
24	921	923	926	922	919	917	919	923	920	914	912	917	928	936	938	939	938	937	935	935	935	934	933	935	
25*	934	934	934	934	932	932	931	931	930	926	924	924	932	935	940	942	939	938	935	933	933	933	930	931	
26	933	933	931	932	931	932	932	933	933	929	927	927	933	937	937	940	937	935	937	941	948	942	938	937	
27	935	928	924	928	930	934	934	935	933	928	924	925	931	938	948	956	956	966	977	960	949	942	938	937	
28	938	937	934	922	922	929	932	935	935	927	928	927	929	936	941	943	946	956	960	963	960	953	943	938	
29**	937	936	937	937	937	937	934	931	929	921	927	935	949	984	1015	1061	1040	1017	1014	999	962	926	935	936	
30**	935	935	930	915	905	910	920	932	937	932	941	946	946	953	977	990	999	996	966	948	948	943	941	942	
31	941	939	937	938	935	935	931	934	939	937	935	943	945	952	956	954	953	949	946	944	942	939	936	936	
Mean	925	923	924	925	925	926	928	931	931	927	924	924	929	935	941	947	948	948	947	944	940	936	933	929	
Mean*	930	929	928	929	928	929	929	931	930	927	924	923	927	931	935	939	937	936	934	933	932	932	931	930	
Mean**	922	923	925	921	919	922	927	930	931	925	925	927	933	946	963	980	982	982	975	964	950	937	934	920	

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

TABLE III.—HOURLY MEANS OF VERTICAL 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
November.	42000 γ + Tabular Quantities (in γ).																								
1	935	934	933	933	936	937	939	940	938	936	933	933	935	938	940	942	943	948	945	942	939	938	938	930	
2	933	931	930	933	934	936	937	938	938	934	930	931	933	938	944	947	953	952	951	948	944	941	940	936	
3	934	933	931	930	932	934	933	936	934	932	930	929	931	936	941	941	944	947	947	945	944	945	942	936	
4	929	912	918	922	926	927	924	930	931	927	928	931	937	944	952	952	947	947	946	946	943	942	941	940	
5**	939	937	936	935	932	930	931	931	932	936	936	936	940	940	943	944	953	969	961	957	949	943	945	940	
6**	936	932	923	926	930	923	924	929	933	934	933	940	943	948	953	950	948	955	947	944	943	941	937	938	
7	936	931	931	929	929	933	934	934	934	933	931	934	940	952	948	946	944	943	940	940	943	943	937	934	
8**	936	936	933	930	927	921	924	926	932	933	937	943	946	959	959	962	953	951	946	942	936	916	927	918	
9	917	912	918	916	927	931	933	936	936	933	933	933	938	947	954	955	954	947	945	943	942	938	935	934	
10	925	921	927	929	931	930	933	933	936	934	934	935	938	943	947	952	954	952	949	947	937	937	938	937	
11	936	936	936	936	937	938	936	936	935	933	933	934	938	945	948	948	951	947	945	945	943	940	935	935	
12*	936	936	936	936	937	938	936	934	933	930	928	929	944	954	944	932	939	940	938	937	937	937	935	936	
13	935	934	935	932	935	933	933	933	934	931	925	927	925	927	934	937	939	939	939	940	946	944	943	935	
14	937	936	936	936	936	937	936	933	933	931	928	928	933	943	946	950	945	945	949	949	943	942	939	938	
15	937	935	935	934	933	933	935	934	932	929	928	930	933	941	939	939	943	944	946	944	940	940	924	921	
16**	925	914	927	928	928	931	932	931	929	927	921	923	928	931	938	945	953	958	952	953	944	924	925	933	
17	932	932	932	933	935	937	935	933	933	931	932	932	934	935	940	940	940	942	941	941	939	929	918	920	
18	916	919	925	928	929	927	928	928	928	931	931	928	934	938	949	952	946	943	942	941	945	941	938	927	
19	931	934	928	927	929	929	929	929	930	930	931	933	934	935	936	940	939	939	941	936	930	927	934	936	
20	937	935	934	933	932	933	933	933	933	931	931	932	932	934	938	938	939	942	939	936	936	935	937	932	
21*	931	933	933	932	932	933	933	933	933	929	924	927	930	932	936	935	935	935	936	934	935	934	934	934	
22*	935	934	933	932	932	932	930	931	930	929	924	927	932	935	934	935	935	934	934	933	933	933	934	934	
23	934	933	932	931	931	932	932	931	930	927	926	925	926	930	933	933	933	934	935	936	938	939	935	935	
24	934	932	931	932	931	932	931	930	930	928	926	926	928	932	935	937	937	937	935	935	935	933	932	933	
25	931	929	928	926	924	924	926	928	927	926	926	925	926	930	932	935	935	935	933	933	931	931	933	933	
26**	928	929	923	920	923	925	926	926	926	923	924	921	928	947	958	972	968	960	954	954	954	950	948	935	
27	929	928	920	911	911	919	925	929	929	926	926	926	928	935	936	938	940	941	945	945	936	936	932	926	
28*	932	933	933	933	933	934	933	933	932	932	931	929	934	939	942	943	944	946	945	944	942	939	935	934	
29	934	933	933	933	932	931	931	929	927	924	922	922	927	931	934	936	939	942	942	940	937	936	936	933	
30*	927	928	929	931	932	933	933	933	931	928	925	920	926	931	934	936	938	939	938	937	935	935	935	934	
Mean	932	930	930	930	931	931	932	932	932	930	929	930	933	939	942	944	944	945	944	942	940	937	935	933	
Mean*	932	933	933	933	933	934	933	933	932	930	926	926	933	938	938	936	938	939	938	937	936	936	935	934	
Mean**	933	930	928	928	928	926	927	929	930	931	930	933	937	945	950	955	955	959	952	950	945	935	936	933	
December.	42000 γ + Tabular Quantities (in γ).																								
1	933	931	931	931	931	933	932	933	931	931	931	930	932	940	948	951	954	954	957	953	949	945	944	941	
2**	936	928	926	928	932	936	937	938	936	933	931	929	938	939	949	957	950	950	949	947	941	936	941	930	
3**	918	910	920	923	925	921	926	929	930	931	931	934	937	943	946	952	949	947	949	943	941	935	935	932	
4**	932	932	929	927	928	932	(938)	(934)	(935)	929	924	923	931	936	942	953	951	950	948	942	942	936	929	928	
5**	921	910	917	924	927	929	934	934	933	936	939	936	942	951	958	958	953	948	943	943	942	932	932	933	
6	934	934	934	930	929	932	933	935	936	934	936	934	941	949	951	952	950	947	944	944	941	941	942	938	
7	936	936	936	936	936	936	936	936	937	938	934	936	940	944	944	947	946	948	948	946	943	940	939	939	
8	939	937	932	934	934	936	936	936	938	936	933	934	936	941	942	942	942	941	939	939	939	939	941	937	
9	935	936	936	935	935	936	935	933	932	932	935	934	936	939	940	944	944	942	944	946	948	948	945	943	
10	941	934	930	925	930	932	932	929	932	929	930	931	935	939	941	944	944	945	944	943	943	941	937	937	
11**	939	939	939	939	939	939	938	936	934	929	929	929	933	935	939	939	941	943	947	954	954	949	948	946	
12	940	940	935	933	934	939	939	939	937	933	932	930	938	941	944	950	954	947	947	942	939	940	932	933	
13	938	938	938	938	939	939	939	938	936	935	934	934	935	943	946	951	950	949	947	945	947	945	941	940	
14	937	937	936	937	939	940	940	939	937	932	932	933	937	939	940	941	945	946	946	946	946	937	936	935	
15	933	934	936	936	937	937	936	936	937	937	938	939	938	940	941	942	945	949	946	945	943	940	940	941	
16	938	935	935	932	933	936	936	935	937	933	930	928	928	932	936	940	942	944	947	949	945	946	943	937	
17	936	925	924	929	929	928	925	929	931	930	928	929	928	932	935	938	939	939	939	939	940	942	938	937	
18	935	933	932	932	932	934	934	932	931	930	928	930	932	932	935	937	938	937	938	937	938	938	937	937	
19*	937	934	933	932	931	933	931	932	931	933	931	932	931	932	934	936	935	935	934	934	934	935	934	934	
20*	934	934	933	932	932	931	930	930	931	931	931	930	929	930	932	934	934	933	932	932	932	933	933	933	
21*	932	932	932	931	931	931	931	931	931	933	931	930	930	933	933	933	934	934	933	933	932	933	934	934	
22	935	932	931	931	929	927	928	928	928	926	926	929	931	931	932	932	932	931	932	931	931	932	934	935	
23	935	932	931	930	929	929	929	929	929	928	928	928	930	932	933	936	938	942	945	948	952	951	950	948	943
24	940	938	936	934	933	933	931	931	931	928	928	929	932	932	933	933	933	933	932	932	932	931	931	931	
25	931	929	927	925	926	926	925	926	926	929	927	926	926	930	932	934	936	937	942	943	941	939	938	937	
26*	934	933	933	933	933	932	932	931	931	929	929	928	932	933	936	936	936	934	934	934	934	934	931	931	
27*	932	932	933	933	933	932	933	932	932	927	926	928	931	934	937	937	937	937	934	934	933	932	932	932	
28	933	932	931	932	933	934	934	933	933	932	933	932	933	935	936	940	942	948	960	960	950	945	944	946	
29	935	935	935	934	935	937	934	933	932	929	931	934	934	935	943	950	954	959	956	949	945	942	940	939	
30	935	929	921	926	922	919	925	931	933	931	935	936	936	938	945	948	948	947	945	943	945	940	936	932	
31	927	922	925	929	932	933	933	933	932	929	932	932	933	936	939	941	943	944	944	939	935	935	930	926	
Mean	934	932	931	931	932	933	933	933	933	931	931	930	934	937	940	943	943	943	944	943	941	939	938	936	
Mean*	934	933	933	932	932	932	931	931	931	931	930	930	931	932	934	935	935	935	933	933	933	933	933	933	
Mean**	929	924	926	928	930	931	935	934	934	932	931	930	936	941	947	952	949	948	947	946	944	938	937	934	

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

TABLE IV.—DAILY MEAN AND EXTREME VALUES OF MAGNETIC ELEMENTS AS RECORDED BY THE MAGNETOGRAPHS.

Date.	Declination West.						Horizontal Force.						Vertical Force.					
	Mean Value for the Day.	Maximum.		Minimum.		Range.	Mean Value for the Day.	Maximum.		Minimum.		Range.	Mean Value for the Day.	Maximum.		Minimum.		Range.
		G.M.T.			G.M.T.			G.M.T.			G.M.T.			G.M.T.			G.M.T.	
JAN.	12°+	h m	12°+	12°+	h m		18000γ+	h m	18000γ+	18000γ+	h m	γ	42000γ+	h m	42000γ+	42000γ+	h m	γ
	′		′	′		′												
1	18·9	11 56	22·5	8·4	22 36	14·1	552	18 34	566	517	22 17	49	928	23 8	943	919	10 23	24
2	19·1	13 42	22·0	16·6	4 3	5·4	552	2 20	569	536	1 31	33	927	0 4	938	921	7 30	17
3*	19·0	13 37	21·0	17·7	20 34	3·3	554	13 20	564	545	23 58	19	925	13 30	930	920	8 55	10
4	19·3	12 32	21·1	17·9	0 46	3·2	554	14 2	564	543	0 3	21	923	0 23	930	916	10 17	14
5	19·2	11 27	21·8	18·0	0 4	3·8	555	12 4	562	545	23 51	17	923	14 10	929	919	9 20	10
6	19·1	12 31	22·3	17·6	5 57	4·7	559	6 7	570	545	0 2	25	922	13 29	928	913	11 57	15
7*	19·1	11 30	20·9	17·5	23 17	3·4	559	7 5	567	552	0 21	15	922	13 8	928	916	23 59	12
8*	19·0	12 1	21·1	17·6	0 9	3·5	560	5 59	567	550	10 24	17	921	13 10	925	913	22 32	12
9	18·6	12 53	24·9	6·3	23 52	18·6	554	7 41	576	511	23 24	65	922	23 30	946	909	2 58	37
10**	18·0	12 39	22·3	7·3	0 0	15·0	543	19 44	582	519	2 40	63	926	0 8	938	915	7 54	23
11	18·7	11 38	22·2	14·1	22 47	8·1	544	23 58	567	527	22 40	40	926	21 45	935	917	15 47	18
12	18·6	10 57	22·1	14·7	23 24	7·4	547	7 5	559	539	13 39	20	926	19 17	934	919	8 38	15
13	18·5	12 3	22·2	15·7	21 48	6·5	549	21 55	570	541	10 55	29	926	18 55	932	920	9 59	12
14	18·5	11 0	21·8	15·5	23 55	6·3	551	18 14	561	541	9 40	20	924	13 9	931	919	8 38	12
15	18·3	11 25	22·8	15·0	2 24	7·8	551	10 46	572	537	0 20	35	922	23 20	928	917	11 20	11
16**	17·2	11 40	26·4	1·5	17 51	24·9	546	23 33	590	493	17 39	97	922	17 59	949	907	9 6	42
17**	18·0	12 11	25·4	5·8	18 27	19·6	535	18 44	573	478	15 28	95	926	15 54	955	908	3 54	47
18**	18·7	9 50	26·9	6·9	18 59	20·0	539	19 7	584	499	8 59	85	921	17 37	943	906	9 25	37
19	18·2	13 17	22·2	10·6	20 17	11·6	543	23 57	585	518	10 33	67	923	15 7	931	914	0 27	17
20	17·8	12 40	21·7	13·0	23 2	8·7	544	0 4	586	506	17 54	80	923	18 31	940	910	0 32	30
21	18·1	13 21	21·7	14·6	21 30	7·1	550	8 4	566	530	18 44	36	919	19 30	927	907	12 32	20
22	18·0	4 7	20·7	15·8	22 52	4·9	549	7 23	566	531	9 56	35	918	18 31	923	911	13 0	12
23	17·8	13 6	20·2	14·9	22 44	5·3	551	0 20	574	538	17 0	36	918	18 17	927	909	0 40	18
24*	17·8	13 23	20·2	16·1	9 9	4·1	557	5 45	566	546	0 49	20	918	18 10	922	909	12 15	13
25**	17·0	13 47	20·8	3·8	22 9	17·0	548	18 7	571	476	22 8	95	918	22 46	939	909	11 21	30
26	18·5	7 57	22·3	8·0	0 24	14·3	539	8 4	558	492	0 52	66	922	19 13	929	908	2 3	21
27	18·1	16 26	22·0	9·7	22 44	12·3	541	14 1	552	510	23 3	42	922	23 39	930	916	7 50	14
28	18·0	23 35	22·4	13·8	4 29	8·6	540	23 29	584	510	12 19	74	921	23 24	928	907	3 3	21
29	18·8	13 6	26·1	14·7	17 13	11·4	542	8 20	558	509	14 16	49	922	14 50	934	912	0 27	22
30*	18·2	13 14	20·8	16·9	8 3	3·9	547	18 55	556	519	11 26	37	919	10 13	928	915	12 37	13
31	18·1	13 46	21·0	9·4	19 21	11·6	545	23 18	570	521	19 10	49	919	19 31	928	914	4 58	14
Mean	18·4	—	22·3	12·8	—	9·6	548	—	570	523	—	46·2	922	—	933	913	—	19·8
No. of Days used.	31	—	31	31	—	31	31	—	31	31	—	31	31	—	31	31	—	31
FEB.	12°+	h m	12°+	12°+	h m		18000γ+	h m	18000γ+	18000γ+	h m	γ	42000γ+	h m	42000γ+	42000γ+	h m	γ
	′		′	′		′												
1	17·7	5 36	20·4	11·2	22 50	9·2	545	20 40	559	519	23 17	40	918	23 37	931	911	6 50	20
2	17·8	13 15	21·7	9·2	1 32	12·5	541	0 36	579	507	1 45	72	919	15 4	928	904	1 24	24
3	18·3	2 14	22·4	14·7	7 5	7·7	546	5 23	574	531	16 23	43	916	14 44	927	904	6 13	23
4	18·4	11 20	22·6	10·5	21 38	12·1	543	6 32	561	522	9 12	39	920	16 37	930	911	9 55	19
5	17·6	12 44	21·0	12·7	21 21	8·3	548	1 44	564	533	10 50	31	918	16 34	925	910	10 21	15
6*	18·2	12 45	21·6	15·9	6 30	5·7	548	16 11	562	534	11 21	28	919	16 17	926	911	10 3	15
7	18·2	13 20	24·1	12·5	22 55	11·6	551	14 31	564	527	10 14	37	919	14 30	926	910	11 34	16
8	17·2	11 49	21·6	12·6	2 12	9·0	545	20 32	556	528	1 29	28	921	1 5	928	912	12 22	16
9	18·3	13 2	21·5	14·9	21 39	6·6	550	6 44	559	538	14 18	21	921	17 52	930	915	10 21	15
10*	18·1	11 48	21·6	15·1	2 29	6·5	552	13 28	562	538	2 43	24	922	18 10	928	916	11 57	12
11	18·2	14 25	22·1	15·8	9 30	6·3	548	6 58	561	536	20 20	25	922	22 6	932	915	12 56	17
12*	18·2	13 37	21·3	16·7	8 51	4·6	551	8 6	561	542	16 39	19	921	0 25	928	915	13 41	13
13**	17·1	12 44	26·0	−5·9	21 37	31·9	555	21 44	610	509	19 32	101	918	19 40	943	896	13 1	47
14**	18·0	12 30	24·2	8·8	22 34	15·4	542	22 44	619	501	11 6	118	919	17 10	941	898	23 24	43
15**	17·4	12 57	22·5	10·6	18 42	11·9	533	21 38	571	479	14 55	92	926	16 36	957	907	0 2	50
16	18·6	0 30	25·5	10·9	9 4	14·6	542	1 20	567	530	9 2	37	922	16 13	928	908	1 1	20
17	18·1	12 17	22·0	13·9	17 38	8·1	545	23 13	572	521	11 3	51	925	16 50	935	917	23 44	18
18	17·8	14 18	22·4	15·4	17 53	7·0	547	0 20	565	516	10 36	49	924	17 52	931	918	10 25	13
19	18·1	12 22	22·9	15·6	8 40	7·3	549	23 42	561	529	17 40	32	924	18 57	935	918	11 36	17
20*	17·9	13 19	22·6	14·0	2 20	8·6	549	0 30	559	530	10 40	29	922	18 54	926	916	13 0	10
21*	17·6	13 38	22·0	14·5	9 9	7·5	546	23 42	559	519	9 40	40	924	15 14	930	917	10 57	13
22	18·1	12 57	23·4	14·6	19 17	8·8	546	17 12	557	523	10 30	34	923	15 26	931	916	12 48	15
23	17·6	13 14	23·6	12·7	22 34	10·9	548	19 5	561	531	12 2	30	922	17 52	929	912	12 54	17
24**	18·7	15 45	35·5	9·0	22 26	26·5	529	6 18	596	455	19 48	141	940	19 30	1015	896	6 34	119
25**	18·4	16 47	25·9	4·3	24 0	21·6	525	23 47	582	494	17 34	88	942	17 50	968	909	24 0	59
26	16·7	14 27	25·2	0·9	0 24	24·3	533	21 47	593	494	15 41	99	930	16 12	951	899	0 18	52
27	17·5	13 14	25·2	5·5	19 30	19·7	536	19 51	574	496	12 18	78	931	16 29	944	917	11 38	27
28	17·2	14 18	21·3	14·5	9 30	6·8	543	21 24	560	531	11 40	29	926	21 15	934	916	13 37	18
Mean	17·9	—	23·3	11·5	—	11·8	544	—	570	518	—	52·0	923	—	937	911	—	26·5
No. of Days used.	28	—	28	28	—	28	28	—	28	28	—	28	28	—	28	28	—	28

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

TABLE IV.—DAILY MEAN AND EXTREME VALUES OF MAGNETIC ELEMENTS—*continued.*

Date.	Declination West.						Horizontal Force.						Vertical Force.					
	Mean Value for the Day.	Maximum.		Minimum.		Range.	Mean Value for the Day.	Maximum.		Minimum.		Range.	Mean Value for the Day.	Maximum.		Minimum.		Range.
		G.M.T.			G.M.T.			G.M.T.			G.M.T.			G.M.T.			G.M.T.	
MAR.	12°+	h m	12°+	12°+	h m		18000γ+	h m	18000γ+	18000γ+	h m	γ	42000γ+	h m	42000γ+	42000γ+	h m	γ
	′		′	′		′												
1	18·0	12 59	23·3	15·1	3 4	8·2	546	3 57	554	530	10 35	24	924	0 34	929	914	11 40	15
2	18·6	15 28	24·5	14·2	22 3	10·3	545	22 35	577	510	16 50	67	926	18 52	941	911	11 39	30
3	18·1	4 10	25·8	12·1	5 30	13·7	543	4 40	583	518	8 57	65	923	18 10	937	902	4 59	35
4	17·3	12 44	21·6	13·8	22 35	7·8	547	23 11	578	524	10 44	54	921	16 10	929	911	11 37	18
5	17·8	13 25	25·8	12·9	19 1	12·9	547	22 20	554	525	12 4	29	920	16 16	932	905	12 3	27
6*	17·3	13 40	22·9	14·0	9 8	8·9	546	8 0	560	512	12 24	48	921	15 50	931	909	12 23	22
7	17·7	14 7	25·2	13·1	8 27	12·1	546	20 27	569	510	12 17	59	920	16 34	929	908	10 57	21
8	17·6	13 10	25·0	13·1	23 31	11·9	548	0 15	580	519	11 39	61	919	20 8	930	906	13 38	24
9	17·2	14 18	25·0	12·5	0 50	12·5	543	0 8	582	513	12 10	69	919	17 8	934	903	12 45	31
10	17·8	16 1	24·8	12·7	22 2	12·1	547	16 3	579	512	16 33	67	919	16 3	939	905	13 0	34
11*	17·7	13 10	22·2	15·0	0 8	7·2	547	19 1	561	525	11 20	36	917	16 27	923	907	12 50	16
12**	16·6	14 27	24·1	4·1	21 21	20·0	548	22 20	574	514	20 58	60	915	20 42	939	901	13 30	38
13**	16·6	1 19	27·4	−3·8	19 11	31·2	540	19 28	610	498	11 3	112	920	19 15	940	895	23 37	45
14**	16·8	12 59	23·3	9·7	0 27	13·6	534	22 47	563	501	9 10	62	921	17 16	935	898	0 0	37
15	17·0	12 25	21·9	13·7	8 11	8·2	545	23 45	573	513	12 51	60	922	16 11	933	913	12 46	20
16	17·3	13 0	23·6	13·0	9 14	10·6	544	0 6	563	503	11 27	60	919	16 48	926	906	12 0	20
17	17·1	13 10	24·2	11·4	9 12	12·8	542	0 50	560	508	12 36	52	921	16 15	932	906	12 22	26
18*	17·3	13 16	22·8	12·0	8 21	10·8	547	1 17	559	514	10 56	45	921	15 51	930	912	10 50	18
19*	17·2	13 20	23·7	11·6	8 27	12·1	546	22 34	559	517	10 40	42	922	16 53	930	905	11 58	25
20	17·6	12 38	24·2	11·3	24 0	12·9	552	19 56	579	526	10 37	53	920	16 26	937	905	12 40	32
21**	15·9	13 46	27·9	3·5	21 13	24·4	542	7 1	564	506	12 29	58	922	16 10	938	901	10 16	37
22	16·4	13 18	22·2	10·1	23 1	12·1	542	0 33	564	518	22 59	46	917	22 2	932	901	12 35	31
23	16·4	13 1	21·5	10·9	0 6	10·6	539	19 50	558	518	10 17	40	923	16 49	934	910	12 24	24
24	—	—	—	11·4	5 1	—	—	—	—	—	—	—	—	—	—	—	—	—
25	15·5	12 58	22·3	8·3	21 40	14·0	542	17 44	559	510	10 58	49	924	20 10	940	907	11 57	33
26**	16·3	13 4	24·6	6·6	1 18	18·0	542	0 42	608	512	14 21	96	921	0 37	933	899	11 42	34
27	17·1	12 1	23·6	13·8	8 38	9·8	544	1 6	564	513	12 7	51	921	18 51	933	904	10 44	29
28	16·4	12 18	21·3	12·7	3 8	8·6	546	19 58	562	523	10 56	39	924	16 27	931	913	10 59	18
29	16·2	14 14	21·1	13·2	9 1	7·9	547	22 1	572	527	10 55	45	921	21 54	932	903	11 17	29
30*	16·5	12 48	21·9	12·9	8 10	9·0	549	22 34	559	533	9 51	26	922	15 45	930	900	12 4	30
31	17·4	13 6	27·5	11·8	8·52	15·7	550	22 50	562	520	13 49	42	920	17 8	930	896	12 1	34
Mean	17·1	—	23·8	11·2	—	12·7	545	—	570	516	—	53·9	921	—	933	905	—	27·8
No. of Days used.	30	—	30	31	—	30	30	—	30	30	—	30	30	—	30	30	—	30
APRIL	12°+	h m	12°+	12°+	h m		18000γ+	h m	18000γ+	18000γ+	h m	γ	42000γ+	h m	42000γ+	42000γ+	h m	γ
	′		′	′		′												
1**	16·5	13 16	24·0	5·1	19 25	18·9	547	22 6	563	495	19 2	68	921	19 27	945	904	12 2	41
2	16·3	13 26	23·0	11·5	8 26	11·5	550	23 40	576	510	10 23	66	917	0 30	928	893	11 20	35
3**	16·6	12 52	24·0	10·9	21 33	13·1	545	22 42	570	503	20 35	67	921	20 13	947	888	12 2	59
4	16·1	12 55	23·7	9·5	18 25	14·2	541	23 48	567	509	10 24	58	921	18 40	937	900	11 57	37
5	16·5	13 32	24·3	11·3	8 41	13·0	546	0 16	568	508	10 35	60	916	17 30	926	893	11 44	33
6*	16·7	13 20	24·2	10·9	8 39	13·3	548	18 40	563	516	11 4	47	919	17 32	930	897	12 12	33
7	16·2	13 30	22·7	10·3	8 41	12·4	554	18 18	571	524	11 23	47	916	7 17	928	892	12 40	36
8	16·1	14 6	23·2	10·8	8 52	12·4	558	23 43	575	527	11 14	48	915	17 9	926	892	13 0	34
9	15·6	13 19	23·3	10·8	6 55	12·5	558	22 54	599	521	11 1	78	915	22 49	926	897	12 1	29
10**	15·7	12 57	25·3	8·2	4 44	17·1	550	4 22	588	511	13 17	77	915	18 53	938	891	12 20	47
11	15·9	13 38	24·0	10·7	20 0	13·3	543	18 1	569	490	12 11	79	923	15 13	934	904	11 17	30
12*	15·7	13 8	21·1	11·4	8 1	9·7	544	23 27	558	522	10 43	36	920	17 53	928	900	11 18	28
13*	15·2	13 6	19·9	10·1	8 41	9·8	549	23 9	562	528	11 42	34	917	5 59	923	898	12 2	25
14*	16·1	13 34	21·2	10·4	8 10	10·8	554	22 16	576	531	11 20	45	914	17 34	923	892	11 41	31
15	15·8	13 42	21·9	11·6	8 2	10·3	553	16 22	568	523	10 18	45	912	18 54	925	886	12 36	39
16	15·6	13 24	21·1	9·6	8 41	11·5	556	22 10	579	517	11 41	62	914	16 47	923	894	11 35	29
17	15·7	13 43	22·3	10·2	7 10	12·1	559	23 7	577	527	10 50	50	912	18 12	921	893	11 57	28
18	15·2	13 36	23·6	8·7	5 30	14·9	548	3 37	584	507	10 0	77	913	18 7	926	891	12 6	35
19**	15·0	14 38	23·3	4·6	23 57	18·7	546	15 20	584	513	22 28	71	916	18 24	939	891	12 22	48
20**	15·6	13 16	24·1	5·5	0 0	18·6	535	4 38	567	453	10 38	114	914	17 14	931	898	2 15	33
21	15·2	13 17	21·8	9·1	8 48	12·7	549	19 10	572	520	10 26	52	918	7 18	927	897	12 37	30
22	15·2	13 21	21·3	10·5	7 29	10·8	546	23 55	567	510	11 2	57	915	17 54	928	895	11 38	33
23	15·4	12 57	21·7	11·2	8 40	10·5	546	0 16	573	514	11 24	59	913	17 52	925	885	12 20	40
24	14·9	13 40	21·3	10·3	7 41	11·0	548	0 6	572	513	10 38	59	912	7 14	921	894	12 0	27
25	15·2	13 3	21·4	9·4	7 47	12·0	555	17 7	578	524	11 15	54	914	20 8	930	890	12 17	40
26	15·6	13 14	19·9	11·4	4 54	8·5	551	3 12	569	532	10 5	37	910	22 20	921	890	12 43	31
27	15·5	12 1	19·6	12·1	7 11	7·5	551	15 30	563	533	10 16	30	915	17 53	924	895	10 57	29
28	15·6	12 54	21·7	10·9	8 28	10·8	556	22 14	574	534	10 22	40	913	22 6	921	884	11 56	37
29*	15·4	12 20	20·5	11·0	7 52	9·5	552	0 2	567	533	11 2	34	915	15 13	924	895	11 1	29
30	15·3	13 20	21·1	10·1	7 12	11·0	554	1 26	571	535	11 56	36	911	19 3	922	886	12 17	36
Mean	15·7	—	22·3	9·9	—	12·4	550	—	572	516	—	56·2	916	—	928	893	—	34·7
No. of Days used.	30	—	30	30	—	30	30	—	30	30	—	30	30	—	30	30	—	30

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

TABLE IV.—DAILY MEAN AND EXTREME VALUES OF MAGNETIC ELEMENTS—*continued.*

Date.	Declination West.						Horizontal Force.						Vertical Force.					
	Mean Value for the Day.	Maximum.		Minimum.		Range.	Mean Value for the Day.	Maximum.		Minimum.		Range.	Mean Value for the Day.	Maximum.		Minimum.		Range.
		G.M.T.			G.M.T.			G.M.T.			G.M.T.			G.M.T.			G.M.T.	
MAY	12°+	h m	12°+	12°+	h m		18000γ+	h m	18000γ+	18000γ+	h m	γ	42000γ+	h m	42000γ+	42000γ+	h m	γ
	′		′	′		′												
1	15·5	13 48	20·2	10·2	6 42	10·0	556	17 28	575	524	11 12	51	912	4 58	921	894	11 0	27
2	15·5	12 26	22·4	9·9	7 56	12·5	557	17 14	573	526	12 4	47	911	17 12	921	888	12 1	33
3	15·7	13 40	21·9	11·2	8 15	10·7	557	22 50	573	535	9 44	38	913	17 57	924	890	11 14	34
4	14·9	13 38	21·3	9·5	8 24	11·8	558	17 42	573	531	11 6	42	910	17 51	925	890	11 37	35
5	15·0	13 58	22·2	9·8	8 14	12·4	555	17 6	575	518	12 17	57	913	18 29	929	888	11 57	41
6**	15·1	13 32	22·2	6·2	6 52	16·0	553	5 32	572	511	11 7	61	920	15 10	955	887	10 36	68
7**	14·7	3 40	22·2	4·6	6 27	17·6	544	4 31	625	465	11 6	160	913	16 30	940	860	5 2	80
8	14·4	13 21	19·6	8·7	7 46	10·9	541	19 10	561	510	11 34	51	919	18 30	932	899	12 1	33
9*	14·5	13 6	19·5	9·4	6 52	10·1	547	17 53	562	533	10 20	29	918	4 59	928	895	11 35	33
10*	15·3	12 38	20·8	10·1	6 58	10·7	552	16 26	565	529	10 43	36	915	15 30	926	894	10 41	32
11	13·9	13 40	21·8	4·9	22 9	16·9	567	17 46	589	527	21 57	62	916	19 30	942	891	11 40	51
12	15·2	12 14	23·5	9·4	0 27	14·1	543	21 18	582	521	9 2	61	916	17 54	938	897	11 21	41
13**	13·4	13 20	20·9	−3·2	20 49	24·1	546	17 22	586	521	20 29	65	917	20 48	943	893	11 1	50
14**	12·7	13 54	21·5	5·1	23 54	16·4	550	21 44	609	526	9 38	83	912	19 14	936	887	11 57	49
15**	13·6	12 57	22·4	6·0	0 0	16·4	537	19 24	586	488	7 57	98	902	19 23	934	871	3 52	63
16	14·9	12 45	21·0	10·3	4 12	10·7	542	17 52	567	507	7 17	60	910	16 48	925	887	10 38	38
17	14·4	13 50	20·3	−5·2	7 34	25·5	546	19 53	570	527	8 42	43	909	17 10	925	886	10 19	39
18	14·7	13 21	24·0	7·8	7 3	16·2	546	2 41	568	521	7 2	47	914	17 53	933	891	11 0	42
19	14·4	13 17	21·6	9·7	7 24	11·9	546	18 27	565	521	7 56	44	915	17 8	926	895	11 34	31
20	15·5	13 28	24·6	8·2	23 30	16·4	548	16 44	571	516	9 17	55	918	18 37	940	889	12 14	51
21	15·1	13 2	22·4	10·0	0 50	12·4	551	17 55	572	525	9 21	47	920	16 42	933	901	11 37	32
22*	15·2	13 20	22·0	9·0	7 28	13·0	549	17 42	567	518	10 53	49	919	18 38	929	904	13 40	25
23*	14·6	13 0	20·2	8·6	7 41	11·6	552	18 41	572	518	10 50	54	918	6 34	928	890	11 57	38
24	15·2	12 50	20·3	10·0	6 28	10·3	558	16 51	575	530	10 10	45	913	18 23	926	888	12 11	38
25	14·8	12 30	19·7	9·0	6 34	10·7	559	23 10	588	540	13 14	48	919	17 36	937	895	10 45	42
26	15·6	5 1	19·8	11·9	6 58	7·9	556	16 26	594	518	14 23	76	918	18 22	943	893	9 50	50
27	15·0	13 26	20·6	10·8	5 56	9·8	548	19 27	565	521	10 40	44	921	17 32	931	905	11 43	26
28*	14·8	12 43	20·1	8·2	7 24	11·9	546	18 27	561	523	8 45	38	919	15 50	927	901	10 34	26
29	15·4	13 21	23·8	9·0	6 34	14·8	554	14 20	573	508	15 22	65	917	17 52	930	892	11 40	38
30	14·2	12 17	20·2	8·2	7 41	12·0	555	17 11	570	536	9 18	34	917	17 0	930	896	12 41	34
31	15·0	14 7	21·6	8·7	6 57	12·9	556	15 54	572	528	9 9	44	912	17 54	927	889	12 10	38
Mean	14·8	—	21·4	7·9	—	13·5	550	—	576	520	—	55·9	915	—	932	891		40·6
No. of Days used.	31	—	31	31	—	31	31	—	31	31	—	31	31	—	31	31		31
JUNE.	12°+	h m	12°+	12°+	h m		18000γ+	h m	18000γ+	18000γ+	h m	γ	42000γ+	h m	42000γ+	42000γ+	h m	γ
	′		′	′		′												
1	15·1	13 6	23·2	5·3	22 52	17·9	562	17 41	615	519	9 50	96	914	18 38	928	892	12 0	36
2**	15·5	13 22	25·1	7·8	3 33	17·3	543	17 32	583	455	9 17	128	921	17 25	962	889	11 27	73
3	14·7	13 10	20·5	9·3	7 56	11·2	543	0 5	575	511	9 4	64	917	18 26	934	891	12 0	43
4	14·6	13 18	20·2	9·1	6 33	11·1	547	17 44	572	514	10 36	58	920	17 40	937	898	11 38	39
5*	14·2	12 42	21·7	7·2	5 42	14·5	554	20 19	578	531	11 24	47	921	18 10	933	906	10 39	27
6	14·3	13 59	22·1	7·5	6 53	14·6	556	18 27	591	521	9 37	70	919	18 13	944	892	11 34	52
7	14·8	14 20	22·2	9·5	8 1	12·7	540	16 8	570	512	10 20	58	918	18 40	933	894	11 47	39
8	14·3	13 48	21·6	5·2	20 6	16·4	545	19 29	603	530	23 47	73	921	20 20	943	892	11 20	51
9**	14·4	4 29	21·8	4·4	0 42	17·4	532	2 30	583	487	6 20	96	917	18 15	947	876	4 12	71
10	14·0	14 17	21·5	6·2	5 19	15·3	548	17 37	587	519	9 1	68	921	18 35	938	902	11 1	36
11	14·1	14 42	21·2	6·6	23 34	14·6	547	2 40	589	509	10 51	80	917	16 7	930	897	11 21	33
12	13·5	13 3	23·3	5·7	0 52	17·6	546	15 47	585	509	9 17	76	919	19 7	945	896	12 37	49
13	14·0	14 49	20·8	7·5	7 39	13·3	544	21 0	568	520	13 29	48	921	19 24	933	900	11 37	33
14	13·4	13 7	18·6	7·6	6 46	11·0	548	19 30	570	527	9 50	43	921	19 30	937	907	10 36	30
15*	12·9	13 21	18·7	6·2	8 24	12·5	549	0 13	569	522	8 40	47	919	17 34	930	900	11 42	30
16*	13·9	13 57	20·6	7·9	7 40	12·7	555	18 40	577	536	9 49	41	918	16 53	927	899	12 15	28
17*	14·2	13 34	20·3	8·9	8 14	11·4	557	19 54	578	526	9 23	52	916	17 55	926	892	10 57	34
18	14·0	13 24	20·7	7·3	7 10	13·4	555	1 55	584	529	11 40	55	918	17 53	934	901	13 23	33
19	13·7	14 43	19·4	7·9	6 21	11·5	554	19 22	579	511	10 25	68	918	18 4	934	899	12 17	35
20	13·8	14 22	21·3	6·2	7 22	15·1	541	18 47	569	508	9 43	61	920	17 28	930	899	12 56	31
21	14·4	16 7	20·6	7·8	7 59	12·8	547	18 59	618	529	13 10	89	918	18 56	940	901	10 41	39
22	13·5	13 57	19·1	8·2	8 31	10·9	547	19 38	578	515	12 24	63	920	17 50	939	901	10 44	38
23	13·8	12 50	18·7	8·5	6 40	10·2	547	16 47	573	526	13 17	47	922	19 3	935	911	14 0	24
24	13·1	14 58	16·7	8·7	5 21	8·0	555	4 40	567	533	11 18	34	925	5 31	933	909	13 12	24
25*	13·9	13 20	19·0	8·6	6 10	10·4	555	19 47	573	525	10 37	48	918	4 48	927	897	11 40	30
26**	14·3	16 36	23·4	4·8	23 8	18·6	564	17 52	639	532	9 20	107	915	17 52	932	898	11 42	34
27**	14·2	13 26	23·2	6·0	6 0	17·2	550	15 5	583	496	16 11	87	922	16 40	951	898	11 28	53
28**	13·0	13 0	22·0	4·0	23 18	18·0	547	19 14	594	503	10 51	91	917	18 57	937	899	10 0	38
29	12·9	14 26	18·4	6·8	7 2	11·6	546	18 22	573	507	11 12	66	919	17 34	936	897	11 19	39
30	13·2	16 15	17·6	7·6	5 49	10·0	550	19 14	568	520	9 44	48	919	17 53	932	901	11 21	31
Mean	14·0	—	20·8	7·1	—	13·6	551	—	583	516	—	67·0	919	—	936	898	—	38·4
No. of Days used.	30	—	30	30	—	30	30	—	30	30	—	30	30	—	30	30	—	30

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

TABLE IV.—DAILY MEAN AND EXTREME VALUES OF MAGNETIC ELEMENTS—*continued.*

Date.	Declination West.						Horizontal Force.						Vertical Force.					
	Mean Value for the Day.	Maximum.		Minimum.		Range.	Mean Value for the Day.	Maximum.		Minimum.		Range.	Mean Value for the Day.	Maximum.		Minimum.		Range.
JULY	12°+	G.M.T. h m	12°+	12°+	G.M.T. h m		18000γ+	G.M.T. h m	18000γ+	18000γ+	G.M.T. h m	γ	42000γ+	G.M.T. h m	42000γ+	42000γ+	G.M.T. h m	γ
	′		′	′		′												
1	13·9	12 1	20·3	7·9	6 36	12·4	552	23 7	574	517	9 22	57	919	17 53	933	898	12 36	35
2	12·9	13 30	21·9	5·3	22 22	16·6	556	18 39	589	520	13 43	69	914	18 39	933	888	12 40	45
3	12·8	14 46	21·2	5·4	6 8	15·8	548	17 29	573	520	7 44	53	918	18 37	938	897	12 40	41
4	13·3	14 35	21·9	5·6	20 28	16·3	551	18 24	589	516	10 38	73	918	18 24	937	887	12 7	50
5	13·4	14 42	20·8	8·7	8 3	12·1	549	22 30	574	505	11 49	69	917	18 24	933	897	11 7	36
6	13·2	13 17	19·0	7·5	5 33	11·5	551	18 30	577	519	12 2	58	918	18 28	936	904	13 1	32
7	13·5	14 18	21·0	7·3	6 10	13·7	555	21 14	587	523	10 56	64	918	17 54	931	903	10 18	28
8	12·6	13 57	18·8	5·5	7 26	13·3	554	18 38	569	529	11 35	40	917	17 53	928	903	12 18	25
9*	13·3	12 43	18·8	6·7	7 22	12·1	554	20 39	574	532	12 43	42	917	16 15	928	902	13 0	26
10*	13·2	14 18	18·5	8·2	7 10	10·3	554	22 50	574	530	11 1	44	914	17 57	924	898	11 17	26
11	14·3	13 55	22·2	9·1	5 40	13·1	560	18 5	598	533	11 55	65	915	18 5	931	893	13 44	38
12	13·1	13 7	20·1	7·1	5 50	13·0	556	20 52	581	531	9 36	50	915	17 22	925	891	11 18	34
13	13·5	13 27	19·5	5·4	5 15	14·1	554	19 37	587	523	10 40	64	920	19 33	932	910	12 20	22
14	13·7	14 34	20·9	6·5	7 40	14·4	549	16 54	587	482	10 42	105	917	18 14	937	897	13 38	40
15	13·7	13 58	20·9	7·5	7 3	13·4	548	22 42	572	495	8 6	77	921	16 30	934	906	10 58	28
16	13·0	14 8	20·8	7·0	9 10	13·8	548	2 8	587	515	10 36	72	917	17 27	933	899	12 1	34
17	13·2	13 20	19·4	6·5	7 39	12·9	547	0 45	577	516	8 40	61	919	16 3	935	903	12 0	32
18	13·3	13 32	19·4	8·3	5 17	11·1	553	18 48	570	524	9 14	46	918	17 50	935	893	12 7	42
19*	13·2	13 45	20·8	7·3	7 4	13·5	552	16 54	571	522	10 5	49	920	15 54	935	903	11 39	32
20*	13·6	13 22	20·3	6·5	8 30	13·8	553	18 42	577	525	10 7	52	921	17 52	936	903	12 4	33
21*	13·4	14 13	18·7	8·0	7 41	10·7	554	17 53	580	522	11 22	58	919	17 54	932	904	11 39	28
22	13·2	13 54	18·9	8·6	8 0	10·3	552	21 11	565	523	10 22	42	920	18 31	926	904	12 42	22
23**	13·7	12 1	22·4	4·2	19 56	18·2	555	15 50	595	485	10 57	110	920	17 10	966	892	12 12	74
24**	12·2	12 44	17·4	6·9	2 17	10·5	540	0 9	563	471	9 38	92	922	18 40	934	900	0 28	34
25**	13·4	13 34	23·1	6·9	24 0	16·2	538	23 34	596	492	10 58	104	925	17 5	955	904	9 43	51
26**	12·4	12 38	18·6	5·7	1 50	12·9	539	23 33	568	491	13 4	77	918	20 12	935	905	9 18	30
27	13·1	12 42	19·0	8·2	6 16	10·8	544	16 8	572	513	9 6	59	922	16 7	931	907	12 23	24
28**	13·8	13 8	23·9	6·1	7 40	17·8	548	22 20	600	491	11 39	109	916	19 30	939	896	11 3	43
29	13·6	13 37	21·5	8·9	8 44	12·6	543	21 47	569	511	10 12	58	917	16 50	937	902	11 34	35
30	12·6	13 10	21·3	7·1	6 14	14·2	543	0 12	568	508	8 31	60	916	17 27	927	898	12 21	29
31	13·1	13 50	20·6	8·2	7 42	12·4	542	16 29	556	516	11 53	40	916	17 30	928	896	12 57	32
Mean	13·3	—	20·4	7·0	—	13·3	550	—	578	513	—	65·1	918	—	934	899	—	34·9
No. of Days used.	31	—	31	31	—	31	31	—	31	31	—	31	31	—	31	31	—	31
AUG.	12°+	h m	12°+	12°+	h m		18000γ+	h m	18000γ+	18000γ+	h m	γ	42000γ+	h m	42000γ+	42000γ+	h m	γ
	′		′	′		′												
1	12·9	13 7	19·5	8·4	20 51	11·1	550	20 57	576	532	10 19	44	918	17 30	927	905	12 41	22
2*	13·2	13 13	19·8	8·4	8 4	11·4	547	23 53	569	518	10 20	51	915	5 12	924	890	12 29	34
3	12·5	12 58	20·1	4·6	5 30	15·5	547	3 8	578	499	11 36	79	914	17 14	929	896	8 34	33
4	13·1	13 37	21·0	7·8	5 33	13·2	545	19 1	570	513	10 50	57	917	16 52	930	892	11 43	38
5	12·8	13 57	20·3	7·6	7 41	12·7	545	16 30	574	515	10 6	59	920	18 54	937	897	11 56	40
6	13·2	12 46	20·8	7·3	5 6	13·5	547	18 34	574	523	13 40	51	917	18 56	928	896	13 0	32
7	13·9	13 43	24·5	6·3	5 0	18·2	549	4 30	578	505	14 43	73	925	17 40	949	909	13 3	40
8**	13·1	13 10	19·7	2·9	19 39	16·8	547	21 10	587	516	19 23	71	918	19 44	953	900	1 11	53
9**	12·7	0 20	21·9	2·9	20 22	19·0	541	20 28	601	505	12 38	96	917	15 45	950	890	0 50	60
10	12·8	12 58	18·4	8·8	7 12	9·6	540	21 37	583	514	17 18	69	921	16 47	936	908	24 0	28
11	13·1	14 10	19·6	8·0	1 30	11·6	539	0 36	574	507	11 2	67	913	16 59	933	894	5 27	39
12*	12·1	13 47	16·8	6·6	8 22	10·2	542	20 1	559	508	7 50	36	912	6 16	924	881	10 56	43
13	12·2	11 42	15·9	9·0	2 24	6·9	548	14 47	569	528	16 3	41	918	16 59	936	905	10 46	31
14	12·5	12 41	18·3	7·1	7 41	11·2	546	20 34	569	522	8 54	47	919	17 10	935	898	10 58	37
15	12·3	12 41	18·7	7·8	21 8	10·9	545	18 19	564	523	10 2	41	922	15 23	935	905	12 6	30
16	13·4	13 17	22·7	6·3	22 48	16·4	547	22 29	580	503	11 46	77	920	18 5	944	898	11 48	46
17*	12·4	13 40	18·6	7·3	7 16	11·3	543	23 20	568	514	8 59	54	924	17 2	941	910	11 36	31
18*	13·9	13 38	21·3	8·3	8 10	13·0	548	20 52	567	523	9 44	44	921	17 28	937	898	12 20	39
19	12·5	12 29	20·9	6·7	7 22	14·2	551	0 58	594	493	11 3	101	920	19 55	937	905	11 2	32
20**	12·8	14 53	21·1	2·3	19 10	18·8	542	19 17	590	477	11 27	113	924	19 17	950	908	12 39	42
21**	12·9	12 24	20·1	5·9	23 8	14·2	545	21 18	578	487	11 36	91	924	16 4	957	904	11 36	53
22	11·9	13 47	17·2	8·4	7 29	8·8	546	12 28	564	529	8 26	35	921	17 30	933	900	11 54	33
23	12·8	13 10	19·6	6·8	7 32	12·8	547	23 35	567	515	9 18	52	921	15 24	937	906	10 38	31
24	12·3	13 20	19·7	4·4	23 11	15·3	552	23 51	580	523	23 15	57	919	18 11	938	897	10 41	41
25**	11·7	14 24	22·1	1·5	2 51	20·6	539	18 32	590	483	11 50	107	921	16 4	951	896	4 37	55
26	12·1	11 54	18·7	6·0	23 54	12·7	544	22 30	597	504	9 18	93	921	18 59	936	903	12 0	33
27	11·0	13 27	19·8	0·2	23 57	19·6	544	16 36	576	509	14 56	67	921	16 26	936	906	11 24	30
28	11·4	13 52	20·6	0·8	0 0	19·8	538	0 19	582	488	8 57	94	917	14 51	936	891	1 9	45
29	12·7	14 4	21·0	7·1	20 11	13·9	542	0 50	564	524	9 23	40	920	16 56	930	907	10 27	23
30*	12·8	12 57	22·6	7·6	8 27	15·0	543	18 38	563	514	9 44	49	917	17 6	930	892	12 20	38
31	11·8	13 21	19·5	5·7	7 42	13·8	544	20 37	567	517	9 22	50	919	18 52	933	904	11 1	29
Mean	12·6	—	20·0	6·1	—	13·9	545	—	576	511	—	64·7	919	—	937	900	—	37·5
No. of Days used.	31	—	31	31	—	31	31	—	31	31	—	31	31	—	31	31	—	31

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

TABLE IV.—DAILY MEAN AND EXTREME VALUES OF MAGNETIC ELEMENTS—*continued.*

Date.	Declination West.						Horizontal Force.						Vertical Force.					
	Mean Value for the Day.	Maximum.		Minimum.		Range.	Mean Value for the Day.	Maximum.		Minimum.		Range.	Mean Value for the Day.	Maximum.		Minimum.		Range.
SEPT.	12°+	G.M.T. h m	12°+	12°+	G.M.T. h m		18000γ+	G.M.T. h m	18000γ+	18000γ+	G.M.T. h m	γ	42000γ+	G.M.T. h m	42000γ+	42000γ+	G.M.T. h m	γ
	′		′	′		′												
1	12·2	13 42	19·5	6·7	6 54	12·8	542	23 6	574	509	9 24	65	919	17 50	933	901	12 20	32
2*	12·2	12 46	19·1	6·8	8 30	12·3	543	18 39	566	510	10 22	56	923	6 34	934	910	12 35	24
3	13·1	13 17	22·9	5·6	7 6	17·3	553	23 28	587	513	16 9	75	924	16 35	946	900	12 42	46
4**	11·6	13 11	22·4	0·3	2 3	22·1	535	17 37	594	467	13 26	127	925	17 33	966	880	3 14	86
5	11·9	11 56	19·8	5·6	19 45	14·2	538	19 50	570	497	9 20	73	927	19 9	942	910	3 19	32
6**	12·7	12 50	21·6	2·5	20 57	19·1	529	21 50	602	469	9 3	133	927	16 25	967	897	3 55	70
7	11·8	2 54	20·5	1·9	18 24	18·6	533	18 33	576	493	7 45	83	921	18 32	944	891	3 23	53
8	11·7	13 27	20·2	−4·0	21 20	24·2	531	23 56	567	493	10 58	74	928	18 46	951	915	12 58	36
9	10·7	12 25	18·1	1·1	18 32	17·0	537	21 24	564	517	17 36	47	924	18 36	951	909	4 22	42
10	11·7	12 47	18·7	4·5	17 53	14·2	533	0 22	568	509	17 31	59	927	17 58	948	909	0 44	39
11	12·0	13 14	17·9	7·5	3 30	10·4	539	19 20	557	491	10 35	66	928	17 48	936	915	10 23	21
12	11·7	12 34	21·0	5·9	19 14	15·1	536	0 41	574	508	10 24	66	925	15 10	938	905	10 57	33
13	12·4	12 11	18·2	9·1	9 0	9·1	539	20 40	556	518	8 46	38	918	18 10	926	892	10 2	34
14	12·5	12 58	21·5	1·7	21 15	19·8	541	21 20	591	510	11 10	81	921	17 10	946	895	11 1	51
15**	12·5	14 54	23·3	1·6	19 11	21·7	526	2 39	576	464	9 48	112	931	18 29	973	900	3 27	73
16**	10·9	1 11	17·5	0·1	22 16	17·4	533	1 19	604	487	9 8	117	922	16 44	951	873	1 49	78
17**	12·5	4 50	22·4	1·0	0 30	21·4	524	0 0	552	469	11 43	83	921	17 39	944	884	0 17	60
18*	11·3	12 40	16·4	6·5	7 52	9·9	533	23 36	565	493	10 40	72	928	7 9	940	918	12 59	22
19*	11·8	13 52	18·0	7·9	22 24	10·1	537	22 11	555	511	11 30	44	925	19 10	938	906	11 56	32
20	11·3	14 12	17·6	2·3	19 6	15·3	542	17 14	570	503	19 50	67	927	20 29	955	911	12 10	44
21	10·9	0 7	20·1	0·7	1 55	19·4	533	23 31	576	498	12 20	78	925	22 12	938	900	1 31	38
22	11·0	12 19	20·1	3·1	21 23	17·0	535	21 58	571	516	10 45	55	924	21 38	941	915	2 40	26
23	11·1	14 47	21·3	5·8	23 28	15·5	539	23 44	593	470	15 6	123	926	15 27	947	912	12 13	35
24	10·7	12 14	19·9	2·8	1 24	17·1	535	0 0	575	500	12 40	75	923	15 13	951	908	5 10	43
25	11·3	13 26	17·1	4·4	22 47	12·7	540	22 16	570	520	13 42	50	925	21 38	937	914	12 37	23
26	10·8	13 18	15·5	6·3	19 12	9·2	536	2 48	561	515	9 12	46	924	16 3	934	914	11 34	20
27	10·6	12 50	17·1	4·3	2 57	12·8	539	1 17	582	517	9 41	65	920	19 24	934	903	2 42	31
28*	11·6	13 38	16·5	7·3	8 17	9·2	540	19 52	559	522	10 39	37	923	17 15	931	908	12 0	23
29*	11·6	13 1	16·5	7·1	8 50	9·4	548	19 46	572	525	11 10	47	920	17 53	931	905	12 0	26
30	11·9	14 16	22·4	3·9	24 0	18·5	540	23 6	569	488	14 53	81	922	16 28	941	901	23 20	40
Mean	11·7	—	19·4	4·0	—	15·4	537	—	573	500	—	73·2	924	—	944	903	—	40·4
No. of Days used.	30	—	30	30	—	30	30	—	30	30	—	30	30	—	30	30	—	30
OCT.	12°+	h m	12°+	12°+	h m		18000γ+	h m	18000γ+	18000γ+	h m	γ	42000γ+	h m	42000γ+	42000γ+	h m	γ
	′		′	′		′												
1	11·2	14 1	19·9	0·4	18 12	19·5	532	18 22	576	487	14 28	89	926	15 5	956	905	0 14	51
2**	9·7	14 35	22·0	−6·2	18 57	28·2	522	20 34	567	452	15 23	115	934	15 50	993	894	23 59	99
3	11·2	13 59	15·8	4·1	0 4	11·7	528	23 8	554	488	2 33	66	928	17 13	945	895	0 48	50
4	10·4	24 0	18·3	0·2	20 29	18·1	526	1 11	568	459	20 16	109	930	19 24	962	906	1 52	56
5**	11·3	0 11	20·4	−6·1	17 20	26·5	518	23 50	588	449	12 12	139	927	17 40	966	902	4 2	64
6	10·8	13 20	15·7	3·3	18 56	12·4	530	0 0	578	494	10 42	84	928	17 58	947	909	1 7	38
7	10·7	13 24	15·7	6·8	17 10	8·9	534	0 11	558	502	12 40	56	928	17 34	942	919	1 6	23
8	11·0	13 4	15·5	3·6	21 55	11·9	535	6 18	557	517	12 2	40	927	21 44	937	916	12 0	21
9*	11·0	14 22	16·5	6·6	8 42	9·9	536	4 36	554	507	15 0	47	928	15 50	941	920	4 54	21
10*	10·9	12 5	17·4	5·3	22 25	12·1	539	22 0	561	502	11 38	59	930	17 42	939	919	10 44	20
11*	11·5	12 47	17·8	6·1	23 36	11·7	539	22 44	574	505	10 19	69	930	16 2	940	918	11 5	22
12**	10·1	13 30	19·5	−3·0	22 37	22·5	526	22 48	661	464	17 34	197	934	18 7	985	877	23 12	108
13	10·9	5 46	21·0	−2·3	1 18	23·3	520	6 20	553	475	12 41	78	931	15 7	972	888	1 28	84
14	11·0	12 44	17·7	5·5	16 40	12·2	525	0 6	557	492	10 43	65	937	16 57	956	922	0 34	34
15	11·7	12 34	19·1	3·1	17 33	16·0	531	23 20	562	493	13 5	69	934	17 50	954	920	11 58	34
16*	11·1	13 12	15·7	6·6	8 42	9·1	530	6 21	550	494	12 59	56	933	16 13	946	922	11 44	24
17	10·2	11 49	15·9	−3·3	20 44	19·2	536	4 17	570	492	12 9	78	930	21 13	948	919	12 0	29
18	10·7	11 54	20·3	5·4	21 45	14·9	530	5 50	560	469	12 12	91	932	17 33	949	915	11 0	34
19	10·3	13 40	16·7	0·3	19 55	16·4	533	20 23	575	485	11 25	90	932	19 58	951	917	11 18	34
20	10·2	13 16	15·7	0·3	19 40	15·4	535	19 50	561	507	10 36	54	933	19 48	946	919	23 54	27
21	10·1	11 49	17·5	3·2	19 9	14·3	536	19 15	560	501	10 24	59	931	17 4	942	921	0 14	21
22	10·7	0 57	18·2	5·5	7 37	12·7	534	0 52	596	491	12 0	105	927	18 11	946	905	2 0	41
23	9·5	11 36	16·6	−1·9	23 16	18·5	538	21 34	594	505	23 35	89	928	17 23	939	910	22 58	29
24	10·9	5 24	16·1	6·2	0 37	9·9	534	5 19	550	501	9 47	49	927	14 49	942	908	9 57	34
25*	10·5	12 2	15·7	5·6	21 19	10·1	534	21 54	556	515	15 50	41	933	14 59	944	922	11 17	22
26	10·9	13 17	16·2	−1·1	19 56	17·3	533	16 48	548	492	19 26	56	935	20 11	951	923	11 22	28
27	11·0	13 30	20·3	−2·3	18 30	22·6	523	1 22	558	453	18 20	105	940	18 40	986	921	10 36	65
28	9·7	13 0	17·5	−4·2	18 6	21·7	516	2 44	552	455	19 26	97	939	20 9	969	919	3 58	50
29**	10·6	14 48	34·7	−14·6	15 57	49·3	486	20 54	581	362	15 52	219	960	15 55	1117	908	21 8	209
30**	9·0	4 56	21·0	−9·7	17 53	30·7	490	17 57	620	423	9 59	197	945	16 56	1008	900	4 44	108
31	11·0	11 58	16·9	2·5	17 44	14·4	517	17 50	543	481	10 25	62	942	14 50	962	928	6 56	34
Mean	10·6	—	18·3	0·8	—	17·5	527	—	569	481	—	88·1	933	—	961	912	—	48·8
No. of Days used.	31	—	31	31	—	31	31	—	31	31	—	31	31	—	31	31	—	31

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

TABLE IV.—DAILY MEAN AND EXTREME VALUES OF MAGNETIC ELEMENTS—*continued*.

