RESULTS

OF THE

MAGNETICAL AND METEOROLOGICAL OBSERVATIONS

MADE AT

THE ROYAL OBSERVATORY, GREENWICH,

IN THE YEAR

1912

UNDER THE DIRECTION OF

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ASTRONOMER ROYAL.

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GREENWICH MAGNETICAL AND METEOROLOGICAL OBSERVATIONS, 1912.

INTRODUCTION.

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

§ 1. *Personal Establishment and Arrangements.*

During the year 1912 the personal establishment in the Magnetical and Meteorological Department of the Royal Observatory consisted of Walter William Bryant, Superintendent, aided by one Junior Assistant, David J. R. Edney, and four Computers. The Computers employed during the year were:—William H. Timbury, Sydney T. Divers, Frederick Brown and Harold George Showell.

Mr. Bryant controls and superintends the whole of the work of the Department. The routine magnetical and meteorological observations are in general made by the Computers.

§ 2. *General Description of the Buildings and Instruments of the Magnetical and Meteorological Observatory.*

The buildings and instruments remained substantially unchanged throughout the year 1912. For a detailed historical account of them, reference should be made to the Introductions to earlier volumes of these observations.

The instruments for photographic registration of changes in the atmospheric pressure, magnetic declination, and horizontal and vertical magnetic force, are situated in an underground chamber (known as the Magnet Basement); this chamber is kept at a nearly uniform temperature by means of gas stoves. The small variations of temperature are recorded on a Richard thermograph. In the same room there are two mean solar clocks, one being of peculiar construction in order to interrupt the photographic traces at each hour. All these instruments are mounted on or suspended from supports carried by piers built from the ground.

In a wooden building (called the Magnet House) above this chamber are placed the standard barometer, and a Thomson electrometer for photographic registration of the variations of atmospheric electricity. A platform erected above the roof of the Magnet House is used for the observation of meteors; and a nephoscope is mounted there for occasional observations. On the same platform there is a rain-gauge, at a height of 20 feet above the ground.

Near the Magnet House, on what is known as the Magnet Ground, are the earth thermometers, the photographic dry and wet-bulb thermometer apparatus, a rain-gauge, and a set of dry-bulb, wet-bulb, and maximum and minimum thermometers in a Stevenson screen.

The Magnet House is built of non-magnetic material, but during the years 1891–1898 considerable masses of iron were introduced into its neighbourhood by the building of certain additions to the Observatory. Hence the instruments which were formerly placed in the Magnet House, for absolute determinations of magnetic declination, dip, and horizontal force, were transferred to the Magnetic Pavilion. This building is constructed of non-magnetic materials, and stands in an enclosure in Greenwich Park, 350 yards to the east of the Observatory, on a site carefully chosen for its freedom from abnormal magnetic conditions. In the enclosure there are two sets of thermometers used for ordinary eye observations, the thermometers for solar and terrestrial radiation, and two rain-gauges.

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

§ 3. *Subjects of Observation in the year* 1912.

The observations comprise determinations of absolute magnetic declination, horizontal force, and dip; continuous photographic record of the variations of declination, horizontal force, and vertical force; 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 electrometer (for atmospheric electricity); continuous automatic record of the direction, pressure, and velocity of the wind, and of the amount of rain; registration of the duration of sunshine; observations of some of the principal meteor showers; general record of ordinary atmospheric changes of weather, including numerical estimation of the amount of cloud, special cloud observations in connection with the International Balloon ascents, and occasional phenomena.

Since 1885, Greenwich civil time, reckoning from midnight to midnight, and counting from 0 to 24 hours, has been employed throughout the magnetical and meteorological sections.

§ 4. *Magnetic Instruments.*

DECLINATION MAGNET FOR ABSOLUTE DETERMINATIONS.—Since 1899 January 1, regular observations of declination have been made in the Magnetic Pavilion. The hollow cylindrical magnet Elliot No. 75 is used in conjunction with a telescope by Troughton and Simms, placed on a pier about 2 feet south of the magnet. The magnet is about 4 inches long, and at one end is an engraved glass scale for collimation. The telescope is 21 inches long, and the aperture of its object-glass is 2 inches; its horizontal circle is 16·6 inches in diameter, divided to 5′ and read by verniers to 5″. It has no vertical circle. The eye-piece has one fixed horizontal wire and one vertical wire, moved by a micrometer screw, the value of one revolution of which is 1′ 34″·2. The adopted collimation reading was $100^{r}{\cdot}280$ until November 15, when it became necessary to insert a new wire, for which the adopted reading was $100^{r}{\cdot}300$.

The vertical axis of the telescope is adjusted by means of a fixed level, one division of which corresponds to 1″·15. The level correction for inequality of the pivots of the axis of the telescope was found in 1898 to be $-6^{\mathrm{div}}{\cdot}0$ or $-6''{\cdot}9$.

The reading of the azimuth circle corresponding to the astronomical meridian is determined by observations of Polaris, taken once a week whenever practicable. The collimation error of the magnet collimator is also determined weekly, by observing the position of the magnet in its usual position with the scale direct, then with the scale reversed (by turning the magnet through 180° in its carrier, about the longitudinal axis); the observations are repeated quickly several times. In the reduction of the observations of declination, the determinations of collimation error and azimuth zero reading are combined into half-yearly means.

The torsion effect of the silk suspending skein is eliminated as nearly as possible, and any small effect still remaining is allowed for. The reading of the torsion circle which corresponds to free suspension in the plane of the magnetic meridian, and the ratio of the torsion couple, due to 90° of twist on the thread, to the couple due to the Earth's horizontal magnetic force, are determined weekly.

Declination observations are usually made four times daily, at 9^h, 12^h, 15^h, and 21^h.

DIP INSTRUMENT.—This instrument was designed by Sir G. B. Airy, and constructed by Troughton and Simms. It is mounted in the Magnetic Pavilion on a slate slab supported by a braced wooden stand built upon a pier insulated from the floor. It was designed so that needles of three different lengths could be used, but in practice only those 3 inches in length have been used since 1898 September 30. The pivots of the needles rest on agate bearings within a gun-metal box with back and front of glass. On the inner side of the front glass (which is parallel to the plane of vibration of the needle) is etched a graduated circle, $9\frac{3}{4}$ inches in diameter, divided to 10′ and read by two verniers to 10″. The verniers are thin plates of metal with notches instead of marks, for use with transmitted light. They are attached to a frame which can move about a horizontal axis nearly coincident with the pivot axis of the needles; two microscopes are mounted on this frame, for observation of the two ends of the needle.

The inclination of the needle is observed by turning the movable frame till the two ends of the needle (seen as a dark object in a bright field) come into view in the microscopes. The position of the movable frame is read by the circle and verniers, and the position of the needle relative to the frame is read off on glass scales within the microscopes. These scales are divided to 1000″, and can be read by estimation to 100″. A brass zenith-point needle is used to determine the zenith-point reading.

The gun-metal box is mounted on a circular horizontal plate which can be rotated in azimuth, its position being read on a graduated circle by fixed verniers.

There are two levels, at right angles, on the base-plate; the level is adjusted from time to time, and the readings of dip are corrected for any small outstanding level error (generally amounting to a few seconds of arc).

Observations are made only in the plane of the magnetic meridian. The needle is first magnetised by double touch, giving it nine strokes on each of its sides. Its inclination to the horizontal, when placed in the instrument, having been read, the whole apparatus is reversed in azimuth, and another reading taken. The needle pivots are then reversed on the agate bearings, and two more observations, in reversed positions of the instrument, are made. We will denote the mean of these four determinations of dip by θ_1. The needle is then taken out, remagnetised in the reverse direction, and four more observations are made in the same way, giving another mean reading θ_2.

Dip observations are made twelve times in each calendar month, at approximately equal intervals.

A systematic difference between θ_1 and θ_2 is assumed to indicate that the mass centre of the needle is not in the axis of the pivots. It may easily be seen that, on this supposition, the true inclination θ is given by the relation,

$$\tan \theta = \tfrac{1}{2} (\tan \theta_1 + \tan \theta_2).$$

The values of the dip given in this volume are obtained from this formula.

A pivot of one of the needles in use (D_1) was broken in January and a new axle fitted by Mr. Dover.

An earth-inductor with galvanometer was obtained during the year from the Cambridge Scientific Instrument Company, with which it is hoped to obtain values of dip free from systematic errors such as are indicated by the usual want of agreement between similar dip-needles, but no complete observations were made with the new instrument in 1912.

DEFLECTION INSTRUMENT FOR ABSOLUTE DETERMINATIONS OF HORIZONTAL FORCE.—This instrument (known as Gibson No. 3) is similar to those issued from the Kew Observatory. It is mounted on a slate slab in the Magnetic Pavilion in the same way as the dip instrument.

The deflected magnet, used merely to ascertain the ratio which the power of the deflecting magnet at a given distance bears to the power of terrestrial magnetism, is 3 inches long, and carries a small plane mirror, to which is directed a telescope fixed to, and rotating with, the frame that carries also the suspension piece of the deflected magnet: a scale fixed to the telescope is seen by reflexion at the plane mirror. The deflecting magnet is a hollow cylinder 4 inches long, containing in its internal tube a collimator, by means of which in another apparatus its time of vibration is observed. In observations of deflection the deflecting magnet is placed on the transverse deflection rod, carried by the rotating frame, at the distances 1·0 foot and 1·3 foot of the engraved scale from the deflected magnet, and with one end towards the deflected magnet. Observations are made at the two distances mentioned, with the deflecting magnet both east and west of the deflected magnet, and also with its poles in reversed positions. The fixed horizontal circle is 10 inches in diameter: it is graduated to 10′, and read by two verniers to 10″.

It will be convenient in this case to include with the description of the instrument an account of the method of reduction employed, in which the Kew precepts are followed. Previous to the establishment of the instrument at the Royal Observatory, the values of the various instrumental constants, as determined at the Kew Observatory, were kindly communicated by the late Professor Balfour Stewart, and these have been since used in reduction of all observations made with the instrument at Greenwich.

The instrumental constants as thus furnished are as follows:—

The increase in the magnetic moment of the deflecting magnet produced by the inductive action of unit magnetic force in the English system of absolute measurement $= \mu = 0{\cdot}00015587$.

The correction for decrease of the magnetic moment of the deflecting magnet required in order to reduce to the temperature 35° Fahrenheit $= c = 0{\cdot}00013126\ (t-35) + 0{\cdot}000000259\ (t-35)^2$; t representing the temperature (in degrees Fahrenheit) at which the observation is made.

Moment of inertia of the deflecting magnet $= K$. At temperature 30°, log. $K = 0{\cdot}66643$; at temperature 90°, log. $K = 0{\cdot}66679$.

The distance on the deflection rod from $1^{\text{ft}}{\cdot}0$ east to $1^{\text{ft}}{\cdot}0$ west of the engraved scale, at temperature 62°, is too long by 0·0034 inch, and the distance from $1^{\text{ft}}{\cdot}3$ east to $1^{\text{ft}}{\cdot}3$ west is too long by 0·0053 inch. The coefficient of expansion of the scale for 1° is ·00001.

The adopted value of K was confirmed in the year 1878 by a new and independent determination made at the Royal Observatory, giving log. K at temperature 30° = 0·66727.

Let m = Magnetic moment of deflecting or vibrating magnet.
X = Horizontal component of Earth's magnetic force.

Then, if in the two deflection observations, r_1, r_2, be the apparent distances of centre of deflecting magnet from deflected magnet, corrected for scale-error and temperature (about 1·0 and 1·3 foot),

u_1, u_2 the observed angles of deflection,

$$A_1 = \tfrac{1}{2}\, r_1^3 \sin u_1 \left\{ 1 + \frac{2\mu}{r_1^3} + c \right\}$$

$$A_2 = \tfrac{1}{2}\, r_2^3 \sin u_2 \left\{ 1 + \frac{2\mu}{r_2^3} + c \right\}$$

$P = \dfrac{A_1 - A_2}{\dfrac{A_1}{r_1^2} - \dfrac{A_2}{r_2^2}}$ [P being a constant depending on the distribution of magnetism in the deflecting and deflected magnets],

we have, using for reduction of the observations a mean value of P :—

$\frac{m}{X} = A_1\left(1 - \frac{P}{r_1^2}\right)$, from observation at distance r_1.

$\frac{m}{X} = A_2\left(1 - \frac{P}{r_2^2}\right)$, from observation at distance r_2.

The mean of these is adopted as the true value of $\frac{m}{X}$.

In calculating the value of P as well as the values of the four factors within brackets, the distances r_1 and r_2 are taken as being equal to 1·0 ft. and 1·3 ft. respectively. The expression for P is not convenient for logarithmic computation, and, in practice, its value for each observation has, since the year 1877, been calculated from the expression $\dfrac{\text{Log. } A_1 - \text{Log. } A_2}{\text{modulus}} \times \dfrac{r_1^2 \times r_2^2}{r_2^2 - r_1^2} = (\text{Log. } A_1 - \text{Log. } A_2) \times 5{\cdot}64.$

For determination, from the observed vibrations, of the value of mX :—let T_1 = time of vibration of the deflecting magnet, corrected for rate of chronometer and arc of vibration, $\frac{H}{F}$ = ratio of the couple due to torsion of the suspending thread to the couple due to the Earth's magnetic force. [This is obtained from the formula $\frac{H}{F} = \frac{\theta}{90^\circ - \theta}$, where θ = the angle through which the magnet is deflected by a twist of 90° in the thread.]

$$\text{Then } T^2 = T_1^2 \left\{ 1 + \frac{H}{F} + \mu\frac{X}{m} - c \right\}$$
$$\text{and } mX = \frac{\pi^2 K}{T^2}.$$

The corrected time of vibration of the deflecting magnet, printed in the tables of results, is the mean of 100 vibrations observed immediately before, and of 100 vibrations observed immediately after the observations of deflection, corrected for temperature, rate of chronometer, semi-arc of vibration, induction, and torsion force.

From the values of mX and $\frac{m}{X}$ thus calculated, m and X are deduced. The actual computation is made in the British system of units (foot—grain—second). The derived value of X is then reduced to C.G.S. units, as given in the tables.

Observations of the absolute horizontal magnetic force are made weekly since 1912 February, before which time they were made twice monthly.

DECLINATION VARIOMETER.—The magnet used in this instrument is 2 feet long, $1\frac{1}{2}$ inches wide, and $\frac{1}{4}$ inch thick. It is suspended by a skein of silk, consisting of a bundle of fine threads bound together at intervals of 6 or 7 inches : the skein is about

12 feet long, 6 feet of which is vertical. The magnet is taken from its carrier at the beginning of each year, in order to remove any torsion which may have accumulated; this is done by stretching the skein under the weight of a brass torsion rod for a few hours, adjusting the torsion circle till the bar rests in the magnetic meridian. The magnet is enclosed in a double wooden box, and is encircled by a copper damper to reduce accidental vibrations.

The photographic registration takes place in the usual way, on a horizontal cylinder which revolves once in 26 hours; the same sheet also receives the record of the horizontal force variometer. The illumination is by gas-light. The photographic sheets are changed daily at 11 a.m. On each sheet a reference line is photographed by a fixed spot of light. The traces are interrupted automatically for 4 minutes at every hour, to afford a time scale. By another shutter the observer occasionally cuts off the light for a few minutes, noting the time; this facilitates the numeration of the hourly breaks. The length of 24 hours on the sheet is about 13·3 inches.*

The distance between the concave speculum mirror carried by the magnet, and the surface of the cylinder, is 134·4 inches. Since a movement of the mirror through 1° produces 2° of motion in the reflected ray, a change of 1° in declination corresponds to 4·691 inches on the photographic paper. A card-board strip, graduated on this scale to degrees and minutes, is prepared for reading from the sheets.

The base line is laid down as follows: the movement of the magnet is assumed to be identical with that of the absolute declination magnet, so that every observation with the latter affords a value of the base line. These values (of which four are obtained daily) were formerly taken in monthly groups, the means being adapted for use throughout the corresponding months. Then, by means of the card-board scale, a base line (whose ordinate represents some convenient quantity) is laid down upon each sheet; from this line the hourly ordinates (see p. E xiii) are measured.

In consequence, however, of the unsatisfactory nature of the changes of torsion of the silk suspending thread of the absolute declination magnet, the ordinary daily eye observations during 1912 were ignored. The base-line was derived from weekly observations in which special precautions were taken to eliminate torsion.

No eye readings of the position of this magnet are taken.

* In accordance with a circular from Dr Chree requesting co-operation in "quick speed" magnetograms for the Term-days of the Antarctic Expedition, two new driving clocks were supplied, one for the Declination and Horizontal Force Magnetograph, and the other for the Vertical Force. By a simple changing device, these can be made to drive the cylinders at the ordinary rate, or at twelve times the ordinary rate.

HORIZONTAL FORCE VARIOMETER.—The magnet used in this instrument is 2 feet long, $1\frac{1}{2}$ inches broad, and about $\frac{1}{4}$ inch thick; it is enclosed in a double wooden box. The bifilar suspension consists of a silk skein passing under two small pulleys, which are attached to a vernier piece used in connection with a torsion circle on the frame which holds the magnet. The effective length of each branch of the skein is about $7^{\text{ft.}}\ 6^{\text{in.}}$; the distances between the branches at the upper and lower ends are respectively $1^{\text{in.}}\cdot14$ and $0^{\text{in.}}\cdot80$. The present skein was mounted in 1909 December.

The torsion circle is fixed relative to the magnet, while the vernier is movable; the circle is divided to half degrees, and read by vernier to $1'$. The torsion is adjusted so as to make the magnet hang approximately transverse to the magnetic meridian, the north magnetic pole being west. Accidental vibrations of the magnet are reduced by a copper damper.

The changes of horizontal force are registered photographically on the cylinder already described in connection with the declination variometer; the same reference line is used for each trace, and the arrangements for interruption of the traces are similar.

In the present case eye-readings of the position of the magnet can also be taken by means of an auxiliary mirror, telescope, and scale. The eye observations are usually made at convenient times within a few minutes of 9^{h}, 12^{h}, 15^{h}, and 21^{h}.

Since 12 inches of the fixed scale corresponds to $30^{\text{div.}}\cdot85$, while the mirror is 90·84 inches distant (in a normal direction) from the scale, it appears that, for a change of one division of scale-reading, the magnet is turned through an angle of $7'.21''\cdot6$, or (in circular measure) 0·002141. We will denote these two corresponding quantities by k and k_1 respectively.

The magnet should be within two or three degrees of arc on either side of the ideal position (*i.e.* magnetic east and west direction), if it is to indicate truly the changes in the magnitude of the horizontal magnetic force, without regard to small changes in its direction. Suppose ϕ is the angle of torsion, and θ the circular measure of the deviation of the magnetic axis from the ideal position, θ being reckoned positive when the north pole of the magnet is north of west; then the variation of the horizontal force—in terms of the whole horizontal force as unit—which will produce angular motion of the magnet corresponding to change of one scale-division, is

$$k\,(\cot\phi + \tan\theta).$$

Changes in θ are easily measured by the fixed scale; but there is no direct means of determining the scale zero, viz., the scale-reading for the position $\theta = 0$. This, together with the value of the angle of torsion, is determined annually (in order to break the continuity of the photographic register as seldom as possible) by the following method.

The torsion-circle being set so that the magnet is nearly east and west, readings of the torsion vernier (V_1), of the scale (S_1), and of the time of vibration (T_1) in this position, are carefully taken. The magnet is then taken out and replaced in the reverse position, end to end, in its carrier; the magnetic couple being thus reversed, the vernier-reading on the torsion scale must be changed by twice the angle of torsion (which is approximately known beforehand) in order to maintain the magnet transverse to the meridian. A finer adjustment is made, if necessary, while the magnet is in position. Corresponding readings are taken, of vernier (V_2), scale (S_2), and time of vibration (T_2). Lastly, the magnet is replaced in its original position, in which it remains (in general) until the following year's torsion observations. Again the three readings, V_3, S_3, T_3, are taken.

Then for the angle of torsion we have

$$\phi = \tfrac{1}{4}(2V_2 - V_1 - V_3) + \tfrac{1}{2}\, k_1(S_1 + S_3 - 2S_2),$$

while the scale zero S_0 is given by the formula

$$S_0 = \tfrac{1}{4}(S_1 + S_3 + 2S_2) + \frac{1}{k}\,\frac{T_1 + T_3 - 2T_2}{T_1 + T_3 + 2T_2}\cot\phi$$

Two determinations of ϕ and S_0 are made by taking two sets of observations of S, V, and T in each position of the magnet, with slightly different vernier readings.

The above method of determining the scale value was not used before the beginning of 1911, but the formulæ could be applied to the observations taken in connection with the method formerly used (a description of the latter is given in the volumes for 1908 and earlier years). A table of corrections (calculated from these formulæ) appeared in the Introduction to the Magnetical Observations for 1909 (see p. xv.), giving the percentage error in the scale values adopted for the horizontal force magnetographs in the years 1883–1909.

From experiments on 1912 January 1, it was found that the angle of torsion was 42°·8′, and the scale zero was 51·21; from similar experiments on 1913 January 1, the corresponding values found were $41^\circ{\cdot}59'$ and 53·06. The mean scale reading during the year 1912 was about 59. The adopted values of ϕ and θ for the reduction of the observations for 1912 are $41^\circ{\cdot}59'$ and $+51'{\cdot}5$. Thus the value of $\cot\ \phi + \tan\ \theta$ is 1·1262.

Since the distance between the concave mirror carried by the magnet and the surface of the cylinder is 136·8 inches, the length on the cylinder which corresponds to a change of 0·01 of the whole horizontal force is $2 \times 0{\cdot}01 \times 136{\cdot}8 \div (\cot\ \phi + \tan\ \theta) =$ $2^{\text{in.}}{\cdot}429$ during the year 1912; the cardboard scale used for measuring the curves is constructed with this as unit.

As the indications of horizontal force are in a slight degree affected by the small changes to which the Magnet Basement is subject, a thermometer, the bulb of which reaches considerably below the attached scale, is placed in a nearly upright position on the outer magnet box, with its bulb projecting well into the interior of the inner box. Readings of this thermometer are usually taken at 9^h, 10^h, 11^h, 12^h, 13^h, 14^h, 15^h, 16^h, and 21^h. An index correction of $-0^\circ{\cdot}3$ has been applied to all the readings.

The temperature coefficient of the magnet was determined by artificially heating the Magnet Basement to different temperatures, and observing the change of position of the magnet produced thereby. Such experiments were made in the years 1868, 1885, and 1886 (see previous volumes for details). A discussion of the observations taken in 1885 and 1886 shows that the correction for reduction to temperature 32° (expressed in terms of the whole horizontal force) is $(+ - 32) \times 0{\cdot}0000936 + (+ - 32)^2 \times {\cdot}000002074$, the temperature $\pm$ being in degrees Fahrenheit. The decrease of horizontal force for an increase of 1° of temperature would thus be ·00021 at 60°, ·00023 at 65°, and ·00025 at 70°.

The eye readings of the position of the magnet, in conjunction with the photographic record of the position at the same times, serve as a check on the constancy of the recording arrangements.

VERTICAL FORCE VARIOMETER.—The magnet used in this instrument is $1\frac{1}{2}$ feet long, and lozenge-shaped, being broad at the centre and pointed at the ends. The steel knife-edge, which is 8 inches long, and passes through an aperture in the magnet, rests on two agate planes. The magnet is placed unsymmetrically on the knife edge, being nearer to its southern end. The axis of vibration was originally in the magnetic meridian, but is now a few degrees distant, on account of the secular change of declination.

Two steel screw stalks, carrying adjustable screw weights, are attached to the magnet, one being vertical in order to vary the sensitiveness, the other horizontal in order to adjust the balance of the magnet, which should rest in a nearly horizontal position. Formerly a copper damper encircled the magnet, but, as it was found to be unnecessary, it has not been used since 1902. The magnet and supporting frame are enclosed in a wooden box with suitable glass-covered apertures. The temperature within the box is indicated by a thermometer, the bulb of which projects well into the interior of the box.

The photographic arrangements are generally similar to those already described in connection with the declination and horizontal force variometers. The cylinder carrying the photographic sheet is in this case vertical, and also receives the record of the variations of barometric pressure. The time scale is the same as for the other magnetic registers.

The scale coefficient of the instrument is determined by the method of vibrations. When the magnet is approximately horizontal, and transverse to the magnetic meridian, the variation of the vertical force, in terms of the whole vertical force, which will produce a small angular motion θ (measured in radians) = cotan dip $\times \left(\frac{T^1}{T}\right)^2 \times \theta$; T and T^1 are the times of vibration of the magnet in the vertical and horizontal planes respectively.

Observations of T are made once a week by means of the telescope and scale provided for eye readings of the position of the magnet. The mean of 53 observations made during the year gives the value $18^s{\cdot}367$.

The time of vibration in the horizontal plane (T^1) is determined once every three years, as the observation requires the removal of the magnet from its box. The magnet, with all its attached parts, is suspended from a tripod, with its broad side horizontal. The arc of vibration is kept small. Observations on 1912 January 1 gave for the time of vibration in the horizontal plane $16^s{\cdot}484$. This value has been adopted for the year 1912.

Since the distance between the concave mirror of the magnet and the surface of the cylinder is 100·2 inches, the length on the cylinder, in inches, which corresponds to a change of 0·01 part of the whole vertical force = 2 × 100·2 × tan dip × $\left(\frac{T}{T^1}\right)^2 \times 0{\cdot}01$. Taking $T = 18^s{\cdot}367$, $T^1 = 16^s{\cdot}484$, and dip = $66^\circ\ 51'\ 46''$, this length is found to be 5·849 inches. The cardboard scale, which is used for measuring the curves for the year, is constructed with this as unit.

The eye readings, which are taken at convenient times within a few minutes of 9^h, 12^h, 15^h, and 21^h, afford a check on the recording arrangements, when compared with the photographic record of the position of the magnet at the same times. The wire employed for eye observations with the telescope was broken and replaced on October 28.

Readings of the temperature within the box are taken at 9^h, 10^h, 11^h, 12^h, 13^h, 14^h, 15^h, 16^h, and 21^h. Experiments made in 1885 and 1886 (details of which are given in the Introduction for 1886) showed that, through the range of temperature to which the magnet is normally exposed, the apparent increase of vertical force for 1° rise of temperature (Fahrenheit) is uniformly 0·000212. No term depending on the square of the temperature is necessary in this case.

§ 5. *Magnetic Reductions.*

The results given in the Magnetic Section refer to the civil day, commencing at midnight.

Before the photographic records of magnetic declination, horizontal force, and vertical force are discussed, they are divided into two groups—one including all days on which the traces show no particular disturbance, and which, therefore, are suitable for the determination of diurnal inequality; the other comprising days of unusual and violent disturbance, when the traces are so irregular that it appears impossible to treat them except by the exhibition of every motion of each magnet through the day. Following the principle of separation hitherto adopted, there are no days in the year 1912 which are classed as days of great disturbance. Days of lesser disturbance are March 8, April 5–6, August 5–6, September 16–17, October 14–15, December 6–7. When two days are mentioned, it is to be understood that the reference is usually to one set of photographic sheets extending from noon to noon, and including the last half and the first half respectively of two consecutive civil days.

Through each photographic trace, including those on days of lesser disturbance, a pencil line was drawn, representing the general form of the curve without its petty irregularities. The ordinates of these pencil curves were then measured, with the proper pasteboard scales, at every hour; and from the tables of these measures, for each calendar month, 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 ordinates 0^h to 23^h. Tables I. to IV. contain the results for declination, Tables V. to VIII. those for horizontal force, and Tables IX. to XII. those for vertical force. For each element the mean daily value and daily range are given for every day of the year (except January 1), together with the monthly and annual mean diurnal inequalities for all days and for quiet days (as selected by the International Committee). In the formation of diurnal inequalities it is unimportant whether a day omitted be a complete civil day, or the parts of two successive civil days making together a whole day, although in the latter case the results are not available for daily values. No days were omitted on account of great disturbance in the formation of these Tables.

By means of two stoves placed in the Basement, the temperature has been kept nearly constant throughout the year, the endeavour being to keep it as near to 67° as possible. The results in Tables V. to XII. are corrected for temperature, the corrections applied (which are mentioned in the description of each instrument) being founded on the daily and hourly values of temperature given in Tables XIII. to XVI.

In regard to the formation of the tables of temperature, the hourly readings of the Richard Thermograph were combined so as to give the mean daily values for each day of the month, and the mean monthly values for each hour of the day. To adapt these to represent the temperature within the horizontal and vertical force magnet boxes respectively, the monthly means of the thermograph-readings at 9^h, 10^h, 11^h, 12^h, 13^h, 14^h, 15^h, 16^h, and 21^h were compared with the corresponding means of the eye readings of the thermometers whose bulbs are within the respective magnet boxes, giving corrections to the thermograph-readings at these hours, which were very accordant, and from which, by interpolation, corrections were obtained for the remaining hours. The nine daily observations gave also the means of reducing the daily thermograph values to the temperature of the interior of the respective magnet boxes.

The variations of declination are given in arc and those of horizontal and vertical force in C.G.S. measure.

The magnetic diurnal inequalities of declination, horizontal force, and vertical force, for each month and for the year, as given in Tables II., VI., and X., have been treated by the method of harmonic analysis, and the results are given in Tables XVII. and XVIII.

The values of a_5 and b_5 for the diurnal inequalities for the year were also calculated, but could not be conveniently included in Table XVII. They are as follows :—

1912.	a_5.	b_5.
Declination	$-0'.07$	$-0'.03$
Horizontal Force	-0.1	-0.1
Vertical Force	$+0.4$	-0.1

In order to give some indication of the accuracy with which the results of observation are represented by the harmonic formula, the sums of squares of residuals remaining after the introduction of m and of each successive pair of terms of the expression on page E 12, corresponding to the single terms of the expressions on page E 13, have been calculated for the mean diurnal inequalities for the year (columns 1, 2, and 3 of Table XII.). The respective sums of squares of residuals are as follows :—

SUMS OF SQUARES OF RESIDUALS OF DIURNAL INEQUALITIES.

	Declination.	Horizontal Force.	Vertical Force.
Sums of Squares of Observed Values (Table XII.)	168'.14	5992.5	2330.3
Sums of Squares of Residuals after the introduction of m	67.89	1004.3	339.2
" " a_1 and b_1	27.89	240.5	206.8
" " a_2 and b_2	5.25	57.6	32.1
" " a_3 and b_3	0.84	15.6	3.0
" " a_4 and b_4	0.08	0.3	2.5
" " a_5 and b_5	0.02	0.2	0.9

The unit in the case of horizontal and vertical force being 1γ (0·00001 C.G.S. unit), it thus appears that there would be no advantage in carrying the approximation (Table XVII.) beyond the determination of a_4, b_4.

The results of the observations for Absolute Measure of Horizontal Force contained in Tables XIX. and XX. require no special remark, the method of reduction and all necessary explanation having been given with the description of the instrument employed. The observed result in each month has been also given as reduced to the mean value for the month, by application of the difference between the horizontal force ordinate at the time of observation and the mean value for the month, as obtained from the photographic register.

As regards Magnetic Dip, the result of each complete observation of dip with each of the needles in ordinary use, is given in Table XXI.; and in Table XXII., the concluded monthly and yearly values for each needle.

Table XXIII. contains an annual summary of the magnetic elements giving the mean monthly values, the monthly mean diurnal ranges, and sums of hourly deviations from mean.

In order to facilitate the comparison of the diurnal inequalities of magnetism at the different British and other magnetic observatories, an arrangement was made with the Sub-Committee of the Kew Committee of the Royal Society, by which five quiet days were selected at Greenwich in each month of every year for adoption at all these observatories for determination of the monthly diurnal inequalities of declination, horizontal force, and vertical force, thus providing for further discussion results which should be strictly comparable. Beginning with 1911, the five days selected by the International Committee from a comparison of data from all contributing stations, have been adopted instead. The particular days selected are given on page E 18, and the results found for Greenwich are contained in Tables IV., VIII., and XII., which it is interesting to compare with the values found from the records of all days, as given in Tables II., VI., and X.