Date.	Declination West.						Horizontal Force.						Vertical Force.					
	Mean Value for the Day.	Maximum.		Minimum.		Range.	Mean Value for the Day.	Maximum.		Minimum.		Range.	Mean Value for the Day.	Maximum.		Minimum.		Range.
		G.M.T.			G.M.T.			G.M.T.			G.M.T.			G.M.T.			G.M.T.	
NOV.	12°+	h m	12°+	12°+	h m		18000γ+	h m	18000γ+	18000γ+	h m	γ	42000γ+	h m	42000γ+	42000γ+	h m	γ
	′		′	′		′												
1	9·6	2 30	13·4	3·5	23 11	9·9	522	22 50	577	490	11 2	87	938	17 53	952	925	23 17	27
2	9·9	12 56	15·5	5·4	23 31	10·1	526	6 24	549	486	16 2	63	939	16 46	957	929	10 44	28
3	9·5	12 47	16·8	−3·8	21 24	20·6	527	5 45	555	498	9 52	57	937	18 10	952	926	11 23	26
4	10·9	11 50	19·6	6·0	19 10	13·6	525	0 56	574	475	10 43	99	935	14 56	958	909	1 16	49
5**	9·4	10 58	15·0	−2·9	18 50	17·9	524	7 7	362	457	16 59	105	941	17 10	978	928	4 50	50
6**	10·0	12 10	18·0	−7·2	17 8	25·2	526	5 20	564	459	11 4	105	938	18 54	959	919	5 34	40
7	9·3	12 18	14·3	−3·0	21 52	17·3	528	21 58	579	480	12 34	99	937	13 18	957	928	3 50	29
8**	9·0	6 25	16·7	−3·1	17 40	19·8	522	21 10	595	464	10 52	131	937	15 7	967	911	21 39	56
9	8·9	14 24	14·5	−0·6	20 0	15·1	525	20 9	559	480	12 29	79	935	16 21	961	909	1 20	52
10	9·4	6 21	14·6	−0·7	17 27	15·3	526	19 54	559	501	10 22	58	938	16 14	957	919	1 9	38
11	9·4	12 26	14·3	3·8	16 4	10·5	531	22 17	559	504	12 59	55	939	16 10	956	930	9 40	26
12*	9·7	15 20	13·0	6·4	9 14	6·6	538	23 44	546	529	14 38	17	937	5 38	940	928	15 23	12
13	10·1	13 41	14·7	4·4	24 0	10·3	543	23 7	569	504	20 11	65	935	20 33	951	921	10 49	30
14	9·9	16 27	16·8	−0·9	19 31	17·7	531	19 42	582	487	12 45	95	939	15 10	956	925	10 41	31
15	9·3	22 40	17·6	−1·5	16 41	19·1	533	22 8	603	494	18 14	109	935	16 52	953	910	22 46	43
16**	7·8	13 29	15·9	−4·9	19 46	20·8	529	21 14	593	478	16 58	115	933	17 17	965	910	21 44	55
17	9·2	13 41	14·0	1·5	18 7	12·5	532	17 41	570	508	19 31	62	934	17 28	950	915	22 32	35
18	9·5	13 32	16·7	2·8	20 4	13·9	527	22 47	586	497	14 17	89	934	14 54	961	914	0 40	47
19	8·2	11 34	13·6	−5·5	20 11	19·1	533	20 20	588	501	21 31	87	933	15 12	946	921	20 57	25
20	9·2	11 44	13·9	−2·0	17 24	15·9	531	23 20	560	507	17 6	53	935	17 43	949	926	23 59	23
21*	9·2	12 54	12·2	5·3	18 3	6·9	537	8 32	550	516	13 57	34	933	14 57	939	922	10 43	17
22*	10·1	11 10	13·3	7·6	22 48	5·7	538	21 35	548	521	11 43	27	932	13 51	939	923	10 19	16
23	9·4	12 41	13·0	1·9	21 23	11·1	541	21 38	564	524	20 54	40	932	21 33	943	924	11 16	19
24	9·6	13 40	13·2	3·3	21 20	9·9	541	21 8	570	530	12 22	40	932	20 12	939	924	10 23	15
25	9·8	12 57	13·1	5·8	22 41	7·3	547	19 48	569	527	14 38	42	929	16 27	938	923	12 2	15
26**	9·5	16 4	19·8	−4·7	22 9	24·5	527	11 25	568	555	15 20	13	938	15 46	975	917	2 55	58
27	8·9	3 35	19·1	1·6	0 44	17·5	531	22 24	584	502	17 49	82	930	18 54	950	907	3 50	43
28*	9·5	14 3	13·3	5·8	21 44	7·5	531	21 52	550	513	11 43	37	936	17 44	950	928	11 42	22
29	9·1	12 24	12·5	2·1	23 37	10·4	539	23 38	572	517	16 38	55	933	17 54	945	921	11 24	24
30*	9·4	12 50	12·6	4·1	0 0	8·5	540	20 4	549	528	1 8	21	932	18 56	966	915	11 27	51
Mean	9·4	—	15·0	1·0	—	14·0	532	—	568	501	—	67·4	935	—	954	920	—	33·4
No. of Days used.	30	—	30	30	—	30	30	—	30	30	—	30	30	—	30	30	—	30
DEC.	12°+	h m	12°+	12°+	h m		18000γ+	h m	18000γ+	18000γ+	h m	γ	42000γ+	h m	42000γ+	42000γ+	h m	γ
	′		′	′		′												
1	8·8	13 4	14·8	1·0	19 45	13·8	532	8 13	557	490	18 20	67	939	18 40	961	928	11 22	33
2**	8·8	13 37	16·1	−12·6	21 8	28·7	532	20 7	596	475	12 5	121	938	15 29	964	924	11 38	40
3**	8·0	4 53	16·0	−4·3	19 55	20·3	529	20 10	579	495	14 47	84	934	15 49	958	908	1 39	50
4**	9·1	7 10	15·5	−3·0	17 55	18·5	527	22 7	583	471	15 14	112	935	18 0	959	925	9 39	34
5**	8·8	14 18	15·6	−1·6	22 10	17·2	528	21 7	592	465	12 34	127	936	14 44	964	906	1 24	58
6	9·0	13 34	13·7	2·5	18 47	11·2	530	22 45	562	492	11 57	70	939	15 10	958	928	4 0	30
7	9·1	4 48	12·4	5·5	17 54	6·9	533	21 11	558	509	17 48	49	940	18 3	953	932	10 40	21
8	9·3	1 55	13·6	6·5	22 0	7·1	539	23 7	566	525	21 55	41	937	23 2	947	931	2 11	16
9	9·0	13 16	11·5	4·5	20 24	7·0	538	7 48	556	506	20 4	50	939	20 54	952	929	9 45	23
10	9·0	10 58	14·1	3·8	23 21	10·3	538	1 8	569	494	7 52	75	936	—	—	—	—	—
11**	8·7	16 20	15·5	−4·3	20 12	19·8	538	13 38	565	503	19 30	62	940	19 46	967	927	9 39	40
12	7·9	2 18	14·8	−1·0	19 20	15·8	530	19 34	587	484	15 28	103	939	16 10	959	926	11 24	33
13	8·6	16 46	12·6	3·4	21 31	9·2	532	22 14	571	495	14 57	76	941	15 8	955	932	11 16	23
14	8·4	12 5	12·2	0·2	22 44	12·0	536	20 42	578	516	23 51	62	939	20 37	953	930	10 47	23
15	8·1	13 1	12·2	−4·4	21 2	16·6	536	21 7	601	500	17 4	101	939	17 40	954	933	9 43	21
16	9·1	13 19	12·8	1·3	19 11	11·5	536	19 19	574	519	18 59	55	937	19 18	954	924	11 57	30
17	8·8	0 50	13·9	3·7	21 21	10·2	540	5 10	564	510	12 40	54	933	22 5	944	921	1 56	23
18	8·8	14 31	11·1	6·3	22 30	4·8	540	8 20	555	527	15 53	28	934	18 40	941	924	10 30	17
19*	8·6	12 48	10·9	6·6	0 40	4·3	541	8 12	554	533	10 56	21	933	15 2	939	926	10 26	13
20*	8·7	12 58	11·4	6·3	21 54	5·1	541	21 22	548	533	23 19	15	932	15 52	936	927	13 20	9
21*	8·4	12 6	10·7	4·0	22 8	6·7	542	18 8	550	533	10 10	17	932	15 12	938	927	10 48	11
22	8·2	12 18	11·3	3·2	22 35	8·1	545	4 51	564	529	23 41	35	931	23 13	936	921	10 43	15
23	9·4	16 16	15·3	2·0	20 21	13·3	534	8 0	556	493	21 12	63	937	19 14	955	924	9 45	31
24	8·6	13 2	12·5	6·1	1 45	6·4	540	14 18	551	525	1 46	26	932	0 14	943	926	9 56	17
25	8·0	12 16	12·5	−4·7	18 57	17·2	535	19 7	558	497	20 8	61	932	19 3	950	923	12 17	27
26*	8·7	13 39	11·4	6·0	22 30	5·4	539	21 50	550	529	10 18	21	933	15 30	939	926	10 17	13
27*	8·9	13 25	11·9	6·9	21 46	5·0	543	17 28	551	534	10 47	17	933	15 52	940	924	10 16	16
28	9·1	18 25	14·4	−0·4	23 34	14·8	539	23 39	586	484	18 38	102	939	19 1	965	929	11 43	36
29	9·2	14 38	16·0	1·3	0 0	14·7	531	7 7	555	488	17 8	67	940	18 10	963	924	9 40	39
30	8·3	1 40	18·6	−4·6	0 54	23·2	531	0 37	568	499	10 26	69	935	16 17	949	916	5 1	33
31	7·8	8 18	14·1	−1·7	18 55	15·8	530	19 5	578	501	16 21	77	934	18 58	949	919	1 30	30
Mean	8·7	—	13·5	1·2	—	12·3	536	—	567	505	—	62·2	936	—	952	925	—	26·8
No. of Days used.	31	—	31	31	—	31	31	—	31	31	—	31	31	—	30	30	—	30

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

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

"All" Days.

DECLINATION WEST.

Month and Season, 1931.	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.	−1·12	−0·71	−0·36	−0·37	−0·21	−0·27	−0·18	−0·18	+0·17	+0·81	+1·51	+2·15	**+2·42**	+1·81	+0·98	+0·56	+0·70	0·00	−0·51	−1·09	−1·25	−1·49	**−2·00**	−1·49
Feb.	−1·41	−1·33	−1·13	−0·93	−0·69	−0·79	−1·06	**−2·90**	−0·93	−0·76	+0·72	+2·13	+3·07	**+3·49**	+2·96	+2·31	+1·29	+0·68	+0·34	−0·52	−0·66	−2·27	−2·10	−1·56
Mar.	−1·44	−1·11	−1·21	−1·19	−0·83	−1·43	−1·69	−2·46	**−2·81**	−2·01	+0·14	+2·94	+4·65	**+5·23**	+4·57	+3·02	+1·25	+0·24	0·00	−0·68	−0·83	−1·51	−1·24	−1·47
Apr.	−0·94	−0·92	−1·25	−1·38	−1·89	−2·37	−2·92	−3·68	**−3·82**	−2·66	−0·15	+2·63	+4·85	**+5·68**	+5·08	+3·32	+2·10	+1·00	+0·30	−0·31	−0·50	−0·55	−0·68	−0·86
May	−0·95	−0·58	−0·78	−1·21	−2·32	−3·76	−4·34	**−4·43**	−3·49	−1·67	+1·05	+3·85	+5·32	**+5·54**	+4·75	+3·15	+1·89	+1·02	+0·38	−0·23	−0·61	−0·64	−0·87	−1·02
June	−1·14	−1·40	−1·32	−1·66	−2·48	−3·60	−4·61	**−4·61**	−4·16	−2·31	+0·32	+2·85	+4·69	**+5·39**	+5·25	+4·41	+3·30	+2·25	+1·19	+0·48	−0·13	−0·42	−1·03	−1·17
July	−1·07	−1·41	−1·62	−1·66	−2·60	−3·85	−4·33	**−4·43**	−3·80	−2·10	+0·31	+3·09	+5·01	**+6·00**	+5·57	+4·19	+2·69	+1·29	+0·70	+0·13	−0·26	−0·28	−0·68	−0·78
Aug.	−1·38	−1·76	−1·71	−1·63	−2·25	−2·77	−3·13	**−3·17**	−3·05	−1·57	+1·18	+4·02	+5·65	**+6·11**	+5·32	+3·17	+1·93	+0·64	+0·02	−0·55	−0·87	−1·22	−1·37	−1·58
Sept.	−1·25	−1·33	−1·48	−1·50	−1·30	−1·56	−2·33	**−2·77**	−2·48	−0·98	+1·41	+4·13	**+5·72**	+5·61	+4·73	+3·02	+1·50	+0·27	−0·91	−1·43	−1·30	−2·10	−1·99	−1·73
Oct.	−1·55	−0·84	−0·79	−0·22	+0·21	+0·22	−0·53	−1·05	−1·64	−0·77	+1·23	+4·10	+4·80	**+5·07**	+3·94	+2·45	+0·42	−0·73	−1·87	−2·66	−2·72	**−2·84**	−2·83	−1·47
Nov.	−1·07	−0·25	+0·15	−0·01	+0·35	+0·36	+0·36	−0·19	−0·62	−0·30	+1·34	+2·84	+3·30	**+3·38**	+2·27	+1·55	+0·65	−1·62	−1·12	−1·79	−2·44	**−3·05**	−2·39	−1·76
Dec.	−1·14	−0·41	−0·07	+0·19	+0·59	+0·40	+0·22	+0·36	+0·38	+0·52	+1·33	+2·14	+2·30	**+2·49**	+1·82	+0·59	+0·73	+0·30	−0·61	−1·66	−2·65	**−2·91**	−2·69	−2·32
Year	−1·21	−1·00	−0·96	−0·96	−1·12	−1·62	−2·05	**−2·46**	−2·19	−1·15	+0·87	+3·07	+4·32	**+4·65**	+3·94	+2·65	+1·54	+0·45	−0·17	−0·86	−1·19	−1·61	−1·66	−1·43
Winter	−1·19	−0·68	−0·35	−0·28	+0·01	−0·08	−0·17	−0·73	−0·25	+0·07	+1·23	+2·32	+2·77	**+2·79**	+2·01	+1·25	+0·84	−0·16	−0·48	−1·27	−1·75	**−2·43**	−2·30	−1·78
Equinox	−1·30	−1·05	−1·18	−1·07	−0·95	−1·29	−1·87	−2·49	**−2·69**	−1·61	+0·66	+3·45	+5·01	**+5·40**	+4·58	+2·95	+1·32	+0·20	−0·62	−1·27	−1·34	−1·75	−1·69	−1·38
Summer	−1·14	−1·29	−1·36	−1·54	−2·41	−3·50	−4·10	**−4·16**	−3·63	−1·91	+0·72	+3·45	+5·17	**+5·76**	+5·22	+3·73	+2·45	+1·30	+0·57	−0·04	−0·47	−0·64	−0·99	−1·14

INCLINATION.

	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
Jan.	+0·18	+0·24	+0·01	−0·08	−0·25	−0·46	**−0·52**	−0·49	−0·28	−0·03	+0·06	+0·13	+0·03	−0·12	+0·03	+0·22	+0·18	+0·15	+0·08	+0·07	+0·11	+0·24	**+0·34**	+0·11
Feb.	−0·21	−0·11	−0·12	−0·07	−0·22	−0·46	**−0·62**	−0·50	−0·20	+0·14	+0·32	**+0·39**	+0·32	+0·13	+0·12	+0·22	+0·32	+0·31	+0·24	+0·13	+0·09	−0·12	−0·04	−0·07
Mar.	−0·43	−0·34	−0·23	−0·23	−0·39	−0·42	−0·40	−0·18	+0·25	+0·66	**+0·90**	+0·81	+0·72	+0·42	+0·20	+0·11	+0·18	+0·04	−0·08	−0·26	−0·20	−0·25	**−0·46**	−0·38
Apr.	**−0·59**	−0·35	−0·30	−0·34	−0·28	−0·12	0·00	+0·22	+0·53	+0·89	**+1·22**	+0·95	+0·49	+0·24	+0·11	−0·05	−0·12	−0·27	−0·26	−0·27	−0·32	−0·42	−0·47	−0·58
May	−0·26	−0·24	−0·33	−0·33	−0·30	+0·07	+0·21	+0·42	+0·64	**+0·73**	+0·69	+0·55	+0·26	+0·22	+0·19	+0·05	−0·28	**−0·41**	−0·39	−0·33	−0·23	−0·31	−0·29	−0·31
June	−0·56	−0·41	−0·43	−0·24	−0·17	−0·02	+0·36	+0·64	+1·01	**+1·20**	+1·11	+0·77	+0·62	+0·52	+0·22	−0·15	−0·23	−0·54	−0·67	**−0·75**	−0·70	−0·57	−0·54	−0·56
July	−0·45	−0·36	−0·38	−0·31	−0·24	−0·16	+0·13	+0·43	+0·87	+1·22	**+1·30**	+1·10	+0·65	+0·30	+0·12	−0·16	−0·22	−0·29	−0·46	−0·62	−0·66	**−0·66**	−0·59	−0·56
Aug.	**−0·64**	−0·41	−0·37	−0·32	−0·34	−0·20	+0·13	+0·52	+0·83	**+0·94**	+0·83	+0·70	+0·15	0·00	+0·22	+0·24	+0·12	0·00	−0·18	−0·33	−0·49	−0·55	−0·55	−0·43
Sept.	−0·78	**−0·86**	−0·68	−0·73	−0·59	−0·43	−0·18	+0·31	+0·83	**+1·15**	+1·13	+0·82	+0·58	+0·43	+0·42	+0·48	+0·35	+0·09	+0·01	−0·13	−0·21	−0·49	−0·73	−0·76
Oct.	**−0·98**	−0·87	−0·66	−0·78	−0·86	−0·95	−0·78	−0·23	+0·25	+0·67	+0·91	+0·94	**+0·99**	+0·73	+0·70	+0·72	+0·72	+0·77	+0·22	+0·23	−0·02	−0·33	−0·68	−0·75
Nov.	−0·40	−0·16	−0·33	−0·40	−0·60	**−0·77**	−0·73	−0·62	−0·25	+0·23	+0·49	+0·55	+0·71	+0·67	**+0·79**	+0·66	+0·58	+0·32	+0·23	+0·16	−0·12	−0·21	−0·36	−0·35
Dec.	−0·03	−0·18	−0·14	−0·18	−0·35	−0·59	−0·60	**−0·64**	−0·54	−0·29	+0·03	+0·21	+0·33	+0·29	+0·48	**+0·60**	+0·46	+0·47	+0·32	+0·16	+0·07	+0·09	+0·01	+0·04
Year	**−0·43**	−0·34	−0·33	−0·34	−0·38	−0·38	−0·25	−0·01	+0·33	+0·63	**+0·75**	+0·66	+0·49	+0·32	+0·30	+0·25	+0·17	+0·05	−0·08	−0·16	−0·22	−0·30	−0·36	−0·38
Winter	−0·12	−0·05	−0·15	−0·18	−0·36	−0·57	**−0·62**	−0·56	−0·32	+0·01	+0·23	+0·32	+0·35	+0·24	+0·36	**+0·43**	+0·39	+0·31	+0·22	+0·13	+0·04	0·00	−0·01	−0·07
Equinox	**−0·70**	−0·61	−0·47	−0·52	−0·53	−0·48	−0·34	+0·03	+0·47	+0·84	**+1·04**	+0·88	+0·70	+0·46	+0·36	+0·32	+0·28	+0·16	−0·03	−0·11	−0·19	−0·37	−0·59	−0·62
Summer	−0·48	−0·36	−0·38	−0·30	−0·26	−0·08	+0·21	+0·50	+0·84	**+1·02**	+0·98	+0·78	+0·42	+0·26	+0·19	−0·01	−0·15	−0·31	−0·43	−0·51	−0·52	**−0·52**	−0·49	−0·47

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

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

"All" Days.

NORTH COMPONENT.

Month and Season, 1931.	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.	−1·7	−3·4	−0·6	+0·6	+2·9	+6·2	**+6·9**	+6·3	+2·6	−1·4	−3·4	**−5·1**	−3·6	+0·3	−0·6	−2·9	−2·3	−0·7	+0·9	+1·6	+0·8	−1·0	−1·9	+0·7
Feb.	+4·0	+1·6	+1·8	+0·8	+2·8	+6·7	**+8·9**	+7·0	+2·9	−2·5	−7·5	**−10·3**	−9·7	−6·8	−4·5	−3·8	−3·5	−2·3	−0·9	+1·6	+1·6	+5·6	+3·6	+3·0
Mar.	+7·6	+5·1	+3·6	+4·1	+5·9	+7·2	+7·7	+6·2	+0·0	−8·1	−16·1	−19·4	**−19·8**	−14·6	−8·4	−3·2	−0·9	+2·1	+3·8	+6·8	+5·6	+7·0	**+9·2**	+7·7
Apr.	+10·3	+6·4	+6·1	+6·8	+6·7	+5·4	+4·9	+2·5	−3·1	−12·5	−22·4	**−23·9**	−19·8	−15·0	−9·0	−2·2	+1·6	+6·1	+7·0	+7·7	+8·1	+9·0	+9·7	**+10·8**
May	+5·6	+4·6	+5·5	+5·9	+7·3	+3·6	+1·8	−1·8	−7·3	−12·8	−18·0	**−20·3**	−16·2	−13·1	−8·1	−2·1	+5·7	+9·9	**+10·4**	+9·7	+7·7	+7·8	+7·2	+7·0
June	+8·8	+6·8	+7·0	+4·8	+5·9	+5·5	+0·5	−4·2	−11·4	−18·3	**−21·9**	−21·3	−20·1	−17·3	−10·1	−1·6	+2·9	+10·1	+13·7	**+14·9**	+13·8	+11·5	+10·8	+10·0
July	+7·3	+6·3	+7·0	+6·5	+7·6	+8·0	+3·6	−1·0	−9·3	−18·1	−23·8	**−25·4**	−21·2	−15·6	−9·0	−0·4	+3·8	+7·3	+10·3	+12·5	**+12·7**	+11·8	+10·5	+9·1
Aug.	+10·2	+6·8	+6·4	+5·6	+6·9	+5·9	+1·8	−4·1	−9·8	−15·2	−18·8	**−20·9**	−13·9	−9·7	−8·8	−3·6	+0·6	+4·3	+7·1	+9·0	+11·2	**+11·4**	+10·4	+8·2
Sept.	+10·8	+11·1	+8·6	+8·9	+7·5	+6·7	+5·4	−0·8	−10·0	−17·8	**−21·9**	−21·3	−18·6	−13·9	−10·1	−6·8	−2·0	+3·3	+5·5	+7·7	+8·1	+12·3	**+14·0**	+12·5
Oct.	+12·8	+9·5	+6·8	+8·3	+8·8	+10·7	+10·1	+3·7	−2·8	−11·3	−18·2	**−22·0**	−21·6	−15·5	−11·4	−7·1	−4·7	−4·0	+4·7	+4·2	+6·3	+9·5	**+13·0**	+10·9
Nov.	+5·6	+0·4	+2·4	+3·5	+6·2	**+9·0**	+8·6	+7·8	+3·0	−5·0	−11·2	−13·5	**−14·7**	−12·0	−11·2	−7·6	−5·2	+1·5	+1·4	+2·7	+6·5	+7·2	+8·1	+6·0
Dec.	+0·8	+1·3	+0·1	+0·4	+2·6	+6·6	+7·1	**+7·5**	+6·0	+1·6	−4·1	−7·9	**−8·4**	−6·6	−7·3	−6·4	−4·5	−4·2	−0·8	+2·4	+4·2	+3·4	+3·6	+2·1
Year	+6·8	+4·7	+4·6	+4·7	+5·9	+6·8	+5·6	+2·4	−3·3	−10·1	−15·6	**−17·6**	−15·6	−11·7	−8·2	−4·0	−0·7	+2·8	+5·3	+6·7	+7·2	+8·0	**+8·2**	+7·3
Winter	+2·2	−0·0	+0·9	+1·3	+3·6	+7·1	**+7·9**	+7·2	+3·6	−1·8	−6·6	**−9·2**	−9·1	−6·3	−5·9	−5·2	−3·9	−1·4	+0·2	+2·1	+3·3	+3·8	+3·4	+3·0
Equinox	+10·4	+8·0	+6·3	+7·0	+7·2	+7·5	+7·0	+2·9	−4·0	−12·4	−19·7	**−21·7**	−20·0	−14·8	−9·7	−4·8	−1·5	+1·9	+5·3	+6·6	+7·0	+9·5	**+11·5**	+10·5
Summer	+8·0	+6·1	+6·5	+5·7	+6·9	+5·8	+1·9	−2·8	−9·5	−16·1	−20·6	**−22·0**	−17·9	−13·9	−9·0	−1·9	+3·3	+7·9	+10·4	**+11·5**	+11·4	+10·6	+9·7	+8·6

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.	−6·6	−4·7	−2·1	−1·9	−0·5	−0·1	+0·5	+0·4	+1·5	+4·2	+7·6	+10·8	**+12·6**	+10·1	+5·3	+2·5	+3·4	−0·2	−2·6	−5·7	−6·7	−8·5	**−11·5**	−8·1
Feb.	−6·9	−7·0	−5·9	−5·0	−3·2	−2·9	−3·9	−3·4	−4·5	−4·8	+2·3	+9·5	+14·8	**+17·8**	+15·4	+11·9	+6·4	+3·2	+1·7	−2·5	−3·3	**−11·3**	−10·8	−8·5
Mar.	−6·3	−5·0	−5·9	−5·7	−3·3	−6·3	−7·7	−12·2	**−15·5**	−12·9	−2·8	+12·0	+21·3	**+25·7**	+23·4	+16·0	+6·7	+1·8	+0·8	−2·3	−3·4	−6·8	−4·9	−6·4
Apr.	−2·9	−3·7	−5·6	−6·1	−9·0	−11·9	−15·1	−19·8	**−21·8**	−17·4	−5·7	+9·3	+22·5	**+28·1**	+26·1	+17·9	+12·0	+6·9	+3·2	−0·0	−1·0	−1·1	−1·6	−2·4
May	−4·0	−2·2	−3·1	−5·4	−11·2	−20·0	−23·6	**−24·9**	−20·9	−12·0	+1·9	+16·8	+25·8	**+27·7**	+24·5	+16·9	+11·7	+7·8	+4·4	+0·8	−1·7	−1·8	−3·2	−4·1
June	−4·4	−6·3	−5·8	−8·1	−12·4	−18·7	−25·3	**−26·4**	−25·5	−16·8	−3·0	+11·1	+21·5	+26·0	**+26·8**	+24·0	+18·9	+14·6	+9·6	+5·9	+2·3	+0·2	−3·3	−4·3
July	−4·3	−6·4	−7·4	−7·7	−12·7	−19·5	−23·1	**−24·7**	−23·0	−15·6	−3·5	+11·5	+23·0	**+29·7**	+28·8	+23·0	+15·7	+8·7	+6·1	+3·5	+1·4	+1·0	−1·5	−2·3
Aug.	−5·4	−8·2	−8·1	−7·8	−10·9	−14·0	−16·9	−18·4	**−19·0**	−12·0	+2·4	+17·6	+28·2	**+31·6**	+27·5	+16·7	+10·8	+4·5	+1·7	−1·1	−2·4	−4·3	−5·3	−6·9
Sept.	−4·5	−4·9	−6·3	−6·4	−5·5	−7·2	−11·7	−15·5	**−15·9**	−9·3	+3·0	+18·2	+27·5	**+27·9**	+23·9	+15·2	+7·9	+2·2	−3·8	−6·2	−5·4	−8·9	−7·9	−6·8
Oct.	−5·8	−2·6	−2·9	−0·6	+3·1	+3·6	−0·7	−5·0	−9·7	−6·7	+2·8	+17·8	+21·8	**+24·6**	+19·3	+12·0	+1·3	−4·9	−9·3	**−13·8**	−13·7	−13·6	−12·8	−5·7
Nov.	−4·7	−1·3	+1·4	+0·7	+3·3	+4·0	+3·9	+0·7	−2·8	−2·8	+4·9	+12·7	+15·0	**+16·0**	+10·1	+6·9	+2·5	−8·6	−5·9	−9·3	−12·1	**−15·3**	−11·4	−8·4
Dec.	−6·1	−2·0	−0·4	+1·1	+3·8	+3·7	+2·8	+3·6	+3·4	+3·2	+6·5	+10·1	+10·9	**+12·3**	+8·5	+1·9	+3·1	+0·8	−3·5	−8·6	−13·7	**−15·3**	−14·1	−12·4
Year	−5·2	−4·5	−4·3	−4·3	−4·9	−7·4	−10·1	−12·1	**−12·8**	−8·6	+1·4	+13·1	+20·4	**+23·1**	+20·0	+13·7	+8·4	+3·1	+0·2	−3·3	−5·0	−7·1	−7·4	−6·4
Winter	−6·1	−3·8	−1·8	−1·3	+0·9	+1·2	+0·8	+0·3	−0·6	−0·1	+5·3	+10·8	+13·3	**+14·1**	+9·8	+5·8	+3·9	−1·2	−2·6	−6·5	−9·0	**−12·6**	−12·0	−9·4
Equinox	−4·9	−4·1	−5·2	−4·4	−3·7	−5·5	−8·8	−13·1	**−15·7**	−11·6	−0·7	+14·3	+23·3	**+26·6**	+23·2	+15·3	+7·0	+1·5	−2·3	−5·6	−5·9	−7·6	−6·8	−5·3
Summer	−4·5	−5·8	−6·1	−7·3	−11·8	−18·1	−22·2	**−23·6**	−22·1	−14·1	−0·6	+14·3	+24·6	**+28·8**	+26·9	+20·2	+14·3	+8·9	+5·5	+2·3	−0·1	−1·2	−3·3	−4·4

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.	−0·9	−1·6	−2·2	−2·5	−2·4	−1·7	−2·0	−2·3	**−2·7**	−2·2	−1·6	−1·7	−0·8	+1·4	+2·0	+1·9	+2·9	**+3·5**	+3·3	+3·0	+2·0	+1·8	+1·8	+1·4
Feb.	−1·6	−3·3	−3·0	−3·0	−2·8	−2·2	−3·1	−3·2	−2·5	−3·3	−4·7	**−5·2**	−3·8	−2·0	+1·6	+4·7	+6·3	+6·7	**+7·3**	+6·8	+5·1	+3·2	+1·5	+0·2
Mar.	−0·7	−2·9	−2·3	−1·2	−1·8	−1·3	−0·0	+1·6	+1·1	−2·0	−7·0	**−10·4**	−9·7	−5·9	−0·8	+4·5	**+7·5**	+6·8	+6·1	+5·6	+4·1	+3·8	+2·4	+0·9
Apr.	+1·4	+0·7	+0·6	+0·8	+1·0	+2·2	+3·7	+3·5	+0·3	−6·1	−11·8	**−16·7**	**−16·7**	−11·5	−3·9	+2·0	+5·6	+8·0	**+8·7**	+8·1	+6·7	+5·5	+4·7	+3·3
May	+1·7	+1·0	−0·3	−0·8	+0·8	+0·7	−0·2	−2·0	−4·9	−10·1	−16·2	**−18·4**	−14·9	−8·6	+0·2	+5·4	+9·4	+12·0	**+12·3**	+11·0	+8·8	+6·2	+4·8	+3·4
June	−1·2	−1·7	−1·7	−1·2	+1·4	+2·3	+1·1	−0·3	−3·6	−8·1	−13·0	**−16·1**	−13·2	−8·5	−2·2	+3·0	+8·3	+11·6	**+12·6**	+11·1	+8·4	+6·4	+4·2	+1·1
July	−1·1	−1·3	−1·1	+0·3	+2·7	+3·2	+1·5	+0·2	−2·9	−6·9	−10·8	−14·0	**−14·5**	−10·3	−2·2	+4·8	+8·8	**+11·0**	+10·6	+8·7	+6·8	+4·5	+2·6	+0·5
Aug.	−1·6	−2·9	−2·5	−2·0	−1·2	−0·4	+0·2	−0·2	−3·0	−8·0	−12·7	**−14·5**	−12·2	−6·3	+1·5	+8·4	+10·8	**+12·0**	+10·5	+8·6	+7·1	+4·8	+2·2	+0·5
Sept.	−4·3	−6·8	−6·7	−8·1	−6·2	−3·1	+0·3	+0·9	−1·8	−5·6	−9·1	**−11·1**	−8·5	−2·8	+3·5	+8·6	+11·3	**+11·6**	+11·1	+10·0	+8·1	+6·4	+2·8	−1·0
Oct.	−7·7	**−9·6**	−8·4	−7·9	−8·1	−6·4	−4·6	−2·0	−2·3	−5·9	−8·6	−8·7	−4·0	+2·2	+7·9	+14·3	+14·7	**+15·2**	+13·7	+10·7	+6·7	+3·3	+0·1	−4·1
Nov.	−3·3	−5·1	−5·2	−5·6	−4·7	−4·1	−3·7	−3·2	−3·2	−4·9	**−6·3**	−5·6	−1·8	+3·8	+7·0	+8·5	+9·2	**+9·9**	+8·3	+7·0	+4·8	+1·8	+0·2	−2·3
Dec.	−1·9	−4·4	−4·9	−4·8	−4·2	−3·5	−3·1	−3·2	−3·2	−4·7	−5·0	**−5·8**	−2·3	+0·9	+4·1	+6·8	+7·2	+7·2	**+7·4**	+6·5	+5·1	+3·0	+1·5	−0·1
Year	−1·8	−3·2	−3·1	−3·0	−2·1	−1·2	−0·8	−0·9	−2·4	−5·7	−8·9	**−10·7**	−8·5	−4·0	+1·6	+6·1	+8·5	**+9·6**	+9·3	+8·1	+6·1	+4·2	+2·4	+0·3
Winter	−1·9	−3·6	−3·8	−4·0	−3·5	−2·9	−3·0	−3·0	−2·9	−3·8	−4·4	**−4·6**	−2·2	+1·0	+3·7	+5·5	+6·4	**+6·8**	+6·6	+5·8	+4·3	+2·5	+1·3	−0·2
Equinox	−2·8	−4·7	−4·2	−4·1	−3·8	−2·2	−0·2	+1·0	−0·7	−4·9	−9·1	**−11·7**	−9·7	−4·5	+1·7	+7·4	+9·8	**+10·4**	+9·9	+8·6	+6·4	+4·8	+2·5	−0·2
Summer	−0·6	−1·2	−1·4	−0·9	+0·9	+1·5	+0·7	−0·6	−3·6	−8·3	−13·2	**−15·8**	−13·7	−8·4	−0·7	+5·4	+9·3	**+11·7**	+11·5	+9·9	+7·8	+5·5	+3·5	+1·4

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

International Quiet Days.

DECLINATION WEST.

Month and Season, 1931.	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.	−0·56	−0·02	+0·16	+0·32	−0·04	−0·38	−0·46	−0·40	**−0·64**	−0·02	+0·70	+0·98	**+1·28**	+1·12	+0·32	+0·08	+0·28	+0·06	−0·18	−0·40	−0·52	**−0·64**	−0·62	−0·60
Feb.	−1·05	−0·95	**−1·29**	−0·73	−0·69	−1·11	−1·15	−1·23	−1·27	−0·89	+0·45	+1·59	+2·29	**+2·73**	+2·23	+1·51	+0·91	+0·69	+0·31	+0·11	−0·19	−0·63	−0·71	−0·87
Mar.	−0·46	−0·18	−0·16	−0·30	−0·44	−1·02	−1·74	−2·70	**−3·46**	−2·50	−0·42	+2·34	+4·26	**+4·70**	+3·94	+2·14	+0·28	−0·48	−0·60	−0·90	−0·86	−0·78	−0·54	−0·50
Apr.	−0·21	−0·19	−0·47	−0·89	−1·25	−1·69	−2·55	−3·81	**−4·35**	−2·95	−0·61	+2·01	+4·27	**+4·89**	+3·97	+2·51	+1·43	+0·51	−0·01	−0·21	−0·05	−0·03	−0·17	−0·15
May	+0·05	−0·09	−0·51	−0·79	−2·23	−3·75	−4·65	**−4·91**	−4·01	−1·93	+0·71	+3·07	**+4·83**	+4·71	+3·69	+2·51	+1·05	+0·43	+0·47	+0·37	+0·41	+0·41	+0·23	+0·01
June	−1·39	−1·27	−1·39	−1·95	−1·83	−3·75	−4·53	−4·81	**−4·87**	−3·01	−0·13	+2·75	+4·67	**+5·53**	+4·91	+3·53	+2·55	+2·07	+1·61	+1·19	+0·65	+0·55	+0·13	−0·27
July	−1·00	−1·06	−1·44	−1·56	−2·06	−3·56	−4·26	**−5·12**	−4·52	−2·54	+0·32	+2·86	+4·54	**+5·20**	+5·16	+3·64	+2·42	+1·46	+0·74	+0·54	+0·40	+0·24	−0·10	−0·36
Aug.	−1·23	−0·81	−0·97	−1·37	−2·03	−3·31	−3·75	**−4·21**	−4·13	−2·19	+0·65	+3·35	+5·39	**+5·99**	+5·21	+3·53	+2·17	+0·75	+0·17	−0·15	−0·53	−0·75	−0·69	−1·15
Sept.	−1·26	−1·22	−1·10	−1·04	−0·88	−1·40	−2·26	−3·38	**−3·82**	−2·56	+0·16	+2·82	+4·58	**+4·64**	+3·72	+2·80	+1·96	+1·44	+0·86	−0·50	−0·34	−0·90	−1·38	−1·04
Oct.	−1·15	+0·11	−0·45	−0·01	−0·59	−1·07	−1·53	−2·55	**−3·23**	−2·25	+0·65	+3·29	**+4·71**	+4·11	+3·11	+1·65	+0·81	+0·57	+0·01	−0·41	−0·75	−1·49	−1·67	−1·97
Nov.	**−1·58**	−0·64	−0·44	−0·18	−0·02	−0·24	−0·16	−0·54	−1·02	−0·88	+0·46	+1·60	**+2·28**	+2·12	+1·56	+1·28	+0·94	+0·20	−0·46	−0·40	−0·72	−1·20	−1·10	−0·96
Dec.	−0·51	−0·43	−0·03	+0·31	+0·27	+0·07	−0·17	−0·37	−0·51	−0·61	+0·25	+0·89	+1·65	**+1·87**	+1·41	+0·85	+0·25	−0·01	−0·25	−0·51	−0·81	−1·17	**−1·43**	−1·05
Year	−0·86	−0·56	−0·67	−0·68	−0·98	−1·77	−2·27	−2·84	**−2·99**	−1·86	+0·27	+2·30	+3·73	**+3·97**	+3·27	+2·17	+1·25	+0·64	+0·22	−0·11	−0·28	−0·53	−0·67	−0·74
Winter	−0·93	−0·51	−0·40	−0·07	−0·12	−0·42	−0·49	−0·64	−0·86	−0·60	+0·47	+1·27	+1·88	**+1·96**	+1·38	+0·93	+0·60	+0·24	−0·15	−0·30	−0·56	−0·91	**−0·97**	−0·87
Equinox	−0·77	−0·37	−0·55	−0·56	−0·79	−1·30	−2·02	−3·11	**−3·72**	−2·57	−0·06	+2·62	+4·46	**+4·59**	+3·69	+2·28	+1·12	+0·51	+0·07	−0·51	−0·50	−0·80	−0·94	−0·92
Summer	−0·89	−0·81	−1·08	−1·42	−2·04	−3·59	−4·30	**−4·76**	−4·38	−2·42	+0·39	+3·01	+4·86	**+5·36**	+4·74	+3·30	+2·05	+1·18	+0·75	+0·49	+0·23	+0·11	−0·11	−0·44

INCLINATION.

	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
Jan.	+0·38	+0·26	+0·17	+0·14	−0·01	−0·18	**−0·25**	−0·20	−0·06	+0·09	+0·21	**+0·40**	+0·11	−0·15	−0·15	−0·03	+0·03	−0·04	−0·11	−0·11	−0·09	+0·06	+0·07	+0·08
Feb.	+0·07	+0·03	+0·20	+0·06	−0·04	−0·12	−0·18	−0·19	−0·08	+0·28	**+0·45**	+0·43	+0·19	−0·07	−0·09	−0·04	−0·05	−0·08	−0·18	**−0·24**	−0·14	−0·05	−0·06	−0·22
Mar.	−0·28	−0·29	−0·27	−0·31	−0·35	−0·40	−0·31	−0·15	+0·25	+0·85	**+1·14**	+1·01	+0·76	+0·40	+0·21	+0·03	+0·02	−0·16	−0·15	−0·26	−0·35	−0·33	**−0·50**	−0·46
Apr.	−0·33	−0·24	−0·18	−0·14	−0·06	−0·12	−0·01	+0·17	+0·27	+0·50	+0·79	**+0·81**	+0·56	+0·47	+0·47	+0·28	+0·20	−0·15	−0·38	−0·46	−0·47	−0·56	**−0·61**	**−0·61**
May	−0·18	−0·20	−0·01	+0·07	+0·09	+0·20	+0·33	+0·66	+0·92	**+1·00**	+0·88	+0·63	+0·26	+0·17	−0·06	−0·34	−0·43	−0·59	**−0·60**	−0·55	−0·59	−0·54	**−0·60**	−0·59
June	−0·21	+0·02	+0·04	+0·04	+0·24	+0·33	+0·55	+0·66	+0·80	**+0·99**	+0·82	+0·48	+0·36	+0·10	−0·10	−0·26	−0·30	−0·41	−0·58	−0·64	**−0·84**	−0·70	−0·64	−0·66
July	−0·14	−0·09	−0·23	−0·26	−0·24	−0·13	+0·02	+0·30	+0·67	+1·01	**+1·11**	+0·92	+0·72	+0·46	+0·22	+0·09	−0·22	−0·51	−0·54	−0·67	**−0·75**	**−0·75**	−0·54	−0·45
Aug.	−0·15	−0·15	−0·15	−0·06	−0·04	+0·14	+0·50	+0·86	+1·00	**+1·11**	+0·87	+0·32	−0·22	−0·39	−0·19	−0·09	−0·14	−0·22	−0·27	−0·44	−0·56	−0·55	−0·55	**−0·64**
Sept.	−0·29	−0·07	−0·06	−0·08	−0·10	−0·14	+0·09	+0·45	+0·77	+1·11	**+1·25**	+0·98	+0·35	+0·07	−0·03	−0·01	−0·10	−0·36	−0·32	−0·64	−0·64	−0·71	−0·72	**−0·75**
Oct.	−0·41	−0·24	−0·28	−0·30	−0·48	−0·53	−0·46	−0·08	+0·50	+0·85	+0·86	**+0·88**	+0·70	+0·73	+0·59	+0·59	+0·40	+0·21	−0·32	−0·52	−0·62	−0·65	**−0·79**	−0·62
Nov.	+0·02	+0·22	+0·04	−0·05	−0·11	−0·34	−0·29	**−0·40**	−0·34	−0·21	−0·03	+0·33	+0·43	+0·42	**+0·51**	+0·29	+0·34	+0·13	−0·07	−0·21	−0·25	−0·25	−0·22	−0·13
Dec.	+0·26	**+0·31**	+0·27	+0·21	−0·04	−0·14	−0·22	−0·35	**−0·39**	−0·13	+0·14	+0·14	+0·08	+0·07	+0·11	+0·08	−0·03	−0·14	−0·15	−0·08	−0·04	+0·04	−0·03	+0·12
Year	−0·11	−0·04	−0·04	−0·06	−0·10	−0·12	−0·02	+0·14	+0·36	+0·62	**+0·71**	+0·61	+0·36	+0·19	+0·12	+0·05	−0·02	−0·19	−0·31	−0·40	**−0·45**	−0·42	−0·43	−0·41
Winter	+0·18	+0·21	+0·17	+0·09	−0·05	−0·20	−0·24	**−0·29**	−0·22	+0·01	+0·19	**+0·33**	+0·20	+0·07	+0·10	+0·08	+0·07	−0·03	−0·13	−0·16	−0·13	−0·05	−0·06	−0·04
Equinox	−0·33	−0·21	−0·20	−0·21	−0·25	−0·30	−0·17	+0·10	+0·45	+0·83	**+1·01**	+0·92	+0·59	+0·42	+0·31	+0·22	+0·13	−0·12	−0·29	−0·47	−0·52	−0·56	**−0·66**	−0·61
Summer	−0·17	−0·11	−0·09	−0·05	+0·01	+0·14	+0·35	+0·62	+0·85	**+1·03**	+0·92	+0·59	+0·28	−0·09	−0·03	−0·15	−0·27	−0·43	−0·50	−0·58	**−0·69**	−0·64	−0·58	−0·59

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

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

International Quiet Days.

NORTH COMPONENT.

Month and Season, 1931.	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.	−4·6	−4·1	−2·9	−2·7	−0·2	+3·4	+**4·1**	+3·2	+1·5	−1·2	−3·7	−**7·0**	−3·0	+1·5	+2·2	+0·5	−0·5	+1·1	+2·2	+2·2	+1·8	−0·4	−0·8	−1·1
Feb.	+0·3	+0·0	−1·7	−0·4	+1·1	+3·1	+**4·2**	+3·9	+2·5	−3·8	−8·0	−**9·6**	−6·7	−2·9	−1·3	−0·5	+0·6	+1·5	+3·3	+3·9	+2·9	+1·6	+1·9	+4·0
Mar.	+4·8	+4·3	+3·9	+4·8	+5·4	+7·2	+7·3	+6·4	+1·2	−10·0	−18·5	−**21·5**	−20·3	−14·0	−8·1	−1·1	+2·0	+4·9	+4·4	+6·3	+6·9	+6·6	+**8·6**	+7·6
Apr.	+6·5	+4·9	+4·3	+4·2	+3·8	+5·3	+5·1	+4·0	+1·3	−6·8	−16·1	−**20·9**	−19·4	−16·4	−12·6	−6·2	−3·0	+3·7	+7·6	+8·6	+8·3	+9·6	+**10·2**	+9·9
May	+3·1	+3·6	+1·2	+0·9	+3·7	+4·3	+2·4	−3·0	−9·1	−15·4	−**20·2**	−19·6	−14·9	−10·9	−3·9	+3·4	+7·2	+**10·4**	+**10·4**	+9·7	+9·5	+8·7	+9·7	+9·4
June	+5·7	+2·2	+2·2	+3·2	+1·3	+2·6	−0·5	−3·4	−7·9	−14·5	−**17·2**	−17·0	−16·9	−11·8	−5·7	−0·2	+3·9	+6·6	+9·3	+10·4	+**13·1**	+10·9	+10·4	+10·5
July	+3·0	+2·7	+5·1	+6·2	+7·9	+8·5	+6·2	+2·5	−5·1	−14·6	−20·8	−**22·2**	−21·7	−17·0	−10·5	−3·9	+3·8	+9·4	+10·0	+11·2	+**12·3**	+11·7	+8·8	+7·0
Aug.	+4·0	+3·7	+3·9	+3·7	+5·1	+4·4	+0·0	−5·7	−10·1	−16·6	−**19·9**	−16·8	−11·1	−6·9	−4·6	−0·9	+3·2	+6·6	+7·0	+9·2	+11·0	+10·4	+10·2	+**11·5**
Sept.	+5·3	+2·3	+2·5	+2·9	+3·3	+4·8	+3·7	−0·1	−5·9	−14·7	−22·0	−**22·5**	−14·9	−10·3	−5·4	−2·3	+1·0	+5·7	+5·8	+11·8	+11·0	+12·7	+**13·0**	+12·6
Oct.	+6·8	+2·6	+3·7	+3·7	+6·5	+8·1	+8·0	+4·1	−3·7	−11·1	−16·0	−**19·8**	−17·1	−15·3	−10·2	−7·0	−3·9	−1·3	+6·2	+8·9	+10·4	+11·7	+**13·5**	+11·3
Nov.	+0·8	−3·0	−0·7	+0·4	+1·4	+5·2	+3·9	+**5·9**	+5·3	+2·2	+3·3	−**9·9**	−9·1	−6·7	−7·5	−4·8	−4·2	−0·0	+3·3	+4·8	+5·5	+5·7	+4·8	+3·1
Dec.	−2·5	−3·8	−3·7	−3·5	+0·1	+1·7	+2·9	+4·9	+**5·7**	+1·7	−3·4	−**4·2**	−3·9	−3·1	−2·4	−1·0	+1·3	+2·9	+2·8	+2·2	+1·7	+1·2	+2·2	−0·4
Year	+2·8	+1·3	+1·5	+2·0	+3·3	+4·9	+3·9	+1·9	−2·0	−8·7	−13·5	−**15·9**	−13·3	−9·5	−5·8	−2·0	+1·0	+4·3	+6·0	+7·4	+**7·9**	+7·5	+7·7	+7·1
Winter	−1·5	−2·7	−2·3	−1·6	+0·6	+3·4	+3·8	+**4·5**	+3·8	−0·3	−3·0	−**7·7**	−5·7	−2·8	−2·3	−1·5	−0·7	+1·4	+2·9	+3·3	+3·0	+2·0	+2·0	+1·4
Equinox	+5·9	+3·5	+3·6	+3·9	+4·8	+6·4	+6·0	+3·6	−1·8	−10·7	−18·2	−**21·2**	−17·9	−14·0	−9·1	−4·2	−1·0	+3·3	+6·0	+8·9	+9·2	+10·2	+**11·8**	+10·4
Summer	+4·0	+3·1	+3·1	+3·5	+4·5	+5·0	+2·0	−2·4	−8·1	−15·3	−**19·5**	−18·9	−16·2	−11·7	−6·2	−0·4	+4·5	+8·3	+9·2	+10·1	+**11·5**	+10·4	+9·8	+9·6

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.	−**4·1**	−1·0	+0·2	+1·2	−0·3	−1·4	−1·7	−1·5	−3·2	−0·4	+3·1	+3·9	+6·4	+**6·5**	+2·3	+0·6	+1·4	+0·6	−0·5	−1·7	−2·5	−3·6	−3·6	−3·6
Feb.	−5·7	−5·3	−**7·5**	−4·1	−3·6	−5·4	−5·4	−5·9	−6·5	−5·7	+0·7	+6·7	+11·2	+**14·5**	+12·0	+8·2	+5·2	+4·1	+2·4	+1·5	−0·4	−3·1	−3·5	−3·9
Mar.	−1·5	−0·1	−0·0	−0·6	−1·3	−4·1	−8·0	−13·5	−**18·8**	−16·0	−6·4	+8·2	+19·1	+**22·9**	+20·0	+11·6	+2·0	−1·6	−2·4	−3·6	−3·3	−2·9	−1·1	−1·1
Apr.	+0·3	+0·0	−1·7	−4·0	−6·1	−8·2	−13·0	−20·2	−**23·7**	−17·8	−7·9	+6·5	+19·3	+**23·4**	+19·2	+12·5	+7·2	+3·6	+1·6	+0·7	+1·5	+1·9	+1·3	+1·4
May	+0·9	+0·3	−2·6	−4·2	−11·5	−19·8	−25·2	−**27·8**	−24·1	−14·0	−0·5	+12·7	+23·4	+**23·6**	+19·5	+14·6	+7·4	+4·7	+4·9	+4·2	+4·3	+4·2	+3·4	+2·1
June	−6·4	−6·5	−7·2	−10·1	−9·8	−20·2	−25·1	−27·3	−**28·6**	−19·8	−4·5	+11·5	+22·1	+**27·9**	+25·9	+19·5	+14·9	+12·9	+10·9	+8·8	+6·5	+5·4	+3·0	+0·8
July	−4·9	−5·3	−6·8	−7·3	−9·6	−17·8	−22·2	−**27·7**	−26·1	−17·2	−2·8	+10·9	+20·3	+25·0	+**26·2**	+19·2	+14·2	+10·1	+6·3	+5·4	+4·9	+3·9	+1·4	−0·5
Aug.	−5·9	−3·7	−4·5	−6·8	−10·1	−17·3	−20·7	−24·5	−**25·0**	−15·7	−0·8	+14·8	+27·3	+**31·6**	+27·8	+19·3	+12·7	+5·6	+2·5	+1·2	−0·5	+1·9	+1·6	−3·8
Sept.	−5·8	−6·2	−5·5	−5·1	−4·2	−6·7	−11·7	−18·7	−**22·4**	−17·4	−3·9	+10·6	+22·0	+**23·4**	+19·4	+15·0	+11·0	+9·2	+6·0	−0·2	+0·5	+2·2	−4·8	−3·0
Oct.	−4·9	+1·2	−1·7	+0·8	−1·8	−4·1	−6·7	−13·2	−**18·7**	−14·9	+0·1	+13·8	+**22·3**	+19·4	+14·9	+7·6	+3·6	+2·9	+1·4	−0·3	−1·9	−5·7	−6·3	−8·4
Nov.	−**8·5**	−4·2	−2·6	−0·9	+0·2	−0·2	−0·0	−1·7	−4·5	−4·4	+1·8	+6·7	+**10·6**	+10·2	+7·0	+6·0	+4·3	+1·1	−1·8	−1·2	−2·8	−5·4	−5·0	−4·6
Dec.	−3·4	−3·2	−1·0	+1·0	+1·5	+0·8	−0·3	−1·0	−1·6	−3·0	+0·6	+4·0	+8·3	+**9·6**	+7·3	+4·5	+1·7	+0·6	−0·8	−2·4	−4·1	−6·2	−**7·4**	−5·9
Year	−4·2	−2·8	−3·4	−3·3	−4·7	−8·7	−11·7	−15·3	−**16·9**	−12·2	−1·7	+9·2	+17·7	+**19·8**	+16·8	+11·6	+7·1	+4·5	+2·5	+1·0	+0·2	−1·3	−2·0	−2·5
Winter	−**5·4**	−3·4	−2·7	−0·7	−0·6	−1·6	−1·9	−2·5	−4·0	−3·4	+1·6	+5·3	+9·1	+**10·2**	+7·2	+4·8	+3·2	+1·6	−0·2	−1·0	−2·5	−4·6	−4·9	−4·5
Equinox	−3·0	−1·3	−2·2	−2·2	−3·4	−5·8	−9·9	−16·4	−**20·9**	−16·5	−4·5	+9·8	+20·7	+**22·3**	+18·4	+11·7	+6·0	+3·5	+1·7	−0·9	−0·8	−2·2	−2·7	−2·8
Summer	−4·1	−3·8	−5·3	−7·1	−10·3	−18·8	−23·3	−**26·8**	−26·0	−16·7	−2·2	+12·5	+23·3	+**27·0**	+24·9	+18·2	+12·3	+8·3	+6·2	+4·9	+3·8	+2·9	+1·6	−0·4

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.	+0·8	−0·6	−0·8	−0·6	−0·6	+0·6	−0·2	−0·4	−0·4	+0·2	+0·4	−0·4	0·0	+1·2	+1·0	+0·2	+0·6	+**1·4**	+1·0	+0·4	−0·2	−0·6	−**1·4**	−1·2
Feb.	+0·4	−1·2	−0·8	−1·0	−0·6	+0·4	+0·8	−0·6	−0·2	−1·6	−2·4	−**3·4**	−3·2	−1·8	0·0	+1·6	+2·2	+**2·6**	+2·4	+1·4	+1·2	+0·2	+0·2	−0·4
Mar.	+0·7	−0·3	−0·5	−0·1	−0·3	+0·7	+1·7	+2·9	+1·9	−1·3	−5·9	−10·1	−**10·7**	−6·5	−0·9	+4·1	+**6·1**	+4·7	+3·7	+3·3	+2·1	+2·1	+1·7	+1·1
Apr.	+3·3	+2·9	+2·9	+2·9	+3·3	+3·9	+4·9	+4·7	+0·5	−6·9	−12·5	−**16·1**	−14·9	−9·3	−2·7	+1·7	+3·7	+**5·3**	+**5·3**	+4·1	+3·5	+3·3	+2·9	+2·3
May	+1·5	+1·3	+0·9	+2·5	+5·7	+**6·7**	+4·5	+2·5	−0·9	−7·5	−15·7	−**16·3**	−13·3	−7·1	−1·1	+3·1	+5·1	+5·7	+5·5	+5·3	+3·5	+3·1	+3·1	+1·9
June	+2·3	+2·3	+2·9	+3·9	+6·5	+**7·3**	+5·5	+1·5	−4·5	−8·5	−13·1	−**16·5**	−14·9	−9·5	−3·3	+0·5	+5·9	+**7·3**	+6·5	+5·9	+4·1	+3·3	+3·1	+1·3
July	−0·3	+0·3	+0·5	+1·5	+4·7	+5·9	+3·9	+1·9	−1·5	−6·9	−10·3	−13·1	−**14·5**	−10·3	−3·5	+3·7	+7·9	+**8·7**	+7·1	+5·1	+4·3	+2·9	+2·1	+0·1
Aug.	+0·9	+1·3	+1·3	+3·1	+5·1	+6·1	+6·9	+4·3	−0·9	−7·3	−15·3	−**19·5**	−19·1	−13·5	−3·3	+4·5	+8·5	+**9·9**	+7·9	+6·1	+5·5	+3·7	+3·3	+1·9
Sept.	−1·1	−0·3	+0·9	+0·9	+2·1	+2·9	+5·5	+**5·7**	+1·9	−3·7	−8·9	−**12·1**	−11·1	−9·1	−3·5	+1·7	+4·1	+5·1	+5·1	+4·9	+3·3	+3·1	+2·3	+1·3
Oct.	−0·9	−1·7	−2·1	−1·5	−2·5	−1·9	−1·1	+0·1	−0·3	−3·5	−6·5	−**7·9**	−3·9	+0·1	+4·5	+**8·1**	+6·7	+5·7	+3·7	+2·1	+1·3	+1·3	+0·5	−0·1
Nov.	−1·8	−1·2	−1·2	−1·2	−0·8	0·0	−1·0	−1·2	−2·2	−4·4	−**7·6**	−**7·6**	−0·8	+4·2	+4·0	+2·2	+4·2	+**4·8**	+4·2	+3·0	+2·4	+1·6	+0·6	+0·4
Dec.	+1·3	+0·5	+0·3	−0·3	−0·5	−0·7	−1·1	−1·3	−1·3	−1·9	−**2·9**	−**2·9**	−1·9	−0·1	+1·9	+**2·7**	+**2·7**	+2·1	+0·9	+0·9	+0·5	+0·9	+0·3	+0·3
Year	+0·6	+0·3	+0·4	+0·8	+1·8	+2·7	+2·5	+1·7	−0·7	−4·4	−8·4	−**10·5**	−9·0	−5·1	−0·6	+2·9	+4·8	+**5·3**	+4·4	+3·5	+2·6	+2·1	+1·6	+0·7
Winter	+0·2	−0·6	−0·6	−0·8	−0·6	+0·1	−0·4	−0·9	−1·0	−1·9	−3·1	−**3·6**	−1·5	+0·9	+1·7	+1·7	+2·4	+**2·7**	+2·1	+1·4	+1·0	+0·5	−0·1	−0·2
Equinox	+0·5	+0·2	+0·3	+0·6	+0·7	+1·4	+2·8	+3·4	+1·0	−3·9	−8·5	−**11·6**	−10·2	−6·2	−0·7	+3·9	+5·2	+**5·2**	+4·5	+3·6	+2·6	+2·5	+1·9	+1·2
Summer	+1·1	+1·3	+1·4	+2·8	+5·5	+6·5	+5·2	+2·6	−2·0	−7·6	−13·6	−**16·4**	−15·5	−10·1	−2·8	+3·0	+6·9	+**7·9**	+6·8	+5·6	+4·4	+3·3	+2·9	+1·3

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

International Disturbed Days.

DECLINATION WEST.

Month and Season, 1931.	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.	−2·54	−1·40	−0·40	+0·60	+0·68	+1·08	+1·62	+1·14	+2·50	+3·36	+3·54	**+4·06**	+3·82	+2·66	+1·26	−0·58	+0·36	−1·84	−2·80	−3·28	−3·30	−3·62	**−4·40**	−2·44
Feb.	−1·17	−1·49	−0·85	−0·81	−0·93	−0·73	−0·93	−0·53	−0·61	−0·77	+0·93	+2·13	+4·07	**+5·11**	+4·37	+4·47	+3·03	+1·17	+0·89	−1·21	−2·01	**−6·71**	−4·45	−2·85
Mar.	−2·96	−1·84	−2·48	−1·50	−1·24	−0·96	−1·00	−1·92	−1·98	−1·24	+1·44	+4·62	+5·74	**+6·56**	+5·70	+3·68	+2·02	+0·92	−0·04	−2·18	−1·76	**−4·06**	−2·68	−2·92
Apr.	−1·58	−1·22	−1·82	−1·46	−2·00	−2·66	−3·18	**−3·44**	−3·40	−2·28	+1·14	+4·18	+6·24	**+6·50**	+6·24	+4·90	+2·70	+1·16	+0·26	−2·30	−2·40	−2·10	−1·66	−1·72
May	−1·86	−0·32	−0·74	−0·76	−2·62	−4·94	**−5·72**	−5·70	−3·08	−1·26	+1·70	+5·12	+6·10	**+6·38**	+5·38	+3·78	+2·82	+2·12	+1·08	−0·98	−2·10	−1·14	−0·96	−2·26
June	−2·90	−3·32	−2·00	−1·50	−1·32	−2·18	**−4·62**	−4·54	−4·10	−1·78	+1·74	+3·98	+5·36	**+6·06**	+5·62	+5·60	+4·14	+2·36	+1·30	+0·50	−1·08	−0·42	−2·96	−2·92
July	−1·09	−2·67	−2·65	−1·59	−2·17	−3·23	−4·19	**−4·23**	−3·35	−1·43	+0·99	+3·81	+5·69	**+5·97**	+4·55	+3·69	+2·37	+0·87	+1·43	−0·49	−0·99	−0·45	−0·39	−0·45
Aug.	−1·27	**−3·13**	−2·87	−1·53	−2·07	−1·43	−1·13	+0·25	−1·63	−1·33	+1·33	+4·17	+5·51	+5·91	**+6·07**	+1·73	+1·19	+0·31	−0·07	−2·71	−2·35	−2·03	−1·61	−1·27
Sept.	−3·92	−0·58	−1·26	−0·42	+0·24	−0·74	−1·68	−2·08	−1·26	+1·20	+2·84	+4·70	**+6·38**	+5·62	+5·30	+4·00	+0·88	−0·78	−1·80	−2·72	−2·80	−3·84	**−4·18**	−3·14
Oct.	−1·80	−2·06	−0·56	+0·46	+1·96	+2·68	+1·22	+1·28	+0·30	+0·72	+2·04	+5·28	+6·96	+7·32	**+7·88**	+3·48	−1·32	−3·98	−5·30	−6·78	−4·46	−5·42	**−7·56**	−2·42
Nov.	−0·90	+0·86	+0·56	−0·76	+1·32	+1·18	+1·90	+0·84	+0·36	+0·72	+2·90	+3·92	+4·22	**+4·52**	+3·16	+2·28	+1·36	−5·38	−2·70	−4·08	−4·56	**−5·84**	−4·12	−1·76
Dec.	+0·07	−1·21	−0·47	+0·53	+1·37	+1·91	+1·41	+1·79	+2·21	+2·45	+3·13	**+3·45**	+2·69	+2·97	+1·63	−1·73	+1·73	−0·05	−1·45	−2·61	**−6·95**	−5·41	−4·53	−2·99
Year	−1·83	−1·53	−1·30	−0·73	−0·57	−0·84	−1·36	−1·43	−1·17	−0·14	+1·98	+4·12	+5·23	**+5·47**	+4·76	+2·94	+1·77	−0·26	−0·77	−2·40	−2·90	**−3·42**	−3·29	−2·26
Winter	−1·39	−0·81	−0·29	−0·11	+0·61	+0·86	+1·00	+0·81	+1·12	+1·44	+2·63	+3·39	+3·70	**+3·82**	+2·61	+1·11	+1·62	−1·78	−1·52	−2·80	−4·21	**−5·40**	−4·38	−2·51
Equinox	−2·57	−1·43	−1·53	−0·73	−0·26	−0·42	−1·16	−1·54	−1·59	−0·40	+1·87	+4·70	+6·33	**+6·50**	+6·28	+4·02	+1·07	−0·67	−1·72	−3·50	−2·86	−3·86	**−4·02**	−2·55
Summer	−1·78	−2·36	−2·07	−1·35	−2·05	−2·95	**−3·92**	−3·56	−3·04	−1·45	+1·44	+4·27	+5·67	**+6·08**	+5·41	+3·70	+2·63	+1·42	+0·94	−0·92	−1·63	−1·01	−1·48	−1·73

INCLINATION.

	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
Jan.	−0·03	+0·07	−0·14	−0·56	−0·88	**−1·12**	−1·08	−1·01	−0·37	−0·06	−0·12	+0·20	+0·26	−0·08	+0·34	**+0·88**	+0·70	+0·47	+0·29	+0·18	+0·41	+0·84	+0·79	+0·10
Feb.	−0·71	−0·69	−0·62	−0·50	−0·77	−0·89	**−1·39**	−1·16	−0·80	−0·63	−0·42	+0·15	+0·11	+0·25	+0·47	+0·75	+1·54	+1·59	**+1·83**	+1·69	+1·23	−0·20	−0·18	−0·24
Mar.	−0·54	−0·55	−0·21	−0·30	−0·58	**−0·59**	−0·43	−0·19	+0·01	+0·56	+0·74	+0·62	**+0·96**	+0·66	+0·54	+0·23	+0·24	+0·09	0·00	−0·54	+0·22	−0·02	−0·55	−0·44
Apr.	−1·15	−0·81	−0·84	−0·64	**−1·16**	−0·54	−0·21	+0·25	+0·77	+1·17	**+1·55**	+0·94	+0·23	+0·01	−0·33	−0·36	0·00	+0·13	+0·48	+0·45	+0·34	+0·12	−0·13	−0·33
May	−0·22	−0·28	−0·91	−1·52	**−1·66**	−0·22	−0·03	+0·30	+0·59	+0·53	+1·01	**+1·40**	+0·83	+0·71	+1·03	+0·40	−0·09	−0·53	−0·29	−0·24	+0·07	−0·50	−0·13	−0·30
June	−0·90	−0·89	**−1·28**	−0·58	−0·76	−0·61	+0·25	+0·39	+1·25	**+1·67**	+1·49	+1·03	+1·19	+0·91	+0·99	+0·01	+0·16	−0·28	−0·57	−0·80	−0·86	−0·42	−0·58	−0·82
July	−0·75	−0·71	−0·87	−0·80	−0·37	**−0·92**	−0·43	−0·19	+0·32	+1·35	+1·70	**+1·72**	+0·94	+0·71	+0·45	−0·08	+0·24	+0·25	+0·05	0·00	−0·31	−0·59	−0·74	−0·91
Aug.	**−1·43**	−0·83	−0·67	−0·50	−0·70	−0·59	+0·12	+0·50	+0·23	+0·39	+0·66	**+1·84**	+0·73	+0·40	+0·85	+1·04	+0·43	0·00	−0·16	−0·04	−0·41	−0·79	−0·67	−0·31
Sept.	−1·51	**−2·23**	−1·94	−1·50	−1·53	−1·12	−0·35	+0·21	+1·37	**+2·32**	+2·28	+1·81	+1·67	+1·35	+0·92	+1·06	+0·87	+0·33	+0·23	−0·09	−0·38	−1·04	−1·54	−1·15
Oct.	−2·25	−1·84	−1·95	**−2·34**	−1·99	−2·05	−1·53	−1·11	−0·43	−0·03	+0·86	+1·09	+1·47	+1·36	+1·81	+2·55	+2·03	**+2·94**	+1·91	+1·21	+0·24	−0·04	−0·70	−1·23
Nov.	−0·94	−0·73	−1·09	−1·05	−1·48	−1·60	**−1·68**	−1·31	−0·44	+0·17	+0·70	+0·70	+1·26	+1·36	+1·44	+1·46	**+1·68**	+0·87	+0·73	+0·87	+0·25	−0·50	+0·10	−0·46
Dec.	−0·60	−0·74	−0·34	−0·34	−0·57	−0·47	−0·84	−0·91	−0·27	+0·10	+0·16	+0·84	+1·21	+0·99	+1·11	**+1·28**	+0·69	+0·42	−0·28	+0·22	**−0·98**	−0·19	−0·21	−0·17
Year	−0·92	−0·85	−0·91	−0·89	**−1·04**	−0·89	−0·63	−0·35	+0·19	+0·63	+0·88	**+1·03**	+0·91	+0·72	+0·80	+0·77	+0·71	+0·52	+0·35	+0·24	−0·02	−0·28	−0·38	−0·52
Winter	−0·57	−0·52	−0·55	−0·61	−0·93	−1·02	**−1·25**	−1·10	−0·47	−0·11	+0·08	+0·47	+0·71	+0·63	**+0·84**	+1·09	+1·15	+0·84	+0·64	+0·74	+0·23	−0·01	+0·13	−0·19
Equinox	**−1·36**	−1·36	−1·24	−1·20	−1·32	−1·08	−0·63	−0·21	+0·43	+1·01	**+1·36**	+1·12	+1·08	+0·85	+0·74	+0·87	+0·79	+0·87	+0·66	+0·26	+0·11	−0·25	−0·73	−0·79
Summer	−0·83	−0·68	**−0·93**	−0·85	−0·87	−0·59	−0·02	+0·25	+0·60	+0·99	+1·22	**+1·50**	+0·92	+0·68	+0·83	+0·34	+0·19	−0·14	−0·24	−0·27	−0·38	−0·58	−0·53	−0·59

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.	− 0·4	− 2·2	+ 0·6	+ 6·4	+10·8	**+14·2**	+13·6	+12·6	+ 2·4	− 1·8	− 0·4	− 4·4	− 4·2	+ 2·8	− 2·8	−10·0	− 6·6	− 3·2	− 1·4	− 0·2	− 4·8	**−10·8**	−10·0	− 1·2
Feb.	+ 8·2	+ 6·6	+ 5·0	+ 3·0	+ 6·6	+ 8·8	**+15·0**	+12·0	+ 7·4	+ 5·2	+ 1·4	− 6·8	− 4·6	− 5·4	− 5·4	− 6·0	−15·0	−14·2	**−16·4**	−14·0	−10·2	+ 7·2	+ 3·2	+ 1·8
Mar.	+ 6·3	+ 4·3	+ 0·3	+ 2·9	+ 7·3	+ 8·1	+ 6·5	+ 4·1	+ 0·7	− 9·3	−14·3	−13·9	**−18·1**	−11·9	− 7·3	− 0·5	+ 0·5	+ 2·7	+ 3·9	**+11·5**	+ 0·1	+ 2·9	+ 8·9	+ 5·1
Apr.	**+16·4**	+10·8	+10·8	+ 7·6	+14·6	+ 6·2	+ 3·2	− 3·6	−12·0	−20·6	**−28·6**	−21·4	−11·0	− 5·4	+ 3·6	+ 7·0	+ 4·4	+ 4·6	+ 0·2	+ 0·6	+ 0·4	+ 2·0	+ 4·6	+ 5·8
May	+ 3·8	+ 3·6	+11·8	+18·8	**+19·6**	− 1·4	− 2·2	− 8·0	−13·4	−15·0	−23·4	**−29·4**	−18·8	−13·2	−12·4	− 0·8	+ 8·6	+16·4	+13·4	+13·2	+ 7·0	+11·8	+ 4·2	+ 6·4
June	+12·1	+10·9	+15·5	+ 3·9	+ 7·1	+ 5·1	− 6·3	− 7·7	−20·1	**−28·9**	−27·7	−21·9	−20·9	−14·3	−13·5	+ 3·5	+ 3·9	+12·3	+16·9	**+19·3**	+18·3	+10·5	+11·1	+11·1
July	+ 8·4	+ 8·0	+10·8	+ 9·8	+ 3·8	+12·4	+ 4·6	+ 1·0	− 8·2	−25·4	−30·8	**−31·0**	−20·0	−13·6	− 5·6	+ 5·6	+ 3·2	+ 4·2	+ 6·8	+ 7·2	+10·4	+11·8	**+12·6**	**+12·6**
Aug.	**+18·0**	+ 9·0	+ 6·6	+ 4·4	+ 6·4	+ 5·4	− 4·8	−10·6	− 6·4	−10·2	−16·0	**−34·0**	−14·6	− 6·8	− 9·4	− 7·2	+ 3·0	+ 8·6	+ 9·8	+ 7·8	+11·4	+14·0	+10·0	+ 4·4
Sept.	+15·9	**+23·3**	+18·7	+10·7	+13·7	+10·9	+ 2·9	− 3·7	−21·1	−36·1	**−36·5**	−29·5	−25·3	−16·7	− 7·5	− 7·1	− 2·1	+ 6·3	+ 5·9	+ 8·9	+11·7	+19·1	+23·1	+13·9
Oct.	+25·7	+19·7	+22·3	**+26·3**	+20·5	+22·7	+16·9	+12·1	+ 2·3	− 6·1	−19·1	−21·9	−24·9	−17·5	−17·1	−20·5	−11·9	**−25·7**	−13·1	− 7·5	+ 0·9	− 0·7	+ 7·9	+ 9·5
Nov.	+11·8	+ 7·2	+12·2	+11·2	+17·8	+18·6	**+20·4**	+15·4	+ 3·4	− 5·6	−13·6	−12·6	**−19·0**	−17·0	−15·8	−14·4	−17·4	− 3·8	− 4·6	− 7·6	− 0·4	+ 6·2	− 2·0	+ 4·8
Dec.	+ 5·7	+ 5·3	+ 0·5	+ 1·3	+ 5·7	+ 4·7	+11·5	+12·5	+ 2·7	− 3·7	− 4·9	−15·3	**−18·1**	−12·9	−12·1	−12·5	− 5·1	− 1·5	+ 8·7	+ 0·7	**+17·7**	+ 3·3	+ 3·3	+ 1·3
Year	+11·0	+ 8·9	+ 9·6	+ 8·9	**+11·2**	+ 9·6	+ 6·8	+ 3·0	− 5·2	−13·1	−17·8	**−20·2**	−16·6	−11·0	− 8·8	− 5·2	− 2·9	+ 0·6	+ 2·5	+ 3·3	+ 5·2	+ 6·4	+ 6·4	+ 6·3
Winter	+ 6·3	+ 4·2	+ 4·6	+ 5·5	+10·2	+11·6	**+15·1**	+13·1	+ 4·0	− 1·5	− 4·4	− 9·8	**−11·5**	− 8·1	− 9·0	−10·7	−11·0	− 5·7	− 3·4	− 5·3	+ 0·6	+ 1·5	− 1·4	+ 1·7
Equinox	**+16·1**	+14·5	+13·0	+11·9	+14·0	+12·0	+ 7·4	+ 2·2	− 7·5	−18·0	**−24·6**	−21·7	−19·8	−12·9	− 7·1	− 5·3	− 2·3	− 3·0	− 0·8	+ 3·4	+ 3·3	+ 5·8	+11·1	+ 8·6
Summer	+10·6	+ 7·9	+11·2	+ 9·2	+ 9·2	+ 5·4	− 2·2	− 6·3	−12·0	−19·9	−24·5	**−29·1**	−18·6	−12·0	−10·2	+ 0·3	+ 4·7	+10·4	+11·7	+11·9	+11·8	**+12·0**	+ 9·5	+ 8·6

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

International Disturbed Days.

NORTH COMPONENT.

Month and Season, 1931.	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	− 0·5	+ 1·1	+ 5·6	+ 9·8	**+12·6**	+11·4	+11·0	− 0·5	− 5·6	− 4·5	− 9·0	− 8·5	− 0·3	− 4·2	**− 9·1**	− 6·9	− 1·0	+ 1·9	+ 3·6	− 0·9	− 6·4	− 4·7	+ 1·6
Feb.	+ 9·4	+ 8·2	+ 5·9	+ 3·9	+ 7·5	+ 9·4	**+15·7**	+12·3	+ 7·9	+ 6·0	+ 0·3	− 9·1	− 9·2	−11·2	−10·3	−11·0	**−18·2**	−15·2	−17·1	−12·3	− 7·7	+14·8	+ 8·3	+ 5·0
Mar.	+ 9·6	+ 6·3	+ 3·1	+ 4·6	+ 8·6	+ 9·0	+ 7·5	+ 6·2	+ 3·0	− 7·7	−15·6	−18·9	**−24·3**	−19·2	−13·7	− 4·7	− 1·8	+ 1·6	+ 3·9	**+13·8**	+ 2·1	+ 7·5	+11·8	+ 8·3
Apr.	**+17·8**	+12·0	+12·7	+ 9·1	+16·6	+ 9·1	+ 6·8	+ 0·4	− 7·8	−17·5	**−29·3**	−25·7	−17·9	−12·8	− 3·7	+ 1·2	+ 1·2	+ 3·2	− 0·1	+ 3·2	+ 3·2	+ 4·4	+ 6·4	+ 7·7
May	+ 5·9	+ 3·9	+12·4	+19·3	**+22·2**	+ 4·3	+ 4·4	− 1·3	− 9·6	−13·2	−24·8	**−34·6**	−25·4	−20·2	−18·3	− 5·1	+ 5·2	+13·6	+11·9	+14·0	+ 9·3	+12·8	+ 5·2	+ 8·9
June	+15·2	+14·5	+17·4	+ 5·5	+ 8·5	+ 7·5	− 0·8	− 2·3	−14·9	−26·2	−29·1	−26·0	**−26·6**	−20·9	−19·7	− 3·0	− 1·0	+ 9·3	+15·0	+18·3	**+19·1**	+10·8	+14·3	+14·2
July	+ 9·5	+10·9	+13·6	+11·4	+ 6·2	**+15·8**	+ 9·3	+ 5·9	− 4·2	−23·2	−31·2	**−34·7**	−26·1	−20·2	−10·7	+ 1·2	+ 0·4	+ 3·1	+ 5·0	+ 7·6	+11·3	+12·1	+12·8	+12·8
Aug.	+19·1	+12·4	+ 9·8	+ 6·1	+ 8·6	+ 6·9	− 3·4	−10·7	− 4·4	− 8·4	−17·2	**−38·0**	−20·6	−13·4	−16·2	− 9·0	+ 1·6	+ 8·0	+ 9·7	+10·7	+13·8	**+16·0**	+11·6	+ 5·8
Sept.	+20·0	+23·4	+19·7	+10·9	+13·1	+11·5	+ 4·8	− 1·2	−19·2	−36·7	**−38·9**	−34·2	−32·1	−22·8	−13·4	−11·5	− 3·1	+ 7·1	+ 7·8	+11·8	+14·7	+23·1	**+27·4**	+17·2
Oct.	**+27·2**	+21·6	+22·4	+25·2	+17·8	+19·1	+15·1	+10·4	+ 1·9	− 6·8	−21·0	−27·5	**−32·3**	−25·5	−25·8	−24·0	−10·1	−20·5	− 6·7	+ 0·5	+ 6·0	+ 5·6	+16·4	+12·1
Nov.	+12·6	+ 6·0	+11·3	+11·8	+15·9	+16·8	**+17·7**	+14·1	+ 2·9	− 6·3	−16·6	−16·8	**−23·4**	−21·8	−19·1	−16·7	−18·6	+ 2·5	− 1·4	− 2·7	+ 4·9	+12·8	+ 2·8	+ 6·7
Dec.	+ 5·5	+ 6·6	+ 1·0	+ 0·7	+ 4·0	+ 2·4	+ 9·6	+10·2	+ 0·1	− 6·4	− 8·4	−18·9	**−20·8**	−16·0	−13·7	−10·2	− 7·0	− 1·4	+10·2	+ 3·7	**+25·3**	+ 9·4	+ 8·4	+ 4·7
Year	**+12·9**	+10·4	+10·9	+ 9·5	+11·6	+10·4	+ 8·2	+ 4·6	− 3·7	−12·7	−19·7	**−24·5**	−22·3	−17·0	−14·1	− 8·5	− 4·9	+ 0·9	+ 3·3	+ 6·0	+ 8·4	+10·2	+10·1	+ 8·8
Winter	+ 7·5	+ 5·1	+ 4·8	+ 5·5	+ 9·3	+10·3	**+13·6**	+11·9	+ 2·6	− 3·1	− 7·3	−13·5	**−15·5**	−12·3	−11·8	−11·8	−12·7	− 3·8	− 1·6	− 1·9	+ 5·4	+ 7·7	+ 3·7	+ 4·5
Equinox	**+18·7**	+15·8	+14·5	+12·5	+14·0	+12·2	+ 8·6	+ 4·0	− 5·5	−17·2	−26·2	−26·6	**−26·7**	−20·1	−14·2	− 9·8	− 3·5	− 2·2	+ 1·2	+ 7·3	+ 6·5	+10·2	+15·5	+11·3
Summer	+12·4	+10·4	+13·3	+10·6	+11·4	+ 8·6	+ 2·4	− 2·1	− 8·3	−17·8	−25·6	**−33·3**	−24·7	−18·7	−16·2	− 4·0	+ 1·6	+ 8·5	+10·4	+12·7	**+13·4**	+12·9	+11·0	+10·4

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.	−13·5	− 7·9	− 2·0	+ 4·5	+ 5·9	+ 8·7	+11·5	+ 8·7	+13·7	+17·3	+18·6	**+20·5**	+19·2	+14·6	+ 6·0	− 5·2	+ 0·5	−10·4	−15·1	−17·3	−18·4	−21·4	**−25·3**	−13·1
Feb.	− 4·4	− 6·4	− 3·4	− 3·6	− 3·5	− 2·0	− 1·7	− 0·2	− 1·6	− 3·0	+ 5·2	+ 9·8	+20·5	**+25·8**	+21·9	+22·3	+12·8	+ 3·1	+ 1·2	− 9·4	−12·8	**−33·8**	−22·8	−14·6
Mar.	−14·3	− 8·8	−13·0	− 7·3	− 5·0	− 3·3	− 3·9	− 9·2	−10·3	− 8·5	+ 4·5	+21·4	+26·4	**+32·0**	+28·5	+19·3	+10·8	+ 5·4	+ 0·6	− 9·0	− 9·3	**−20·8**	−12·2	−14·3
Apr.	− 4·8	− 4·1	− 7·3	− 6·1	− 7·4	−12·7	−16·1	−18·9	**−20·5**	−16·4	− 0·1	+17·5	+30·5	+33·1	**+33·7**	+27·3	+15·2	+ 7·1	+ 1·4	−12·0	−12·6	−10·6	− 7·8	− 7·8
May	− 9·0	− 0·9	+ 1·4	+ 0·0	− 9·6	−26·3	−30·6	**−31·8**	−19·1	− 9·9	+ 4·0	+20·7	+28·1	**+30·8**	+25·7	+19·8	+16·7	+14·7	+ 8·6	− 2·4	− 9·6	− 3·5	− 4·2	−10·5
June	−12·7	−15·2	− 7·2	− 7·1	− 5·4	−10·4	−25·7	−25·6	**−25·9**	−15·6	+ 3·2	+16·3	+23·8	+28·9	+26·7	**+30·3**	+22·7	+15·1	+10·5	+ 6·8	− 1·8	+ 0·0	−13·2	−13·0
July	− 3·9	−12·4	−11·7	− 6·3	−10·6	−14·4	−21·1	**−22·1**	−19·4	−13·0	− 1·4	+13·5	+25·7	**+28·6**	+22·8	+20·7	+13·2	+ 5·5	+ 9·0	− 1·0	− 3·0	+ 0·2	+ 0·6	+ 0·3
Aug.	− 2·8	**−14·6**	−13·7	− 7·1	− 9·5	− 6·4	− 7·0	− 1·0	−10·0	− 9·2	+ 3·6	+14·7	+25·9	+29·7	**+30·0**	+ 7·6	+ 6·9	+ 3·5	+ 1·7	−12·6	− 9·9	− 7·7	− 6·3	− 5·8
Sept.	**−17·3**	+ 1·9	− 2·6	+ 0·1	+ 4·2	− 1·6	− 8·2	−11·8	−11·2	− 1·4	+ 7·2	+18·5	**+28·2**	+26·1	+26·3	+19·6	+ 4·2	− 2·8	− 8·2	−12·4	−12·3	−16·2	−17·1	−13·6
Oct.	− 4·0	− 6·6	+ 1·8	+ 8·1	+14·7	+19·0	+10·1	+ 9·3	+ 2·1	+ 2·5	+ 6·7	+23·1	+31·4	+34·8	**+37·9**	+14·0	− 9·5	−26·5	−30·7	−37·3	−23·3	−28·7	**−38·2**	−10·7
Nov.	− 2·2	+ 6·1	+ 5·6	− 1·6	+10·8	+10·2	+14·4	+ 7·7	+ 2·6	+ 2·6	+12·4	+18·0	+18·2	**+20·2**	+13·3	+ 8·9	+ 3·5	−29·2	−15·2	−23·1	−24·1	**−29·5**	−22·1	− 8·3
Dec.	+ 1·6	− 5·3	− 2·4	+ 3·1	+ 8·4	+11·1	+ 9·9	+12·1	+12·2	+12·1	**+15·5**	+14·9	+10·3	+12·9	+ 6·0	−11·8	+ 8·0	− 0·6	− 5·8	−13·6	**−32·8**	−27·8	−23·2	−15·5
Year	− 7·3	− 6·2	− 4·8	− 1·9	− 0·6	− 2·3	− 5·7	− 6·9	− 7·3	− 3·5	+ 6·6	+17·4	+24·0	**+26·5**	+23·2	+14·4	+ 8·8	− 1·3	− 3·5	−11·9	−14·2	**−16·7**	−16·0	−10·6
Winter	− 4·6	− 3·4	− 0·6	+ 0·6	+ 5·4	+ 7·0	+ 8·5	+ 7·1	+ 6·7	+ 7·3	+12·9	+15·8	+17·1	**+18·4**	+11·8	+ 3·6	+ 6·2	− 9·3	− 8·7	−15·9	−22·0	**−28·1**	−23·4	−12·9
Equinox	−10·1	− 4·4	− 5·3	− 1·3	+ 1·6	+ 0·4	− 4·5	− 7·7	−10·0	− 6·0	+ 4·6	+20·1	+29·1	+31·5	**+31·6**	+20·1	+ 5·2	− 4·2	− 9·2	−17·7	−14·4	**−19·1**	−18·8	−11·6
Summer	− 7·1	−10·8	− 8·5	− 5·1	− 8·8	−14·4	**−21·1**	−20·1	−18·6	−11·9	+ 2·4	+16·3	+25·9	**+29·5**	+26·3	+19·6	+14·9	+ 9·7	+ 7·5	− 2·3	− 6·1	− 2·8	− 5·8	− 7·3

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.	− 2·2	− 2·8	− 3·4	− 4·6	− 5·0	− 5·6	− 5·4	− 5·6	**− 7·2**	− 6·0	− 5·2	− 3·4	− 0·8	+ 3·6	+ 5·0	+ 6·8	**+ 8·6**	+ 8·4	+ 6·8	+ 5·8	+ 3·2	+ 3·6	+ 3·6	+ 0·6
Feb.	− 5·6	− 8·2	− 9·6	−10·4	−11·0	−10·4	**−13·0**	−12·0	−10·2	− 9·6	−11·2	−10·6	− 7·0	− 3·8	+ 3·6	+11·6	+18·2	+21·6	+24·8	**+25·2**	+18·6	+ 9·8	+ 1·2	− 4·0
Mar.	− 3·6	− 9·0	− 6·4	− 3·4	− 3·0	− 1·2	+ 0·4	+ 3·0	+ 2·0	− 2·4	− 7·8	**−10·8**	− 9·0	− 4·8	+ 1·8	+ 7·0	+ 9·2	**+ 9·4**	+ 8·8	+ 8·2	+ 7·8	+ 6·0	+ 1·6	− 3·4
Apr.	− 1·5	− 2·9	− 3·9	− 4·3	− 5·7	− 4·1	+ 0·3	+ 0·5	− 1·5	− 7·5	−12·9	−17·1	**−17·3**	−11·9	− 3·1	+ 3·9	+10·3	+14·9	+16·7	**+16·9**	+12·5	+ 8·9	+ 6·3	+ 1·9
May	+ 1·2	− 1·4	− 3·6	− 8·6	−11·6	−10·6	− 6·2	− 8·2	−10·6	−16·4	−19·6	**−20·0**	−15·0	− 6·2	+ 6·6	+12·0	+16·8	+20·0	+21·0	**+22·2**	+18·6	+10·2	+ 5·2	+ 4·4
June	− 2·9	− 5·1	− 7·9	−11·1	− 9·7	− 9·3	− 6·1	− 4·5	− 3·9	− 9·5	−13·1	**−15·5**	− 7·7	− 2·1	+ 2·9	+ 8·5	+14·5	+18·9	**+19·5**	+17·1	+12·9	+10·1	+ 5·7	− 2·3
July	− 6·1	− 5·7	− 4·9	− 4·9	− 3·7	− 2·9	− 4·1	− 4·1	− 7·9	−12·3	−12·9	−12·5	**−14·1**	− 7·1	+ 2·5	+10·3	+15·7	**+18·3**	+17·5	+16·7	+13·5	+ 7·3	+ 3·7	− 2·1
Aug.	− 7·2	− 7·6	− 7·4	− 7·0	− 9·4	− 7·8	− 6·8	− 7·6	− 7·0	−10·2	−14·4	**−15·8**	− 9·0	− 2·0	+ 7·4	+19·0	**+21·6**	+19·8	+17·2	+16·8	+12·4	+ 5·4	+ 0·2	− 0·2
Sept.	−15·1	−22·5	−23·3	**−26·7**	−20·9	−12·9	− 5·3	− 1·3	− 1·7	− 4·1	− 6·3	− 6·1	− 1·3	+ 7·5	+13·9	+19·9	+24·9	**+26·1**	+21·5	+17·3	+13·9	+ 8·7	+ 0·7	− 7·1
Oct.	−17·8	−17·4	−15·2	−19·2	**−20·8**	−17·8	−13·4	− 9·8	− 9·2	−15·0	−14·8	−13·4	− 7·2	+ 6·2	+22·6	+40·2	**+42·2**	+41·6	+35·2	+24·0	+10·2	− 3·0	− 5·8	−20·2
Nov.	− 4·9	− 8·1	− 9·3	− 9·9	− 9·7	**−11·7**	−10·3	− 9·1	− 7·3	− 7·1	− 7·5	− 5·1	− 0·7	+ 7·3	+12·5	+16·9	+17·3	**+20·9**	+14·3	+12·3	+ 7·5	− 2·9	− 1·3	− 4·9
Dec.	− 7·5	**−12·9**	−10·5	− 8·5	− 6·5	− 5·3	− 2·1	− 2·5	− 3·1	− 5·1	− 5·9	− 6·5	− 0·5	+ 4·1	+10·1	**+15·1**	+12·1	+10·9	+10·5	+ 9·1	+ 7·3	+ 0·9	+ 0·3	− 2·9
Year	− 6·1	− 8·6	− 8·8	− 9·9	− 9·8	− 8·3	− 6·0	− 5·1	− 5·6	− 8·8	−11·0	**−11·4**	− 7·5	− 0·8	+ 7·2	+14·3	+17·6	**+19·2**	+17·8	+16·0	+11·5	+ 5·4	+ 1·8	− 3·4
Winter	− 5·1	− 8·0	− 8·2	**− 8·4**	− 8·1	− 8·3	− 7·7	− 7·3	− 7·0	− 7·0	− 7·5	− 6·4	− 2·3	+ 2·8	+ 7·8	+12·6	+14·1	**+15·5**	+14·1	+13·1	+ 9·2	+ 2·9	+ 1·0	− 2·8
Equinox	− 9·5	−13·0	−12·2	**−13·4**	−12·6	− 9·0	− 4·5	− 1·9	− 2·6	− 7·3	−10·5	−11·9	− 8·7	− 0·8	+ 8·8	+17·8	+21·7	**+23·0**	+20·6	+16·6	+11·1	+ 5·2	+ 0·7	− 7·2
Summer	− 3·8	− 5·0	− 6·0	− 7·9	− 8·6	− 7·7	− 5·8	− 6·1	− 7·4	−12·1	−15·0	**−16·0**	−11·5	− 4·4	+ 4·9	+12·5	+17·2	**+19·3**	+18·8	+18·2	+14·4	+ 8·3	+ 3·7	− 0·1

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.																								
1931.	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.	+ 0·6	+ 1·9	− 3·0	− 0·7	+ 0·3	− 1·7	+ 0·4	+ 1·2	− 8·1	+ 1·1	+ 1·2	+ 2·2	− 1·5	+ 0·5	+ 0·9	+ 0·2	+ 0·3	− 2·9	− 0·5	− 0·0	+ 0·2	− 0·4	+ 0·2	− 0·1
Feb.	+ 4·9	+ 2·7	− 3·1	− 1·8	+ 1·9	− 2·0	− 0·2	+ 1·0	− 9·1	− 4·2	+ 1·0	+ 5·1	− 1·5	− 1·5	+ 1·0	+ 1·5	+ 1·2	− 4·9	− 2·6	− 0·3	+ 0·6	+ 0·1	− 0·3	− 0·2
Mar.	+10·7	+ 1·0	− 5·9	− 1·4	+ 3·2	− 1·5	− 0·3	+ 0·6	− 8·4	− 7·3	+ 4·1	+ 8·3	− 3·1	− 4·4	+ 1·4	+ 1·5	+ 2·6	− 3·4	− 4·3	− 0·9	+ 2·5	+ 0·1	− 1·1	− 0·4
Apr.	+13·3	− 1·1	− 6·4	+ 0·2	+ 3·1	− 1·3	− 0·2	+ 0·7	− 6·4	−12·9	+ 5·8	+ 9·6	− 2·9	− 4·2	+ 1·4	+ 1·2	+ 6·7	− 2·6	− 6·5	− 1·2	+ 3·0	− 0·1	− 0·9	+ 0·2
May	+11·2	− 3·1	− 6·6	+ 1·0	+ 1·2	− 0·1	+ 0·4	− 0·2	− 8·1	−13·9	+ 8·5	+ 9·0	− 4·5	− 0·6	+ 0·5	+ 0·3	+ 7·1	− 6·2	− 6·8	+ 0·7	+ 2·5	− 0·5	− 0·6	+ 0·4
June	+14·8	− 4·9	− 7·0	+ 0·3	+ 0·5	− 0·4	+ 0·8	+ 0·3	− 7·1	−18·2	+ 5·4	+ 9·8	− 3·5	− 1·3	+ 0·5	− 0·2	+ 5·8	− 5·3	− 7·2	− 0·5	+ 1·5	− 0·4	− 0·2	+ 0·0
July	+14·7	− 3·4	− 7·9	+ 0·9	+ 1·4	− 1·9	− 0·2	+ 0·5	− 7·6	−16·8	+ 6·9	+ 9·3	− 3·2	− 3·0	− 0·0	+ 0·5	+ 5·2	− 4·1	− 7·2	+ 0·0	+ 1·8	+ 0·1	− 0·5	− 0·8
Aug.	+12·9	− 2·6	− 4·5	+ 0·9	+ 0·2	− 1·9	+ 0·4	+ 0·6	−10·8	−12·1	+ 7·4	+ 8·4	− 4·2	− 3·3	+ 1·3	+ 1·1	+ 4·0	− 6·1	− 6·6	+ 0·6	+ 2·6	− 0·6	− 0·9	− 0·0
Sept.	+15·5	− 0·8	− 4·5	+ 0·9	+ 1·2	− 2·2	+ 0·8	+ 0·6	−10·8	− 7·6	+ 6·9	+ 8·9	− 3·6	− 3·2	+ 2·0	+ 0·6	+ 1·3	− 7·6	− 5·7	− 1·4	+ 2·6	− 1·2	− 0·7	+ 0·4
Oct.	+14·2	+ 2·8	− 4·9	− 0·8	+ 2·5	− 2·4	+ 0·2	+ 0·7	−10·4	+ 0·5	+ 4·9	+ 9·4	− 2·7	− 4·1	+ 2·3	+ 0·6	− 1·7	−10·1	− 5·6	+ 0·3	+ 2·1	− 0·6	− 1·0	+ 0·2
Nov.	+ 8·4	+ 2·9	− 4·8	− 3·1	+ 1·6	− 1·8	+ 0·4	+ 0·1	− 8·4	+ 3·1	+ 2·4	+ 6·4	− 1·7	− 1·7	+ 1·6	+ 1·2	− 0·8	− 7·0	− 2·9	+ 0·9	+ 1·1	− 0·7	− 0·4	+ 0·3
Dec.	+ 3·8	+ 3·3	− 2·7	− 3·4	+ 1·1	− 1·1	− 0·5	+ 0·8	− 9·1	+ 3·6	+ 0·0	+ 4·7	− 0·9	+ 0·8	+ 1·3	+ 0·9	+ 0·3	− 6·0	− 2·4	+ 0·1	+ 0·9	− 0·7	− 0·3	+ 0·6
Year	+10·4	− 0·1	− 5·1	− 0·6	+ 1·5	− 1·5	+ 0·2	+ 0·6	− 8·7	− 7·1	+ 4·5	+ 7·6	− 2·8	− 2·2	+ 1·2	+ 0·8	+ 2·6	− 5·5	− 4·9	− 0·1	+ 1·8	− 0·4	− 0·6	+ 0·0
W.	+ 4·4	+ 2·7	− 3·4	− 2·3	+ 1·3	− 1·7	+ 0·1	+ 0·8	− 8·7	+ 0·9	+ 1·1	+ 4·6	− 1·4	− 0·5	+ 1·2	+ 1·0	+ 0·2	− 5·2	− 2·1	+ 0·2	+ 0·7	− 0·5	− 0·2	+ 0·1
Eq.	+13·4	+ 0·5	− 5·5	− 0·3	+ 2·5	− 1·9	+ 0·1	+ 0·6	− 9·0	− 7·0	+ 5·4	+ 9·0	− 3·0	− 4·0	+ 1·7	+ 1·0	+ 2·2	− 6·0	− 5·5	− 0·7	+ 2·5	− 0·4	− 0·9	+ 0·1
S.	+13·4	− 3·5	− 6·5	+ 0·8	+ 0·8	− 1·1	+ 0·4	+ 0·3	− 8·4	−15·3	+ 7·1	+ 9·1	− 3·8	− 2·0	+ 0·6	+ 0·4	+ 5·6	− 5·4	− 6·9	+ 0·2	+ 2·1	− 0·3	− 0·5	− 0·1
QUIET DAYS.																								
Year	+ 8·2	− 0·6	− 5·0	− 0·7	+ 1·5	− 1·3	− 0·1	+ 0·5	− 4·9	− 8·5	+ 4·4	+ 6·8	− 3·6	− 2·3	+ 1·1	+ 0·6	+ 3·4	− 1·7	− 4·2	+ 0·5	+ 1·9	− 0·5	− 0·5	+ 0·0
W.	+ 1·6	+ 0·7	− 3·0	− 1·8	+ 1·1	− 0·8	− 0·2	+ 0·6	− 4·6	− 1·4	+ 0·8	+ 3·2	− 1·6	− 0·9	+ 0·6	+ 0·6	+ 0·5	− 1·7	− 1·1	+ 0·6	+ 0·5	− 0·4	− 0·1	+ 0·3
Eq.	+11·8	+ 0·1	− 5·9	− 1·4	+ 2·3	− 1·8	− 0·2	+ 0·8	− 4·6	− 8·8	+ 4·7	+ 8·4	− 4·3	− 3·7	+ 2·1	+ 1·0	+ 3·5	− 1·6	− 4·5	+ 0·1	+ 2·6	− 0·4	− 0·9	+ 0·2
S.	+11·4	− 2·8	− 6·1	+ 1·0	+ 1·2	− 1·4	+ 0·3	+ 0·2	− 5·5	−15·5	+ 7·6	+ 8·9	− 4·8	− 2·4	+ 0·6	+ 0·2	+ 6·4	− 1·8	− 7·2	+ 0·8	+ 2·4	− 0·9	− 0·4	− 0·3
DISTURBED DAYS.																								
Year	+15·4	+ 1·0	− 6·1	− 1·2	+ 1·7	− 2·0	− 0·2	+ 0·5	−13·5	− 2·8	+ 4·4	+ 9·3	− 2·2	− 2·1	+ 1·6	+ 0·5	+ 0·4	−13·3	− 6·7	− 0·4	+ 2·1	− 0·1	− 0·8	+ 0·4
W.	+ 8·7	+ 5·3	− 4·0	− 3·9	+ 1·0	− 2·3	+ 0·2	+ 0·9	−14·2	+ 7·0	+ 1·6	+ 6·6	+ 0·1	+ 0·4	+ 2·4	+ 1·2	− 0·8	−11·9	− 4·1	+ 0·4	+ 0·8	− 0·2	− 0·4	+ 0·1
Eq.	+19·0	+ 1·0	− 5·9	− 0·1	+ 2·6	− 2·8	− 0·0	+ 0·5	−15·5	− 2·0	+ 5·6	+12·2	− 2·7	− 4·6	+ 1·0	+ 1·0	− 1·8	−14·7	− 8·6	− 1·3	+ 3·3	− 0·1	− 1·1	+ 0·3
S.	+18·4	− 3·2	− 8·4	+ 0·4	+ 1·5	− 0·8	− 0·7	+ 0·3	−10·9	−13·2	+ 5·9	+ 9·3	− 3·9	− 1·9	+ 1·2	− 0·7	+ 4·0	−13·4	− 7·3	− 0·2	+ 2·2	0·0	− 1·0	+ 0·7

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

Values of c_n, α_n in the series $\Sigma\, c_n \sin (nT + \alpha_n)$, 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 α, 2α, 3α, 4α, respectively, where α has the following values :—

	° ′		° ′		° ′		° ′		°
January	+2 19	April	+0 4	July	+1 22	October	−3 28	Winter	+0 12
February	+3 28	May	−0 51	August	+0 59	November	−3 42	Equinox	−0 36
March	+2 12	June	+0 5	September	−1 12	December	−1 6	Summer	+0 24

Month and Season.	North Force.								West Force.								Vertical Force.							
	c_1	α_1	c_2	α_2	c_3	α_3	c_4	α_4	c_1	α_1	c_2	α_2	c_3	α_3	c_4	α_4	c_1	α_1	c_2	α_2	c_3	α_3	c_4	α_4
"ALL" DAYS.																								
1931.	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°
Jan.	2·0	17·9	3·0	256·7	1·7	170·8	1·2	22·0	8·2	278·1	2·5	29·2	1·6	290·2	0·9	76·7	2·9	174·9	0·5	267·1	0·4	150·5	0·2	113·7
Feb.	5·6	61·7	3·5	241·1	2·8	136·7	1·0	351·6	10·0	245·9	5·2	12·3	2·1	225·8	1·8	36·2	5·1	166·8	2·6	264·0	0·6	84·3	0·4	235·8
Mar.	10·7	85·1	6·1	257·7	3·5	116·4	0·6	336·2	11·1	229·7	9·3	27·2	5·4	216·5	2·1	45·3	4·3	143·0	4·4	258·8	2·5	88·7	1·2	253·2
Apr.	13·3	93·1	6·4	272·7	3·4	114·0	0·7	348·2	14·4	206·8	11·2	32·0	5·1	216·0	1·8	50·6	7·2	111·5	6·6	260·8	3·0	92·9	0·9	281·6
May	11·7	105·9	6·7	279·3	1·2	93·6	0·4	121·6	16·1	210·6	12·4	44·4	4·5	263·8	0·6	57·8	9·5	131·7	6·8	276·8	2·5	101·7	0·7	306·1
June	15·6	108·6	7·0	273·5	0·7	130·3	0·9	73·5	19·5	201·8	11·2	29·7	3·7	251·6	0·6	112·9	7·9	132·7	7·2	266·9	1·6	105·2	0·2	276·7
July	15·1	103·5	7·9	277·1	2·4	145·5	0·5	342·3	18·4	204·8	11·6	37·4	4·3	228·0	0·5	357·7	6·7	128·8	7·2	271·1	1·9	86·8	0·9	211·8
Aug.	13·2	102·0	4·6	281·7	1·9	175·8	0·7	34·5	16·3	222·2	11·2	42·1	5·3	232·6	1·7	52·2	7·3	147·4	6·6	275·9	2·7	103·3	0·9	269·5
Sept.	15·5	93·2	4·6	281·6	2·5	153·8	1·0	53·5	13·2	235·0	11·2	38·7	4·9	229·5	2·0	74·4	7·7	171·0	5·9	257·4	2·8	115·1	0·8	300·3
Oct.	14·5	79·4	5·0	261·5	3·4	135·1	0·7	20·4	10·5	273·4	10·6	28·2	4·9	214·1	2·4	77·5	10·3	189·7	5·6	274·3	2·2	107·1	1·1	288·8
Nov.	8·8	71·6	5·7	238·1	2·5	139·2	0·4	75·4	9·0	290·3	6·8	21·3	2·4	226·5	2·0	53·6	7·0	187·3	3·1	288·4	1·3	125·8	0·7	324·6
Dec.	5·0	48·8	4·4	219·7	1·6	138·6	1·0	331·2	9·7	291·9	4·7	1·0	1·2	312·8	1·5	56·9	6·0	177·8	2·4	273·4	1·2	127·8	0·3	304·1
Year	10·4	91·1	5·1	264·2	2·1	136·4	0·6	19·6	11·2	231·1	8·8	31·7	3·5	233·3	1·4	57·9	6·1	154·8	4·9	269·6	1·8	103·6	0·6	275·6
W.	5·2	59·1	4·1	237·0	2·1	144·2	0·8	5·2	8·7	276·3	4·8	14·6	1·5	252·6	1·5	53·1	5·2	177·9	2·1	276·0	0·8	123·9	0·2	294·7
Eq.	13·4	88·4	5·5	268·0	3·1	127·8	0·7	13·8	11·4	232·5	10·5	31·7	5·0	218·5	2·0	62·4	6·3	160·1	5·6	263·2	2·6	101·1	0·9	278·2
S.	13·9	105·0	6·5	277·6	1·4	143·4	0·5	54·6	17·4	209·3	11·5	38·5	4·3	243·0	0·7	55·1	7·8	134·8	6·9	272·6	2·1	99·9	0·5	261·5
QUIET DAYS.																								
Year	8·2	94·7	5·0	262·7	2·0	132·2	0·5	356·2	9·8	210·1	8·1	33·3	4·3	238·1	1·3	63·1	3·8	116·2	4·3	277·7	2·0	107·2	0·5	272·7
W.	1·8	66·6	3·5	239·7	1·4	126·8	0·7	342·8	4·8	253·3	3·3	14·4	1·8	243·5	0·9	46·5	1·7	164·0	1·2	297·6	0·7	128·8	0·3	337·7
Eq.	11·8	89·7	6·0	257·7	2·9	130·1	0·8	350·4	9·9	207·9	9·7	30·1	5·7	230·3	2·3	66·0	3·8	114·9	4·5	272·5	2·7	99·4	0·9	284·0
S.	11·7	104·2	6·2	279·8	1·9	142·3	0·4	56·3	16·5	200·0	11·7	41·5	5·3	244·5	0·7	72·3	6·6	105·8	7·2	277·5	2·6	110·6	0·5	232·7
DISTURBED DAYS.																								
Year	15·4	86·6	6·2	259·8	2·6	140·1	0·6	343·4	13·8	258·8	10·3	25·8	3·0	227·1	1·6	74·0	13·3	178·6	6·7	267·7	2·1	92·8	0·9	296·0
W.	10·2	58·9	5·6	226·4	2·5	157·0	0·9	11·5	15·8	296·7	6·8	14·3	0·4	12·5	2·7	65·1	11·9	184·4	4·1	276·3	0·8	102·5	0·4	284·0
Eq.	19·1	87·5	5·9	270·1	3·8	137·8	0·5	356·5	15·6	263·2	13·4	25·6	5·4	211·5	1·4	46·8	14·8	187·3	8·7	262·6	3·3	92·4	1·1	284·8
S.	18·7	100·3	8·4	273·8	1·7	120·4	0·7	292·0	17·1	220·0	11·0	33·1	4·3	245·1	1·4	122·6	14·0	163·8	7·3	269·4	2·2	91·2	1·2	307·3

TABLE X.—RANGE of MEAN DIURNAL INEQUALITIES for the MONTHS, YEAR and SEASONS of 1931.

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	4·42	0·86	11·1	1·92	0·65	9·6	8·46	2·00	25·0	12·0	24·1	6·2	11·1	10·6	2·8	21·7	45·8	15·8
February	6·39	1·01	15·9	4·02	0·69	12·0	11·82	3·22	31·4	19·2	29·1	12·5	13·8	22·0	6·0	33·9	59·6	38·2
March	8·04	1·36	24·3	8·16	1·64	27·6	10·62	1·55	29·6	29·0	41·2	17·9	30·1	41·7	16·8	38·1	52·8	20·2
April	9·50	1·81	33·1	9·24	1·42	29·2	9·94	2·71	45·0	34·7	49·9	25·4	31·1	47·1	21·4	47·1	54·2	34·2
May	9·97	1·14	28·5	9·74	1·60	31·0	12·10	3·06	49·0	30·7	52·6	30·7	30·6	51·4	23·0	56·8	62·6	42·2
June	10·00	1·95	37·8	10·40	1·83	32·6	10·68	2·95	48·2	36·8	53·2	28·7	30·3	56·5	23·8	45·7	56·2	35·0
July	10·43	1·96	36·9	10·32	1·86	34·0	10·20	2·64	43·6	38·1	54·4	25·5	34·5	53·9	23·2	50·5	50·7	32·4
August	9·28	1·58	28·2	10·20	1·75	30·2	9·20	3·27	52·0	32·3	50·6	26·5	31·4	56·6	29·4	54·0	44·6	37·4
September	8·49	2·01	32·8	8·46	2·00	34·2	10·56	4·55	59·8	35·9	43·8	22·7	35·5	45·8	17·8	66·3	45·5	52·8
October	7·91	1·97	29·0	7·94	1·67	28·2	15·44	5·28	52·0	35·0	38·4	24·8	33·3	41·0	16·0	59·5	76·1	63·0
November	6·43	1·56	20·8	3·86	0·91	13·6	10·36	3·36	39·4	23·7	31·3	16·2	15·8	19·1	12·4	41·1	49·7	32·6
December	5·40	1·24	14·0	3·30	0·70	9·6	10·40	2·26	35·8	15·9	27·6	13·2	9·9	17·0	5·6	46·1	48·3	28·0
Year	7·11	1·18	21·4	6·96	1·16	21·8	8·89	2·07	31·4	25·8	35·9	20·3	23·8	36·7	15·8	37·4	43·2	30·6
Winter	5·22	1·05	14·6	2·93	0·62	10·1	9·22	2·09	26·6	17·1	26·7	11·4	12·2	15·6	6·3	29·1	46·5	23·9
Equinox	8·09	1·74	29·2	8·31	1·67	29·1	10·52	2·72	40·7	33·2	42·3	22·1	32·5	43·2	16·8	45·4	50·7	36·4
Summer	9·92	1·54	32·0	10·12	1·72	31·5	10·00	2·43	41·1	33·5	52·4	27·5	31·0	53·8	24·3	46·7	50·6	35·3

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

Month, 1931.	"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	−0·07	−0·2	−0·4	−0·04	+2·6	−1·6	+0·28	− 9·4	−1·8
February	+0·02	−0·2	+0·4	+0·20	+3·4	−1·2	−0·78	− 4·0	−1·2
March	−0·01	+0·3	−0·2	−0·04	+2·6	0·0	+0·14	− 3·6	−0·2
April	−0·04	+0·3	−0·1	−0·16	+1·4	−1·6	−0·06	−10·4	+1·6
May	−0·03	+0·3	−0·1	+0·18	+6·4	−0·6	+0·08	− 4·0	0·0
June	−0·05	−0·5	+0·2	+0·58	+5·0	−2·4	+0·60	− 1·6	−1·0
July	−0·03	−0·1	−0·1	+0·08	+2·4	−0·6	−0·42	− 1·8	−2·8
August	−0·04	−0·1	+0·1	+0·10	+6·0	+1·2	+0·46	− 9·0	+1·4
September	−0·17	+0·1	−0·6	−0·06	+4·8	+0·6	+1·00	− 7·8	+0·2
October	+0·10	−0·9	+1·0	−0·54	+2·0	+0·6	−0·76	−10·4	−7·4
November	−0·01	+0·4	−0·1	+0·94	0·0	+2·2	−0·32	− 4·8	−1·8
December	−0·13	−0·3	−0·3	−0·04	+2·4	−1·0	−0·46	− 1·0	0·0
Year 1931	—	—	—	+0·10	+3·3	−0·4	−0·02	− 5·7	−1·1

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

Month, 1931.	Declination (West).	Inclination.	Horizontal Force.	North Force.	West Force.	Vertical Force.	Total Force.
	° ′	° ′					
January	12 18·4	66 37·8	·18548	·18122	·03953	·42922	·46758
February	12 17·9	66 38·1	·18544	·18118	·03951	·42923	·46757
March	12 17·1	66 37·9	·18545	·18120	·03946	·42921	·46756
April	12 15·7	66 37·5	·18550	·18127	·03940	·42916	·46753
May	12 14·8	66 37·4	·18550	·18128	·03935	·42915	·46752
June	12 14·0	66 37·5	·18551	·18130	·03932	·42919	·46756
July	12 13·3	66 37·4	·18551	·18131	·03928	·42918	·46756
August	12 12·6	66 37·8	·18546	·18126	·03922	·42919	·46755
September	12 11·7	66 38·5	·18538	·18120	·03916	·42924	·46756
October	12 10·6	66 39·4	·18528	·18111	·03908	·42933	·46760
November	12 9·4	66 39·1	·18533	·18117	·03903	·42935	·46765
December	12 8·7	66 38·9	·18537	·18122	·03900	·42936	·46767
Year 1931	12 13·7	66 38·1	·18543	·18123	·03928	·42923	·46758

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

1931 Day	January	February	March	April	May	June	July	August	September	October	November	December
	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′
1	12. 13·9	12. 13·3	12. 13·3	12. 12·6	12. 14·7	12. 3·4	12. 4·0	12. 4·1	12. 4·2	12. 3·5	12. 0·8	12. 1·5
2	13·7	13·3	12·9	12·6	14·8	3·5	4·0	4·5	4·3	3·6	1·0	1·4
3	13·7	13·2	12·7	13·2	15·0	3·7	4·1	4·8	4·4	3·9	1·5	1·4
4	13·9	13·3	12·4	13·4	14·8	3·8	4·1	4·9	4·2	3·8	1·9	3·0
5	13·3	12·8	12·3	13·3	14·6	3·9	4·4	4·9	3·9	3·9	2·4	2·7
6	13·0	12·5	11·8	13·3	15·0	4·1	4·4	5·0	3·5	4·2	2·4	2·8
7	12·7	12·7	12·0	13·5	14·9	4·1	3·9	5·0	2·9	4·2	2·3	2·5
8	12·6	12·6	11·8	13·4	15·0	4·0	3·8	4·6	2·8	3·7	2·7	2·1
9	12·5	13·1	11·6	13·5	15·1	4·0	3·6	4·2	2·7	4·0	2·5	2·1
10	11·8	13·4	11·3	13·8	15·2	4·3	4·0	3·8	2·7	4·0	2·4	2·1
11	12·1	13·4	11·4	13·8	15·3	4·2	4·0	3·4	2·7	4·4	2·6	2·6
12	12·3	13·2	11·5	14·0	15·5	4·4	4·1	3·4	2·7	4·4	2·7	2·4
13	13·0	12·7	11·4	13·9	15·6	4·5	4·2	3·8	2·5	4·4	2·4	2·6
14	12·6	12·7	11·5	14·0	15·5	4·3	4·0	3·7	2·0	4·1	2·2	2·4
15	12·3	12·9	11·8	13·8	15·6	4·1	4·1	4·3	2·6	3·8	2·0	2·4
16	12·5	12·9	11·8	14·1	$\frac{15·8}{2·1}$	4·1	4·1	4·5	3·3	3·5	1·9	2·4
17	12·9	12·7	12·0	13·9	2·4	4·1	—	4·7	3·4	3·5	1·7	1·8
18	13·0	12·5	11·9	13·7	2·2	4·2	—	4·8	3·5	3·4	1·5	1·5
19	12·9	12·5	12·4	13·7	1·9	4·1	4·1	4·6	3·6	3·4	1·8	1·0
20	13·0	12·4	12·7	13·5	1·7	4·3	3·8	4·4	3·7	3·3	1·8	0·8
21	13·2	12·5	12·9	13·3	1·3	4·5	3·4	4·2	3·2	2·6	1·8	0·9
22	13·4	12·4	13·2	13·1	1·6	4·6	3·4	4·0	3·0	2·0	2·1	0·9
23	13·5	12·4	13·4	13·3	2·0	4·8	3·8	3·6	2·9	1·9	1·9	0·9
24	13·5	12·8	13·8	13·6	2·4	5·1	3·7	3·2	3·0	1·9	2·2	0·7
25	13·4	13·0	14·0	13·7	2·7	4·4	3·9	3·1	3·2	1·7	2·1	1·2
26	13·1	13·3	13·7	14·4	2·7	4·3	4·2	2·9	3·2	1·2	2·2	1·6
27	13·6	13·5	13·7	14·4	3·0	4·2	4·3	3·2	3·3	0·9	2·1	1·7
28	13·3	13·4	13·6	14·5	3·1	4·2	4·0	3·2	3·3	0·5	2·2	1·8
29	13·4		13·7	14·3	3·1	4·3	3·8	3·4	3·3	0·7	2·0	1·8
30	13·4		13·1	14·5	3·2	4·0	4·1	3·5	3·4	1·0	1·7	1·1
31	13·1		13·0		3·2		4·2	4·0		0·5		0·6

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, 1931.	No. of Obs.	Observed Horizontal Force.	Deduced Value of Base Line.
		γ	γ
Jan. 1. 10 16–10 38	8	18575	18656
1. 16 49–17 19	8	18576	18656
2. 10 48–11 8	8	18549	18657
2. 15 36–15 57	8	18554	18657
3. 10 41–11 2	8	18556	18658
5. 10 45–11 7	12	18558	18660
5. 14 49–15 0	4	18557	18657
6. 10 3–10 33	10	18555	18658
6. 14 45–15 3	8	18561	18660
7. 10 0–10 35	16	18558	18659
7. 16 0–16 17	8	18561	18659
8. 10 8–10 33	12	18554	18658
8. 16 25–16 35	6	18560	18659
9. 10 36–11 4	12	18555	18661
9. 14 26–14 44	8	18552	18660
10. 10 2–10 32	8	18547	18661
10. 12 56–13 15	10	18545	18660
12. 10 1–10 17	8	18548	18659
12. 16 26–16 44	10	18552	18660
13. 9 53–10 34	14	18546	18659
13. 12 11–12 25	6	18551	18660
13. 12 47–13 6	6	18549	18658
13. 14 28–14 52	10	18551	18659
13. 16 19–16 38	10	18546	18659
14. 9 52–10 18	12	18544	18659
14. 12 45–12 57	6	18557	18659
14. 14 50–15 54	24	18550	18658
15. 9 59–10 53	24	18558	18659
15. 15 2–16 5	30	18551	18662
16. 10 35–11 21	24	18550	18658
16. 15 5–16 1	24	18533	18658
17. 10 4–11 27	32	18511	18657
19. 10 34–10 52	8	18531	18658
30. 11 39–12 17	16	18532	18656
30. 16 26–17 0	16	18552	18657
31. 10 18–10 50	16	18538	18656
Feb. 2. 14 59–15 42	16	18543	18656
2. 16 34–16 56	8	18541	18656
3. 10 10–10 43	16	18539	18656
3. 12 43–12 59	8	18536	18656
3. 14 29–15 3	16	18546	18656
3. 16 10–16 32	12	18534	18655
4. 9 43–10 35	24	18534	18655
4. 12 23–12 39	8	18538	18656
4. 14 33–15 10	16	18542	18657
4. 16 19–16 44	12	18542	18655
5. 9 48–10 45	16	18535	18656
5. 17 11–17 17	2	18554	18657
6. 17 5–17 17	4	18560	18659
7. 12 20–12 50	10	18546	18656
9. 17 12–17 42	6	18548	18656
10. 10 44–11 19	16	18558	18658
10. 12 40–13 9	12	18557	18658
10. 14 39–15 52	25	18553	18658
11. 10 37–10 59	6	18546	18656
11. 14 32–14 53	7	18546	18655
12. 10 42–11 14	16	18552	18657
12. 12 44–12 56	2	18553	18657
13. 16 48–16 59	6	18543	18657
13. 22 28–22 44	8	18530	18655
14. 10 13–10 44	16	18526	18657
16. 12 37–13 11	16	18540	18656
16. 14 41–15 8	12	18542	18656
Feb. 17. 10 35–11 6	16	18524	18655
17. 12 51–13 7	8	18534	18657
17. 14 31–14 47	8	18542	18656
17. 16 42–17 23	16	18543	18657
18. 11 56–12 30	16	18538	18657
19. 12 37–13 10	16	18548	18657
20. 14 41–15 13	16	18551	18657
21. 11 13–11 39	10	18531	18656
23. 14 58–15 17	8	18549	18657
24. 10 13–10 24	6	18537	18656
25. 9 57–10 41	18	18521	18656
25. 14 50–15 21	16	18525	18656
26. 16 57–17 15	8	18537	18656
26. 20 26–21 0	16	18541	18657
27. 9 34–10 9	16	18533	18656
27. 14 46–15 13	12	18532	18656
27. 16 51–17 12	12	18542	18655
28. 9 58–10 40	16	18538	18655
Mar. 2. 10 37–10 52	8	18546	18655
3. 10 45–11 0	8	18529	18655
4. 14 46–15 3	8	18550	18656
4. 15 20–15 50	6	18550	18657
4. 16 31–16 41	4	18545	18655
5. 12 3–12 28	12	18532	18655
5. 12 46–13 3	8	18535	18655
6. 9 59–10 22	8	18526	18654
6. 12 1–12 8	4	18514	18652
7. 10 27–10 51	12	18522	18656
9. 16 53–17 21	8	18544	18655
10. 16 56–17 15	8	18533	18655
11. 11 48–12 31	8	18529	18655
12. 15 38–16 23	8	18549	18655
13. 11 44–12 9	8	18509	18655
14. 10 21–10 44	8	18513	18655
16. 10 25–10 48	8	18519	18654
17. 10 19–10 32	8	18522	18655
18. 9 24– 9 50	9	18532	18655
19. 10 20–10 34	8	18519	18653
20. 10 18–10 44	8	18527	18655
21. 9 53–10 18	8	18534	18656
23. 9 50–10 10	8	18522	18654
24. 10 38–11 3	8	18520	18653
24. 19 19–19 44	8	18546	18665
25. 10 58–11 18	8	18519	18664
26. 10 18–10 43	8	18538	18664
27. 10 38–10 56	8	18520	18664
28. 9 57–10 22	8	18527	18664
30. 11 52–12 9	8	18547	18665
31. 10 46–11 27	22	18537	18665
Apr. 1. 10 15–10 43	16	18526	18664
1. 16 42–17 7	12	18545	18665
2. 12 34–13 10	12	18548	18665
4. 10 5–10 17	6	18513	18664
6. 9 15– 9 23	4	18536	18665
7. 10 52–11 17	12	18528	18664
7. 16 30–17 8	16	18563	18666
8. 9 41–10 6	12	18543	18666
8. 14 36–15 52	8	18556	18668
8. 16 20–16 36	8	18554	18667
9. 9 53–10 27	12	18528	18665
10. 9 53–10 43	16	18531	18666
Apr. 10. 16 57–17 20	12	18550	18666
11. 9 49–10 17	13	18528	18666
13. 9 39–10 9	12	18543	18664
13. 14 33–14 51	8	18546	18666
13. 16 37–16 58	12	18545	18666
14. 9 56–10 20	12	18539	18664
14. 16 52–17 16	12	18551	18664
15. 9 44–10 8	12	18531	18665
15. 14 58–15 23	12	18549	18665
16. 9 58–10 23	12	18529	18664
16. 16 12–16 34	12	18563	18664
17. 10 46–11 34	12	18535	18663
18. 10 10–10 34	13	18512	18663
20. 15 21–15 45	8	18535	18662
21. 9 50–10 13	12	18524	18664
21. 15–37–16 8	12	18564	18665
22. 9 34– 9 56	10	18525	18664
22. 14 30–14 56	12	18546	18665
23. 9 31– 9 56	8	18533	18663
24. 8 59– 9 30	8	18529	18663
25. 9 41–10 7	8	18533	18663
27. 14 31–15 2	8	18557	18664
28. 9 18– 9 30	8	18549	18663
29. 9 40–10 4	8	18540	18663
30. 9 49–10 15	8	18543	18662
May 1. 9 55–10 16	8	18541	18663
2. 9 39–10 11	8	18537	18663
4. 11 27–11 55	8	18539	18662
5. 9 14– 9 34	6	18547	18662
6. 9 13– 9 41	8	18554	18662
6. 19 52–20 6	4	18560	18687
7. 11 40–12 12	4	18501	18686
7. 22 14–22 34	8	18549	18687
8. 10 18–10 38	8	18516	18686
9. 10 15–10 36	8	18537	18687
9. 11 40–12 10	8	18538	18687
11. 22 49–23 7	6	18543	18687
12. 9 46–10 17	8	18525	18686
13. 10 1–10 25	8	18532	18687
14. 9 26– 9 50	8	18529	18686
15. 16 0–16 16	6	18548	18688
16. 8 59– 9 17	5	18539	18688
16. 9 39– 9 53	6	18537	18685
17. 9 32– 9 39	4	18537	18685
18. 16 14–16 29	6	18547	18684
19. 9 18– 9 28	4	18532	18683
19. 14 4–14 16	4	18547	18685
20. 10 4–10 30	8	18521	18684
21. 13 41–14 5	8	18553	18686
22. 9 37–10 3	8	18525	18683
23. 8 57– 9 5	4	18532	18685
25. 9 52– 9 59	4	18548	18684
26. 9 21– 9 36	8	18532	18686
27. 9 40–10 8	8	18531	18684
28. 9 4– 9 31	8	18526	18686
29. 9 3– 9 29	8	18544	18685
30. 9 55–10 18	8	18545	18684
June 1. 15 53–16 17	8	18583	18684
2. 9 42– 9 50	4	18490	18684
2. 10 26–10 32	4	18516	18684

May 6. Temperature raised to 16°·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, 1931.	No. of Obs.	Observed Horizontal Force.	Deduced Value of Base Line.
		γ	γ
June 3. 10 23–10 39	8	18516	18684
4. 8 55– 9 10	8	18523	18684
5. 9 10– 9 25	8	18539	18685
6. 7 6– 7 15	4	18544	18684
8. 18 31–18 40	4	18591	18683
9. 9 27– 9 50	8	18507	18682
10. 9 36–10 7	8	18539	18680
11. 9 30– 9 56	8	18526	18681
12. 16 54–17 1	4	18558	18681
13. 8 53– 9 6	8	18526	18681
15. 15 17–15 38	8	18558	18681
16. 9 39– 9 57	8	18539	18681
17. 9 25– 9 30	4	18531	18680
17. 11 35–11 45	4	18541	18680
17. 16 30–16 40	6	18573	18682
17. 21 22 21 30	4	18572	18681
18. 8 44– 8 52	6	18543	18680
18. 11 55–12 2	4	18531	18680
18. 18 6–18 11	4	18572	18680
19. 10 15–10 41	8	18513	18679
20. 9 32– 9 43	6	18512	18679
22. 9 49–10 14	6	18549	18678
23 11 43–12 3	8	18540	18680
24. 12 0–12 12	4	18542	18704
24. 19 47–19 58	4	18570	18706
25. 19 35–20 0	8	18569	18707
26. 11 19–11 29	6	18547	18709
27. 10 0–10 23	8	18542	18708
29. 11 47–12 7	8	18516	18708
30. 11 52–12 4	6	18549	18709
July 1. 11 52–12 7	6	18536	18709
2. 19 54–20 10	8	18575	18710
3. 18 43–18 59	6	18568	18711
4. 10 11–10 37	8	18520	18708
6. 9 45–10 1	8	18537	18709
7. 9 11– 9 36	8	18538	18710
8. 10 12–10 30	8	18543	18708
9. 11 48–12 6	8	18539	18710
10. 13 42–13 56	8	18551	18711
11. 9 50–10 11	8	18554	18710
13. 19 34–19 47	6	18582	18711
14. 9 50–10 3	8	18495	18710
15. 9 45–10 3	8	18531	18709
16. 9 45–10 0	8	18518	18708
17. 9 49–10 4	8	18526	18709
18. 9 11– 9 29	8	18527	18709
20. 10 20–10 35	8	18529	18709
21. 10 33–10 52	8	18529	18711
22. 10 17–10 34	8	18527	18709
23. 11 50–12 4	8	18537	18711
24. 11 45–12 0	8	18528	18710
25. 9 46–10 2	8	18508	18710
27. 15 7–15 26	8	18566	18711
28. 9 54–10 16	8	18521	18710
29. 10 4–10 20	8	18513	18709
30. 8 45– 9 1	8	18516	18710
31. 8 45– 8 58	8	18521	18709
Aug. 1. 8 58– 9 9	8	18538	18711
4. 9 4– 9 18	8	18519	18709
5. 8 33– 8 45	8	18528	18709
6. 8 43– 8 55	8	18528	18708
Aug. 7. 10 22–10 35	8	18520	18708
8. 9 5– 9 19	8	18534	18708
10. 8 55– 9 8	8	18532	18709
11. 9 45– 9 58	8	18520	18708
12. 9 31– 9 44	8	18534	18709
13. 9 42– 9 56	8	18534	18708
14. 9 33– 9 44	8	18532	18710
15. 9 54–10 6	8	18525	18710
17. 10 14–10 31	8	18522	18709
18. 9 50–10 3	8	18526	18708
19. 11 5–11 17	8	18499	18710
20. 9 34– 9 52	8	18531	18710
21. 8 39– 8 59	8	18536	18709
22. 14 34–14 48	8	18551	18710
24. 10 54–11 9	8	18545	18710
25. 10 50–11 6	8	18523	18709
26. 10 42–10 57	8	18526	18709
27. 10 37–10 51	8	18541	18710
28. 10 45–10 59	8	18531	18711
29. 10 28–10 45	8	18532	18710
31. 9 51–10 5	8	18522	18709
Sept. 1. 10 47–11 2	8	18520	18709
2. 10 35–10 50	8	18514	18709
3. 9 4– 9 20	8	18557	19709
4. 11 33–11 48	8	18493	18710
5. 11 2–11 18	8	18519	18709
7. 10 2–10 16	8	18518	18709
8. 9 37– 9 51	8	18514	18706
9. 9 54–10 9	8	18531	18710
9. 11 25–11 40	6	18537	18711
10. 9 53–10 6	8	18512	18710
11. 9 48–10 1	8	18510	18711
12. 11 1–11 19	8	18526	18711
14. 10 50–11 4	8	18515	18685
14. 16 10–16 21	6	18529	18686
15. 10 38–10 52	8	18482	18684
16. 10 47–11 2	8	18516	18685
17. 10 42–10 57	8	18490	18683
18. 11 2–11 15	8	18505	18685
19. 10 53–11 9	8	18516	18685
21. 10 48–11 3	8	18519	18682
22. 10 44–10 58	8	18518	18681
23. 10 55–11 8	8	18524	18680
24. 9 45–10 0	8	18520	18681
25. 8 52– 9 8	8	18531	18681
26. 9 23– 9 37	8	18517	18681
28. 9 18– 9 32	8	18525	18681
29. 9 13– 9 26	8	18530	18682
30. 8 49– 9 2	8	18541	18681
Oct. 1. 9 41– 9 52	8	18523	18682
2. 9 12– 9 30	8	18540	18681
3. 10 22–10 38	8	18516	18680
5. 10 1–10 18	8	18512	18679
6. 9 19– 9 31	8	18509	18680
7. 10 19–10 36	8	18513	18679
8. 12 5–12 16	8	18522	18679
9. 10 17–10 35	8	18526	18678
10. 10 37–10 50	8	18526	18679
12. 11 28–11 44	8	18518	18679
13. 11 16–11 32	8	18499	18677
14. 10 41–11 0	8	18499	18676
14. 11 38–11 49	6	18495	18676
Oct. 14. 16 33–16 58	6	18529	18677
15. 10 1–10 16	8	18506	18677
16. 10 31–10 45	8	18508	18676
17. 11 0–11 20	8	18503	18678
19. 11 20–11 36	8	18492	18677
20. 10 51–11 3	8	18515	18677
21. 10 6–10 20	8	18503	18675
22. 9 44– 9 58	8	18509	18677
23. 11 23–11 40	8	18531	18679
24. 10 10–10 23	8	18523	18678
26. 9 59–10 10	8	18521	18677
27. 11 51–12 8	8	18507	18679
28. 11 59–12 16	8	18527	18682
29. 11 42–11 55	8	18461	18681
30. 10 45–10 59	8	18468	18681
31. 10 5–10 17	8	18496	18679
Nov. 2. 10 40–10 56	8	18507	18682
3. 11 18–11 36	8	18515	18682
4. 9 37– 9 51	8	18494	18682
5. 19 9–19 17	6	18535	18683
6. 10 39–10 58	8	18477	18682
7. 10 29–10 48	8	18516	18681
9. 10 52–11 9	8	18517	18681
10. 10 34–10 54	8	18511	18680
11. 10 42–10 56	8	18508	18681
12. 10 7–10 34	12	18524	18681
13. 10 37–10 55	8	18520	18680
14. 9 22–9 38	8	18528	18680
14. 11 38–11 45	4	18515	18681
16. 10 48–11 7	8	18525	18680
17. 10 29–10 52	8	18529	18679
18. 10 3–10 25	8	18529	18682
19. 10 39–11 3	8	18526	18680
20. 9 59–10 22	8	18524	18680
21. 10 23–10 41	8	18538	18680
23. 11 3–11 20	8	18537	18681
24. 10 1–10 21	8	18537	18680
25. 10 30–10 50	8	18541	18682
26. 10 41–11 41	20	18550	18682
27. 10 44–11 0	8	18533	18680
28. 10 15–10 30	8	18533	18682
30. 9 49–10 16	10	18543	18682
30. 10 38–10 51	8	18540	18681
Dec. 1. 10 31–10 48	8	18543	18655
1. 16 50–17 6	8	18520	18656
2. 11 21–11 41	8	18508	18656
4. 14 41–14 51	8	18518	18657
4. 15 56–16 7	4	18503	18652
4. 16 16–16 42	10	18516	18653
5. 10 1–10 22	8	18512	18654
7. 10 42–10 56	8	18519	18654
7. 15 13–15 30	8	18527	18654
8. 10 10–10 12	1	18538	18654
8. 11 0–11 5	4	18536	18654
8. 12 49–12 55	4	18537	18656
9. 9 9– 9 27	8	18544	18655
10. 12 51–13 6	8	18539	18659
10. 16 43–16 52	6	18538	18657
11. 10 15–10 28	8	18533	18655
11. 11 1–11 17	8	18533	18643
12. 10 15–10 27	8	18528	18643

June 24. Temperature raised to 21°·0

Sept. 13. Temperature lowered to 16°·0

Nov. 30. 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, 1931.	No. of Obs.	Observed Horizontal Force.	Deduced Value of Base Line.	Greenwich Mean Time, 1931.	No. of Obs.	Observed Horizontal Force.	Deduced Value of Base Line.	Greenwich Mean Time, 1931.	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. 12. 11 31–11 41	4	18502	18642	Dec. 21. 9 21– 9 30	6	18538	18641	Dec. 28. 15 33–15 42	4	18533	18641
14. 11 12–11 29	8	18535	18643	21. 10 43–10 59	8	18537	18641	29. 9 53–10 14	8	18526	18641
15. 10 14–10 51	8	18527	18643	22. 10 28–10 47	8	18544	18641	29. 15 3–15 16	8	18514	18642
16. 10 29–10 41	8	18535	18642	22. 11 20–11 31	6	18537	18641	30. 10 44–11 7	8	18523	18642
17. 11 19–11 36	8	18535	18640	23. 10 37–10 49	8	18540	18643	30. 15 20–15 36	8	18517	18641
18. 10 18–10 36	8	18544	18641	24. 10 18–10 46	8	18540	18642	31. 10 3–10 23	8	18516	18641
19. 10 26–10 50	8	18536	18641	26. 11 3–11 15	8	18533	18642	31. 15 29–15 38	4	18525	18642
21. 8 48– 8 58	6	18542	18643	28. 11 56–12 8	8	18554	18642				

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 HUT at ABINGER, with the DEDUCED VALUES of the BASE-LINE of the HORIZONTAL FORCE MAGNETOGRAMS.