Reduced copies of the magnetograms for certain disturbed days (mentioned on p. E xiii) have been printed in each volume since 1882. The list of these days since the year 1889 has been selected in concert with M. Mascart, or his successor M. Angot, so that the two Observatories of Val Joyeux (formerly of the Parc Saint Maur) and Greenwich should publish the magnetic registers for the same days of disturbance with a view to the comparison of the results. It is now proposed to adopt as far as possible the list of days of greater disturbance selected by the International Committee as in the case of the quiet days.

The plates are followed by a brief description of *all* other significant magnetic motions (superposed on the ordinary diurnal movement) recorded throughout the year. These, in combination with the plates, give very complete information on magnetic disturbances during the year 1912, affording thereby, it is hoped, facilities for making comparison with solar phenomena.

In regard to the plates, it may be remarked that on each day three distinct registers are usually given, viz.: declination, horizontal force, and vertical force; all necessary information for proper understanding of the plates being added in the notes on page (E 16).

An additional plate (III.) exhibits the registers of declination, horizontal force and vertical force on four quiet days, which may be taken as types of the ordinary diurnal movement at four seasons of the year. These are given for the civil day as exhibiting more clearly the character of the diurnal movement.

The indications of horizontal and vertical force are given precisely as registered; they are therefore affected, slightly as compared with the amount of motion on disturbed days, by the small recorded changes of temperature of the magnets. The recorded hourly temperatures being inserted on the plates, reference to the temperature-correction of the magnets, given at pages E xi to E xiii, will show the effect produced. Briefly, an increase of 1° of temperature throws the horizontal force curve upward by about 4 γ; an increase of 1° of temperature throws the vertical force curve downward by about 9 γ.

The scale of the photographic records is given approximately by the following table:—

1 mm. on the Declination curve corresponds to	$0'\cdot5$ of arc.
	or to 2·7 γ
1 mm. on the Horizontal Force curve corresponds to	3·0 γ
1 mm. on the Vertical Force curve corresponds to	2·9 γ

The original photographs have been reduced for reproduction in the proportion of 20 to 11.

The corresponding scale values are indicated by scales at the foot of each of the plates.

The subjoined table gives the values of Magnetic Elements determined at the Royal Observatory, Greenwich:—

[TABLE

Year.	Declination West.	Horizontal Force, C.G.S. Unit.	Dip.†	Year.	Declination West.	Horizontal Force, C.G.S. Unit.	Dip.†
	° ′		° ′		° ′		° ′
1841	23.16·2	...	...	1876	19. 8·3	0·1797	67.41·0
1842	23.14·6	...	...	1877	18.57·2	0·1799	67.39·7
1843	23.11·7	...	69. 0·6	1878	18.49·3	0·1801	67.38·2
1844	23.15·3	...	69. 0·3	1879	18.40·5	0·1803	67.37·0
1845	22.56·7	...	68.57·5	1880	18.32·6	0·1804	67.35·7
1846	22.49·6	0·1731	68.58·1	1881	18.27·1	0·1805	67.34·7
1847	22.51·3	0·1736	68.59·0	1882	18.22·3	0·1804	67.34·2
1848	22.51·8	0·1731	68.54·7	1883	18.15·0	0·1810	67.31·7
1849	22.37·8	0·1733	68.51·3	1884	18. 7·6	0·1812	67.29·7
1850	22.23·5	0·1738	68.46·9	1885	18. 1·7	0·1816	67.28·0
1851	22.18·3	0·1744	68.40·4	1886	17.54·5	0·1816	67.27·1
1852	22.17·9	0·1745	68.42·7	1887	17.49·1	0·1818	67.26·6
1853	22.10·1	0·1748	68.44·6	1888	17.40·4	0·1820	67.25·6
1854	22. 0·8	0·1749	68.47·7	1889	17.34·9	0·1821	67.24·3
1855	21.48·4	0·1756	68.44·6	1890	17.28·6	0·1823	67.23·0
1856	21.43·5	0·1759	68.43·5	1891	17.23·4	0·1825	67.21·5
1857	21.35·4	0·1769	68.31·1	1892	17.17·4	0·1827	67.20·0
1858	21.30·3	0·1762	68.28·3	1893	17.11·4	0·1829	67.17·9
1859	21.23·5	0·1761	68.26·9	1894	17. 4·6	0·1829	67.17·4
1860	21.14·3	...	68.30·1	1895	16.57·4	0·1832	67.16·1*
1861	21. 5·5	0·1773	68.24·6	1896	16.51·7*	0·1833*	67.15·1*
		0·1757	68.15·8	1897	16.45·8*	0·1836	67.13·5*
1862	20.52·6	0·1761	68. 9·6	1898	16.39·2*	0·1838	67.12·1
1863	20.45·9	0·1763	68. 7·0	1899	16.34·2	0·1842	67.10·5
1864	...	0·1765	68. 4·1	1900	16.29·0	0·1844	67. 8·8
1865	20.33·9	0·1765	68. 2·7	1901	16.26·0	0·1848	67. 6·4
1866	20.28·0	0·1771	68. 1·3	1902	16.22·8	0·1850	67. 3·8
1867	20.20·5	0·1776	67.57·2	1903	16.19·1	0·1850	67. 1·2
1868	20.13·1	0·1777	67.56·5	1904	16.15·0	0·1852	66.57·6
1869	20. 4·1	0·1780	67.54·8	1905	16. 9·9	0·1852	66.56·3
1870	19.53·0	0·1782	67.52·5	1906	16. 3·6	0·1852	66.55·6
1871	19.41·9	0·1785	67.50·3	1907	15.59·8	0·1853	66.56·2
1872	19.36·8	0·1787	67.47·8	1908	15.53·5	0·1853	66.56·3
1873	19.33·4	0·1791	67.45·8	1909	15.47·6	0·1853	66.54·1
1874	19.28·9	0·1795	67.43·6	1910	15.41·2	0·1853	66.52·8
1875	19.21·2	0·1795	67.42·4	1911	15.33·0	0·1853	66.52·1
				1912	15.24·3	0·1853	66.51·8

* Corrected for the effect of the iron in the new buildings (see p. E ii).

† These values of the dip differ slightly in some instances from those given in previous volumes, on account of the correction described on p. E v.

In 1861 the 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.

Slight interruptions in the traces on the plates are due to various causes. In the originals there are breaks at each hour for time scale, so slight, however, that in the copies the traces could usually be made continuous without fear of error : in a few cases, however, this could not be done. Further, to check the numeration of hours, the observer interrupts the register at definite times for about five minutes, usually at or near $9^h\ 30^m$, $12^h\ 30^m$, and $20^h\ 30^m$ Greenwich civil time.

The original photographic records were first traced on thin paper, the separate records on each day being arranged one under another on the same sheet, and great attention being paid to accuracy as regards the scale of time. Each sheet containing the records for one or more days was then reduced by photo-lithography, in the proportion of 20 to 11, to bring it to a convenient size for insertion in the printed volume.

§ 6. *Meteorological Instruments.*

STANDARD BAROMETER.—The standard barometer, mounted in 1840 on the southern wall of the western arm of the Upper Magnet Room, 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 $0^{in}\cdot05$, sub-divided by vernier to $0^{in}\cdot002$.

The readings of this barometer, until 1866 August 20, are considered to be coincident with those of the Royal Society's flint-glass standard barometer. It then became necessary to remove the sliding rod for repair of its slow motion screw, which was completed on August 30. Before the removal of the rod the barometer had been compared with three other barometers, one of which, during repair of the rod, was used for the daily readings. After restoration of the rod, a comparison was again made with the same three barometers, from which it appeared that the readings of the standard, in its new state, required a correction of $-0^{in}\cdot006$, all three auxiliary barometers giving accordant results. This correction has been applied to every observation since 1866 August 30.

An elaborate comparison of the standard barometers of the Greenwich and Kew Observatories, made in the spring of the year 1877, under the direction of the Kew Committee, by Mr. Whipple, showed that the difference between the two barometers (after applying to the Greenwich barometer-readings the correction $-0^{in}\cdot006$) did not exceed $0^{in}\cdot001$. (*Proceedings of the Royal Society*, vol. xxvii. page 76.)

The height of the barometer cistern above the mean level of the sea is 159 feet, being $5^{ft.}$ $2^{in.}$ above Mr. Lloyd's reference mark in Bradley's Transit room adjoining the present Transit-circle room. (*Philosophical Transactions*, 1831.)

The barometer is read at 9^h, 12^h (noon), 15^h, 21^h (civil reckoning) every day. Each reading is corrected by application of the index-correction above mentioned, and reduced to the temperature 32° by means of Table II. of the "Report of the Committee of Physics" of the Royal Society. The readings thus found are used to determine the value of the instrumental base line on the photographic record.

PHOTOGRAPHIC BAROMETER.—The barometric record is made on the same cylinder as is used for magnetic vertical force. A siphon barometer fixed to the northern wall of the Magnet Basement is employed, the bore of the upper and lower extremities of the tube being about 1·1 inch, and that of the intermediate portion 0·3 inch. A metallic plunger, floating on the mercury in the shorter arm of the siphon, is partly supported by a counterpoise acting on a light lever, leaving a definite part of its weight to be supported by the mercury. The lever carries at its other end a vertical plate of aluminium, having a small horizontal slit, whose distance from the fulcrum is about eight times that of the point of connexion with the float, and whose vertical movement is therefore about four times that of the ordinary barometric column. The light of a gas lamp, passing through this slit and falling on a cylindrical lens, forms a spot of light on the paper. The barometer can, by screw action, be raised or lowered so as to keep the photographic trace in a convenient part of the sheet. A base line is traced on the sheet, and the record is interrupted at each hour by the clock, and occasionally by the observer, in the same way as for the magnetic registers. The length of the time scale is also the same.

The barometric scale is determined by experimentally comparing the measured movement on the paper with the observed movement of the standard barometer; one inch of barometric movement is thus found = $4^{in}\cdot16$ on the paper. Ordinates measured for the times of observation of the standard barometer, combined with the corrected readings of the standard barometer, give apparent values of the base line, from which mean values for each day are formed; these are written on the sheets and new base lines drawn, from which the hourly ordinates (see page E xxxi) are measured as for the magnetic registers. As the diurnal change of temperature in the Basement is very small, no appreciable differential effect is produced on the photographic register by the expansion of the column of mercury.

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 G. B. Airy. A vertical axis, fixed in the ground, carries the frame, which consists of a horizontal board as base, of a vertical board projecting upwards from it and connected with one edge of the horizontal board, and of two parallel inclined boards (separated about 3 inches) connected at the top with the vertical board and at the bottom with the other edge of the horizontal board: the outer inclined board is covered with zinc, and the air passes freely between all the boards. The dry and wet bulb thermometers are mounted near the centre of the vertical board, with their bulbs about 4 feet from the ground; the maximum and minimum thermometers for air temperature are placed towards one side of the vertical board, and those for evaporation temperature towards the other side, with their bulbs at about the same level as those of the dry and wet bulb thermometers. A small roof projecting from the frame protects the thermometers from rain. The frame is turned in azimuth several times during the day (whether cloudy or clear), so as to keep the inclined side always towards the sun. In 1878 September a circular board, 3 feet in diameter, was fixed, below the frame, round the supporting post, at a height of 2 feet 6 inches above the ground, with the object of protecting the thermometers from radiation from the ground. In the summer of 1886 experiments were made on days of extreme heat, with the view of determining the effect of the circular board in this respect, an account of which will be found at the end of the Introduction to the volume for the year 1887. The effect of radiation with the circular board removed was found to be insensible.

On 1899 January 4 the thermometer stand was moved to the Magnetic Pavilion enclosure, where the thermometers are set up in an open position, about 40 feet south-west of the building.

The corrections to be applied to the thermometers in ordinary use are determined, usually once each year for the whole extent of scale actually employed, by observations at 32° in pounded ice and by comparison with the standard thermometer No. 515, kindly supplied to the Royal Observatory by the Kew Committee of the Royal Society.

The dry bulb thermometer used throughout the year was Negretti and Zambra, No. 45354. The correction $-0^{\circ}{\cdot}4$ 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 $-0^{\circ}{\cdot}2$ has been applied to the readings of this thermometer.

The self-registering thermometers for temperature of air and evaporation are all by Negretti and Zambra. The maximum thermometers are on Negretti and Zambra's principle, the minimum thermometers are of Rutherford's construction. The readings of Negretti and Zambra, No. 83760, for maximum temperature of the air, required no correction; to those of Negretti and Zambra, No. 38338, for minimum temperature of the air, a correction of $+0^{\circ}{\cdot}1$ has been applied; to those of Negretti and Zambra, No. 102104, for maximum temperature of evaporation, a correction of $+0^{\circ}{\cdot}1$ has been applied; and to those of Negretti and Zambra, No. 98508, for minimum temperature of evaporation, a correction of $+0^{\circ}{\cdot}1$ has been applied.

The dry and wet bulb thermometers are read at 9^h, 12^h (noon), 15^h, 21^h (civil reckoning) 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.

In the year 1887, four thermometers—a dry-bulb and a wet-bulb, with maximum and minimum thermometers for air temperature—were mounted in a Stevenson screen, with double louvre-boarded sides, of the pattern adopted by the Royal Meteorological Society, which is fully described in the *Quarterly Journal* of the Society, vol. x. page 92. The screen is planted in the Magnet ground 20 feet east-north-east of the photographic thermometers, and its internal dimensions are, length 18 inches, width 11 inches, and height 15 inches, the bulbs of the thermometers placed in it being at a height of about 4 feet above the ground. The dry-bulb thermometer is Hicks No. 262495, to the readings of which a correction of $-0^{\circ}{\cdot}1$ has been applied. The wet-bulb is Hicks No. 268525, and the maximum thermometer is Negretti and Zambra, No. 85059, neither of which required correction. To the readings of the minimum thermometer, Negretti and Zambra, No. 68873, a correction of $+0^{\circ}{\cdot}1$ has been applied.

Experiments were made in the summer of the year 1887 on days of extreme heat, to determine whether, with the door of the screen open, the thermometers were in any way influenced by radiation from external objects, an account of which will be found at the end of the Introduction to the volume for 1887. The effect of radiation with the door of the screen open was found to be insensible.

On 1900 March 31, an additional Stevenson screen, similar to the screen already mounted in the Magnet ground, was erected in the Magnetic Pavilion enclosure, 15 feet north-east of the open stand. The dry and wet-bulb thermometers mounted in this screen are Negretti and Zambra, Nos. 94713 and 94714, of which the former required no correction to its readings. To the readings of the maximum thermometer, Negretti and Zambra, No. 94859, a correction of $-0^{\circ}\cdot4$ has been applied, and to those of the minimum thermometer and the wet-bulb thermometer, Negretti and Zambra, Nos. 85080 and 94714, a correction of $+0^{\circ}\cdot1$ has been applied.

The maximum thermometer, Negretti and Zambra, No. 94859, was found on September 5, with its valve displaced, rendering it ineffective, and was replaced by Negretti and Zambra, No. 136647, which required no correction.

PHOTOGRAPHIC DRY-BULB AND WET-BULB THERMOMETERS.—The apparatus which has been in use since 1887 was designed by Sir W. H. M. Christie, and since 1899 has stood in its present position in the Magnet Ground. It is placed in a shed, 8 feet square, standing upon posts about 8 feet high, and open to the north. The roof slopes towards the south, and there are double protecting boards on the eastern, southern, and western sides; the apparatus is thus screened from the direct rays of the sun, without impeding the circulation of the air. The cylinder which receives the photographic register is $11\frac{1}{2}$ inches long, and $14\frac{1}{2}$ inches in circumference, and revolves once in 26 hours. The two traces fall on the same part of the cylinder, as regards time scale; a long air-bubble in the wet-bulb thermometer column gives the means of registering the indications of the wet bulb (as well as of such degrees and decades of its scale as fall within the bubble), just below the trace of the dry-bulb thermometer, without any interference of the two records, an arrangement which admits of the time scale being made equal to that of all the other registers. 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. Two gas lamps, each at a distance of 21 inches, are placed at such an angle that the light from each, after passing through its corresponding slit and thermometer tube, falls on the photographic paper in one and the same vertical line. Degree lines etched upon the thermometer stems, and painted, interrupt the light sufficiently to produce a clear and sharp indication on the photographic sheet, the line at each tenth degree being thicker than the others, as well as those at 32°, 52°, 72°, &c. The length of scale is from 0° to 120° for each thermometer, the length of 1° being about 0·1 inch, and the air-bubble in the wet-bulb thermometer is about 12° in length, so that it will always include one of the ten-degree lines. The bulbs, which are 2 inches long and of about $\frac{1}{2}$ an inch in internal bore, are separated horizontally by 5 inches, the tubes of the thermometers having a double bend above the bulbs, which are placed about 4 feet above the ground. The thermometers are carried by a vertical frame with independent vertical adjustment for each thermometer, so that the register in summer or winter can be brought to a convenient part of the photographic sheet. The revolving cylinder is driven by a pendulum clock contained within the brass case covering the whole apparatus, excepting the thermometer bulbs which project below. It makes one revolution in 26 hours, and the time scale is the same as that for all the other registers. As the cylinder revolves, the light passing through the portion of the thermometer tubes not occupied by mercury imprints on the paper a broad band of photographic trace, corresponding to the dry-bulb register, whose breadth in the vertical direction varies with the height of the mercury in the tube, and a narrower band below, corresponding to the wet bulb. When these are developed, the traces are seen to be crossed by thin white lines, the horizontal lines corresponding to degrees, and the vertical lines to hours, the lower boundary of each trace indicating the thermometric record corresponding to the upper surface of the thermometric column.

The driving clock is made to interrupt the light for a short time at each hour, producing on the sheet the hour lines above mentioned; the observer also occasionally interrupts the register for a short time for proper identification of the hourly breaks.

The bulbs of the thermometers were at first completely protected from radiation by vertical or inclined boards fixed to the thermometer stand, two on the south side, two on the north side, one at the east end, one at the west end, and one below, but with proper spaces for free circulation of air. Experiments made in the summer of the year 1886, an account of which is given at the end of the Introduction for 1887, showed that the north and south boards were unnecessary, and the two south boards and one north board were in consequence removed before commencing regular work with the instrument at the beginning of the year 1887. The south boards were replaced during 1908 as a precaution against indirect effects from the gravel path to the south of the shed.

For a description of the apparatus formerly employed, reference may be made to the Introduction for 1887 and previous years. A comparison of the results given by the old and new apparatus will be found at the end of the Introduction to the year 1887.

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 self-registering mercurial maximum thermometer on Negretti and Zambra's principle, with its bulb blackened, and the thermometer enclosed in a glass sphere from which the air has been exhausted. The thermometer employed until July was Negretti and Zambra, No. 99989. This was broken on July 2, and replaced by Negretti and Zambra, No. 121588. The outer chamber of this latter was broken on July 31, and returned after repair on August 7; Negretti and Zambra, No. 157738, having been temporarily substituted during the intervening week. The thermometer for radiation to the sky was a self-registering spirit minimum thermometer, Negretti and Zambra, No. 137640. The thermometers are laid on short grass and freely exposed to the sky; they require no correction for index-error.

EARTH THERMOMETERS.—These thermometers were made by Adie, of Edinburgh, under the superintendence of Professor J. D. Forbes. They are placed about 20 feet south of the Magnet House.

The thermometers are four in number, placed in one hole in the ground, the diameter of which in its upper half is 1 foot and in its lower half about 6 inches, each thermometer being attached in its whole length to a slender piece of wood. The thermometer No. 1 was dropped into the hole to such a depth that the centre of its bulb was 24 French feet (25·6 English feet) below the surface; then dry sand was poured in till the hole was filled to nearly half its height. Then No. 2 was dropped in till the centre of its bulb was 12 French feet below the surface; Nos. 3 and 4 till the centres of their bulbs were respectively 6 and 3 French feet below the surface; and the hole was then completely filled with dry sand. The upper parts of the tubes carrying the scales were left projecting above the surface; No. 1 by 27·5 inches, No. 2 by 28·0 inches, No. 3 by 30·0 inches, and No. 4 by 32·0 inches. Of these lengths, 8·5, 10·0, 11·0, and 14·5 inches respectively are in each case tube with narrow bore. The length of 1° on the scales is 1·9 inch, 1·1 inch, 0·9 inch, and 0·5 inch in each case respectively. The ranges of the scales are for No. 1, 46°·0 to 55°·5; No. 2, 43°·0 to 58°·0; No. 3, 44°·0 to 62°·0; and for No. 4, 36°·9 to 68°·0.

The bulbs of the thermometers are cylindrical, 10 or 12 inches long, and 2 or 3 inches in diameter. The bore of the principal part of each tube, from the bulb to the graduated scale, is very small; in that part to which the scale is attached it is larger; the fluid in the tubes is alcohol tinged red; the scales are of opal glass.

The ranges of scale having in previous years been found insufficient, fluid has at times been removed from or added to the thermometers as necessary, corresponding alterations being made in the positions of the attached scales. Information in regard to these changes will be found in previous Introductions.

The parts of the tubes above the ground are protected by a small wooden hut fixed to the ground; the sides of the hut are perforated with numerous holes, and it has a double roof; in the north face is a plate of glass, through which the readings are taken. Within the hut are two small thermometers—one, No. 5, with bulb 1 inch in the ground; another, No. 6, whose bulb is freely exposed in the centre of the hut.

These thermometers are read every Monday and No. 4 every day at noon. The index-errors of Nos. 1, 2, 3, and 4 are unknown; No. 6 appears to read too high by $0^\circ\cdot4$, but no corrections have been applied. The readings of No. 4 are given without correction in the daily results.

OSLER'S ANEMOMETER.—This self-registering anemometer, devised by A. Follett 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. For the direction of the wind a large vane ($9^{ft.}\ 2^{in.}$ in length), from which a vertical shaft proceeds down to the registering table within the turret, gives motion, by a pinion fixed at its lower end, to a rack-work carrying a pencil. A collar on the vane shaft bears upon anti-friction rollers running in a cup of oil, rendering the vane very sensitive to changes of direction in light winds. The pencil marks a paper fixed to a board moved horizontally and uniformly by a clock, in a direction transverse to that of the motion of the pencil. The paper carries lines corresponding to the positions of N., E., S., and W. of the vane, with transversal hour lines. 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. The vane, which had been in use since the year 1841, began in the autumn of 1891 to show signs of weakness; it was taken down in December 1891 and thoroughly repaired. It was satisfactory to find that the anti-friction bearings of the vane, on which the sensitiveness of its motion depends, were in excellent condition, after having been continuously in action for 25 years.

For the pressure of the wind the construction is as follows:—At a distance of 2 feet below the vane there is placed a circular pressure plate (with its plane vertical) having an area of $1\frac{1}{3}$ square feet, or 192 square inches, which, moving with the vane in azimuth, and being thereby kept directed towards the wind, acts against a combination of springs in such way that, with a light wind, slender springs are first brought into action, but, as the wind increases, stiffer springs come into play. For a detailed account of the arrangement adopted, the reader is referred to the Introduction for the year 1866. [Until 1866 the pressure plate was a square plate, 1 foot square, for which in that year a circular plate, having an area of 2 square feet, was substituted and employed until the spring of the year 1880, when the present circular plate, having an area of $1\frac{1}{3}$ square feet, was introduced.] A short flexible snake chain, fixed to a cross bar in connexion with the pressure plate, and passing over a pulley in the upper part of the shaft, is attached to a brass chain (formerly a copper wire) running down the centre of the shaft to the registering table, just before reaching which the chain communicates with a short length of silk cord, which, led round a pulley, gives horizontal motion to the arm carrying the pressure pencil. The substitution, in the year 1882, of the flexible brass chain for the copper wire, has greatly increased the delicacy of movement of the pressure pencil, every small movement of the pressure plate being now registered. The scale for pressure, in lbs. on the square foot, is experimentally determined from time to time as appears necessary; the pressure pencil is brought to zero by a light spiral spring. During the year 1907 a new set of pressure springs was supplied by Messrs. Simms. Advantage was taken of this opportunity to endeavour to simplify the determination of mean pressures by arranging that the scale should change only once, low pressures being represented on twice as large a scale as high ones, and adjusting screws and clamps were also introduced by which the strength could be varied so that the springs could be adjusted to scale, instead of a new scale being determined from time to time.

Whilst the action of the pressure apparatus has been satisfactory for moderate winds, it is believed that the record of occasional very large pressures in years preceding 1882 was due principally to irregular action, in excessive gusts, of the connecting copper wire, but the brass chain being always in tension, the movements of the recording pencil have since been in complete sympathy with those of the pressure plate, and in this condition of the apparatus—that is, since the year 1882—few pressures greater than 30 lbs. have been recorded.

A self-registering rain gauge of peculiar construction forms part of the apparatus: this is described under the heading "Rain Gauges."

A new sheet of paper is applied to the instrument every day at noon. The scale of time is ordinarily the same as that of the magnetic registers, but by means of a special gearing applied to the clock by Mr. Kullberg in 1894 the table carrying the record can either be driven at the usual rate, or 24 times as fast, in order to give a largely increased time scale for the register of wind pressure during gales, the ordinary sheet thus giving a register for 1 hour instead of 24.

ROBINSON'S ANEMOMETER.—This instrument, made by Mr. Browning, is constructed on the principle described by Dr. Robinson in the *Transactions of the Royal Irish Academy*, vol. xxii., for registration of the horizontal movement of the air, and is mounted above the small building on the roof of the Octagon Room. It was brought into use in 1866 October. The motion is given by the pressure of the wind on four hemispherical cups, each 5 inches in diameter, the centre of each cup being 15 inches distant from the vertical axis of rotation. The foot of the axis is a hollow flat cone bearing upon a sharp cone, which rises up from the base of a cup of oil. An endless screw acts on a train of wheels furnished with indices for reading off the amount of motion of the air in miles, and a pinion on the axis of one of the wheels draws upwards a rack, to which is attached a rod passing down to the pencil which marks the paper placed on the vertical revolving cylinder in the chamber below. A motion of the pencil upwards through a space of 1 inch represents horizontal motion of the air through 100 miles. The revolving hemispherical 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.

The cylinder is driven by a clock in the usual way, and makes one revolution in 24 hours. A new sheet of paper is applied every day at noon. The scale of time is the same as that of the magnetic registers.

In preceding volumes the values of wind velocity V given in the tables are three times the actual velocity v of the cups. From some tests of the Browning instrument, made by Mr. W. H. Dines at Hersham in 1889, on his whirling machine, it appears that the relation between V and v is more correctly given by

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

The instrument thus fails to record wind velocities less than 4 miles per hour; and values of the wind velocity given by the formula $V = 3\ v$ are 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; therefore, for the sake of continuity and simplicity, the formula $V = 3\ v$ will continue to be used. In this volume, however, the greatest hourly measures (p. E 66) are given according to both formulæ, and the least hourly measures omitted.

The experiments by Mr. W. H. Dines, above referred to, are described in the Introduction to the volume for 1889.

RAIN GAUGES.—During the year 1912 eight rain gauges were employed, placed at different elevations above the ground, complete information in regard to which will be found at page (E 58) of the Meteorological Section.

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 receiving surface is a rectangular opening 10 × 20 inches (200 square inches in area). The collected water passes into a vessel suspended by spiral springs, which lengthen as the water accumulates, until 0·25 inch is collected. The water then discharges itself by means of the following modification of the siphon. A vertical copper tube, open at both ends, is fixed in the receiver, with one end just projecting below the bottom. Over this tube a larger tube, closed at the top, is loosely placed. The accumulating water, having risen to the top of the inner tube, begins to flow off into a small tumbling bucket, fixed in a globe placed underneath, and carried by the receiver. When full, the bucket falls over, throwing the water into a small exit pipe at the lower part of the globe—the only outlet. This creates a partial vacuum in the globe sufficient to cause the longer leg of the siphon to act, and the whole remaining contents of the receiver then run off, through the globe, to a waste pipe. The spiral springs at the same time shorten, and raise the receiver. The gradual descent of the water vessel as the rain falls, and the immediate ascent on discharge of the water, act upon a pencil, and cause a corresponding trace to be made on the paper fixed to the moving board of the anemometer. The rain scale on the paper was determined experimentally by passing a known quantity of water through the receiver. The continuous record thus gives information on the rate of the fall of rain, but the record is liable to interruption when the staging is erected for experiments with the Osler Anemometer.

Gauge No. 2 is a ten-inch circular gauge, placed close to gauge No. 1, its receiving surface being precisely at the same level. The gauge is read daily at 9^h Greenwich civil time. This is also liable to interference, just as No. 1.

Gauges Nos. 3, 4, and 5 are 8-inch circular gauges, placed respectively on the roof of the Octagon Room, over the roof of the Magnetic Observatory, and on the roof of the Photographic Thermometer Shed. All are read daily at 9^h Greenwich civil time.

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, and gauge No. 7, also an 8-inch circular gauge, is similarly placed in the ground south-east of the Magnetic Observatory. No. 8 is a new 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, Nos. 7 and 8 are used as checks on the readings of No. 6. No. 6 is read daily, usually at 9^h, 15^h, and 21^h Greenwich civil time, and Nos. 7 and 8 at 9^h only as a rule.

The height of the Standard gauge above mean sea-level was determined by Mr. H. A. H. Christie on 1908 February 26, and was found to be 5 feet 9 inches less than in its old position in the Observatory Grounds, before removal to the Pavilion Enclosure.

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

ELECTROMETER.—The electric potential of the atmosphere is measured by means of a Thomson self-recording quadrant electrometer, made by White, of Glasgow. It is situated in the Upper Magnet Room, in connection with Lord Kelvin's water-dropping apparatus, and with the usual arrangements for photographic registration. The time scale is the same as for the magnetic registers, the hourly break of trace being made by the driving-clock itself.

SUNSHINE RECORDER.—The Campbell-Stokes instrument, which has been in use since 1887, records the duration of bright sunshine by the length of blackened trace produced by the concentration of the sun's rays on a card. A spherical glass globe brings the rays to a focus. The recording cards are supported by carriers no larger than is required for keeping them in proper position; one straight card serves for the equinoctial periods of the year, and another, curved, for the solstitial periods, the only difference between the summer and winter cards being that the summer cards are the longer: grooves are provided so that the cards are placed in position with great readiness. The daily record is transferred to a sheet of paper specially ruled with equal vertical spaces to represent hours, each sheet containing the record for one calendar month. The daily sums, and sums for each hour (reckoning from *apparent* midnight) through the month, are thus readily formed. The recorded durations are to be understood as indicating the amount of *bright* sunshine, no register being obtained when the sun shines faintly through fog or cloud, or when the sun is very near the horizon. Until 1896 February 5 the instrument was placed on a table upon the platform above the Magnetic Observatory, about 21 feet above the ground, and 176 feet above mean sea level. On account of the extension of the buildings in the south ground, it was found necessary on 1896 February 6 to remove the sunshine recorder from the roof of the Magnetic Observatory to a commanding position on the stage carrying the Robinson anemometer, on the roof of the Octagon Room, about 50 feet above the ground. A clear view of the sun is obtained in this position from sunrise to sunset, but some inconvenience is caused by the smoke from neighbouring chimneys.

It was pointed out by Mr. Marriott, Secretary of the Royal Meteorological Society, towards the end of 1896, that the record by the Campbell-Stokes instrument exhibited a notable falling off. This, though not very marked till 1896, had certainly begun in

1894, and it was found to be due to opacity in the glass globe, which appears to have deteriorated. On 1897 January 1 a globe of clearer glass, presented to the Royal Observatory in 1881 by the late Mr. Campbell, was substituted for the defective globe.