Greenwich Mean Time, 1931.	Observed Horizontal Force.	Deduced Value of Base Line.	Greenwich Mean Time, 1931.	Observed Horizontal Force.	Deduced Value of Base Line.	Greenwich Mean Time, 1931.	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
Jan. 21. 10 34–11 53	18548	18653	Aug. 17. 9 45–10 45	18526	18712	Sept. 19. 9 56–10 49	18515	18680
22. 10 27–11 46	18549	18652	18. 9 1– 9 45	18535	18714	21. 9 49–10 43	18518	18678
23. 10 47–12 2	18544	18649	19. 9 26–10 19	18517	18709	22. 9 50–10 39	18515	18677
24. 11 18–12 20	18549	18652	20. 14 50–15 50	18533	18710	23. 9 47–10 41	18525	18682
27. 10 53–12 6	18542	18656	21. 8 52– 9 41	18534	18708			
			22. 11 7–12 6	18564	18714			
May 27. 10 59–12 15	18551	18691	24. 9 53–10 47	18542	18707	Oct. 2. 10 48–11 43	18494	18685
28. 11 2–12 1	18538	18686	25. 9 52–10 45	18517	18707	3. 9 8–10 10	18517	18678
			26. 9 50–10 35	18521	18707	5. 14 53–15 50	18525	18685
July 16. 14 9–15 56	18550	18709	27. 9 37–10 25	18532	18707	6. 10 58–12 9	18500	18677
22. 10 56–11 56	18523	18705	28. 9 19–10 25	18520	18708	7. 14 46–15 49	18528	18678
22. 13 48–15 6	18558	18709	29. 9 24–10 18	18525	18707	8. 10 47–11 40	18519	18675
23. 10 18–11 16	18504	18707	31. 8 49– 9 40	18519	18705	9. 9 51–10 42	18525	18676
28. 13 58–14 45	18540	18712				10. 10 1–10 51	18526	18679
28. 14 40–15 22	18544	18710	Sept. 1. 9 49–10 43	18521	18709	12. 10 17–11 22	18508	18675
29. 9 10–10 8	18513	18702	2. 9 38–10 31	18511	18706	13. 10 7–11 7	18496	18674
30. 9 20–10 2	18522	18707	3. 9 58–10 49	18536	18705	15. 10 7–11 7	18504	18673
31. 9 6–10 11	18520	18708	4. 10 8–11 14	18482	18705	16. 12 20–13 12	18506	18680
			5. 9 10–10 15	18500	18705	17. 9 55–10 50	18508	18671
Aug. 4. 9 22–10 7	18515	18706	8. 8 47– 9 35	18508	18698	19. 10 19–11 12	18518	18675
5. 9 17–10 9	18519	18707	9. 10 23–11 18	18529	18706	20. 9 58–10 57	18511	18674
6. 9 4– 9 46	18524	18700	10. 9 31–10 25	18506	18702	21. 9 56–11 4	18509	18675
7. 9 1–10 2	18525	18704	10. 10 31–11 19	18514	18705	22. 10 31–11 17	18514	18674
8. 9 21–10 4	18536	18702	11. 9 38–10 47	18505	18712	23. 10 21–11 18	18521	18671
10. 9 42–10 27	18515	18704	12. 9 48–10 42	18512	18708	24. 9 50–10 30	18516	18676
11. 9 59–10 53	18511	18703	14. 9 45–10 45	18517	18685	26. 11 48–12 30	18529	18677
12. 10 11–10 56	18542	18716	15. 9 41–10 34	18474	18684	27. 10 15–10 55	18503	18676
13. 10 16–11 5	18539	18712	16. 9 57–10 44	18513	18685	28. 10 41–11 25	18511	18679
14. 10 32–11 14	18538	18707	17. 9 44–10 38	18487	18681	29. 10 15–11 16	18477	18675
15. 9 11– 9 52	18520	18701	18. 9 39–10 43	18508	18683	30. 11 2–11 59	18465	18679

May 6. **Temperature raised to 16°·0** June 24. Temperature raised to 21°·0 Sept. 13. **Temperature lowered to 16°·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.

1931 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	43147	—	—	(43183)	43166	43068	43133	43167	43202	—	—	43198
2	147	—	43162	(185)	169	067	138	—	201	—	43216	196
3	150	—	162	—	—	064	138	—	202	—	217	—
4	—	—	162	176	169	066	139	166	202	—	215	—
5	149	—	162	173	—	065	—	166	204	—	212	196
6	152	—	158	175	168/198	062	138	161	—	—	213	—
7	152	—	153	173	215	—	141	162	215	—	214	193
8	154	—	155	172	216	—	145	163	215	43185	—	193
9	154	—	155	171	219	067	146	—	218	187	213	195
10	154	—	155	171	—	068	148	170	218	187	210	198
11	—	—	155	169	221	067	147	167	219	—	213	196
12	156	—	156	—	223	063	—	180	221	187	213	195
13	155	43159	156	174	221	066	150	180	—	188	220	—
14	153	157	155	174	221	—	152	180	193	189	220	195
15	158	—	—	173	215	067	153	179	193	189	—	193
16	152	159	156	167	212/058	067	152	—	193	192	220	193
17	150	158	156	165	061	068	155	180	190	193	222	192
18	—	159	157	165	061	068	156	183	190	—	228	192
19	152	160	159	—	063	068	—	186	190	195	226	191
20	148	159	160	166	068	067	160	186	—	195	227	—
21	146	161	159	166	073	—	162	190	187	195	224	199
22	146	—	—	169	073	070	160	190	188	201	—	199
23	144	164	160	168	074	067	161	—	189	205	227	201
24	144	162	157/176	166	—	115	158	192	190	203	229	203
25	—	161	172	167	075	119	162	194	188	—	227	—
26	145	165	172	—	071	123	—	196	188	203	228	203
27	144	162	171	171	072	127	161	197	—	207	229	—
28	145	160	169	168	070	—	162	201	189	215	229	203
29	144		—	168	070	131	165	202	—	212	—	201
30	—		168	169	068	132	166	—	—	209	233	200
31	—		173		—		167	203		211		202

May 6. Temperature raised to 16°·0
June 24. Temperature raised to 21°·0
Sept. 13. 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.

1931 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	—	—	—	43183 162*	43161*	43061*	43154	43159*	43218	43204	43205*	43212
2	43154	43161	43167	165*	162*	081	148	—	226	207	207*	217
3	154	154	159	175*	—	076	160	—	220	200	204*	227
4	—	160	160	168*	161*	078	150	157*	220	200	207*	227
5	163	164	—	170*	—	—	137*	161*	217	202	—	212
6	157	162	—	167*	—	089	136* 158	163*	—	207	220	—
7	—	160	162	159*	—	084	163	153*	228	202	233	212
8	162	159	160	164*	—	—	170	152*	249	203	238	—
9	—	163	—	161*	—	088	—	—	227	208	229	—
10	—	161	157	158*	—	080	143*	164*	239	203	226	—
11	162	—	160	159*	—	075	143*	164*	234	—	233	—
12	154	162	160	157*	—	—	149*	167*	231	202	220	—
13	165	170	159	160*	—	082	149*	173*	—	207	233	—
14	161	160	160	161*	—	075	143*	172*	210	202	244	—
15	175	—	—	160*	—	084	149*	173*	208	198	241	—
16	169	168	—	162*	—	086	154*	—	210	205	237	—
17	166	—	160	155*	—	079	154*	174*	217	205	246	—
18	—	165	169	161* 179	—	085	—	170*	207	203	240	—
19	161	163	159	183	081	084	—	199	206	208	240	—
20	169	167	162	174	088 059*	078	153*	200	211	212	248	—
21	149	166	161	183	064*	—	153*	212	217	214	244	214
22	159	165	166	179	064*	087	144*	209	211	—	—	215
23	165	164	169	185	069*	084	154* 177	209	214	216	240	213
24	152	166	162	177	—	132	179	209	211	209	247	223
25	154	168	172	183	—	133	178	200	206	—	246	—
26	—	161	181	—	061*	141	—	209	203	218	239	—
27	148	163	—	181 157*	058*	151	180	216	—	212	253	—
28	159	164	171	(138*)	059*	146	178	215	208	219	257	227
29	159		—	162*	059*	—	185	214	205	228	246	211
30	156		—	159*	059*	153	179 157*	216	208	225	253	213
31	157		174		061*		162*			225 206*		215

May 6. Temperature raised to 16°·0
June 24. Temperature raised to 21°·0
September 13 Temperature lowered to 16°·0
December 1. Temperature lowered to 11°·0
* Observations made with the Inductor formerly in use at Greenwich.

MEAN ANNUAL VALUES OF MAGNETIC ELEMENTS DETERMINED AT THE ROYAL OBSERVATORY, GREENWICH, FOR THE YEARS 1841–1925.

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	° ′
1841	23 16·2	..	..	..	1883	18 15·0	0·1812	0·4381	67 31·7
1842	23 14·6	..	..	..	1884	18 7·6	0·1814	0·4379	67 29·7
1843	23 11·7	..	..	69 0·6	1885	18 1·7	0·1817	0·4380	67 28·0
1844	23 15·3	..	..	69 0·3	1886	17 54·5	0·1818	0·4377	67 27·1
1845	22 56·7	..	..	68 57·5	1887	17 49·1	0·1819	0·4380	67 26·6
1846	22 49·6	0·1731	..	68 58·1	1888	17 40·4	0·1822	0·4383	67 25·6
1847	22 51·3	0·1736	..	68 59·0	1889	17 34·9	0·1823	0·4380	67 24·3
1848	22 51·8	0·1731	..	68 54·7	1890	17 28·6	0·1825	0·4381	67 23·0
1849	22 37·8	0·1733	..	68 51·3	1891	17 23·4	0·1827	0·4380	67 21·5
1850	22 23·5	0·1738	..	68 46·9	1892	17 17·4	0·1829	0·4379	67 20·0
1851	22 18·3	0·1744	..	68 40·4	1893	17 11·4	0·1831	0·4373	67 17·9
1852	22 17·9	0·1745	..	68 42·7	1894	17 4·6	0·1831	0·4374	67 17·4
1853	22 10·1	0·1748	..	68 44·6	1895	16 57·4	0·1834	0·4378	67 16·1
1854	22 0·8	0·1749	..	68 47·7	1896	16 51·7	0·1835	0·4382	67 15·1
1855	21 48·4	0·1756	..	68 44·6	1897	16 45·8	0·1838	0·4377	67 13·5
1856	21 43·5	0·1759	..	68 43·5	1898	16 39·2	0·1840	0·4377	67 12·1
1857	21 35·4	0·1769	..	68 31·1	1899	16 34·2	0·1843	0·4380	67 10·5
1858	21 30·3	0·1762	..	68 28·3	1900	16 29·0	0·1846	0·4380	67 8·8
1859	21 23·5	0·1761	..	68 26·9	1901	16 26·0	0·1850	0·4381	67 6·4
1860	21 14·3	..	..	68 30·1	1902	16 22·8	0·1852	0·4377	67 3·8
1861	21 5·5	0·1773	..	68 24·6	1903	16 19·1	0·1852	0·4368	67 1·2
					1904	16 15·0	0·1854	0·4359	66 57·6
1861		0·1759		68 15·8	1905	16 9·9	0·1854	0·4355	66 56·3
1862	20 52·6	0·1763	0·4403	68 9·6	1906	16 3·6	0·1854	0·4353	66 55·6
1863	20 45·9	0·1764	0·4396	68 7·0	1907	15 59·8	0·1855	0·4357	66 56·2
1864	..	0·1767	0·4393	68 4·1	1908	15 53·5	0·1854	0·4356	66 56·3
1865	20 33·9	0·1767	0·4388	68 2·7	1909	15 47·6	0·1854	0·4348	66 54·1
1866	20 28·0	0·1773	0·4397	68 1·3	1910	15 41·2	0·1855	0·4345	66 52·8
1867	20 20·5	0·1777	0·4392	67 57·2	1911	15 33·0	0·1855	0·4342	66 52·1
1868	20 13·1	0·1779	0·4395	67 56·5	1912	15 24·3	0·1855	0·4340	66 51·8
1869	20 4·1	0·1782	0·4396	67 54·8	1913	15 15·2	0·1853	0·4333	66 50·5
1870	19 53·0	0·1784	0·4392	67 52·5					
1871	19 41·9	0·1786	0·4389	67 50·3	1914	15 6·3	0·1853	0·4333	66 50·8
1872	19 36·8	0·1789	0·4383	67 47·8	1915	14 56·5	0·1851	0·4331	66 51·6
1873	19 33·4	0·1793	0·4386	67 45·8	1916	14 46·9	0·1848	0·4326	66 52·2
1874	19 28·9	0·1797	0·4387	67 43·6	1917	14 37·1	0·1848	0·4330*	66 53·0
1875	19 21·2	0·1797	0·4383	67 42·4	1918	14 27·8	0·1846	0·4325	66 52·8
1876	19 8·3	0·1799	0·4383	67 41·0	1919	14 18·2	0·1845	0·4324	66 53·3
1877	18 57·2	0·1800	0·4381	67 39·7	1920	14 8·6	0·1845	0·4325	66 53·6
1878	18 49·3	0·1802	0·4382	67 38·2	1921	13 57·6	0·1845	0·4322	66 53·0
1879	18 40·5	0·1805	0·4382	67 37·0	1922	13 46·7	0·1844	0·4318	66 52·3
1880	18 32·6	0·1805	0·4380	67 35·7	1923	13 35·1	0·1843	0·4314	66 51·9
1881	18 27·1	0·1807	0·4379	67 34·7	1924	13 22·8	0·1843	0·4311	66 51·6
1882	18 22·3	0·1806	0·4375	67 34·2	1925	13 9·9	0·1841	0·4308	66 51·4
MAGNETIC ELEMENTS OBSERVED AT THE ABINGER MAGNETIC STATION.									
1925	13 22·7	0·18597	0·42946	66 35·1	1929	12 35·8	0·18555	0·42918†	66 37·2†
1926	13 10·4	0·18581	0·42947	66 36·3	1930	12 24·6	0·18542	0·42924†	66 38·2†
1927	12 58·4	0·18575	0·42932	66 36·2	1931	12 13·7	0·18543	0·42923†	66 38·1†
1928	12 47·0	0·18564	0·42941	66 37·3					

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 the Inductor.

N.B.—In the above table the values of Vertical Force were, for the years 1862–1913 inclusive, 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 ten months, March to December.

† These values are based upon observations with the Vertical Force Coil-magnetometer (see Introduction, page D15).

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 1931.

January.—With the exception of an isolated wave in Dec. (−10′) at the end of 1st, very quiet conditions were indicated during the period 1^d to 8^d. The next few days were quiet in general, with small irregular movements occurring, chiefly at night, on 9th, 10th and 11th. On the morning of 16th unsteadiness of all traces began to develop, and the period between 16^d 14^h and 17^d 20^h showed several movements exceeding 10′ in Dec. and 50γ in H. Disturbance was not long maintained, however, the movements on 19th and 20th being smaller and comparatively isolated. From 21st to the end of the month quiet conditions ruled generally, except for a small short-lived disturbance between 25^d 18^h and 26^d 2^h, and a period of unsteadiness between 27^d 18^h and 29^d 18^h, at one point in which (28^d $23\frac{1}{2}^h$ to $23\frac{3}{4}^h$) V rapidly decreased 20γ.

The range in declination during the month was from 12°.3′·2 on 4th to 12°.26′·9 on 18th; in horizontal intensity, from ·18476 on 25th to ·18590 on 16th; in vertical intensity, from ·42906 on 18th to ·42955 on 17th.

February.—During the first twelve days quiet conditions prevailed almost continuously. There was, however, a short unquiet period between 1^d 20^h and 2^d 2^h, in which a wave in H (60γ) occurred with corresponding, though smaller, movements in Dec. and V, together with a short disturbance between 3^d 0^h and 3^d 5^h; while isolated bays of no great amplitude, chiefly in Dec., appeared on several other days. From 13^d to 16^d inclusive, conditions were generally disturbed. The most prominent movements took place at 13^d 21^h (waves of −20′ in Dec., +100γ in H., −40γ in V). A reproduction of the traces between 13^d 12^h and 14^d 12^h is given in Plate I. Between 17^d and 24^d the traces were practically steady, being affected by small isolated bays on 17th, 19th and 22nd, but at 24^d 22^h considerable unsteadiness began to develop which was preceded from 24^d 14^h to 19^h by a conspicuous surge in V (+80γ) and was maintained, with only short intermissions, until the end of 27th. A reproduction of the traces between 24^d 0^h and 25^d 0^h is given in Plate II.

The range in declination during the month was from 11°.54′·1 on 13th to 12°.35′·5 on 24th; in horizontal intensity, from ·18455 on 24th to ·18619 on 14th; in vertical intensity, from ·42896 on 13th and 24th to ·43015 on 24th.

March.—Excepting a rather prominent movement at 3^d 4^h, (10′ in Dec. and 40γ in H) and one in H (−60γ) at 10^d 16^h, the traces were not seriously disturbed until the evening of 12th. Between 12^d 20^h and 14^d 12^h general unsteadiness prevailed and at 13^d 18^h a comparatively large wave occurred in the traces of Dec. (−20′) and H (+80γ), a second wave in H occurring about three hours later (+70γ). Quiet, or nearly quiet conditions were then re-established until 20th. At 20^d 16^h 24^m a movement in all traces of the "sudden commencement" type was recorded, but the succeeding disturbance was of almost negligible dimensions, the largest movement being one of 12′ in Dec., and the resumption of normal conditions of slight unsteadiness being accomplished within 36 hours. These conditions characterised the traces for the remainder of the month, the only noteworthy movement being at 26^d 1^h, when a wave of +70γ in H was accompanied by a rapid decrease in V (−40γ), and a temporary diminution of Dec. (−10′).

The range in declination during the month was from 11°.56′·2 on 13th to 12°.27′·9 on 21st; in horizontal intensity, from ·18498 to ·18610, both on 13th; in vertical intensity, from ·42895 on 13th to ·42941 on 2nd.

April.—Small irregular movements were frequent throughout the month, and on many days were almost continuous, but the only period in which they attained the dimensions of a "disturbance" was from 19^d 14^h to 20^d 11^h. During this period the H trace was oscillatory in character with amplitudes ranging up to 30γ, and irregular movements as great as 10′ took place in Dec., the most prominent being at 19^d $19\frac{1}{2}^h$. There was also a rapid decrease in V (20γ) at 19^d 23^h. Days of practically complete quiescence were 5th, 6th, 7th, 12th, 13th, 14th, and 27th.

The range in declination during the month was from 12°.4′·6 on 19th to 12°.25′·3 on 10th; in horizontal intensity, from ·18453 on 20th to ·18599 on 9th; in vertical intensity, from ·42884 on 28th to ·42947 on 3rd.

May.—The traces for the first six days showed only slight irregularities. On 7th two rather prominent waves in H, in opposite directions, produced the large range of 150γ within seven hours, while the trace of V showed a decrease of 60γ between 3^h and 5^h, which recovered in about the same space of time. Nearly quiet conditions were resumed on 8th and prevailed till the morning of 11th. Periods of irregular oscillation then set in, namely from 11^d 13^h to 12^d 6^h, from 13^d 16^h to 14^d 6^h, and notably from 14^d 16^h to 15^d 21^h. During the last of these there were movements of 60γ in H and 30γ in V. A gradual decline from unsteady conditions was apparent in the next few days and there was a period of almost complete quiescence from 19^d 12^h to 20^d 12^h. With the exception of a few minor irregularities this condition prevailed until 25^d 12^h. A space of about 48 hours then occurred during which a large number of short-period oscillations of small amplitude (about 5γ in H) appeared superposed on the general irregular outline of the traces, and this characteristic did not entirely disappear during the remainder of the month though the amplitude had greatly diminished by 28^d 0^h.

The range in declination during the month was from 11°.54′·8 on 17th to 12°.24′·6 on 20th; in horizontal intensity, from ·18465 to ·18625, both on 7th; in vertical intensity, from ·42860 on 7th to ·42955 on 6th.

June.—At $1^d.15^h.29^m$ an abrupt movement in the H trace was followed by moderate disturbance for about 32 hours, confined very largely to H. Reproduction of part of this disturbance is given on Plate III. Small undulations continued to affect the traces of Dec. and H throughout the month,—often three or four in an hour—and on no day was there complete absence of these movements. All traces were interrupted at $7^d.0^h.25^m$ by the earth tremor which passed over the country at that time. The obliteration persisted for approximately seven minutes in Dec., five minutes in H, and three minutes in V. A somewhat similar obliteration occurred in the V trace four and a half hours earlier, accompanied by spreading of the Dec. trace, for which no cause could be assigned. A short-lived disturbance between $8^d.16^h$ and $9^d.7^h$ included a range of 20′ in Dec., 100γ in H and 60γ in V. The unsteadiness gradually declined till 15^d and was not actively resumed until the afternoon of 26th, though between $24^d.9^h$ and $24^d.11^h$ there was a marked diminution of V (25γ). At $26^d.14^h.58^m$ an abrupt movement in all traces seemed to presage a considerable disturbance. The disturbance which followed, however, was not very active and amounted to little more than general unsteadiness of the traces for about 48 hours. A reproduction of part of the disturbance is given in Plate IV. The month concluded with two days of nearly quiet conditions.

The range in declination during the month was from 12°.4′·0 on 28th to 12°.25′·1 on 2nd; in horizontal intensity, from ·18455 on 2nd to ·18639 on 26th; in vertical intensity, from ·42876 on 9th to ·42962 on 2nd.

July.—The traces continued to be affected by frequent small undulations, but there were few prominent movements during the first half of the month. Slight unsteadiness was apparent on 2nd, 3rd, 4th, 7th, 11th, 14th. On 16th a well-marked isolated bay occurred between 2^h and 3^h in all traces (about 30γ), The ensuing days, until 23rd, were nearly quiet. At $23^d.3^h.23^m$ a disturbance, rather active but of no great amplitude, commenced with an abrupt movement in H, and lasted about 21 hours. The traces are reproduced in Plate V. A secondary disturbance, of which the characteristic feature was continuous and nearly regular oscillation, lasted from $25^d.12^h$ to $26^d.6^h$. The amplitude in H was in general about 20γ, but smaller in the other elements, though a diminuation in V of 30γ took place at $25^d.23\frac{1}{2}^h$. A further and somewhat similar disturbance was shown between $28^d.11^h$ and $29^d.0^h$, the prevailing continuous undulation being maintained until the end of the month.

The range in declination during the month was from 12°.4′·2 on 23rd to 12°.23′·9 on 28th; in horizontal intensity, from ·18471 on 24th to ·18600 on 28th; in vertical intensity, from ·42887 on 4th to ·42966 on 23rd.

August.—Relatively quiet conditions, interrupted by short periods of unsteadiness, prevailed until 7th. The unsteadiness then became more general and of greater amplitude, resembling irregular oscillation. Movements of 12′ in Dec., 50γ in H, and 30γ in V took place during the evening of 9th. From 12th to 18th there was a return to the earlier conditions, followed by three days of moderate activity during which (at $20^d.5^h$ to 8^h) there was a prominent bay in H (−80γ). Nearly quiet conditions set in at $22^d.0^h$ and lasted till $23^d.12^h$. Then a further period of moderate activity occurred, characterised by a number of sharp oscillatory movements in H, some of which were about 50γ in amplitude. There were also movements of between 10′ and 15′ in Dec. The disturbance gradually died away and by $28^d.6^h$ the normal slight unsteadiness was again established and continued to the end of the month. Throughout the month the small undulatory movements referred to in May, June and July were almost always present in the traces during periods of quiescence.

The range in declination during the month was from 12°.0′·2 on 27th to 12°.24′·5 on 7th; in horizontal intensity, from ·18477 on 20th to ·18601 on 9th; in vertical intensity, from ·42881 on 12th to ·42957 on 21st.

September.—Occasional minor disturbance affected the traces during the first two days. Moderate activity began to develop about $3^d.0^h$ and prevailed in varying degree until $7^d.12^h$. The most prominent movements were in H, there being several bays exceeding 50γ, but the variations in Dec. were almost as conspicuous and represented changes in the east-west component at least as great as in H. After a short intermission of about thirty hours, activity was resumed, though on a smaller scale, but later degenerated into a state of general unsteadiness which lasted till $14^d.16^h$. There followed three days of moderate disturbance with irregular movements amounting occasionally to 15′ in Dec., and to 50γ in H, while during the evening of 15th there was a range of almost 100γ in V in seven hours, including a wave (−40γ) between $16^d.1^h$ and $16^d.2^h$. Another short period of relative quiescence was brought to an end at $20^d.16^h$ by activity in H, quickly followed by similar movements in Dec. The greatest amplitude was about 50γ in H, 30γ in V, and 15′ in Dec., and the disturbance died away in about 12 hours. Unsteadiness persisted, however, until the end of 27th, and on each day one or two waves appeared of amplitude approaching 50γ in H, and 10′ in Dec. From 28^d to 30^d was a nearly quiet period, but signs of further disturbance were visible on all traces shortly before midnight of the last day, when, in particular, V decreased 30γ in 30 minutes. The continuous undulation referred to in previous months was still a feature of the traces on most days.

The range in declination during the month was from 11°.56′·0 on 8th to 12°.23′·3 on 15th; in horizontal intensity, from ·18464 on 15th to ·18604 on 16th; in vertical intensity, from ·42873 on 16th to ·42973 on 15th.

October.—The month opened with disturbed conditions which gradually increased till the afternoon of 2nd, during which movements up to 25′ in Dec., and 100γ in H took place, superposed on oscillation of markedly regular period averaging 20γ in amplitude. The disturbance died away by $3^d.4^h$, but was soon succeeded by a further period of activity lasting from $4^d.17^h$ to $6^d.4^h$. During this period prominent waves were recorded in Dec. at $5^d.0^h$ (+15′) and $6^d.17^h$ (−20′), in H at $4^d.21^h$ (−100γ) and $5^d.8^h$ (−70γ), and there were fluctuations of 30γ in V. The main features of the disturbance are reproduced in Plate VI. A period of comparative quiescence, disturbed only by unimportant isolated movements, ensued, which terminated at $12^d.16^h$. The disturbance which then appeared was not prolonged but included a large and very steep wave in H (+160γ) having its peak at $12^d.22\frac{3}{4}^h$, with coincident movements in Dec. (+18′) and V (−60γ). The traces are reproduced in Plate VII. Normal conditions of slight unsteadiness were restored by $13^d.8^h$. These lasted in varying degree until $17^d.20^h$, when a

wave in Dec. occurred (−15′) and fifteen hours later a wave in H (−60γ). Continuous slight disturbance then set in, with occasional movements of 10′ in Dec. and 50γ in H, and lasted until $24^d.12^h$. A short, almost quiescent period (interrupted by one prominent wave in Dec. (−15′) at $26^d.19^h$) terminated at $27^d.12^h$, after which disturbance gradually increased. At $29^d.9^h$ the most considerable disturbance of the year began to develop. The main part was comprised within a period of twelve hours, but considerable activity prevailed for a further twenty-four hours, there being movements of 100γ and 120γ in H and 20′ in Dec. at $30^d.18^h$–20^h, together with a surge in V (+60γ) between $30^d.13^h$ and $30^d.20^h$. Quiet conditions were not restored until midnight on 31st. The traces are reproduced in Plates VIII and IX.

The range in declination during the month was from 11°.45′·4 to 12°34′·7, both on 29th; in horizontal intensity, from ·18362 on 29th to ·18661 on 12th; in vertical intensity, from ·42877 on 12th to ·43117 on 29th.

November.—On 1st at 23^h there was a wave in H (+60γ), and on 3rd a wave in Dec. (−15′) having the peak at $21\frac{1}{2}^h$. A rapid decrease in V (25γ) occurred at $4^d.0\frac{1}{2}^h$. With these exceptions the traces were affected only by slight general unsteadiness during the first four days. At $5^d.7^h$ a rapid decrease in H (70γ) was followed by a period of minor disturbance extending from $5^d.16^h$ to $10^d.6^h$, movements being specially pronounced between $5^d.16^h$–22^h, at $6^d.7^h$ (a wave in Dec. −18′), and between $8^d.17^h$ and $9^d.5^h$ (notably a sequence of five waves in H, the last and greatest +100γ). Comparative quiescence prevailed from $11^d.0^h$ to $12^d.9^h$. Disturbance then gradually increased and became similar in character to that occurring earlier in the month. The period of maximum activity lasted from $15^d.16^h$ to $19^d.0^h$, the most prominent movements being at $15^d.22^h$, and at $16^d.21^h$ (+80γ in H, −40γ in V). Thereafter disturbance was confined to isolated bays until $26^d.11^h$. The succeeding period of twenty-four hours contained several movements of 50γ in H and 10′ in Dec. and there was a noteworthy increase in V (50γ) between $26^d.12^h$ and $26^d.16^h$, followed by a steady decrease of more than 70γ during the next eighteen hours. Isolated bays in H (+50γ) appeared at $27^d.20^h$, and $27^d.22^h$, but the generally disturbed conditions subsided, and a state of almost complete quiescence was reached on 30th.

The range in declination during the month was from 11°.52′·8 on 6th to 12°.19′·8 on 26th; in horizontal intensity, from ·18457 on 5th to ·18603 on 15th; in vertical intensity, from ·42907 on 27th to ·42978 on 5th.

December.—Disturbance in greater or less degree was general throughout the first six days. The period of maximum activity was $2^d.18^h$–24^h, when movements of −15′ in Dec. and +80γ in H took place, and there were many others exceeding half these amplitudes during the disturbance. Three days of relative quiescence were succeeded by another period of general disturbance which lasted from $10^d.0^h$ to $18^d.0^h$. Prominent movements in this period took place at $11^d.20^h$ (wave in Dec., −18′), and $15^d.21^h$ (wave in H, +90γ). A comparatively prolonged period of nearly quiet conditions then set in, temporarily interrupted by irregular movements on the evenings of 23rd and 25th, and finally terminated by the development of a disturbance on the afternoon of 28th. The disturbance lasted through the remainder of the month and was characterised by numerous small oscillations among which prominent waves occasionally emerged. Of these may be mentioned one in H at $28^d.23^h$ (+80γ), and a double wave in Dec. at $30^d.0^h$–2^h (±12′), which was accompanied by two waves in V (−20γ), and in H (+50γ).

The range in declination during the month was from 11°.47′·4 on 2nd to 12°.18′·6 on 30th; in horizontal intensity, from ·18465 on 5th to ·18601 on 15th; in vertical intensity, from ·42906 on 5th to ·42967 on 11th.

The absolute maximum and minimum values of the elements recorded during the year were:—
Declination: 12°.35′·5 on February 24th; 11°.45′·4 on October 29th.
Horizontal Intensity: ·18661 on October 12th; ·18362 on October 29th.
Vertical Intensity: ·43117 on October 29th; ·42860 on May 7th.

EXPLANATION OF THE PLATES.

The magnetic changes figured on the Plates are for those days of disturbance selected by the International Committee :—February $13^d\,12^h$ to $14^d\,12^h$; February 24^d; June $1^d\,21^h$ to $2^d\,21^h$; June $26^d\,14^h$ to $27^d\,14^h$; July $23^d\,3^h$ to $24^d\,3^h$; October $4^d\,18^h$ to $5^d\,18^h$; October 29^d; October 30^d.

In addition, the traces for October $12^d\,16^h$ to $13^d\,16^h$ are reproduced as containing interesting features.

The time is Greenwich Mean Time (commencing at midnight and counting the hours from 0 to 24).

Magnetic declination, horizontal force and vertical force are indicated by the letters D.,H., and V respectively.

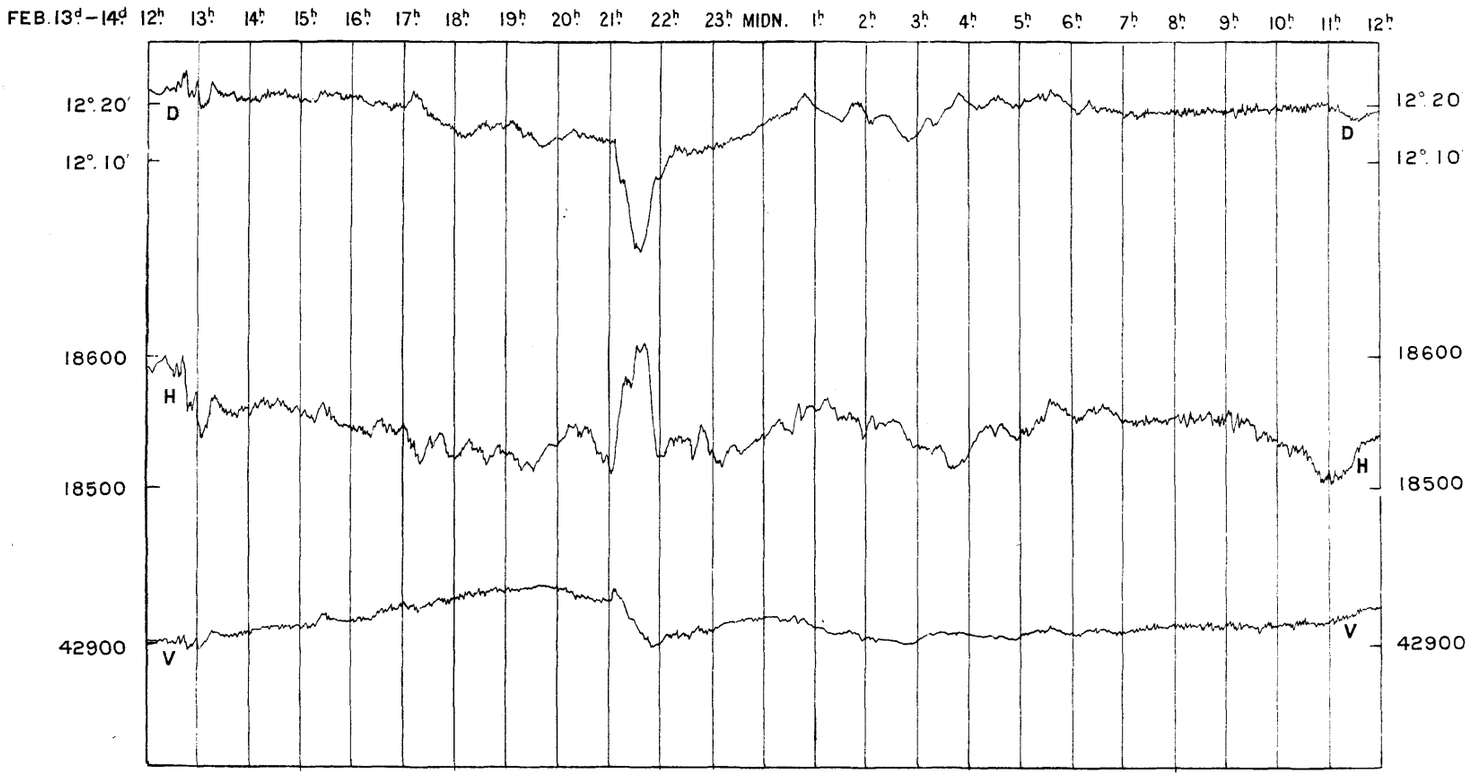
Scales for reading the traces in units of γ (·00001 C.G.S.) are given at the foot of each page, and a datum line is marked for each trace at the sides of the diagram.

Declination may be read in arc by the scale at the side of the diagram.

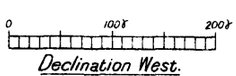
Upward motion indicates increase of declination west, and increase of force in all cases.

Plate I.

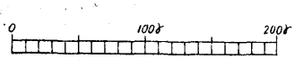
MAGNETIC DISTURBANCES AS RECORDED AT THE ABINGER MAGNETIC STATION IN THE YEAR 1931.



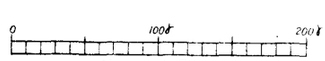
SCALES FOR MAGNETIC ELEMENTS IN C.G.S. UNITS.



Declination West.



Horizontal Force.



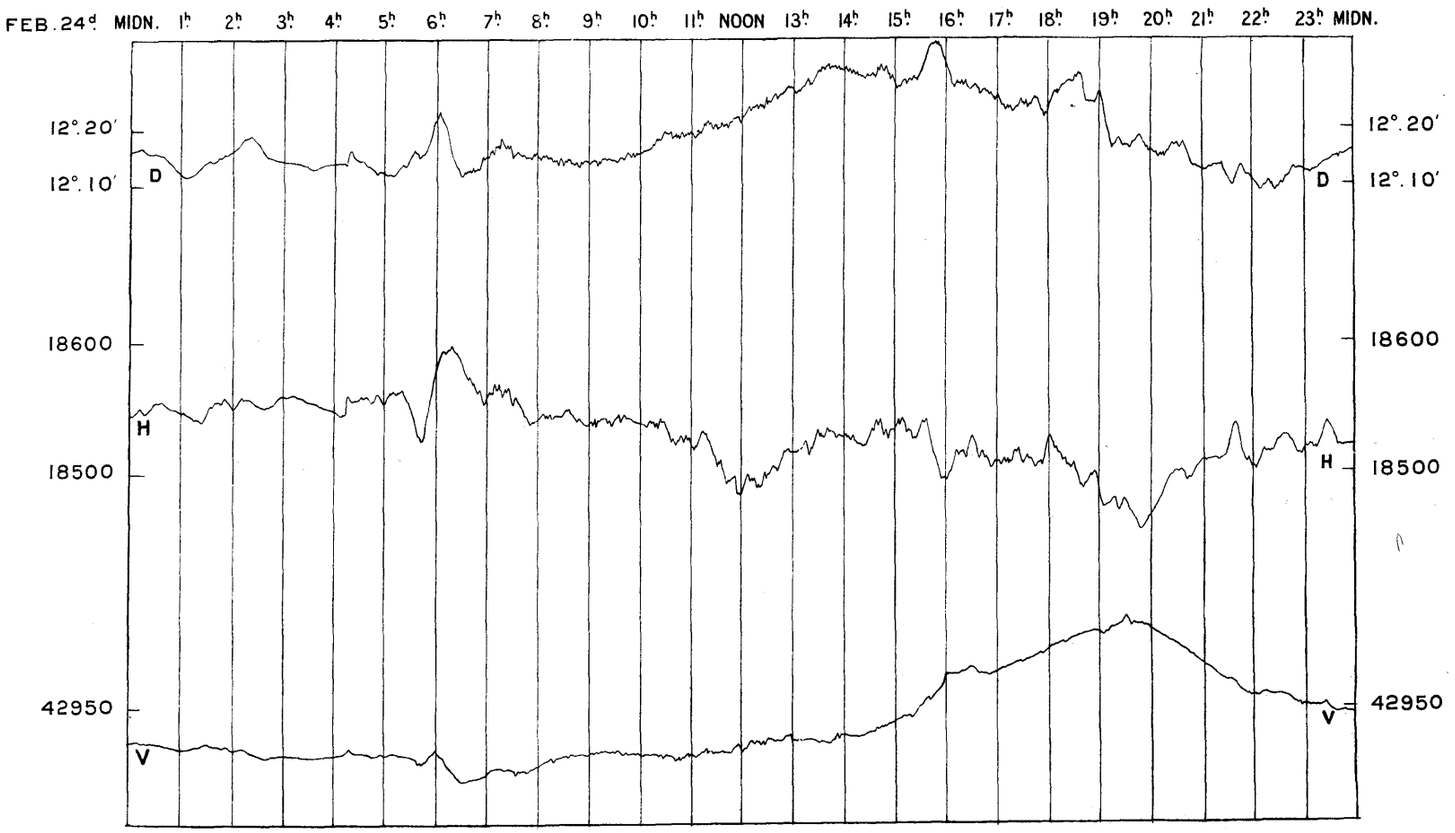
Vertical Force.

96, 3884A 308.138, 565.8/32.

Malby & Sons, Lith.

Plate II.

MAGNETIC DISTURBANCES AS RECORDED AT THE ABINGER MAGNETIC STATION IN THE YEAR 1931.



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

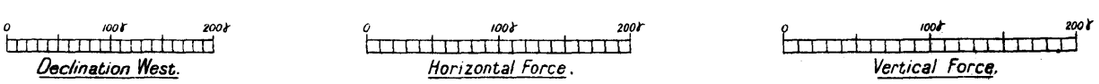
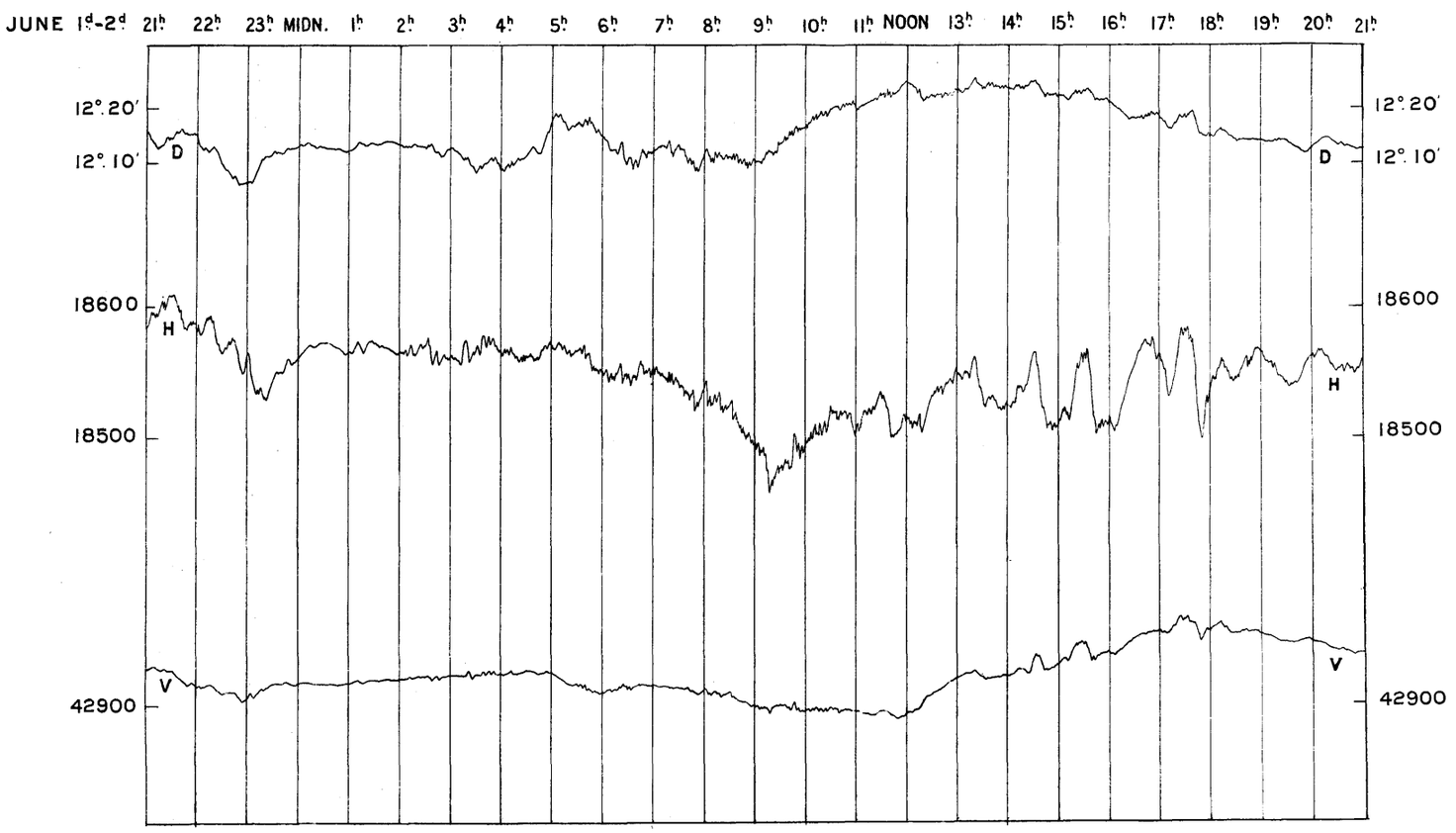
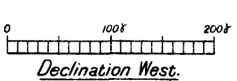


Plate III.

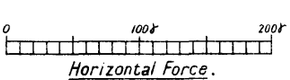
MAGNETIC DISTURBANCES AS RECORDED AT THE ABINGER MAGNETIC STATION IN THE YEAR 1931.



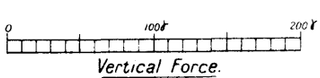
SCALES FOR MAGNETIC ELEMENTS IN C.G.S. UNITS.



Declination West.



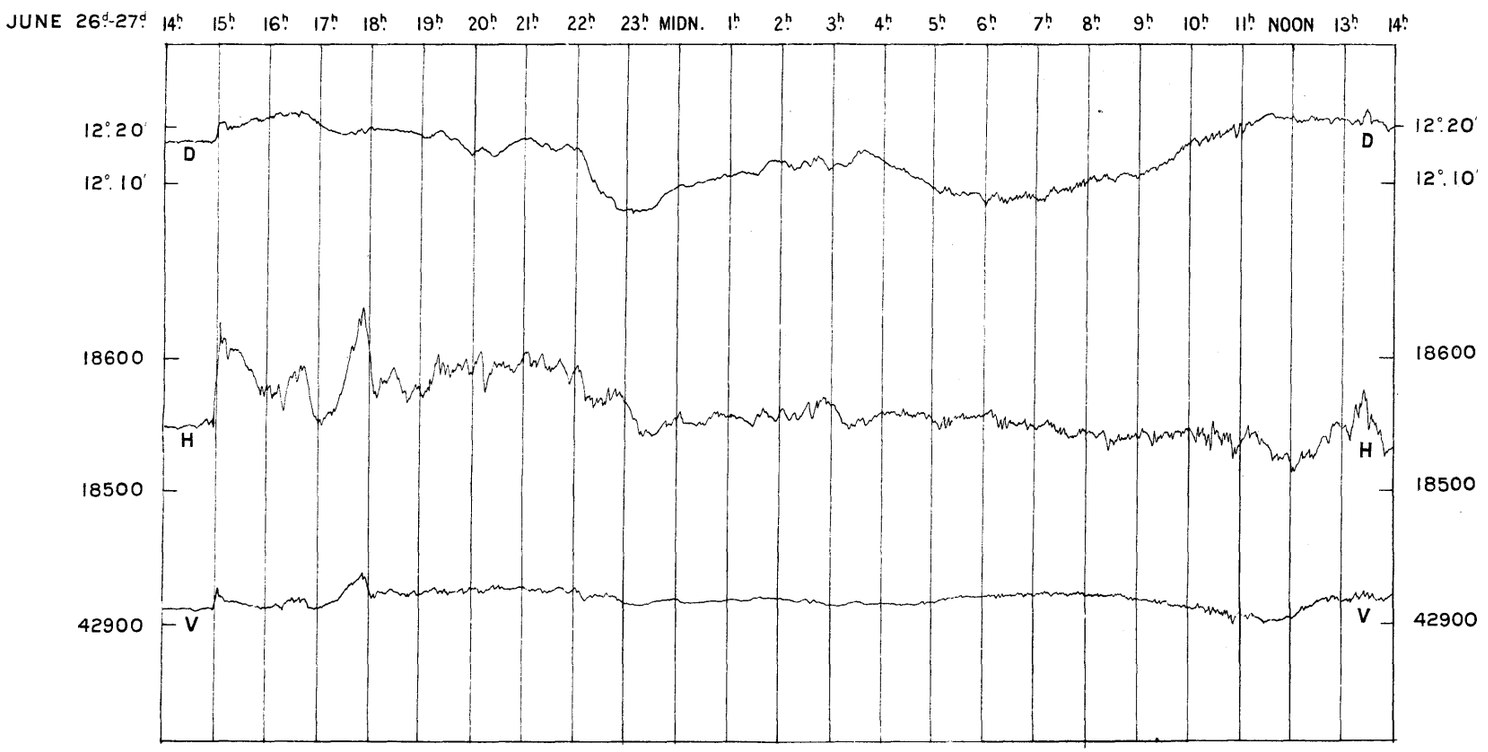
Horizontal Force.



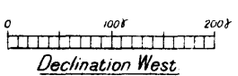
Vertical Force.

Plate IV.

MAGNETIC DISTURBANCES AS RECORDED AT THE ABINGER MAGNETIC STATION IN THE YEAR 1931.



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



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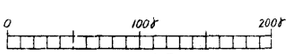
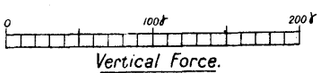
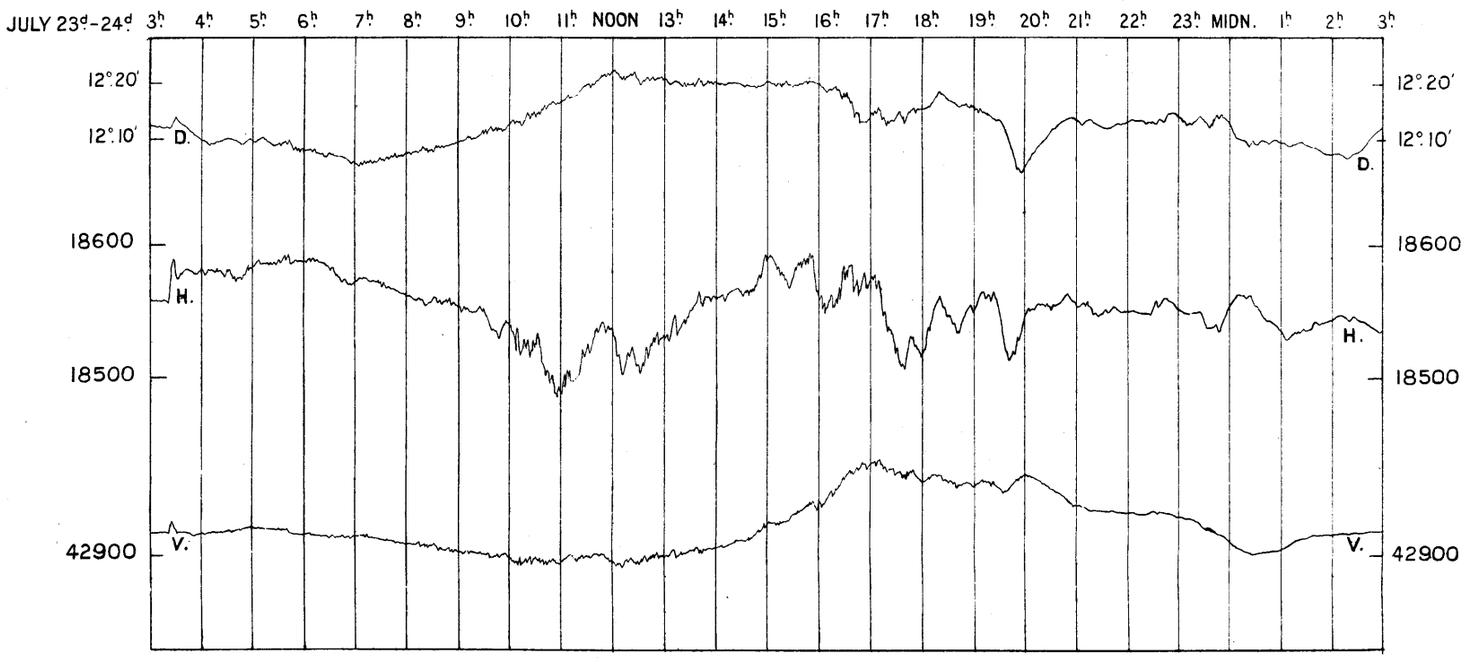


Horizontal Force.

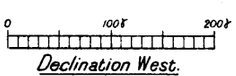


Vertical Force.

MAGNETIC DISTURBANCES AS RECORDED AT THE ABINGER MAGNETIC STATION IN THE YEAR 1931.



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



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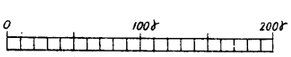
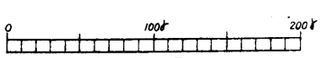


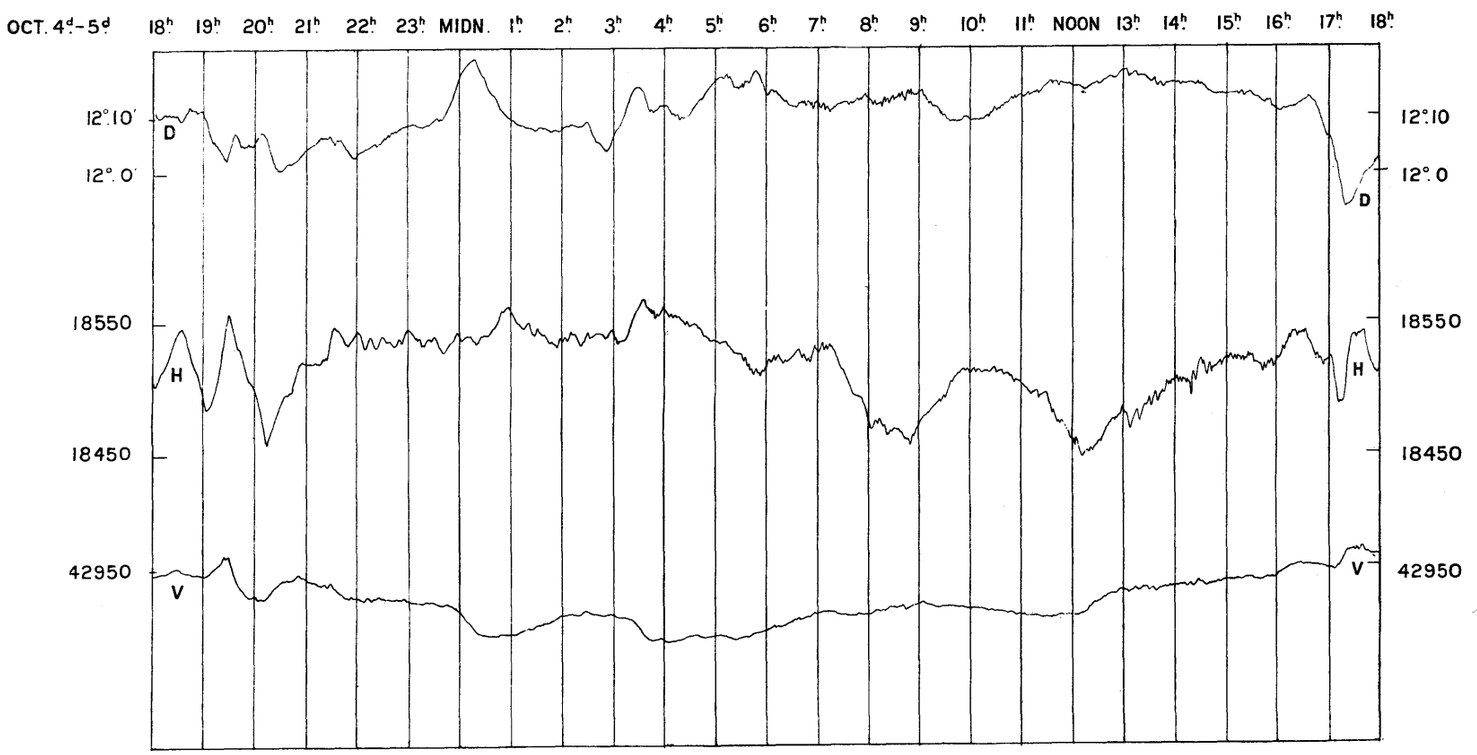
Horizontal Force.



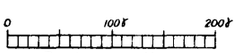
Vertical Force.

Plate VI.

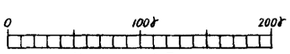
MAGNETIC DISTURBANCES AS RECORDED AT THE ABINGER MAGNETIC STATION IN THE YEAR 1931.



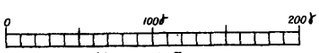
SCALES FOR MAGNETIC ELEMENTS IN C.G.S. UNITS.



Declination West.

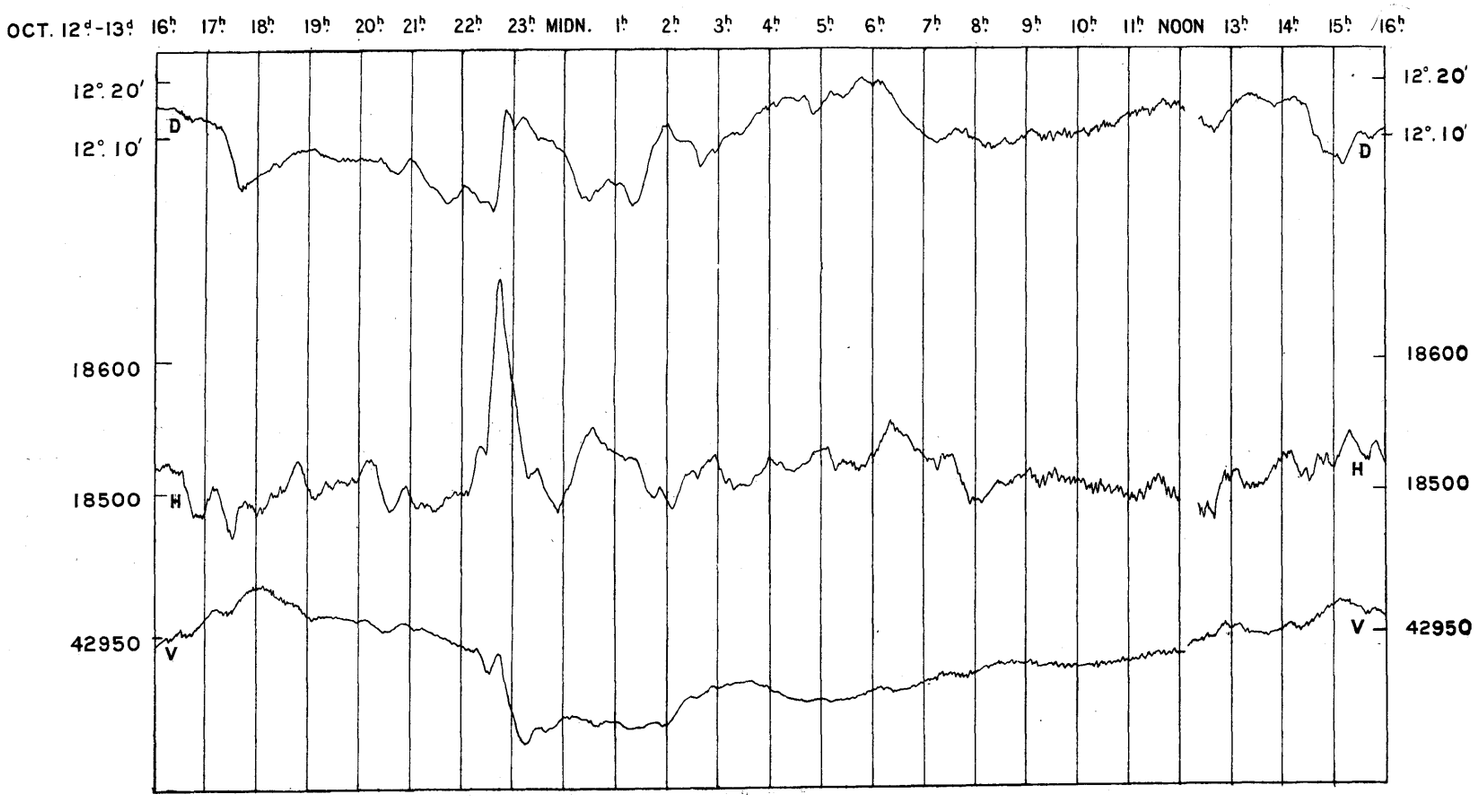


Horizontal Force.

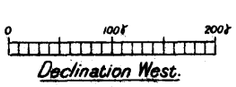


Vertical Force.

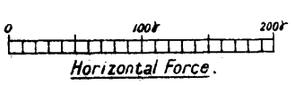
MAGNETIC DISTURBANCES AS RECORDED AT THE ABINGER MAGNETIC STATION IN THE YEAR 1931.



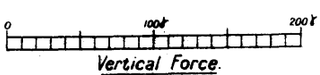
SCALES FOR MAGNETIC ELEMENTS IN C.G.S. UNITS.



Declination West.



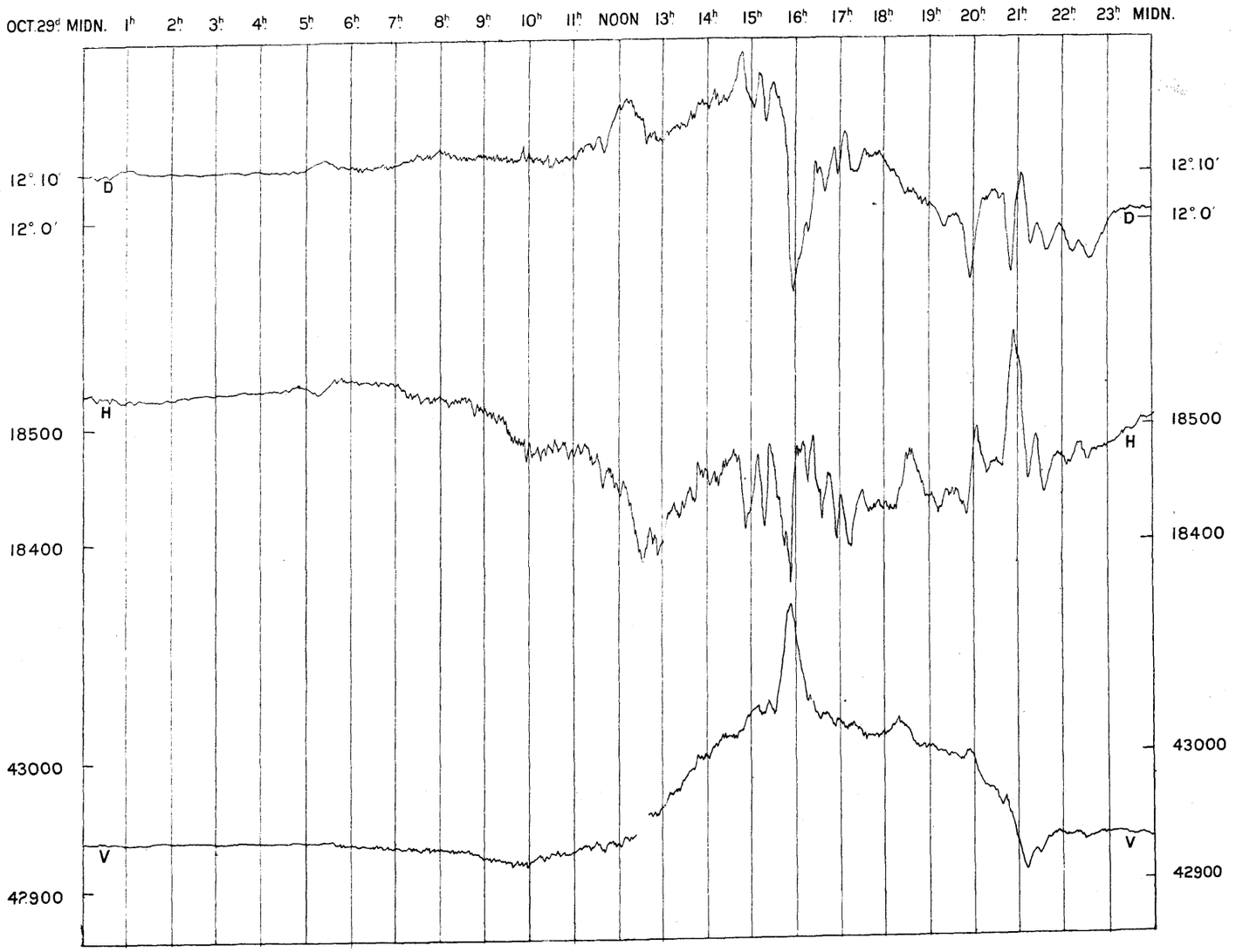
Horizontal Force.



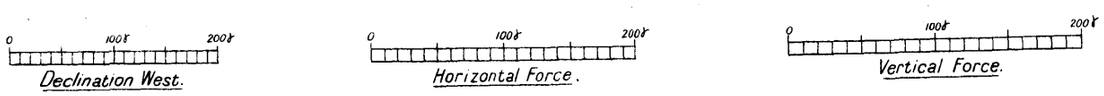
Vertical Force.

Plate VIII.

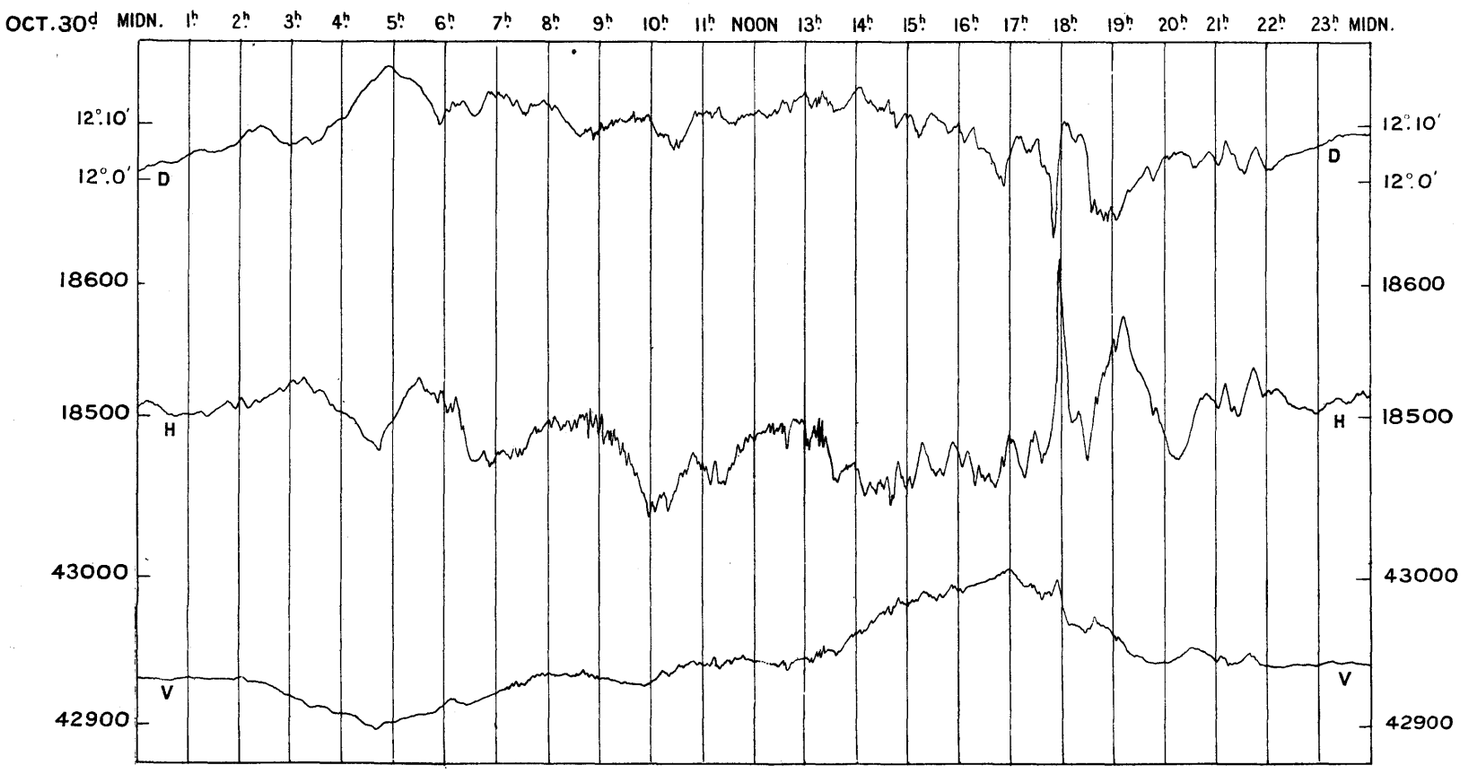
MAGNETIC DISTURBANCES AS RECORDED AT THE ABINGER MAGNETIC STATION IN THE YEAR 1931.



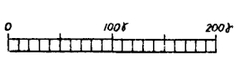
SCALES FOR MAGNETIC ELEMENTS IN C.G.S. UNITS.



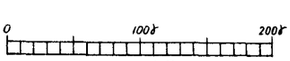
MAGNETIC DISTURBANCES AS RECORDED AT THE ABINGER MAGNETIC STATION IN THE YEAR 1931.



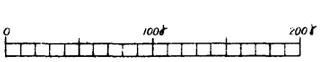
SCALES FOR MAGNETIC ELEMENTS IN C.G.S. UNITS.



Declination West.



Horizontal Force.



Vertical Force.

GREENWICH METEOROLOGICAL OBSERVATIONS, 1931.

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 two sets of 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 1931.

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, and atmospheric potential gradient; 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.

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 8).

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 10.)

The barometer is read at 9^h, 12^h (noon), 15^h, 21^h, 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 9¼ 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 stood in 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°·4 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°·2 has been applied to the readings of this thermometer.

The dry- and wet-bulb thermometers are read at 9^h, 12^h (noon), 15^h, 21^h every day. Readings of the maximum and minimum thermometers are taken at 9^h, 15^h, and 21^h 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 and freely exposed to the sky; they require no correction for index error.

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 in column 28 of the tables on pp. E 14 to E 37 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 hitherto, for the sake of continuity and simplicity, the formula $V=3v$ has been retained in use, although the greatest hourly measures according to the revised formula have been given in a table at the end of the volume.

In the present volume, however, the greatest hourly measures, given in the footnotes to the Daily Results, are calculated from the revised formula, and at the end of the volume a table of the total daily movement, similarly calculated, is appended. The table of Mean Hourly Measures (p. E 46) is also, for the first time, calculated from the revised formula.

RAIN GAUGES.—During the year 1931 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 in the Magnetic Pavilion Enclosure, about 10 feet north-west of the thermometer stand. 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 9^h, 15^h, and 21^h Greenwich Mean Time. No. 8 is used as a check on the readings of No. 6 and is read at 9^h only as a rule.

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.

The gauges are also read at midnight on the last day of each calendar month.

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

ELECTROMETER.—The electric potential of the atmosphere is measured by means of a Thomson self-recording quadrant-electrometer. The site, in the Magnetic Enclosure, is freely exposed on all sides except the north up to a fence of shrubs about 10 feet high running from east to west, distant 75 feet. The apparatus is erected in a small hut constructed specially for the purpose and has the usual arrangements for photographic registration.

It became necessary to remove the hut at the end of October 1931, on account of the erection of a new building near the site, and observations were discontinued pending the provision of suitable accommodation for the instrument elsewhere.

Instrumental details.—The needle of the electrometer is supported on a light metal shaft which carries the mirror and is itself suspended by means of a T-piece upon two small V-hooks, part of a brass fitting which hangs in bifilar suspension on threads of tungsten wire 0·02 mm. diameter and 1 mm. separation. These threads are attached to an insulated torsion head. The potential of a helical radio-active collector is communicated to the torsion head by a wire leading from the metal rod which holds out the collector. This rod passes, without touching, horizontally through a hole in the wall of the hut, being insulated by the sulphur supports upon which it is fixed at its inner end. The height of the collector above a cement floor is 2·05 metres. Its distance from the exterior of the hut is 1·1 metres.

Equal and opposite potential is maintained on the two pairs of quadrants by means of a battery of dry cells of the type used in broadcast receiving apparatus, the middle point in the series of cells being connected to earth. The potential difference applied during 1930 (approximately 100 volts) was reduced on 1931 January 6th to 64 volts. This relatively large potential difference was necessary on account of the weighting of the needle shaft. It was found that electrostatic attraction between the charged needle and the uncharged quadrants caused a variable deflection of the needle due to its bifilar suspension, but that this attraction could be reduced to a negligible amount by attaching weights to the shaft (about 55 gms.), while at the same time great constancy of the zero position was attained. Oscillation of the needle is damped by a glass vane which dips about 3 mm. into glycerine contained in a glass jar. Sulphuric acid is the desiccating agent employed.

The time scale of the photographic record is 14 mm. to the hour, the hourly break in the trace being made by the driving clock itself. The value of the ordinates is determined in two stages. (*a*) The value expressed as absolute potential of the needle is found by charging the needle to known potentials indicated by electrostatic voltmeter. (The scale is not quite linear, but can be represented accurately by an expression of the third degree). (*b*) The potential gradient in the open air is obtained by using the same voltmeter to measure potential at heights of one and two metres (approximately) above the ground. These measurements are made over short level grass at a point distant about 40 feet from any building or tree.

The collector (which is a second radio-active spiral or occasionally a smoke-fuse) is supported upon the middle point of a cord 30 feet long stretched horizontally between insulated hooks attached to the tops of two metal rods adjustable to the required height. The voltmeter is connected to the collector by a long fine wire so that the observer may be stationed at a considerable distance.

Comparison of observed potential gradient with potential simultaneously recorded by the electrometer enables a " reduction factor " to be determined by simple proportion. The values obtained are substantially constant. It has been assumed that the ranges are observational and a mean value has been adopted for the year, namely, 0·850. Using this factor the mean scale value of the photographic trace becomes approximately 1 mm. for a gradient of 25·5 volts per metre.

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 thirteen selected sunshine cards taken from the months of January, July and September, 1931, have been made at the Meteorological Office. These show an excess of about 7 per cent. on the part of Greenwich estimations on days when sunshine is intermittent.

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 of Polaris and of δ Ursæ Minoris are those selected for measurement. 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 9^h, 15^h, and 21^h, 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 arometer 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 9^h, 15^h, and 21^h Greenwich Mean Time. The continuous record of Osler's

self-registering gauge shows whether the amounts measured at 9^h 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 9^h 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.

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 9^h, 12^h (noon), 15^h, and 21^h 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 6^h, and those following it to the interval from 6^h 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.

F. W. DYSON.

ROYAL OBSERVATORY, GREENWICH.
1932, *April* 29.

ROYAL OBSERVATORY, GREENWICH.

Results of Meteorological Observations 1931

MONTH and DAY, 1931.	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	29·058	37·8	29·5	8·3	33·8	− 4·8	32·8	30·9	2·9	5·5	0·0	90	37·8	20·8	46·0	0·001*	0·0	7·9
2	29·318	40·9	30·7	10·2	35·8	− 2·6	34·4	31·9	3·9	7·2	1·5	86	54·1	23·2	46·0	0·003*	4·4	7·9
3	29·193	38·8	34·6	4·2	37·2	− 1·1	36·6	35·7	1·5	3·6	0·7	94	39·7	30·2	45·8	0·231	0·0	7·9
4	29·472	39·0	33·1	5·9	36·0	− 2·3	34·9	32·9	3·1	5·6	1·4	89	46·9	29·8	45·8	0·001	0·0	8·0
5	29·946	36·1	28·4	7·7	32·4	− 5·8	31·6	30·2	2·2	4·9	0·0	91	35·9	16·5	45·2	0·004*	0·0	8·0
6	30·163	37·4	26·1	11·3	31·0	− 7·1	30·0	28·1	2·9	4·8	0·4	87	35·3	14·3	45·0	0·003*	0·3	8·0
7	30·304	39·1	29·2	9·9	34·1	− 3·9	32·9	30·7	3·4	6·6	1·6	87	40·7	16·0	45·0	0·000	0·6	8·0
8	30·304	33·2	28·0	5·2	31·8	− 6·1	31·3	30·4	1·4	1·9	0·2	94	33·6	23·8	44·8	0·000	0·0	8·1
9	30·150	38·5	27·7	10·8	32·9	− 5·0	31·7	29·6	3·3	7·1	1·4	88	44·0	20·4	44·4	0·007	0·5	8·1
10	30·193	37·6	26·9	10·7	32·7	− 5·2	32·5	32·3	0·4	3·1	0·2	98	36·0	16·0	44·1	0·000	0·0	8·1
11	30·026	45·9	36·3	9·6	41·2	+ 3·3	40·1	38·7	2·5	4·3	0·7	90	59·1	30·6	44·2	0·026	0·4	8·2
12	29·534	44·6	38·7	5·9	42·7	+ 4·8	41·3	39·4	3·3	6·3	1·6	88	51·1	28·0	44·0	0·053	0·1	8·2
13	29·575	41·9	33·1	8·8	38·1	+ 0·1	36·6	34·4	3·7	9·0	2·5	86	55·4	27·0	44·0	0·005	0·1	8·2
14	29·875	35·7	29·5	6·2	33·6	− 4·4	31·6	27·7	5·9	10·1	1·9	79	53·8	24·3	43·9	0·000	4·0	8·3
15	29·866	47·0	33·0	14·0	41·1	+ 3·0	39·8	38·1	3·0	6·3	2·4	89	48·9	30·2	44·0	0·001	0·0	8·3
16	29·673	52·0	43·8	8·2	47·6	+ 9·3	45·6	43·3	4·3	7·2	3·2	85	52·7	39·0	44·0	0·032	0·0	8·3
17	29·490	51·6	38·2	13·4	43·1	+ 4·6	39·1	32·9	10·2	14·0	6·5	67	64·5	29·8	43·9	0·002	2·1	8·4
18	29·750	43·3	37·0	6·3	40·0	+ 1·4	37·4	33·2	6·8	10·6	3·0	77	51·1	28·1	43·9	0·002	0·0	8·4
19	29·741	51·0	38·6	12·4	47·3	+ 8·6	46·0	44·5	2·8	4·4	1·4	90	52·1	36·2	44·0	0·010	0·0	8·5
20	29·870	50·2	37·4	12·8	46·4	+ 7·6	45·3	43·9	2·5	4·6	0·7	91	50·6	25·2	44·0	0·019	0·0	8·5
21	29·942	46·5	30·9	15·6	40·4	+ 1·6	39·4	38·0	2·4	4·3	0·2	91	56·1	21·4	44·0	0·005	0·0	8·5
22	29·733	47·8	41·2	6·6	45·1	+ 6·3	43·5	41·4	3·7	5·9	1·3	87	59·3	32·5	44·0	0·017	0·0	8·6
23	29·250	49·0	42·5	6·5	47·0	+ 8·1	45·2	43·1	3·9	6·9	2·0	86	53·6	34·5	44·3	0·277	0·0	8·7
24	29·212	47·0	39·2	7·8	42·8	+ 3·9	39·0	33·1	9·7	15·7	6·1	68	75·7	29·7	44·1	0·000	4·6	8·7
25	29·595	44·9	38·3	6·6	40·9	+ 1·8	37·5	32·1	8·8	14·4	2·6	70	61·0	28·4	44·6	0·072	4·4	8·8
26	29·869	44·2	37·4	6·8	40·4	+ 1·1	37·3	32·2	8·2	12·3	2·3	72	62·4	28·1	44·4	0·000	1·6	8·8
27	29·957	42·5	32·1	10·4	37·0	− 2·5	35·5	33·1	3·9	11·3	1·9	85	59·0	22·0	44·3	0·090	2·6	8·9
28	29·535	45·1	39·5	5·6	42·7	+ 3·1	40·1	36·3	6·4	10·9	1·6	78	49·0	29·8	44·2	0·023	0·0	8·9
29	29·392	44·8	37·9	6·9	41·2	+ 1·5	39·3	36·6	4·6	8·9	2·1	83	65·8	29·4	44·1	0·086	0·8	9·0
30	29·572	39·9	32·5	7·4	37·6	− 2·1	36·4	34·5	3·1	7·3	1·7	89	40·7	26·5	44·0	0·139	0·0	9·0
31	29·790	41·0	25·6	15·4	34·6	− 5·1	33·1	30·3	4·3	12·9	0·6	84	67·1	17·3	44·0	0·025	1·0	9·1
Means	29·721	43·0	34·1	8·9	39·0	+ 0·4	37·3	34·8	4·2	7·7	1·7	85·1	51·4	26·1	44·5	Sum 1·134	0·9	8·4
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	19

The results apply to the civil day, except Columns 20 to 23 (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 supplied by the 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 1, 2, 5 and 6 are derived from frost.

The mean reading of the *Barometer* for the month was 29·721 in., being 0·080 in. lower than the average for the 65 years, 1841–1905.

TEMPERATURE OF THE AIR.

The highest in the month was 52°·0 on January 16; the lowest in the month was 25°·6 on January 31; and the range was 26°·4.
The mean of all the highest daily readings in the month was 43°·0, being 0°·1 lower than the average for the 65 years, 1841–1905.
The mean of all the lowest daily readings in the month was 34°·1, being 0°·4 higher than the average for the 65 years, 1841–1905.
The mean of the daily ranges was 8°·9, being 0°·5 less than the average for the 65 years, 1841–1905.
The mean for the month was 39°·0 being 0°·4 higher than the average for the 65 years, 1841–1905.

MONTH and DAY, 1931.	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	9·7	0·70	7·2	0·51	WSW : Calm	Calm : N : WSW	0·2	0·02	146	th.-cl, lu.-ha : 1, ho.-fr : tk.-f	9, tk.-f, f : 8, f : 0, f, ho.-fr
2	0·0	0·00	0·0	0·00	SW : WSW	SW : S : SE	1·3	0·08	255	0, ho.-fr : 1 : 7, s.-cu, ci, m	5, ci, m : 10, m, ho.-fr: 10, m
3	0·1	0·01	0·0	0·00	SE : ENE : NE	NNE : N	1·3	0·14	251	10, hy.-r, slt.-r : 10, f : 10, n, slt.-r, f	10, slt.-m.-r, m : 10
4	6·3	0·45	0·0	0·00	NW : WSW	NW : W	1·6	0·12	244	9 : 9, m.-r, sn.-sh, f	7, alt.-cu, m.-r, m : 10, f
5	1·6	0·12	0·0	0·00	WSW	WSW : Calm	0·3	0·03	174	0, ho.-fr : 2, ho.-fr : 10, tk.-f, ho.-fr	0, f, ho.-fr : 0, f, ho.-fr
6	4·9	0·36	0·0	0·00	WSW : Calm	NNW : Calm	0·2	0·00	122	9, ho.-fr : 0, tk.-f, ho.-fr	0, f, ho.-fr : 0, f, ho.-fr
7	0·0	0·00	0·0	0·00	Calm	NE : Calm	0·7	0·04	139	7, ho.-fr : 9, f, ho.-fr : 5, f, slt-ho.-fr	1, f, slt.-ho.-fr : 10, f, ho.-fr
8	0·0	0·00	0·0	0·00	Calm	Calm	0·2	0·00	85	10, f, slt.-sn.-sh, ho.-fr : 10, f, glm, gt.-glm	10, glm, f : 10, tk.-f, ho.-fr : tk.-f, ho. fr
9	10·3	0·75	0·0	0·00	SW : W : NW	N : NW	1·2	0·13	202	6, ho.-fr, m : 10, sn : 10, s, f, glm	1, m : 0, ho.-fr, m
10	1·2	0·09	0·0	0·00	Calm : WSW	SW : WSW	0·3	0·02	182	0, ho.-fr, m : 10, tk.-f : 10, tk.-f	10, tk.-f : 10, tk.-f, f, slt.-m.-r : 7, slt.-m.-r, f
11	0·0	0·00	0·0	0·00	WSW : SW	SW	2·0	0·25	327	7, slt.-m.-r, f, m : 10, m.-r, m : 10, s.-cu, m	10, alt.-s, s.-cu, s, m: 10, r, oc.-slt.-r
12	0·3	0·02	0·0	0·00	SW : NNW	Calm	2·2	0·15	220	10 : 10, r, slt.-r : 10, s, m, oc.-slt.-glm	10, alt.-cu, s.-cu, m: 10, m
13	7·5	0·55	6·0	0·44	NNE	NNE : N	4·3	0·64	415	10, ho.-fr, m: 10, slt.-r, m : 10, m	10, fr.-s, alt.-s, w, slt-sh : 3, ho.-fr
14	1·4	0·10	0·0	0·00	N : NNW	N : NW : WSW	3·7	0·40	327	10 : 6, ho.-fr : 2, m	0 : th.-cl, m, ho.-fr : 10, f, oc.-slt.-sn
15	0·0	0·00	0·0	0·00	SW : WSW	WSW	1·5	0·16	331	10, oc.-slt.-sn : 10 : 10, slt.-m.-r, m	10, oc.-slt.-m.-r, m, f : 10, m
16	6·1	0·44	5·6	0·41	WSW	WSW	9·3	1·47	614	10, slt.-m.-r: 10, r, m : 10, w	10, w : 10, st.-w : 9, slt.-m.-r, m
17	11·0	0·83	8·3	0·63	NW : WNW	NW : WNW	11·7	2·32	713	4, st.-w, w : 1, st.-w : v.-cl, st.-w	v.-cl, w, slt.-m.-r : v.-cl, w : 0, d, w
18	0·0	0·00	0·0	0·00	WNW : W	NW : Calm	2·8	0·39	333	0, ho.-fr : 0, ho.-fr : 10, oc.-slt.-m.-r, m	10, n, slt.-m.-r, m : 10, slt.-m.-r, m
19	0·0	0·00	0·0	0·00	SW : WSW	WSW : SW	3·1	0·42	383	10, slt.-m.-r, m : 10, slt.-m.-r, m, w	10, m, f : 10, m, m.-r
20	10·5	0·79	5·5	0·41	SW : WSW	W : NW : Calm	0·8	0·06	195	10, m.-r : 8, sh : 10, f, m	10, m, slt.-m.-r : 0, m, ho.-fr
21	0·0	0·00	0·0	0·00	Calm	S	0·6	0·05	163	2, ho.-fr, m: 7, f : 10, f	10, s.-cu : 10, slt.-m.-r
22	2·6	0·20	0·8	0·06	SSW	SW : SSW	1·5	0·21	284	10, slt.-m.-r : 10, n, s	10, slt.-m.-r, m : v.-cl
23	7·9	0·60	7·5	0·57	SSW	SSW : SW : WSW	9·0	1·81	634	7, r, w : 10, r, w : 10, r, m.-r, w	10, m.-r, oc.-m.-r, w : 7, w
24	10·9	0·84	10·0	0·77	WSW : W	W : WSW	8·6	1·79	683	2, w : 8, w : 4, slt.-sh, w, st.-w	v.-cl, st.-w, w : 0, ho.-fr, w
25	5·8	0·44	4·3	0·33	WSW : W	W : WSW	5·9	0·76	491	5, ho.-fr : 2, m, h, w	4, w : 1, w : 9, r, w
26	12·3	0·95	11·5	0·89	WNW : NW	WNW	4·1	0·61	480	v.-cl, w : v.-cl, w : 6, m	4, f r.-s, alt.-cu : 3, ho.-fr
27	2·6	0·20	2·3	0·18	WNW : WSW	SW : S	1·9	0·10	236	0, ho!-fr : 0, ho.-fr : 0, f	0 : th.-cl : 10, m.-r, r
28	4·5	0·34	3·8	0·29	SW : WSW	WNW : W : WSW	8·5	1·09	564	10, r : 6, w : 10, s, w	10, w : 5, d, w
29	0·5	0·04	0·0	0·00	WSW	W : WSW	2·5	0·18	339	10, r : 5, fr.-s, ci	10, oc.-slt.-m.-r : 10, m.-r
30	10·5	0·81	10·5	0·81	W : NW : NNW	N	6·5	0·68	415	10, r : 10, m.-r, fq.-sl, w	10, sl, fq.-m.-r : 10 : 1, ho.-fr
31	0·0	0·00	0·0	0·00	Calm	SSE	3·1	0·27	233	1, f, ho.-fr : 1, f, ho.-fr : th.-cl, ci, so.-ha	10, alt.-s, n, slt.-m.-r, so.-ha: 10, n, slt.-m.-r, m.-r
Means	4·1	0·31	2·7	0·20	..	..	..	0·46	328		
Number of Column for Reference.	20	21	22	23	24	25	26	27	28	29	30

The mean *Temperature of Evaporation* for the month was 37°·3, being 0°·1 higher than
The mean *Temperature of the Dew Point* for the month was 34°·8, being 0°·3 lower than
The mean *Degree of Humidity* for the month was 85·1, being 1·7 less than
The mean *Elastic Force of Vapour* for the month was 0·202in., 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 7·1.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·106. The maximum daily amount of *Sunshine* was 4·6 hours on January 24.

The highest reading of the *Solar Radiation Thermometer* was 75°·7 on January 24; and the lowest reading of the *Terrestrial Radiation Thermometer* was 14°·3 on January 6.

The *Proportions of Wind* referred to the cardinal points were N. 5, E. 1, S. 6, W. 14. Five days were calm.

The *Greatest Pressure of the Wind* in the month was 11·7 lbs. on the square foot on January 17. The mean daily *Horizontal Movement of the Air* for the month was 315 miles; the greatest daily value was 572 miles on January 17, and the least daily value was 153 miles on January 8. *See* Introduction, page E6.

Rain (0·005in. or over) fell on 17 days in the month, amounting to 1·134in., as measured by Gauge No. 6 partly sunk below the ground; being 0·747in. less than the average fall for the 65 years, 1841–1905.

MONTH and DAY 1931.	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	29·481	46·5	40·2	6·3	42·6	+ 3·0	41·8	40·8	1·8	5·0	1·4	93	57·6	37·2	43·9	0·159	0·0	9·1
2	29·815	42·3	28·9	13·4	37·0	− 2·5	34·9	31·2	5·8	10·6	0·8	80	50·3	19·3	43·8	0·057	0·1	9·2
3	29·893	41·7	36·2	5·5	38·6	− 0·9	37·1	34·9	3·7	11·5	1·8	86	54·8	30·1	43·7	0·005	0·0	9·3
4	30·087	38·1	31·4	6·7	35·4	− 4·1	33·4	29·7	5·7	13·1	2·7	80	73·7	28·2	43·6	0·007	0·7	9·3
5	30·103	34·7	26·5	8·2	30·9	−8·7	29·8	27·6	3·3	6·7	0·2	87	38·3	17·1	43·3	0·000	0·0	9·3
6	29·803	38·2	32·7	5·5	35·6	− 4·0	33·6	29·9	5·7	9·8	2·5	80	50·0	28·7	43·3	0·036	0·0	9·4
7	29·780	39·8	29·8	10·0	34·5	− 5·0	34·1	33·4	1·1	3·6	0·0	96	43·8	19·5	43·1	0·072	0·0	9·5
8	29·767	46·0	28·1	17·9	38·4	− 0·9	37·6	36·4	2·0	5·6	0·2	92	72·0	17·3	43·2	0·020	0·1	9·5
9	29·759	52·4	44·2	8·2	48·3	+ 9·2	47·7	47·1	1·2	2·8	1·4	95	56·6	42·4	43·3	0·014	0·0	9·6
10	29·692	51·7	36·5	15·2	46·5	+ 7·6	43·6	40·0	6·5	17·1	1·8	78	80·1	28·1	43·2	0·121	2·2	9·6
11	29·689	48·0	35·1	12·9	41·6	+ 2·8	39·2	35·6	6·0	12·8	2·5	79	79·9	27·0	43·2	0·214	1·9	9·7
12	29·340	44·7	35·0	9·7	39·2	+ 0·4	35·0	27·3	11·9	20·2	5·4	62	75·1	27·7	43·3	0·012	3·2	9·8
13	29·320	41·9	34·1	7·8	37·2	− 1·8	34·0	28·1	9·1	16·4	3·3	69	66·7	26·0	43·2	0·007	0·9	9·8
14	29·712	42·7	32·2	10·5	36·5	− 2·8	32·8	25·4	11·1	16·1	4·2	63	76·0	22·4	43·2	0·000	5·4	9·9
15	29·618	48·1	32·9	15·2	39·3	− 0·1	36·7	32·4	6·9	11·3	1·1	76	70·0	21·9	43·1	0·117	0·7	10·0
16	29·092	41·7	36·2	5·5	39·6	+ 0·1	36·9	32·4	7·2	16·0	2·7	76	66·0	32·2	43·0	0·042	0·8	10·0
17	29·184	39·7	31·9	7·8	34·9	− 4·7	33·2	30·1	4·8	9·1	2·5	83	84·5	25·0	43·0	0·012	1·8	10·1
18	29·596	39·9	33·0	6·9	35·6	− 3·9	34·0	31·2	4·4	10·4	1·9	84	56·1	27·2	42·9	0·055	0·0	10·1
19	29·753	46·4	30·1	16·3	36·8	− 2·7	35·2	32·6	4·2	11·3	0·4	84	88·6	21·9	42·9	0·002*	3·5	10·2
20	29·713	46·9	30·3	16·6	39·1	− 0·4	37·7	35·7	3·4	8·0	1·2	87	70·7	22·3	42·8	0·011	0·0	10·3
21	29·615	47·9	33·0	14·9	42·9	+ 3·3	39·2	33·5	9·4	18·5	2·0	69	92·0	21·7	42·8	0·000	3·8	10·3
22	29·908	48·4	28·0	20·4	37·0	− 2·7	34·3	29·3	7·7	15·5	2·6	74	92·9	15·8	42·8	0·000	5·9	10·4
23	29·966	48·4	34·6	13·8	40·3	+ 0·5	38·1	34·7	5·6	13·5	1·9	80	75·0	22·5	42·8	0·009	0·3	10·5
24	30·135	49·0	31·0	18·0	39·3	− 0·7	37·4	34·5	4·8	13·3	0·6	83	85·5	21·3	42·7	0·001*	1·1	10·5
25	29·992	55·2	43·1	12·1	49·1	+ 9·0	47·1	44·9	4·2	6·5	2·4	86	74·2	37·6	42·7	0·000	0·0	10·6
26	29·772	53·0	37·4	15·6	48·5	+ 8·3	46·1	43·4	5·1	14·8	1·8	82	63·4	30·8	42·8	0·075	0·0	10·7
27	29·722	47·2	34·0	13·2	39·8	− 0·5	36·8	31·7	8·1	16·8	0·4	73	72·2	25·2	42·7	0·295	0·0	10·7
28	29·114	47·9	31·8	16·1	38·0	− 2·3	36·3	33·7	4·3	10·2	1·5	84	66·9	27·6	42·8	0·131	0·6	10·8
Means	29·694	45·3	33·5	11·8	39·4	− 0·2	37·3	33·8	5·5	11·7	1·8	80·7	69·0	25·9	43·1	Sum 1·474	1·2	9·9
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	19

The results apply to the civil day, except Columns 20 to 23 (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 supplied by the 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 February 19 and 24 are derived from frost.
The mean reading of the *Barometer* for the month was 29·694in., being 0·115in. lower than the average for the 65 years, 1841–1905.

TEMPERATURE OF THE AIR.

The highest in the month was 55°·2 on February 25; the lowest in the month was 26°·5 on February 5; and the range was 28°·7.

The mean of all the highest daily readings in the month was 45°·3, being 0°·1 higher than the average for the 65 years, 1841–1905.

The mean of all the lowest daily readings in the month was 33°·5, being 0°·7 lower than the average for the 65 years, 1841–1905.

The mean of the daily ranges was 11°·8, being 0°·8 greater than the average for the 65 years, 1841–1905.

The mean for the month was 39°·4, being 0°·2 lower than the average for the 65 years, 1841–1905.

MONTH and DAY, 1931.	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	4·4	0·35	4·3	0·34	SSE : Calm	N	2·6	0·23	242	10, m.-r : 10, slt.-m.-r	10, m.-r, r, f : 10
2	0·0	0·00	0·0	0·00	NNW : Calm	W : WSW	0·8	0·05	176	9 : 1, ho.-fr : 2, ci, f	3, ci.-cu, f, m : 10, m : 10, m.-r, r, m
3	1·2	0·10	0·2	0·02	N : NNE	NNE	3·3	0·36	353	10, r, m : 10, sh, m	10, s.-cu, slt.-sh : 10, s.-cu, alt.-cu
4	3·1	0·25	1·7	0·14	NNE	NNE : N : NNW	1·5	0·14	246	10 : 10, slt.-sn, m : 10, slt.-sn	9, cu.-n, n, oc.-slt.-sn : 10, slt.-sn
5	2·5	0·20	2·5	0·20	Calm	Calm : SSE	0·3	0·01	107	9 : th.-cl, ho.-fr : 10, f	10, f : 4, m, ho.-fr : 10
6	0·0	0·00	0·0	0·00	SE	SE : ESE	1·0	0·11	206	10 : 10	10 : 10, sn, sl
7	8·6	0·71	2·2	0·19	Calm	N : SSE	0·2	0·01	133	10, sn, sl : 10, f	10, f : 1, f, ho.-fr
8	0·0	0·00	0·0	0·00	SSE : S	SSW	3·8	0·40	311	0, f, ho.-fr : 8 : 10	10, oc.-slt.-r : 10, oc.-slt.-r
9	0·1	0·01	0·0	0·00	SSW	SSW : SW	3·1	0·43	387	10, slt.-m.-r : 10, m.-r	10, slt.-m.-r : 10, oc.-slt.-m.-r
10	11·9	0·99	11·7	0·98	SW : WSW	W : WSW	11·1	1·62	621	10, w : 10, m.-r, hy.-r.-sq, w	4, fr.-s, fr.-cu, st.-w : 0, w
11	7·4	0·62	6·7	0·55	WSW : SW	SW : W	13·1	1·44	548	0, ho.-fr : 8, sh	10, slt.-r, so.-ha, w : 10, r, st.-w : v.-cl, sh, st.-w
12	10·8	0·90	10·3	0·86	W	WNW : W	11·0	2·12	701	9, sh, st.-w: 1, st.-w : 7, st.-w	8, st.-w : 1, w : 0, ho.-fr
13	9·6	0·80	9·4	0·78	WSW : W : NW	NNW : N	4·8	0·69	469	6, ho.-fr : 10, n, slt.-m.-r, sn, w	8, alt.-s, s.-cu, w : 8 : 3
14	1·9	0·17	0·0	0·00	N	N : NW : W	4·0	0·50	333	0, ho.-fr : 1	6, s.-cu : 0 : 1, f, ho.-fr
15	3·2	0·28	0·0	0·00	SW : W	NW : W : WSW	1·3	0·14	273	10, sn, f : 10, alt.-s, s.-cu, f	6, s, alt.-cu, f : 5 : th.-cl, d
16	1·2	0·10	1·0	0·08	WSW : NW	NW : WSW : NNW	3·3	0·48	404	10, fq.-slt.-r : 10, fq.-slt.-r	10, slt.-r, oc.-slt.-sn : 10, r, oc.-sn, slt.-m.-r : 10
17	5·7	0·49	2·3	0·20	NNW : W : SW	E : NE	1·2	0·11	235	10 : 5, ho.-fr : 10, f, slt.-sn	8, slt.-sn : 9 : th.-cl, m, ho.-fr
18	0·0	0·00	0·0	0·00	NE : NNE	NNE : N	6·3	0·99	452	10 : 10, fq.-sn, m	10, w : 10, sl, w
19	11·1	0·96	6·0	0·52	NNE : NE	Calm : SSE	1·8	0·14	207	10 : 10 : 3, m	2, h : 0, m, ho.-fr
20	2·2	0·19	0·7	0·06	SSW	SSW : SW	4·1	0·53	386	0, ho.-fr : th.-cl : 10, so.-ha	10, alt.-s, alt.-cu, n, slt.-r : 10
21	11·3	1·00	11·3	1·00	SW : W	WNW : W	3·7	0·37	359	9 : 9	6, cu.-n, s.-cu : 0, ho.-fr
22	10·3	0·92	8·6	0·76	WSW : SW	WSW : SW	2·1	0·08	238	0, ho.-fr : 2, m, h	5 : 4, : 1, ho.-fr
23	6·9	0·61	5·2	0·47	WSW	NW	2·9	0·14	268	0, ho.-fr : 9 : 10, alt.-s, alt.-cu, m	10, shs : 10, sh : 1, ho.-fr
24	2·1	0·18	1·3	0·12	NW : Calm	WSW	1·7	0·11	230	5 : 2, m, ho.-fr : 6, f	4, f, slt.-h : 8, lu.-ha
25	0·0	0·00	0·0	0·00	WSW	WSW	2·9	0·45	440	10, slt.-m.-r : 10	10, alt.-s, n, slt.-m.-r : 10, w
26	7·4	0·66	7·3	0·65	WSW	WSW : NNW : NW	5·7	0·88	542	10, w : 10, r, m.-r, w	10, n, r, m.-r, oc.-slt.-m.-r, w : 6, lu.-ha
27	0·0	0·00	0·0	0·00	WNW : WSW	SW : SSW : S	2·0	0·14	257	2, ho.-fr : 8, ho.-fr : 10, m	10, alt.-s, n, m.-r, r : 10, c.-r
28	2·0	0·19	1·9	0·17	SW : NW : W	NW : WNW	5·5	0·46	419	10, r : 10, s.-cu, m, glm	8, sn.-sh, t, hy.-sn.-sh, slt.-sn, m : 10, slt.-sn, lu-ha, w, ho-fr
Means	4·5	0·38	3·4	0·29	..	..	..	0·47	341		
Number of Column for Reference.	20	21	22	23	24	25	26	27	28	29	30

The mean *Temperature of Evaporation* for the month was 37°·3, being 0°·4 lower than
The mean *Temperature of the Dew Point* for the month was 33°·8, being 1°·2 lower than
The mean *Degree of Humidity* for the month was 80·7, being 2·9 less than
The mean *Elastic Force of Vapour* for the month was 0·194in., being 0·010in. 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 7·8.
The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·119. The maximum daily amount of *Sunshine* was 5·9 hours on February 22.

The highest reading of the *Solar Radiation Thermometer* was 92°·9 on February 22; and the lowest reading of the *Terrestrial Radiation Thermometer* was 15°·8 on February 22.

The *Proportions of Wind* referred to the cardinal points were N. 7, E. 1, S, 7, W. 11. Two days were calm.

The *Greatest Pressure of the Wind* in the month was 13·1 lbs. on the square foot on February 11. The mean daily *Horizontal Movement of the Air* for the month was 323 miles; the greatest daily value was 563 miles on February 12, and the least daily value was 167 miles on February 5. *See* Introduction, page E6.

Rain (0·005in. or over) fell on 21 days in the month, amounting to 1·474in., as measured by gauge No. 6 partly sunk below the ground; being 0·006in. less than the average fall for the 65 years, 1841–1905.

MONTH and DAY, 1931.	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
Mar. 1	29·377	40·2	29·7	10·5	33·8	— 6·6	31·6	27·5	6·3	21·4	1·4	78	84·1	22·1	42·8	0·093	3·3	10·9
2	29·721	36·9	26·4	10·5	31·7	— 8·7	30·0	26·7	5·0	11·7	1·2	82	65·0	17·4	42·8	0·000	0·2	10·9
3	29·670	43·6	23·9	19·7	34·3	— 6·2	31·8	27·5	6·8	14·0	0·8	75	87·2	15·3	42·8	0·020	0·5	11·0
4	29·742	42·6	36·0	6·6	38·6	— 2·1	36·0	31·5	7·1	10·5	2·8	76	73·5	29·1	42·7	0·000	1·6	11·1
5	29·820	43·6	34·0	9·6	37·2	— 3·7	34·3	29·1	8·1	11·9	4·9	72	86·7	27·1	42·5	0·000	2·7	11·1
6	29·619	36·0	30·0	6·0	33·8	— 7·2	30·7	24·5	9·3	18·1	7·1	69	61·8	25·4	42·3	0·000	0·2	11·2
7	29·502	35·9	28·0	7·9	30·7	—10·3	27·6	20·2	10·5	21·7	7·5	65	86·8	25·5	42·1	0·000	4·5	11·3
8	29·614	37·4	25·6	11·8	31·4	— 9·7	28·3	21·1	10·3	15·1	2·6	66	93·8	17·8	42·2	0·000	3·9	11·3
9	29·513	30·8	21·8	9·0	26·2	—14·8	25·4	22·6	3·6	8·6	2·4	87	77·0	13·1	42·0	0·051	1·5	11·4
10	29·478	34·1	21·0	13·1	27·0	—13·9	25·1	19·5	7·5	9·8	2·8	74	69·9	12·0	41·9	0·000	0·9	11·4
11	29·592	40·1	28·9	11·2	34·8	— 6·2	32·1	26·7	8·1	14·4	1·9	72	52·0	22·0	41·9	0·000	0·3	11·5
12	29·648	43·8	27·3	16·5	35·7	— 5·4	32·0	24·4	11·3	23·1	3·8	63	80·1	18·0	41·8	0·000	4·5	11·6
13	29·522	49·9	25·3	24·6	37·0	— 4·3	32·9	24·7	12·3	21·4	2·5	61	102·1	16·1	41·6	0·000	8·1	11·6
14	29·501	54·9	35·1	19·8	43·5	+ 2·0	39·1	32·1	11·4	24·7	2·8	65	111·4	24·0	41·5	0·000	7·0	11·7
15	29·712	55·7	29·0	26·7	41·1	— 0·6	38·0	33·0	8·1	20·9	1·0	73	117·8	17·3	41·4	0·000	7·4	11·8
16	29·726	47·1	35·0	12·1	39·2	— 2·7	36·3	31·3	7·9	17·0	2·0	74	95·9	28·0	41·3	0·000	2·2	11·8
17	29·736	48·7	34·7	14·0	40·4	— 1·6	36·9	31·2	9·2	16·1	3·0	69	103·7	25·3	41·4	0·000	7·1	11·9
18	29·679	59·7	29·8	29·9	44·4	+ 2·4	41·0	36·1	8·3	18·8	1·9	72	114·4	15·2	41·6	0·008	8·3	12·0
19	29·674	65·7	43·1	22·6	52·7	+10·8	48·5	43·9	8·8	20·1	0·8	72	125·9	29·8	41·9	0·000	5·6	12·0
20	29·585	68·9	43·6	25·3	54·5	+12·6	49·1	43·2	11·3	20·0	3·1	65	124·0	33·9	42·0	0·000	6·4	12·1
21	29·615	57·9	43·6	14·3	52·7	+10·8	49·2	45·5	7·2	9·7	2·7	76	88·9	31·3	42·0	0·000	1·0	12·2
22	29·741	59·9	43·5	16·4	48·8	+ 6·8	46·0	42·7	6·1	18·2	1·6	79	120·6	31·1	42·6	0·141	4·4	12·2
23	29·819	57·2	41·8	15·4	49·4	+ 7·2	46·7	43·6	5·8	14·1	0·6	80	89·9	32·1	42·8	0·013	0·8	12·3
24	30·110	45·9	39·8	6·1	42·5	+ 0·1	40·9	38·7	3·8	7·3	1·7	86	58·8	31·9	43·0	0·001	0·0	12·4
25	30·272	50·8	37·0	13·8	41·5	— 1·2	39·8	37·4	4·1	9·0	1·0	85	114·2	29·9	43·2	0·000	5·7	12·4
26	30·290	55·9	35·4	20·5	43·2	+ 0·2	40·2	36·0	7·2	13·2	1·3	75	115·2	21·1	43·4	0·000	7·4	12·5
27	30·133	61·7	33·6	28·1	44·4	+ 1·1	39·7	32·3	12·1	29·8	0·6	62	120·1	18·2	43·5	0·000	4·4	12·6
28	30·046	58·1	36·6	21·5	45·0	+ 1·3	40·8	34·5	10·5	20·6	4·1	67	85·8	25·3	43·7	0·000	0·0	12·6
29	30·175	47·1	36·0	11·1	40·3	— 3·8	34·9	24·3	16·0	32·7	8·8	52	79·3	31·0	43·5	0·000	0·0	12·7
30	30·070	51·1	38·1	13·0	42·5	— 2·0	36·3	24·5	18·0	33·3	8·1	49	98·2	33·3	43·7	0·000	0·1	12·7
31	30·034	49·9	35·3	14·6	40·8	— 4·1	35·8	26·4	14·4	26·1	8·5	57	110·2	25·6	43·7	0·000	9·4	12·8
Means	29·766	48·7	33·2	15·6	40·0	— 1·9	36·7	31·1	8·9	17·8	3·1	70·9	93·4	24·0	42·4	Sum 0·327	3·5	11·8
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	19

The results apply to the civil day, except Columns 20 to 23 (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 supplied by the 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 29·766in., being 0·013in. higher than the average for the 65 years, 1841–1905.

Temperature of the Air.

The highest in the month was 68°·9 on March 20; the lowest in the month was 21°·0 on March 10; and the range was 47°·9.
The mean of all the highest daily readings in the month was 48°·7, being 1°·1 lower than the average for the 65 years, 1841–1905.
The mean of all the lowest daily readings in the month was 33°·2, being 1°·9 lower than the average for the 65 years, 1841–1905.
The mean of the daily ranges was 15°·6, being 0°·9 greater than the average for the 65 years, 1841–1905.
The mean for the month was 40°·0, being 1°·9 lower than the average for the 65 years, 1841–1905.

MONTH and DAY, 1931.	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		
Mar. 1	5·3	0·49	4·2	0·39	Calm : N : NW	NNW : NW	12·0	0·73	372	8, sn, ho.-fr : 10, c.-sn : 7, s.-cu, ci, w	v.-cl, st.-w : 10, sn, w : 9, h, ho.-fr
2	8·1	0·75	3·2	0·30	NW : W : SW	Calm	1·0	0·04	166	v.-cl, ho.-fr : 10, s.-cu, f, m	10, s.-cu, m : 1, m : 0, m, ho.-fr
3	0·0	0·00	0·0	0·00	Calm : SE	SE : E	0·6	0·06	156	1, ho.-fr : 9, f : 10, s.-cu, f	10, alt.-s, alt.-cu : 10, slt.-m.-r, m.-r
4	4·5	0·42	3·3	0·31	ENE : E	E	6·0	0·66	376	10 : 10, s.-cu, w	9, s.-cu, ci.-cu, w : 6 : 7, alt.-cu, ci.-cu
5	5·1	0·47	3·2	0·30	E	E	3·8	0·47	340	10 : 10, s.-cu, alt.-cu, ci, oc.-so.-ha	th.-cl, oc.-so.-ha : 7, so.-ha : 8, lu.-ha
6	2·1	0·19	1·8	0·17	E	E : ENE	11·3	2·49	618	10 : 10, w : 10, alt.-s, w	9, alt.-s, alt.-cu, st.-w : 8, slt.-sn, so.-ha : 9
7	1·5	0·15	0·7	0·07	ENE	ENE	8·8	2·51	669	9, sn.-sh : 7, sn, w	7, st.-w, w : 9, w
8	8·0	0·78	7·7	0·76	ENE	ENE : NE	9·3	1·41	489	10, w : 9, sn, slt.-sn, w	8, slt.-sn, w : 0 : 0, ho.-fr
9	5·8	0·56	3·7	0·36	N : NE	ENE : Calm : N	2·4	0·18	240	4, ho.-fr : 10, sn : 10, oc.-slt.-sn, sn	7, oc.-slt.-sn, sn : 3, slt.-sn.-sh : v.-cl, ho.-fr
10	5·1	0·50	1·0	0·10	NNW : NW	N : NW	2·0	0·13	242	9, ho.-fr : 10, oc.-slt.-sn	10, oc.-slt.-sn : 3, ho.-fr
11	2·2	0·21	1·2	0·11	W : NW : NNW	NNW : NW : W	3·2	0·33	318	9, sn, ho.-fr : 9, s.-cu, alt.-s	10, s.-cu : 9
12	7·9	0·77	5·9	0·57	WSW : NW	N : SSE	0·9	0·06	196	9 : 9, s.-cu, sn.-sh	1, h : 0, f, m, ho.-fr
13	5·9	0·57	4·1	0·40	Calm : E	SW	1·7	0·09	222	0, m, ho.-fr : 8, m, ho.-fr : 1, h	6, s.-cu, h : 8 : 8
14	9·7	0·99	9·4	0·96	SW : WSW	WSW	1·3	0·15	280	8, ho.-fr : 10, sh : 5	6 : 0, ho.-fr
15	3·6	0·37	2·3	0·24	WSW : Calm	SE : ESE	1·5	0·07	163	0, ho.-fr : p.-cl, th.-cl, f	4, ci : 3, ho.-fr
16	1·1	0·11	0·3	0·04	E	E	6·3	1·00	428	10 : th.-cl, so.-ha, w	10, ci, alt.-s, so.-ha, w : th.-cl
17	9·7	1·00	9·7	1·00	E	E	3·1	0·54	345	9 : 5, alt.-s, alt.-cu	1, alt.-cu : 0, ho.-fr
18	2·1	0·22	1·9	0·20	E	SE : S	1·0	0·06	185	0, ho.-fr : 1, slt.-h	4 : 10, slt.-r
19	2·6	0·27	1·3	0·14	Calm : SE	SSE : Calm : E	1·4	0·13	189	4, ho.-fr : th.-cl, f : th.-cl, ci, m	9, ci, ci.-cu, so.-ha : 8
20	1·1	0·11	0·8	0·08	Calm : SSE	SE : E	1·8	0·09	169	8 : 6, alt.-cu, ci.-cu	6, ci, so.-ha, prh : 8, slt.-sh
21	4·8	0·52	3·2	0·34	SSE : SW	SW	1·3	0·21	265	8 : 8, slt.-r : 8, so.-ha	10, alt.-s, alt-cu, n, slt.-m.-r : th.-cl, d
22	0·4	0·04	0·0	0·00	WSW : SSW	SSW : Calm	1·0	0·07	183	8, d : 8, s.-cu, alt.-cu	7 : 9, slt.-shs : 9, r
23	2·6	0·28	0·0	0·00	Calm	Calm : NE	0·9	0·02	104	10, r, m.-r : 10 : 10, f	10 : 8, r : 7
24	0·0	0·00	0·0	0·00	NNE	NNE : NE	3·2	0·59	427	10 : 10, oc.-slt.-m.-r	10, slt.-m.-r.-sh, w : 10, slt.-m. r, w
25	0·7	0·07	0·6	0·06	ENE	ESE : E	2·5	0·44	355	10, slt.-m.-r : 10, s	0 : 0, d : 10
26	5·9	0·64	5·2	0·56	E : ENE	ESE : Calm	1·3	0·21	259	10 : 10 : 4	0 : 0, ho.-fr
27	6·7	0·73	0·0	0·00	Calm	Calm : SW	0·1	0·00	90	0, f, ho.-fr : 0, f, m	0, m, f, glm : 0, f : th.-cl, f, lu.-ha, d
28	0·2	0·02	0·0	0·00	SW : Calm	NE : E : ENE	4·1	0·40	276	th.-cl, lu-ha, m, ho.-fr : th.-cl, m, h	9, ci.-cu, h : 10
29	0·0	0·00	0·0	0·00	E : ESE : SE	SE : ESE	2·8	0·41	320	7 : 10, alt.-cu	10, alt.-s, so.-ha : 10
30	2·3	0·26	1·4	0·15	ESE : SE	SE : ESE	4·5	0·51	318	10 : 10, alt.-s	10, ci.-s, alt.-cu, so.-ha : 8
31	9·0	1·00	9·0	1·00	ESE : SE	E : ESE	6·3	0·77	404	9 : 4 : 1, ci	1, ci, w : th.-cl, lu.-ha, ho.-fr
Means	4·0	0·40	2·7	0·28	..	..	..	0·48	296		
Number of Column for Reference.	20	21	22	23	24	25	26	27	28	29	30

The mean *Temperature of Evaporation* for the month was 36°·7, being 2°·7 lower than
The mean *Temperature of the Dew Point* for the month was 31°·1, being 4°·5 lower than
The mean *Degree of Humidity* for the month was 70·9, being 7·2 less than
The mean *Elastic Force of Vapour* for the month was 0·174in., being 0·035in. 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 6·5.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·298. The maximum daily amount of *Sunshine* was 9·4 hours on March 31.

The highest reading of the *Solar Radiation Thermometer* was 125°·9 on March 19; and the lowest reading of the *Terrestrial Radiation Thermometer* was 12°·0 on March 10.

The *Proportions of Wind* referred to the cardinal points were N. 4, E. 14, S. 5, W. 3. Five days were calm.

The *Greatest Pressure of the Wind* in the month was 12·0 lbs. on the square foot on March 1. The mean daily *Horizontal Movement of the Air* for the month was 293 miles; the greatest daily value was 542 miles on March 7, and the least daily value was 156 miles on March 27. *See* Introduction, page E6.

Rain (0·005in. or over) fell on 6 days in the month, amounting to 0·327in., as measured by gauge No. 6 partly sunk below the ground; being 1·193in. less than the average fall for the 65 years, 1841–1905.

MONTH and DAY, 1931.	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	29·826	48·8	30·9	17·9	40·1	− 5·2	33·3	18·1	22·0	44·4	9·3	41	103·9	21·1	43·7	0·005	6·6	12·9
2	29·416	53·4	39·1	14·3	45·2	− 0·5	43·1	40·3	4·9	14·5	1·7	83	89·2	37·0	43·7	0·619	0·0	12·9
3	29·456	46·8	39·6	7·2	43·5	− 2·5	42·6	41·5	2·0	3·7	1·8	92	50·8	36·0	43·8	0·503	0·0	13·0
4	29·763	55·0	36·8	18·2	45·5	− 0·7	40·7	33·5	12·0	20·2	2·3	63	105·8	28·3	43·8	0·008	9·9	13·1
5	29·649	50·6	41·2	9·4	44·5	− 1·8	42·6	40·1	4·4	7·5	0·5	85	72·0	30·1	43·9	0·076	0·0	13·2
6	29·604	53·7	41·9	11·8	45·4	− 0·9	43·1	40·1	5·3	12·7	1·1	82	98·3	33·1	43·9	0·228	0·1	13·2
7	29·665	53·2	41·0	12·2	46·6	+ 0·3	44·8	42·6	4·0	6·4	2·0	86	82·0	39·2	44·0	0·000	0·0	13·3
8	29·761	64·1	39·8	24·3	51·2	+ 5·1	47·8	44·0	7·2	15·3	0·5	77	122·3	27·2	44·2	0·000	3·5	13·3
9	29·898	63·9	41·9	22·0	52·8	+ 6·8	49·6	46·2	6·6	11·8	2·5	78	103·9	31·7	44·4	0·005	0·1	13·4
10	30·075	63·0	40·8	22·2	52·6	+ 6·7	48·6	44·3	8·3	26·0	0·8	73	122·8	35·0	44·7	0·000	7·5	13·5
11	30·046	66·3	37·1	29·2	50·3	+ 4·5	46·2	41·3	9·0	18·3	0·8	71	122·9	31·4	44·9	0·000	10·2	13·5
12	29·868	69·4	39·1	30·3	51·8	+ 5·9	45·6	37·7	14·1	29·6	3·3	59	135·9	26·3	45·2	0·005	9·4	13·6
13	30·027	56·0	40·1	15·9	46·7	+ 0·6	40·7	31·5	15·2	27·4	6·7	55	114·1	30·0	45·1	0·000	9·2	13·7
14	30·074	55·1	41·1	14·0	49·2	+ 2·8	44·5	38·5	10·7	13·9	7·4	66	75·6	28·8	45·3	0·000	0·0	13·7
15	29·959	53·7	45·0	8·7	49·4	+ 2·6	45·8	41·5	7·9	12·3	1·6	74	69·0	43·4	45·7	0·125	0·0	13·8
16	29·915	53·2	43·9	9·3	46·9	− 0·3	43·6	39·5	7·4	16·4	1·1	75	101·7	38·9	45·7	0·030	0·6	13·9
17	29·511	52·9	37·7	15·2	44·8	− 2·8	41·1	35·7	9·1	23·3	2·5	70	113·9	30·1	45·9	0·156	7·8	13·9
18	29·404	50·1	33·0	17·1	40·9	− 7·1	38·4	34·5	6·4	17·7	1·7	78	118·5	29·0	45·8	0·294	3·8	14·0
19	29·530	43·4	37·3	6·1	40·2	− 8·1	38·9	37·1	3·1	7·9	2·1	88	58·3	36·2	45·8	0·350	0·0	14·1
20	29·610	47·3	40·2	7·1	42·4	− 6·1	40·6	38·1	4·3	8·1	2·3	84	78·3	35·0	45·7	0·118	0·4	14·1
21	29·737	50·9	39·2	11·7	43·8	− 4·9	40·8	36·6	7·2	13·7	3·0	75	111·5	34·2	45·8	0·000	1·9	14·2
22	29·682	58·3	36·0	22·3	45·9	− 2·8	41·8	36·0	9·9	18·8	2·4	68	113·0	25·2	45·8	0·015	5·8	14·2
23	29·604	57·0	40·3	16·7	48·3	− 0·3	44·0	38·4	9·9	18·9	4·6	69	123·1	28·9	45·8	0·006	6·7	14·3
24	29·403	62·1	43·3	18·8	50·3	+ 1·7	46·8	42·7	7·6	17·1	2·2	75	134·8	34·9	45·8	0·239	3·6	14·4
25	29·063	53·6	44·0	9·6	47·0	− 1·6	45·5	43·7	3·3	9·7	2·2	88	111·1	37·4	45·9	0·530	1·9	14·4
26	29·174	54·9	44·1	10·8	48·2	− 0·4	45·5	42·3	5·9	10·8	2·6	79	101·5	38·2	46·0	0·355	1·2	14·5
27	29·491	55·9	44·2	11·7	48·4	− 0·3	44·4	39·3	9·1	17·8	2·7	70	105·2	33·6	46·0	0·069	2·1	14·6
28	29·766	56·6	42·0	14·6	46·6	− 2·2	42·8	37·8	8·8	15·2	4·0	71	105·1	32·6	46·1	0·085	0·2	14·6
29	29·845	59·0	40·8	18·2	47·0	− 2·0	44·1	40·6	6·4	14·3	2·2	78	117·8	34·1	46·2	0·002	2·2	14·7
30	29·853	64·7	39·2	25·5	50·6	+ 1·5	45·5	39·1	11·5	25·0	1·0	65	124·6	26·4	46·4	0·000	7·9	14·7
Means	29·689	55·8	40·0	15·7	46·9	− 0·4	43·4	38·8	8·1	16·6	2·6	73·9	102·9	32·4	45·2	Sum 3·823	3·4	13·8
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	19

The results apply to the civil day, except Columns 20 to 23 (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 supplied by the 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 29·689in., being 0·066in. lower than the average for the 65 years, 1841–1905.

TEMPERATURE OF THE AIR.

The highest in the month was 69°·4 on April 12; the lowest in the month was 30°·9 on April 1; and the range was 38°·5.

The mean of all the highest daily readings in the month was 55°·8, being 1°·4 lower than the average for the 65 years, 1841–1905.

The mean of all the lowest daily readings in the month was 40°·0, being 1°·0 higher than the average for the 65 years, 1841–1905.

The mean of the daily ranges was 15°·7, being 2°·5 less than the average for the 65 years, 1841–1905.

The mean for the month was 46°·9, being 0°·4 lower than the average for the 65 years, 1841–1905.