The deterioration of the old ball is fully discussed by Mr. Curtis in the *Quarterly Journal of the Royal Meteorological Society*, vol. xxiv.

§ 7. *Meteorological Reductions.*

The results given in the Meteorological Section refer to the civil day, commencing at midnight.

All results in regard to atmospheric pressure, temperature of the air and of evaporation with deductions therefrom, and atmospheric electricity, 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 (civil reckoning), 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 of the photographic traces for the elements mentioned are entered into a form having double argument, the horizontal argument ranging through the 24 hours of the civil day (0^h to 23^h), and the vertical argument through the days of a calendar month. Then for all the photographic elements, the means of the numbers standing in the vertical columns of the monthly forms, into which the values are entered, give the mean monthly photographic values for each hour of the day, the means of the numbers in the horizontal columns giving the mean daily value. It should be mentioned that before measuring out the electrometer ordinates, a pencil line was first drawn through the trace to represent the general form of the curve, in the way described for the magnetic registers (page E xiii), excepting that no day has been omitted on account of unusual electrical disturbance, as it has been found difficult to decide on any limit of disturbance beyond which it would seem proper, as regards determination of diurnal inequality, to reject the results. In measuring the electrometer ordinates a scale of inches is used, and the values given in the tables which follow are expressed in thousandths of an inch, positive and negative potential being denoted by positive and negative numbers respectively. The scale has not been determined in terms of any electrical unit.

To correct the photographic indications of barometer and dry and wet bulb thermometers for small instrumental error, the means of the photographic readings at 9^h,

12^h (noon), 15^h, and 21^h in each month are compared with the corresponding corrected mean readings of the standard barometer and standard dry and wet bulb thermometers, as given by eye observation. In the case of the standard thermometers the values deduced for midnight from comparison of the thermograph sheets with the eye-readings at night, and the minimum readings obtained at 9 a.m. are also regarded as eye-readings for the correction of the thermograph registers commencing 1912 January. A correction applicable to the photographic reading at each of these hours is thus obtained, and, by interpolation, corrections for the intermediate hours are found. The mean of the twenty-four hourly corrections in each month is adopted as the correction applicable to each mean daily value in the month. Thus mean hourly and mean daily values of the several elements are obtained for each month. The process of correction is equivalent to giving photographic indications in terms of corrected standard barometer, and in terms of the standard dry and wet bulb thermometers exposed on the free stand. 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 mean daily temperature of the dew-point and degree of humidity are deduced from the mean daily temperatures of the air and of evaporation by use of Glaisher's *Hygrometrical Tables.* The table of factors for this purpose may be found in the Introductions for 1910 and previous years.

In the same way the mean hourly values of the dew-point temperature and degree of humidity in each month (pages E 53 and E 54) have been calculated from the corresponding mean hourly values of air and evaporation temperatures (pages E 52 and E 53).

The excess of the mean temperature of the air on each day above the average of 65 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 usually read at 9^h, 15^h, and 21^h Greenwich civil 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 foot-notes, and in the abstract tables, pages E 51 and E 58, is formed from the records of this gauge. In this numeration only those days are counted on which the fall amounted to or exceeded $0^{in}{\cdot}005$.

The indications of atmospheric electricity are derived from Thomson's Electrometer.

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 27 to E 49, and in the abstract table, page E 51, is the mean found from observations made usually at 9^h, 12^h (noon), 15^h, and 21^h of each civil day.

For understanding the divisions of time under the headings, "Clouds and Weather" and "Electricity," the following remarks are necessary:—In regard to Clouds and Weather, 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. In regard to Electricity, the results are included in one column; in this case the colons divide the whole period of 24 hours (midnight to midnight).

The notation employed for Clouds and Weather is as follows, it being understood that for clouds Howard's Nomenclature is used. The figure denotes the proportion of sky covered by cloud, an overcast sky being represented by 10.

a	denotes	*aurora borealis*
ci	...	*cirrus*
ci-cu	...	*cirro-cumulus*
ci-s	...	*cirro-stratus*
cu	...	*cumulus*
cu-s	...	*cumulo-stratus*
d	...	*dew*
hy-d	...	*heavy dew*
f	...	*fog*
slt-f	...	*slight fog*
tk-f	...	*thick fog*
fr	...	*frost*
ho-fr	...	*hoar frost*
g	...	*gale*
hy-g	...	*heavy gale*
glm	...	*gloom*
gt-glm	...	*great gloom*
h	...	*haze*
slt-h	...	*slight haze*
hl	...	*hail*
l	...	*lightning*
li-cl	...	*light clouds*
lu-co	...	*lunar corona*
lu-ha	...	*lunar halo*
m	...	*mist*
slt-m	...	*slight mist*
n	...	*nimbus*
p-cl	...	*partially cloudy*
prh	...	*parhelion*
prs	...	*paraselene*
r	...	*rain*
c-r	...	*continued rain*
fr-r	...	*frozen rain*
fq-r	...	*frequent rain*
hy-r	...	*heavy rain*
c-hy-r	...	*continued heavy rain*
m-r	...	*misty rain*
fq-m-r	...	*frequent misty rain*
oc-m-r	denotes	*occasional misty rain*
oc-r	...	*occasional rain*
sh-r	...	*shower of rain*
shs-r	...	*showers of rain*
slt-r	...	*slight rain*
oc-slt-r	...	*occasional slight rain*
th-r	...	*thin rain*
fq-th-r	...	*frequent thin rain*
oc-th-r	...	*occasional thin rain*
hy-sh	...	*heavy shower*
slt-sh	...	*slight shower*
fq-shs	...	*frequent showers*
hy-shs	...	*heavy showers*
fq-hy-shs	...	*frequent heavy showers*
oc-hy-shs	...	*occasional heavy showers*
li-shs	...	*light showers*
oc-shs	...	*occasional showers*
s	...	*stratus*
sc	...	*scud*
li-sc	...	*light scud*
sl	...	*sleet*
sn	...	*snow*
oc-sn	...	*occasional snow*
slt-sn	...	*slight snow*
so-ha	...	*solar halo*
sq	...	*squall*
sqs	...	*squalls*
fq-sqs	...	*frequent squalls*
hy-sqs	...	*heavy squalls*
fq-hy-sqs	...	*frequent heavy squalls*
oc-sqs	...	*occasional squalls*
t	...	*thunder*
t-sm	...	*thunder storm*
th-cl	...	*thin clouds*
v	...	*variable*
vv	...	*very variable*
w	...	*wind*
st-w	...	*strong wind*

The following is the notation employed for Electricity:—

N denotes	*negative*	w denotes	*weak*
P ...	*positive*	s ...	*strong*
m ...	*moderate.*	v ...	*variable*

The duplication of the letter denotes intensity of the modification described—thus, ss is very strong; vv, very variable. 0 indicates zero potential, and a dash, "—," accidental failure of the apparatus.

The remaining columns in the tables of "Daily Results" seem to require no special remark; all necessary explanation regarding the results therein contained will be found in the notes at the foot of the left-hand page, or in the descriptions of the several instruments given in § 6.

In regard to the comparisons of the extremes and means, &c. of meteorological elements with average values, contained in the footnotes, it may be mentioned that comparison is in all cases made with mean values determined from the observations for the sixty-five years 1841–1905.

The tables following the "Daily Results" require no lengthened explanation. They consist of tables giving the highest and lowest readings of the barometer through the year; monthly abstracts of the principal meteorological elements; hourly values in each month of barometer-reading, of temperature of air, evaporation, and dew-point, and of degree of humidity; sunshine results; rain results; observations of thermometers on the revolving stand, with mean differences from corresponding readings in a Stevenson screen in the Magnetic Pavilion Enclosure; changes of direction of the wind; hourly values in each month of the horizontal movement of the air derived from Robinson's Anemometer; results derived from the Thomson Electrometer; and observations of parhelia, paraselenæ, and meteors.

In the tables of mean values of meteorological elements at each hour for the different months of the year, the mean values have, in previous years, been given for the hours 0^h to 23^h only. But since 1886 the mean for the 24th hour (the following midnight) has been added, thus indicating the amount of non-periodic variation. The monthly means have also been given since 1886 for the 24 hours, 1^h to 24^h, as well as for the hours, 0^h (midnight) to 23^h, which were given in former years.

It may be pointed out that the monthly means, 0^h to 23^h, for barometer and temperature of the air and of evaporation contained in these tables, pages E 52 and E 53, do not in some cases agree with the monthly means given in the daily results pages E 26 to E 48, and in the table on page E 51, in consequence of occasional interruption of the photographic register, at which times daily values to complete the daily results could be supplied from the eye observations, as mentioned in the footnotes; but hourly values, for the diurnal inequality tables, could not be so supplied. In such cases, however, the means given with these tables are the proper means to be used in connexion with the numbers standing immediately above them, for formation of the actual diurnal inequality.

The table, "Abstract of the Changes of the Direction of the Wind," as derived from Osler's Anemometer, page E 59, exhibits every change of direction of the wind occurring throughout the year, whenever such change amounted to two nautical points or $22\frac{1}{2}^\circ$. It is to be understood that the change from one direction to another during the interval between the times mentioned in each line of the table was generally gradual. All complete turnings of the vane which were evidently of accidental nature, and which in the year 1881 and in previous years had been included, are here omitted. Between any time given in the second column and that next following in the first column, no change of direction in general occurred varying from that given by so much as one point or $11\frac{1}{4}^\circ$. From the numbers given in this table the monthly and yearly excess of motion, page E 65, is formed. By direct motion it is to be understood that the change of direction occurred in the order N, E, S, W, N, &c., and by retrograde motion that the change occurred in the order N, W, S, E, N, &c.

In regard to Electric Potential of the Atmosphere, in addition to giving the hourly values in each month, including all available days, the days in each month have been (since the year 1882) further divided into two groups, one containing all days on which the rainfall amounted to or exceeded $0^{in}\cdot020$, the other including only days on which no rainfall was recorded, the values of daily rainfall given in column 16 of the "Daily Results of the Meteorological Observations" being adopted in selecting the days. These additional tables are given on pages E 69 and E 70 respectively.

In regard to the observations of Luminous Meteors, it is simply necessary to say that, in general, only special meteor showers are watched for, such as those of April, August, and November. The observers of meteors in the year 1912 were Mr. Edney, Mr. Timbury, Mr. Divers, Mr. Brown, and Mr Showell. Their observations are distinguished by the initials E., T., D., F.B., and S. respectively.

F. W. DYSON.

ROYAL OBSERVATORY, GREENWICH,
1913 *December* 6.

ROYAL OBSERVATORY, GREENWICH.

RESULTS

OF

MAGNETICAL OBSERVATIONS

(EXCLUDING DAYS OF GREAT MAGNETIC DISTURBANCE),

1912.

TABLE I.—MEAN MAGNETIC DECLINATION WEST FOR EACH CIVIL DAY.

(Each result is the mean of 24 hourly ordinates from the photographic register.)

1912.

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

TABLE II.—MONTHLY AND ANNUAL MEAN DIURNAL INEQUALITIES OF MAGNETIC DECLINATION WEST.

(The results in each case are diminished by the smallest hourly value.)

1912.

Hour, Greenwich Civil Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	For the Year.
	′	′	′	′	′	′	′	′	′	′	′	′	′
Midn.	0·0	0·2	0·9	2·2	2·3	3·0	2·9	1·2	1·2	1·3	0·5	0·5	1·06
1^h	0·3	0·5	1·2	2·4	2·3	3·0	3·1	1·2	1·5	1·4	1·0	1·1	1·29
2	0·4	0·7	1·4	2·4	2·3	3·2	2·9	1·1	1·4	1·6	1·1	1·5	1·38
3	0·3	0·4	1·4	2·4	2·1	3·1	2·5	1·2	1·2	1·7	1·3	1·7	1·32
4	0·2	0·4	1·6	2·2	1·6	2·6	2·1	1·1	1·1	1·7	1·2	1·9	1·19
5	0·0	0·3	1·4	2·1	0·9	1·6	0·9	0·7	1·1	1·5	1·0	1·6	0·80
6	0·1	0·4	1·2	1·6	0·3	0·5	0·2	0·4	0·7	1·3	0·7	1·7	0·47
7	0·2	0·5	0·9	0·7	0·0	0·0	0·0	0·0	0·1	0·7	0·6	1·5	0·14
8	0·5	0·7	0·0	0·0	0·2	0·1	0·0	0·0	0·0	0·0	0·6	1·4	0·00
9	1·3	1·2	0·0	0·3	1·2	1·1	0·8	0·9	0·7	0·1	1·1	1·4	0·55
10	1·9	1·8	1·1	2·0	3·0	3·0	2·2	2·9	2·6	1·4	2·0	2·0	1·87
11	2·5	3·0	3·0	4·5	5·2	5·2	4·7	5·2	5·0	3·7	3·1	3·0	3·72
Noon	2·9	4·0	5·1	7·0	7·2	7·1	7·1	7·1	6·8	6·0	3·8	3·5	5·34
13^h	2·7	4·1	6·3	8·0	7·7	8·0	8·3	7·7	7·2	6·5	3·8	3·7	5·88
14	1·9	3·4	5·9	7·7	7·2	7·9	8·3	7·0	6·2	5·7	3·2	3·2	5·34
15	1·1	2·3	5·0	6·5	6·0	7·0	7·4	5·7	4·8	4·4	2·6	2·6	4·33
16	1·2	1·6	3·6	5·2	4·8	6·1	6·1	4·1	3·6	3·2	2·4	2·4	3·40
17	1·1	1·7	2·5	4·0	3·9	5·3	4·8	2·9	2·7	2·3	1·7	2·2	2·64
18	1·0	1·5	1·9	3·2	3·5	4·7	4·1	2·4	2·3	1·9	1·2	1·9	2·18
19	0·7	1·1	1·8	2·6	3·1	4·4	3·7	2·2	1·9	1·7	0·8	1·4	1·83
20	0·4	0·6	1·4	2·1	2·7	3·8	3·4	2·0	1·0	1·2	0·4	0·9	1·37
21	0·0	0·4	1·2	2·1	2·4	3·4	3·1	1·7	0·7	0·7	0·0	0·4	1·05
22	0·0	0·1	1·1	2·2	2·4	3·5	2·9	1·4	0·9	0·7	0·0	0·0	0·98
23	0·0	0·0	1·0	2·1	2·2	3·2	2·8	1·1	1·0	0·9	0·2	0·0	0·92
24	0·1	0·2	1·0	2·2	2·2	3·0	2·8	1·2	1·2	1·3	0·5	0·4	1·05
Means 0^h–23^h	0′·86	1′·29	2′·12	3′·15	3′·10	3′·78	3′·51	2′·55	2′·32	2′·15	1′·43	1′·73	2′·04
Means 1^h–24^h	0′·87	1′·29	2′·13	3′·15	3′·10	3′·78	3′·51	2′·55	2′·32	2′·15	1′·43	1′·72	2′·04

TABLE III.—DIURNAL RANGE of DECLINATION, on each CIVIL DAY, as deduced from the TWENTY-FOUR HOURLY MEASURES of ORDINATES of the PHOTOGRAPHIC REGISTERS.

1912.

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

The mean of the twelve monthly values is 7′·25.

TABLE IV.—MONTHLY and ANNUAL MEAN DIURNAL INEQUALITIES OF MAGNETIC DECLINATION WEST from HOURLY ORDINATES, on FIVE SELECTED DAYS, in each MONTH.

Each result is the mean of the corresponding hourly ordinates from the photographic register, on five quiet days in each month, selected by the International Committee for comparison with results at other Observatories. The results in each case are diminished by the smallest hourly value. The days included are:—

January 2, 15, 16, 26, 27.	April 1, 8, 11, 21, 28.	July 10, 11, 12, 15, 24.	October 2, 5, 18, 19, 31.
February 5, 6, 15, 20, 21.	May 1, 16, 22, 23, 26.	August 4, 8, 12, 13, 26.	November 3, 12, 21, 29, 30.
March 4, 17, 18, 19, 24.	June 5, 6, 15, 19, 20.	September 2, 15, 16, 27, 28.	December 4, 5, 20, 21, 28.

1912.

Hour, Greenwich Civil Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	For the Year.
	′	′	′	′	′	′	′	′	′	′	′	′	′
Midn.	0·1	0·3	2·2	3·3	2·7	3·7	3·4	2·0	2·7	1·9	0·4	0·5	1·80
1^h	0·4	0·5	2·4	3·6	2·9	3·7	3·6	2·5	3·1	1·9	0·6	0·7	2·03
2	0·1	0·4	2·4	3·5	2·6	3·8	3·5	2·3	2·9	1·9	0·7	0·9	1·95
3	0·3	0·6	2·2	3·4	2·2	3·7	2·5	2·1	2·9	2·1	0·9	0·8	1·85
4	0·2	0·7	2·3	2·9	1·6	3·1	2·0	1·7	2·7	2·2	0·9	0·8	1·63
5	0·1	0·4	2·1	2·7	0·6	2·5	0·8	0·8	2·4	1·8	0·7	0·4	1·14
6	0·0	0·5	2·0	2·2	0·0	1·3	0·3	0·3	1·9	1·5	0·5	0·4	0·78
7	0·0	0·4	1·4	0·8	0·0	0·0	0·0	0·0	0·7	0·9	0·4	0·2	0·27
8	0·3	0·5	0·4	0·0	0·4	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·00
9	1·0	0·9	0·0	0·3	1·5	0·5	0·8	1·0	0·6	0·1	0·3	0·1	0·46
10	1·7	1·7	1·0	2·1	3·0	2·4	2·5	3·2	2·3	1·5	1·1	0·8	1·81
11	2·0	2·6	3·5	4·7	4·6	4·7	4·4	5·3	5·1	3·7	2·3	1·6	3·58
Noon	2·4	3·4	5·8	7·4	6·5	6·5	6·8	7·6	7·7	5·6	2·9	2·0	5·25
13^h	2·2	3·5	6·4	8·3	7·6	7·4	7·6	8·7	8·9	6·1	2·8	2·1	5·84
14	1·3	2·7	5·9	7·8	6·8	7·8	7·4	7·6	8·2	5·4	2·1	1·7	5·26
15	0·6	1·6	4·9	6·3	5·2	7·0	6·4	5·7	6·8	4·1	1·4	1·1	4·13
16	0·9	0·8	3·4	5·0	3·9	6·0	5·1	3·3	5·4	3·2	1·5	1·1	3·17
17	0·8	1·1	2·5	4·0	3·0	5·3	3·8	2·1	4·3	2·9	1·3	1·0	2·55
18	0·4	1·0	2·4	3·0	3·2	5·2	3·6	2·0	3·9	2·8	1·2	0·6	2·31
19	0·5	0·7	2·0	3·2	3·3	4·8	3·6	2·5	3·6	2·8	0·9	0·5	2·24
20	0·3	0·4	2·1	3·1	3·1	4·6	3·6	2·7	3·2	2·5	0·7	0·3	2·09
21	0·2	0·4	2·2	2·9	2·5	4·4	3·6	2·5	3·0	2·3	0·5	0·4	1·94
22	0·3	0·1	2·2	3·3	2·6	4·6	3·2	2·4	2·5	2·4	0·4	0·1	1·88
23	0·4	0·0	2·2	3·5	2·5	4·1	3·2	2·3	2·4	2·3	0·4	0·4	1·85
24	0·5	0·4	2·3	3·8	2·2	4·2	3·1	2·2	2·7	2·2	0·5	0·7	1·94
Means 0^h–23^h	0′·69	1′·05	2′·66	3′·64	3′·01	4′·05	3′·40	2′·94	3′·63	2′·58	1′·04	0′·77	2′·33
Means 1^h–24^h	0′·70	1′·05	2′·67	3′·66	2′·99	4′·07	3′·39	2′·95	3′·63	2′·59	1′·04	0′·78	2′·33

TABLE V.—MEAN HORIZONTAL MAGNETIC FORCE for each CIVIL DAY.

(Each result is the mean of 24 hourly ordinates from the photographic register, expressed in C.G.S. units. The values are corrected for Temperature.)

1912.

18000 γ +

Day of Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d												
1	...	518 γ	565 γ	537 γ	508 γ	514 γ	522 γ	520 γ	565 γ	536 γ	531 γ	493 γ
2	529 γ	511	567	535	519	515	524	521	561	535	519	491
3	534	507	567	532	525	510	534	516	554	518	517	495
4	536	510	564	544	525	502	529	530	548	515	523	514
5	532	512	559	543	524	503	523	529	529	512	534	511
6	536	527	550	533	525	511	526	515	527	510	544	515
7	539	525	544	538	533	534	530	526	523	518	549	506
8	534	524	535	532	546	533	528	532	533	521	548	520
9	540	535	528	523	551	531	528	534	531	527	553	530
10	538	530	525	522	555	526	535	533	518	527	526	532
11	531	524	531	522	551	518	537	527	512	519	509	533
12	526	524	533	521	547	525	544	525	516	518	500	532
13	524	524	541	522	526	527	541	522	519	516	503	528
14	529	525	552	534	519	523	550	529	523	523	490	540
15	529	520	546	517	522	516	541	529	527	511	500	540
16	528	531	530	521	517	518	539	530	539	512	518	534
17	530	532	538	527	515	528	537	536	541	519	523	521
18	519	536	539	527	524	541	526	540	519	514	514	520
19	532	538	533	540	526	546	525	526	514	527	515	516
20	540	533	529	544	530	534	529	532	516	532	514	526
21	542	529	535	547	534	532	532	528	512	518	517	525
22	537	544	523	548	539	536	532	525	512	513	521	519
23	533	543	528	544	542	536	538	524	517	511	531	516
24	536	537	532	538	534	526	540	534	493	516	530	521
25	536	534	546	538	520	531	536	537	494	514	529	520
26	531	527	549	544	519	531	536	535	494	511	538	518
27	526	533	545	545	516	536	531	527	499	530	524	520
28	514	540	545	537	526	540	527	525	507	536	504	547
29	507	541	533	533	533	542	534	528	520	545	511	541
30	511		527	531	537	541	532	534	532	540	496	532
31	520		532		541		530	520		535		525
Means	530	528	541	534	530	527	533	528	523	522	521	522

TABLE VI.—MONTHLY AND ANNUAL MEAN DIURNAL INEQUALITIES of HORIZONTAL MAGNETIC FORCE.

(The results are expressed in C.G.S. units and in each case diminished by the smallest hourly value.)

1912.

Hour, Greenwich Civil Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	For the Year.
Midn.	3 γ	5 γ	20 γ	30 γ	24 γ	28 γ	27 γ	35 γ	31 γ	28 γ	9 γ	1 γ	19·6 γ
1^h	3	5	20	28	23	26	26	34	30	28	9	2	19·0
2	4	5	19	27	21	25	25	34	30	27	9	3	18·6
3	4	4	18	28	20	23	24	33	28	26	11	4	18·1
4	6	5	18	27	18	22	23	31	28	27	13	6	18·2
5	9	7	19	27	16	21	23	29	26	27	14	8	18·3
6	10	8	21	25	13	16	19	26	23	28	15	9	17·2
7	9	8	20	23	10	10	14	19	19	26	13	10	14·6
8	6	6	16	16	4	4	8	10	10	19	8	7	9·0
9	3	3	9	6	0	0	2	3	3	10	3	4	3·3
10	0	0	2	1	0	0	0	0	0	2	0	1	0·0
11	1	0	0	0	3	2	1	4	1	0	1	0	0·6
Noon	5	5	4	3	6	3	4	12	7	3	1	1	4·0
13^h	6	9	9	7	9	7	8	20	16	9	3	4	8·4
14	7	10	11	14	15	14	14	24	19	13	2	4	11·7
15	6	7	14	20	19	20	20	27	22	16	2	2	14·1
16	3	4	14	24	21	24	24	29	23	19	2	3	15·3
17	3	3	13	26	24	28	27	31	24	21	6	5	17·1
18	4	4	14	28	27	32	30	33	25	24	9	6	19·2
19	4	6	18	30	28	33	30	35	26	26	9	5	20·3
20	3	6	18	31	29	31	30	36	29	26	8	4	20·4
21	3	5	18	30	27	30	29	36	30	27	8	4	20·1
22	2	5	19	29	26	29	28	36	28	26	9	5	19·7
23	2	4	19	29	26	28	27	35	29	26	7	4	19·2
24	3	6	19	30	26	28	27	35	30	27	7	2	19·5
Means 0^h–23^h	4·4	5·2	14·7	21·2	17·0	19·0	19·3	25·5	21·1	20·2	7·1	4·3	14·4
Means 1^h–24^h	4·4	5·2	14·7	21·2	17·1	19·0	19·3	25·5	21·1	20·1	7·0	4·3	14·4

TABLE VII.—DIURNAL RANGE of HORIZONTAL MAGNETIC FORCE, on each CIVIL DAY, as deduced from the TWENTY-FOUR HOURLY MEASURES of ORDINATES of the PHOTOGRAPHIC REGISTERS.

(*The results are corrected for Temperature and expressed in C.G.S. units.*)

1912.

Day of Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d												
1	...	10 γ	15 γ	50 γ	23 γ	50 γ	42 γ	56 γ	42 γ	77 γ	41 γ	18 γ
2	11 γ	22	12	43	34	44	38	26	23	34	39	35
3	19	13	20	37	31	39	54	41	51	36	29	19
4	17	23	14	26	41	36	60	34	66	31	36	27
5	27	19	18	24	59	46	58	54	45	39	27	15
6	26	24	24	35	40	44	49	125	35	35	17	26
7	13	14	17	39	47	45	51	37	38	46	17	40
8	18	24	55	38	31	50	38	33	55	39	26	28
9	26	19	35	45	34	37	45	35	53	36	16	19
10	18	21	24	61	23	36	35	48	41	30	62	14
11	42	14	27	22	35	46	34	36	29	44	57	15
12	38	24	15	28	56	48	30	39	35	40	14	18
13	30	22	17	31	62	36	31	39	41	47	34	17
14	16	10	21	46	46	28	46	36	21	37	90	14
15	15	11	24	83	29	42	34	43	45	43	43	16
16	19	26	24	51	32	50	27	51	41	38	24	25
17	32	26	19	43	29	43	38	47	62	43	16	10
18	20	19	18	59	42	50	36	41	43	38	17	27
19	18	19	28	52	34	31	44	43	27	26	22	11
20	11	15	52	47	42	29	40	42	37	22	17	16
21	13	21	26	40	41	31	37	36	22	39	17	6
22	25	26	49	41	42	36	42	57	37	24	39	31
23	14	26	31	38	23	31	24	61	20	36	16	36
24	24	17	25	36	36	45	34	39	78	39	25	16
25	11	15	27	37	30	38	37	33	16	30	15	19
26	11	36	30	28	45	45	30	38	39	35	21	32
27	21	14	36	27	34	53	39	54	48	30	29	23
28	18	12	34	38	37	35	24	39	37	31	18	23
29	22	21	31	25	32	47	35	38	39	31	15	28
30	21		39	32	25	33	31	43	42	30	15	22
31	21		47		52		48	36		28		24
Means	20·6	19·4	27·5	40·1	37·6	40·8	39·1	44·5	40·3	36·6	28·5	21·6

The mean of the twelve monthly values is 33·1 γ.

TABLE VIII.—MONTHLY and ANNUAL MEAN DIURNAL INEQUALITIES of HORIZONTAL MAGNETIC FORCE from HOURLY ORDINATES, on FIVE SELECTED DAYS in each MONTH.

Each result is the mean of the corresponding hourly ordinates from the photographic register, on five quiet days in each month, selected by the International Committee for comparison with results at other Observatories. The results are corrected for Temperature and in each case diminished by the smallest hourly value. The days included are:—

January 2, 15, 16, 26, 27.	April 1, 8, 11, 21, 28.	July 10, 11, 12, 15, 24.	October 2, 5, 18, 19, 31.
February 5, 6, 15, 20, 21.	May 1, 16, 22, 23, 26.	August 4, 8, 12, 13, 26.	November 3, 12, 21, 29, 30.
March 4, 17, 18, 19, 24.	June 5, 6, 15, 19, 20.	September 2, 15, 16, 27, 28.	December 4, 5, 20, 21, 28.

1912.

Hour, Greenwich Civil Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	For the Year.
Midn.	7 γ	5 γ	16 γ	32 γ	26 γ	29 γ	24 γ	26 γ	27 γ	24 γ	9 γ	2 γ	18·1 γ
1^h	7	6	16	32	26	25	23	26	27	24	7	3	17·7
2	8	5	17	30	24	23	24	26	27	24	8	4	17·5
3	5	4	16	31	24	21	21	26	26	24	8	5	16·8
4	7	5	17	30	23	20	22	26	26	26	9	8	17·5
5	10	7	17	29	20	21	23	23	26	26	12	9	17·8
6	11	6	17	28	16	18	18	20	24	25	13	9	16·3
7	9	5	16	26	16	12	11	15	19	23	11	9	13·5
8	5	3	12	21	8	6	6	7	12	19	6	7	8·5
9	1	1	3	10	1	4	2	0	5	10	2	5	2·9
10	0	0	0	3	0	1	0	1	0	3	0	2	0·0
11	2	2	2	0	1	0	1	6	1	0	1	0	0·5
Noon	4	7	8	3	5	3	7	12	7	0	1	3	4·2
13^h	9	12	12	10	11	4	11	19	16	5	5	9	9·4
14	11	15	13	18	16	10	14	22	19	9	8	10	13·0
15	10	13	14	25	19	13	22	26	27	14	11	10	16·2
16	7	9	14	31	20	18	23	28	28	17	11	8	17·0
17	7	6	14	33	22	24	24	30	29	20	15	8	18·5
18	9	9	14	31	26	31	22	31	30	23	15	10	20·1
19	8	9	16	32	28	33	24	30	33	24	13	10	20·9
20	7	10	17	34	28	31	26	32	34	23	11	11	21·2
21	8	9	17	33	27	27	24	31	35	23	10	10	20·4
22	6	8	17	31	24	27	22	33	32	22	10	9	19·3
23	4	7	16	31	24	25	20	32	32	21	9	8	18·3
24	4	8	18	30	22	25	21	31	34	21	8	7	18·3
Means 0^h–23^h	6·8	6·8	13·4	24·3	18·1	17·8	17·2	22·0	22·6	17·9	8·5	7·0	14·4
Means 1^h–24^h	6·6	6·9	13·5	24·2	18·0	17·6	17·1	22·2	22·9	17·8	8·5	7·2	14·4

TABLE IX.—MEAN VERTICAL MAGNETIC FORCE for each CIVIL DAY.

(*Each result is the mean of 24 hourly ordinates from the photographic register, expressed in C.G.S. units. The values are corrected for Temperature.*)

1912.

43000 γ +

Day of Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d												
1	...	341 γ	406 γ	372 γ	336 γ	355 γ	345 γ	371 γ	372 γ	377 γ	351 γ	330 γ
2	391 γ	339	414	366	338	355	350	375	375	375	338	330
3	381	336	412	366	337	352	346	368	374	360	331	328
4	382	331	416	375	343	352	340	360	366	346	322	336
5	386	326	400	377	339	354	342	376	378	344	332	343
6	383	322	397	385	354	347	353	359	369	343	339	337
7	375	330	396	395	356	343	358	367	362	339	346	342
8	369	344	394	410	358	339	362	364	359	334	353	349
9	361	348	397	389	366	341	362	365	363	335	360	356
10	363	364	391	378	366	346	360	365	351	334	363	351
11	366	364	399	376	372	346	365	360	346	336	356	358
12	373	367	394	367	377	353	367	359	346	343	344	353
13	374	376	386	364	388	358	374	354	352	343	334	351
14	375	374	390	369	387	361	379	347	343	356	344	354
15	373	367	397	366	382	355	385	347	346	345	332	356
16	375	365	387	372	385	350	393	344	353	345	339	358
17	363	365	384	367	378	352	400	350	351	352	337	352
18	363	376	384	367	372	347	397	358	350	358	346	344
19	358	372	380	366	368	357	397	362	349	347	344	340
20	354	371	381	368	368	364	370	367	347	352	337	342
21	358	368	377	364	370	366	373	364	345	343	334	350
22	358	370	375	376	365	368	377	351	340	334	351	350
23	359	374	385	381	367	371	376	348	333	343	352	352
24	355	379	383	381	364	376	380	358	333	344	351	355
25	359	372	384	373	365	378	386	364	337	338	357	343
26	358	373	390	375	374	373	388	364	333	338	354	345
27	355	371	387	373	362	369	385	358	327	341	354	343
28	350	380	386	371	363	366	389	362	322	348	340	340
29	348	380	391	366	365	378	386	353	316	349	337	355
30	344		382	359	375	372	381	357	333	347	334	339
31	338		377		375		370	363		338		338
Means	365	360	391	374	365	358	372	360	349	346	344	346

TABLE X.—MONTHLY and ANNUAL MEAN DIURNAL INEQUALITIES OF VERTICAL MAGNETIC FORCE.