MONTH and DAY, 1931.	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.		
April 1	0·0	0·00	0·0	0·00	ESE : SE	SE : ESE	6·3	0·82	377	1, ho.-fr : 5, ci, so.-ha	10, ci,alt.-s,so.-ha : 10, slt.-r, r
2	0·0	0·00	0·0	0·00	ESE	ESE : E : Calm	0·7	0·08	184	10, r : 10, hy.-r : 10, s	10 : 10, r, m.-r
3	0·2	0·02	0·0	0·00	NE : NNW	NNW	1·4	0·17	230	10, r, m.-r : 10, m.-r, r, m	10, slt.-r, slt.-m.-r : 10, r, m.-r
4	2·6	0·30	0·2	0·03	NNW	NW : W : WSW	1·9	0·22	280	9, r, m.-r : 1, ho.-fr : 3, h	th.-cl, ci, h : th.-cl, h, d
5	0·9	0·11	0·0	0·00	SW : NNW	WSW : SW	2·2	0·22	289	10 : 10, slt.-r : 10, slt.-r, r, glm, m	10, n, slt.-r, slt.-m.-r, m : 10, s.-cu
6	0·0	0·00	0·0	0·00	WSW : Calm : NE	E : SE	0·3	0·03	148	10, slt.-m.-r, r : 10, c.-r : 10, n, alt.-s	10, r, m.-r : 10, r,m.-r,slt.-m.-r
7	3·3	0·39	2·2	0·26	E	SE	0·3	0·03	149	10, slt.-m.-r : 10, alt.-s	10, alt.-cu, s : 9
8	3·5	0·41	0·0	0·00	Calm : SSE	SSW : S	2·2	0·13	205	3, ho.-fr : 10, slt.-m.-r : 10, s.-cu	8, alt.-s, s.-cu : 7, d
9	0·0	0·00	0·0	0·00	Calm : SW	WSW : WNW	0·9	0·05	208	2 : 1 : 10, alt.-s,slt.-m.-r,so.-ha	10, oc.-slt.-r,slt.-m.-r : 10, s.-cu,alt.-s : 10, slt.-m.-r
10	1·5	0·18	1·1	0·12	NNW : NE	NE : E	0·7	0·11	205	10 : 10 : 4, ci, fr.-s	4, ci, fr.-s, so.-ha : 6, ci, so.-ha : 6, m, d
11	7·9	0·99	7·9	0·99	Calm : SW	SSW	0·6	0·06	159	10, f, slt.-m.-r : 10, f, slt.-m.-r : 1	1 : 0
12	6·7	0·84	6·7	0·84	SW	W : NW : NNW	2·1	0·20	284	0, ho.-fr : 0	5, ci.-cu, alt.-cu : 9, slt.-r : 2
13	5·6	0·70	5·1	0·63	NNW : N	NNW	2·2	0·45	369	0 : 0 : 2, fr.-s, fr.-cu	6, ci, fr.-cu, so.-ha: 0
14	0·0	0·00	0·0	0·00	WSW : W : NW	NW	1·7	0·27	345	8 : 10 : 10, alt.-s, fr.-s	10, s.-cu : 10
15	0·0	0·00	0·0	0·00	WNW : WSW	WSW : NW	2·0	0·15	271	10 : 10, s, alt.-s, s.-cu	10 : 10, c.-r, slt.-r
16	0·0	0·00	0·0	0·00	NNW	NNW : NW : WSW	2·2	0·35	342	10 : 10, slt.-r : 10	9, s.-cu : 10, so.-ha : 10, r
17	1·9	0·24	1·7	0·22	WSW : NW	NW : W	8·3	1·01	501	10, r, w : 10, c.-r, w : v.-cl, w	v.-cl,cu,cu.-n,sh,w : 6, shs,slt.-hl,w : 5
18	0·0	0·00	0·0	0·00	NW : NE	N : NNW	8·0	0·58	402	10 : 10, r, sn : 9, r	8, cu,cu.-n,n,shs,so.-ha : 10, c.-r : 10, c.-r
19	0·0	0·00	0·0	0·00	NNW : NE : NNE	NNE	4·2	0·90	480	10, c.-r : 10, shs, hl, r, m.-r, w	10, r, m.-r, w : 10, r, m.-r, w
20	0·5	0·06	0·0	0·00	NNE	NE : NNE	5·0	0·80	432	10, r, m.-r, w : 10, r, m.-r, slt.-m.-r, w	10, slt.-m.-r, r : 8, d
21	0·0	0·00	0·0	0·00	NNE	N : Calm	1·8	0·18	242	10 : 10, s.-cu	9, s.-cu : 10
22	2·2	0·29	0·1	0·01	WSW : W	W : SW	2·6	0·11	242	7, ho.-fr : 4	9, sh : 8
23	2·3	0·31	1·3	0·17	SW : SSW	SSW : S	3·2	0·39	331	7 : 9 : 8, shs	5, cu,cu.-n: 6, so.-ha : 8, sh
24	0·0	0·00	0·0	0·00	SSE : S	S : SE	6·8	0·48	377	th.-cl : 9, slt.-sh : 9, so.-ha, w	9, shs, r, w : 10, shs, r
25	2·3	0·33	1·3	0·18	SSE : SE : S	SSW : SW	8·4	0·88	433	10, c.-r : 10, r, slt.-r	9, fq.-r, w : 10, r, hl, fq.-r : 6, slt.-r
26	0·3	0·04	0·1	0·01	SSW : SW	SW : WSW	4·0	0·53	415	9, oc.-r, slt.-m.-r : 9, shs	10, shs, t, w : 10, r
27	6·6	0·95	6·4	0·91	WSW : NW	NW : WNW	6·1	0·93	522	10, r, slt.-m.-r : 10, s.-cu, n, w	8, s.-cu, n, oc.-slt.-m.-r, w : 1, w
28	4·3	0·62	3·7	0·54	NW : WNW	W : NW	3·5	0·50	407	1 : th.-cl, so.-ha : 10	10, m.-r, sh : 9, alt.-cu, s.-cu
29	1·4	0·20	1·1	0·15	NW : NNW	NNW : ENE : Calm	1·3	0·10	204	4 : 10 : 10, s	6, alt.-cu, cu.-n, h : 10 : 10
30	7·0	1·00	7·0	1·00	Calm : SSW : SW	SW : SSW	1·5	0·10	221	10, slt.-m.-r : 7, m : 1, h	8, s.-cu, h : 0 : 1, d
Means	2·0	0·27	1·5	0·20	..	..	..	0·36	308		
Number of Column for Reference.	20	21	22	23	24	25	26	27	28	29	30

The mean *Temperature of Evaporation* for the month was 43°·4, being 0°·5 lower than
The mean *Temperature of the Dew Point* for the month was 38°·8, being 0°·8 lower than
The mean *Degree of Humidity* for the month was 73·9, being 0·6 less than
The mean *Elastic Force of Vapour* for the month was 0·236in., being 0·008in. 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 7·8.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·247. The maximum daily amount of *Sunshine* was 10·2 hours on April 11.

The highest reading of the *Solar Radiation Thermometer* was 135°·9 on April 12; and the lowest reading of the *Terrestrial Radiation Thermometer* was 21°·1 on April 1.

The *Proportions of Wind* referred to the cardinal points were N. 8, E. 4, S. 7, W. 8. Three days were calm.

The *Greatest Pressure of the Wind* in the month was 8·4 lbs. on the square foot on April 25. The mean daily *Horizontal Movement of the Air* for the month was 302 miles; the greatest daily value was 444 miles on April 27, and the least daily value was 195 miles on April 6 and 7. *See* Introduction, page E.6.

Rain (0·005in. or over) fell on 21 days in the month, amounting to 3·823in., as measured by gauge No. 6 partly sunk below the ground; being 2·257in. greater than the average fall for the 65 years, 1841–1905.

MONTH and DAY, 1931.	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
May 1	29·694	64·2	37·7	26·5	50·1	+ 0·8	44·9	38·2	11·9	21·1	3·4	64	129·3	24·6	46·6	0·000	2·8	14·8
2	29·514	62·1	43·0	19·1	51·9	+ 2·4	47·4	42·3	9·6	18·2	1·8	69	121·3	30·7	46·7	0·000	3·2	14·8
3	29·327	46·6	41·9	4·7	43·9	— 5·9	42·7	41·2	2·7	5·6	0·7	90	54·2	35·0	46·7	0·988	0·0	14·9
4	29·384	61·3	41·5	19·8	48·2	— 1·8	42·9	35·5	12·7	22·2	3·0	61	120·0	31·6	46·9	0·005	4·3	14·9
5	29·727	61·6	39·1	22·5	49·5	— 0·8	45·3	40·2	9·3	18·6	1·5	70	131·1	27·4	47·0	0·016	9·6	15·0
6	29·772	68·1	43·1	25·0	54·4	+ 3·9	48·3	41·3	13·1	25·9	1·8	61	134·0	29·1	47·1	0·000	10·4	15·1
7	29·797	65·3	44·0	21·3	52·8	+ 2·1	47·9	42·4	10·4	18·0	1·8	67	134·0	29·7	47·2	0·000	8·6	15·1
8	29·849	64·9	47·2	17·7	52·0	+ 1·0	48·4	44·5	7·5	18·2	0·7	75	128·2	35·6	47·3	0·082	3·2	15·2
9	30·029	65·8	43·9	21·9	53·2	+ 2·0	48·7	43·7	9·5	21·0	1·4	70	133·2	31·9	47·5	0·000	8·2	15·2
10	29·990	66·3	41·2	25·1	53·5	+ 2·0	49·6	45·5	8·0	16·8	0·9	74	124·1	28·3	47·7	0·000	2·5	15·3
11	29·899	68·0	50·2	17·8	57·0	+ 5·2	52·8	48·8	8·2	14·8	3·3	75	127·5	43·0	47·9	0·000	4·2	15·4
12	29·964	67·3	48·6	18·7	57·0	+ 4·9	53·6	50·5	6·5	12·5	2·6	79	132·4	32·8	48·0	0·000	5·8	15·4
13	29·828	70·2	48·2	22·0	57·1	+ 4·7	52·6	48·4	8·7	20·9	1·8	72	133·1	32·2	48·3	0·000	8·8	15·5
14	29·760	65·1	48·3	16·8	56·1	+ 3·5	51·1	45·9	10·2	19·0	3·6	69	117·8	38·5	48·7	0·000	7·8	15·5
15	29·620	57·9	47·0	10·9	52·2	— 0·6	50·3	48·4	3·8	6·3	1·7	87	93·5	38·0	48·9	0·154	0·4	15·6
16	29·434	59·6	47·0	12·6	51·7	— 1·3	50·1	48·5	3·2	8·4	0·8	89	84·0	46·3	49·0	0·325	0·1	15·6
17	29·295	57·9	47·3	10·6	50·4	— 2·7	49·4	48·4	2·0	4·7	0·6	93	84·1	46·6	49·0	0·092	0·0	15·7
18	29·412	56·2	46·4	9·8	48·9	— 4·4	47·0	44·9	4·0	8·2	1·5	86	107·1	45·4	49·1	0·024	0·4	15·7
19	29·640	53·1	44·2	8·9	48·0	— 5·5	44·4	39·8	8·2	14·1	4·3	73	84·9	42·0	49·3	0·000	0·0	15·8
20	29·808	55·2	43·0	12·2	46·8	— 7·0	42·4	36·4	10·4	15·8	7·8	67	109·3	37·9	49·3	0·000	1·2	15·8
21	29·771	55·9	40·6	15·3	47·6	— 6·6	44·9	41·7	5·9	11·3	1·9	79	110·8	35·0	49·4	0·063	4·4	15·9
22	29·666	66·6	44·1	22·5	53·1	— 1·5	49·4	45·5	7·6	17·9	0·8	75	125·0	32·9	49·4	0·436	5·7	15·9
23	29·692	68·3	45·4	22·9	54·7	— 0·2	52·0	49·5	5·2	12·8	0·6	82	110·8	33·7	49·5	0·266	0·3	16·0
24	29·698	63·5	48·0	15·5	55·2	— 0·1	52·5	50·0	5·2	14·2	0·2	83	121·2	39·1	49·5	0·023	3·9	16·0
25	29·977	71·5	47·1	24·4	60·6	+ 5·1	54·1	48·0	12·6	23·4	1·6	63	132·2	38·0	49·8	0·002	13·7	16·0
26	29·961	71·3	50·6	20·7	61·3	+ 5·5	56·1	51·6	9·7	16·4	2·0	71	136·1	40·7	49·9	0·067	12·6	16·1
27	29·789	73·2	51·4	21·8	62·0	+ 6·0	58·0	54·9	7·1	15·2	1·5	77	132·2	42·7	50·2	0·000	11·0	16·1
28	29·560	69·4	46·9	22·5	59·0	+ 2·8	56·0	53·6	5·4	13·7	0·9	82	122·3	35·4	50·3	0·185	6·0	16·1
29	29·605	65·9	42·6	23·3	54·9	— 1·5	51·4	47·9	7·0	14·6	0·6	77	113·7	29·9	50·8	0·099	7·3	16·2
30	29·604	70·0	48·7	21·3	58·3	+ 1·6	54·3	50·8	7·5	16·1	2·4	76	121·0	37·8	51·0	0·032	5·4	16·2
31	29·576	69·5	47·0	22·5	57·2	+ 0·1	53·2	49·4	7·8	15·7	0·6	76	133·2	36·2	51·1	0·000	10·1	16·3
Means	29·698	63·9	45·3	18·6	53·5	+ 0·4	49·7	45·7	7·8	15·5	1·9	75·2	117·5	35·7	48·7	Sum 2·859	5·2	15·6
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	19

The results apply to the civil day, except Columns 20 to 23 (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 supplied by the 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 29·698in., being 0·103in. lower than the average for the 65 years, 1841–1905.

TEMPERATURE OF THE AIR.

The highest in the month was 73°·2 on May 27; the lowest in the month was 37°·7 on May 1; and the range was 35°·5.
The mean of all the highest daily readings in the month was 63°·9, being equal to the average for the 65 years, 1841–1905.
The mean of all the lowest daily readings in the month was 45°·3, being 1°·6 higher than the average for the 65 years, 1841–1905.
The mean of the daily ranges was 18°·6, being 1°·6 less than the average for the 65 years, 1841–1905.
The mean for the month was 53°·5, being 0°·4 higher than the average for the 65 years, 1841–1905.

MONTH and DAY, 1931.	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		
May 1	0·2	0·03	0·2	0·03	SW	SW : Calm	1·1	0·05	183	1, ho.-fr : 10, s.-cu	10, alt.-s, s.-cu : 10, slt.-m.-r
2	4·9	0·75	2·5	0·38	Calm : NE	NE : ENE	0·7	0·06	163	7, slt.-m.-r : 4 : 4, alt.-cu, h	9, alt.-cu, s.-cu : 7, s.-cu
3	0·0	0·00	0·0	0·00	NNE : N	N : NNW	4·0	0·72	386	5 : 10, r	10, n, c.-r, w : 10, c.-r
4	4·8	0·74	4·6	0·68	NW : WNW	WSW : SW	3·2	0·40	372	10, slt.-r : 10, th.-cl, ci, oc.-so.-ha	8, ci, alt.-cu, slt-sh, so.-ha : v.-cl
5	5·3	0·82	4·8	0·74	SSW	SSW : SSE	3·8	0·50	341	0, ho.-fr : 9, shs	v.-cl,cu,w : 1 : 1, w
6	5·4	0·83	3·1	0·48	SSE : SE	SE : E	3·5	0·24	254	th.-cl, ho.-fr : th.-cl, fq.-so.-ha	8, cu,ci,fq.-so.-ha : th.-cl : th.-cl
7	2·8	0·43	2·6	0·39	WSW	WSW : SW	2·2	0·27	349	3, ho.-fr : 4, fr.-cu	8, s.-cu, alt.-cu : 1, w
8	1·3	0·20	1·0	0·15	SW : Calm	NW : NNW	2·4	0·12	173	10, slt.-m.-r : 10, m.-r, m	10, s.-cu : 8 : v.-cl, d
9	6·0	1·00	5·1	0·84	NNW : N	NNE : ENE : Calm	1·9	0·15	210	10 : 10 : 8, alt.-cu	1, h : 0, d
10	0·0	0·00	0·0	0·00	S : SW	SW : SSW	1·3	0·10	227	0, ho.-fr : th.-cl, ho.-fr : th.-cl, so.-ha	10, alt.-s, so.-ha : 10
11	0·7	0·12	0·2	0·03	SSW : SW	SW	1·7	0·20	279	10 : 9, alt.-cu, s.-cu	8, ci.-s, ci.-cu : 9 : 8, d
12	3·5	0·59	3·5	0·59	WSW : SW	SW	1·8	0·14	228	10, slt.-sh : 10, alt.-cu, s.-cu	7, s.-cu : 8 : 0, w
13	4·5	0·76	4·3	0·71	SW : SSW	SW : WSW	2·7	0·27	286	9 : 5, ci, so.-ha	4, ci, s.-cu : 9 : 4
14	4·9	0·82	3·8	0·63	SW	SW	6·5	0·84	430	3 : 8, slt.-sh	9, cu, fr.-cu, ci, so.-ha : 9
15	0·0	0·00	0·0	0·00	SSW	S : SSW	3·0	0·22	268	7, d : 10, alt.-s, n, r	10, n, alt.-s,r,m.-r : 9, oc.-slt.-m.-r
16	0·0	0·00	0·0	0·00	SW : SSW	Calm	2·2	0·10	168	10 : 10, s.-cu	10, alt.-s, s.-cu, n, slt.-r : 10, r, slt.-r
17	0·0	0·00	0·0	0·00	Calm	W : WSW	1·7	0·10	202	10, r, m.-r : 10, s, r, m, f	10, s.-cu, n, m.-r : 10, m.-r,-sh
18	0·0	0·00	0·0	0·00	WSW : Calm	Calm : NE	1·2	0·13	212	10, sh : 10, m.-r, glm	10, s, fr.-s : 10
19	0·0	0·00	0·0	0·00	NE	NE : NNE	2·7	0·31	329	10 : 10, s.-cu	10, s.-cu : 10
20	2·4	0·43	1·9	0·34	NNE	NNE : NE	2·2	0·35	348	9 : 10, alt.-cu	9, s.-cu : 9
21	0·0	0·00	0·0	0·00	NE : ENE	E : ENE	1·7	0·18	248	9 : 9, alt.-cu, s.-cu	10, s.-cu, alt.-s : 10, sh : 10, oc.-slt.-m.-r, hy.-r
22	2·4	0·43	2·4	0·43	Calm : SW	SW : SSW	0·7	0·07	151	10, hy.-r : 10, m : 10	8, s.-cu : 1
23	2·6	0·53	1·3	0·27	SSE : SE : S	Calm	0·8	0·03	144	10 : 10, alt.-s, slt.-shs, so.-ha	10, alt.-s,n,r,m.-r : 9
24	3·0	0·60	2·6	0·52	Calm : SW	SW : SSW	5·6	0·43	279	10, f : 10, m.-r, f	9, n,alt.-cu,w,slt.-sh : 9 : 9
25	0·4	0·07	0·3	0·06	SSW	SW	1·5	0·12	214	8 : 1, d : 2, fr.-cu	1 : 9, shs
26	3·7	0·75	3·1	0·63	W : Calm : E	E	2·4	0·17	222	7, r : 2, ci	2, ci : 8 : 8
27	0·0	0·00	0·0	0·00	Calm : NE	E : ENE	4·9	0·22	232	6 : 7, ci, p.-so.-ha	8, ci, alt.-cu : 10
28	5·0	1·00	5·0	1·00	ENE : E	SW : SSW	2·3	0·23	273	10 : 10, t.-sm, hy.-r, m : 10	6 : 1 : 0, d
29	2·8	0·56	2·7	0·53	Calm : ESE	SE : SSW : S	2·0	0·18	210	1, d : 9, sh	8, hy.-shs : 1, d
30	0·0	0·00	0·0	0·00	SSE : SSW	SSW : Calm	0·9	0·04	150	8 : 2 : 6, ci, alt.-cu	10, r,oc.-slt.-m.-r : 10, slt.-sh
31	3·1	0·61	2·8	0·56	Calm : SW	SW : SSW	2·0	0·16	223	10 : 3, d : 6, cu, fr.-cu, ci	6, s.-cu : 2 : 4, d
Means	2·2	0·39	1·9	0·32	..	..	..	0·23	250		
Number of Column for Reference.	20	21	22	23	24	25	26	27	28	29	30

The mean *Temperature of Evaporation* for the month was 49°·7, being 0°·7 higher than
The mean *Temperature of the Dew Point* for the month was 45°·7, being 0°·9 higher than
The mean *Degree of Humidity* for the month was 75·2, being 1·3 greater than
The mean *Elastic Force of Vapour* for the month was 0·308in., being 0·010in. 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 7·6.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·335. The maximum daily amount of *Sunshine* was 13·7 hours on May 25.

The highest reading of the *Solar Radiation Thermometer* was 136°·1 on May 26; and the lowest reading of the *Terrestrial Radiation Thermometer* was 24°·6 on May 1.

The *Proportions of Wind* referred to the cardinal points were N. 4, E. 5, S. 9, W. 7. Six days were calm.

The *Greatest Pressure of the Wind* in the month was 6·5 lbs. on the square foot on May 14. The mean daily *Horizontal Movement of the Air* for the month was 263 miles; the greatest daily value was 383 miles on May 14, and the least daily value was 192 miles on May 23. See Introduction, page E 6.

Rain (0·005in. or over) fell on 16 days in the month, amounting to 2·859in., as measured by gauge No. 6 partly sunk below the ground; being 0·944in. greater than the average fall for the 65 years, 1841–1905.

MONTH and DAY, 1931.	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
June 1	29·616	68·9	48·1	20·8	57·5	+ 0·1	53·5	49·8	7·7	16·2	1·3	76	140·3	39·1	51·4	0·021	5·4	16·3
2	29·859	73·1	51·6	21·5	59·4	+ 1·6	55·1	51·3	8·1	17·3	2·5	74	131·0	40·0	51·6	0·000	3·1	16·3
3	29·928	71·7	55·1	16·6	61·5	+ 3·4	57·3	53·9	7·6	14·7	2·9	76	124·8	48·2	51·9	0·000	4·2	16·4
4	29·902	71·7	52·6	19·1	59·6	+ 1·3	57·0	54·9	4·7	12·1	0·6	85	134·3	47·2	52·0	0·000	8·8	16·4
5	29·785	62·9	50·4	12·5	55·2	− 3·2	52·4	49·8	5·4	13·5	2·0	82	123·7	47·3	52·1	0·332	4·4	16·4
6	29·617	71·6	54·7	16·9	60·1	+ 1·8	56·2	52·9	7·2	17·2	0·9	78	133·8	49·4	52·1	0·153	8·6	16·4
7	29·553	64·8	51·6	13·2	56·9	− 1·3	54·8	53·1	3·8	10·3	0·9	87	106·0	45·7	52·5	0·024	1·9	16·5
8	29·613	72·2	54·1	18·1	60·4	+ 2·3	56·3	52·8	7·6	17·9	0·9	76	135·2	47·5	52·7	0·000	7·2	16·5
9	29·672	70·3	52·3	18·0	58·9	+ 0·9	56·7	54·9	4·0	9·4	0·9	86	128·9	46·1	52·9	0·253	1·7	16·5
10	29·711	65·2	57·8	7·4	60·7	+ 2·6	58·5	56·8	3·9	5·6	3·3	87	97·6	54·5	53·0	0·007	0·0	16·5
11	29·796	71·8	58·2	13·6	62·7	+ 4·5	59·2	56·5	6·2	10·7	3·8	81	114·3	55·2	53·1	0·000	0·2	16·5
12	29·880	77·6	55·9	21·7	65·0	+ 6·6	60·1	56·5	8·5	17·1	2·3	74	136·3	44·1	53·3	0·000	7·9	16·6
13	29·929	74·7	51·0	23·7	63·3	+ 4·8	58·5	54·7	8·6	16·9	0·8	74	138·1	39·0	53·7	0·000	9·8	16·6
14	29·535	79·9	55·9	24·0	64·7	+ 6·0	59·9	56·3	8·4	17·6	1·0	74	134·3	48·3	53·9	0·000	6·9	16·6
15	29·817	72·4	52·5	19·9	60·7	+ 1·9	54·3	48·4	12·3	20·4	4·3	64	138·0	44·0	54·0	0·000	11·8	16·6
16	29·839	69·9	50·0	19·9	58·4	− 0·5	53·3	48·5	9·9	16·8	3·2	70	126·8	42·0	54·2	0·000	5·1	16·6
17	29·672	69·6	50·6	19·0	58·9	− 0·1	54·3	50·1	8·8	17·7	2·4	72	134·5	40·6	54·3	0·021	3·4	16·6
18	29·737	67·9	46·6	21·3	56·1	− 3·1	51·8	47·6	8·5	17·8	2·2	73	127·8	34·9	54·5	0·048	7·1	16·6
19	29·578	68·3	48·7	19·6	55·3	− 4·2	52·9	50·8	4·5	13·8	0·2	85	131·1	38·6	54·4	0·281	3·2	16·6
20	29·920	66·4	48·3	18·1	55·3	− 4·6	51·6	48·0	7·3	17·7	0·0	76	128·1	37·1	54·4	0·000	1·9	16·6
21	30·045	75·7	47·5	28·2	61·6	+ 1·3	56·6	52·4	9·2	14·8	1·4	72	134·2	36·4	54·7	0·000	7·5	16·7
22	29·939	77·3	54·8	22·5	65·8	+ 5·2	60·3	56·1	9·7	15·7	1·3	71	137·1	47·2	54·7	0·000	6·7	16·7
23	29·866	75·1	60·3	14·8	65·7	+ 4·8	60·1	55·8	9·9	14·6	5·7	71	121·2	45·1	54·7	0·000	1·4	16·6
24	29·915	63·8	46·6	17·2	57·1	− 4·1	54·3	51·9	5·2	11·5	1·6	83	76·7	38·2	54·7	0·090	0·0	16·6
25	30·173	61·2	44·2	17·0	52·4	− 9·0	48·0	43·0	9·4	16·3	3·7	70	107·7	36·1	54·8	0·000	1·1	16·6
26	30·238	74·8	41·4	33·4	58·2	− 3·3	52·3	46·5	11·7	22·3	0·5	65	139·3	27·6	55·0	0·000	13·6	16·6
27	30·193	79·5	46·1	33·4	64·1	+ 2·5	56·3	49·5	14·6	24·5	1·4	59	136·3	32·6	55·0	0·000	15·0	16·6
28	30·089	79·7	53·2	26·5	66·0	+ 4·4	60·3	56·0	10·0	17·9	1·5	71	136·9	40·4	55·0	0·000	13·0	16·6
29	30·065	73·3	56·9	16·4	64·7	+ 3·1	56·6	49·5	15·2	23·5	5·3	58	133·5	45·0	55·0	0·000	12·3	16·6
30	30·049	71·2	48·7	22·5	60·4	− 1·1	53·8	47·5	12·9	19·5	4·9	62	113·9	35·0	55·1	0·000	5·6	16·6
Means	29·851	71·4	51·5	19·9	60·2	+ 0·8	55·7	51·9	8·4	16·0	2·1	74·4	126·7	42·4	53·7	Sum 1·230	6·0	16·5
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	19

The results apply to the civil day, except Columns 20 to 23 (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 supplied by the 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 29·851in., being 0·029in. higher than the average for the 65 years, 1841–1905.

TEMPERATURE OF THE AIR.

The highest in the month was 79°·9 on June 14; the lowest in the month was 41°·4 on June 26; and the range was 38°·5.
The mean of all the highest daily readings in the month was 71°·4, 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 51°·5, being 1°·6 higher than the average for the 65 years, 1841–1905.
The mean of the daily ranges was 19°·9, being 0°·9 less than the average for the 65 years, 1841–1905.
The mean for the month was 60°·2, being 0°·8 higher than the average for the 65 years, 1841–1905.

MONTH and DAY, 1931.	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	1·8	0·36	0·0	0·00	SSW	WSW : WNW	1·1	0·10	219	8 : 9, oc.-shs	9, cu, alt.-cu : 8, t : th.-cl
2	0·0	0·00	0·0	0·00	NW : N : Calm	Calm : SW	1·4	0·11	183	10 : 10, s.-cu	8, s.-cu : 9, s.-cu, cu: 10, alt.-cu
3	2·4	0·48	1·8	0·35	WSW : W	NW : Calm : E	1·0	0·17	243	10 : 10, s.-cu	9, s.-cu : th.-cl, d
4	1·6	0·32	1·0	0·20	E	E	3·0	0·35	275	10, slt.-m.-r, m : 8, s, m	1 : 8, d
5	0·0	0·00	0·0	0·00	ENE : E	E	6·6	1·24	462	10 : 10 : 7, alt.-cu, w	9, r, hy.-r, t, l : 10, slt.-m.-r, slt.-r
6	1·6	0·36	1·2	0·27	SW	SW	2·6	0·34	336	10, c.-r, slt.-r : 7, s.-cu	6, cu, s.-cu : 6, oc.-so.-ha : 9, slt.-sh
7	0·0	0·00	0·0	0·00	SW	SSW : Calm : SW	1·7	0·16	233	3 : 7 : 10, alt.-s, slt.-sh, slt.-r	10, n, r, m.-r : 10, m.-r
8	1·3	0·28	1·0	0·22	WSW	SW	2·4	0·41	367	9 : 9, s.-cu, slt.-sh	8, s.-cu, cu : 8
9	0·0	0·00	0·0	0·00	SSW : SW	SW	2·8	0·36	304	9, r : 10, r : 10, n, s	10, slt.-sh : 10
10	0·0	0·00	0·0	0·00	SW	SW	3·1	0·66	395	10 : 10, fr.-s, n, oc.-slt.-m.-r	10, oc.-slt.-m.-r : 10, oc.-slt.-m.-r
11	0·1	0·02	0·0	0·00	SW	SW	2·0	0·48	318	10 : 10, s.-cu	10, s.-cu, fr.-s : 10
12	4·5	1·00	4·5	1·00	SW	WSW : WNW : W	1·5	0·18	246	10 : 10, s.-cu	5, cu : 1, d
13	1·3	0·29	0·8	0·18	SW : Calm	SSW : Calm	0·6	0·05	131	0, d : 1, d : 6, ci	7 : 10, slt.-sh : 9
14	1·6	0·36	1·3	0·30	E	ESE : SW	6·9	0·66	319	7 : 6 : 10, alt.-cu	7, fr.-s, ci, w : 8
15	1·1	0·24	1·0	0·22	WSW : W	SW : SSW	5·3	0·82	452	9, w : 4, w	5, s.-cu, ci : 2 9
16	1·7	0·37	1·3	0·28	S : SW	SSW : S	3·1	0·43	327	9 : 9, alt.-cu, fr.-cu	9 : 9, sh : 8, th.-cl
17	4·5	1·00	4·5	1·00	S:SSW : WSW	WSW	2·6	0·38	357	8 : 9, r, oc.-slt.-m.-r, slt.-sh, p.-so.-ha	9, th.-cl : 9, th.-cl : 3
18	0·1	0·03	0·0	0·00	WSW : SW	SW	5·7	0·49	375	0 : 8, s.-cu, cu	8, r : 9
19	3·5	0·78	3·5	0·78	SSW	SW : Calm	2·4	0·24	248	10, r, slt.-r : 10, r, slt.-r : 9, shs	8, shs, t : 7, r
20	4·2	0·94	4·1	0·92	NNW : N	N : NW : SW	2·0	0·16	203	8, slt.-m.-r : 10, s.-cu	9, s.-cu, ci : 9 : 1, d
21	3·8	0·84	3·7	0·82	WSW	WSW	1·6	0·21	294	5, d : 9, s.-cu	6, fr.-s : 8 : 8
22	0·0	0·00	0·0	0·00	WSW	NW : N	1·5	0·20	281	1, d : 6 : 5	9, s.-cu, cu : 9
23	0·0	0·00	0·0	0·00	N : Calm	Calm : NW	1·0	0·04	125	10 : 10, s.-cu	9, s.-cu : 9, slt.-m.-r
24	4·1	0·92	3·8	0·85	N : NNE	NE : NNE	2·0	0·28	294	10 : 10, m.-r	10, n : 10 : 3
25	2·9	0·66	2·9	0·66	NNE	NNE : Calm	1·7	0·17	218	8 : 10, s.-cu	10, s.-cu : 9
26	4·5	1·00	4·5	1·00	Calm	SW : Calm	0·4	0·03	99	1, ho.-fr : 1, h	3, fr.-cu, h : 2, h : 1, h, d
27	4·5	1·00	4·5	1·00	Calm : SW	SW : WSW	1·6	0·09	190	0, h, d : 0, slt.-h	0, slt.-h : 0, slt.-h, d
28	2·1	0·47	1·3	0·29	WSW	WSW : SW	1·2	0·08	209	0, slt.-h, d : 1, slt.-h	8, fr.-s, cu, slt.-h : 1, slt.-h
29	2·6	0·59	2·0	0·45	NNW	NW : N : NNE	1·5	0·17	217	8, slt.-h : 2, h	5, alt.-cu, h : 8, h
30	3·7	0·83	3·6	0·81	NNE : Calm	Calm : ENE	0·3	0·03	115	1, h : 1, h : 5, h	10, h : 10, h : 4, h
Means	2·0	0·44	1·7	0·39	..	..	..	0·30	268		
Number of Column for Reference.	20	21	22	23	24	25	26	27	28	29	30

The mean *Temperature of Evaporation* for the month was 55°·7, being 0°·8 higher than
The mean *Temperature of the Dew Point* for the month was 51°·9, being 1°·1 higher than
The mean *Degree of Humidity* for the month was 74·4, being 1·2 greater than
The mean *Elastic Force of Vapour* for the month was 0·389in., being 0·014in. 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 7·4.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·360. The maximum daily amount of *Sunshine* was 15·0 hours on June 27.

The highest reading of the *Solar Radiation Thermometer* was 140°·3 on June 1; and the lowest reading of the *Terrestrial Radiation Thermometer* was 27°·6 on June 26.

The *Proportions of Wind* referred to the cardinal points were N. 4, E. 3, S. 8, W. 11. Four days were calm.

The *Greatest Pressure of the Wind* in the month was 6·9 lbs. on the square foot on June 14. The mean daily *Horizontal Movement of the Air* for the month was 275 miles; the greatest daily value was 404 miles on June 5, and the least daily value was 162 miles on June 26. *See* Introduction, page E6.

Rain (0·005in. or over) fell on 10 days in the month, amounting to 1·230in., as measured by gauge No. 6 partly sunk below the ground; being 0·808in. less than the average fall for the 65 years, 1841–1905.

MONTH and DAY, 1931.	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
July 1	29·883	74·9	47·2	27·7	62·2	+ 0·7	55·7	49·9	12·3	22·1	2·4	65	128·5	35·2	55·3	0·000	7·2	16·6
2	29·697	69·4	56·5	12·9	61·6	— 0·0	56·9	53·0	8·6	10·4	2·1	73	105·1	47·6	55·2	0·008	1·7	16·6
3	29·593	79·4	51·1	28·3	64·2	+ 2·4	58·0	53·0	11·2	20·7	1·8	67	138·2	38·1	55·5	0·000	14·8	16·5
4	29·578	74·8	53·3	21·5	63·2	+ 1·1	59·7	57·1	6·1	13·4	2·0	81	123·5	44·9	55·5	0·000	1·4	16·5
5	29·653	78·2	57·6	20·6	64·5	+ 2·2	60·1	56·9	7·6	18·9	1·1	76	142·0	49·3	55·7	0·000	3·5	16·5
6	29·611	74·1	51·6	22·5	61·4	— 1·0	55·8	50·9	10·5	22·9	1·9	69	147·4	40·6	55·7	0·020	10·6	16·5
7	29·563	76·9	49·1	27·8	61·0	— 1·4	54·6	48·7	12·3	30·2	0·8	64	145·6	38·2	55·9	0·000	7·9	16·5
8	29·574	71·4	53·3	18·1	59·7	— 2·7	55·1	51·0	8·7	18·3	3·5	73	132·1	47·2	55·9	0·000	4·5	16·4
9	29·642	77·1	50·2	26·9	62·0	— 0·4	56·4	51·5	10·5	25·7	3·3	69	142·9	43·6	56·0	0·000	8·6	16·4
10	29·732	74·8	56·1	18·7	63·2	+ 0·7	58·5	54·8	8·4	18·6	2·4	74	129·2	46·6	56·0	0·000	5·8	16·4
11	29·840	78·9	55·9	23·0	64·8	+ 2·1	58·7	53·9	10·9	23·6	2·9	68	138·2	44·0	56·1	0·000	6·5	16·3
12	29·639	81·2	56·0	25·2	66·3	+ 3·4	59·9	55·0	11·3	19·2	4·9	67	144·2	44·1	56·1	0·000	5·8	16·3
13	29·582	72·9	55·7	17·2	62·0	— 1·1	57·5	53·9	8·1	14·4	3·0	75	129·7	47·4	56·3	0·041	6·0	16·3
14	29·440	67·4	55·1	12·3	59·6	— 3·7	57·1	55·1	4·5	12·8	0·7	85	120·9	46·9	56·3	0·348	2·2	16·3
15	29·318	63·6	53·5	10·1	58·5	— 4·9	56·9	55·6	2·9	6·7	0·2	90	88·3	45·0	56·3	0·346	0·0	16·2
16	29·742	73·9	56·2	17·7	62·7	— 0·7	57·3	52·8	9·9	19·2	1·2	70	129·2	49·1	56·5	0·001	6·2	16·2
17	29·743	71·1	55·2	15·9	59·9	— 3·5	56·4	53·5	6·4	18·0	1·6	79	128·1	46·7	56·5	0·158	0·7	16·1
18	29·627	65·1	55·2	9·9	60·0	— 3·3	56·1	52·8	7·2	11·3	2·8	77	87·9	48·9	56·5	0·007	0·6	16·1
19	29·555	68·1	53·3	14·8	58·0	— 5·2	54·9	52·2	5·8	12·2	2·3	81	122·1	46·4	56·5	0·338	2·9	16·1
20	29·710	64·0	51·5	12·5	56·4	— 6·8	53·0	49·8	6·6	12·1	1·8	78	110·0	45·5	56·3	0·025	1·2	16·0
21	29·944	66·8	47·7	19·1	57·3	— 5·9	52·0	46·7	10·6	19·5	2·7	68	116·7	36·8	56·3	0·000	4·5	16·0
22	29·925	75·7	54·9	20·8	62·3	— 0·8	57·8	54·3	8·0	13·8	3·6	75	133·2	46·0	56·4	0·000	7·4	16·0
23	29·815	79·6	53·9	25·7	65·3	+ 2·3	58·9	53·9	11·4	23·9	1·5	67	138·3	42·9	56·5	0·000	11·0	15·9
24	29·636	79·9	52·3	27·6	64·8	+ 1·9	58·1	52·7	12·1	26·1	1·4	65	142·2	40·0	56·7	0·000	10·4	15·9
25	29·306	70·9	57·0	13·9	60·1	— 2·6	57·8	56·0	4·1	11·0	0·5	87	138·5	52·1	56·7	0·303	1·0	15·8
26	29·369	65·8	57·5	8·3	60·1	— 2·4	58·1	56·6	3·5	11·6	0·7	88	94·9	55·8	56·8	0·391	0·4	15·8
27	29·472	71·8	53·0	18·8	59·3	— 3·1	55·7	52·7	6·6	16·5	0·3	79	135·8	46·2	56·9	0·364	6·2	15·7
28	29·742	69·2	52·1	17·1	59·2	— 3·1	53·7	48·5	10·7	19·0	1·4	68	120·1	45·6	56·9	0·000	3·4	15·7
29	29·839	67·3	50·2	17·1	58·7	— 3·6	55·0	51·8	6·9	15·8	1·2	78	112·0	41·6	57·0	0·032	3·3	15·6
30	29·659	70·9	55·6	15·3	62·0	— 0·3	58·5	55·8	6·2	16·3	1·1	81	118·7	51·0	57·0	0·084	1·3	15·6
31	29·695	68·8	52·9	15·9	59·7	— 2·5	56·8	54·4	5·3	12·2	1·8	83	106·0	42·8	57·0	0·000	1·3	15·5
Means	29·649	72·4	53·6	14·9	61·3	— 1·4	56·8	53·1	8·2	17·3	1·9	74·8	125·5	45·0	56·3	Sum 2·466	4·8	16·1
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	19

The results apply to the civil day, except Columns 20 to 23 (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 supplied by the 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 29·649in., being 0·157in. lower than the average for the 65 years, 1841–1905

TEMPERATURE OF THE AIR.

The highest in the month was 81°·2 on July 12; the lowest in the month was 47°·2 on July 1, and the range was 34°·0.
The mean of all the highest daily readings in the month was 72°·4, being 1°·8 lower than the average for the 65 years, 1841–1905.
The mean of all the lowest daily readings in the month was 53°·6, being 0°·3 higher than the average for the 65 years, 1841–1905.
The mean of the daily ranges was 18°·9, being 2°·0 less than the average for the 65 years, 1841–1905.
The mean for the month was 61°·3, being 1°·4 lower than the average for the 65 years, 1841-1905.

MONTH and DAY, 1931.	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.		
July 1	0·5	0·10	0·2	0·05	Calm	Calm : SW	0·6	0·02	103	6, h	9, fr.-s, s.-cu, h : 8, h
2	4·0	0·88	3·8	0·84	SW	SW	2·1	0·28	297	10 : 10, oc.-shs	10 : 4 : 4, d
3	2·6	0·57	2·6	0·57	SW	SW	1·5	0·11	227	1, d : 1	0 : 1, d
4	0·2	0·05	0·1	0·03	SW	SW : SSW	2·9	0·36	330	10 : 10, s.-cu	10, n,s.-cu,oc.-slt.-m.-r: 10, oc.-slt.-m.-r: 10
5	0·0	0·00	0·0	0·00	S : SSW	SSW : SW	2·4	0·24	240	10, oc.-slt.-m.-r : 10, oc.-slt.-m.-r	8, oc.-slt.-r : 9
6	3·9	0·86	3·5	0·79	SW : WSW	SW : SSW	1·4	0·13	228	9 : 9, r : 7, alt.-cu,s.-cu,r,sh	5, cu, cu.-n : 0, d
7	0·0	0·00	0·0	0·00	Calm : SSW	SW : NW	1·6	0·09	188	5, d : 6, alt.-cu	5, ci, cu : 9 : 10
8	3·4	0·76	3·3	0·74	WSW : W	W : WSW	3·5	0·54	408	10, slt.-r, m.-r : 9 : 9	9, w : 9, w
9	3·8	0·85	3·7	0·83	WSW	WSW : SW	3·2	0·46	371	2 : 7 : 5, alt.-cu, cu	7, cu, s.-cu : 3, d
10	1·8	0·40	1·6	0·36	WSW : SW	SW	2·6	0·36	329	4 : 8 : 9, s.-cu, n	8, slt.-shs : 3, cu : 3, d
11	3·0	0·60	2·6	0·52	SW : WSW	WSW : SW : SSW	1·1	0·18	276	3 : 9 : 8, ci,ci.-cu,so.-ha	8, cu, s.-cu : 2, d
12	4·7	0·93	4·5	0·91	S : SSE	SW	3·4	0·52	317	7 : 9, slt.-m.-r: 8, alt.-s,ci	8, ci, alt.-cu : 4 : 1, d
13	3·4	0·68	2·7	0·54	SW : SSW	SW	3·7	0·49	343	5 : 8, oc.-shs : 8, s.-cu,n,oc.-shs	7, s.-cu, ci, so.-ha : 8, ci, ci.-cu
14	0·0	0·00	0·0	0·00	SSW	SSW : SE : E	1·5	0·20	246	7 : 8,slt.-sh: 10, alt.-s,so.-ha,shs	10, alt.-s, n, shs : 10, r, m.-r : 10, c.-r
15	0·0	0·00	0·0	0·00	Calm : NW	NW : WNW	3·1	0·31	297	8, r, hy.-r : 10 : 10, shs	10, alt.-s,n,fq.-m.-r: 10, fq.-m.-r
16	3·0	0·60	2·9	0·58	W : WNW	W : WSW	2·4	0·31	346	10, slt.-m.-r: 10 : 8, fr.-s, s.-cu	8, cu, s.-cu : 8
17	1·9	0·38	1·8	0·36	SW : W	WSW : SW	4·4	0·69	406	7 : 10, s.-cu,alt.-cu, w	10, c.-r, w : 9, r, m.-r, w
18	1·2	0·22	1·1	0·20	WSW : W	WSW	3·7	0·84	442	8, w : 10, s.-cu, w	10, oc.-m.-r : 10 : 5, d
19	2·5	0·45	1·8	0·33	Calm : SW	NW : WSW	3·2	0·25	253	10 : 10, sh : 10, r, hy.-r, t	9, fq.-r : 8, n, alt.-cu
20	1·8	0·33	1·3	0·23	W : NW	N : Calm : NNW	2·1	0·21	243	8 : 9, s.-cu	10, s.cu,alt.-cu,ci : 10, r : 9
21	1·0	0·18	0·9	0·15	W : NW	NW : W : SW	0·9	0·15	206	7 : 8, cu, s.-cu	9, s.-cu, alt.-cu : 9, p.-so.-ha,prh
22	5·3	0·95	4·7	0·86	SW	SW : SSW	2·1	0·35	317	9 : 9 : 8, s.-cu	5, fr.-s : 1, d
23	3·4	0·61	2·2	0·40	SSW	SW : Calm	1·7	0·18	220	4, d : 5, d : 7, ci,ci.-cu,oc.-so.-ha	5, ci,-cu,so.-ha : 8, ci,oc.-so.-ha : th.-cl, d
24	0·1	0·02	0·1	0·02	Calm : SW	SW : Calm	2·5	0·20	210	th.-cl, d : th.-cl	5, ci.-cu,ci : 4, ci : 8
25	0·0	0·00	0·0	0·00	Calm : SSE : SSW	SW : WSW	3·0	0·31	273	10, m.-r : 10, m.-r, r	10, r, t : 10, m.-r, r
26	0·0	0·00	0·0	0·00	SW	SSW : Calm : SW	2·2	0·34	306	10 : 10, alt.-s, alt.-cu	10, m.-r : 10, m.-r,r,hy.-r
27	5·0	0·83	4·9	0·82	NW : W : WSW	WNW : WSW	3·7	0·38	347	10, hy. r, r : 7 : 8, alt.-cu,n,sh	9, alt.-s, ci, n, slt.-shs : 3
28	2·9	0·49	2·9	0·49	WSW : W	W : WSW	3·5	0·60	437	8 : 9, cu, alt.-cu	9, alt.-cu, s.-cu : 9, alt.-cu, s.-cu
29	0·0	0·00	0·0	0·00	WSW : SW	SW	2·0	0·18	278	1, d : 8, ci,fr.-cu : 9, alt.-s,n	10, alt.-cu, alt.-s, m.-r : 10, oc.-m.-r
30	0·3	0·06	0·2	0·04	SSW : SW	W : SW	1·5	0·18	289	10, r : 9, ci, alt.-cu, n, shs	10, s.-cu, alt.-cu : 9, slt.-r
31	3·4	0·57	3·2	0·53	SW : Calm	Calm : SSW	0·3	0·03	140	10 : 10, n, alt.-s, s	10, s.-cu : 8, d
Means	2·0	0·40	1·8	0·36	..	..	..	0·31	288		
Number of Column for Reference.	20	21	22	23	24	25	26	27	28	29	30

The mean *Temperature of Evaporation* for the month was 56°·8, being 1°·1 lower, than
The mean *Temperature of the Dew Point* for the month was 53°·1, being 1°·0 lower than
The mean *Degree of Humidity* for the month was 74·8, being 1·6 greater than
The mean *Elastic Force of Vapour* for the month was 0·406in., being 0·015in. 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 0·296. The maximum daily amount of *Sunshine* was 14·8 hours on July 3.

The highest reading of the *Solar Radiation Thermometer* was 147°·4 on July 6; and the lowest reading of the *Terrestrial Radiation Thermometer* was 35°·2 on July 1.

The *Proportions of Wind* referred to the cardinal points were N. 1, E. 1, S. 11, W. 15. Three days were calm.
The *Greatest Pressure of the Wind* in the month was 4·4 lbs. on the square foot on July 17. The mean daily *Horizontal Movement of the Air* for the month was 288 miles; the greatest daily value was 391 miles on July 18, and the least daily value was 165 miles on July 1. See Introduction, page E 6.

Rain (0·005in. or over) fell on 14 days in the month, amounting to 2·466in., as measured by gauge No. 6 partly sunk below the ground; being 0·067in. greater than the average fall for the 65 years, 1841–1905.

MONTH and DAY, 1931.	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	29·709	75·0	50·2	24·8	63·2	+ 1·0	57·8	53·4	9·8	19·2	0·4	71	134·4	40·2	57·1	0·000	6·7	15·5
2	29·755	69·2	57·2	12·0	62·8	+ 0·7	60·0	57·9	4·9	8·8	2·3	84	86·6	53·9	57·0	0·059	0·7	15·4
3	29·892	76·6	60·0	16·6	65·9	+ 3·8	61·6	58·6	7·3	17·4	1·1	77	135·0	56·7	57·2	0·101	4·5	15·4
4	29·917	79·2	60·3	18·9	67·4	+ 5·3	65·2	63·8	3·6	11·0	0·8	89	138·7	59·3	57·1	0·094	2·5	15·3
5	29·798	78·6	62·0	16·6	67·2	+ 5·1	65·0	63·6	3·6	10·1	0·3	89	130·9	57·6	57·1	2·202	2·2	15·3
6	29·693	68·7	58·7	10·0	62·9	+ 0·7	60·9	59·5	3·4	7·6	0·5	88	105·7	54·5	57·7	0·010	0·2	15·2
7	29·664	74·3	55·7	18·6	63·5	+ 1·3	58·3	54·5	9·0	17 1	2·4	72	131·3	48·2	58·0	0·000	4·4	15·1
8	29·357	68·9	50·1	18·8	57·7	− 4·6	55·0	52·7	5·0	11·9	0·7	83	123·3	45·3	58·0	0·552	5·9	15·1
9	29·693	63·8	47·8	16·0	54·2	− 8·1	49·1	43·5	10·7	18·5	1·4	67	123·1	35·3	58·0	0·024	8·9	15·0
10	29·843	59·8	45·9	13·9	53·4	− 8·9	51·5	49·7	3·7	9·4	1·0	87	83·5	33·2	58·0	0·193	0·1	15·0
11	30·079	68·6	48·1	20·5	58·0	− 4·4	52·6	47·3	10·7	19·7	2·2	68	119·7	41·1	58·0	0·000	6·7	14·9
12	29·985	73·9	55·0	18·9	63·0	+ 0·5	58·2	54·4	8·6	20·2	1·1	73	135·2	50·0	57·9	0·106	7·2	14·9
13	29·759	67·6	56·8	10·8	60·4	− 2·1	58·8	57·6	2·8	5·6	0·5	90	114·3	54·5	57·8	0·106	0·9	14·8
14	29·418	60·3	53·8	6·5	57·8	− 4·7	56·9	56·2	1·6	2·8	0·7	95	74·0	44·9	57·8	1·163	0·0	14·7
15	29·344	72·1	53·6	18·5	61·2	− 1·2	57·5	54·5	6·7	15·3	0·5	79	132·1	44·6	58·0	0·008	10·8	14·7
16	29·362	69·2	55·0	14·2	60·7	− 1·6	57·7	55·3	5·4	11·6	0·9	82	133·2	47·1	57·9	0·721	5·9	14·6
17	29·558	70·8	54·7	16·1	60·9	− 1·2	55·6	51·0	9·9	20·4	1·7	70	127·8	43·4	58·0	0·013	6·8	14·6
18	29·668	74·7	51·2	23·5	61·1	− 0·8	56·5	52·7	8·4	22·2	0·2	74	137·4	40·1	58·1	0·000	9·5	14·5
19	29·378	72·6	55·6	17·0	61·8	+ 0·1	59·4	57·7	4·1	9·9	0·3	86	131·4	51·5	58·0	0·627	1·6	14·4
20	29·234	67·3	53·8	13·5	58·4	− 3·1	54·9	51·8	6·6	14·5	1·7	79	119·7	46·0	58·1	0·158	4·6	14·4
21	29·463	65·1	54·9	10·2	58·6	− 2·7	54·9	51·7	6·9	12·4	1·6	78	103·1	51·6	58·0	0·024	0·3	14·3
22	29·628	63·8	49·3	14·5	56·8	− 4·3	53·2	49·8	7·0	14·6	2·5	77	104·0	39·6	58·0	0·000	0·6	14·3
23	29·634	62·6	41·7	20·9	52·5	− 8·4	48·6	44·4	8·1	19·0	0·6	74	119·9	29·4	58·0	0·000	5·4	14·2
24	29·509	56·9	44·3	12·6	51·2	− 9·6	48·0	44·5	6·7	13·8	1·6	78	76·5	31·6	58·0	0·058	0·0	14·1
25	29·728	62·8	46·4	16·4	55·0	− 5·7	49·8	44·3	10·7	18·4	2·8	67	113·3	34·2	57·9	0·000	6·2	14·1
26	30·172	67·8	43·5	24·3	54·1	− 6·6	50·1	45·9	8·2	19·2	0·4	74	115·3	31·1	57·7	0·000	8·8	14·0
27	30·199	64·6	42·0	22·6	54·2	− 6·4	50·7	47·3	6·9	16·2	0·0	77	124·1	28·7	57·4	0·000	10·1	14·0
28	30·074	65·9	50·7	15·2	57·4	− 3·0	54·7	52·4	5·0	11·6	0·4	83	118·8	41·0	57·2	0·000	2·7	13·9
29	29·925	69·0	53·0	16·0	60·4	+ 0·1	56·3	52·8	7·6	17·9	0·6	76	127·0	44·1	57·1	0·001*	11·2	13·8
30	29·828	70·1	55·7	14·4	61·0	+ 0·9	58·5	56·5	4·5	11·3	1·4	85	119·1	49·1	57·1	0·033	1·1	13·8
31	29·820	64·9	55·7	9·2	58·9	− 1·0	57·3	56·1	2·8	6·1	1·1	90	76·4	52·0	57·0	0·013	0·0	13·7
Means	29·712	68·5	52·3	16·2	59·4	− 2·2	56·0	52·9	6·5	14·0	1·1	79·4	116·6	44·5	57·7	Sum 6·266	4·4	14·6
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	19

The results apply to the civil day, except Columns 20 to 23 (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 supplied by the 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 August 29 is derived from dew.

The mean reading of the *Barometer* for the month was 29·712in., being 0·078in. lower than the average for the 65 years, 1841–1905.

TEMPERATURE OF THE AIR.

The highest in the month was 79°·2 on August 4; the lowest in the month was 41°·7 on August 23; and the range was 37°·5.
The mean of all the highest daily readings in the month was 68°·5, being 4°·2 lower than the average for the 65 years, 1841–1905.
The mean of all the lowest daily readings in the month was 52°·3, being 0°·7 lower than the average for the 65 years, 1841–1905.
The mean of the daily ranges was 16°·2, being 3°·5 less than the average for the 65 years, 1841–1905.
The mean for the month was 59°·4, being 2°·2 lower than the average for the 65 years, 1841–1905.

MONTH and DAY, 1931.	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		
Aug. 1	0·7	0·11	0·0	0·00	Calm : NE	ENE : NE	1·7	0·15	219	6, d : 6, m, d : 5, alt.-cu, h	6, cu, ci.-cu, h, p.-so.-ha : 8
2	0·1	0·02	0·0	0·00	NNE	NNE	3·3	0·44	356	9 : 10, r, m.-r : 10, r, m.-r	9, oc.-m.-r : 10
3	0·0	0·00	0·0	0·00	NNE : NE	NE : NNE	5·5	1·32	500	10 : 10, h : 5, alt.-cu, ci.-cu, h, w	8, fr.-cu, s.-cu, w : 10, w : 10, r, t, l
4	0·0	0·00	0·0	0·00	NNE : NE	ENE : E	1·7	0·18	232	10, r, slt.-m : 9, s, slt.-m	8, slt.-r : 10, r, hy.-r
5	0·6	0·09	0·0	0·00	Calm : ENE	Calm : Var	1·0	0·04	110	10 : 10, s	9, h : 10, hy.-t.-sm, m
6	2·0	0·31	0·0	0·00	N : NNW	NNW : WNW	0·3	0·05	156	10, slt.-m.-r, m : 10, m : 10, s, m	10, s, s.-cu : 10, sh
7	1·4	0·21	1·0	0·15	NW : WSW	WNW : W : WSW	1·8	0·20	274	3 : 7, s.-cu, alt.-cu	9, cu, cu.-n, alt.-cu : 8
8	0·0	0·00	0·0	0·00	Calm : SSW	WSW : NNW	6·8	0·63	353	9, c.-hy.-r : 10, hy.-r, shs, t	9, slt.-t.-sm, w : 10, c.-r
9	5·3	0·76	3·1	0·44	NNW	N : NNW : NW	3·0	0·45	318	10, r : 4 : 5, fr.-s, fr.-cu, ci	8, s.-cu, alt.-cu, cu.-n : 3, h, w
10	0·6	0·09	0·6	0·09	WSW : SW	SW : W : N	2·7	0·23	276	3, d : 10, slt.-r	10, r, m.-r : 10, r, m.-r
11	0·4	0·06	0·2	0·03	NNW	WNW : NW	1·5	0·17	244	5, d : 6, alt.-cu, ci	9, alt.-cu, s.-cu, ci : 10
12	0·4	0·06	0·3	0·05	WSW : WNW	W : NW	1·6	0·16	269	9, slt.-m.-r : 7, s.-cu, alt.-cu, ci	8, s.-cu, cu : 9, r, hy.-r
13	0·0	0·00	0·0	0·00	NW : Calm	E	0·8	0·09	180	10 : 10, oc.-slt.-m.-r, r, glm	9, s, s.-cu, h : 10, m.-r
14	4·7	0·67	4·7	0·67	E	E : SW	3·1	0·22	240	10, m : 10, n, m.-r, hy.-r, r	10, m.-r, hy.-r, r, t, l : 6
15	3·1	0·41	3·1	0·41	SW	SW : SSW : S	3·7	0·35	285	4, oc.-slt.-m.-n : 5, s.-cu, slt.-sh	7, shs : 2, d
16	4·8	0·64	4·4	0·58	SSW : W	SW	6·0	0·95	406	7, r, hy.-r : 9, hy.-r, r	8, n, cu.-n, hy.-shs, w : 8, hy.-sh, w : 1, d
17	7·5	1·00	7·5	1·00	SW : W	WSW	6·8	1·58	537	7, slt.-m.-r, w : 9, s.-cu, sh, w	7, alt.-s, n, slt.-sh, w : 1, hy.-d
18	0·0	0·00	0·0	0·00	WSW : SW	SW : SSW	1·0	0·11	216	0, hy.-d : 6 : 4, ci, fr.-cu, h	7, ci, fr.-cu, so.-ha : 10, th.-cl, d
19	4·5	0·59	4·4	0·58	SE : S	SSW : SW	5·0	0·60	316	10, c.-r : 10, r, m.-r	10, alt.-s, cu, n, hy.-sh : 9, slt.-r, w
20	0·1	0·01	0·0	0·00	SW	SW : WSW	8·5	1·68	525	3, w : 7, n, shs, w	10, fq.-shs, r, m.-r, w : 10, slt.-sh, w
21	0·0	0·00	0·0	0·00	WSW : W	WNW : W	3·7	0·89	487	10, sh, w : 10, n, w	10, s.-cu, n, slt.-shs, w : 10, shs
22	6·8	0·85	6·8	0·85	W : Calm	Calm : NE : ENE	0·5	0·05	161	10 : 9, s.-cu, alt.-cu, h	9, s.-cu, fr.-s : 8, d
23	5·9	0·73	5·3	0·66	ENE : NE	N : Calm : ENE	0·2	0·03	134	1, ho.-fr : 1, ho.-fr : 8, alt.-cu, h	10, alt.-cu, h : 8
24	0·0	0·00	0·0	0·00	ENE	ENE : NE	3·6	0·67	393	1, d : 10, alt.-s	10, alt.-s, n, slt.-r, m.-r, w : 10, m.-r, r, w
25	8·0	1·00	8·0	1·00	NE : NNE	N : NNW	4·9	1·02	414	10, w : 8, cu, s.-cu, ci, so.-ha, w	8, s.-cu, cu, slt.-sh : 5 : 0, d
26	8·0	1·00	7·7	0·96	SW : Calm	Calm : SE	0·2	0·01	136	0, d : 1, m, h	4, s.-cu, h : 2, h, d
27	5·8	0·72	5·4	0·67	Calm : E	E : ENE	3·0	0·36	254	5, ho.-fr, m, h : 6, fr.-cu, h	7, cu, ci : th.-cl, lu.-ha, d
28	7·3	0·91	6·7	0·84	ENE : E	E : ENE	3·2	0·49	332	th.-cl, lu.-ha, d : 10, th.-cl, so.-ha	10, th.-cl, so.-ha : 10, th.-cl, so.-ha : 3, th.-cl, lu.-ha, d
29	5·2	0·62	4·3	0·50	ENE : E	E : ENE	6·7	0·87	385	3, hy.-d : 3, ci, w	4, ci, w : 3, ci, d
30	0·0	0·00	0·0	0·00	NE : ENE	ENE : NE	3·0	0·40	319	9 : 10, s.-cu, n	10, s.-cu, n, slt.-sh : 10, m.-r
31	0·2	0·03	0·0	0·00	NNE	N : NNE	1·4	0·19	246	10, m.-r : 10 : 10, s	10, s, s.-cu : 9, d
Means	2·7	0·35	2·4	0·31	..	..	..	0·47	299		
Number of Column for Reference.	20	21	22	23	24	25	26	27	28	29	30

The mean *Temperature of Evaporation* for the month was 56°·0, being 1°·5 lower than
The mean *Temperature of the Dew Point* for the month was 52°·9, being 1°·4 lower than
The mean *Degree of Humidity* for the month was 79·4, being 2·6 greater than
The mean *Elastic Force of Vapour* for the month was 0·403in., being 0·021in. 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 7·9.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·301. The maximum daily amount of *Sunshine* was 11·2 hours on August 29.

The highest reading of the *Solar Radiation Thermometer* was 138°·7 on August 4; and the lowest reading of the *Terrestrial Radiation Thermometer* was 28°·7 on August 27.

The *Proportions of Wind* referred to the cardinal points were N. 9, E. 8, S. 4, W. 7. Three days were calm.

The *Greatest Pressure of the Wind* in the month was 8·5 lbs. on the square foot on August 20. The mean daily *Horizontal Movement of the Air* for the month was 295 miles; the greatest daily value was 454 miles on August 17, and the least daily value was 169 miles on August 5. *See* Introduction, page E6.

Rain (0·005in. or over) fell on 20 days in the month, amounting to 6·266in. as measured by gauge No. 6 partly sunk below the ground; being 3·922in. greater than the average fall for the 65 years, 1841–1905.