(*The results are expressed in C.G.S. units and in each case diminished by the smallest hourly value.*)

1912.

Hour, Greenwich Civil Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	For the Year.
Midn.	4 γ	5 γ	15 γ	20 γ	22 γ	16 γ	13 γ	13 γ	12 γ	6 γ	4 γ	3 γ	10·7 γ
1^h	2	3	14	18	21	14	12	11	11	4	3	3	9·3
2	2	3	13	18	20	15	11	11	10	4	3	1	8·9
3	2	4	13	19	21	15	12	10	10	4	3	1	9·1
4	3	6	16	21	23	18	14	12	10	7	3	2	10·8
5	3	6	16	21	26	20	16	13	12	8	4	3	11·9
6	4	6	16	21	26	20	15	13	13	9	5	4	12·3
7	4	5	17	22	25	19	16	14	13	10	4	3	12·3
8	2	3	16	18	22	16	15	13	11	11	3	3	10·7
9	2	3	13	13	16	13	13	10	9	9	2	1	8·3
10	2	2	8	7	10	7	10	6	6	3	1	0	4·8
11	2	2	3	1	2	1	3	2	0	0	0	0	0·9
Noon	2	0	0	0	0	0	0	0	0	0	2	1	0·0
13^h	2	0	1	1	3	4	3	2	1	2	4	2	1·7
14	2	1	4	7	10	7	6	7	5	6	7	3	5·0
15	0	3	8	13	17	10	11	13	9	9	7	4	8·3
16	0	3	13	16	21	14	15	16	11	9	9	5	10·6
17	2	4	14	20	25	18	17	17	13	9	9	7	12·5
18	3	5	14	20	26	18	20	16	12	9	8	7	12·8
19	2	6	15	20	26	19	19	16	13	10	7	7	12·9
20	1	5	14	20	25	19	17	16	13	7	7	6	12·1
21	1	5	14	20	24	18	16	14	12	7	6	6	11·5
22	1	6	13	19	23	18	16	13	11	6	5	5	10·9
23	1	5	13	19	23	16	16	13	10	6	3	3	10·3
24	1	6	15	18	24	16	13	12	10	5	3	3	10·1
Means 0^h–23^h	2·0	3·8	11·8	15·6	19·0	14·0	12·8	11·3	9·5	6·5	4·5	3·3	9·1
Means 1^h–24^h	1·9	3·8	11·8	15·5	19·1	14·0	12·8	11·3	9·4	6·4	4·5	3·3	9·1

TABLE XI.—DIURNAL RANGE OF VERTICAL MAGNETIC FORCE, on each CIVIL DAY, as deduced from the TWENTY-FOUR HOURLY MEASURES of ORDINATES of the PHOTOGRAPHIC REGISTERS.

(The results are corrected for Temperature and expressed in C.G.S. units.)

1912.

Day of Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d												
1	...	19 γ	23 γ	26 γ	31 γ	22 γ	29 γ	34 γ	19 γ	32 γ	23 γ	7 γ
2	19 γ	12	16	28	30	25	21	29	23	10	14	25
3	8	14	13	20	42	30	29	21	23	23	10	24
4	5	13	22	23	25	34	29	40	28	16	14	33
5	13	20	26	30	45	32	37	20	14	13	18	30
6	18	12	20	44	37	25	26	82	20	15	20	26
7	10	16	19	18	26	29	23	30	13	22	11	25
8	10	16	41	19	31	40	27	33	22	17	13	19
9	21	15	28	34	23	13	32	23	11	19	19	17
10	9	15	34	18	33	33	33	29	9	16	31	18
11	19	22	15	26	29	19	18	16	9	36	19	11
12	25	17	18	31	42	20	16	27	29	19	14	9
13	11	17	17	22	37	40	22	23	22	26	15	20
14	8	12	28	22	29	21	18	24	32	31	77	15
15	10	13	24	33	22	21	28	18	26	31	20	11
16	16	7	20	19	33	24	24	25	16	19	10	9
17	6	16	31	32	32	21	25	22	46	24	11	13
18	7	10	33	36	29	31	33	20	36	23	13	7
19	10	22	20	39	23	33	27	27	22	20	13	10
20	10	22	23	28	39	20	21	16	14	10	10	11
21	6	13	23	24	26	29	21	12	16	11	9	9
22	14	19	33	26	35	18	19	30	11	14	25	13
23	9	24	27	31	43	20	25	39	23	13	13	18
24	12	18	20	22	30	23	27	27	33	12	11	23
25	10	23	26	35	33	17	13	26	15	16	10	7
26	3	17	18	33	36	20	21	31	17	12	10	13
27	9	8	26	39	30	27	26	18	24	20	17	8
28	9	21	26	41	38	35	20	29	19	16	14	11
29	8	13	29	39	29	23	23	27	37	19	26	13
30	16		14	40	30	19	27	23	22	13	13	14
31	8		18		42		24	19		8		9
Means	11·3	16·1	23·6	29·3	32·6	25·5	24·6	27·1	21·7	18·6	17·4	15·4

The mean of the twelve monthly values is 21·9 γ.

TABLE XII.—MONTHLY and ANNUAL MEAN DIURNAL INEQUALITIES OF VERTICAL MAGNETIC FORCE from HOURLY ORDINATES, on FIVE SELECTED DAYS in each MONTH.

Each result is the mean of the corresponding hourly ordinates from the photographic register, on five quiet days in each month, selected by the International Committee for comparison with results at other Observatories. The results are corrected for Temperature and in each case diminished by the smallest hourly value. The days included are :—

January 2, 15, 16, 26, 27.	April 1, 8, 11, 21, 28.	July 10, 11, 12, 15, 24.	October 2, 5, 18, 19, 31.
February 5, 6, 15, 20, 21.	May 1, 16, 22, 23, 26.	August 4, 8, 12, 13, 26.	November 3, 12, 21, 29, 30.
March 4, 17, 18, 19, 24.	June 5, 6, 15, 19, 20.	September 2, 15, 16, 27, 28.	December 4, 5, 20, 21, 28.

1912.

Hour, Greenwich Civil Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	For the Year.
Midn.	7 γ	10 γ	18 γ	20 γ	30 γ	14 γ	12 γ	19 γ	13 γ	8 γ	5 γ	7 γ	12·1 γ
1^h	7	9	18	20	30	13	13	20	12	6	5	6	11·8
2	7	9	16	20	30	14	13	19	12	6	4	7	11·6
3	9	11	19	20	31	16	13	20	14	6	2	6	12·4
4	8	11	17	23	33	19	15	21	12	7	3	7	13·2
5	8	12	17	24	35	22	18	22	14	8	3	8	14·4
6	9	11	17	23	34	23	16	23	16	10	4	8	14·7
7	8	11	20	25	31	24	18	23	17	11	5	6	15·1
8	5	8	19	22	29	20	17	24	14	10	4	7	13·4
9	6	7	17	14	22	13	16	18	10	9	3	3	10·0
10	4	3	7	9	10	7	12	13	6	3	3	2	5·1
11	7	2	1	3	1	1	5	5	1	0	2	0	0·8
Noon	3	0	0	0	0	1	0	0	2	3	5	4	0·0
13^h	3	0	3	1	4	0	3	3	0	1	5	5	0·8
14	3	1	5	5	11	2	7	9	5	5	7	6	4·0
15	3	5	10	12	18	5	12	14	11	7	6	8	7·7
16	2	4	16	14	23	9	15	18	13	6	5	7	9·5
17	2	8	16	18	25	13	20	22	16	7	6	10	12·1
18	2	5	14	18	27	13	20	18	16	6	5	10	11·3
19	1	5	16	17	24	14	20	15	16	7	4	11	11·0
20	0	4	15	20	26	13	20	15	14	5	4	9	10·6
21	0	3	13	19	24	13	19	15	13	5	3	10	9·9
22	2	4	15	19	25	13	19	14	13	4	3	9	10·2
23	2	3	16	20	26	13	21	15	14	3	1	8	10·3
24	2	6	16	20	26	14	20	16	12	6	0	9	10·8
Means 0^h–23^h	4·5	6·1	13·5	16·1	22·9	12·3	14·3	16·0	11·4	6·0	4·0	6·8	9·7
Means 1^h–24^h	4·3	5·9	13·5	16·1	22·7	12·3	14·7	15·9	11·4	5·9	3·8	6·9	9·6

TABLE XIII.—MEAN TEMPERATURE for each CIVIL DAY within the box inclosing the HORIZONTAL FORCE MAGNET.

1912.

Day of Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	...	62·6	67·8	65·7	67·4	66·9	67·1	67·4	66·9	67·1	65·7	65·2
2	66·3	62·9	67·0	64·9	67·2	66·9	66·9	66·8	67·6	66·4	65·2	67·0
3	66·4	61·0	66·8	67·1	67·1	66·1	66·8	66·8	65·4	65·3	65·5	66·1
4	66·9	60·8	65·4	67·4	66·7	67·4	66·9	67·8	67·3	65·5	66·7	67·7
5	66·8	58·6	65·2	67·8	66·4	66·5	67·1	67·0	67·2	65·2	66·9	65·7
6	65·6	60·8	66·0	68·2	67·3	67·3	68·0	67·1	66·5	65·6	67·7	67·3
7	66·0	64·7	66·6	67·5	66·9	66·9	67·9	67·3	67·0	66·2	67·3	66·8
8	64·6	66·3	67·3	66·6	66·9	66·9	67·8	67·1	67·7	66·6	67·6	67·7
9	65·9	67·1	66·9	64·9	67·6	66·3	67·4	67·6	66·2	66·2	66·6	67·2
10	66·2	66·9	66·9	66·2	67·9	66·9	68·4	66·7	65·0	66·1	65·7	66·9
11	66·6	66·2	66·1	66·3	67·3	66·8	69·0	66·8	66·6	66·6	65·2	66·5
12	66·4	66·3	66·1	66·3	68·3	67·2	69·7	66·7	68·3	66·9	65·5	67·3
13	66·2	66·4	67·0	66·6	66·7	66·7	71·1	66·0	67·3	67·4	65·4	66·3
14	66·7	66·0	67·7	67·5	66·0	66·9	71·1	66·4	67·3	67·8	65·3	66·9
15	67·0	66·1	66·7	66·2	67·1	67·1	71·9	66·4	68·1	66·3	66·2	67·5
16	66·3	67·0	66·3	65·3	66·6	66·9	72·1	66·8	66·8	66·9	66·5	67·3
17	65·3	67·7	67·1	66·6	66·1	66·6	72·0	67·3	66·6	67·7	67·4	66·0
18	63·9	67·2	66·7	67·3	67·4	67·5	71·2	67·6	67·5	66·6	67·0	66·7
19	64·7	67·8	66·7	66·5	67·1	67·9	68·2	67·4	67·5	67·5	65·9	65·9
20	65·4	66·4	66·1	66·3	67·4	67·9	67·9	67·2	67·1	66·3	66·4	67·2
21	65·9	66·2	66·1	67·9	66·6	67·5	68·6	66·2	66·9	65·9	66·9	66·7
22	66·2	67·4	66·8	68·2	66·8	67·9	68·5	66·8	66·6	66·6	66·9	67·4
23	65·3	67·2	66·5	67·2	66·7	68·9	68·6	67·3	67·1	66·8	67·0	67·4
24	66·2	66·3	67·2	66·4	66·9	68·5	69·3	67·5	67·4	66·5	67·0	67·5
25	66·7	66·5	67·7	66·9	66·5	67·8	70·2	67·4	66·9	66·2	66·2	66·9
26	66·1	66·6	67·1	66·8	66·4	67·5	69·9	67·3	66·4	66·1	66·2	66·9
27	64·8	67·5	67·0	66·0	67·2	67·7	70·2	66·9	66·2	67·3	65·6	66·4
28	63·6	68·0	67·6	65·7	67·1	67·9	70·3	66·2	66·2	67·2	65·2	66·6
29	62·6	67·3	66·0	66·3	66·6	67·2	68·9	67·6	67·0	66·9	67·1	65·5
30	62·3		65·9	66·7	67·4	67·0	67·9	67·5	67·4	66·4	66·4	64·6
31	63·2		66·0		67·1		67·4	66·8		66·3		66·7
Means	65°·54	65°·58	66°·65	66°·64	66°·99	67°·25	68°·98	67°·02	66°·93	66°·53	66°·34	66°·70

TABLE XIV.—MONTHLY and ANNUAL MEAN TEMPERATURE at each HOUR of the DAY within the box inclosing the HORIZONTAL FORCE MAGNET.

1912.

Hour, Greenwich Civil Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	For the Year.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Midn.	66·1	66·1	67·2	67·2	67·4	67·6	69·2	67·3	67·2	66·9	66·7	67·1	67·17
1h	65·9	66·0	67·1	67·0	67·2	67·5	69·2	67·2	67·1	66·9	66·6	66·9	67·05
2	65·8	65·8	66·8	66·8	67·1	67·4	69·0	67·1	67·0	66·7	66·5	66·7	66·89
3	65·6	65·6	66·6	66·6	67·0	67·2	69·0	67·0	66·9	66·6	66·3	66·6	66·75
4	65·4	65·5	66·4	66·4	66·9	67·1	68·9	67·0	66·8	66·4	66·2	66·5	66·63
5	65·3	65·3	66·2	66·2	66·7	67·0	68·8	66·9	66·7	66·3	66·1	66·4	66·49
6	65·2	65·2	66·1	66·1	66·6	66·9	68·7	66·8	66·6	66·2	66·0	66·3	66·39
7	65·1	65·1	66·0	66·0	66·5	66·9	68·7	66·7	66·6	66·1	66·0	66·3	66·33
8	65·2	65·1	66·0	66·0	66·5	66·9	68·7	66·7	66·6	66·1	66·0	66·3	66·34
9	65·1	65·1	66·0	66·0	66·5	66·9	68·7	66·7	66·6	66·1	66·0	66·4	66·34
10	65·1	65·0	66·1	66·0	66·5	66·9	68·7	66·7	66·6	66·1	66·0	66·4	66·34
11	65·1	65·0	66·2	66·0	66·6	66·9	68·7	66·7	66·6	66·1	66·1	66·4	66·37
Noon	65·2	65·0	66·3	66·1	66·7	66·9	68·7	66·8	66·6	66·1	66·1	66·5	66·42
13h	65·2	65·2	66·4	66·3	66·8	67·0	68·8	66·9	66·8	66·3	66·2	66·7	66·55
14	65·4	65·4	66·6	66·5	67·0	67·2	68·9	67·0	66·9	66·4	66·3	66·8	66·70
15	65·5	65·5	66·8	66·7	67·1	67·3	69·0	67·0	67·0	66·6	66·4	66·8	66·81
16	65·6	65·7	66·9	66·9	67·1	67·4	69·1	67·1	67·1	66·7	66·4	66·9	66·91
17	65·7	65·8	67·0	67·0	67·2	67·5	69·1	67·2	67·2	66·7	66·5	66·9	66·98
18	65·8	65·9	67·1	67·1	67·3	67·5	69·2	67·2	67·2	66·8	66·5	66·9	67·04
19	65·8	66·0	67·1	67·2	67·4	67·6	69·2	67·3	67·2	66·9	66·6	66·9	67·10
20	65·9	66·0	67·2	67·3	67·4	67·6	69·3	67·3	67·2	66·9	66·6	67·0	67·14
21	65·9	66·1	67·2	67·3	67·5	67·7	69·3	67·3	67·3	66·9	66·6	67·0	67·17
22	65·9	66·2	67·2	67·3	67·4	67·6	69·3	67·3	67·3	66·9	66·7	67·1	67·18
23	66·0	66·2	67·2	67·3	67·4	67·6	69·3	67·3	67·3	66·9	66·7	67·1	67·19
24	66·0	66·2	67·1	67·3	67·4	67·6	69·3	67·3	67·3	66·9	66·7	67·1	67·18

TABLE XV.—MEAN TEMPERATURE for each CIVIL DAY within the box inclosing the VERTICAL FORCE MAGNET.

1912.

Day of Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	...	62.4	68.0	66.0	67.3	66.9	67.1	66.7	66.0	66.2	66.7	66.3
2	66.2	62.0	66.9	65.6	67.1	66.9	66.8	66.3	66.1	66.6	67.4	67.5
3	67.0	60.0	66.5	67.7	66.9	66.4	66.7	66.8	64.2	67.0	67.2	67.0
4	67.1	59.7	65.3	67.3	66.5	67.5	66.8	67.5	66.1	67.7	67.8	67.2
5	66.7	58.0	65.7	67.6	67.0	66.5	67.1	66.0	65.9	66.9	67.2	65.4
6	65.8	59.9	66.5	67.8	66.9	67.2	67.8	66.1	65.1	66.5	67.7	66.8
7	66.6	63.8	67.2	66.5	66.8	66.8	67.1	67.0	65.6	66.6	67.0	67.0
8	65.4	65.4	67.4	64.7	67.0	66.5	66.7	66.8	66.4	67.0	67.1	67.7
9	66.4	66.9	66.7	65.3	67.3	66.5	66.4	67.2	65.0	66.5	66.1	66.4
10	66.9	66.8	67.5	66.5	67.7	66.7	67.5	66.2	64.9	66.6	66.5	67.2
11	67.0	66.6	66.2	66.8	67.2	67.2	68.1	66.9	66.5	67.6	66.5	66.4
12	66.9	66.4	66.2	67.1	67.7	67.1	69.2	66.8	67.4	67.2	66.8	66.7
13	67.1	66.8	67.7	67.3	65.9	66.5	70.2	66.0	66.1	67.6	67.4	66.7
14	67.4	66.2	68.1	67.6	65.7	67.1	70.1	66.5	66.7	66.8	67.0	66.7
15	67.4	66.4	66.8	67.1	67.5	67.2	71.0	66.5	67.2	67.3	67.8	67.5
16	66.2	67.4	66.8	65.8	66.9	66.9	71.2	66.8	66.0	67.6	66.9	67.2
17	65.6	68.2	67.5	67.2	66.5	66.4	70.9	66.3	66.2	67.5	67.9	66.0
18	64.2	67.2	67.1	67.6	67.6	67.6	69.9	66.6	67.6	66.3	67.1	66.8
19	64.9	67.8	67.1	66.9	67.1	67.2	67.1	66.2	67.7	67.4	66.0	66.8
20	66.1	66.8	66.4	65.6	67.1	67.1	67.8	65.9	66.9	65.7	66.6	67.6
21	66.5	66.5	66.5	68.5	66.2	66.8	68.0	65.5	66.6	66.2	67.9	66.5
22	66.4	67.3	67.6	67.9	66.5	67.3	67.5	67.1	66.5	67.7	66.8	66.7
23	65.7	67.4	66.9	66.9	66.6	68.0	67.6	67.4	67.2	67.2	66.6	67.2
24	66.3	66.2	67.6	66.2	66.9	67.4	68.2	66.5	67.7	66.4	66.7	67.1
25	66.6	66.9	67.6	66.8	66.5	66.7	69.1	66.2	67.1	66.4	65.6	68.0
26	66.0	67.0	66.9	67.3	65.5	67.1	68.9	66.6	66.6	66.1	65.8	67.5
27	64.7	68.0	67.1	66.6	66.7	67.5	69.3	67.3	66.4	66.9	65.6	67.0
28	63.6	67.9	67.9	66.5	66.5	67.5	69.1	66.0	66.5	66.9	66.5	67.7
29	62.1	67.0	66.3	67.0	65.9	66.3	67.8	67.4	67.4	66.5	67.6	65.8
30	61.6		66.6	67.8	66.9	66.3	66.7	66.5	66.1	66.5	66.3	65.9
31	62.5		66.5		66.5		66.8	65.5		67.1		67.4
Means	65°.76	65°.48	66°.94	66°.85	66°.79	66°.97	68°.21	66°.55	66°.39	66°.85	66°.87	66°.89

TABLE XVI.—MONTHLY and ANNUAL MEAN TEMPERATURE at each HOUR of the DAY within the box inclosing the VERTICAL FORCE MAGNET.

1912.

Hour, Greenwich Civil Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	For the Year.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Midn.	66.3	66.0	67.5	67.4	67.2	67.3	68.5	66.8	66.6	67.3	67.3	67.2	67.12
1h	66.2	65.9	67.3	67.2	67.0	67.2	68.4	66.7	66.5	67.2	67.2	67.1	66.99
2	66.0	65.7	67.1	67.0	66.9	67.0	68.3	66.6	66.4	67.0	67.0	66.9	66.83
3	65.8	65.5	66.9	66.8	66.7	66.9	68.2	66.5	66.3	66.9	66.8	66.8	66.67
4	65.6	65.3	66.6	66.5	66.6	66.8	68.1	66.4	66.2	66.7	66.7	66.7	66.52
5	65.5	65.2	66.4	66.4	66.4	66.6	68.0	66.3	66.1	66.5	66.6	66.5	66.38
6	65.3	65.0	66.3	66.2	66.3	66.5	67.9	66.3	66.0	66.4	66.5	66.4	66.26
7	65.3	65.0	66.2	66.1	66.2	66.5	67.8	66.2	66.0	66.3	66.5	66.5	66.22
8	65.3	65.0	66.2	66.1	66.2	66.4	67.8	66.2	66.0	66.2	66.5	66.5	66.20
9	65.2	64.9	66.1	66.0	66.2	66.4	67.8	66.2	66.0	66.2	66.5	66.5	66.17
10	65.3	64.9	66.3	66.1	66.2	66.5	67.8	66.2	65.9	66.3	66.5	66.6	66.22
11	65.3	64.8	66.4	66.3	66.4	66.5	67.9	66.2	66.1	66.4	66.6	66.7	66.30
Noon.	65.4	64.9	66.6	66.4	66.6	66.7	68.0	66.3	66.2	66.5	66.6	66.8	66.42
13h	65.5	65.1	66.8	66.7	66.8	66.8	68.1	66.5	66.3	66.7	66.6	66.9	66.57
14	65.7	65.3	67.0	66.9	66.8	67.0	68.2	66.6	66.4	66.8	66.8	67.0	66.71
15	65.8	65.5	67.2	67.0	66.9	67.2	68.3	66.6	66.6	67.0	67.0	67.1	66.85
16	65.9	65.6	67.3	67.2	67.0	67.3	68.4	66.7	66.7	67.1	67.0	67.1	66.94
17	66.0	65.7	67.4	67.3	67.1	67.3	68.5	66.8	66.7	67.2	67.1	67.1	67.02
18	66.1	65.9	67.4	67.4	67.2	67.4	68.5	66.8	66.8	67.3	67.1	67.1	67.08
19	66.1	65.9	67.5	67.4	67.2	67.4	68.5	66.8	66.8	67.3	67.1	67.1	67.09
20	66.1	66.0	67.5	67.5	67.3	67.4	68.5	66.8	66.7	67.3	67.1	67.1	67.11
21	66.2	66.1	67.5	67.5	67.3	67.4	68.6	66.9	66.7	67.3	67.2	67.2	67.16
22	66.2	66.1	67.5	67.5	67.3	67.4	68.5	66.8	66.7	67.3	67.2	67.2	67.14
23	66.2	66.2	67.5	67.5	67.2	67.4	68.5	66.8	66.7	67.3	67.3	67.3	67.16
24	66.2	66.2	67.4	67.5	67.1	67.3	68.5	66.8	66.7	67.3	67.3	67.3	67.13

TABLE XVII.—VALUES of the CO-EFFICIENTS in the PERIODICAL EXPRESSION

$$V_t = m + a_1 \cos t + b_1 \sin t + a_2 \cos 2t + b_2 \sin 2t + a_3 \cos 3t + b_3 \sin 3t + a_4 \cos 4t + b_4 \sin 4t$$

(in which t is the time from Greenwich mean midnight converted into arc at the rate of 15° to each hour, and V_t the mean value of the magnetic element at the time t for each month and for the year, as given in Tables II., VI., and X., the values for Horizontal Force and Vertical Force being corrected for temperature).

The values of the co-efficients for Declination are given in minutes of arc: the unit for Horizontal Force and Vertical Force is 1 γ (0·00001 C.G.S. unit).

Month, 1912.	m	a_1	b_1	a_2	b_2	a_3	b_3	a_4	b_4
	DECLINATION WEST.								
January	0′·86	− 1′·06	− 0′·22	+ 0′·48	+ 0′·10	− 0′·28	+ 0′·24	+ 0′·15	+ 0′·01
February	1·29	− 1·40	− 0·45	+ 0·59	+ 0·38	− 0·39	+ 0·03	+ 0·23	+ 0·20
March	2·12	− 1·42	− 1·00	+ 0·72	+ 1·27	− 0·57	− 0·66	+ 0·21	+ 0·26
April	3·15	− 1·59	− 1·45	+ 1·12	+ 1·63	− 0·66	− 0·64	+ 0·33	+ 0·12
May	3·10	− 1·67	− 1·70	+ 1·39	+ 1·10	− 0·69	− 0·17	+ 0·18	+ 0·11
June	3·78	− 1·28	− 2·17	+ 1·20	+ 1·36	− 0·72	− 0·15	+ 0·08	− 0·01
July	3·51	− 1·44	− 2·22	+ 1·36	+ 1·53	− 0·55	− 0·35	+ 0·06	+ 0·23
August	2·55	− 2·14	− 1·43	+ 1·35	+ 1·03	− 0·82	− 0·39	+ 0·19	+ 0·13
September	2·32	− 1·99	− 1·04	+ 1·28	+ 1·13	− 0·71	− 0·24	+ 0·45	+ 0·09
October	2·15	− 1·51	− 0·78	+ 0·93	+ 1·28	− 0·72	− 0·46	+ 0·43	+ 0·25
November	1·43	− 1·24	− 0·20	+ 0·56	+ 0·70	− 0·32	+ 0·08	+ 0·15	− 0·01
December	1·73	− 1·14	− 0·03	+ 0·12	+ 0·66	− 0·34	+ 0·10	+ 0·18	+ 0·12
For the Year	2·04	− 1·49	− 1·06	+ 0·92	+ 1·02	− 0·57	− 0·22	+ 0·22	+ 0·12
	HORIZONTAL FORCE.								
January	4·4	− 0·5	+ 1·4	− 1·7	+ 1·2	− 0·2	− 1·9	+ 0·8	+ 1·2
February	5·2	0·0	0·0	− 0·6	+ 1·0	− 0·1	− 2·3	+ 0·3	+ 2·0
March	14·7	+ 6·7	+ 0·5	− 3·1	+ 1·1	+ 1·6	− 2·6	0·0	+ 2·0
April	21·2	+ 12·0	− 3·3	− 5·8	+ 2·3	+ 1·3	− 2·1	+ 0·2	+ 0·9
May	17·0	+ 9·6	− 7·8	− 2·5	+ 2·4	− 0·4	− 1·0	+ 0·5	+ 0·4
June	19·0	+ 11·9	− 8·3	− 4·1	+ 3·0	− 0·2	− 0·4	+ 0·8	− 0·3
July	19·3	+ 11·2	− 6·4	− 4·6	+ 3·0	+ 0·2	− 1·2	+ 0·6	+ 0·1
August	25·5	+ 12·6	− 6·8	− 3·0	+ 5·2	− 0·9	− 3·1	+ 0·9	+ 1·2
September	21·1	+ 11·3	− 3·8	− 2·8	+ 4·7	0·0	− 3·0	+ 0·4	+ 1·4
October	20·2	+ 10·8	− 0·1	− 5·4	+ 1·7	+ 1·5	− 2·3	+ 0·5	+ 1·9
November	7·1	+ 4·2	+ 2·4	− 3·2	+ 0·3	− 0·6	− 1·1	+ 1·3	+ 0·7
December	4·3	+ 0·5	+ 1·1	− 2·7	− 0·2	+ 0·1	− 1·4	+ 0·5	+ 0·5
For the Year	14·4	+ 7·5	− 2·6	− 3·3	+ 2·1	+ 0·2	− 1·9	+ 0·6	+ 1·0
	VERTICAL FORCE.								
January	2·0	+ 0·1	+ 0·9	− 0·3	0·0	− 0·1	+ 0·1	+ 0·9	+ 0·2
February	3·8	+ 1·8	+ 0·1	− 1·5	− 0·5	0·0	− 0·4	+ 0·2	− 0·6
March	11·8	+ 4·5	+ 1·3	− 4·4	− 1·0	+ 2·2	+ 0·3	− 0·4	− 0·1
April	15·6	+ 7·2	+ 0·4	− 5·9	− 0·3	+ 2·4	− 0·5	− 0·5	0·0
May	19·0	+ 7·6	− 0·5	− 7·5	− 0·6	+ 2·9	− 0·7	− 0·5	− 0·1
June	14·0	+ 5·7	+ 0·2	− 5·6	− 0·9	+ 1·5	− 0·8	− 0·3	+ 0·1
July	12·8	+ 4·0	− 1·2	− 5·0	− 1·6	+ 1·9	+ 0·2	− 0·4	− 0·6
August	11·3	+ 3·5	− 1·8	− 4·5	− 0·3	+ 2·4	− 0·2	− 0·7	− 0·1
September	9·5	+ 3·6	− 0·3	− 3·7	− 0·5	+ 1·9	− 0·1	− 0·4	+ 0·3
October	6·5	+ 0·5	− 0·4	− 3·4	− 0·5	+ 1·9	− 0·8	− 0·6	+ 0·4
November	4·5	+ 0·2	− 2·5	− 1·8	+ 0·9	+ 0·6	− 0·7	− 0·1	+ 0·3
December	3·3	+ 0·8	− 2·1	− 1·7	− 0·3	+ 0·3	− 0·5	+ 0·4	+ 0·2
For the Year	9·1	+ 3·3	− 0·5	− 3·8	− 0·5	+ 1·5	− 0·3	− 0·2	0·0

TABLE XVIII.—VALUES of the CO-EFFICIENTS and CONSTANT ANGLES in the PERIODICAL EXPRESSIONS

$$V_t = m + c_1 \sin(t + \alpha) + c_2 \sin(2t + \beta) + c_3 \sin(3t + \gamma) + c_4 \sin(4t + \delta)$$
$$V_{t'} = m + c_1 \sin(t' + \alpha') + c_2 \sin(2t' + \beta') + c_3 \sin(3t' + \gamma') + c_4 \sin(4t' + \delta')$$

(in which t and t' are the times from Greenwich mean midnight and apparent midnight respectively, converted into arc at the rate of 15° to each hour, and V_t, $V_{t'}$ the mean value of the magnetic element at the time t or t' for each month and for the year, as given in Tables II., VI., and X., the values for Horizontal Force and Vertical Force being corrected for temperature).

The values of the co-efficients for Declination are given in minutes of arc: the unit for Horizontal Force and Vertical Force is 1 γ (0·00001 C.G.S. unit).

Month, 1912.	m	c_1	α	α'	c_2	β	β'	c_3	γ	γ'	c_4	δ	δ'
						DECLINATION WEST.							
	′	′	° ′	° ′	′	° ′	° ′	′	° ′	° ′	′	° ′	° ′
January	0·86	1·09	258. 16	260. 33	0·49	77. 59	82. 33	0·37	310. 24	317. 15	0·15	84. 36	93. 44
February	1·29	1·47	252. 5	255. 34	0·71	57. 2	64. 1	0·39	273. 47	284. 15	0·30	49. 36	63. 33
March	2·12	1·73	234. 47	236. 57	1·46	29. 23	33. 44	0·87	220. 23	226. 54	0·33	38. 42	47. 24
April	3·15	2·15	227. 30	227. 33	1·97	34. 27	34. 33	0·92	226. 2	226. 11	0·35	70. 50	71. 2
May	3·10	2·38	224. 25	223. 34	1·78	51. 40	49. 57	0·71	255. 52	253. 18	0·21	58. 50	55. 25
June	3·78	2·52	210. 32	210. 37	1·81	41. 30	41. 41	0·73	258. 19	258. 35	0·08	95. 25	95. 46
July	3·51	2·65	213. 2	214. 24	2·05	41. 31	44. 15	0·66	237. 23	241. 30	0·24	14. 11	19. 40
August	2·55	2·57	236. 15	237. 13	1·70	52. 44	54. 39	0·91	244. 11	247. 4	0·23	55. 51	59. 41
September	2·32	2·24	242. 26	241. 12	1·71	48. 34	46. 5	0·75	251. 38	247. 55	0·46	78. 17	73. 20
October	2·15	1·69	242. 45	239. 15	1·59	36. 7	29. 8	0·85	237. 34	227. 5	0·50	60. 31	46. 32
November	1·23	1·26	260. 51	257. 10	0·90	38. 29	31. 7	0·33	284. 2	272. 59	0·15	92. 47	78. 3
December	1·73	1·14	268. 29	267. 26	0·67	10. 1	7. 56	0·36	286. 22	283. 14	0·21	56. 30	52. 19
For the Year	2·04	1·83	234. 34	234. 34	1·37	42. 19	42. 19	0·61	248. 57	248. 57	0·25	60. 45	60. 45
						HORIZONTAL FORCE.							
January	4·4	1·5	340. 45	343. 2	2·0	305. 50	310. 24	1·9	186. 42	193. 33	1·4	32. 55	42. 3
February	5·2	0·0	71. 34	75. 3	1·2	327. 32	334. 31	2·3	183. 33	194. 1	2·0	8. 30	22. 27
March	14·7	6·7	85. 30	87. 40	3·3	289. 13	293. 34	3·0	148. 4	154. 35	2·0	1. 13	9. 55
April	21·2	12·5	105. 31	105. 34	6·3	291. 50	291. 56	2·5	146. 54	147. 3	1·0	12. 29	12. 41
May	17·0	12·4	129. 19	128. 28	3·4	313. 43	312. 0	1·1	200. 46	198. 12	0·6	56. 31	53. 6
June	19·0	14·5	124. 58	125. 3	5·0	306. 18	306. 29	0·5	210. 15	210. 31	0·8	111. 15	111. 36
July	19·3	12·9	119. 46	121. 8	5·5	303. 34	306. 18	1·2	168. 56	173. 3	0·6	76. 21	81. 50
August	25·5	14·3	118. 20	119. 18	6·0	330. 0	331. 55	3·2	195. 58	198. 51	1·5	35. 32	39. 22
September	21·1	12·0	108. 37	107. 23	5·4	329. 32	327. 3	3·0	180. 0	176. 17	1·5	16. 7	11. 10
October	20·2	10·8	90. 27	86. 57	5·6	287. 4	280. 5	2·8	146. 38	136. 9	1·9	14. 56	0. 57
November	7·1	4·8	59. 55	56. 14	3·2	275. 46	268. 24	1·3	207. 43	196. 40	1·4	63. 17	48. 33
December	4·3	1·2	22. 15	21. 12	2·7	264. 50	262. 45	1·4	175. 9	172. 1	0·7	42. 2	37. 51
For the Year	14·4	8·0	109. 2	109. 2	3·9	303. 6	303. 6	1·9	173. 58	173. 58	1·1	29. 38	29. 38
						VERTICAL FORCE.							
January	2·0	0·9	8. 17	10. 34	0·3	268. 34	273. 8	0·0	315. 0	321. 51	0·9	76. 6	85. 14
February	3·8	1·8	86. 47	90. 16	1·6	251. 17	258. 16	0·4	180. 0	190. 28	0·6	163. 50	177. 47
March	11·8	4·7	73. 41	75. 51	4·5	257. 17	261. 38	2·2	81. 2	87. 33	0·4	251. 13	259. 55
April	15·6	7·2	86. 41	86. 44	5·9	267. 1	267. 7	2·5	100. 38	100. 47	0·5	270. 0	270. 12
May	19·0	7·6	93. 46	92. 55	7·5	265. 6	263. 23	3·0	102. 50	100. 16	0·5	260. 42	257. 17
June	14·0	5·7	88. 19	88. 24	5·7	261. 0	261. 11	1·7	118. 33	118. 49	0·3	284. 25	284. 46
July	12·8	4·1	106. 50	108. 12	5·3	252. 12	254. 56	2·0	83. 38	87. 45	0·7	215. 56	221. 25
August	11·3	3·9	117. 43	118. 41	4·5	266. 4	267. 59	2·4	94. 10	97. 3	0·7	258. 0	261. 50
September	9·5	3·6	95. 19	94. 5	3·7	262. 35	260. 6	1·9	94. 14	90. 31	0·5	305. 0	300. 3
October	6·5	0·7	127. 26	123. 56	3·5	262. 32	255. 33	2·1	111. 33	101. 4	0·7	306. 36	292. 37
November	4·5	2·5	175. 26	171. 45	2·0	294. 47	287. 25	0·9	138. 55	127. 52	0·3	344. 3	329. 19
December	3·3	2·3	158. 51	157. 48	1·8	260. 14	258. 9	0·5	147. 48	144. 40	0·4	59. 59	55. 48
For the Year	9·1	3·3	98. 37	98. 37	3·8	262. 53	262. 53	1·6	101. 48	101. 48	0·2	274. 3	274. 3

TABLE XIX.—DETERMINATIONS of the ABSOLUTE VALUE of HORIZONTAL MAGNETIC FORCE in the YEAR 1912.

Abstract of the Observations of Deflection of a Magnet for Absolute Measure of Horizontal Force made with the Gibson Instrument in the Magnetic Pavilion.

Greenwich Civil Time, 1912.	Distances of Centres of Magnets.	Temperature Fahrenheit.	Observed Deflection.	Mean of the Times of Vibration of Deflecting Magnet.	Number of Vibrations.	Temperature Fahrenheit.	Observer.
d h	ft.	°	° ′ ″	s		°	
Jan. 8. 13	1·0	39·7	9. 35. 46	5·809	100	40·4	E
	1·3		4. 21. 24	5·810	100	41·6	
Jan. 24. 15	1·0	49·9	9. 35. 25	5·820	100	50·1	B
	1·3		4. 21. 18	5·818	100	50·7	
Feb. 7. 16	1·0	53·3	9. 34. 25	5·818	100	54·1	B
	1·3		4. 20. 45	5·820	100	54·1	
Feb. 14. 15	1·0	50·3	9. 34. 45	5·819	100	50·2	B
	1·3		4. 21. 8	5·819	100	51·2	
Feb. 21. 15	1·0	50·3	9. 34. 28	5·817	100	51·1	E
	1·3		4. 20. 46	5·821	100	52·4	
Feb. 28. 15	1·0	60·8	9. 33. 51	5·822	100	61·9	E
	1·3		4. 20. 30	5·823	100	63·2	
Mar. 6. 15	1·0	46·3	9. 35. 9	5·812	100	46·6	E
	1·3		4. 21. 11	5·815	100	48·5	
Mar. 13. 15	1·0	51·0	9. 34. 43	5·819	100	51·1	E
	1·3		4. 21. 0	5·818	100	52·2	
Mar. 20. 15	1·0	47·8	9. 34. 18	5·810	100	47·5	B
	1·3		4. 20. 45	5·812	100	48·5	
Mar. 27. 15	1·0	60·0	9. 33. 40	5·821	100	58·5	B
	1·3		4. 20. 23	5·823	100	60·9	
Apr. 3. 15	1·0	54·5	9. 34. 28	5·820	100	53·5	B
	1·3		4. 20. 48	5·820	100	55·3	
Apr. 10. 15	1·0	51·9	9. 35. 3	5·819	100	51·3	B
	1·3		4. 21. 3	5·819	100	52·0	
Apr. 16. 15	1·0	55·3	9. 34. 38	5·821	100	56·2	E
	1·3		4. 20. 58	5·821	100	57·4	
Apr. 24. 15	1·0	63·8	9. 33. 41	5·824	100	65·1	E
	1·3		4. 20. 26	5·825	100	66·5	
May 2. 15	1·0	63·2	9. 32. 40	5·821	100	63·8	E
	1·3		4. 20. 4	5·820	100	65·2	
May 8. 15	1·0	65·3	9. 33. 14	5·827	100	66·9	E
	1·3		4. 20. 23	5·826	100	68·0	
May 14. 15	1·0	68·3	9. 33. 1	5·830	100	70·1	E
	1·3		4. 20. 16	5·831	100	71·1	
May 21. 15	1·0	65·0	9. 32. 5	5·823	100	64·3	B
	1·3		4. 20. 5	5·825	100	67·5	
May 29. 16	1·0	66·2	9. 32. 8	5·822	100	68·5	B
	1·3		4. 19. 40	5·823	100	67·6	
June 5. 15	1·0	62·7	9. 33. 50	5·824	100	61·9	B
	1·3		4. 20. 28	5·824	100	63·9	
June 12. 15	1·0	64·4	9. 32. 45	5·825	100	64·2	B
	1·3		4. 20. 3	5·823	100	64·8	
June 19. 15	1·0	75·8	9. 31. 44	5·832	100	77·6	E
	1·3		4. 19. 44	5·834	100	79·7	
June 26. 15	1·0	67·2	9. 32. 45	5·827	100	68·1	E
	1·3		4. 20. 0	5·827	100	69·3	
July 2. 15	1·0	61·0	9. 33. 14	5·825	100	61·2	E
	1·3		4. 20. 10	5·823	100	62·0	
July 10. 15	1·0	77·3	9. 32. 0	5·834	100	77·1	B
	1·3		4. 19. 40	5·832	100	78·0	

Greenwich Civil Time, 1912.	Distances of Centres of Magnets.	Temperature Fahrenheit.	Observed Deflection.	Mean of the Times of Vibration of Deflecting Magnet.	Number of Vibrations.	Temperature Fahrenheit.	Observer.
d h	ft.	°	° ′ ″	s		°	
July 17. 15	1·0	82·4	9. 31. 10	5·832	100	81·7	B
	1·3		4. 19. 18	5·834	100	83·9	
July 24. 15	1·0	77·5	9. 31. 15	5·830	100	77·3	B
	1·3		4. 19. 15	5·832	100	80·7	
July 31. 11	1·0	60·0	9. 33. 33	5·827	100	59·6	B
	1·3		4. 20. 20	5·823	100	60·6	
Aug. 7. 15	1·0	64·8	9. 32. 48	5·827	100	66·1	E
	1·3		4. 19. 59	5·827	100	66·7	
Aug. 14. 15	1·0	61·5	9. 33. 1	5·824	100	62·3	E
	1·3		4. 20. 8	5·824	100	63·1	
Aug. 21. 15	1·0	60·8	9. 33. 20	5·825	100	60·9	E
	1·3		4. 20. 10	5·825	100	61·4	
Aug. 28. 15	1·0	62·8	9. 32. 40	5·824	100	62·5	B
	1·3		4. 20. 15	5·824	100	63·9	
Sept. 3. 15	1·0	58·6	9. 33. 28	5·824	100	58·3	B
	1·3		4. 20. 18	5·824	100	59·5	
Sept. 10. 15	1·0	53·6	9. 34. 35	5·821	100	53·4	B
	1·3		4. 20. 45	5·820	100	54·3	
Sept. 18. 16	1·0	59·9	9. 33. 48	5·827	100	59·7	B
	1·3		4. 20. 28	5·827	100	60·7	
Sept. 25. 12	1·0	55·3	9. 34. 38	5·827	100	55·4	E
	1·3		4. 21. 4	5·827	100	56·6	
Oct. 1. 15	1·0	60·0	9. 33. 53	5·829	100	60·6	E
	1·3		4. 20. 38	5·829	100	61·2	
Oct. 9. 12	1·0	52·2	9. 34. 25	5·822	100	52·1	E
	1·3		4. 20. 58	5·823	100	54·1	
Oct. 16. 12	1·0	52·1	9. 34. 40	5·827	100	55·8	B
	1·3		4. 21. 5	5·827	100	54·0	
Oct. 23. 15	1·0	48·1	9. 34. 5	5·820	100	47·9	B
	1·3		4. 21. 0	5·820	100	49·1	
Oct. 30. 15	1·0	55·6	9. 33. 50	5·824	100	55·2	B
	1·3		4. 20. 45	5·824	100	56·2	
Nov. 7. 11	1·0	49·9	9. 35. 0	5·824	100	49·5	B
	1·3		4. 20. 50	5·824	100	50·7	
Nov. 13. 15	1·0	47·0	9. 34. 58	5·821	100	46·3	B
	1·3		4. 20. 55	5·819	100	48·1	
Nov. 20. 13	1·0	49·7	9. 34. 21	5·823	100	50·3	E
	1·3		4. 20. 55	5·821	100	51·3	
Nov. 27. 12	1·0	46·8	9. 34. 44	5·820	100	47·3	E
	1·3		4. 20. 54	5·821	100	48·0	
Dec. 4. 12	1·0	54·2	9. 33. 53	5·827	100	55·1	E
	1·3		4. 20. 35	5·825	100	56·1	
Dec. 11. 12	1·0	50·3	9. 34. 11	5·824	100	50·6	E
	1·3		4. 20. 48	5·824	100	52·0	
Dec. 18. 12	1·0	48·6	9. 34. 0	5·821	100	48·8	B
	1·3		4. 20. 45	5·819	100	49·4	
Dec. 24. 12	1·0	52·7	9. 34. 25	5·826	100	52·5	B
	1·3		4. 20. 43	5·826	100	53·7	
Dec. 31. 12	1·0	52·4	9. 34. 3	5·825	100	51·9	B
	1·3		4. 20. 40	5·826	100	53·7	

The deflecting magnet is placed on the east side of the suspended magnet, with its marked pole alternately east and west, and on the west side with its marked pole also alternately east and west: the deflection given in the table above is the mean of four deflections observed in these positions of the magnets.

The initials B and E are those of Mr. Bryant and Mr. Edney respectively.

In the subsequent calculations every observation is reduced to the temperature 35° Fahrenheit.

TABLE XX.—COMPUTATION of the VALUES of HORIZONTAL FORCE in ABSOLUTE MEASURE.

From Observations made with the Gibson Instrument in the Magnetic Pavilion.

Greenwich Civil Time, 1912.	In British Units.								In C. G. S. Units.	
	Apparent Value of A_1.	Apparent Value of A_2.	Apparent Value of P.	Log. $\frac{m}{X}$.	Corrected Time of Vibration of Deflecting Magnet.	Log. mX.	Value of m.	Value of Horizontal Force X.	Value of Horizontal Force. As observed.	Value of Horizontal Force. Reduced to Mean of Month.
d h					s					
Jan. 8. 13	0·08340	0·08349	− 0·00259	8·92240	5·8183	0·13120	0·3364	4·0216	·18543	·18531
,, 24. 15	0·08350	0·08360	− 0·00310	8·92293	5·8226	0·13061	0·3363	4·0164	·18519	·18529
Feb. 7. 16	0·08340	0·08348	− 0·00220	8·92234	5·8208	0·13091	0·3362	4·0205	·18538	·18535
,, 14. 15	0·08341	0·08356	− 0·00440	8·92257	5·8225	0·13063	0·3362	4·0182	·18527	·18528
,, 21. 15	0·08336	0·08344	− 0·00231	8·92216	5·8226	0·13062	0·3360	4·0200	·18536	·18527
,, 28. 15	0·08343	0·08351	− 0·00231	8·92250	5·8214	0·13085	0·3363	4·0195	·18533	·18523
Mar. 6. 15	0·08341	0·08352	− 0·00327	8·92248	5·8199	0·13099	0·3363	4·0203	·18537	·18531
,, 13. 15	0·08341	0·08353	− 0·00333	8·92250	5·8222	0·13068	0·3362	4·0187	·18530	·18531
,, 20. 15	0·08331	0·08340	− 0·00276	8·92190	5·8174	0·13138	0·3362	4·0248	·18558	·18571
,, 27. 15	0·08339	0·08346	− 0·00192	8·92227	5·8226	0·13068	0·3361	4·0198	·18535	·18533
April 3. 15	0·08343	0·08351	− 0·00237	8·92249	5·8230	0·13058	0·3362	4·0183	·18528	·18533
,, 10. 15	0·08347	0·08355	− 0·00237	8·92273	5·8245	0·13034	0·3362	4·0161	·18518	·18540
,, 16. 15	0·08346	0·08357	− 0·00327	8·92275	5·8245	0·13037	0·3362	4·0162	·18518	·18532
,, 24. 15	0·08345	0·08353	− 0·00237	8·92261	5·8247	0·13038	0·3361	4·0168	·18521	·18531
May 2. 15	0·08329	0·08340	− 0·00321	8·92187	5·8212	0·13090	0·3360	4·0227	·18548	·18543
,, 8. 15	0·08340	0·08353	− 0·00378	8·92250	5·8249	0·13036	0·3361	4·0173	·18523	·18512
,, 14. 15	0·08342	0·08354	− 0·00372	8·92257	5·8285	0·12985	0·3359	4·0146	·18511	·18531
,, 21. 15	0·08334	0·08343	− 0·00271	8·92208	5·8241	0·13048	0·3360	4·0198	·18534	·18528
,, 29. 16	0·08326	0·08332	− 0·00180	8·92156	5·8214	0·13089	0·3359	4·0241	·18554	·18535
June 5. 15	0·08345	0·08352	− 0·00203	8·92260	5·8253	0·13030	0·3361	4·0165	·18520	·18549
,, 12. 15	0·08332	0·08341	− 0·00259	8·92197	5·8243	0·13045	0·3359	4·0201	·18536	·18528
,, 19. 15	0·08335	0·08348	− 0·00400	8·92222	5·8262	0·13023	0·3359	4·0180	·18526	·18511
,, 26. 15	0·08336	0·08344	− 0·00231	8·92215	5·8260	0·13021	0·3359	4·0182	·18527	·18521
July 2. 15	0·08334	0·08340	− 0·00180	8·92200	5·8258	0·13020	0·3358	4·0188	·18530	·18539
,, 10. 15	0·08341	0·08348	− 0·00226	8·92238	5·8267	0·13016	0·3360	4·0169	·18521	·18523
,, 17. 15	0·08336	0·08344	− 0·00226	8·92216	5·8251	0·13043	0·3360	4·0192	·18532	·18525
,, 24. 15	0·08330	0·08335	− 0·00158	8·92177	5·8245	0·13050	0·3358	4·0213	·18542	·18526
,, 31. 11	0·08337	0·08344	− 0·00203	8·92219	5·8275	0·12995	0·3358	4·0168	·18521	·18550
Aug. 7. 15	0·08333	0·08340	− 0·00186	8·92196	5·8264	0·13014	0·3358	4·0187	·18530	·18525
,, 14. 15	0·08332	0·08340	− 0·00226	8·92193	5·8251	0·13032	0·3358	4·0197	·18534	·18529
,, 21. 15	0·08335	0·08340	− 0·00135	8·92203	5·8263	0·13013	0·3358	4·0184	·18528	·18528
,, 28. 15	0·08329	0·08346	− 0·00491	8·92200	5·8236	0·13055	0·3360	4·0205	·18538	·18532
Sept. 3. 15	0·08334	0·08341	− 0·00203	8·92201	5·8258	0·13019	0·3358	4·0187	·18530	·18502
,, 10. 15	0·08343	0·08348	− 0·00141	8·92244	5·8247	0·13033	0·3360	4·0174	·18524	·18536
,, 18. 15	0·08341	0·08348	− 0·00214	8·92238	5·8273	0·12997	0·3359	4·0160	·18517	·18516
,, 25. 12	0·08346	0·08360	− 0·00423	8·92283	5·8304	0·12949	0·3359	4·0117	·18497	·18537
Oct. 1. 15	0·08342	0·08354	− 0·00344	8·92255	5·8296	0·12963	0·3358	4·0137	·18506	·18503
,, 9. 12	0·08339	0·08353	− 0·00423	8·92244	5·8265	0·13004	0·3359	4·0161	·18517	·18519
,, 16. 12	0·08342	0·08357	− 0·00429	8·92264	5·8283	0·12977	0·3359	4·0139	·18507	·18535
,, 23. 15	0·08328	0·08349	− 0·00603	8·92205	5·8258	0·13013	0·3358	4·0183	·18528	·18540
,, 30. 15	0·08335	0·08351	− 0·00468	8·92230	5·8257	0·13018	0·3359	4·0174	·18523	·18514
Nov. 7. 11	0·08344	0·08346	− 0·00056	8·92240	5·8277	0·12986	0·3358	4·0154	·18514	·18494
,, 13. 15	0·08339	0·08344	− 0·00152	8·92223	5·8265	0·13001	0·3358	4·0169	·18521	·18536
,, 20. 13	0·08334	0·08348	− 0·00400	8·92220	5·8267	0·13001	0·3358	4·0170	·18522	·18535
,, 27. 12	0·08335	0·08344	− 0·00237	8·92212	5·8265	0·13001	0·3358	4·0174	·18524	·18519
Dec. 4. 12	0·08334	0·08344	− 0·00299	8·92207	5·8281	0·12982	0·3357	4·0168	·18521	·18527
,, 11. 12	0·08333	0·08345	− 0·00361	8·92208	5·8273	0·12992	0·3357	4·0172	·18523	·18513
,, 18. 12	0·08328	0·08341	− 0·00400	8·92185	5·8246	0·13031	0·3358	4·0200	·18536	·18528
,, 24. 12	0·08339	0·08346	− 0·00186	8·92227	5·8283	0·12979	0·3358	4·0157	·18516	·18519
,, 31. 13	0·08334	0·08344	− 0·00305	8·92208	5·8286	0·12973	0·3357	4·0163	·18518	18·523
Means	...	...	− 0·00283	...	...	...	...	4·0181	·18527	·18528

The value of X in British Units is referred to the Foot-Grain-Second Unit.

TABLE XXI.—RESULTS of OBSERVATIONS of MAGNETIC DIP made in the MAGNETIC PAVILION in the YEAR 1912.

Greenwich Civil Time, 1912.	3-inch Needle.	Magnetic Dip.	Observer.	Greenwich Civil Time, 1912.	3-inch Needle.	Magnetic Dip.	Observer.	Greenwich Civil Time, 1912.	3-inch Needle.	Magnetic Dip.	Observer.
d h		° ′ ″		d h		° ′ ″		d h		° ′ ″	
Jan. 2. 11	D_1	66. 51. 26	E	May 2. 12	D_1	66. 54. 2	E	Sept. 3. 12	D_1	66. 52. 46	B
4. 12	D_2	66. 47. 23	E	3. 12	D_2	66. 49. 39	E	5. 13	D_2	66. 49. 42	B
8. 13	D_1	66. 49. 51	E	8. 12	D_1	66. 54. 52	E	7. 13	D_1	66. 53. 10	B
10. 12	D_2	66. 48. 1	E	10. 12	D_2	66. 52. 15	E	9. 12	D_2	66. 50. 41	B
12. 12	D_1	66. 51. 2	E	13. 12	D_1	66. 53. 9	E	11. 13	D_1	66. 52. 39	B
15. 12	D_2	66. 47. 34	E	14. 12	D_2	66. 51. 23	E	13. 13	D_2	66. 50. 21	B
17. 11	D_2	66. 48. 51	B	17. 12	D_2	66. 51. 15	B	17. 13	D_2	66. 49. 52	B
18. 14	D_2	66. 51. 25	B	20. 13	D_1	66. 53. 50	B	19. 13	D_1	66. 52. 49	B
26. 14	D_1	66. 49. 24	B	22. 12	D_2	66. 50. 6	B	20. 12	D_2	66. 52. 45	E
27. 14	D_1	66. 51. 56	B	24. 13	D_1	66. 52. 18	B	23. 12	D_1	66. 51. 12	E
29. 12	D_1	66. 53. 29	B	29. 13	D_2	66. 49. 16	B	26. 12	D_2	66. 50. 2	E
30. 13	D_2	66. 49. 21	B	30. 13	D_1	66. 52. 15	B	30. 12	D_1	66. 52. 42	E
Feb. 2. 13	D_1	66. 53. 1	B	June 3. 13	D_1	66. 52. 42	B	Oct. 1. 12	D_1	66. 51. 58	E
5. 13	D_2	66. 49. 25	B	5. 13	D_2	66. 50. 27	B	4. 12	D_2	66. 50. 13	E
7. 13	D_1	66. 53. 43	B	7. 13	D_1	66. 52. 1	B	7. 12	D_1	66. 55. 12	E
9. 10	D_2	66. 50. 4	B	10. 12	D_2	66. 51. 8	B	10. 12	D_2	66. 50. 52	E
12. 13	D_1	66. 52. 23	B	12. 13	D_1	66. 51. 59	B	11. 12	D_1	66. 55. 5	E
14. 13	D_2	66. 50. 22	B	15. 13	D_2	66. 49. 37	B	14. 12	D_2	66. 53. 37	E
16. 12	D_2	66. 48. 54	E	17. 12	D_2	66. 48. 47	E	18. 12	D_2	66. 54. 34	B
19. 12	D_1	66. 54. 8	E	19. 12	D_1	66. 54. 47	E	21. 12	D_1	66. 55. 2	B
21. 12	D_2	66. 51. 19	E	21. 11	D_2	66. 51. 27	E	23. 12	D_2	66. 48. 50	B
23. 12	D_1	66. 53. 50	E	24. 12	D_1	66. 54. 30	E	26. 12	D_1	66. 54. 22	B
26. 12	D_2	66. 51. 22	E	26. 12	D_2	66. 50. 19	E	29. 15	D_2	66. 55. 8	B
28. 12	D_1	66. 55. 7	E	28. 12	D_1	66. 51. 58	E	30. 13	D_1	66. 56. 28	B
Mar. 1. 12	D_1	66. 54. 43	E	July 1. 12	D_1	66. 52. 0	E	Nov. 2. 12	D_1	66. 54. 22	B
4. 12	D_2	66. 48. 31	E	3. 12	D_2	66. 53. 0	E	4. 12	D_2	66. 47. 9	B
6. 12	D_1	66. 54. 58	E	5. 12	D_1	66. 52. 42	E	6. 13	D_1	66. 51. 57	B
11. 12	D_2	66. 46. 25	E	8. 12	D_2	66. 50. 41	E	8. 13	D_2	66. 53. 0	B
13. 12	D_1	66. 55. 22	E	10. 13	D_1	66. 54. 40	B	12. 13	D_1	66. 55. 5	B
14. 12	D_2	66. 50. 39	E	12. 13	D_2	66. 51. 45	B	14. 13	D_2	66. 52. 44	B
18. 15	D_2	66. 50. 56	B	17. 13	D_2	66. 48. 27	B	18. 12	D_2	66. 50. 59	E
19. 13	D_1	66. 53. 51	B	19. 12	D_1	66. 53. 17	B	20. 12	D_1	66. 54. 47	E
22. 13	D_2	66. 51. 11	B	23. 12	D_2	66. 48. 13	B	22. 11	D_2	66. 51. 1	E
25. 12	D_1	66. 54. 47	B	24. 12	D_1	66. 53. 37	B	25. 12	D_1	66. 54. 11	E
27. 13	D_2	66. 50. 39	B	26. 12	D_2	66. 47. 40	B	27. 12	D_2	66. 50. 21	E
29. 12	D_1	66. 52. 47	B	30. 13	D_1	66. 52. 25	B	29. 12	D_1	66. 54. 22	E
Apr. 1. 12	D_1	66. 54. 8	B	Aug. 1. 12	D_1	66. 51. 45	E	Dec. 2. 12	D_1	66. 53. 52	E
3. 13	D_2	66. 50. 41	B	6. 12	D_2	66. 50. 9	E	4. 11	D_2	66. 49. 27	E
6. 12	D_1	66. 52. 36	B	7. 12	D_1	66. 53. 28	E	6. 12	D_1	66. 53. 17	E
9. 13	D_2	66. 49. 19	B	9. 12	D_2	66. 49. 57	E	9. 12	D_2	66. 52. 43	E
11. 13	D_1	66. 52. 50	B	12. 13	D_1	66. 52. 9	E	11. 11	D_1	66. 54. 9	E
13. 13	D_2	66. 50. 53	B	14. 12	D_2	66. 50. 10	E	12. 12	D_2	66. 49. 36	E
16. 12	D_2	66. 52. 19	E	16. 12	D_2	66. 50. 14	E	17. 15	D_2	66. 49. 43	B
18. 12	D_1	66. 50. 15	E	19. 12	D_1	66. 54. 33	E	19. 13	D_1	66. 52. 53	B
22. 12	D_2	66. 49. 22	E	21. 12	D_2	66. 50. 13	E	21. 13	D_2	66. 48. 50	B
24. 12	D_1	66. 51. 35	E	23. 12	D_1	66. 52. 53	E	23. 13	D_1	66. 53. 51	B
26. 12	D_2	66. 47. 21	E	28. 13	D_2	66. 50. 1	B	27. 12	D_2	66. 50. 42	B
29. 12	D_1	66. 52. 20	E	30. 13	D_1	66. 54. 44	B	30. 12	D_1	66. 51. 46	B

The initials B and E are those of Messrs. Bryant and Edney respectively.

TABLE XXII.—MONTHLY and ANNUAL MEANS of MAGNETIC DIP from OBSERVATIONS made in the YEAR 1912.

Monthly Means of Magnetic Dip.

Month, 1912.	D_1, 3-inch Needle.	Number of Observations.	D_2, 3-inch Needle.	Number of Observations.
January	66° 51′ 11″	6	66° 48′ 46″	6
February	66. 53. 42	6	66. 50. 14	6
March	66. 54. 25	6	66. 49. 44	6
April	66. 52. 17	6	66. 49. 59	6
May	66. 53. 24	6	66. 50. 39	6
June	66. 53. 0	6	66. 50. 17	6
July	66. 53. 7	6	66. 49. 58	6
August	66. 53. 15	6	66. 50. 7	6
September	66. 52. 33	6	66. 50. 34	6
October	66. 54. 41	6	66. 52. 12	6
November	66. 54. 7	6	66. 50. 52	6
December	66. 53. 18	6	66. 50. 10	6
Means	66. 53. 15	Sum 72	66. 50. 18	Sum 72
Annual Mean Dip	66° 51′ 46″			

The monthly means have been formed without reference to the hour at which the observation on each day was made.
In combining the monthly results, to form annual means, weights have been given proportional to the number of observations.

TABLE XXIII.—ANNUAL SUMMARY of the MAGNETIC ELEMENTS.