MONTH and DAY, 1931	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
Sept. 1	29·783	69·6	54·7	14·9	60·6	+ 0·8	58·2	56·3	4·3	9·8	0·7	86	107·1	50·0	57·1	0·000	0·7	13·6
2	29·478	63·6	53·1	10·5	59·8	+ 0·1	58·2	57·0	2·8	6·5	1·1	90	91·0	42·1	57·0	0·301	1·3	13·6
3	29·353	69·3	51·9	17·4	59·1	− 0·5	56·7	54·8	4·3	10·7	0·4	86	124·3	40·0	57·1	0·253	7·5	13·5
4	29·210	62·0	50·8	11·2	55·5	− 4·0	53·5	51·7	3·8	10·3	0·6	87	95·0	44·6	57·0	0·150	0·2	13·5
5	29·449	54·4	50·7	3·7	52·3	− 7·1	50·3	48·4	3·9	11·8	1·2	86	63·6	47·2	57·0	0·031	0·0	13·4
6	29·884	60·9	43·0	17·9	51·8	− 7·4	47·3	42·1	9·7	18·6	1·3	69	113·7	32·1	57·1	0·000	8·7	13·3
7	29·952	59·0	38·0	21·0	47·8	−11·2	45·3	42·4	5·4	13·5	0·0	81	113·3	25·1	57·0	0·000	5·0	13·3
8	29·953	59·3	35·1	24·2	47·6	−11·2	45·3	42·6	5·0	13·0	0·0	82	90·9	24·0	56·9	0·000	3·9	13·2
9	29·896	64·9	39·2	25·7	52·0	− 6·6	47·9	43·3	8·7	19·1	0·0	72	124·1	28·6	56·8	0·000	8·0	13·1
10	29·937	60·8	44·0	16·8	51·5	− 6·9	47·5	42·9	8·6	18·5	3·4	73	118·2	29·9	56·5	0·000	3·1	13·0
11	29·983	58·8	42·0	16·8	48·7	− 9·4	45·5	41·6	7·1	15·6	0·9	76	113·3	28·3	56·2	0·000	3·5	13·0
12	29·849	57·4	44·3	13·1	50·2	− 7·8	49·2	48·2	2·0	5·5	0·8	93	75·7	31·9	56·1	0·425	0·0	12·9
13	30·115	60·0	41·0	19·0	49·8	− 8·0	46·0	41·5	8·3	17·1	1·7	73	114·3	29·9	55·9	0·000	8·3	12·9
14	30·211	64·1	40·7	23·4	51·8	− 5·9	48·4	44·7	7·1	16·7	0·0	77	106·1	30·2	55·9	0·000	8·7	12·8
15	30·237	71·5	51·0	20·5	58·5	+ 0·9	55·8	53·5	5·0	13·5	0·2	84	125·9	40·0	55·8	0·000	4·1	12·7
16	30·154	71·0	50·3	20·7	58·9	+ 1·4	56·1	53·8	5·1	13·5	0·3	83	120·1	39·4	55·7	0·000	7·1	12·7
17	29·982	62·5	50·2	12·3	55·5	− 1·7	54·5	53·6	1·9	5·2	1·0	94	86·1	39·6	55·6	0·115	0·0	12·6
18	30·055	59·2	53·6	5·6	57·4	+ 0·5	56·8	56·3	1·1	2·7	0·3	96	64·0	43·7	55·6	0·021	0·0	12·5
19	30·166	68·2	46·7	21·5	57·8	+ 1·3	55·3	53·2	4·6	9·3	0·0	85	103·8	36·7	55·7	0·046	3·7	12·5
20	30·316	63·9	48·3	15·6	55·7	− 0·5	51·3	46·9	8·8	18·9	0·8	72	125·1	34·6	55·7	0·030	9·4	12·4
21	30·238	59·4	45·6	13·8	50·5	− 5·4	46·7	42·3	8·2	14·4	3·3	73	114·2	31·0	55·7	0·005	5·5	12·3
22	30·181	57·7	43·3	14·4	50·4	− 5·2	46·4	41·7	8·7	16·7	1·7	72	112·4	37·0	55·6	0·000	6·2	12·3
23	30·105	58·2	48·7	9·5	53·8	− 1·6	51·9	50·0	3·8	7·6	0·6	87	82·9	47·1	55·5	0·110	0·2	12·2
24	30·258	56·9	45·2	11·7	52·2	− 3·1	50·4	48·6	3·6	8·4	0·8	87	81·1	34·2	55·5	0·016	0·8	12·2
25	30·395	55·7	50·9	4·8	53·0	− 2·2	51·3	49·7	3·3	5·7	0·5	88	65·0	47·6	55·4	0·006	0·0	12·1
26	30·393	54·9	49·4	5·5	52·2	− 3·0	50·3	48·4	3·8	6·8	1·4	87	72·1	42·4	55·4	0·004	0·0	12·0
27	30·241	58·9	46·6	12·3	51·9	− 3·2	49·3	46·5	5·4	11·0	0·6	82	99·0	39·4	55·1	0·000	2·1	11·9
28	30·010	62·3	45·8	16·5	52·8	− 2·1	49·9	46·9	5·9	12·5	0·7	80	103·1	35·1	55·1	0·000	1·1	11·9
29	29·934	63·4	45·9	17·5	52·6	− 2·1	50·6	48·7	3·9	11·8	0·4	86	102·3	35·2	55·0	0·000	1·5	11·8
30	29·707	65·0	49·1	15·9	54·5	+ 0·1	51·9	49·5	5·0	12·7	0·4	83	114·1	35·6	55·0	0·000	3·3	11·8
																Sum		
Means	29·981	61·8	46·6	15·1	53·5	− 3·7	50·9	48·2	5·3	11·9	0·8	82·3	100·7	36·7	56·0	1·513	3·5	12·7
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	19

The results apply to the civil day, except Columns 20 to 23 (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 supplied by the 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 0·163in. higher than the average for the 65 years, 1841–1905.

Temperature of the Air.

The highest in the month was 71°·5 on September 15; the lowest in the month was 35°·1 on September 8; and the range was 36°·4.

The mean of all the highest daily readings in the month was 61°·8, being 5°·5 lower than the average for the 65 years, 1841–1905.

The mean of all the lowest daily readings in the month was 46°·6, being 2°·5 lower than the average for the 65 years, 1841–1905.

The mean of the daily ranges was 15°·1, being 3°·1 less than the average for the 65 years, 1841–1905.

The mean for the month was 53°·5, being 3°·7 lower than the average for the 65 years, 1841–1905.

MONTH and DAY, 1931.	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.		
Sept. 1	0·0	0·00	0·0	0·00	Calm : SW	SW : SSW	1·1	0·13	171	10 : 10, m	10, s.-cu : 10
2	6·3	0·74	6·2	0·73	SW	SSW : SW	4·0	0·35	282	10, m.-r : 10 : 10, c.-r	10, r : 1, d
3	1·9	0·22	1·7	0·20	SSE : SSW	SW : SSW	3·2	0·24	250	4, slt.-sh, d : 7, n, cu.-n, hy.-sh, sh	7, alt.-cu, cu.-n, shs : 4, r
4	0·2	0·02	0·0	0·00	S : SSW	SSW : Calm	2·7	0·21	217	10, r, m.-r : 10, oc.-r, m.-r	10, s.-cu, n : 9, d
5	4·1	0·45	4·0	0·44	NNW : NW	NNW : WNW	3·4	0·71	384	10, slt.-sh, m.-r : 10 : 10, m.-r	10, m.-r : 10, oc.-m.-r
6	8·3	0·93	6·4	0·71	WNW : NW	NW : N : Calm	1·7	0·22	262	1, d : 2	8, s.-cu, alt.-cu : 4, alt.-cu, m, d
7	9·0	1·00	9·0	1·00	Calm : WSW : NNW	N : NNE : Calm	1·3	0·06	158	1, ho.-fr : 9, alt.-cu, ci.-cu, m	7, alt.-cu : 1 : 0, ho.-fr, m
8	4·5	0·50	0·7	0·08	Calm	Calm	0·1	0·00	83	0, m, ho.-fr : 0, f, h	8, s.-cu, h : 6, m, f, d
9	2·1	0·23	0·3	0·04	Calm : WSW : NNW	N : Calm	0·7	0·03	141	5, ho.-fr, m, f : 2, h	8, ci, cu, h, so.-ha : 6, d
10	6·0	0·67	3·5	0·39	NE : ENE	ENE	0·8	0·06	183	10 : 10, slt. m.-r, m.-r	6, alt.-cu : 8 : 1, d
11	2·9	0·32	1·0	0·11	Calm : NNE	N : Calm : SW	0·6	0·03	139	2, ho.-fr : 10 : 9, alt.-cu, alt.-s	8 : 7, slt.-f : 5, slt.-f, ho.-fr
12	7·6	0·85	7·2	0·80	SW : SSW	Calm : ENE : NNE	2·1	0·22	265	10, r : 10, m.-r : 10, slt.-m.-r, m.-r	10, m.-r, r, m : 10, m.-r, m : 1, d
13	0·6	0·06	0·0	0·00	NNE : N	NNW : Calm	1·2	0·15	190	0, d : 2	8, alt.-cu, ci.-cu, so.-ha : 9
14	1·7	0·19	1·2	0·13	Calm	WSW : Calm	0·5	0·04	139	9, n, d : 9, so.-ha : 3, ci.-cu, m, h	2, fr.-cu, ci.-cu, h : 3, h : 9, d
15	4·6	0·51	1·6	0·17	SSW : Calm	SW : Calm	0·1	0·00	125	10, d : 8, s.-cu, alt.-cu, h	8, s.-cu, h : 9, h : 0, h, hy.-d
16	4·3	0·48	2·1	0·23	Calm	SW : Calm	0·1	0·01	119	7, hy.-d, m : 1, m, h	3, fr.-s, h : 2, h, d
17	0·0	0·00	0·0	0·00	SW	SW : Calm	0·6	0·03	156	10 : 10, r : 10, r, m.-r	10 : 10
18	4·5	0·50	0·0	0·00	Calm	Calm	0·0	0·00	71	10, slt.-m.-r, m : 10, slt.-m.-r, m, f	10, slt.-m.-r, m : 9, m
19	0·0	0·00	0·0	0·00	Calm	Calm : NNE	1·7	0·07	152	2 : 3, m, f : 4, m, h	5, s.-cu, ci.-cu, h : 5 : 10, r
20	4·5	0·46	3·7	0·38	NNE : NE	N : NW	2·4	0·19	245	10, r, m.-r : 4, fr.-s	6, fr.-s, ci : th.-cl
21	5·2	0·53	3·7	0·38	NNW : N	N	4·3	0·54	339	7, m.-r : 6, ci, cu, fr.-s, slt.-sh	9, n, cu.-n, shs, so.-ha : 9
22	0·0	0·00	0·0	0·00	N	NNE : N	3·4	0·33	294	2, d : 5, cu, alt.-cu	8, alt.-cu, s.-cu : 10
23	0·0	0·00	0·0	0·00	NW : NNE	NE : NNE	2·7	0·26	282	10, slt.-m.-r : 10, alt.-cu, n, r, m.-r	10, alt.-s, n, m.-r.-shs : 10
24	0·0	0·00	0·0	0·00	NNE : N	N	0·6	0·06	159	10, sh : 9, s.-cu, alt.-s	10, oc.-slt.-m.-r, m.-r : 10
25	2·4	0·25	2·0	0·21	N	NNW	1·4	0·18	218	10, slt.-m.-r, m.-r : 10, oc.-slt.-m.-r	10, oc.-slt.-m.-r : 10
26	3·1	0·30	2·1	0·20	NNW : N	NNE	1·5	0·15	232	10, m : 10, m.-r.-sh, m	10, oc.-slt.-m.-r : 10
27	0·0	0·00	0·0	0·00	NNE : Calm	N : NNW	0·6	0·06	167	9 : 10, m : 8, s, h	10, h : 10, h
28	2·1	0·20	0·7	0·07	NW : Calm	NNW : Calm	0·4	0·05	129	10 : 9, s.-cu, s, m	10, s.-cu, alt.-cu : 3, f
29	3·9	0·39	3·8	0·37	Calm	SSE : Calm	0·4	0·03	125	10 : 9, slt.-f	4, alt.-cu, s.-cu, h : 9, h : 2, hy.-d
30	1·2	0·12	1·1	0·11	SSE	S : Calm	1·2	0·11	201	9, d : 7, alt.-cu, s.-cu	10, cu, s.-cu : 8, slt.-m.-r
Means	3·0	0·33	2·1	0·22	..	..	..	0·15	196		
Number of Column for Reference.	20	21	22	23	24	25	26	27	28	29	30

The mean *Temperature of Evaporation* for the month was 50°·9, being 3°·2 lower than
The mean *Temperature of the Dew Point* for the month was 48°·2, being 2°·9 lower than
The mean *Degree of Humidity* for the month was 82·3, being 2·4 greater than
The mean *Elastic Force of Vapour* for the month was 0·339in., being 0·040in. 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 7·2.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·273. The maximum daily amount of *Sunshine* was 9·4 hours on September 20.

The highest reading of the *Solar Radiation Thermometer* was 125°·9 on September 15; and the lowest reading of the *Terrestrial Radiation Thermometer* was 24°·0 on September 8.

The *Proportions of Wind* referred to the cardinal points were N. 10, E. 2, S. 4, W. 5. Nine days were calm.

The *Greatest Pressure of the Wind* in the month was 4·3 lbs. on the square foot on September 21. The mean daily *Horizontal Movement of the Air* for the month was 227 miles; the greatest daily value was 352 miles on September 5, and the least daily value was 143 miles on September 18. *See* Introduction, page E6.

Rain (0·005in. or over) fell on 13 days in the month, amounting to 1·513in., as measured by gauge No. 6 partly sunk below the ground; being 0·635in. less than the average fall for 65 years, 1841–1905.

MONTH and DAY, 1931.	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	29·755	68·7	49·6	19·1	57·2	+ 3·1	53·8	50·7	6·5	12·5	1·4	79	125·0	37·9	55·0	0·000	4·1	11·7
2	29·877	67·3	54·0	13·3	60·1	+ 6·4	57·7	55·8	4·3	7·6	1·1	86	106·5	46·4	55·0	0·027	1·0	11·6
3	30·138	63·2	47·2	16·0	54·0	+ 0·7	50·3	46·6	7·4	16·6	0·8	75	110·3	35·0	55·0	0·005*	7·2	11·6
4	30·152	64·6	46·9	17·7	56·5	+ 3·5	54·5	52·9	3·6	7·9	1·4	87	93·5	36·3	55·1	0·000	0·2	11·5
5	30·028	65·7	48·5	17·2	59·2	+ 6·4	57·5	56·2	3·0	6·8	0·4	89	92·4	35·0	55·1	0·003	1·0	11·4
6	29·690	69·9	44·2	25·7	56·0	+ 3·5	53·9	52·2	3·8	9·2	0·2	87	111·8	31·0	55·2	0·009	3·4	11·4
7	29·579	60·5	49·1	11·4	54·9	+ 2·6	51·4	47·9	7·0	17·4	1·2	77	110·0	40·0	55·1	0·361	7·1	11·3
8	29·929	66·4	47·0	19·4	54·8	+ 2·8	52·4	50·2	4·6	10·4	2·3	84	107·5	38·2	55·1	0·033	2·9	11·3
9	29·955	65·5	51·9	13·6	57·1	+ 5·5	53·9	51·0	6·1	16·0	1·4	80	112·7	41·0	55·1	0·000	4·0	11·2
10	30·037	64·9	51·1	13·8	57·1	+ 5·8	55·4	54·0	3·1	8·0	0·5	89	86·9	40·6	55·0	0·000	0·0	11·1
11	30·110	60·0	46·9	13·1	52·8	+ 1·9	52·1	51·4	1·4	4·4	0·0	95	81·1	36·7	55·0	0·000	1·0	11·0
12	29·952	67·9	47·1	20·8	54·3	+ 3·7	53·1	52·1	2·2	10·8	0·0	92	105·3	35·1	55·0	0·003*	5·4	11·0
13	30·000	58·8	46·1	12·7	52·1	+ 1·8	51·1	50·1	2·0	4·4	0·3	93	69·0	36·9	55·0	0·009	0·0	10·9
14	30·348	58·0	43·0	15·0	49·1	− 1·0	45·6	41·3	7·8	14·0	1·4	74	95·0	30·4	54·9	0·000	5·8	10·9
15	30·443	56·8	36·7	20·1	47·9	− 2·0	45·2	42·0	5·9	13·6	0·8	79	95·5	26·3	54·9	0·000	5·5	10·8
16	30·311	58·9	48·9	10·0	53·4	+ 3·6	51·3	49·3	4·1	8·0	2·2	86	78·0	42·0	54·8	0·000	0·3	10·7
17	30·213	54·9	50·5	4·4	52·9	+ 3·3	50·2	47·4	5·5	9·0	3·5	82	62·0	46·7	54·5	0·001	0·0	10·7
18	30·231	56·0	45·0	11·0	51·2	+ 1·9	49·7	48·2	3·0	6·7	1·4	89	66·2	31·6	54·4	0·002	0·0	10·6
19	30·126	59·4	42·3	17·1	49·9	+ 0·8	47·2	44·2	5·7	11·3	0·8	81	98·3	28·6	54·3	0·000	3·6	10·5
20	29·928	55·5	39·8	15·7	47·9	− 0·9	44·1	39·2	8·7	11·6	4·6	72	77·3	28·8	54·1	0·000	0·1	10·5
21	30·027	50·1	33·8	16·3	41·2	− 7·4	38·0	32·9	8·3	14·2	3·3	72	82·2	22·8	54·0	0·000	2·1	10·4
22	29·849	51·1	27·0	24·1	39·7	− 8·6	37·6	34·4	5·3	11·8	0·4	81	85·3	17·1	53·9	0·000	2·4	10·3
23	29·404	50·8	37·9	12·9	44·3	− 3·8	41·8	38·4	5·9	12·9	1·2	80	62·2	26·0	53·6	0·001	0·3	10·3
24	29·326	49·0	35·8	13·2	43·2	− 4·7	40·1	35·7	7·5	18·3	4·6	74	82·9	27·4	53·1	0·000	3·4	10·2
25	29·741	48·6	31·2	17·4	38·4	− 9·3	35·8	31·3	7·1	19·0	2·4	75	82·9	23·3	53·0	0·000	7·5	10·1
26	30·085	50·6	31·1	19·5	39·8	− 7·8	37·2	33·0	6·8	15·7	2·5	77	89·9	21·1	52·9	0·000	3·6	10·1
27	30·096	47·6	24·9	22·7	34·1	−13·4	31·5	26·9	7·2	21·0	0·4	74	88·0	12·0	52·3	0·000	3·6	10·0
28	29·854	52·0	24·0	28·0	39·6	− 7·8	37·2	33·4	6·2	13·3	1·2	78	66·2	10·4	52·1	0·000	0·2	10·0
29	29·918	49·8	38·6	11·2	44·4	− 2·9	42·1	39·0	5·4	10·7	0·8	81	70·0	26·3	51·9	0·270	0·0	9·9
30	29·948	52·1	30·4	21·7	44·6	− 2·6	41·2	36·3	8·3	15·9	1·7	73	81·9	24·1	51·5	0·015	2·9	9·8
31	30·224	52·6	26·9	25·7	40·8	− 6·3	38·1	33·8	7·0	12·9	1·0	76	82·1	20·0	51·1	0·001*	1·7	9·8
Means	29·977	58·0	41·2	16·8	49·3	− 0·7	46·8	43·8	5·5	12·0	1·5	81·2	89·0	30·8	54·1	Sum 0·740	2·6	10·7
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	19

The results apply to the civil day, except Columns 20 to 23 (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 supplied by the 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 3 is derived from dew, on October 12 from wet fog and October 31 from hoar frost.

The mean reading of the *Barometer* for the month was 29·977in., being 0·249in. higher than the average for the 65 years, 1841–1905.

TEMPERATURE OF THE AIR.

The highest in the month was 69°·9 on October 6; the lowest in the month was 24°·0 on October 28; and the range was 45°·9.

The mean of all the highest daily readings in the month was 58°·0, being 0°·5 higher than the average for the 65 years, 1841–1905.

The mean of all the lowest daily readings in the month was 41°·2, being 2°·0 lower than the average for the 65 years, 1841–1905.

The mean of the daily ranges was 16°·8, being 2°·5 greater than the average for the 65 years, 1841–1905.

The mean for the month was 49°·3 being 0°·7 lower than the average for the 65 years, 1841–1905.

MONTH and DAY, 1931.	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	0·3	0·03	0·0	0·00	Calm : SW	SW	0·8	0·09	204	10 : 10 : 8, alt.-cu, slt.-h	10, ci, s.-cu, so.-ha : 9
2	8·2	0·80	7·8	0·76	SW	SW : WSW	2·8	0·52	387	10, slt.-sh : 10, s.-cu, n	6, fr.-s, ci : 10, m.-r : v.-cl
3	7·2	0·67	7·0	0·65	WSW : NW	NW : W : SW	1·3	0·08	241	0, hy.-d : 8, th.-cl, lu.-ha, d: 8, ci, ci.-cu, so.-ha	4, cu : 3, d
4	0·6	0·05	0·5	0·04	SSW : SW	SSW : SW	1·7	0·15	244	3, d : 10	10, alt.-s, n, slt.-m.-r.-shs : 10
5	10·2	0·95	1·00	0·93	SW	SSW : Calm	0·6	0·09	179	10, sh : 9, s, s.-cu	10, slt.-sh : 9 : 0, d
6	0·0	0·00	0·0	0·00	Calm : SSW	SW : SSW	2·0	0·17	227	0, hy.-d : th.-cl, f, oc.-so.-ha	10, ci, alt.-cu : 10, slt.-shs : 10, oc.-slt.-r
7	10·5	0·98	10·4	0·97	SSW : WSW	WSW	5·4	0·73	440	10, slt.-r, hy.-r : v.-cl, w	v.-cl, cu, alt.-cu, sh, w : 0, d
8	7·5	0·70	7·4	0·69	SW : WSW	WSW : SW	3·1	0·43	354	0, d : 9, r	9, alt.-s, s.-cu : v.-cl : v.-cl
9	2·4	0·23	1·3	0·12	SSW : SW	SW : SSW	3·0	0·33	291	1, d : 8, slt.-sh : 9	9, ci, fr.-cu, so.-ha: 9, d
10	0·0	0·00	0·0	0·00	SW : WSW	Calm	0·2	0·02	109	8 : 10, s.-cu	10, s.-cu, m : 10, f
11	1·7	0·15	0·0	0·00	Calm	Calm	0·1	0·00	73	tk.-f : tk.-f	0, f : 0, tk.-f : tk.-f
12	4·9	0·44	4·3	0·39	Calm	Calm : SSW	0·3	0·01	78	tk.-f : tk.-f	0 : 1, m, d
13	9·7	0·86	6·7	0·59	WSW : Calm	N : NNW	1·8	0·10	163	10, m : 10, m, slt.-m	10, r, slt.-m : 10, slt.-m : 0, slt.-m, d
14	11·3	1·00	11·3	1·00	NNW : N	NNE : NE	1·6	0·13	222	0, slt.-m, d : th.-cl	3, fr.-s, ci : 0, m, d
15	1·3	0·12	1·0	0·09	Calm	NE	0·9	0·03	137	0, ho.-fr : 4, s.-cu, f	3, alt.-cu, fr.-cu: 2 : 10
16	0·0	0·00	0·0	0·00	NE	ENE	1·4	0·13	227	10 : 8 : 10, s.-cu	10, s.-cu, r, slt.-sh : 8 : 10, slt.-m.-r
17	0·0	0·00	0·0	0·00	NE	ENE : NE	1·4	0·19	266	10 : 10, s	10, s : 10, s : 10, slt.-m.-r
18	5·8	0·50	4·8	0·41	NE	NE : Calm	1·3	0·10	201	10, m.-r : 10, m.-r, slt.-m : 10, s, slt.-m	10, s, s.-cu : 10, slt.-m.-r: 1, d
19	0·5	0·04	0·5	0·04	Calm	Calm : NW	0·7	0·05	116	7 : 8, m : 4, h, f	10, s, m, slt.-m : 9
20	11·7	1·00	11·7	1·00	W : WNW	NNE : N	2·9	0·48	320	10 : 10, s.-cu	8, oc.-slt.-r : 0 : 0, ho.-fr
21	11·7	1·00	11·7	1·00	N : NW : NNW	NNE : NE	1·5	0·12	191	0, ho.-fr : th.-cl, ci, m	4, ci, fr.-s : 0, slt.-m, ho.-fr
22	4·7	0·40	3·7	0·32	Calm	Calm : ENE	0·3	0·00	103	0, slt.-m, ho.-fr : th.-cl, f	10, ci, s.-cu : 10, slt.-m : 7, slt.-m, ho.-fr
23	5·4	0·46	2·4	0·20	Calm : ENE	E : NE	1·0	0·07	186	9 : 7, ho.-fr : 9, sh, slt.-m	9, alt.-cu, ci : 9 : 7, lu.-ha
24	12·0	1·00	12·0	1·00	NNE : N	N	3·0	0·47	316	7, lu.-ha : 6, m : 4, m	7, oc.-slt.-r : 1, ho.-fr
25	12·0	1·00	12·0	1·00	N : NNE	NNE : N	3·1	0·32	292	1, ho.-fr : 0	1 : 0, ho.-fr
26	9·3	0·77	9·1	0·76	N : NNW	NE : Calm	1·4	0·07	181	0, ho.-fr : 0, m, ho.-fr: 0, f	2 : 5, m : 2, f, ho.-fr
27	12·0	1·00	7·2	0·60	Calm	Calm : SW	0·3	0·00	83	0, f, ho.-fr : f, tk.-f, ho.-fr : tk.-f, m	1 : 0, f, ho.-fr
28	6·1	0·50	4·3	0·36	SW	NW : W	1·8	0·19	290	0, ho.-fr, m: 0, ho.-fr, m: 10, oc.-slt.-r, m	5, m, h : 0, h : 0
29	0·0	0·00	0·0	0·00	WSW : NW	WSW : SW	3·2	0·20	277	th.-cl, lu.-ha, ho.-fr : th.-cl, f, h	10, m.-r, h : 10, c.-r : 10, c.-r
30	9·7	0·81	8·6	0·72	WSW : NNW	N : Calm	6·6	0·76	352	10, r, w, st.-w : 10, r, w : v.-cl	v.-cl, ci, s.-cu : 8 : 0, f, ho.-fr
31	2·1	0·17	1·4	0·11	Calm : SW	SW : SSW	0·8	0·06	181	2, f, ho.-fr : 7, f : 9, f	7, s.-cu, alt.-cu, slt.-m: 6, slt.-m : 8, d
Means	5·8	0·50	5·1	0·44	..	..	..	0·20	224		
Number of Column for Reference.	20	21	22	23	24	25	26	27	28	29	30

The mean *Temperature of Evaporation* for the month was 46°·8, being 1°·1 lower than
The mean *Temperature of the Dew Point* for the month was 43°·8, being 1°·8 lower than
The mean *Degree of Humidity* for the month was 81·2, being 3·7 less than
The mean *Elastic Force of Vapour* for the month was 0·287in., being 0·021in. 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 6·6.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·241. The maximum daily amount of *Sunshine* was 7·5 hours on October 25.

The highest reading of the *Solar Radiation Thermometer* was 125°·0 on October 1; and the lowest reading of the *Terrestrial Radiation Thermometer* was 10°·4 on October 28.

The *Proportions of Wind* referred to the cardinal points were N. 7, E. 4, S. 5, W. 7. Eight days were calm.

The *Greatest Pressure of the Wind* in the month was 6·6 lbs. on the square foot on October 30. The mean daily *Horizontal Movement of the Air* for the month was 245 miles; the greatest daily value was 389 miles on October 7 and the least daily value was 145 miles on October 11. *See* Introduction, page E6.

Rain (0·005in. or over) fell on 8 days in the month, amounting to 0·740in., as measured by gauge No. 6 partly sunk below the ground; being 2·042in. less than the average fall for the 65 years, 1841–1905.

MONTH and DAY, 1931.	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	30·181	56·8	39·1	17·7	47·9	+ 0·9	44·3	39·7	8·2	19·9	3·1	73	95·6	25·0	51·3	0·000	7·8	9·7
2	29·976	59·4	36·9	22·5	47·9	+ 1·1	44·7	40·7	7·2	17·0	0·9	76	98·2	23·8	51·1	0·000	8·3	9·7
3	29·648	61·3	50·0	11·3	57·0	+10·4	52·2	47·5	9·5	15·1	2·9	71	80·0	39·5	51·0	0·002	0·1	9·6
4	29·462	60·2	47·4	12·8	56·0	+ 9·6	51·9	47·8	8·2	15·5	2·7	75	79·2	37·1	50·9	0·036	0·9	9·5
5	29·645	59·2	43·8	15·4	50·1	+ 4·0	48·5	46·7	3·4	8·8	0·1	88	88·3	29·8	50·9	0·000	1·8	9·5
6	29·481	56·1	44·6	11·5	49·5	+ 3·7	47·6	45·5	4·0	9·7	0·2	86	97·1	30·6	50·9	0·003*	3·5	9·4
7	29·275	56·4	46·0	10·4	49·7	+ 4·3	47·7	45·5	4·2	12·6	1·1	86	96·8	36·6	50·9	0·479	4·2	9·4
8	29·153	49·7	46·6	3·1	48·3	+ 3·3	47·2	46·0	2·3	3·6	1·3	92	57·9	40·9	50·8	0·090	0·0	9·3
9	28·993	53·2	43·9	9·3	48·6	+ 4·0	47·7	46·8	1·8	7·6	0·7	93	64·1	33·0	50·8	0·348	0·0	9·3
10	28·780	51·9	44·2	7·7	47·8	+ 3·5	46·1	44·2	3·6	5·5	2·2	87	64·2	33·5	50·7	0·328	0·0	9·2
11	28·794	57·9	47·5	10·4	51·5	+ 7·5	49·0	46·3	5·2	10·4	3·0	82	94·3	41·4	50·8	0·190	4·0	9·2
12	29·259	54·5	42·4	12·1	47·6	+ 3·9	45·2	42·4	5·2	13·4	1·2	82	86·1	30·2	50·7	0·000	7·4	9·1
13	29·710	54·1	37·0	17·1	45·1	+ 1·6	43·6	41·6	3·5	7·8	0·5	88	76·1	26·0	50·7	0·002*	3·4	9·0
14	29·605	51·6	38·1	13·5	44·7	+ 1·4	43·1	41·0	3·7	11·1	0·0	87	79·1	26·7	50·3	0·002*	1·0	9·0
15	29·817	46·1	43·7	2·4	45·6	+ 2·5	44·1	42·2	3·4	6·2	0·4	88	46·6	38·2	50·4	0·011	0·0	8·9
16	30·169	48·3	37·3	11·0	43·8	+ 1·0	42·2	40·1	3·7	9·0	0·7	87	55·8	28·4	50·2	0·001*	0·0	8·9
17	30·152	45·9	29·2	16·7	38·6	− 4·0	37·6	36·0	2·6	7·8	0·1	91	54·2	24·9	50·0	0·003*	0·0	8·8
18	29·958	45·8	37·9	7·9	42·1	− 0·3	40·8	39·1	3·0	7·2	0·7	89	55·2	32·0	50·0	0·342	0·0	8·8
19	29·715	48·9	38·0	10·9	45·0	+ 2·7	44·3	43·6	1·4	4·8	0·0	94	57·6	27·5	49·9	0·092	0·0	8·7
20	29·660	48·6	36·1	12·5	43·4	+ 1·2	42·7	41·8	1·6	4·3	0·0	94	55·8	26·2	49·7	0·000	1·0	8·7
21	29·928	50·0	36·6	13·4	44·2	+ 2·1	42·5	40·3	3·9	9·2	0·4	86	65·9	25·9	49·6	0·005	2·8	8·6
22	30·157	45·7	34·1	11·6	40·6	− 1·5	39·9	38·9	1·7	2·4	0·0	94	50·0	24·1	49·1	0·000	0·0	8·6
23	29·766	50·9	43·9	7·0	47·6	+ 5·6	46·2	44·6	3·0	5·2	1·3	89	58·2	41·3	49·1	0·041	0·0	8·5
24	29·609	53·9	40·1	13·8	48·1	+ 6·1	46·2	44·0	4·1	7·6	1·7	86	61·6	28·1	49·0	0·062	1·4	8·5
25	29·760	53·2	43·7	9·5	48·6	+ 6·7	47·2	45·7	2·9	4·5	1·4	89	63·5	33·7	49·0	0·010	0·0	8·4
26	29·402	56·8	43·6	13·2	51·1	+ 9·3	49·5	47·9	3·2	6·5	1·2	89	70·5	39·7	49·0	0·189	0·3	8·4
27	29·444	48·9	38·0	10·9	44·8	+ 3·1	42·9	40·4	4·4	6·5	2·7	85	59·1	29·7	49·0	0·023	0·9	8·4
28	29·631	48·1	38·8	9·3	44·8	+ 3·3	44·0	43·2	1·6	3·0	0·4	93	54·3	31·1	49·0	0·162	0·0	8·3
29	29·983	40·7	33·0	7·7	38·1	− 3·1	47·9	37·7	0·4	1·2	0·0	98	42·7	26·0	49·0	0·003*	0·0	8·3
30	30·132	42·3	38·2	4·1	40·1	− 0·9	40·0	39·9	0·2	1·8	0·0	99	41·9	37·6	48·9	0·005*	0·0	8·3
																Sum		
Means	29·641	51·9	40·7	11·2	46·6	+ 3·1	44·9	42·9	3·7	7·9	1·0	87·2	68·3	31·6	50·1	2·429	1·6	8·9
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	19

The results apply to the civil day, except Columns 20 to 23 (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 supplied by the 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-bulbThermometers. 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 6, 13, 14 and 16 are derived from dew, and those on November 17, 29 and 30 from wet fog.

The mean reading of the *Barometer* for the month was 29·641in., being 0·124in. lower than the average for the 65 years, 1841–1905.

TEMPERATURE OF THE AIR.

The highest in the month was 61°·3 on November 3; the lowest in the month was 29°·2 on November 17; and the range was 32°·1.

The mean of all the highest daily readings in the month was 51°·9, being 2°·9 higher than the average for the 65 years, 1841–1905.

The mean of all the lowest daily readings in the month was 40°·7, being 2°·8 higher than the average for the 65 years, 1841–1905.

The mean of the daily ranges was 11°·2, being 0°·1 greater than the average for the 65 years, 1841–1905.

The mean for the month was 46°·6, being 3°·1 higher than the average for the 65 years, 1841–1905.

MONTH and DAY, 1931.	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.		
Nov. 1	12·5	1·00	12·5	1·00	SSW	SSW : S : SSE	0·9	0·08	198	10 : 10 : 0	0 : 0 : 1, ho.-fr
2	7·6	0·61	6·4	0·51	Calm : SE : S	SW : SSW	2·1	0·22	269	0, ho.-fr : th.-cl, m	th.-cl : 1, hy.-d
3	0·0	0·00	0·0	0·00	SSW : SW	SSW	20·0	3·56	724	8 : 10, slt.-m.-r, w	10, s.-cu, st.-w : 9, st.-w
4	10·8	0·87	10·5	0·84	SSW	SW : SSW	18·0	3·66	669	10, oc.-slt.-r, st.-w : 10, oc.-slt.-r, st.-w	8, ci, w : 1, d
5	12·1	0·97	12·1	0·97	SSW	S : SSE	0·4	0·07	226	1, d : 6, ci : 9, alt.-s, so.-ha	7, s.-cu, ci.-cu : 0, m, d : 1, m, hy.-d
6	0·0	0·00	0·0	0·00	SSE : SE	SE : Calm	0·8	0·08	180	1, hy.-d : 1, hy.-d : 9	8, s.-cu : 9
7	0·0	0·00	0·0	0·00	Calm : SW	SSW : SSE	2·7	0·20	255	10, r : 10, hy.-r, r, m : 8, n, alt.-cu	4, sh : v.-cl : 10, m.-r
8	0·6	0·04	0·3	0·03	SE : ESE	ESE : Calm	1·4	0·16	190	10, m.-r : 10, m.-r	10, slt.-m.-r : 10, sh, m
9	10·6	0·81	9·9	0·76	Calm : SE : S	S : SSW	3·3	0·28	288	10 : 10 : 10, r, sh, prh	10, r, hy.-r : 0
10	4·3	0·33	2·5	0·19	SSW : S	SSW	4·5	0·63	416	1 : 9, r : 10, shs	10, r, prh : 10, r, w : 8, oc.-r, w
11	7·6	0·59	6·9	0·53	SSW : SW	SW : SSW	10·0	1·38	501	8, fq.-r, w : 2, w : v.-cl, w	v.-cl, shs, w: 9, fq.-r, w : 10, fq.-r
12	8·2	0·63	7·6	0·59	SW : WSW	WSW	3·6	0·28	360	1, d : 1	1, w : 0 : 8, d
13	12·6	0·97	10·9	0·84	WSW : Calm	Calm : SW : SSW	0·2	0·01	185	8, d : 3, ho.-fr : 4, f, h	0, f, h : 0, f, m : 0, ho.-fr
14	0·0	0·00	0·0	0·00	S : SE	S : SE : SW	1·7	0·15	255	4, ho.-fr : 7 : 8, alt.-cu, ci	9, n, ci : 10 : 10, slt.-m.-r
15	0·7	0·05	0·0	0·00	SW : WSW : NW	NNW:NNE:ENE	1·0	0·07	218	10, slt.-m.-r, slt.-m : 10, slt.-m.-r, slt.-m	10, oc.-slt.-m.-r, m, f : 10, m : 10, m.-r
16	9·5	0·72	4·9	0·37	NE	ENE : NE	0·5	0·03	178	10 : 10, s, n, m	9, s.-cu, m : 2, m, d : 2, m, d
17	0·4	0·03	0·0	0·00	NE : Calm	Calm : E : ESE	0·4	0·01	120	6, m, f, ho.-fr : 10, f : 10, tk.-f, f	10, s.-cu, f : 10, s.-cu
18	0·0	0·00	0·0	0·00	Calm : SE	SSE : SE	0·9	0·08	207	8 : 10 : 10, alt.-cu, slt.-r	10, n, c.-r : 10, c.-r
19	11·4	0·86	10·3	0·78	SSE : Calm : WSW	Calm : SSE	1·6	0·07	190	10, r : 10, r, f, so.-ha	9, alt.-cu, ci, so.-ha, m : 1, d, m, lu.-ha : 1, ho.-fr, m, lu.-ha
20	6·7	0·50	6·4	0·48	SE : Calm	Calm : SE : S	0·6	0·01	152	7, ho.-fr, m: 4, ho.-fr, m: 9, s.-cu	10, s.-cu : 10, s.-cu : 4, hy.-d
21	11·7	0·87	9·0	0·67	SSW : WSW	WSW : Calm : S	0·5	0·03	221	8, m.-r, m : 8, m, d : 4, alt.-cu, h, m	0, h, m : 0, h, f : 6, f, ho.-fr
22	0·0	0·00	0·0	0·00	Calm	Calm : SE	1·2	0·03	124	2, ho.-fr : 3, f, tk.-f, so.-ha	tk.-f, f : 10, slt.-m.-r
23	0·0	0·00	0·0	0·00	SE : SSE	SSW : S	1·5	0·20	284	10, slt.-m.-r : 10, slt.-m.-r, m.-r, m : 10, alt.-s, m	10, ci, n : 10 : 10, slt.-m.-r, r
24	7·8	0·58	5·4	0·40	SSW : W : NW	W : SW : SSW	3·1	0·31	322	10, r, slt.-r, w : 10, r, slt.-r : 8, s.-cu, m	0, h : 0, m : th.-cl, ci, lu.-ha, ho.-fr
25	0·0	0·00	0·0	0·00	SSW	SSE	0·7	0·09	239	8, d : 9, s.-cu, so.-ha	10, fr.-s, n : 10 : 10, m.-r
26	4·1	0·30	3·3	0·24	SSE : S	S : SW	8·7	0·86	405	10, slt.-m.-r, r : 10, slt.-m.-r: 9	10, fr.-s, s.-cu : 10, r : 10, slt.-r
27	2·2	0·16	1·6	0·12	SW : SSW	SSW	1·4	0·23	327	v.-cl, m.-r, lu.-ha : 3 : 6, alt.-s, ci, so.-ha	10, alt.-s, ci, r : 10 : 8, d
28	6·5	0·47	4·1	0·30	S : Calm : NE	NE	0·5	0·02	156	8, r, m.-r : 9, f	10, s, fr.-s, m, sh : 10, m : 1, m, d
29	0·0	0·00	0·0	0·00	Calm	Calm	0·0	0·00	51	1, f, ho.-fr : tk.-f : tk.-f	tk.-f : tk.-f
30	0·0	0·00	0·0	0·00	Calm	Calm	0·0	0·00	50	tk.-f : tk.-f	tk.-f, slt.-m : 10, slt.-m
Means	4·9	0·38	4·2	0·32	..	..	..	0·43	265		
Number of Column for Reference.	20	21	22	23	24	25	26	27	28	29	30

The mean *Temperature of Evaporation* for the month was 44°·9, being 3°·0 higher than
The mean *Temperature of the Dew Point* for the month was 42°·9, being 3°·2 higher than
The mean *Degree of Humidity* for the month was 87·2, being 0·6 greater than
The mean *Elastic Force of Vapour* for the month was 0·277in., being 0·031in. 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 0·182. The maximum daily amount of *Sunshine* was 8·3 hours on November 2.

The highest reading of the *Solar Radiation Thermometer* was 98°·2 on November 2; and the lowest reading of the *Terrestrial Radiation Thermometer* was 23°·8 on November 2.

The *Proportions of Wind* referred to the cardinal points were N. 1, E. 4, S. 14, W. 5. Six days were calm.

The *Greatest Pressure of the Wind* in the month was 20·0 lbs. on the square foot on November 3. The mean daily *Horizontal Movement of the Air* for the month was 273 miles; the greatest daily value was 579 miles on November 3, and the least daily value was 129 miles on November 30. *See* Introduction, page E 6.

Rain (0·005in. or over) fell on 17 days in the month, amounting to 2·429in., as measured by gauge No. 6 partly sunk below the ground; being 0·209in. greater than the average fall for the 65 years, 1841–1905.

MONTH and DAY, 1931.	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.	°	°	°	°	°	°	°	°	°	°		°	°	°	ins.	hours	hours
Dec. 1	30·223	43·9	39·7	4·2	41·2	+ 0·3	40·3	39·2	2·0	3·8	1·4	92	50·8	33·9	48·8	0·000	0·0	8·2
2	30·167	45·8	36·5	9·3	41·0	+ 0·1	39·9	38·5	2·5	6·2	0·7	90	56·3	30·0	48·8	0·000	1·6	8·2
3	29·637	53·7	38·0	15·7	46·1	+ 5·0	44·2	41·9	4·2	9·1	1·5	85	51·3	33·0	48·6	0·233	0·0	8·2
4	29·474	60·0	48·6	11·4	54·9	+13·6	50·7	46·5	8·4	14·7	3·1	73	83·5	39·6	48·7	0·000	2·5	8·1
5	29·749	55·9	43·2	12·7	48·7	+ 7·2	45·9	42·6	6·1	12·1	1·9	79	55·1	33·0	48·5	0·117	0·0	8·1
6	29·598	54·2	42·0	12·2	45·4	+ 3·9	41·9	37·0	8·4	13·5	4·3	73	54·6	31·1	48·3	0·000	1·4	8·1
7	30·038	44·7	33·1	11·6	39·3	− 2·0	36·3	31·1	8·2	13·4	4·2	73	45·8	23·4	48·2	0·001*	1·4	8·0
8	30·101	47·9	36·3	11·6	43·5	+ 2·5	41·7	39·3	4·2	10·7	1·4	85	52·0	25·8	48·2	0·023	0·0	8·0
9	30·126	48·8	37·0	11·8	43·6	+ 3·0	41·8	39·4	4·2	7·9	1·4	85	56·9	28·1	48·1	0·004	1·4	8·0
10	30·152	54·6	42·1	12·5	48·3	+ 7·9	46·5	44·5	3·8	6·8	2·1	86	59·0	32·1	48·1	0·010	0·1	8·0
11	30·305	50·7	47·6	3·1	49·1	+ 8·9	47·4	45·5	3·6	4·8	2·2	87	55·0	41·0	48·0	0·000	0·0	7·9
12	30·406	48·0	45·0	3·0	46·5	+ 6·2	44·3	41·6	4·9	7·4	2·1	83	50·0	42·0	48·0	0·000	0·0	7·9
13	30·401	47·2	44·4	2·8	45·6	+ 5·1	44·0	42·0	3·6	7·1	1·2	87	46·0	42·0	48·0	0·005	0·0	7·9
14	30·187	46·2	43·9	2·3	45·4	+ 4·7	42·5	38·6	6·8	8·6	5·0	77	46·0	40·7	48·0	0·000	0·0	7·9
15	30·052	49·0	43·8	5·2	46·0	+ 5·2	44·2	42·0	4·0	7·1	0·8	86	52·1	41·9	48·0	0·081	0·0	7·9
16	30·262	44·4	38·6	5·8	42·1	+ 1·4	38·8	33·7	8·4	17·2	2·9	72	51·9	31·1	48·0	0·001	0·0	7·8
17	30·401	42·0	32·8	9·2	37·8	− 2·6	36·2	33·7	4·1	7·8	1·3	85	49·2	24·7	47·9	0·000	0·0	7·8
18	30·479	33·7	28·9	4·8	31·5	− 8·5	31·2	30·5	1·0	1·9	0·3	97	32·3	21·5	47·8	0·003*	0·0	7·8
19	30·506	36·0	26·1	9·9	31·2	− 8·3	30·4	28·8	2·4	7·6	0·4	91	38·7	20·4	47·7	0·000	0·0	7·8
20	30·437	42·1	29·3	12·8	36·8	− 2·2	35·7	33·8	3·0	6·1	1·6	89	45·0	20·7	47·3	0·000	0·0	7·8
21	30·432	40·7	36·5	4·2	38·9	+ 0·2	37·1	34·4	4·5	7·2	2·0	83	42·0	31·6	47·1	0·000	0·0	7·8
22	30·527	38·7	33·4	5·3	36·3	− 2·1	34·3	30·7	5·6	8·9	3·9	80	43·2	32·9	47·0	0·000	0·0	7·8
23	30·578	39·6	32·9	6·7	36·6	− 1·6	34·4	30·4	6·2	7·6	3·5	78	42·5	31·9	46·9	0·000	0·0	7·8
24	30·440	50·2	39·6	10·6	45·7	+ 7·5	43·3	40·2	5·5	7·2	3·7	81	58·8	32·8	46·9	0·004	0·0	7·8
25	30·331	51·1	46·7	4·4	49·1	+10·7	48·3	47·5	1·6	3·9	1·0	94	54·0	40·6	46·8	0·000	0·0	7·8
26	30·172	54·8	47·8	7·0	50·3	+11·7	48·8	47·2	3·1	5·4	1·2	89	62·9	39·1	46·8	0·001	0·0	7·8
27	29·949	48·9	43·9	5·0	47·1	+ 8·3	44·0	40·2	6·9	10·8	2·9	76	54·1	33·7	46·8	0·000	1·0	7·9
28	29·501	51·6	35·6	16·0	45·4	+ 6·5	42·4	38·3	7·1	10·3	3·6	76	52·2	30·0	46·9	0·070	0·0	7·9
29	29·228	36·7	32·3	4·4	34·6	− 4·4	32·5	28·6	6·0	9·3	1·6	78	44·0	26·9	46·8	0·077	1·2	7·9
30	29·595	36·4	29·2	7·2	33·8	− 5·1	31·4	27·0	6·8	9·4	4·0	76	45·9	22·2	46·8	0·000	2·1	7·9
31	29·919	34·4	20·6	13·8	27·4	−11·3	25·6	20·4	7·0	11·1	1·6	75	39·7	11·6	46·6	0·000	0·8	7·9
Means	30·109	46·2	37·9	8·3	42·2	+ 2·3	40·2	37·3	5·0	8·5	2·2	82·6	50·7	31·3	47·7	Sum 0·630	0·4	7·9
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	19

The results apply to the civil day, except Columns 20 to 23 (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 supplied by the 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 December 7 and 18 are derived from hoar frost.

The mean reading of the *Barometer* for the month was 30·109in., being 0·317in. higher than the average for the 65 years, 1841–1905.

TEMPERATURE OF THE AIR.

The highest in the month was 60°·0 on December 4; the lowest in the month was 20°·6 on December 31; and the range was 39°·4.

The mean of all the highest daily readings in the month was 46°·2, 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 37°·9, being 2°·9 higher than the average for the 65 years, 1841–1905.

The mean of the daily ranges was 8°·3, being 0°·9 less than the average for the 65 years, 1841–1905.

The mean for the month was 42°·2, being 2°·3 higher than the average for the 65 years, 1841–1905.

MONTH and DAY, 1931.	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.		
Dec. 1	0·0	0·00	0·0	0·00	Calm	Calm	0·1	0·00	89	10, slt.-m : 10, m : 1, m, f	10, f : 10, f
2	1·1	0·08	0·6	0·04	Calm	S	1·2	0·07	173	10, f : 10, f : 7, tk.-f, f	5, f : 8, s.-cu : 10, slt.-m-r
3	2·4	0·17	0·5	0·04	S : SSW	SW	9·8	1·56	581	10, slt.-m.-r : 10, w : 10, r, w, st.-w	10, sq.-r, alt.-cu, n, w : 7, w, h : 5, w
4	13·1	0·95	12·7	0·93	SW : WSW	WSW : W	22·0	4·10	892	10, slt.-m.-r, w : 10, slt.-m.-r, st.-w, g : 8, ci, so.-ha, g, st.-w	9, s.-cu, n, fq.-slt.-m.-r, st.-w : 1, st.-g : 1, st.-g
5	5·7	0·41	4·4	0·32	WSW : SW	SSW : SW	10·0	1·08	476	1, w : 8 : 10, alt.-cu, alt.-s	10, s, alt.-cu, m.-r : 10, r, oc.-r, w, st.-w
6	5·7	0·41	5·0	0·37	WSW : SW	SW : Calm	9·5	0·80	361	2, st.-w : 1, w : th.-cl, so.-ha	th.-cl, so.-ha : 10, m : 10, f
7	9·0	0·65	5·9	0·43	NNE : N : NW	NW : WSW	1·8	0·07	225	4, ho.-fr : 0, ho.-fr : 0, f	th.-cl, ci, m : th.-cl, m : 2, ho.-fr
8	8·7	0·64	7·1	0·53	SW	WSW	1·4	0·16	307	4, ho.-fr : 10, r, oc.-m.-r	10, oc.-m.-r, f : 10, s, alt.-s, f : 3, f, d
9	5·1	0·37	4·3	0·32	WSW	W : WNW	1·5	0·17	353	0, ho.-fr : th.-cl, m	9, alt.-cu, s.-cu, m : 10, m.-r
10	1·5	0·11	0·0	0·00	WSW	NNW	3·4	0·24	334	2 : 10, oc.-m.-r, f	7, fr.-s : 9
11	0·0	0·00	0·0	0·00	NNW : N	NNE : Calm	0·7	0·04	148	10, slt.-m.-r : 10, m	10, s.-cu, slt.-m : 10, slt.-m, f
12	0·0	0·00	0·0	0·00	Calm : NW	WSW	0·6	0·03	186	10, slt.-m : 10, s	10, s, m : 10, f
13	0·0	0·00	0·0	0·00	Calm : SW	WSW	1·1	0·05	215	10, slt.-m.-r, m.-r, f : 10, m.-r, oc.-slt.-m.-r, f	10, alt.-s, m, slt.-m : 10, m, slt.-m
14	0·0	0·00	0·0	0·00	WSW : W	W : WSW	0·7	0·07	269	10, m, slt.-m : 10, s, slt.-m, m	10, alt.-s, m, slt.-m : 10, slt.-m
15	0·0	0·00	0·0	0·00	WSW	W : NNW : NE	0·6	0·05	235	10, m, slt.-m : 10, s, m	10, m.-r, slt.-m.-r, f : 10, m.-r, slt.-m.-r
16	4·2	0·31	0·9	0·06	ENE : NE	NE	0·8	0·03	187	10, slt.-m.-r : 10, s.-cu, m	9, s.-cu : 10
17	9·7	0·71	0·5	0·04	Calm	NNE	0·3	0·02	145	8, ho.-fr : 9, s.-cu, f	9, s.-cu : 0, ho.-fr
18	0·0	0·00	0·0	0·00	Calm	Calm	0·0	0·00	85	0, m, ho.-fr : tk.-f	tk.-f : tk.-f
19	1·2	0·08	0·0	0·00	Calm	Calm	0·1	0·00	69	10, f, ho.-fr : 10, f	8, s.-cu, f : 1, f, ho.-fr
20	0·0	0·00	0·0	0·00	Calm	N : NNE	0·3	0·02	150	10, f, ho.-fr : 10, s.-cu, f	10, s.-cu, alt.-s, m : 10, slt.-m.-r
21	0·0	0·00	0·0	0·00	NE : ENE	NE : ENE	0·4	0·04	214	10 : 10, m	10, s.-cu, s, m : 10
22	0·0	0·00	0·0	0·00	ENE : Calm	SE : Calm : SW	0·2	0·01	147	10 : 10	10, s.-cu, fr.-s : 10
23	1·8	0·13	0·0	0·00	SW	SW	3·0	0·18	297	10 : 10, s.-cu	10, s.-cu : 10
24	0·5	0·04	0·0	0·00	SW	WSW : SW	2·2	0·47	429	th.-cl, lu.-ha : 10, slt.-r	9 : 9
25	0·7	0·05	0·0	0·00	WSW : SW	WSW	1·0	0·10	299	10 : 10, slt.-m.-r : 10, f, slt.-m.-r	10, s, f : 10, oc.-slt.-m.-r, f : 10, oc.-slt.-m.-r, m
26	3·5	0·25	2·3	0·17	WSW	WSW	0·8	0·06	274	10, oc.-slt.-m.-r, m : 10, s.-cu, m	9, s, fr.-s, m : 9, m
27	4·6	0·33	4·2	0·30	WSW	WSW	1·8	0·17	365	9, m, d : th.-cl, m : 5, m	10, s.-cu, m : 10, m : 9
28	8·7	0·62	6·9	0·50	WSW	WNW : WSW	5·8	1·23	593	th.-cl, w : 10, w : 10, w	10, r, slt.-r, w : 10 : 5, ho.-fr, w
29	6·3	0·45	4·9	0·35	WSW : NW	NW : W : NNW	3·4	0·57	465	0, ho.-fr, w : 8 : 9, hy.-sn, m	2, m, f : 7, m.-r, m, f : 1
30	13·5	0·96	9·4	0·67	NNW	NW : NNW	2·2	0·32	350	4 : 10 : 8, slt.-sn, m	3, m : 0, ho.-fr
31	11·6	0·83	7·6	0·54	NW : SW	NNW : Calm : SW	0·8	0·03	189	0, ho.-fr : 0, f	0, m : 0, tk.-f, ho.-fr
Means	3·8	0·28	2·5	0·18	..	..	..	0·38	294		
Number of Column for Reference	20	21	22	23	24	25	26	27	28	29	30

The mean *Temperature of Evaporation* for the month was 40°·2, being 1°·7 higher than
The mean *Temperature of the Dew Point* for the month was 37°·3, being 0°·9 higher than
The mean *Degree of Humidity* for the month was 82·6, being 4·9 less, than
The mean *Elastic Force of Vapour* for the month was 0·223in., being 0·007in. 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 8·1.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·055. The maximum daily amount of *Sunshine* was 2·5 hours on December 4.

The highest reading of the *Solar Radiation Thermometer* was 83°·5 on December 4; and the lowest reading of the *Terrestrial Radiation Thermometer* was 11°·6 on December 31.

The *Proportions of Wind* referred to the cardinal points were N. 5, E. 2, S. 6, W. 12. Six days were calm.

The *Greatest Pressure of the Wind* in the month was 22·0 lbs. on the square foot on December 4. The mean daily *Horizontal Movement of the Air* for the month was 292 miles; the greatest daily value was 691 miles on December 4, and the least daily value was 142 miles on December 19. *See* Introduction page E6.

Rain (0·005in. or over) fell on 8 days in the month, amounting to 0·630in, as measured by gauge No. 6 partly sunk below the ground; being 1·197in. 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, 1931.	Reading	Greenwich Mean Time, 1931.	Reading.	Greenwich Mean Time, 1931.	Reading.	Greenwich Mean Time, 1931.	Reading.	Greenwich Mean Time, 1931.	Reading	Greenwich Mean Time, 1931.	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.
2. 14. 0	29·382	3. 14. 0	29·164			4. 2. 0	29·259			2. 14. 30	29·347
7. 23. 0	30·343	9. 13. 15	30·113	5. 23. 30	29·828	6. 17. 45	29·717	2. 22. 50	29·447	4. 16. 0	29·189
10. 9. 0	30·219	12. 16. 0	29·457	9. 21. 40	30·066	11. 15. 30	29·876	8. 0. 0	30·003	9. 16. 0	29·866
14. 20. 25	29·956	16. 22. 15	29·361	12. 11. 0	29·983	17. 11. 0	29·272	11. 10. 0	30·009	12. 15. 30	29·755
18. 19. 15	29·823	19. 7. 0	29·698	20. 22. 0	29·854	22. 3. 0	29·622	15. 9. 0	30·276	17. 15. 0	29·945
21. 2. 20	30·026	23. 20. 10	28·959	23. 6. 0	29·730	24. 9. 20	29·541	20. 9. 15	30·363	23. 4. 50	30·045
27. 8. 0	30·043	29. 16. 25	29·360	26. 0. 10	30·008	28. 7. 30	29·477	25. 10. 45	30·425	30. 17. 20	29·636
31. 3. 15	29·992			28. 22. 45	29·651	31. 4. 40	29·558				
February.		February.		June.		June.		October.		October.	
		1. 5. 25	29·300					3. 22. 10	30·229	7. 3. 10	29·409
2. 12. 0	29·845	3. 1. 50	29·744	3. 22. 5	29·962	7. 21. 0	29·479	8. 21. 35	30·028	9. 16. 40	29·900
5. 9. 10	30·158	6. 15. 0	29·748	13. 8. 15	29·998	14. 14. 20	29·352	11. 9. 10	30·146	13. 0. 30	29·840
7. 20. 20	29·825	10. 9. 20	29·491	15. 21. 0	29·931	17. 6. 50	29·608	15. 8. 50	30·490	20. 11. 0	29·853
11. 2. 25	29·981	11. 20. 20	29·215	18. 8. 0	29·775	19. 9. 30	29·528	21. 10. 0	30·054	24. 2. 45	29·165
12. 11. 0	29·381	13. 7. 0	29·220	21. 7. 10	30·076	24. 3. 0	29·866	26. 23. 50	30·168	28. 12. 30	29·758
14. 19. 50	29·822	16. 19. 0	28·962	26. 8. 0	30·262	28. 20. 0	30·024	29. 10. 0	29·982	30. 3. 45	29·672
19. 22. 0	29·869	21. 6. 0	29·529	30. 7. 0	30·101			31. 7. 30	30·252		
24. 10. 35	30·182	26. 15. 0	29·671								
27. 3. 20	29·868	28. 16. 10	29·036								
March.		March.		July.		July.		November.		November.	
						4. 3. 0	29·518			4. 9. 40	29·353
2. 8. 10	29·746	4. 4. 0	29·630	4. 23. 30	29·674	7. 15. 15	29·517	5. 10. 35	29·685	8. 5. 0	29·106
5. 1. 25	29·892	7. 15. 0	29·480	11. 11. 15	29·862	15. 4. 0	29·118	8. 22. 15	29·228	11. 1. 40	28·671
8. 11. 30	29·649	10. 15. 0	29·453	17. 0. 5	29·821	18. 4. 0	29·577	13. 11. 0	29·751	14. 21. 35	29·537
11. 21. 0	29·680	14. 2. 15	29·431	18. 21. 35	29·668	19. 11. 45	29·498	16. 10. 50	30·200	20. 12. 30	29·636
17. 9. 30	29·761	21. 3. 0	29·515	21. 23. 0	29·974	25. 13. 40	29·192	22. 10. 40	30·225	24. 4. 0	29·409
26. 1. 0	30·318	28. 5. 0	29·989	26. 9. 0	29·438	26. 19. 15	29·294	25. 9. 0	29·832	26. 19. 25	29·166
29. 9. 15	30·226			29. 7. 30	29·884	30. 11. 0	29·620				
April.		April.		August.		August.		December.		December.	
		3. 3. 0	29·324					1. 18. 45	30·259	3. 14. 55	29·425
4. 11. 30	29·804	6. 5. 0	29·524	4. 11. 20	29·945	8. 11. 0	29·237	3. 21. 0	29·519	4. 5. 50	29·380
10. 22. 45	30·160	12. 16. 0	29·787	10. 0. 0	29·881	10. 16. 40	29·792	5. 9. 30	29·939	6. 0. 10	29·429
13. 21. 5	30·104	15. 23. 30	29·807	11. 21. 0	30·131	15. 6. 20	29·318	8. 0. 0	30·190	8. 17. 15	30·032
16. 12. 45	29·992	18. 7. 30	29·300	18. 12. 0	29·691	20. 17. 20	29·117	12. 23. 0	30·438	15. 7. 30	30·017
21. 10. 40	29·759	25. 10. 5	28·940	23. 21. 0	29·649	24. 18. 35	29·432	19. 3. 0	30·536	21. 0. 50	30·390
29. 22. 0	29·909			26. 23. 30	30·238			23. 11. 0	30·600	29. 7. 0	29·164
								31. 23. 25	30·030		

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 1931.

	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.....	30·343	30·182	30·318	30·160	30·066	30·262	29·974	30·238	30·425	30·490	30·325	30·600
Lowest.....	28·959	28·962	29·431	28·940	29·259	29·352	29·118	29·117	29·189	29·165	28·671	29·164
Range.....	1·384	1·220	0·887	1·220	0·807	0·910	0·856	1·121	1·236	1·325	1·554	1·436

The highest reading in the year was 30·600in. on Dec. 23. The lowest reading in the year was 28·671in. on Nov. 11. The range of reading in the year was 1·929in.

MONTHLY RESULTS OF METEOROLOGICAL ELEMENTS for the YEAR 1931.

MONTH, 1931.	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	29·721	52·0	25·6	26·4	43·0	34·1	8·9	39·0	+0·4	37·3	34·8	85·1
February	29·694	55·2	26·5	28·7	45·3	33·5	11·8	39·4	−0·2	37·3	33·8	80·7
March	29·766	68·9	21·0	47·9	48·7	33·2	15·6	40·0	−1·9	36·7	31·1	70·9
April	29·689	69·4	30·9	38·5	55·8	40·0	15·7	46·9	−0·4	43·4	38·8	73·9
May	29·698	73·2	37·7	35·5	63·9	45·3	18·6	53·5	+0·4	49·7	45·7	75·2
June	29·851	79·9	41·4	38·5	71·4	51·5	19·9	60·2	+0·8	55·7	51·9	74·4
July	29·649	81·2	47·2	34·0	72·4	53·6	18·9	61·3	−1·4	56·8	53·1	74·8
August	29·712	79·2	41·7	37·5	68·5	52·3	16·2	59·4	−2·2	56·0	52·9	79·4
September	29·981	71·5	35·1	36·4	61·8	46·6	15·1	53·5	−3·7	50·9	48·2	82·3
October	29·977	69·9	24·0	45·9	58·0	49·2	16·8	49·3	−0·7	46·8	43·8	81·2
November	29·641	61·3	29·2	32·1	51·9	40·7	11·2	46·6	+3·1	44·9	42·9	87·2
December	30·109	60·0	20·6	39·4	46·2	37·9	8·3	42·2	+2·3	40·2	37·3	82·6
		Highest	Lowest	AnnualRange								
Means	29·791	81·2	20·6	60·6	57·2	42·5	14·7	49·3	−0·3	46·3	42·9	79·0

MONTH, 1931.	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	0·202	44·5	7·1	17	1·134	68	32	2	9	47	204	186	78	118	0·46	328
February	0·194	43·1	7·8	21	1·474	91	50	10	34	64	162	132	72	57	0·47	341
March	0·174	42·4	6·5	6	0·327	54	69	253	82	37	69	33	33	114	0·48	296
April	0·236	45·2	7·8	21	3·823	100	55	40	50	61	144	76	131	63	0·36	308
May	0·308	48·7	7·6	16	2·859	52	78	60	31	77	247	37	23	139	0·23	250
June	0·389	53·7	7·4	10	1·230	56	42	53	6	48	300	84	28	103	0·30	268
July	0·406	56·3	8·0	14	2·466	8	3	4	12	70	387	132	51	77	0·31	288
August	0·403	57·7	7·9	20	6·266	95	136	112	9	27	155	67	61	82	0·47	299
September	0·339	56·0	7·2	13	1·513	178	53	12	8	54	108	18	74	215	0·15	196
October	0·287	54·1	6·6	8	0·740	88	121	28	2	34	187	50	40	194	0·20	224
November	0·277	50·1	7·5	17	2·429	2	42	20	116	199	179	18	7	137	0·43	265
December	0·223	47·7	8·1	8	0·630	50	65	16	7	26	245	137	60	138	0·38	294
Sums	..	..	..	171	24·891	842	746	610	366	744	2387	970	658	1437	..	..
Means	0·287	50·0	7·5	..	..	..	..	..	..	..	..	..	..	..	0·35	280

The greatest recorded pressure of the wind on the square foot in the year was 22·0 lbs. on December 4.

The greatest recorded daily horizontal movement of the air in the year was 892 miles on December 4.

The least recorded daily horizontal movement of the air in the year was 50 miles on November 30.

MONTHLY RESULTS OF METEOROLOGICAL ELEMENTS for the YEAR 1931.