Month, 1912.	Mean Value of: Westerly Declination.	Mean Value of: Horizontal Force C.G.S.	Mean Value of: Vertical Force C.G.S.	Mean Value of: Dip.	Monthly Mean Diurnal Range of: Declination.	Monthly Mean Diurnal Range of: Horizontal Force.	Monthly Mean Diurnal Range of: Vertical Force.	Sum of Hourly Deviations from Mean of: Declination.	Sum of Hourly Deviations from Mean of: Horizontal Force.	Sum of Hourly Deviations from Mean of: Vertical Force.
January	15° 27′·4	·18530	·43365	66° 49′ 59″	2′·9	10γ	4γ	18′·1	47γ	19γ
February	15. 27·4	·18528	·43360	66. 51. 58	4·1	10	6	23·7	40	34
March	15. 26·9	·18541	·43391	66. 52. 4	6·3	21	17	32·9	113	96
April	15. 26·1	·18534	·43374	66. 51. 8	8·0	31	22	41·5	204	131
May	15. 25·2	·18530	·43365	66. 52. 2	7·7	29	26	41·3	189	150
June	15. 24·2	·18527	·43358	66. 51. 39	8·0	33	20	43·4	231	114
July	15. 23·9	·18533	·43372	66. 51. 32	8·3	30	20	45·7	206	93
August	15. 22·7	·18528	·43360	66. 51. 41	7·7	36	17	44·8	225	86
September	15. 22·4	·18523	·43349	66. 51. 33	7·2	31	13	40·5	188	71
October	15. 22·3	·18522	·43346	66. 53. 27	6·5	28	11	34·0	178	57
November	15. 22·2	·18521	·43344	66. 52. 30	3·8	15	9	22·1	90	48
December	15. 21·1	·18522	·43346	66. 51. 44	3·7	10	7	18·1	46	42
The Year	15. 24·3	·18528	·43361	66. 51. 46	6·18	23·7	14·3	33·84	144·8	78·4

MAGNETOGRAPH RECORDS on DISTURBED and NORMAL DAYS in the YEAR 1912.

EXPLANATION OF THE PLATES.

The magnetic motions figured on the Plates are :—

(1.) Those for days of disturbance selected by the International Committee—March 8, April 5^d 8^h to 6^d 8^h, August 5^d 20^h to 6^d 20^h, September 16^d 8^h to 17^d 8^h, October 14^d 6^h to 15^d 6^h, December 6^d 20^h to 7^d 20^h.

(2.) Those for four quiet days—February 21, May 9, August 12, November 29—which are given as types of the ordinary diurnal movement at four seasons of the year.

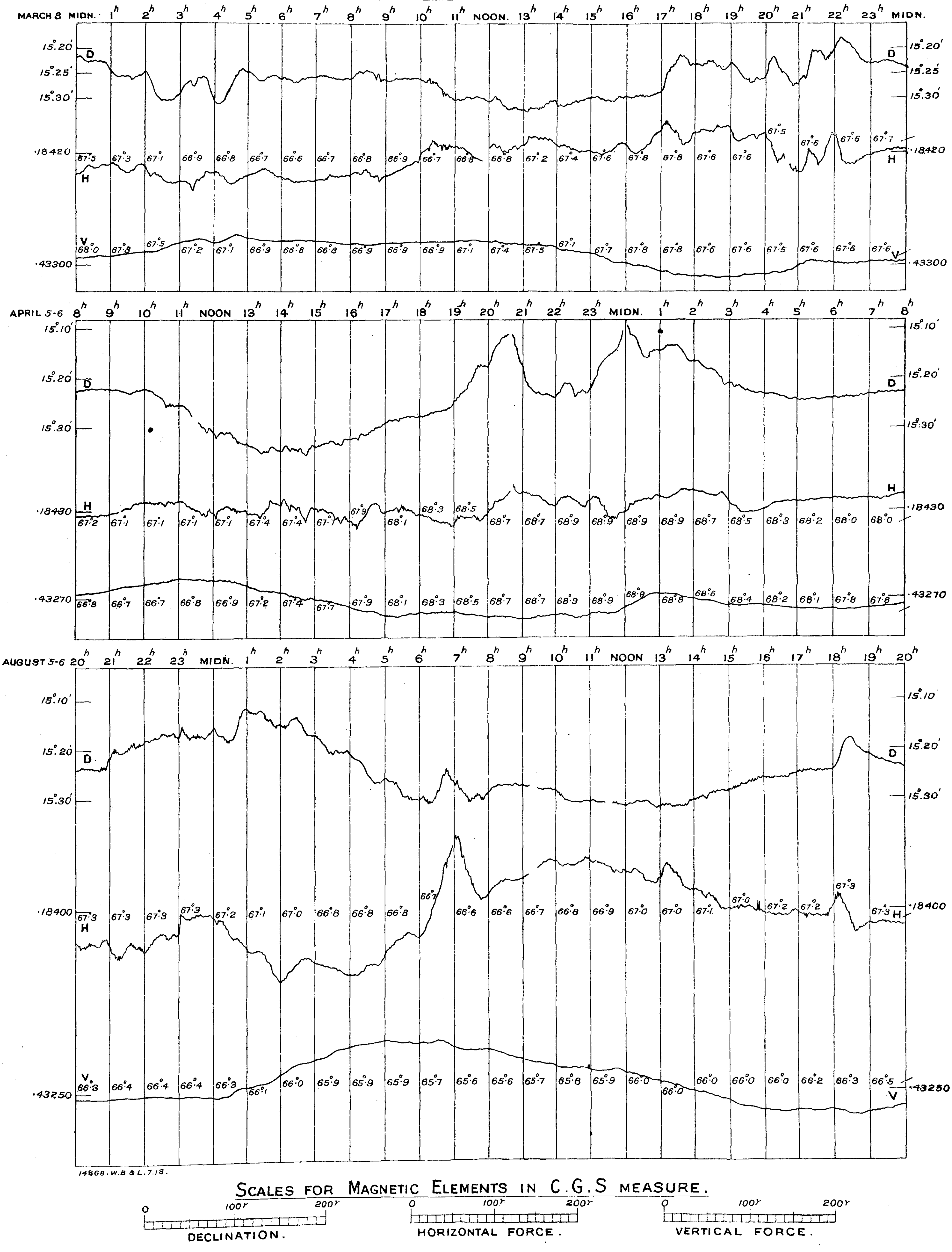
The time is Greenwich Civil Time (commencing at midnight, and counting the hours from 0 to 24).

The magnetic declination, horizontal force, and vertical force are indicated by the letters D., H., and V. respectively; the declination (west) is expressed in minutes of arc, the unit for horizontal and vertical force is 1 γ (0·00001 C.G.S.), the corresponding scales being given on the sides of each diagram. Equal changes of amplitude in the several registers correspond nearly to equal changes of absolute magnetic force, 0·001 of a C.G.S. unit being represented by $0^{\text{in.}}80 = \overset{\text{mm.}}{20\cdot2}$ in the declination curve, by $0^{\text{in.}}72 = \overset{\text{mm.}}{18\cdot3}$ in the horizontal force curve, and by $0^{\text{in.}}74 = \overset{\text{mm.}}{18\cdot9}$ in the vertical force curve.

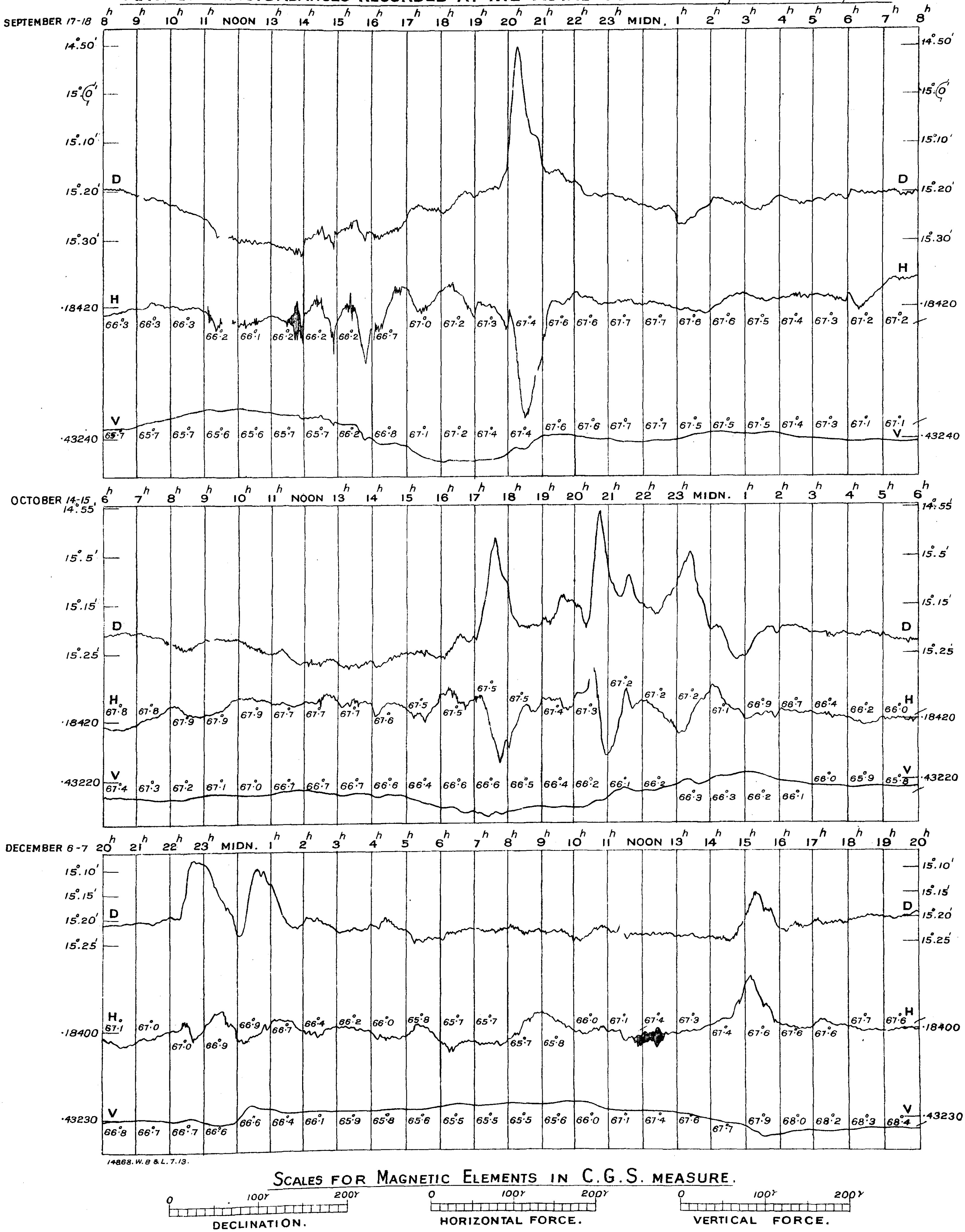
Downward motion indicates increase of declination and of horizontal and vertical force.

The temperatures (Fahrenheit) of the horizontal and vertical force magnets at each hour are given in small figures on the Diagrams.

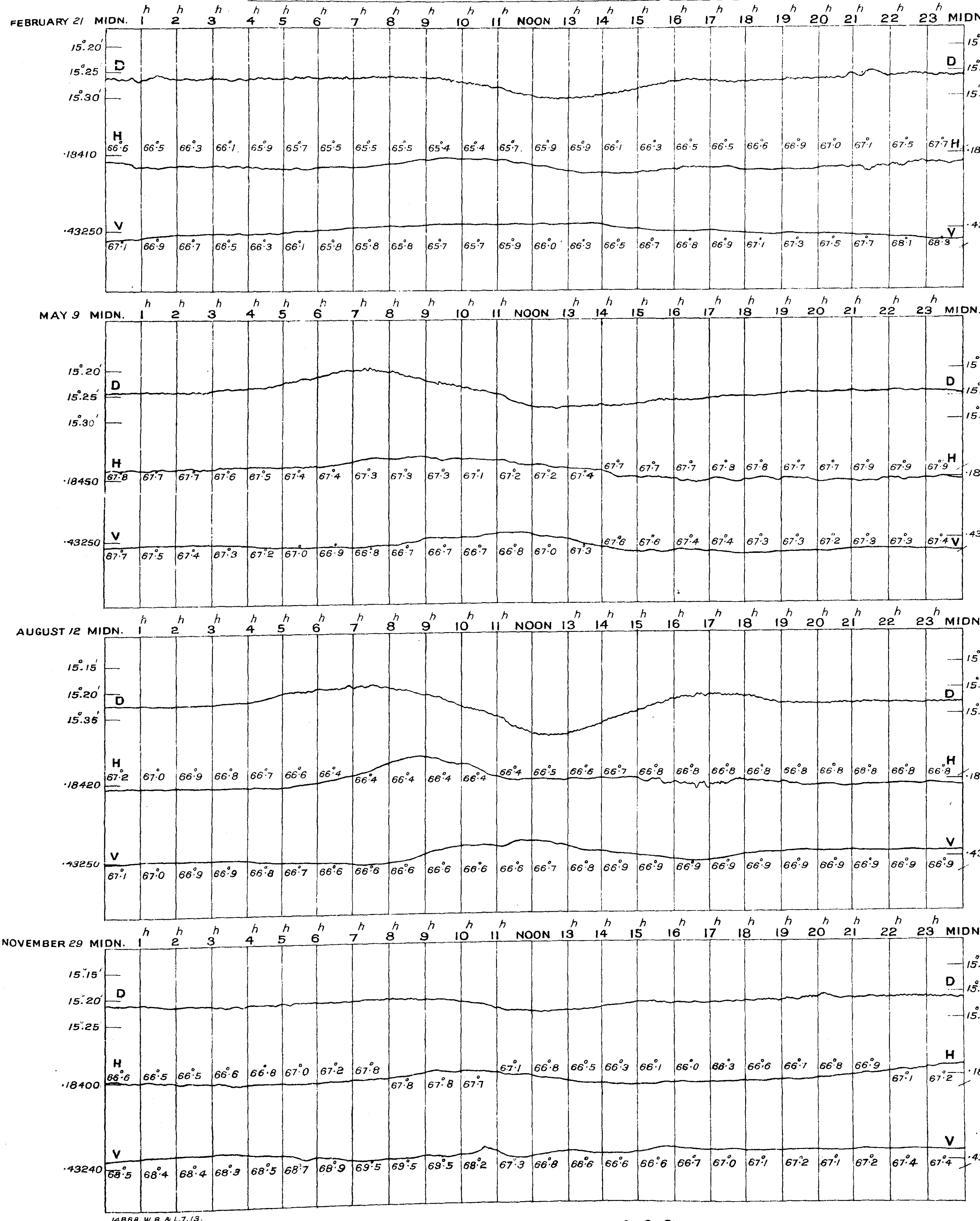
Magnetic Disturbances recorded at the Royal Observatory, Greenwich, 1912.



MAGNETIC DISTURBANCES RECORDED AT THE ROYAL OBSERVATORY, GREENWICH, 1912.



Types of Magnetic Diurnal Variations at Four Seasons of the Year recorded at the Royal Observatory, Greenwich, 1912.



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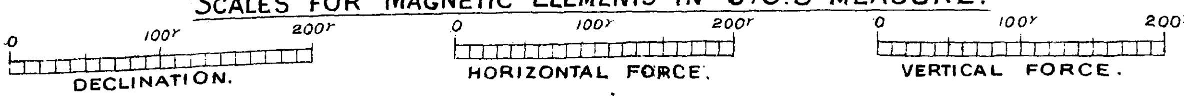
Scales for Magnetic Elements in C.G.S measure.



ROYAL OBSERVATORY, GREENWICH.

MAGNETIC DISTURBANCES.

1912.

MAGNETIC DISTURBANCES in DECLINATION, HORIZONTAL FORCE, and VERTICAL FORCE, recorded at the ROYAL OBSERVATORY, GREENWICH, in the Year 1912.

The following notes give a brief description of all magnetic movements (superposed on the ordinary diurnal movement) exceeding 3′ in Declination, 20γ in Horizontal Force, or 12γ in Vertical Force, as taken from the photographic records of the respective Magnetometers. The movements in Horizontal and Vertical Force are expressed in C. G. S. units. When any one of the three elements is not specifically mentioned, it is to be understood that the movement, if any, was insignificant. Any failure or want of register is specially indicated.

The term "wave" is used to indicate a movement in one direction and return; "double wave" a movement in one direction and return with continuation in the opposite direction and return; "two successive waves" consecutive wave movements in the same direction; "fluctuations" a number of movements in both directions. The extent and direction of the movement are indicated in brackets, + denoting an increase, and − a decrease of the magnetic element. In the case of fluctuations the sign ± denotes positive and negative movements of generally equal extent.

Magnetic movements which do not admit of brief description in this way are exhibited on accompanying plates.

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

1912.

January

1^d $10\frac{1}{2}^h$ to $14\frac{1}{2}^h$ Loss of Dec., H.F. and V.F. Registers.

4^d $22\frac{1}{2}^h$ to 24^h Irregular wave in Dec. (+ 4′).

5^d $23\frac{1}{4}^h$ to $23\frac{1}{2}^h$ Sharp decrease in Dec. (− 4′). 5^d $23\frac{1}{2}^h$ to 6^d $0\frac{1}{4}^h$ Wave in H.F (+ 24γ).

7^d $21\frac{1}{2}^h$ to $22\frac{1}{2}^h$ Wave in Dec. (− 3′).

11^d 20^h to 21^h Sharp wave in Dec. (+ 4′): double wave in H.F. (+ 13γ to − 14γ), the first portion sharp. $21\frac{3}{4}^h$ to $22\frac{1}{2}^h$ Wave in H.F. (+ 20γ).

12^d $17\frac{1}{4}^h$ to $18\frac{3}{4}^h$ Irregular wave in Dec. (+ 4′). $20\frac{3}{4}^h$ to 22^h Irregular wave in H.F. (+ 21γ). 12^d $22\frac{1}{2}^h$ to 13^d $0\frac{1}{2}^h$ Irregular double wave in H.F. (− 15γ to +17γ). 12^d 23^h to 13^d $0\frac{1}{4}^h$ Double wave in Dec. (+ 3′ to −4′).

13^d 1^h to $2\frac{1}{4}^h$ Wave in Dec. (+ 4′). 3^h to $4\frac{1}{2}^h$ Flat-crested wave in Dec. (− 3′). $5\frac{1}{2}^h$ to $7\frac{1}{2}^h$ Irregular double wave in H.F. (+ 15γ to − 21γ). $12\frac{1}{2}^h$ to $14\frac{1}{2}^h$ Wave in H.F. (−35γ).

14^d 0^h to $2\frac{1}{4}^h$ Irregular flat-crested wave in Dec. (+ 4′). 0^h to 1^h Wave in H.F. (+ 28γ).

19^d $20\frac{3}{4}^h$ to 22^h Wave in Dec. (− 3′).

20^d 20^h to $20\frac{3}{4}^h$ Wave in Dec. (− 3′).

22^d 1^h to $3\frac{1}{4}^h$ Two successive waves in H.F. (+ 15γ and + 20γ). $1\frac{1}{4}^h$ to $2\frac{1}{2}^h$ Wave in Dec. (− 4′) followed till 3^h by a decrease (− 4′). $12\frac{1}{4}^h$ to $14\frac{3}{4}^h$ Slow wave in Dec. (+ 3′). $20\frac{3}{4}^h$ to $22\frac{3}{4}^h$ Irregular double-crested wave in Dec. (− 6′): irregular double wave in H.F. (− 15γ to + 15γ).

24^d $11\frac{1}{2}^h$ to 15^h Slow flat-crested wave in Dec. (+ 3′).

February

2^d $21\frac{1}{2}^h$ to 23^h Double-crested wave in Dec. (− 4′).

9^d $1\frac{3}{4}^h$ to 3^h Wave in Dec. (+ 3′), steep at commencement.

10^d 4^h to $5\frac{1}{4}^h$ Wave in Dec. (− 3′). $22\frac{3}{4}^h$ to 23^h Sharp wave in Dec. (+ 3′).

12^d 19^h to 20^h Irregular wave in Dec. (− 6′), steep at commencement. 19^h to 21^h Irregular double wave in H.F. (+ 15γ to − 20γ).

1912.

February 13^d 17^h to $18\frac{1}{4}^h$ Sharp wave in Dec. (− 8′): small wave in H.F. $20\frac{1}{2}^h$ to $21\frac{1}{4}^h$ Wave in Dec. (− 3′).

16^d $18\frac{3}{4}^h$ to $19\frac{1}{2}^h$ Wave in H.F. (− 20γ). 19^h to $20\frac{1}{4}^h$ Wave in Dec. (− 5′).

17^d 1^h to $2\frac{1}{2}^h$ Sharp wave in Dec. (+ 8′). $1\frac{1}{4}^h$ to $3\frac{1}{2}^h$ Wave in H.F. (+ 28γ). $1\frac{1}{2}^h$ to $2\frac{1}{4}^h$ Decrease in V.F. (− 12γ). $16\frac{1}{2}^h$ to 24^h Loss of V.F. Register. 20^h to $21\frac{1}{2}^h$ Two successive waves in Dec. (− 8′ and − 3′), the first steep: small sharp waves in H.F.

18^d 2^h to $4\frac{1}{2}^h$ Irregular double wave in Dec. (+ 3′ to − 3′), the first portion double crested: slow wave in H.F. (+ 20γ).

23^d 19^h to $20\frac{1}{2}^h$ Wave in H.F. (− 20γ).

24^d 0^h to 2^h Wave in H.F. (+22γ). $0\frac{1}{2}^h$ to $1\frac{1}{4}^h$ Wave in Dec. (+ 3). 20^h to 21^h Sharp wave in H.F. (+ 40γ). $20\frac{1}{4}^h$ to $21\frac{3}{4}^h$ Wave in Dec. (− 4′).

25^d $0\frac{3}{4}^h$ to $2\frac{1}{4}^h$ Rounded wave in H.F. (+ 28γ).

26^d $8\frac{1}{4}^h$ to $8\frac{1}{2}^h$ Sharp increase in Dec. (+ 5′). $11\frac{1}{2}^h$ to $12\frac{1}{2}^h$ Wave in Dec. (+ 3′). $21\frac{3}{4}^h$ to $22\frac{3}{4}^h$ Wave in Dec. (− 4′).

28^d $18\frac{3}{4}^h$ to $19\frac{3}{4}^h$ Wave in Dec. (− 3′).

March 3^d $20\frac{3}{4}^h$ to $22\frac{1}{2}^h$ Wave in Dec. (− 3′).

5^d $17\frac{1}{2}^h$ to $18\frac{1}{2}^h$ Wave in Dec. (− 3′). $19\frac{1}{2}^h$ to 20^h Sharp wave in H.F. (− 20γ).

6^d $22\frac{3}{4}^h$ to 24^h Wave in H.F. (+ 25γ.) 6^d 23^h to 7^d 3^h Irregular double wave in Dec. (− 5′ to + 4′), both portions double-crested.

8^d 0^h to 9^d 0^h. See Plate I.

9^d $0\frac{1}{4}^h$ to 2^h Wave in Dec. (+ 6′). $0\frac{1}{2}^h$ to $1\frac{3}{4}^h$ Wave in H.F. (+ 22γ). $17\frac{3}{4}^h$ to 19^h Wave in Dec. (− 3′), steep at commencement. $22\frac{3}{4}^h$ to $23\frac{1}{4}^h$ Sharp wave in Dec. (+ 4′).

10^d 19^h to $20\frac{3}{4}^h$ Double-crested wave in H.F. (− 22γ).

15^d $21\frac{1}{2}^h$ to 16^d 1^h Wave in Dec. (− 7′).

21^d $20\frac{1}{2}^h$ to $21\frac{1}{2}^h$ Wave in Dec. (− 6′). 21^h to 22^h Wave in H.F. (− 20γ). 21^d $23\frac{3}{4}^h$ to 22^d $2\frac{1}{4}^h$ Irregular wave in Dec. (− 11′) followed by a decrease (− 5′): two successive waves in H.F. (+ 20γ and + 30γ), the first irregular: irregular decrease in V.F. (− 32γ).

26^d 0^h to $1\frac{1}{4}^h$ Wave in Dec. (+ 4′). 19^h to 21^h Wave in Dec. (− 4′). $22\frac{1}{2}$ to 24^h Flat-crested wave in H.F. (+ 25γ), steep at commencement. 23^h to 24^h Flat-crested wave in Dec. (− 3′).

28^d $16\frac{3}{4}^h$ to $17\frac{3}{4}^h$ Wave in H.F. (−20γ): in Dec. small.

29^d $14\frac{3}{4}^h$ to $15\frac{1}{4}^h$ Very sharp double wave in H.F. (− 18γ to + 20γ), the first portion sharply double-crested. 15^h to $15\frac{1}{4}^h$ Very sharp wave in Dec. (+ 3′). $15\frac{1}{2}^h$ to $17\frac{3}{4}^h$ Irregular double-crested wave in H.F. (− 45γ), the first movement very steep. 18^h to $18\frac{3}{4}^h$ Wave in H.F. (− 22γ).

April 2^d $23\frac{3}{4}^h$ to 3^d 1^h Wave in Dec. (+ 7′): in H.F. small.

5^d $3\frac{1}{2}^h$ to $4\frac{3}{4}^h$ Wave in Dec. (+ 3′). 5^d 8^h to 6^d 8^h. See Plate I.

7^d $0\frac{3}{4}^h$ to 2^h Truncated wave in Dec. (− 3′). $19\frac{1}{4}^h$ to 21^h Irregular double-crested wave in Dec. (− 6′): irregular double wave in H.F. (− 13γ to + 27γ).

10^d $8\frac{1}{4}^h$ to $9\frac{1}{4}^h$ Decrease in H.F (− 66γ).

15^d $2\frac{3}{4}^h$ to $5\frac{1}{4}^h$ Triple wave in Dec. (+4′, − 5′, +4′): increase in H.F. (+ 27γ) followed by a wave (− 28γ): irregular decrease in V.F. (− 24γ). 5^h to $5\frac{1}{2}^h$ Sharp double-crested wave in Dec. (− 3′). 6^h to $7\frac{1}{2}^h$ Decrease in H.F. (− 65γ). 7^h to $7\frac{1}{2}^h$ Wave in Dec. (− 3′).

1912.

April

16^{d} $1\frac{3}{4}^{h}$ to 3^{h} Rounded double wave in Dec. ($-2'$ to $+3'$). 8^{h} to $9\frac{1}{4}^{h}$ Wave in H.F. (-35γ). 16^{h} to $17\frac{1}{2}^{h}$ Truncated wave in Dec. ($-4'$). $16\frac{3}{4}^{h}$ to 18^{h} Triple-crested wave in H.F. ($+35\gamma$). 19^{h} to $19\frac{3}{4}^{h}$ Wave in Dec. ($-4'$). $19\frac{1}{4}^{h}$ to $20\frac{1}{4}^{h}$ Wave in H.F. ($+21\gamma$).

17^{d} 3^{h} to 5^{h} Wave in H.F. (-31γ), followed till $6\frac{1}{2}^{h}$ by a flat-crested wave (-20γ). $18\frac{1}{2}^{h}$ to 20^{h} Wave in Dec. ($-3'$). $21\frac{3}{4}^{h}$ to $22\frac{1}{4}^{h}$ Wave in Dec. ($+3'$). $22\frac{1}{4}^{h}$ to $23\frac{1}{2}^{h}$ Irregular wave in H.F. ($+20\gamma$).

19^{d} 21^{h} to 23^{h} Irregular wave in H.F. ($+22\gamma$). 19^{d} $22\frac{3}{4}^{h}$ to 20^{d} $0\frac{1}{4}^{h}$ Wave in Dec. ($-4'$).

20^{d} $1\frac{3}{4}^{h}$ to 4^{h} Wave in Dec. ($+6'$). $2\frac{1}{4}^{h}$ to $3\frac{1}{4}^{h}$ Decrease in V.F. (-13γ).

May

2^{d} 3^{h} to $11\frac{1}{2}^{h}$ Loss of Dec. and H.F. Registers. 20^{h} to $22\frac{1}{4}$ Loss of Dec. and H.F. Registers.

3^{d} $0\frac{3}{4}^{h}$ to 3^{h} Slow wave in Dec. ($-4'$). 20^{h} to $22\frac{1}{4}^{h}$ Double-crested wave in Dec. ($-4'$). $20\frac{1}{2}^{h}$ to $21\frac{1}{4}^{h}$ Double-crested wave in H.F. ($+20\gamma$).

4^{d} $22\frac{1}{2}^{h}$ to 5^{d} $0\frac{1}{2}^{h}$ Wave in Dec. ($-4'$).

5^{d} $1\frac{3}{4}^{h}$ to 3^{h} Irregular waves in Dec. ($+5'$) and H.F. ($+20\gamma$). $8\frac{1}{4}^{h}$ to $10\frac{1}{2}^{h}$ Irregular wave in H.F. (-33γ). $11\frac{1}{4}^{h}$ to $11\frac{3}{4}^{h}$ Sharp decrease in H.F. (-45γ), followed immediately until $12\frac{3}{4}^{h}$ by an increase ($+60\gamma$). $11\frac{1}{2}^{h}$ to $12\frac{1}{2}^{h}$ Sharp wave in Dec. ($+6'$). $17\frac{1}{4}^{h}$ to $18\frac{1}{4}^{h}$ Wave in H.F. ($+20\gamma$). $19\frac{1}{4}^{h}$ to $20\frac{1}{2}^{h}$ Wave in Dec. ($-6'$): double wave in H.F. (-14γ to $+23\gamma$).

6^{d} $15\frac{1}{2}^{h}$ to 16^{h} Wave in H.F. (-24γ).

7^{d} $19\frac{1}{4}^{h}$ to $20\frac{1}{2}^{h}$ Wave in Dec. ($-5'$), steep at commencement. $19\frac{1}{2}^{h}$ to 20^{h} Wave in H.F. ($+25\gamma$).

11^{d} 22^{h} to 24^{h} Irregular wave in H.F. ($+20\gamma$).

12^{d} $3\frac{1}{4}^{h}$ to $4\frac{3}{4}^{h}$ Irregular double wave in Dec. ($+4'$ to $-5'$). $3\frac{1}{4}^{h}$ to $4\frac{1}{4}^{h}$ Irregular wave in H.F. ($+30\gamma$). $5\frac{1}{2}^{h}$ to 7^{h} Wave in Dec. ($+6'$). $10\frac{3}{4}^{h}$ to 12^{h} Double-crested wave in H.F. (-25γ). $21\frac{1}{4}^{h}$ to 23^{h} Wave in H.F. ($+32\gamma$). $21\frac{1}{2}^{h}$ to $23\frac{1}{2}^{h}$ Double wave in Dec. ($+3'$ to $-5'$), the first portion very steep, the last triple-crested: small wave in V.F. 12^{d} $23\frac{1}{2}^{h}$ to 13^{d} 3^{h} Irregular triple wave in Dec. ($-5'$, $+4'$, $-3'$).

13^{d} 1^{h} to 3^{h} Sharp wave in V.F. (-26γ). 5^{h} to 7^{h} Wave in H.F. (-20γ). 7^{h} to $8\frac{3}{4}^{h}$ Wave in Dec. ($-5'$). $7\frac{1}{4}^{h}$ to $11\frac{1}{4}^{h}$ Wave in H.F. (-50γ). $18\frac{3}{4}^{h}$ to $20\frac{1}{4}^{h}$ Sharp double wave in H.F. (-30γ to $+50\gamma$), the first portion double-crested. $19\frac{1}{2}^{h}$ to $19\frac{3}{4}^{h}$ Sharp wave in Dec. ($-3'$). 20^{h} to $21\frac{3}{4}^{h}$ Flat-crested wave in Dec. ($-4'$), followed till $22\frac{3}{4}^{h}$ by a wave ($-3'$). $21\frac{1}{4}^{h}$ to 22^{h} Wave in H.F. ($+20\gamma$): decrease in V.F. (-15γ), followed till $24\frac{1}{2}^{h}$ by a wave ($+12\gamma$). 13^{d} $23\frac{1}{2}^{h}$ to 14^{d} 1^{h} Wave in Dec. ($+6'$).

14^{d} 5^{h} to 7^{h} Wave in H.F. (-22γ). $18\frac{1}{2}^{h}$ to $19\frac{1}{2}^{h}$ Wave in Dec. ($-4'$). $19\frac{3}{4}^{h}$ to 21^{h} Wave in H.F. (-20γ).