MONTH, 1931.	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.	°	°	°	°	°	°	°	°	°	°	
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November	29·641	61·3	29·2	32·1	51·9	40·7	11·2	46·6	+3·1	44·9	42·9	87·2
December	30·109	60·0	20·6	39·4	46·2	37·9	8·3	42·2	+2·3	40·2	37·3	82·6
		Highest	Lowest	AnnualRange								
Means	29·791	81·2	20·6	60·6	57·2	42·5	14·7	49·3	−0·3	46·3	42·9	79·0

MONTH, 1931.	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	0·202	44·5	7·1	17	1·134	68	32	2	9	47	204	186	78	118	0·46	328
February	0·194	43·1	7·8	21	1·474	91	50	10	34	64	162	132	72	57	0·47	341
March	0·174	42·4	6·5	6	0·327	54	69	253	82	37	69	33	33	114	0·48	296
April	0·236	45·2	7·8	21	3·823	100	55	40	50	61	144	76	131	63	0·36	308
May	0·308	48·7	7·6	16	2·859	52	78	60	31	77	247	37	23	139	0·23	250
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July	0·406	56·3	8·0	14	2·466	8	3	4	12	70	387	132	51	77	0·31	288
August	0·403	57·7	7·9	20	6·266	95	136	112	9	27	155	67	61	82	0·47	299
September	0·339	56·0	7·2	13	1·513	178	53	12	8	54	108	18	74	215	0·15	196
October	0·287	54·1	6·6	8	0·740	88	121	28	2	34	187	50	40	194	0·20	224
November	0·277	50·1	7·5	17	2·429	2	42	20	116	199	179	18	7	137	0·43	265
December	0·223	47·7	8·1	8	0·630	50	65	16	7	26	245	137	60	138	0·38	294
Sums	..	..	..	171	24·891	842	746	610	366	744	2387	970	658	1437	..	..
Means	0·287	50·0	7·5	..	..	..	..	..	..	..	..	..	..	..	0·35	280

The greatest recorded pressure of the wind on the square foot in the year was 22·0 lbs. on December 4.

The greatest recorded daily horizontal movement of the air in the year was 892 miles on December 4.

The least recorded daily horizontal movement of the air in the year was 50 miles on November 30.

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

1931.

Hour, Greenwich Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Yearly Means.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Midnight	36·7	36·5	34·7	41·3	46·5	53·1	54·2	53·9	49·1	44·9	43·7	39·9	44·5
1h	36·2	36·3	34·4	41·1	46·2	52·6	53·8	53·6	48·6	44·3	43·4	39·4	44·2
2	36·0	36·1	34·0	40·7	45·8	52·1	53·6	53·3	48·3	43·8	43·2	39·0	43·8
3	35·9	35·7	33·7	40·4	45·6	51·8	53·2	52·9	48·0	43·6	43·0	38·8	43·5
4	35·7	35·4	33·7	40·2	45·5	51·4	53·1	52·6	47·8	43·3	42·9	38·5	43·3
5	35·6	35·5	33·9	40·1	46·0	52·0	53·6	52·6	47·5	43·4	43·1	38·8	43·5
6	35·5	35·4	34·1	40·5	47·3	53·2	54·7	53·3	47·6	43·6	43·4	38·9	44·0
7	35·5	35·5	34·4	41·7	49·0	54·6	56·1	54·6	48·8	44·0	43·7	39·2	44·8
8	35·8	36·1	35·5	42·9	50·4	55·9	57·1	56·0	50·5	45·6	44·3	39·4	45·8
9	36·6	37·0	37·2	44·0	51·8	56·8	58·2	57·3	51·9	47·5	45·6	39·7	47·0
10	37·4	37·8	38·6	44·9	52·2	57·6	58·8	57·8	52·9	49·1	46·6	40·3	47·8
11	38·1	38·8	40·0	45·5	52·5	58·3	59·0	58·3	53·6	50·0	47·1	41·0	48·5
Noon	38·6	39·5	40·5	46·2	53·1	58·7	59·4	58·7	54·0	50·8	47·3	41·7	49·0
13h	39·1	39·7	40·6	46·6	53·3	59·2	59·9	58·8	54·1	50·9	47·5	42·1	49·3
14	39·4	39·7	40·6	47·0	53·6	59·6	59·9	58·9	54·1	50·6	47·4	42·1	49·4
15	39·5	39·6	39·9	46·8	53·4	59·6	59·7	58·8	54·1	50·2	46·7	42·0	49·2
16	39·1	39·4	39·4	46·4	52·7	59·3	59·4	58·5	53·4	49·6	46·4	41·7	48·8
17	38·8	38·7	38·5	45·9	52·2	58·6	59·1	58·1	52·9	48·8	45·8	41·4	48·2
18	38·5	38·1	37·6	45·3	51·6	57·8	58·6	57·6	52·3	48·0	45·3	40·9	47·6
19	38·4	37·5	36·7	44·2	50·8	56·8	57·9	56·7	51·6	47·5	44·9	40·5	47·0
20	37·8	37·0	36·1	43·4	49·6	55·8	57·0	56·0	50·9	46·9	44·4	40·3	46·3
21	37·6	36·6	35·8	42·9	48·8	54·9	56·2	55·5	50·2	46·2	44·1	40·0	45·7
22	37·4	36·5	35·4	42·5	48·0	54·4	55·5	55·1	49·8	45·7	43·9	39·8	45·3
23	37·1	36·3	35·1	42·1	47·4	53·6	54·9	54·6	49·5	45·2	43·8	39·4	44·9
24	36·8	36·1	34·7	41·6	46·8	53·0	54·4	54·0	48·9	44·7	43·6	39·3	44·5
Means 0h.–23h.	37·3	37·3	36·7	43·4	49·7	55·7	56·8	56·0	50·9	46·8	44·9	40·2	46·3
Means 1h.–24h.	37·3	37·2	36·7	43·5	49·7	55·7	56·8	56·0	50·9	46·8	44·9	40·2	46·3
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.

1931.

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

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.	1931.												Yearly Means.
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
Midnight	88	85	81	83	86	86	87	90	91	89	90	83	87
1h	87	88	81	84	88	87	88	91	93	89	89	83	87
2	87	88	81	83	88	87	90	91	93	90	89	82	87
3	87	86	81	84	89	88	89	91	94	91	90	82	88
4	87	85	82	85	89	90	89	91	94	91	89	82	88
5	87	85	82	85	88	88	88	92	92	90	89	83	87
6	87	85	83	85	85	85	87	91	92	90	90	84	87
7	86	85	81	84	80	81	81	88	91	91	90	86	85
8	89	87	79	77	76	78	76	84	87	89	90	86	83
9	88	85	74	72	72	74	71	79	83	84	89	85	80
10	88	83	69	69	69	71	67	75	78	79	86	84	77
11	86	80	64	65	66	67	63	71	76	74	83	82	73
Noon	83	77	57	63	64	64	61	69	71	71	80	80	70
13h	80	74	53	62	63	62	60	66	71	70	78	77	68
14	79	69	53	61	62	61	60	66	70	70	79	78	67
15	79	70	55	61	62	60	60	66	71	69	79	81	68
16	80	71	58	62	63	61	61	68	71	71	83	81	69
17	82	76	61	66	65	62	63	70	72	75	86	82	72
18	82	80	66	69	68	65	67	73	77	80	87	82	75
19	85	81	70	73	74	68	72	77	82	83	88	83	78
20	85	82	74	77	78	73	77	81	85	84	89	84	81
21	87	82	77	79	82	78	83	85	88	86	90	83	83
22	88	84	78	80	84	83	85	87	89	88	91	84	85
23	88	84	81	81	86	85	86	88	91	88	90	83	86
24	87	84	80	83	86	86	87	89	91	88	91	83	86
Means 0h.–23h.	85	81	72	75	76	75	75	80	83	83	87	83	80
Means 1h.–24h.	85	81	72	75	76	75	75	80	83	83	87	83	80

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 1931.

Month, 1931.	Registered duration of Sunshine in the Hour ending :—																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.
	5h	6h	7h	8h	9h	10h	11h	Noon.	13h	14h	15h	16h	17h	18h	19h	20h				
	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h		°
January ..	—	—	—	—	0·5	2·9	4·4	5·3	6·2	6·0	2·2	—	—	—	—	—	27·5	260·3	0·106	18
February ..	—	—	—	0·4	1·3	3·7	3·7	4·1	5·3	7·3	6·0	1·2	—	—	—	—	33·0	278·2	0·119	26
March	—	—	0·2	2·9	7·7	11·5	14·5	16·2	15·3	14·0	11·9	10·3	4·4	0·5	—	—	109·4	367·0	0·298	36
April	—	0·2	4·4	7·3	8·7	8·6	10·4	11·2	10·9	11·3	10·3	8·8	5·3	4·3	0·9	—	102·6	414·7	0·247	48
May	1·3	7·2	9·5	12·2	13·3	11·8	11·3	11·2	11·2	15·1	13·3	13·0	13·2	12·1	5·4	0·8	161·9	483·1	0·335	57
June	2·2	7·4	9·0	11·1	12·3	13·0	14·8	14·0	15·1	14·8	14·6	14·7	13·3	11·3	9·0	2·2	178·8	496·3	0·360	62
July	1·0	5·1	9·6	9·7	11·2	12·9	11·9	10·0	12·1	12·2	10·4	10·6	11·0	10·8	7·9	1·9	148·3	500·3	0·296	60
August	—	2·4	6·0	9·7	12·8	13·6	15·3	13·6	13·7	12·1	10·2	9·2	8·4	7·5	2·0	—	136·5	453·0	0·301	52
September	—	—	3·2	9·1	10·2	10·5	11·9	13·5	11·3	10·4	8·3	7·3	6·2	2·0	—	—	103·9	381·0	0·273	42
October....	—	—	—	1·0	5·2	7·6	10·9	12·2	12·7	10·7	9·5	8·1	2·4	—	—	—	80·3	332·6	0·241	30
November..	—	—	—	0·4	3·9	5·5	5·3	7·2	7·1	8·3	6·9	4·2	—	—	—	—	48·8	268·0	0·182	20
December ..	—	—	—	—	—	1·5	1·7	2·1	4·1	4·1	—	—	—	—	—	—	13·5	245·7	0·055	16
For the Year	4·5	22·3	41·9	63·8	87·1	103·1	116·1	120·6	125·0	126·3	103·6	87·4	64·2	48·5	25·2	4·9	1144·5	4480·2	0·255	..

The hours are reckoned from " apparent " midnight.

READINGS OF THERMOMETERS ON THE ORDINARY STAND IN THE MAGNETIC PAVILION ENCLOSURE IN THE YEAR 1931.

(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	39·9	29·5	32·6	32·9	37·6	34·2	31·6	32·1	35·8	33·2
2	40·9	30·7	37·5	40·2	40·0	36·6	35·7	37·7	37·7	35·3
3	38·8	34·6	37·6	38·4	38·6	37·3	37·4	38·0	38·0	36·5
4	39·0	33·1	34·8	37·5	39·0	37·0	34·4	35·3	36·8	35·7
5	37·4	29·1	31·2	34·5	35·4	30·8	30·8	33·4	34·1	30·4
6	37·4	26·1	27·6	27·7	37·4	32·3	26·8	27·2	34·9	31·5
7	39·1	29·2	34·5	36·5	38·3	34·6	32·8	34·8	36·0	33·8
8	34·7	29·9	32·5	32·8	32·8	29·9	32·2	32·4	32·3	29·8
9	38·5	27·7	31·6	35·6	38·5	32·1	30·9	34·6	35·9	31·0
10	37·6	26·9	30·7	31·8	34·6	37·4	30·7	31·6	34·4	37·0
11	45·9	36·3	39·1	42·6	44·7	44·3	38·3	41·6	43·0	43·5
12	44·6	38·7	43·8	43·4	42·6	39·3	43·2	41·1	40·6	38·4
13	41·9	33·7	38·9	40·9	39·9	33·7	37·9	39·4	38·1	32·8
14	35·7	29·5	30·3	34·5	35·7	34·4	29·3	31·7	32·8	31·7
15	47·0	33·0	39·3	42·9	44·6	46·7	38·4	41·6	43·8	45·4
16	50·4	43·8	44·9	47·3	49·1	50·4	43·6	45·9	47·4	48·6
17	52·0	39·0	43·4	43·9	44·1	39·4	39·3	40·8	39·5	36·7
18	43·3	37·0	39·9	43·3	42·3	39·5	37·5	39·8	38·9	38·0
19	51·0	38·5	47·3	50·1	50·9	48·8	46·1	48·5	49·0	48·3
20	50·2	42·0	46·7	48·5	49·8	42·5	46·1	47·0	47·9	40·5
21	46·5	30·9	37·8	46·1	45·6	44·7	37·8	44·9	43·8	43·6
22	47·8	41·8	44·6	47·2	46·8	41·9	43·1	44·7	45·5	39·8
23	49·0	41·2	46·9	48·4	48·6	47·7	45·5	47·2	47·7	44·9
24	47·7	40·4	41·8	45·7	46·2	41·0	39·4	40·8	40·2	36·8
25	44·9	38·3	39·6	43·2	44·7	40·7	36·7	38·6	39·0	37·8
26	44·2	37·4	38·6	43·2	43·3	39·3	36·3	39·4	38·3	36·8
27	42·5	32·1	32·7	37·3	42·5	39·5	31·9	35·3	37·8	38·7
28	45·1	39·4	42·0	43·5	45·1	40·4	39·0	39·8	40·8	37·8
29	44·8	37·9	38·4	42·3	44·3	39·9	37·2	39·8	40·7	38·8
30	40·0	34·6	38·2	34·8	39·5	34·6	35·8	34·4	38·6	33·6
31	39·9	25·6	30·2	39·5	39·3	39·0	29·4	36·1	35·9	38·1
Means	43·2	34·4	37·9	40·5	42·0	39·0	36·6	38·6	39·5	37·6

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	46·5	39·0	43·5	45·7	43·6	41·2	42·8	44·9	43·1	39·3
2	42·3	28·9	31·2	36·6	42·3	39·4	30·8	34·8	37·5	37·5
3	41·7	36·8	39·5	41·4	40·6	37·4	37·8	39·5	37·0	35·5
4	38·1	32·9	34·6	37·3	36·5	32·9	33·6	34·8	32·8	32·0
5	34·7	26·5	29·4	31·7	34·1	31·2	29·1	30·8	32·0	29·7
6	38·2	31·0	35·7	38·2	37·5	35·4	33·1	35·8	35·5	34·0
7	39·8	31·7	34·2	38·0	39·3	31·7	34·1	37·7	37·9	31·6
8	46·0	28·1	35·7	42·9	44·7	43·2	35·3	41·5	42·4	42·5
9	52·4	43·2	48·0	50·3	51·6	49·6	47·4	49·5	51·0	48·8
10	51·7	38·4	50·5	48·4	46·6	38·6	49·8	45·4	39·9	35·8
11	48·0	35·1	40·8	46·6	45·2	44·5	38·6	41·6	43·3	41·6
12	44·9	35·6	39·0	42·5	43·3	36·8	34·8	36·5	36·8	33·6
13	41·9	34·1	35·9	38·3	41·5	37·6	33·8	35·4	35·7	33·7
14	42·7	32·2	35·5	40·4	41·3	34·5	31·9	35·8	36·2	32·0
15	48·1	32·9	36·3	44·0	45·6	40·8	35·8	41·9	41·3	37·7
16	41·7	36·2	40·4	40·2	40·6	37·2	38·7	36·0	35·0	35·6
17	39·7	31·9	32·4	34·7	39·0	33·1	31·7	32·8	35·6	32·1
18	39·9	33·0	35·3	38·8	37·5	34·9	34·3	36·8	34·9	34·1
19	46·4	30·9	36·4	41·1	43·8	30·9	35·0	38·4	40·0	30·6
20	45·9	30·1	39·3	44·5	43·6	43·6	37·3	41·7	41·2	43·0
21	47·9	36·9	42·3	43·7	46·6	37·3	39·8	39·0	39·6	33·6
22	48·4	28·0	36·4	45·1	45·3	46·2	33·1	40·0	39·6	34·8
23	48·4	34·6	39·4	45·8	45·8	41·9	37·9	42·3	41·4	39·2
24	49·0	31·0	35·6	38·4	48·5	41·6	35·1	37·7	42·9	38·6
25	55·2	41·4	47·1	52·3	53·8	52·2	46·0	49·8	51·0	50·6
26	53·0	41·3	51·2	51·1	51·7	41·7	48·8	50·1	49·9	36·5
27	46·2	34·0	37·5	43·7	45·8	39·6	34·0	38·5	40·5	39·0
28	47·9	33·1	36·5	39·8	37·7	33·1	34·8	37·0	35·9	31·9
Means	45·2	33·9	38·6	42·2	43·3	38·5	37·0	39·5	39·6	36·6

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	40·2	29·7	31·6	37·4	38·6	33·6	30·6	33·5	32·7	31·5
2	36·9	28·1	30·8	35·6	35·7	28·3	29·4	32·1	32·5	27·8
3	43·6	23·9	33·7	43·0	41·8	37·2	31·6	38·8	37·1	35·5
4	42·6	36·0	40·3	41·4	41·5	36·7	37·6	37·8	37·7	33·9
5	43·6	34·0	36·3	42·4	40·6	36·3	34·0	38·7	36·7	33·6
6	36·3	30·0	35·2	34·6	33·4	30·9	31·2	31·5	29·1	29·9
7	35·9	28·0	29·4	32·6	33·5	31·6	26·7	28·6	29·8	28·0
8	37·4	27·2	31·4	36·4	34·8	27·4	29·3	31·5	30·2	26·3
9	30·8	23·1	27·2	26·9	29·2	24·6	26·2	26·2	27·8	24·0
10	34·1	21·0	26·5	31·2	30·8	27·8	25·0	28·7	28·1	26·8
11	40·1	26·8	36·6	39·2	39·7	34·6	34·5	34·9	34·9	30·5
12	43·8	29·7	36·2	42·6	43·3	29·7	33·0	36·4	35·8	28·1
13	49·9	25·3	39·0	47·4	46·6	38·5	34·8	40·1	38·7	35·5
14	54·9	35·1	43·8	48·6	52·4	41·5	40·8	43·0	42·7	38·5
15	55·7	29·0	40·5	54·6	52·7	37·8	38·6	45·8	44·8	37·1
16	47·1	35·0	40·3	45·5	41·9	38·6	37·9	39·9	36·1	36·2
17	48·7	35·5	41·1	46·7	45·7	37·4	36·9	40·8	40·0	36·3
18	59·7	29·8	40·6	51·4	58·5	48·7	37·7	45·5	49·7	46·5
19	65·7	43·1	51·4	62·6	61·6	52·2	49·6	54·5	51·9	47·5
20	68·9	43·6	55·7	65·3	64·2	52·3	50·0	55·5	54·5	48·3
21	57·9	47·0	55·4	56·4	56·3	47·5	50·0	51·6	51·7	45·7
22	59·9	43·5	48·9	56·8	55·0	45·5	46·7	50·4	47·6	44·5
23	57·2	44·6	48·7	53·9	56·5	46·4	47·8	48·8	49·0	44·4
24	46·5	40·5	43·6	45·3	43·3	40·5	41·7	42·4	41·7	39·6
25	50·8	37·0	39·6	46·4	47·8	37·6	39·0	43·8	43·8	35·9
26	55·9	37·0	41·6	53·1	52·8	38·7	39·6	47·1	47·4	37·5
27	61·7	33·6	38·3	55·4	53·8	47·5	38·2	45·6	46·4	41·7
28	58·1	37·4	49·4	57·2	49·7	37·6	44·8	47·8	45·5	34·0
29	47·1	36·0	40·8	44·5	46·0	39·8	35·0	35·7	36·1	34·8
30	51·1	39·0	45·5	48·4	46·2	40·2	37·6	37·8	38·7	36·9
31	49·9	36·1	45·2	48·3	44·5	37·5	37·8	39·6	37·7	33·8
Means	48·8	33·7	40·1	46·2	45·8	38·2	37·2	40·5	39·9	35·8

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	48·8	30·9	43·6	46·7	44·7	42·1	33·7	35·1	35·8	36·8
2	53·4	39·1	42·1	45·7	53·3	46·0	41·4	44·3	49·1	45·1
3	46·8	41·0	44·1	43·7	42·6	41·1	43·6	42·9	41·3	40·2
4	55·0	36·8	45·6	50·6	53·6	45·6	39·5	42·9	44·8	41·8
5	50·6	41·2	46·4	45·7	46·8	44·6	44·0	43·9	44·5	43·7
6	53·7	42·2	45·8	48·7	50·1	42·9	44·9	45·0	45·8	39·7
7	53·2	41·0	44·7	49·0	52·3	48·7	43·5	46·8	49·6	47·3
8	64·1	39·8	55·8	55·7	61·5	48·8	52·0	51·7	54·1	46·5
9	63·9	41·9	53·9	59·1	59·8	55·7	48·8	53·6	54·8	53·1
10	63·0	41·2	53·6	57·6	61·8	41·5	48·9	50·8	51·1	41·1
11	66·3	37·1	50·8	62·4	64·6	48·4	46·5	53·6	55·7	45·5
12	69·4	39·1	55·6	64·7	65·4	48·6	46·8	51·6	55·6	43·9
13	56·0	40·1	46·1	52·6	53·7	45·3	41·2	43·7	43·7	39·5
14	55·1	41·1	49·3	52·3	54·5	51·8	45·7	46·8	48·5	46·8
15	53·7	45·2	50·5	52·6	51·6	45·6	46·6	46·9	45·9	45·1
16	53·2	43·9	46·6	45·9	51·3	47·6	44·3	43·9	46·0	42·4
17	52·9	37·7	46·8	48·8	51·6	38·6	41·6	41·7	42·6	35·6
18	50·1	33·0	36·4	47·5	47·8	40·5	35·8	41·8	42·7	39·2
19	43·4	37·3	41·8	40·5	40·9	39·8	40·1	38·9	39·6	38·8
20	47·3	39·5	41·4	43·4	44·7	42·7	39·6	41·0	42·2	41·2
21	50·9	39·2	45·2	48·9	47·8	42·7	41·7	43·9	42·6	40·7
22	58·3	36·0	47·9	50·9	54·5	46·0	42·9	44·2	46·4	42·9
23	57·0	40·3	49·8	56·6	56·0	46·7	45·8	49·3	48·6	43·7
24	62·1	43·2	53·7	57·6	56·1	48·6	49·2	50·7	49·6	46·6
25	53·6	44·0	45·2	53·1	44·6	44·6	44·1	49·3	43·5	43·5
26	54·9	44·1	50·9	49·1	54·8	45·6	46·4	47·0	50·4	44·1
27	55·9	44·2	48·4	53·6	53·6	46·6	44·8	47·8	46·8	40·8
28	56·6	42·1	48·4	55·0	46·7	46·2	43·9	47·7	44·4	42·0
29	59·0	40·8	45·3	51·7	54·3	47·1	43·5	48·7	48·9	44·6
30	64·7	39·2	54·0	61·6	59·0	47·4	48·7	51·8	50·0	43·4
Means	55·8	40·1	47·7	51·7	52·7	45·6	44·0	46·2	46·8	42·9

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.)

MAY.

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	64·2	37·7	49·7	56·8	59·9	52·0	44·6	48·9	49·9	47·5
2	62·1	43·0	56·3	58·7	56·6	49·5	51·5	49·9	50·5	45·5
3	49·5	41·9	46·6	44·5	44·6	42·7	44·2	43·5	43·7	42·0
4	61·3	41·5	47·5	56·5	60·1	44·9	42·4	47·8	48·3	41·7
5	61·6	39·1	51·3	58·5	58·9	46·6	47·1	52·4	49·9	43·8
6	68·1	43·1	60·8	63·4	64·6	50·8	52·0	50·9	55·0	47·7
7	65·3	44·0	56·8	59·8	58·6	50·5	50·2	50·4	50·9	47·6
8	64·9	47·2	49·2	56·1	58·6	49·5	48·7	52·8	51·2	46·2
9	65·8	45·6	53·6	60·3	63·0	48·6	49·3	53·1	53·3	47·3
10	66·3	41·2	57·5	61·4	62·1	52·6	52·2	54·0	54·9	49·7
11	68·0	50·2	60·4	60·5	66·5	53·6	54·6	55·9	58·3	51·7
12	67·3	52·0	59·6	59·5	62·7	53·7	54·7	55·8	57·0	51·5
13	70·2	48·2	59·7	66·4	64·1	54·6	54·7	58·1	55·9	51·5
14	65·1	48·3	60·2	64·6	61·7	53·3	54·8	55·7	53·2	49·5
15	57·9	47·0	55·8	56·6	52·6	53·1	52·7	53·8	51·0	50·3
16	59·6	47·0	54·7	56·9	53·4	47·9	52·0	52·8	51·9	47·5
17	57·9	47·3	51·3	51·5	56·4	49·1	50·7	50·7	53·3	47·9
18	56·2	46·4	48·0	48·4	53·2	48·7	46·6	46·9	49·4	46·7
19	53·1	44·2	49·0	50·1	51·5	47·3	44·6	45·1	45·8	44·7
20	55·2	43·0	47·4	49·2	50·2	45·3	42·9	43·5	44·7	41·5
21	55·9	40·6	50·6	52·6	51·7	47·8	46·3	48·2	48·3	46·8
22	66·6	47·1	53·8	59·6	62·5	48·4	51·5	53·0	53·7	45·2
23	68·3	44·1	62·7	64·5	56·6	52·8	57·2	58·4	55·2	52·0
24	63·5	47·9	56·9	58·6	61·0	55·6	55·9	54·9	53·7	53·1
25	71·5	47·1	61·6	69·1	71·3	59·9	55·6	57·6	59·7	53·9
26	71·3	50·6	65·4	67·6	69·7	61·4	57·9	58·8	60·6	56·5
27	73·2	51·4	66·5	70·6	70·8	57·9	60·0	63·1	64·3	56·4
28	69·4	52·8	57·5	64·6	67·7	53·3	57·2	61·8	59·7	49·1
29	65·9	42·6	61·7	60·1	61·8	53·3	56·0	55·0	57·4	51·9
30	70·0	48·7	67·3	66·7	60·6	55·5	59·8	58·8	54·7	53·7
31	69·5	47·0	63·7	61·7	68·3	52·7	56·9	55·5	59·8	50·9
Means	64·0	45·7	56·2	59·2	60·0	51·4	51·8	53·1	53·4	48·8

JUNE.

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	68·9	48·1	57·8	64·6	66·7	56·3	54·5	58·2	58·7	52·8
2	73·1	51·6	57·7	64·7	69·6	57·2	54·4	57·3	60·8	52·8
3	71·7	55·1	60·4	65·6	69·5	59·3	56·8	59·8	61·7	56·9
4	71·7	53·9	57·6	68·0	68·4	55·5	56·4	61·8	61·7	54·3
5	62·9	50·4	60·0	60·5	57·6	53·6	54·8	54·8	52·8	51·7
6	71·6	53·1	63·5	64·3	67·9	57·8	58·5	57·4	59·6	55·3
7	64·8	51·6	59·2	60·1	59·5	55·4	56·8	57·2	54·9	55·2
8	72·2	55·0	61·5	66·5	65·7	57·6	56·9	57·8	58·8	54·7
9	70·3	52·3	57·6	64·0	67·4	58·9	56·8	60·8	62·0	56·8
10	65·2	57·8	60·2	61·6	62·5	61·3	57·8	59·8	60·8	59·0
11	71·8	58·2	63·2	65·6	67·4	63·1	59·0	60·4	62·0	60·3
12	77·6	59·2	62·0	69·8	75·6	62·6	59·6	63·0	65·0	57·6
13	74·7	51·0	67·5	71·3	74·0	61·2	61·7	62·5	63·6	58·6
14	79·9	55·9	67·6	72·5	68·4	61·6	63·8	66·8	63·7	55·3
15	72·4	54·2	61·6	67·7	71·4	54·9	53·2	57·6	60·2	50·5
16	69·9	50·0	62·4	63·6	63·5	57·3	55·4	56·0	56·0	53·8
17	69·6	53·2	59·6	66·0	65·6	54·7	57·9	58·2	56·6	52·2
18	67·9	46·6	58·3	66·5	57·1	55·1	53·1	56·3	55·0	51·5
19	68·3	51·3	60·2	57·6	63·6	51·9	56·5	54·0	56·0	51·7
20	66·4	48·3	55·8	58·6	65·2	52·6	52·8	53·5	55·4	49·4
21	75·7	47·5	60·5	67·6	73·8	66·6	55·5	61·2	64·5	61·3
22	77·3	54·8	66·1	74·3	75·6	65·0	61·2	64·1	66·0	60·4
23	75·1	60·3	64·9	66·5	68·7	66·1	59·5	60·6	61·9	60·7
24	66·3	50·6	56·7	56·5	56·4	50·6	55·9	54·7	52·6	46·4
25	61·2	44·2	54·6	55·6	57·7	52·1	49·2	48·8	50·1	49·5
26	74·8	41·4	61·2	66·6	72·8	57·7	53·7	57·2	61·0	53·1
27	79·5	46·1	68·2	75·8	78·0	62·8	57·4	63·7	63·8	56·1
28	79·7	53·2	64·6	72·7	77·6	65·6	60·0	64·3	66·4	61·4
29	73·3	58·0	65·5	69·8	71·1	61·6	55·8	58·3	59·3	53·9
30	71·2	48·7	66·4	66·6	67·6	59·3	58·5	56·0	56·9	53·8
Means	71·5	52·1	61·4	65·7	67·5	58·5	56·8	58·7	59·6	54·9

JULY.

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	74·9	47·2	67·6	71·1	70·8	63·1	57·9	59·8	59·8	57·9
2	69·4	56·5	62·5	62·6	65·4	59·4	56·7	57·3	59·7	57·6
3	79·4	51·1	64·8	73·3	77·9	61·1	58·1	61·8	65·5	57·6
4	74·8	53·3	65·4	72·3	66·4	62·6	61·9	64·5	62·1	60·2
5	78·2	59·5	65·8	72·5	70·8	61·4	62·4	64·0	61·7	57·5
6	74·1	55·0	63·5	68·6	66·6	56·2	59·8	57·9	56·9	52·8
7	76·9	49·1	63·2	71·6	74·2	59·5	56·4	58·0	59·6	54·5
8	71·4	53·3	63·2	62·6	64·5	58·5	57·8	56·7	56·9	54·2
9	77·1	50·2	65·3	73·6	70·4	59·6	57·0	61·6	62·0	57·2
10	74·8	56·1	66·6	64·9	72·7	59·7	60·0	59·7	63·8	56·9
11	78·9	57·4	67·5	71·3	72·8	61·2	61·0	60·5	61·8	56·4
12	81·2	55·9	65·9	75·4	79·4	61·2	61·4	65·0	66·6	57·5
13	72·9	55·7	61·5	69·1	70·4	58·6	58·9	60·8	62·5	55·4
14	67·4	55·1	64·2	63·8	63·6	56·7	58·6	59·0	58·7	56·3
15	63·6	53·5	58·8	62·3	61·3	58·4	56·8	59·0	58·0	57·2
16	73·9	56·2	62·8	68·2	71·6	60·6	58·0	58·4	60·8	55·9
17	71·1	55·2	64·4	65·5	58·9	59·3	58·0	56·6	56·0	57·9
18	65·1	56·9	61·5	63·6	59·6	57·4	55·1	57·3	56·6	54·6
19	68·1	54·2	62·3	60·0	61·8	54·6	58·8	57·0	56·8	52·6
20	64·0	52·2	56·9	60·2	61·1	54·3	53·3	54·7	54·8	52·8
21	66·8	47·7	59·8	60·7	65·1	58·6	53·5	53·5	55·1	53·8
22	75·7	54·9	63·7	69·6	68·9	58·6	59·8	62·8	62·4	55·8
23	79·6	53·9	70·4	73·6	75·8	61·6	61·6	63·5	63·6	57·8
24	79·9	52·3	68·4	78·9	75·6	61·3	58·0	65·9	61·9	57·9
25	70·9	57·0	61·2	62·9	64·8	58·5	59·2	60·8	59·0	57·9
26	65·8	57·5	61·3	62·5	58·9	61·1	55·9	58·6	58·3	59·5
27	71·8	53·3	62·5	64·5	63·2	55·7	57·0	57·0	56·6	53·5
28	69·2	52·1	60·6	62·9	67·6	57·4	54·9	54·9	57·7	53·9
29	67·3	50·2	65·6	64·6	62·0	57·2	59·0	57·3	56·6	54·9
30	70·9	55·6	62·0	64·6	68·4	61·2	60·3	60·0	60·8	59·2
31	68·8	54·5	60·4	61·6	64·2	57·6	57·6	58·3	58·9	55·3
Means	72·4	54·0	63·5	67·1	67·6	59·1	58·2	59·4	59·7	56·2

AUGUST.

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	75·0	50·2	68·4	70·3	71·8	64·4	61·2	61·8	61·8	58·4
2	69·2	57·2	60·7	63·2	68·2	63·4	59·0	61·4	64·3	61·4
3	76·6	61·1	68·6	74·3	71·6	62·1	62·4	64·5	64·0	59·8
4	79·2	60·0	68·2	74·5	72·7	64·8	66·3	68·8	68·4	64·6
5	78·6	62·0	65·6	68·6	76·9	65·1	64·4	65·8	69·7	64·7
6	68·7	58·7	61·4	63·5	67·3	63·1	60·0	61·0	62·9	60·7
7	74·3	55·7	64·9	68·6	70·4	62·7	59·5	60·9	61·4	57·1
8	68·9	50·1	64·6	64·1	61·3	50·6	61·5	59·8	55·5	49·4
9	63·8	47·8	54·6	60·4	58·6	53·1	49·6	52·6	51·1	48·3
10	59·8	45·9	55·6	55·2	58·0	57·8	51·0	54·1	55·9	56·8
11	68·6	48·1	57·7	64·4	65·2	59·7	52·1	54·9	55·8	53·9
12	73·9	55·0	65·0	69·4	71·6	61·1	59·4	59·8	61·3	60·2
13	67·6	58·0	61·0	62·8	63·0	58·1	59·8	61·5	60·5	57·6
14	60·3	55·3	59·2	58·1	59·8	56·6	57·6	57·6	58·9	55·4
15	72·1	53·6	64·7	70·7	68·6	56·7	60·5	62·1	60·5	55·5
16	69·2	55·0	60·1	66·2	66·6	58·5	58·5	61·2	60·6	55·2
17	70·8	56·7	62·3	64·5	66·9	57·1	57·4	58·8	58·1	52·7
18	74·7	51·2	61·5	69·6	73·1	59·2	57·4	60·2	61·0	56·7
19	72·6	55·6	63·1	66·7	69·4	60·1	62·5	64·8	65·0	57·3
20	67·3	53·8	62·5	62·2	60·6	57·2	56·4	57·1	55·8	55·5
21	65·1	56·2	58·4	60·8	61·1	56·6	54·9	55·4	55·3	53·8
22	63·8	52·6	58·1	59·9	62·2	54·3	55·0	54·6	56·4	51·0
23	62·6	41·7	54·3	60·2	56·8	53·5	49·6	51·5	50·3	49·8
24	56·9	44·3	53·6	55·8	55·7	52·5	48·6	49·8	50·7	48·6
25	62·8	50·6	57·2	59·6	59·5	52·7	51·4	51·6	50·9	48·7
26	67·8	43·5	55·4	64·7	66·2	51·2	51·8	55·6	56·2	49·6
27	64·6	42·0	60·1	63·6	62·6	53·1	54·8	55·9	54·8	50·9
28	65·9	50·7	61·3	64·0	62·6	54·6	57·3	58·4	57·3	53·6
29	69·0	53·0	64·4	67·4	68·5	57·7	59·7	59·4	59·0	55·7
30	70·1	55·7	62·4	66·6	65·7	59·4	59·9	61·4	60·6	58·2
31	64·9	55·7	56·6	58·7	62·8	59·8	55·6	56·9	59·8	58·3
Means	68·5	52·8	61·0	64·5	65·3	58·0	57·3	58·7	58·8	55·5

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	69·6	54·7	61·7	68·0	64·8	59·6	59·7	62·0	60·4	57·4
2	63·6	55·2	59·7	60·6	62·0	55·3	58·7	59·6	60·8	54·6
3	69·3	51·9	64·7	68·5	64·8	55·2	60·2	62·5	60·4	54·6
4	62·0	50·8	55·4	59·5	59·4	52·8	53·9	54·5	54·6	52·0
5	54·4	50·8	51·4	53·7	53·6	51·6	49·7	51·8	51·4	46·7
6	60·9	44·9	53·8	57·8	57·6	49·7	49·3	50·1	49·7	47·2
7	59·0	38·0	51·3	54·6	55·7	44·0	47·8	49·3	50·7	43·6
8	59·3	35·1	50·6	58·1	57·6	47·0	48·0	51·6	52·0	45·7
9	64·9	39·2	54·3	62·1	62·5	50·4	50·5	53·9	52·2	48·5
10	60·8	45·3	49·6	55·3	57·7	47·4	46·0	48·8	49·7	45·1
11	58·8	42·0	50·9	55·4	57·7	43·2	47·1	49·3	50·3	42·8
12	57·4	42·0	52·6	55·9	53·9	50·2	51·7	54·5	53·6	49·0
13	60·0	41·0	51·4	56·7	57·7	49·5	47·8	49·8	50·0	46·8
14	64·1	49·7	53·0	61·4	62·5	49·5	49·7	52·9	54·7	48·8
15	71·5	49·5	60·0	66·8	67·4	55·0	56·8	60·1	60·9	54·8
16	71·0	50·3	59·2	68·6	69·0	55·1	57·3	62·1	61·4	53·8
17	62·5	50·2	54·3	57·5	60·7	56·8	53·4	56·5	57·8	56·1
18	59·2	55·0	57·4	58·6	58·6	56·3	57·0	58·3	57·9	55·5
19	68·2	46·7	57·8	62·7	67·3	60·3	56·3	58·8	61·7	57·8
20	63·9	50·0	54·8	61·6	60·7	55·7	51·0	53·1	51·7	50·5
21	59·4	45·9	53·7	56·7	52·1	47·8	48·8	49·7	48·8	45·2
22	57·7	43·3	51·2	54·7	57·5	51·3	47·6	48·9	49·7	46·9
23	58·2	48·7	55·9	56·6	56·4	52·4	52·8	54·8	53·5	51·0
24	56·9	45·2	54·5	54·8	53·7	53·4	51·3	51·6	52·0	51·7
25	55·7	50·9	52·7	53·9	54·7	53·4	51·0	51·3	52·0	51·8
26	54·9	49·7	51·8	54·4	53·7	51·8	50·8	51·5	50·9	49·8
27	58·9	46·6	49·7	55·7	56·1	53·8	48·8	50·7	50·6	50·5
28	62·3	47·5	52·5	57·8	59·7	47·7	50·4	52·7	53·9	47·3
29	63·4	45·8	51·4	58·8	60·1	50·6	50·3	54·9	55·1	50·2
30	65·0	49·1	58·0	61·4	58·9	49·1	54·8	54·9	53·8	48·9
Means	61·8	46·9	54·5	58·9	59·1	51·9	51·9	54·0	54·1	50·2
OCTOBER.										
d	°	°	°	°	°	°	°	°	°	°
1	68·7	49·1	59·6	64·7	64·1	57·3	55·3	58·6	57·8	53·9
2	67·3	55·9	61·4	62·7	66·6	58·6	58·3	59·9	61·9	57·8
3	63·2	47·2	54·3	59·7	62·0	47·5	50·7	51·7	53·1	46·5
4	64·6	46·9	57·4	63·5	62·2	60·0	54·4	59·3	59·5	59·0
5	65·7	52·1	62·7	62·5	61·8	52·4	59·5	59·5	58·4	51·9
6	69·9	44·2	59·6	67·6	61·7	58·5	58·7	62·3	57·7	56·7
7	60·5	49·9	56·4	56·7	56·0	50·6	53·2	48·9	49·6	47·2
8	66·4	47·0	54·2	60·8	63·3	55·7	53·3	57·0	57·8	54·1
9	65·5	51·9	59·6	64·2	61·4	54·3	56·8	55·8	55·2	53·2
10	64·9	51·1	58·4	62·5	61·6	56·5	56·4	58·6	58·6	56·0
11	60·0	47·0	53·9	57·7	59·5	48·7	53·9	56·0	56·7	48·7
12	67·9	46·9	52·1	60·6	66·6	49·7	52·0	58·5	60·1	49·5
13	58·8	47·1	54·3	57·9	53·8	49·7	53·7	55·4	52·8	48·7
14	58·0	43·0	49·4	57·5	54·8	46·8	46·1	51·0	49·0	44·0
15	56·8	36·7	46·6	53·5	56·2	51·5	45·3	48·7	49·7	49·0
16	58·9	48·9	53·6	57·7	55·6	54·2	51·6	53·9	53·5	51·5
17	54·9	51·0	53·2	54·6	53·6	51·2	50·4	50·6	50·3	48·6
18	56·0	48·5	50·6	53·9	54·6	49·0	49·0	51·3	52·1	47·6
19	59·4	42·3	51·9	54·5	54·4	52·0	50·0	51·1	50·2	46·6
20	55·5	42·0	51·6	51·6	46·6	42·6	47·7	48·1	42·1	38·6
21	50·1	33·8	39·8	47·6	47·4	38·8	37·7	43·3	42·4	36·9
22	51·1	27·0	36·4	48·6	48·6	41·5	33·8	44·4	44·8	40·2
23	50·8	37·9	44·9	48·6	49·4	44·9	42·0	45·2	43·8	42·4
24	49·0	37·1	43·0	47·6	47·4	39·8	40·4	42·6	41·6	37·5
25	48·6	31·2	36·6	47·0	45·9	37·1	34·7	41·8	40·0	35·6
26	50·6	31·1	36·6	48·5	48·5	39·7	34·8	43·0	42·0	38·0
27	47·6	25·0	31·5	44·6	46·3	28·2	30·9	39·9	39·2	27·7
28	52·0	24·0	44·0	49·9	51·6	42·8	42·0	47·8	47·3	39·8
29	49·8	38·6	44·6	49·6	48·6	46·5	41·9	44·8	44·4	45·9
30	52·1	37·8	44·4	45·7	45·6	38·0	41·6	41·2	39·6	35·0
31	52·6	26·9	38·7	51·6	50·0	44·8	36·9	45·8	45·7	42·8
Means	58·0	41·9	49·7	55·3	55·0	48·0	47·5	50·8	50·2	46·2

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	56·8	39·1	51·1	56·5	53·5	41·2	46·7	49·2	46·5	39·4
2	59·4	36·9	50·0	58·2	56·5	48·5	45·8	50·7	49·7	47·2
3	61·3	48·1	58·5	59·3	58·8	59·7	52·3	52·3	53·7	53·8
4	60·2	50·4	57·0	57·3	58·2	50·4	53·1	55·1	52·0	48·8
5	59·2	44·5	51·6	55·7	56·4	44·6	50·1	52·2	52·3	44·6
6	56·1	43·8	50·0	54·5	53·4	49·6	48·8	50·8	49·9	48·0
7	56·4	46·0	48·6	53·5	53·1	48·8	47·9	48·8	47·8	47·5
8	49·7	47·2	47·6	48·7	48·4	47·6	46·8	47·6	46·8	47·0
9	53·2	45·2	50·6	51·7	49·7	47·4	50·2	48·8	49·1	45·3
10	51·9	43·9	46·6	48·5	49·6	49·6	45·8	46·8	47·3	46·9
11	57·9	48·0	53·0	56·5	53·6	49·2	49·9	51·7	49·9	47·5
12	54·5	42·4	46·7	53·6	52·4	46·6	45·3	48·8	46·4	44·7
13	54·1	38·7	45·4	50·6	52·6	39·2	44·5	47·9	48·7	38·8
14	51·6	37·0	45·8	49·7	48·0	47·4	45·6	46·8	43·8	45·5
15	48·2	44·6	46·0	45·6	45·6	45·7	44·3	44·8	44·9	45·0
16	48·3	40·6	44·5	47·7	47·9	41·3	42·9	46·1	43·8	40·2
17	45·9	29·2	39·0	42·9	43·6	40·6	39·0	42·1	42·1	38·4
18	45·8	37·9	42·4	45·1	43·3	44·0	40·5	42·1	42·6	43·5
19	48·9	38·6	45·9	47·8	46·7	38·6	45·7	46·0	44·5	38·6
20	48·6	36·1	42·5	47·8	48·1	46·1	42·3	46·2	46·3	45·8
21	50·0	36·6	47·3	49·5	47·6	36·6	45·6	45·8	43·8	36·2
22	45·7	34·1	38·1	41·5	45·2	43·9	37·6	40·5	44·1	43·6
23	50·9	43·9	45·9	49·7	48·7	50·8	45·3	47·7	47·0	49·1
24	53·9	40·1	49·7	48·8	48·7	41·1	48·2	45·8	44·9	39·9
25	53·2	40·9	50·2	52·6	51·4	47·1	49·3	50·7	49·1	45·4
26	56·8	45·8	51·8	55·5	55·5	46·2	51·5	51·9	53·3	45·0
27	48·9	38·0	42·8	47·4	46·8	46·2	41·0	44·7	44·9	44·8
28	48·1	42·0	45·5	46·7	47·7	44·1	44·8	45·9	46·2	42·9
29	44·5	33·0	38·7	40·4	39·5	38·3	38·5	40·3	39·4	38·1
30	42·3	38·0	38·6	40·2	40·9	42·3	38·6	40·1	40·8	41·4
Means	52·1	41·0	47·0	50·1	49·7	45·4	45·6	47·3	46·7	44·1
DECEMBER.										
d	°	°	°	°	°	°	°	°	°	°
1	43·9	39·7	40·6	42·6	41·3	40·6	39·9	41·1	40·2	39·3
2	45·8	36·5	37·3	42·1	43·9	42·9	37·1	41·5	42·7	40·3
3	53·7	38·0	43·7	47·5	52·9	49·6	42·8	46·6	51·8	46·8
4	60·0	49·6	57·5	58·6	57·6	50·3	52·8	53·5	55·8	44·4
5	55·7	43·2	46·1	48·6	50·6	55·6	42·8	44·8	47·6	53·8
6	55·9	42·0	44·4	47·3	43·7	42·6	40·6	41·9	40·7	40·8
7	44·7	33·1	38·2	40·6	42·4	37·9	35·8	37·8	37·8	35·5
8	47·9	36·0	45·1	46·7	47·6	44·4	42·8	45·7	46·5	43·4
9	48·8	37·0	40·6	45·9	47·7	47·6	39·4	43·0	44·7	45·3
10	54·6	42·1	46·5	52·7	52·8	49·7	45·6	50·7	49·8	47·8
11	50·7	47·9	49·3	50·3	49·6	48·2	47·8	48·0	47·8	46·9
12	48·2	45·0	46·1	46·6	46·1	46·6	44·1	43·0	43·0	44·8
13	47·4	44·4	45·2	46·4	45·6	44·9	44·6	44·7	43·7	42·9
14	46·2	43·9	44·5	45·7	46·2	45·9	42·1	42·4	43·0	43·5
15	49·0	43·8	46·7	48·3	47·7	44·0	43·8	45·3	47·3	43·6
16	44·4	39·4	42·2	44·3	42·8	39·6	38·6	38·8	37·3	36·9
17	42·0	32·8	36·9	40·8	41·3	35·9	35·8	38·8	38·6	35·2
18	35·9	28·9	30·6	32·1	32·7	31·8	30·4	31·8	32·4	31·6
19	36·0	26·1	29·5	33·5	35·2	30·7	29·2	31·6	34·0	30·4
20	42·1	28·0	33·8	40·8	41·9	40·6	32·8	38·8	40·0	39·9
21	40·7	36·5	38·6	39·7	39·2	36·6	36·8	37·7	37·1	34·2
22	38·7	34·0	36·6	37·7	35·6	34·0	34·8	35·8	33·6	32·5
23	38·9	32·9	36·4	36·7	38·6	38·7	33·9	34·5	35·9	36·8
24	50·2	38·7	45·9	48·4	48·7	46·2	43·8	45·3	46·0	44·1
25	51·1	46·2	48·1	49·6	50·6	49·5	47·8	49·1	49·9	48·9
26	54·8	47·8	49·9	52·3	53·1	49·4	49·2	50·8	50·5	47·8
27	49·8	43·9	44·6	48·5	48·6	45·1	41·9	44·7	44·8	41·5
28	51·6	41·0	48·7	51·6	45·4	41·2	46·6	48·5	44·0	37·0
29	41·2	32·3	32·6	34·5	35·7	35·4	32·5	32·6	32·7	33·0
30	36·4	31·8	32·6	35·6	35·7	31·8	31·8	33·0	32·5	29·3
31	34·4	22·6	24·6	32·7	32·2	22·6	23·4	29·9	28·8	22·1
Means	46·5	38·2	41·4	44·2	44·3	41·9	39·7	41·7	42·0	40·0

AMOUNT OF RAIN COLLECTED IN EACH MONTH OF THE YEAR 1931.

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	1·134	1·474	0·327	3·823	2·859	1·230	2·466	6·266	1·513	0·740	2·429	0·630	24·891	0 5	149 6
	8	1·123	1·424	0·352	3·594	2·880	1·200	2·301	6·201	1·531	0·803	2·447	0·684	24·540	1 0	150 1
Number of Rainy Days (0·005in. or over).	..	17	21	6	21	16	10	14	20	13	8	17	8	171	..	..

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	1931.												
	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.	Miles.	Miles.
1	12·5	13·1	11·3	11·6	9·8	10·6	10·9	11·1	8·9	9·1	11·2	11·8	11·0
2	12·5	13·1	11·1	11·8	9·5	10·8	10·3	11·1	8·9	9·6	11·4	11·7	11·0
3	12·3	12·8	10·9	11·9	9·1	10·3	10·5	11·1	8·7	9·5	10·9	11·7	10·8
4	12·6	12·5	10·7	11·4	9·1	10·3	10·3	10·9	8·7	9·7	11·2	11·6	10·7
5	12·7	12·4	10·6	11·7	9·3	10·5	10·1	10·8	9·3	9·4	10·6	12·1	10·8
6	12·8	12·2	10·6	11·6	9·1	10·5	10·6	10·7	9·2	9·5	10·5	12·2	10·8
7	12·7	12·4	10·9	11·6	9·5	11·0	10·9	11·1	8·9	9·0	10·6	11·9	10·9
8	13·1	12·5	11·1	12·4	10·2	11·2	12·0	11·7	9·1	9·2	10·7	11·5	11·2
9	12·9	12·7	11·7	12·5	10·5	11·7	12·3	12·4	9·1	9·5	10·4	11·7	11·5
10	13·3	12·9	12·0	13·6	10·9	11·9	12·7	12·5	9·5	10·1	10·7	11·5	11·8
11	13·7	13·1	13·2	13·7	11·6	12·2	12·7	13·1	9·5	10·5	11·5	11·7	12·2
Noon	14·4	13·9	13·5	13·8	12·0	12·9	13·3	13·7	9·9	11·4	12·1	12·5	12·8
13h	14·3	14·5	13·5	13·9	12·8	12·5	13·5	13·8	10·1	11·2	11·8	12·7	12·9
14	14·5	14·8	14·2	13·8	13·1	12·6	13·8	14·2	9·9	11·7	12·0	12·7	13·1
15	14·1	14·7	14·5	13·7	13·5	12·5	13·3	14·5	10·5	11·7	12·1	12·0	13·1
16	13·9	14·5	14·3	13·8	13·2	12·1	13·7	14·3	10·8	11·8	11·8	12·1	13·0
17	14·1	14·3	14·3	13·9	13·3	12·6	13·8	14·0	10·7	11·3	11·7	12·7	13·1
18	13·1	14·0	13·1	13·7	12·7	12·6	13·3	13·3	10·5	10·5	11·9	12·5	12·6
19	12·9	13·5	12·5	13·0	11·9	12·1	13·0	13·1	9·4	10·3	11·8	12·7	12·2
20	12·8	13·8	12·2	12·2	11·1	11·6	12·0	12·3	9·3	10·2	11·9	12·7	11·8
21	12·5	14·0	12·1	11·7	10·7	10·7	11·5	11·9	9·1	10·7	11·8	12·3	11·6
22	12·2	14·0	11·5	11·5	10·1	10·5	11·0	11·2	9·1	10·1	11·6	12·5	11·3
23	12·3	13·9	11·4	11·3	9·9	10·3	11·1	11·3	8·9	9·7	11·6	12·8	11·2
Midnight	12·5	13·7	11·8	11·3	9·8	10·5	11·1	11·1	8·8	9·4	11·0	11·9	11·1
Means	13·1	13·5	12·2	12·6	10·9	11·4	12·0	12·3	9·5	10·2	11·4	12·1	11·8
Greatest Hourly Measures	29	31	27	25	23	23	21	25	19	25	32	41	..

* 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.

DAILY MEASURES OF THE HORIZONTAL MOVEMENT OF THE AIR IN EACH MONTH AS DERIVED FROM RECORDS OF ROBINSON'S ANEMOMETER.*

	1931.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	Miles	Miles	Miles	Miles	Miles	Miles	Miles	Miles	Miles	Miles	Miles	Miles
1	193	257	344	347	218	242	165	242	210	232	228	155
2	266	213	207	219	205	218	294	333	284	354	275	211
3	263	331	200	249	353	258	247	429	263	257	579	483
4	259	260	347	283	344	279	316	251	243	259	542	691
5	212	167	323	289	323	404	256	169	352	215	247	413
6	177	233	508	195	265	320	248	200	271	247	216	337
7	189	185	542	195	329	251	221	279	201	389	266	246
8	153	303	422	233	211	341	368	331	151	332	223	301
9	231	354	256	235	236	299	343	308	190	290	288	331
10	217	510	257	233	247	359	315	280	218	169	373	319
11	314	461	308	202	282	308	280	259	189	145	430	195
12	243	563	227	285	248	260	307	275	273	148	336	220
13	373	409	244	342	287	183	325	216	223	205	219	239
14	314	318	283	326	383	309	260	256	189	244	266	275
15	317	278	205	277	275	397	294	286	179	187	241	253
16	506	365	381	324	208	314	327	367	175	247	215	221
17	572	253	326	430	231	334	367	454	200	273	176	193
18	318	397	219	364	237	346	391	240	143	230	234	153
19	351	234	222	416	315	261	265	307	197	173	223	142
20	226	353	209	384	328	231	258	446	259	309	197	196
21	205	335	273	257	261	292	233	421	322	223	243	239
22	285	255	218	257	197	283	307	203	292	165	179	194
23	519	275	165	317	192	179	243	185	284	220	285	294
24	552	249	381	347	282	292	236	358	202	307	311	382
25	423	389	333	385	239	241	278	372	241	291	255	295
26	416	457	269	373	244	162	300	187	251	217	366	279
27	253	267	156	444	251	223	327	265	207	151	314	339
28	472	375	280	367	278	235	387	317	182	289	200	491
29	322	..	309	232	236	241	281	353	179	281	130	406
30	373	..	308	243	196	173	289	309	230	331	129	329
31	251	..	365	..	245	..	189	260	..	217	..	222
Mean	315	323	293	302	263	275	288	295	227	245	273	292

* These measures, which differ from those given in the Daily Results of Meteorological Observations pp. E 14–37, 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.

DAYS ON WHICH NEGATIVE POTENTIAL WAS RECORDED DURING THE YEAR 1931, AND AGGREGATE TIME OF DURATION.

Date.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.	December.	Date.
		hrs.		hrs.		hrs.		hrs.		hrs.		hrs.		hrs.		hrs.		hrs.		hrs.	hrs.	hrs.	
1		..		3·1		1·0	*	..	*	..		2·2	*	..	i	..	i	..		..			1
2	i	..		1·0		..		4·7	*	..		..	*	..		0·1	i	1·3	i	..			2
3	e	4·4		0·3		3·6	i	7·0		8·4	i	..	*	..	e	0·9		2·1		..			3
4		..	*	..		..	i	1·0		0·5		..		..	i	2·2		1·4	*	..			4
5		..	i	—	*	..	i	1·2		1·2	i	1·2		..	e, i	[2·5]		0·4	*	..			5
6		..	i	—	*	..		3·6	*	..	i	..		1·2		..	*	..		..			6
7		..		2·0		0·3		1·1		..	i	—	i	[0·1]	*	..	*	..		2·2			7
8		..	*	..	i	..	*	..		..	i	..		..	e	5·4	i	..	*	..			8
9		..	*	..		1·0	*	..	*	..	i	1·1	*	..	*	..	i	..	i	..			9
10	*	..		1·2		..	*	..	*	..	i	0·2	*	..		2·1		0·1	i	—			10
11	*	..		5·8	*	..	*	..	*	..	*	..	*	..	*	..	*	..	i	..			11
12		2·4		0·3		..		0·1	i	..	*	..		0·6		0·5		2·3	i	—			12
13		0·1		0·3	*	..	*	..		—	*	..		0·3		0·3	i	..	i	..			13
14	*	..	*	..	*	..	*	..	*	..		1·9		2·8	e	3·9	i	[0·8]	i	..			14
15		0·1		2·0		..	i	—		2·3	*	..	e	1·7		0·8		..	i	..			15
16	*	..		1·3	*	..	i	..		6·4	*	..		..	i	2·6	*	..	i	..			16
17		0·3	*	..	*	..	i	1·3		0·4	*	..		0·6	*	..		0·5	*	..			17
18	*	..	*	0·2		..	i	[4·0]		0·1		1·8	*	..	*	..	*	..	*	..			18
19	*	..	i	..		..	i	[8·5]	*	..		3·7	e	3·9		4·0	i	..		..			19
20	*	..	*	..	*	..		5·1	*	..		..		0·4		2·6	*	..	*	..			20
21	*	..	*	..		..	*	..		0·4	*	..	*	..	*	0·1		0·7	i	..			21
22	*	..	*	..		1·2		1·0	e	1·5	*	..		..	*	..	*	..	i	—			22
23		8·6		0·3		0·6		0·5	i	3·0	*	..		..	*	..	i	—		0·1			23
24		0·1	i	..	*	..		4·7	i	..		..	*	..	*	..	*	..	*	..			24
25		0·6	*	..		..	i	9·2		0·2		..	i	[3·5]	*	..		..	*	..			25
26	*	..		0·2	*	..	i	3·1	i	1·0	*	..	e	1·1	i	..	*	..	*	..			26
27		0·8		3·9		..		0·9	i	..		..	e	3·4		..	i	..	*	..			27
28		0·7	e	1·7	i	..		2·4	i	1·1		..	*	..		..	i	..		..			28
29		3·5				..	*	..	i	0·6		..		0·2	i	0·1	*	..		5·5			29
30		0·5				..	*	..		0·9		..		..	i	..		..		—			30
31		4·9				..			*	..				..	i	—				—			31
Total		27·0		23·6		7·7		59·4		28·0		12·1		19·8		28·2		9·6		7·8			Total
No. of Days		31		26		31		29		30		29		31		30		29		26			No. of Days

No record taken.

No record taken.

Days selected for derivation of monthly mean values are marked by an asterisk (*).
The sign .. is placed to days on which atmospheric potential was *positive* throughout the whole 24 hours.
e—signifies that the aggregate total duration is in part estimated, frequent reversal in sign and the resulting indistinctness of the trace having made accurate measurement impossible.
i—signifies that the record is incomplete or unsatisfactory from some cause, generally faulty insulation.

MEAN POTENTIAL GRADIENT OF THE ATMOSPHERE, IN VOLTS PER METRE ABOVE THE LEVEL GROUND, FOR THE MONTHS AND SEASONS OF THE YEAR 1931; AND THE CORRESPONDING DIURNAL INEQUALITY OF MEAN HOURLY VALUES. [SELECTED DAYS.]

		DIURNAL INEQUALITY																							
		Greenwich Mean Time. Hour commencing—																							
1931	Mean Potential Gradient	0h	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	12h	13h	14h	15h	16h	17h	18h	19h	20h	21h	22h	23h
	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.	v/m.
January	398	+ 18	− 36	− 40	− 52	− 66	− 76	− 88	− 56	− 9	− 3	+ 35	+ 69	+ 40	+ 40	+ 46	+ 10	− 19	+ 27	+ 36	+ 63	+ 53	+ 8	+ 20	− 21
February	364	− 3	− 40	− 83	− 92	−116	−136	− 88	− 38	+ 33	+101	+106	+ 86	+ 55	− 4	+ 26	+ 20	+ 34	+ 13	+ 21	+ 42	+ 37	+ 18	+ 9	+ 6
March	299	− 41	− 32	− 50	− 57	− 51	− 44	− 24	+ 21	+ 60	+ 68	+ 43	+ 36	0	− 10	+ 3	+ 2	+ 3	+ 12	+ 26	+ 29	+ 15	− 9	+ 4	− 2
April	338	− 56	− 84	− 80	− 85	− 73	− 73	− 33	+ 31	+ 46	+ 72	+ 19	− 21	+ 3	+ 37	+ 42	+ 37	+ 58	+ 32	+ 66	+ 60	+ 32	− 4	− 11	− 20
May	289	− 66	− 64	− 75	− 87	− 87	− 57	+ 10	+ 87	+127	+ 81	+ 51	+ 6	− 30	− 10	+ 15	+ 9	− 2	+ 8	+ 7	+ 24	+ 31	+ 27	+ 30	− 34
June	242	− 25	− 42	− 32	− 22	− 26	− 20	+ 18	+ 21	+ 47	+ 13	+ 22	− 8	− 12	− 6	− 5	− 28	− 35	− 25	− 11	+ 25	+ 48	+ 42	+ 41	+ 25
July	262	− 3	− 48	− 51	− 51	− 35	− 33	+ 3	+ 53	+ 80	+ 48	+ 36	+ 20	− 21	− 48	− 36	− 39	− 15	− 17	− 28	+ 15	+ 42	+ 39	+ 40	+ 37
August	292	−102	− 98	−105	− 82	− 68	− 50	− 14	+ 51	+ 72	+ 49	+ 49	+ 19	+ 3	+ 30	+ 25	+ 17	+ 15	+ 19	+ 45	+ 57	+ 17	− 1	+ 38	+ 4
September	338	− 30	− 49	− 59	− 58	− 86	− 71	− 37	+ 37	+ 72	+ 69	+ 42	+ 40	+ 5	− 19	+ 11	− 15	+ 5	+ 35	+ 27	+ 46	+ 55	+ 23	+ 5	− 56
October	349	− 16	− 67	− 52	− 77	− 74	− 66	− 68	− 37	+ 31	+ 52	+ 64	+ 27	− 8	− 37	− 11	− 8	+ 29	+ 33	+ 57	+ 90	+ 72	+ 28	+ 39	+ 13
Year (10 months)	317	− 32	− 56	− 63	− 66	− 68	− 63	− 32	+ 17	+ 56	+ 55	+ 47	+ 27	+ 4	− 3	+ 12	+ 1	+ 7	+ 14	+ 25	+ 45	+ 40	+ 17	+ 22	− 5
Winter (2 months)	381	+ 8	− 38	− 62	− 72	− 91	−106	− 88	− 47	+ 12	+ 49	+ 71	+ 78	+ 48	+ 18	+ 36	+ 15	+ 8	+ 20	+ 29	+ 53	+ 45	+ 13	+ 15	− 8
Equinox	331	− 36	− 58	− 60	− 69	− 71	− 64	− 41	+ 13	+ 52	+ 65	+ 42	+ 21	0	− 7	+ 11	+ 4	+ 24	+ 28	+ 44	+ 56	+ 44	+ 10	+ 9	− 16
Summer	271	− 49	− 63	− 66	− 61	− 54	− 40	+ 4	+ 53	+ 82	+ 48	+ 40	+ 9	− 15	− 9	0	− 10	− 9	− 4	+ 3	+ 30	+ 35	+ 27	+ 37	+ 8

NOTE: The above quantities are derived from the photographic traces for ten selected days in each month.
On a "selected day" no negative potential was recorded in general, and no excessive departure from average conditions is apparent throughout the twenty-four hours; but the range in the *mean values* for the days selected in any month generally exceeded 200 volts and occasionally exceeded 300 volts.

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