19^{d} $19\frac{1}{2}^{h}$ to 21^{h} Wave in Dec. ($-3'$).

20^{d} $0\frac{3}{4}^{h}$ to 3^{h} Slow wave in Dec. ($-4'$).

29^{d} $11\frac{3}{4}^{h}$ to $12\frac{1}{4}^{h}$ Double-crested wave in H.F (-20γ).

30^{d} 20^{h} to $21\frac{1}{4}^{h}$ Wave in Dec. ($-5'$), steep at commencement.

June

1^{d} 6^{h} to 9^{h} Irregular wave in Dec. ($-6'$), with sharp superposed fluctuations. $10\frac{1}{2}^{h}$ to $10\frac{3}{4}^{h}$ Sharp wave in H.F. ($+22\gamma$).

2^{d} 20^{h} to 21^{h} Wave in Dec. ($-3'$).

3^{d} $5\frac{3}{4}^{h}$ to 8^{h} Irregular truncated wave in Dec. ($+5'$).

7^{d} 23^{h} to 8^{d} $1\frac{1}{2}^{h}$ Double-crested wave in Dec. ($-5'$). 7^{d} 23^{h} to 8^{d} $0\frac{1}{4}^{h}$ Wave in H.F. (-26γ).

8^{d} $2\frac{1}{4}^{h}$ to $4\frac{1}{2}^{h}$ Irregular wave in H.F. (-25γ). $2\frac{3}{4}^{h}$ to $4\frac{3}{4}^{h}$ Irregular triple-crested wave in Dec. ($+5'$). $6\frac{1}{2}^{h}$ to $7\frac{1}{4}^{h}$ Decrease in H.F. (-40γ). $12\frac{1}{2}^{h}$ to 15^{h} Irregular double-crested wave in H.F. (-45γ). 19^{h} to 21^{h} Triple wave in H.F. ($+14\gamma$, -20γ, $+23\gamma$). $19\frac{3}{4}^{h}$ to 20^{h} Sharp decrease in Dec. ($-8'$), followed till $21\frac{3}{4}^{h}$ by slower irregular increase ($+6'$).

9^{d} $1\frac{3}{4}^{h}$ to $2\frac{1}{2}^{h}$ Wave in Dec. ($+3'$). 11^{h} to $12\frac{1}{2}^{h}$ Wave in H.F. (-26γ). $13\frac{1}{2}^{h}$ to $14\frac{1}{4}^{h}$ Wave in H.F. (-20γ). $15\frac{1}{4}^{h}$ to $15\frac{1}{2}^{h}$ Increase in H.F. ($+21\gamma$). 21^{h} to 22^{h} Flat-crested wave in Dec. ($-4'$): in H.F. small.

1912.

June

10^d $1\frac{3}{4}^h$ to $3\frac{1}{4}^h$ Wave in Dec. (+ 4′). $15\frac{1}{2}^h$ to $16\frac{1}{4}^h$ Wave in H.F. (− 20γ). $16\frac{3}{4}^h$ to 19^h Two successive waves in H.F. (+ 29γ and + 33γ). $17\frac{3}{4}^h$ to 19^h Wave in Dec. (− 6′), steep at commencement.

22^d $15\frac{3}{4}^h$ to 17^h Wave in H.F. (− 21γ), steep at commencement.

23^d $16\frac{3}{4}^h$ to $17\frac{1}{4}^h$ Sharp wave in H.F. (− 20γ).

27^d $7\frac{1}{2}^h$ to $9\frac{1}{2}^h$ Wave in H.F. (− 28γ). 23^h to 24^h Wave in H.F. (+ 38γ). $23\frac{1}{2}^h$ to $23\frac{3}{4}^h$ Wave in Dec. (− 4′).

28^d $12\frac{1}{2}^h$ to $13\frac{1}{2}^h$ Wave in H.F. (+ 20γ).

29^d 0^h to 1^h Sharp wave in Dec. (− 6′): wave in H.F. (+ 20γ). $13\frac{1}{2}^h$ to $15\frac{1}{4}^h$ Wave in H.F. (− 20γ).

July

3^d $18\frac{3}{4}^h$ to 20^h Wave in H.F. (− 20γ). $22\frac{1}{4}^h$ to $22\frac{3}{4}^h$ Wave in H.F. (+ 20γ): in Dec. small. 3^d $22\frac{3}{4}^h$ to 4^d 1^h Irregular wave in H.F. (+ 30γ). 3^d 23^h to 4^d $2\frac{3}{4}^h$ Irregular double-crested wave in Dec. (− 10′).

4^d $3\frac{1}{2}^h$ to 4^h Sharp wave in Dec. (+ 3′). $7\frac{1}{2}^h$ to $8\frac{1}{4}^h$ Truncated wave in Dec. (+ 3′). 13^h to $13\frac{3}{4}^h$ Waves in Dec. (+ 3′) and H.F. (+ 32γ). $14\frac{3}{4}^h$ to $15\frac{1}{4}^h$ Wave in H.F. (+ 20γ). $17\frac{3}{4}^h$ to $19\frac{1}{2}^h$ Wave in H.F. (+ 20γ). $20\frac{1}{2}^h$ to $21\frac{1}{4}^h$ Wave in H.F. (− 20γ). 4^d 23^h to 5^d $0\frac{3}{4}^h$ Double wave in Dec. (− 4′ to + 5′). 4^d 23^h to 5^d $1\frac{3}{4}^h$ Two successive waves in H.F. (+ 20γ and + 28γ).

5^d 0^h to 4^h Wave in V.F. (− 22γ), steep at commencement. $13\frac{1}{4}^h$ to $14\frac{1}{2}^h$ Wave in H.F. (− 33γ). $19\frac{1}{2}^h$ to $23\frac{3}{4}^h$ Three successive waves in Dec. (− 3′, − 5′, − 3′), the second flat-crested.

8^d 0^h to 2^h Wave in Dec. (+ 4′).

14^d $13\frac{3}{4}^h$ to $14\frac{3}{4}^h$ Wave in H.F. (− 20γ).

18^d 1^h to $2\frac{1}{4}^h$ Wave in Dec. (+ 4′). $1\frac{1}{4}^h$ to $2\frac{1}{2}^h$ Wave in H.F. (+ 20γ).

20^d 13^h to $14\frac{1}{4}^h$ Wave in H.F. (− 20γ).

26^d $15\frac{1}{4}^h$ to $16\frac{1}{4}^h$ Wave in H.F. (− 26γ).

27^d $0\frac{1}{2}^h$ to 4^h Double-crested wave in Dec. (+ 6′).

28^d 15^h to 17^h Loss of Dec. and H.F. Registers.

31^d $13\frac{1}{2}^h$ to $15\frac{3}{4}^h$ Irregular double-crested wave in H.F. (− 32γ). $17\frac{1}{4}^h$ to $18\frac{1}{2}^h$ Two successive waves in HF. (+ 20γ and + 20γ). $19\frac{1}{4}^h$ to 20^h Wave in H.F. (− 20γ). $19\frac{1}{2}^h$ to $20\frac{1}{2}^h$ Wave in Dec. (− 4′). $21\frac{1}{2}^h$ to $23\frac{1}{2}^h$ Wave in Dec. (− 12′). 22^h to 23^h Double wave in H.F. (− 15γ to + 18γ).

August

1^d $3\frac{3}{4}^h$ to $5\frac{1}{2}^h$ Wave in H.F. (− 37γ). 4^h to 6^h Wave in Dec. (+ 5′).

5^d 17^h to $19\frac{1}{2}^h$ Two successive irregular waves in H.F. (− 25γ and − 23γ). 5^d 20^h to 6^d 20^h. See Plate I.

10^d $19\frac{1}{2}^h$ to $20\frac{3}{4}^h$ Wave in Dec. (− 4′).

13^d $13\frac{3}{4}^h$ to 16^h Loss of Dec., H.F., and V.F. Registers.

15^d $2\frac{1}{2}^h$ to $4\frac{1}{2}^h$ Wave in Dec. (+ 5′): in H.F. small.

16^d 22^h to $22\frac{1}{4}^h$ Decrease in Dec. (− 4′). 16^d $23\frac{3}{4}^h$ to 17^d $1\frac{1}{4}^h$ Wave in H.F. (+ 28γ).

17^d $2\frac{1}{2}^h$ to $5\frac{1}{4}^h$ Irregular triple-crested wave in Dec. (− 4′).

18^d 19^h to $19\frac{1}{4}^h$ Sharp decrease in H.F. (− 25γ), followed till 21^h by a very irregular wave (+ 50γ), steep at times. 19^h to $19\frac{1}{4}^h$ Decrease in V.F. (− 12γ). 20^h to 21^h Double-crested wave in Dec. (− 5′), very steep at commencement. 18^d $22\frac{1}{4}^h$ to 19^d $2\frac{1}{2}^h$ Irregular double-crested wave in Dec. (− 8′). 18^d $23\frac{1}{2}^h$ to 19^d 2^h Wave in V.F. (− 12γ). 18^d $23\frac{3}{4}^h$ to 19^d $0\frac{1}{4}^h$ Sharp wave in H.F. (− 25γ).

19^d $14\frac{3}{4}^h$ to $16\frac{1}{2}^h$ Wave in H.F. (+ 28γ).

21^d $21\frac{3}{4}^h$ to $22\frac{1}{2}^h$ Wave in H.F. (+ 20γ).

1912.

August 22^{d} $0\frac{3}{4}^{h}$ to $2\frac{1}{2}^{h}$ Irregular double wave in Dec. ($+3'$ to $-7'$), the second portion double-crested. $2\frac{1}{4}^{h}$ to 3^{h} Decrease in H.F. (-28γ). 15^{h} to $15\frac{3}{4}^{h}$ Wave in H.F. (-35γ). $16\frac{1}{4}^{h}$ to $18\frac{1}{2}^{h}$ Quadruple wave in H.F. (-13γ, $+15\gamma$, -15γ, $+13\gamma$) 19^{h} to 21^{h} Irregular double wave in Dec. ($-8'$ to $+3'$). $19\frac{1}{2}^{h}$ to $20\frac{3}{4}^{h}$ Double-crested wave in H.F. ($+43\gamma$). 22^{h} to 23^{h} Wave in Dec. ($-6'$). $22\frac{1}{2}^{h}$ to $23\frac{1}{2}^{h}$ Wave in H.F. ($+25\gamma$).

23^{d} $0\frac{3}{4}^{h}$ to $2\frac{1}{4}^{h}$ Double-crested wave in H.F. ($+20\gamma$): in Dec. small. 14^{h} to $14\frac{3}{4}^{h}$ Wave in H.F. (-20γ). $21\frac{1}{2}^{h}$ to $22\frac{1}{2}^{h}$ Flat-crested wave in Dec. ($-3'$): wave in HF ($+30\gamma$).

27^{d} 16^{h} to $18\frac{1}{2}^{h}$ Irregular flat-crested wave in H.F. (-32γ), steep at commencement, followed till 20^{h} by a wave (-36γ). $18\frac{3}{4}^{h}$ to $19\frac{1}{2}^{h}$ Rounded wave in Dec. ($-3'$).

28^{d} $15\frac{3}{4}^{h}$ to 17^{h} Irregular wave in H.F. (-20γ). 28^{d} $23\frac{1}{2}^{h}$ to 29^{d} $0\frac{3}{4}^{h}$ Double-crested wave in Dec ($+3'$): in H.F. small.

30^{d} 21^{h} to $23\frac{1}{4}^{h}$ Wave in H.F. ($+20\gamma$).

31^{d} $23\frac{1}{2}^{h}$ to $23\frac{3}{4}^{h}$ Sharp increase in H.F. ($+20\gamma$).

September 1^{d} 1^{h} to 3^{h} Wave in Dec. ($-4'$). $1\frac{3}{4}^{h}$ to $2\frac{1}{4}^{h}$ Decrease in H.F. (-20γ).

3^{d} $21\frac{1}{4}^{h}$ Sudden increase in H.F. ($+37\gamma$), with slower partial return (-17γ), by $21\frac{1}{2}^{h}$. $23\frac{1}{2}^{h}$ to 24^{h} Wave in Dec. ($-3'$): in H.F. small.

4^{d} $2\frac{1}{4}^{h}$ to $3\frac{1}{2}^{h}$ Wave in Dec. ($+4'$). $2\frac{1}{4}^{h}$ to 4^{h} Wave in H.F. ($+20\gamma$).

6^{d} $0\frac{3}{4}^{h}$ to $1\frac{1}{2}^{h}$ Wave in Dec. ($+4'$), steep at commencement.

8^{d} $23\frac{1}{4}^{h}$ to 9^{d} 1^{h} Wave in H.F. ($+20\gamma$). 8^{d} $23\frac{1}{2}^{h}$ to 9^{d} $1\frac{1}{2}^{h}$ Wave in Dec. ($-4'$).

17^{d} 8^{h} to 18^{d} 8^{h}. See Plate II.

18^{d} $11\frac{1}{2}^{h}$ to 12^{h} Wave in H.F. (-27γ). 20^{h} to 21^{h} Wave in Dec. ($-3'$).

20^{d} $0\frac{1}{2}^{h}$ to 4^{h} Slow double wave in Dec. ($+3'$ to $-3'$).

22^{d} 22^{h} to 24^{h} Two successive waves in Dec. ($-5'$ and $-4'$). 22^{d} $22\frac{1}{2}^{h}$ to 23^{d} 1^{h} Wave in H.F. ($+44\gamma$), steep at commencement.

23^{d} 17^{h} to $18\frac{1}{2}^{h}$ Wave in H.F. (-28γ).

24^{d} $2\frac{1}{4}^{h}$ to $3\frac{1}{4}^{h}$ Wave in Dec. ($-7'$), continued till $5\frac{1}{2}^{h}$ by an irregular increase ($+10'$). $3\frac{1}{4}^{h}$ to 4^{h} Decrease in V.F. (-17γ). 6^{h} to $6\frac{3}{4}^{h}$ Decrease in H.F. (-44γ). $9\frac{1}{4}^{h}$ to $10\frac{1}{4}^{h}$ Irregular triple-crested wave in Dec. ($-6'$). 20^{h} to $22\frac{1}{4}^{h}$ Irregular wave in Dec. ($-11'$). $20\frac{1}{4}^{h}$ to $21\frac{1}{4}^{h}$ Wave in H.F. ($+23\gamma$). $22\frac{3}{4}^{h}$ to 23^{h} Very sharp wave in Dec. ($-7'$): very sharp increase in H.F. ($+95\gamma$), followed till $23\frac{3}{4}^{h}$ by an irregular decrease (-68γ). 24^{d} $22\frac{3}{4}^{h}$ to 25^{d} $0\frac{1}{2}^{h}$. Wave in V.F. (-14γ). 24^{d} $23\frac{1}{2}^{h}$ to 25^{d} $0\frac{3}{4}^{h}$ Wave in Dec. ($-6'$).

26^{d} 19^{h} to $21\frac{3}{4}^{h}$ Irregular wave in Dec. ($-6'$). $19\frac{1}{2}^{h}$ to $20\frac{1}{4}^{h}$ Wave in H.F. ($+27\gamma$).

October 1^{d} $5\frac{3}{4}^{h}$ to $7\frac{3}{4}^{h}$ Wave in H.F. ($+20\gamma$).

3^{d} 1^{h} to $1\frac{3}{4}^{h}$ Wave in Dec. ($+4'$).

11^{d} $2\frac{1}{4}^{h}$ to $3\frac{1}{4}^{h}$ Wave in Dec. ($+3'$). $17\frac{1}{4}^{h}$ to $18\frac{1}{4}^{h}$ Wave in Dec. ($-5'$). $17\frac{1}{2}^{h}$ to $18\frac{3}{4}^{h}$ Wave in H.F. ($+25\gamma$). 19^{h} to $22\frac{3}{4}^{h}$ Irregular wave in Dec. ($-10'$). 19^{h} to $21\frac{1}{2}^{h}$ Irregular wave in H.F. ($+46\gamma$). 11^{d} $23\frac{1}{4}^{h}$ to 12^{d} $1\frac{1}{2}^{h}$ Double wave in Dec. ($+4'$ to $-3'$): small wave in H.F.

12^{d} $23\frac{1}{4}^{h}$ to 13^{d} $0\frac{1}{4}^{h}$ Steep wave in Dec. ($+9'$). 12^{d} $23\frac{1}{2}^{h}$ to 13^{d} $0\frac{1}{4}^{h}$ Wave in H.F. ($+32\gamma$). 12^{d} $23\frac{3}{4}^{h}$ to 13^{d} $0\frac{1}{4}^{h}$ Decrease in V.F. (-18γ).

13^{d} 1^{h} to $3\frac{3}{4}^{h}$ Wave in H.F. (-25γ). $1\frac{1}{2}^{h}$ to 4^{h} Flat-crested wave in Dec. ($+4'$).

14^{d} 6^{h} to 15^{d} 6^{h}. See Plate II.

1912.

October 15^d 16^h to 17^h Wave in Dec. ($-9'$), steep at commencement, followed till $18\frac{1}{2}^h$ by an irregular double wave ($-4'$ to $+3'$). 16^h to 17^h Double wave in H.F. (-28γ to $+26\gamma$), the first portion very steep. 18^h to 19^h Wave in H.F. (-20γ). 20^h to $20\frac{1}{4}^h$ Sharp decrease in Dec. ($-5'$). 20^h to $21\frac{1}{4}^h$ Irregular wave in H.F. ($+33\gamma$).

16^d 0^h to 3^h Double wave in Dec. ($-4'$ to $+4'$). $16\frac{3}{4}^h$ to 18^h Waves in Dec. ($-9'$) and H.F. ($+30\gamma$).

17^d $0\frac{1}{2}^h$ to 2^h Wave in H.F. ($+20\gamma$). $1\frac{1}{4}^h$ to $2\frac{1}{4}^h$ Wave in Dec. ($-3'$).

20^d $17\frac{1}{4}^h$ Sharp increase in H.F. ($+20\gamma$) : small sharp decrease in Dec.

28^d 18^h to 19^h Wave in Dec. ($-4'$).

November 2^d $3\frac{1}{2}^h$ to $4\frac{1}{2}^h$ Wave in Dec. ($+3'$). $18\frac{1}{4}^h$ to $20\frac{3}{4}^h$ Wave in H.F. (-20γ).

5^d $16\frac{1}{4}^h$ to $19\frac{1}{4}^h$ Double-crested wave in H.F. (-24γ). $16\frac{3}{4}^h$ to $19\frac{1}{2}^h$ Wave in Dec. ($+4'$). $23\frac{1}{4}^h$ to 24^h Wave in H.F. ($+20\gamma$).

6^d 21^h to $22\frac{1}{4}^h$ Wave in Dec. ($-3'$) : in H.F. small.

8^d $23\frac{1}{2}^h$ to 9^d 1^h Wave in Dec. ($+6'$) : in H.F. small.

9^d $22\frac{1}{4}^h$ to $23\frac{1}{2}^h$ Wave in H.F. ($+26\gamma$).

10^d 7^h to $8\frac{1}{2}^h$ Wave in H.F. (-21γ). $12\frac{1}{2}^h$ to $14\frac{3}{4}^h$ Wave in H.F. (-38γ). 18^h to $19\frac{1}{2}^h$ Wave in Dec. ($-4'$), followed till $21\frac{1}{2}$ by a double-crested wave ($-8'$). $18\frac{3}{4}^h$ to $20\frac{1}{2}^h$ Two successive waves in H.F. ($+25\gamma$ and $+23\gamma$).

11^d $7\frac{1}{4}^h$ to 9^h Wave in H.F. (-20γ). 17^h to 18^h Sharp waves in Dec. ($-10'$) and H.F ($+35\gamma$). $19\frac{3}{4}^h$ to $20\frac{3}{4}^h$ Wave in H.F. ($+20\gamma$).

14^d 12^h to $17\frac{1}{4}^h$ Wave in Dec. ($+7'$), with two sharp waves ($+7'$ and $+4'$), superposed from 15^h to $15\frac{3}{4}^h$. 12^h to 20^h Wave in V.F. ($+52\gamma$). $12\frac{1}{2}^h$ to $17\frac{3}{4}^h$ Wave in H.F. (-64γ), with sharp double wave ($+20\gamma$ to -30γ), superposed from $14\frac{3}{4}^h$ to $15\frac{1}{2}^h$. 22^h to 24^h Wave in Dec. ($-5'$).

15^d $2\frac{1}{2}^h$ to $3\frac{1}{4}^h$ Wave in Dec. ($+4'$).

16^d $3\frac{1}{2}^h$ to 5^h Wave in Dec. ($+3'$). $20\frac{1}{4}^h$ to 22^h Two successive waves in Dec. ($-5'$ and $-3'$). $21\frac{1}{4}^h$ to $22\frac{1}{2}$ Wave in H.F. ($+38\gamma$).

17^d $20\frac{3}{4}^h$ to $21\frac{3}{4}^h$ Wave in Dec. ($-5'$), steep at commencement.

18^d $20\frac{3}{4}^h$ to $21\frac{1}{2}^h$ Sharp wave in H.F. ($+21\gamma$).

20^d 6^h to $7\frac{1}{2}^h$ Wave in Dec. ($+3'$).

22^d $13\frac{3}{4}^h$ to 17^h Wave in Dec. ($+4'$). $14\frac{1}{4}^h$ to 17^h Slow wave in H.F. (-20γ).

23^d $8\frac{1}{2}^h$ to $9\frac{3}{4}^h$ Wave in H.F. (-20γ).

26^d 19^h to $21\frac{1}{4}^h$ Irregular wave in Dec. ($-11'$) : double wave in H.F. ($+23\gamma$ to -19γ).

December 2^d $17\frac{1}{4}^h$ to $21\frac{1}{2}^h$ Loss of Dec. and H.F. Registers. Evidence of waves in Dec. and H.F., the ranges during the interval being ($11'$) and (85γ) respectively. $22\frac{1}{2}^h$ to 24^h Double-crested waves in Dec. ($-6'$) : wave in H.F. ($+25\gamma$).

3^d 20^h to 22^h Wave in Dec. ($-3'$).

6^d $18\frac{1}{4}^h$ to $19\frac{1}{4}^h$ Double crested wave in Dec. ($-3'$). 6^d 20^h to 7^d 20^h. See Plate II.

7^d $20\frac{3}{4}^h$ to 24^h Truncated wave in Dec. ($-8'$). $20\frac{3}{4}^h$ to $22\frac{1}{2}^h$ Flat-crested wave in H.F. ($+22\gamma$).

9^d $18\frac{1}{4}^h$ to $20\frac{1}{2}^h$ Double-crested wave in Dec. ($-5'$).

10^d 19^h to 20^h Wave in Dec. ($-3'$).

13^d 20^h to $21\frac{1}{2}^h$ Double-crested wave in H.F. (-20γ). $20\frac{3}{4}^h$ to $22\frac{1}{4}^h$ Wave in Dec. ($-5'$).

1912.

December 22^d 16^h to $18\frac{1}{2}^h$ Truncated wave in H.F. ($-$ 39γ). $16\frac{1}{4}^h$ to 18^h Wave in Dec. (+ 5′). 22^d $22\frac{1}{4}^h$ to 23^d 1^h Irregular triple-crested wave in Dec. ($-$ 10′). Triple wave in H.F. ($-$ 31γ, +42γ, $-$ 20γ).

23d $1\frac{1}{4}^h$ to $2\frac{1}{4}^h$ Wave in Dec ($-$ 5′). 14^h to $15\frac{1}{2}^h$ Wave in Dec. ($-$ 6′). 14^h to 16^h Wave in H.F. ($-$ 25γ). 17^h to $18\frac{1}{2}^h$ Double-crested wave in Dec. ($-$ 6′). $20\frac{1}{4}^h$ to $20\frac{3}{4}^h$ Wave in Dec. ($-$ 3′). $20\frac{1}{4}^h$ to $21\frac{1}{4}^h$ Sharp wave in H.F. (+ 50γ). $21\frac{1}{4}^h$ to 22^h Wave in Dec. ($-$ 7′). $21\frac{1}{2}^h$ to $23\frac{1}{4}^h$ Irregular double-crested wave in H.F. (+ 55γ). 22^h to 24^h Wave in Dec. ($-$ 5′).

24^d $0\frac{1}{2}^h$ to $1\frac{3}{4}^h$ Wave in Dec. (+ 5′). 19^h to $20\frac{1}{2}^h$ Wave in Dec. ($-$ 5′). 24^d $23\frac{1}{4}^h$ to 25^d 1^h Wave in H.F. (+ 40γ).

30^d $1\frac{1}{2}^h$ to $3\frac{1}{2}^h$ Double wave in Dec. (+ 3′ to $-$ 4′). $1\frac{1}{4}^h$ to $2\frac{1}{2}^h$ Wave in H.F. (+ 20γ).

ROYAL OBSERVATORY, GREENWICH.

RESULTS

OF

METEOROLOGICAL OBSERVATIONS.

1912.

MONTH and DAY, 1912.	Phases of the Moon.	BAROMETER. Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	TEMPERATURE. Of the Air. Highest.	Of the Air. Lowest.	Of the Air. Daily Range.	Of the Air. Mean of 24 Hourly Values.	Of the Air. 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.	Of Radiation. Lowest on the Grass.	Of the Earth 3 ft. 2 in. below the Surface of the Soil.	Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Electricity.
		in.	°	°	°	°	°	°	°	°	°	°		°	°	°	in.	
Jan. 1	...	30.272	49.6	44.0	5.6	47.0	+ 8.4	46.5	46.0	1.0	2.8	0.4	97	48.7	38.2	46.60	0.000	wP
2	...	30.259	47.2	40.9	6.3	44.5	+ 6.1	42.9	41.0	3.5	5.8	1.1	88	58.2	36.0	46.62	0.000	wP : mP : mP
3	...	30.067	49.6	45.1	4.5	47.4	+ 9.1	45.3	43.0	4.4	7.1	2.1	86	54.0	42.0	46.64	0.006	wP : mP : wP
4	Greatest Dec. N. : Full : Perigee	29.765	50.4	47.1	3.3	48.4	+10.1	47.7	46.9	1.5	3.6	1.1	95	53.9	44.3	46.69	0.117	wP, sN : wP : wP
5	...	29.386	49.7	37.6	12.1	44.0	+ 5.8	41.6	38.8	5.2	10.8	1.3	81	59.0	31.5	46.78	0.227	wP, vN : mP, sN : mP
6	...	28.963	51.3	37.1	14.2	43.4	+ 5.3	41.9	40.1	3.3	6.4	0.0	88	48.0	30.9	46.81	0.404	wP : vN, wP : wP
7	...	29.137	50.0	34.6	15.4	40.5	+ 2.5	38.6	36.2	4.3	7.2	2.8	85	50.0	27.9	46.52	0.143	vP, sN : mP : mP
8	...	29.658	45.1	29.1	16.0	34.7	− 3.2	33.7	32.1	2.6	4.7	0.2	90	45.0	25.9	46.40	0.261	mP : mP : sN, wP
9	...	29.337	51.0	41.1	9.9	46.7	+ 8.8	45.0	43.1	3.6	8.0	0.2	88	62.0	33.4	45.90	0.000	wP
10	In Equator	29.793	51.0	35.1	15.9	42.1	+ 4.2	41.2	40.1	2.0	5.4	0.2	93	63.3	27.2	45.66	0.000	wP : vP : wP
11	Last Quarter	29.909	46.7	37.9	8.8	43.2	+ 5.3	41.9	40.4	2.8	6.0	0.7	90	55.0	29.5	45.52	0.015	wP : wP, wN : wP
12	...	30.055	47.0	38.5	8.5	42.0	+ 4.1	41.3	40.5	1.5	5.6	0.2	94	56.1	30.0	45.50	0.000	wP : mP : mP
13	...	29.951	47.2	40.0	7.2	43.4	+ 5.4	42.5	41.4	2.0	3.2	0.2	93	54.9	31.0	45.40	0.027	wP
14	...	29.830	45.6	43.1	2.5	44.2	+ 6.2	42.5	40.5	3.7	5.2	2.0	87	50.0	41.1	45.43	0.000	wP
15	...	29.710	44.9	42.6	2.3	43.7	+ 5.6	43.0	42.2	1.5	2.4	0.4	94	52.7	41.9	45.58	0.002	wP
16	...	29.606	43.7	41.0	2.7	42.3	+ 4.0	41.4	40.3	2.0	2.9	0.7	93	47.0	39.2	45.61	0.096	wP : wP : wP, vN
17	Greatest Dec. S.	29.712	41.3	31.4	9.9	35.2	− 3.3	34.7	33.9	1.3	4.5	0.9	95	44.0	31.9	45.62	0.381	wP, vN
18	Apogee	29.717	42.9	31.7	11.2	34.9	− 3.7	34.5	33.9	1.0	3.1	0.0	96	41.0	31.9	45.30	0.334	vN, wP : wP, vN : wP
19	New	29.925	42.0	33.0	9.0	38.5	− 0.2	37.8	36.9	1.6	3.1	0.0	95	47.0	26.1	44.73	0.069	wP : mP, wN : wP, wN
20	...	29.834	48.4	41.2	7.2	43.3	+ 4.5	42.5	41.5	1.8	4.3	0.4	94	63.1	33.1	44.41	0.052	wP, wwN : wP : wP
21	...	29.894	45.0	37.9	7.1	42.2	+ 3.4	41.9	41.5	0.7	1.7	0.4	98	46.9	29.2	44.49	0.001*	wP
22	...	29.712	40.3	35.6	4.7	38.0	− 0.8	37.8	37.5	0.5	1.6	0.0	98	47.2	36.9	44.52	0.010	mP : wP : wP, mN
23	...	29.520	41.9	38.9	3.0	40.7	+ 1.8	40.2	39.6	1.1	1.6	0.2	96	42.2	38.8	44.62	0.138	wP, vN : wP : wP
24	In Equator	29.368	48.0	37.4	10.6	42.4	+ 3.5	41.3	40.0	2.4	6.4	0.5	91	71.4	34.8	44.45	0.580	wP, vN : wP, vN : vP, ssN
25	...	29.466	42.7	36.5	6.2	39.2	+ 0.1	38.9	38.5	0.7	1.6	0.2	98	42.5	29.3	44.39	0.147	wP : mP : mP, vN
26	...	29.692	40.2	33.4	6.8	37.4	− 1.9	35.7	33.4	4.0	5.9	1.2	86	47.2	27.3	44.39	0.000	mP
27	First Quarter	29.956	38.0	28.4	9.6	33.2	− 6.3	30.9	26.4	6.8	11.7	3.3	76	70.0	22.0	44.21	0.001	mP
28	...	30.082	37.3	23.0	14.3	29.7	− 9.9	27.4	19.9	9.8	10.5	0.6	65	51.0	14.9	43.60	0.000	mP : sP : sP
29	...	30.112	36.0	19.1	16.9	27.6	−12.1	25.3	15.5	12.1	15.3	0.7	59	43.1	14.5	43.40	0.000	sP
30	...	30.067	38.0	24.4	13.6	31.2	− 8.5	29.1	23.6	7.6	13.4	3.7	72	40.0	17.0	42.71	0.000	sP
31	Greatest Dec. N.	29.848	39.0	29.2	9.8	34.8	− 4.9	32.7	29.3	5.5	9.9	3.6	80	47.6	21.1	42.21	0.014	sP
Means	...	29.761	44.9	36.0	8.9	40.2	+ 1.6	39.0	36.9	3.3	5.9	0.9	88.4	51.7	30.9	45.18	Sum 3.025	...
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

The results apply to the civil day.

The mean reading of the Barometer (Column 2) and the mean temperatures of the Air and Evaporation (Columns 6 and 8) are deduced from the photographic records. The average temperature (Column 7) is deduced from the 65 years' observations, 1841–1905. The temperature of the Dew Point (Column 9) and the Degree of Humidity (Column 13) are deduced from the corresponding temperatures of the Air and Evaporation by means of Glaisher's Hygrometrical Tables. The mean difference between the Air and Dew Point Temperatures (Column 10) is the difference between the numbers in Columns 6 and 9, and the Greatest and Least Differences (Columns 11 and 12) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers. The readings in Column 16 are taken daily at noon.

The values given in Columns 3, 4, 5, 14, and 15 are derived from eye-readings of self-registering thermometers.

* Rainfall (Column 17). The amount entered on January 21 is derived from fog.

The mean reading of the *Barometer* for the month was 29in·761, being 0in·033 *lower* than the average for the 65 years, 1841–1905.

TEMPERATURE OF THE AIR.

The highest in the month was 51°·3 on January 6; the lowest in the month was 19°·1 on January 29; and the range was 32°·2.
The mean of all the highest daily readings in the month was 44°·9, being 1°·8 *higher* than the average for the 65 years, 1841–1905.
The mean of all the lowest daily readings in the month was 36°·0, being 2°·3 *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 40°·2, being 1°·6 *higher* than the average for the 65 years, 1841–1905.

MONTH and DAY, 1912	Daily Duration of Sunshine.	Sun above Horizon.	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	0·0	7·8	WSW : W : WNW	W : WSW	0·2	0·00	234	p.-cl : 10, oc.-m.-r, slt.-f	10, slt.-f, oc.-m.-r : 10 : p.-cl
2	1·3	7·9	WSW	W	5·6	0·21	378	th.-cl : li.-cl : 8, ci.-cu, ci.-s, so.-ha	p.-cl : 10, s, n : 10, w
3	0·0	7·9	WSW : W	W : WSW	4·5	0·46	439	10, w : 10, s, n	10, s, n : 10, s, n, slt.-sh : 10, slt.-sh
4	0·0	7·9	WSW	WSW	2·8	0·37	445	10, r : 10, s, n	10, slt.-sh : 10, fq.-r : 10, oc.-r
5	2·2	8·0	WSW : W	WNW : W	7·3	0·93	585	p.-cl, r, w : 10, fq.-r, w : 9, glm, hy.-sh, w	8, cu.-s, n, hl, sn, w : p.-cl, w : li.-cl
6	0·0	8·0	WSW : SW : SE	SSE : WSW : W	9·0	0·56	454	p.-cl : 10, r : 10, n, c.-r	10, n, fq.-r, slt.-f : 9, st.-w
7	0·0	8·0	W : N	N : NW	8·2	0·42	377	10, fq.-r, w : 9 : p.-cl	10 : p.-cl : p.-cl, ho.-fr
8	0·0	8·0	WSW : Calm : SE	SE : SSE	2·0	0·09	213	9 : p.-cl, ho.-fr : 10, s	10, s, n : 10, r : 10, r
9	5·3	8·0	SW : WSW	WSW : SW	2·0	0·18	382	p.-cl : p.-cl, ci, ci.-s, cu	2, ci, ci.-s, ci.-cu : 1, h, cu.-s : 1, d
10	2·9	8·1	WSW : SW : Calm	SSW : SE : SSE	0·2	0·03	190	1, ho.-fr : 1, m, slt.-f : 1, ci, ci.-cu, f	3, ci, th.-cl, f : p.-cl : 10, th.-cl
11	0·0	8·1	S : SSE	S : SW	2·4	0·08	216	10 : 10, s, n	10, s, r, so.-ha : p.-cl, slt.-f : 10
12	0·0	8·1	SW	Calm : SW : S	0·1	0·00	157	10 : 10, slt.-f : 10, slt.-f	10, s : 10, slt.-f : 9, slt.-f
13	0·0	8·1	S : SSW : Calm	SSE : SE	0·2	0·01	151	10 : 10, slt.-r : 10, slt.-r	10, s, n : 10 : 10, m.-r
14	0·0	8·2	SSE : S : SSW	SSW : SSE : S	0·7	0·02	192	10 : 10	10 : 10
15	0·0	8·2	SE : SSE	S : SSE : SE	0·5	0·05	206	10 : 10, oc.-m.-r : 10	10, oc.-m.-r : 10
16	0·0	8·3	SE : ESE	SE : ESE	1·0	0·06	234	10 : 10 : 10, fq.-th.-r	10, oc.-slt.-r : 10, slt.-r
17	0·0	8·3	ESE : E	E : ESE	13·0	1·40	536	10, r : 10, r, w : 10, r, sl, st.-w	10, slt.-r, st.-w : 10, slt.-r, w : 10, sl, r
18	0·0	8·3	E : ESE	ESE : SE : SW	2·4	0·11	290	10, sl, r : 10, sl, r : 10, m.-r	10, fq.-th.-r : 10
19	0·0	8·4	SW : Variable : E	E : ESE	1·2	0·03	196	p.-cl : p.-cl, ho.-fr : p.-cl, slt.-f	10, fq.-th.-r : 10, n, slt.-r : 10
20	0·6	8·4	ESE	ESE : SE : SSE	0·3	0·00	143	10 : 10, r : 10, oc.-slt.-r	9, cu.-s : 10
21	0·0	8·5	SW : WSW	Calm	0·1	0·00	127	p.-cl : 10, m.-r : 10, n, s	10, s, slt.-f, glm : 10, slt.-f
22	0·0	8·6	Calm : Variable	ENE : E	1·0	0·03	158	10, slt.-f : 10, slt.-f	10, slt.-f : 10, slt.-f : 10, slt.-r
23	0·0	8·6	E : ENE	ENE	2·8	0·27	329	10, slt.-r : 10, m.-r : 10, m.-r	10, n, m.-r : 10, m.-r : 10
24	1·3	8·6	ENE : NE : E	SW : Variable	5·3	0·22	260	10, c.-r, hy.-sh, sq : 10, m.-r : 10, fq.-r	p.-cl, so.-ha : 9, cu.-s, n, sh.-r : 10, fq.-r
25	0·0	8·7	SSW : WSW	WSW : Calm : NNW	1·3	0·00	140	9, r : 10, m : 10, slt.-m	10, s : 10, fq.-r : 9
26	0·0	8·7	N : NNE : NE	NE : ENE	2·7	0·20	304	9 : 10 : 10	10, cu.-s, s : p.-cl
27	3·7	8·8	ENE : NE	E : ENE : NE	4·9	0·30	344	p.-cl, ho.-fr : 10, slt.-sn : 9, cu.-s, n	5, cu : 1, ho.-fr
28	6·8	8·8	ENE : NE : Calm	NE : Calm	0·0	0·00	108	0, ho.-fr : 0, slt.-f	0 : 1, slt.-f, lu.-ha : slt.-f, ho.-fr
29	3·4	8·9	Calm : N	N : NE	0·2	0·00	118	m, ho.-fr : 0, slt.-f, ho.-fr : h, slt.-f	1, li.-cl, slt.-f : li.-cl, slt.-f : 0, h, slt.-f, ho.-fr
30	0·0	9·0	N : NNW	WSW : NW : W	0·9	0·02	190	p.-cl, h, ho.-fr : 10, slt.-f : p.-cl, cu, s, slt.-f	p.-cl, s, slt.-f : 10
31	0·1	9·0	WSW : W	NNW : SW	0·9	0·05	254	9 : 10 : 10, sn	p.-cl, th.-cl, so.-ha : li.-cl, lu.-ha, lu.-co : th.-cl, h, lu.-ha, ho.-fr
Means	0·9	8·3	...	...	...	0·20	269		
Number of Column for Reference.	19	20	21	22	23	24	25	26	27

The mean *Temperature of Evaporation* for the month was 39°·0, being 1°·8 *higher* than
The mean *Temperature of the Dew Point* for the month was 36°·9, being 1°·6 *higher* than
The mean *Degree of Humidity* for the month was 88·4, being 0·4 *greater* than
The mean *Elastic Force of Vapour* for the month was 0^{in}·219, being 0^{in}·013 *greater* than
The mean *Weight of Vapour in a Cubic Foot of Air* for the month was 2^{grs}·6, being 0^{gr}·2 *greater* than
The mean *Weight of a Cubic Foot of Air* for the month was 552 grains, being 2 grains *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 8·3.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·107. The maximum daily amount of *Sunshine* was 6·8 hours on January 28.

The highest reading of the *Solar Radiation Thermometer* was 71°·4 on January 24; and the lowest reading of the *Terrestrial Radiation Thermometer* was 14°·5 on January 29.

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

The *Greatest Pressure of the Wind* in the month was 13·0 lbs. on the square foot on January 17. The mean daily *Horizontal Movement of the Air* for the month was 269 miles; the greatest daily value was 585 miles on January 5; and the least daily value was 108 miles on January 28.

Rain (0^{in}·005 or over) fell on 18 days in the month, amounting to 3^{in}·025, as measured by gauge No. 6 partly sunk below the ground; being 1^{in}·144 *greater* than the average fall for the 65 years, 1841–1905.

MONTH and DAY, 1912.	Phases of the Moon.	BAROMETER. Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	TEMPERATURE. Of the Air. Highest.	Of the Air. Lowest.	Of the Air. Daily Range.	Of the Air. Mean of 24 Hourly Values.	Of the Air. 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.	Of Radiation. Lowest on the Grass.	Of the Earth 3 ft. 2 in. below the Surface of the Soil.	Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Electricity.
		in.	°	°	°	°	°	°	°	°	°	°		°	°	°	in.	
Feb. 1	...	29·500	37·0	28·4	8·6	33·0	− 6·6	30·6	25·8	7·2	9·5	0·7	74	42·2	21·2	41·80	0·000	sP
2	Perigee : Full	29·206	31·8	22·4	9·4	26·8	−12·7	24·8	15·5	11·3	17·3	5·8	61	53·9	17·7	41·52	0·005	sP : ssP, ssN : sP
3	...	29·366	32·0	19·1	12·9	25·3	−14·2	23·2	12·0	13·3	14·7	3·7	55	43·0	14·5	41·13	0·000	ssP : ssP : sP
4	...	29·395	27·3	23·8	3·5	26·0	−13·5	25·1	20·5	5·5	8·1	1·3	78	43·1	19·0	40·71	0·108	vP : ... : ...
5	...	29·075	32·9	20·2	12·7	26·6	−13·0	25·5	20·4	6·2	16·6	1·0	77	47·5	13·9	40·51	0·040	... : sP : vP, vN
6	In Equator	28·985	45·6	32·4	13·2	38·8	− 0·8	38·4	37·9	0·9	2·6	0·0	97	61·0	32·0	40·21	0·025	sP : mP, wN : vN, wP
7	...	29·126	50·5	38·3	12·2	44·0	+ 4·5	42·1	39·8	4·2	10·9	0·0	85	73·0	29·3	40·01	0·003	wP : mP : mP
8	...	28·929	50·1	44·0	6·1	46·7	+ 7·4	45·2	43·5	3·2	6·8	2·1	89	57·0	37·0	40·05	0·218	wP : wN, wP : wP, wN
9	...	28·957	53·0	45·6	7·4	48·0	+ 8·9	46·9	45·7	2·3	6·1	0·8	92	75·0	38·2	40·39	0·121	wP, vN : wP : wP, wwN
10	Last Quarter	29·199	52·0	39·1	12·9	45·2	+ 6·3	43·3	41·1	4·1	10·0	0·5	86	85·0	34·0	41·01	0·000	wP
11	...	29·164	54·0	39·5	14·5	44·7	+ 5·9	42·8	40·6	4·1	9·8	0·2	86	90·0	34·7	41·55	0·032	wP, wwN : wP : wP
12	...	29·266	50·0	40·9	9·1	44·9	+ 6·1	43·5	41·9	3·0	5·4	0·4	90	64·3	34·8	41·89	0·372	wP, wN
13	Greatest Dec. S.	29·452	45·6	42·0	3·6	43·9	+ 4·9	42·7	41·3	2·6	5·7	1·1	90	57·9	41·0	42·18	0·018	wP : mP
14	Apogee	29·796	44·1	40·2	3·9	42·3	+ 3·0	41·2	39·9	2·4	5·5	0·9	91	60·3	37·2	42·49	0·000	wP : mP : mP
15	...	29·945	48·6	38·1	10·5	42·7	+ 3·3	40·9	38·8	3·9	7·9	1·9	86	72·0	34·9	42·69	0·006	wP
16	...	29·945	52·1	44·6	7·5	47·9	+ 8·4	47·2	46·4	1·5	3·3	0·0	95	65·8	41·1	42·81	0·009	wP
17	...	29·860	58·0	42·0	16·0	49·4	+ 9·8	46·1	42·6	6·8	14·9	1·9	77	88·0	35·0	43·13	0·000	wP : mP : mP
18	New	29·622	54·1	42·1	12·0	48·2	+ 8·7	45·6	42·8	5·4	10·0	1·3	82	68·4	33·9	43·42	0·000	wP
19	...	29·292	54·0	45·7	8·3	48·7	+ 9·2	46·6	44·4	4·3	6·7	2·5	85	78·4	39·0	43·84	0·030	wP : wP, wwN : wP
20	...	29·346	48·0	41·6	6·4	44·9	+ 5·4	42·8	40·4	4·5	7·2	1·5	85	55·3	39·0	44·02	0·063	wP, vN : mP : mP
21	In Equator	29·701	49·0	32·1	16·9	42·3	+ 2·7	41·0	39·4	2·9	7·3	1·1	90	65·0	27·0	44·30	0·016	mP : vP : mP
22	...	29·802	53·2	45·4	7·8	50·0	+10·3	49·4	48·7	1·3	2·6	0·4	96	61·2	42·0	44·30	0·147	wP
23	...	29·703	55·3	48·7	6·6	52·5	+12·7	51·2	49·9	2·6	4·9	0·6	91	65·6	47·0	44·42	0·309	wwP : wP : wP, mN
24	...	29·700	52·7	42·1	10·6	46·4	+ 6·4	44·4	42·1	4·3	9·8	1·1	86	85·0	41·0	44·88	0·082	wP, wN : vP : wP
25	First Quarter	29·689	54·3	42·3	12·0	47·2	+ 7·1	45·4	43·4	3·8	11·1	0·0	88	92·9	32·8	45·30	0·008	wP
26	...	29·804	51·3	35·2	16·1	45·1	+ 4·9	43·5	41·6	3·5	9·3	0·5	88	88·8	30·0	45·52	0·030	wP
27	Greatest Dec. N.	29·898	57·6	48·9	8·7	51·6	+11·3	47·2	42·7	8·9	14·5	3·5	72	90·0	44·0	45·53	0·000	wP : mP : mP
28	...	29·933	59·5	49·5	10·0	52·3	+12·0	49·9	47·5	4·8	8·4	2·3	84	93·0	44·4	45·72	0·000	wP : ... : wP
29	...	29·700	56·8	46·3	10·5	50·5	+10·2	47·5	44·3	6·2	10·9	2·1	79	92·7	39·8	46·01	0·079	wP, sN : wP : wP
Means	...	29·495	48·6	38·6	10·0	43·3	+ 3·7	41·5	38·7	4·7	8·9	1·4	84·0	69·5	33·6	42·80	Sum 1·721	...
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

The results apply to the civil day.

The mean reading of the Barometer (Column 2) and the mean temperatures of the Air and Evaporation (Columns 6 and 8) are deduced from the photographic records. The average temperature (Column 7) is deduced from the 65 years' observations, 1841–1905. The temperature of the Dew Point (Column 9) and the Degree of Humidity (Column 13) are deduced from the corresponding temperatures of the Air and Evaporation by means of Glaisher's Hygrometrical Tables. The mean difference between the Air and Dew Point Temperatures (Column 10) is the difference between the numbers in Columns 6 and 9, and the Greatest and Least Differences (Columns 11 and 12) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers. The readings in Column 16 are taken daily at noon.

The values given in Columns 3, 4, 5, 14, and 15 are derived from eye-readings of self-registering thermometers.

The mean reading of the *Barometer* for the month was 29in·495, being 0in·307 *lower* than the average for the 65 years, 1841–1905.

TEMPERATURE OF THE AIR.

The highest in the month was 59°·5 on February 28; the lowest in the month was 19°·1 on February 3; and the range was 40°·4.
The mean of all the highest daily readings in the month was 48°·6, being 3°·4 *higher* than the average for the 65 years, 1841–1905.
The mean of all the lowest daily readings in the month was 38°·6, being 4°·4 *higher* than the average for the 65 years, 1841–1905.
The mean of the daily ranges was 10°·0, being 1°·0 *less* than the average for the 65 years, 1841–1905.
The mean for the month was 43°·3, being 3°·7 *higher* than the average for the 65 years, 1841–1905.

MONTH and DAY, 1912.	Daily Duration of Sunshine.	Sun above Horizon.	Wind as Deduced from Self-Registering Anemometers. Osler's. General Direction. A.M.	P.M.	Pressure on the Square Foot. Greatest.	Mean of 24 Hourly Measures.	Robinson's. Horizontal Movement of the Air.	Clouds and Weather. A.M.	P.M.
	hours.	hours.			lbs.	lbs.	miles.		
Feb. 1	0·0	9·0	WSW	W : NNW : N	1·9	0·08	248	10 : 10 : 10, slt.-f	10 : 10 : p.-cl
2	2·1	9·1	N : NNW	NE : NNE : N	6·3	0·33	336	p.-cl, ho.-fr : p.-cl	p.-cl, sn, w : p.-cl : 0, ho.-fr
3	1·0	9·2	N : WSW : W	NW : N : NNE	2·6	0·12	282	0, ho.-fr : 1, ho.-fr : 0	1, cu : 3, cu : 9, oc.-sn
4	0·0	9·2	NE : ENE : E	E : ESE	6·6	0·47	392	10, sn : 10, sn, w : 10, slt.-sn	10, oc.-sn : p.-cl, sn : 0, ho.-fr
5	0·7	9·3	ESE : SE	ESE : E : Calm	5·8	0·43	353	p.-cl, ho.-fr : li.-cl : 7, ci, cu, s, w	10, s, n, slt.-sn, w : 10, slt.-sn, w : 10, slt.-sn, m.-r, slt.-f
6	0·1	9·3	SW : Calm : SE	SE : SSE	0·8	0·01	151	10 : 9, oc.-slt.-r, f : p.-cl, slt.-f	10, sl : 10, oc.-slt.-r : 10, oc.-slt.-r
7	3·3	9·4	SSW : SW : S	S : SSE	2·5	0·15	292	10, m.-r : p.-cl, ho.-fr : 7, ci, ci.-s, cu.-s	9, ci.-s, ci.-cu, so.-ha : 10
8	0·2	9·4	S : SSE	S : SSW : SSE	4·8	0·40	356	10 : 10 : 10, n, r	10, n, s, sc, r, w : p.-cl, sh.-r : p.-cl
9	0·5	9·5	SSE : S	S : SSW	2·6	0·23	303	p.-cl : 10, r : 9, cu.-s, s, so.-ha	10, r : 10, r : p.-cl
10	4·9	9·6	SW : SSW	S : ESE : E	2·9	0·20	288	p.-cl : p.-cl, lu.-ha : p.-cl	4, cu, n : 9 : p.-cl, m, d
11	2·9	9·6	E : ESE : S	S : SE : ESE	2·5	0·16	267	10 : 10, slt.-r : 9, cu, cu.-s	6, cu, cu.-s : cu, n, li.-cl : 1
12	0·3	9·7	ESE : E : SW	SW : SSW : S	4·0	0·37	348	p.-cl, r : 10, fq.-r : 9, slt.-sh	10, fq.-shs : 9, fq.-r : 10, slt.-r
13	0·0	9·8	S : SSW : SW	Calm : N	2·8	0·12	227	9 : 10 : 10, slt.-r	10, fq.-r, gt.-glm : 10, oc.-slt.-r : 10
14	0·1	9·8	N : NNE	NE	1·3	0·10	224	9 : 10 : 10, n, s	9, n, s : 10, n, s : 9
15	0·3	9·9	SE : SSE : S	SSW	2·2	0·10	223	9 : 10 : 9	10, oc.-slt.-r : 10, oc.-slt.-r
16	0·0	10·0	SW : SSW	SW : SSW : S	0·7	0·04	229	9, fq.-r : 10, oc.-shs : 10, n, s	10 : 10
17	4·0	10·0	S	S : Calm : SW	0·8	0·01	202	9 : p.-cl : 6, ci.-cu, ci.-s	5, ci.-s, so.-ha : th.-cl : th.-cl
18	1·2	10·1	SW : SSW : Calm	SE : SSE : S	0·3	0·00	154	p.-cl : th.-cl : 8, th.-cl, so.-ha	9 : p.-cl, d : 10, s
19	1·1	10·1	SSW : SW : S	S : SSW : SW	2·8	0·24	318	9 : p.-cl : 9	10, n, oc.-r : 10, oc.-r
20	0·0	10·2	SW : WSW : W	W	4·0	0·51	480	10, slt.-r : 10, oc.-slt.-r : 10, n, oc.-slt.-r	10, sc, n, w : 10, n, s : 10
21	0·0	10·3	WSW : SW : Variable	S : SSW	0·5	0·01	179	p.-cl : 0, ho.-fr : 10, oc.-slt.-r	10, fq.-th.-r : 9
22	0·0	10·3	S : SSW : SW	SSW : SW	3·6	0·27	339	10 : 10, slt.-r : 10, fq.-r	10, r : 10 : 10, oc.-slt.-r
23	0·0	10·4	SW	SW	5·3	0·53	412	10, oc.-th.-r : 10, oc.-slt.-r, w : 10, slt.-r	10, n, s, sc : 10, fq.-r : 10, r
24	1·8	10·5	NNE : NE : SW	SW : S	2·2	0·04	169	10, r : 9 : 9, cu, n	p.-cl, so.-ha : 10 : 9
25	1·5	10·5	S : SW	SW : WSW	0·6	0·01	196	9, slt.-sh : 10 : 9, cu.-s, n, slt.-r	9, cu.-s, n : p.-cl, lu.-co : p.-cl, h, lu.-co, hy.-d
26	0·8	10·6	WSW : SW	SW	4·5	0·33	361	1 : 0 : 9, s, w	10, slt.-sh, w : 10, oc.-shs : 9, sc, lu.-ha
27	5·9	10·6	SW : WSW : W	WSW : SW	12·0	1·08	640	10, w : 9, st.-w : 4, ci, ci.-s, cu, w	4, ci.-s, w : 5, ci, ci.-s, s, w : 9
28	2·9	10·7	SW : WSW	SW : SSW : S	5·3	0·44	436	10, w : 10 : 9	8, cu : li.-cl, so.-ha, lu.-ha : th.-cl, lu.-ha
29	2·9	10·8	SSW : SW	WSW : SW	4·2	0·45	437	8 : 10, r : 10, s, so.-ha	7, ci.-s, cu, cu.-s : 2, ci, ci.-s : 1
Means	1·3	9·9	...	...	...	0·25	305		
Number of Column for Reference.	19	20	21	22	23	24	25	26	27

The mean *Temperature of Evaporation* for the month was 41°·5, being 3°·8 *higher* than
The mean *Temperature of the Dew Point* for the month was 38°·7, being 3°·3 *higher* than
The mean *Degree of Humidity* for the month was 84·0, being 1·5 *less* than
The mean *Elastic Force of Vapour* for the month was 0in·235, being 0in·028 *greater* than
The mean *Weight of Vapour in a Cubic Foot of Air* for the month was 2grs·8, being 0gr·4 *greater* than
The mean *Weight of a Cubic Foot of Air* for the month was 543 grains, being 10 grains *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 8·3.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·134. The maximum daily amount of *Sunshine* was 5·9 hours on February 27.

The highest reading of the *Solar Radiation Thermometer* was 93°·0 on February 28; and the lowest reading of the *Terrestrial Radiation Thermometer* was 13°·9 on February 5.

The *Proportions of Wind* referred to the cardinal points were N. 3, E. 4, S. 13, and W. 8. One day was calm.

The *Greatest Pressure of the Wind* in the month was 12·0 lbs. on the square foot on February 27. The mean daily *Horizontal Movement of the Air* for the month was 305 miles; the greatest daily value was 640 miles on February 27; and the least daily value was 151 miles on February 6.

Rain (0in·005 or over) fell on 20 days in the month, amounting to 1in·721, as measured by gauge No. 6 partly sunk below the ground; being 0in·241 *greater* than the average fall for the 65 years, 1841–1905.

Month and Day, 1912.	Phases of the Moon.	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 3 ft. 2 in. below the Surface of the Soil.	Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Electricity.
		in.	°	°	°	°	°	°	°	°	°	°		°	°	°	in.	
Mar. 1	Perigee	29.588	52.0	46.1	5.9	49.0	+ 8.6	47.2	45.2	3.8	6.6	1.0	87	65.5	39.6	46.21	0.105	wP : wP, wN : wP
2	...	29.450	56.3	46.9	9.4	50.4	+10.0	47.3	44.0	6.4	9.9	0.6	79	90.0	40.0	46.32	0.295	wP : wP : vN, wP
3	Full	29.283	53.6	41.5	12.1	46.3	+ 5.8	43.6	40.5	5.8	10.3	2.6	81	92.1	36.0	46.47	0.058	wP : vP, ssN : wP
4	In Equator	29.294	51.1	40.4	10.7	44.6	+ 3.9	42.4	39.8	4.8	8.3	0.8	84	65.9	35.0	46.52	0.495	wP : vP, vN : wP
5	...	29.086	53.1	41.6	11.5	45.9	+ 5.0	43.2	40.1	5.8	12.7	2.4	81	95.6	38.0	46.31	0.086	wP, wN : wP : mP, mN
6	...	29.305	50.0	38.1	11.9	43.2	+ 2.2	39.9	36.0	7.2	14.3	2.1	76	91.0	31.5	46.19	0.015	wP : mP : mP
7	...	29.706	52.1	35.6	16.5	42.0	+ 1.0	38.7	34.6	7.4	15.3	2.2	76	94.3	29.7	45.99	0.016	mP : mP : ssN, vP
8	...	29.602	48.9	34.0	14.9	41.3	+ 0.2	39.7	37.7	3.6	8.0	0.9	88	75.7	28.0	45.69	0.119	wP : wP, sN : ssN, mP
9	...	29.545	54.1	39.2	14.9	45.6	+ 4.6	43.3	40.7	4.9	11.6	0.9	83	102.0	31.2	45.42	0.000	wP
10	Last Quarter	29.542	53.0	39.6	13.4	45.5	+ 4.6	43.6	41.4	4.1	9.3	1.1	86	91.0	30.9	45.25	0.000	wP
11	Greatest Dec. S.	29.812	49.7	35.1	14.6	40.8	− 0.2	40.2	39.5	1.3	4.4	0.0	95	89.1	27.5	45.21	0.000	wP
12	...	30.106	50.0	38.1	11.9	42.1	+ 1.0	41.1	39.9	2.2	5.6	0.0	92	77.1	36.0	45.20	0.000	... : mP
13	Apogee	29.953	51.8	42.8	9.0	48.1	+ 6.8	47.2	46.2	1.9	3.3	0.6	94	62.7	36.5	45.20	0.061	wP
14	...	29.827	60.6	48.7	11.9	51.4	+ 9.9	49.7	48.0	3.4	9.6	0.4	88	98.2	46.0	45.40	0.000	wP
15	...	29.601	52.1	38.2	13.9	46.0	+ 4.3	43.8	41.3	4.7	9.0	1.5	85	74.1	32.8	45.70	0.123	wP : wP, vN : mP
16	...	29.623	52.0	33.5	18.5	41.9	0.0	39.2	35.9	6.0	13.2	1.5	80	100.0	29.0	45.90	0.010	mP : mP : wP, sN
17	...	29.225	47.7	41.6	6.1	44.8	+ 2.8	43.8	42.7	2.1	4.3	1.1	93	64.6	38.4	45.89	0.237	wwP, wwN : vN, wwP : vN, vP
18	New	28.754	47.2	36.7	10.5	42.3	+ 0.3	41.2	39.9	2.4	7.0	0.9	91	73.7	30.3	45.82	0.110	wP : wP, vN : wP, wN
19	In Equator	28.991	52.0	35.3	16.7	41.0	− 0.9	38.7	35.8	5.2	14.4	0.5	82	99.0	30.9	45.72	0.130	wP : vN, vP : vP, sN
20	...	29.258	49.4	32.8	16.6	39.3	− 2.6	36.9	33.8	5.5	14.4	0.0	81	107.7	27.9	45.56	0.111	mP : mP : vP, ssN
21	...	28.951	55.1	31.3	23.8	42.4	+ 0.5	40.8	38.9	3.5	9.2	0.0	88	99.0	27.4	45.41	0.195	vP, vN : vP, ssN : ...
22	...	29.070	52.1	43.1	9.0	45.8	+ 3.8	43.7	41.3	4.5	8.7	2.0	85	85.1	38.9	45.18	0.037	... : vP, ssN
23	...	29.469	47.9	35.7	12.2	42.9	+ 0.7	41.9	40.7	2.2	5.0	0.2	92	78.7	28.5	45.16	0.259	mP : wP, vN : wP, mN
24	...	29.472	57.2	47.0	10.2	51.3	+ 8.9	48.0	44.6	6.7	14.2	0.2	78	101.2	44.0	45.21	0.048	wP
25	...	29.895	61.9	51.1	10.8	54.0	+11.3	52.3	50.6	3.4	7.0	2.2	88	88.0	48.0	45.52	0.000	wP
26	Greatest Dec. N. : First Quarter	30.043	61.8	49.2	12.6	53.0	+10.0	49.1	45.2	7.8	14.6	2.5	75	107.3	43.8	45.98	0.000	wP
27	...	29.948	60.0	48.1	11.9	52.0	+ 8.7	47.7	43.3	8.7	16.2	2.3	73	113.9	43.3	46.50	0.000	wP : wP : mP
28	Perigee	29.891	59.1	45.9	13.2	51.8	+ 8.1	48.3	44.8	7.0	12.1	3.6	77	104.2	37.0	46.90	0.000	wP : wP : mP
29	...	30.028	54.9	38.2	16.7	46.0	+ 1.9	41.1	35.5	10.5	17.5	3.9	68	105.0	29.8	47.22	0.000	wP : mP : mP
30	...	29.864	55.7	40.9	14.8	46.9	+ 2.4	41.7	35.9	11.0	19.2	3.8	67	103.0	34.0	47.31	0.003	wP, mN : sP : sP
31	...	29.477	51.1	38.2	12.9	43.0	− 1.9	41.2	39.0	4.0	9.4	0.9	86	72.6	27.0	47.13	0.044	mP : mP, vN : wN, sP
Means	...	29.537	53.3	40.5	12.9	45.8	+ 3.9	43.4	40.7	5.1	10.5	1.4	83.2	89.3	34.7	45.92	Sum 2.557	...
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

The results apply to the civil day.

The mean reading of the Barometer (Column 2) and the mean temperatures of the Air and Evaporation (Columns 6 and 8) are deduced from the photographic records. The average temperature (Column 7) is deduced from the 65 years' observations, 1841–1905. The temperature of the Dew Point (Column 9) and the Degree of Humidity (Column 13) are deduced from the corresponding temperatures of the Air and Evaporation by means of Glaisher's Hygrometrical Tables. The mean difference between the Air and Dew Point Temperatures (Column 10) is the difference between the numbers in Columns 6 and 9, and the Greatest and Least Differences (Columns 11 and 12) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers. The readings in Column 16 are taken daily at noon.

The values given in Columns 3, 4, 5, 14, and 15 are derived from eye-readings of self-registering thermometers.

The mean reading of the *Barometer* for the month was 29in.537, being 0in.209 *lower* than the average for the 65 years, 1841–1905.

Temperature of the Air.

The highest in the month was 61°.9 on March 25; the lowest in the month was 31°.3 on March 21; and the range was 30°.6.
The mean of all the highest daily readings in the month was 53°.3, being 3°.5 *higher* than the average for the 65 years, 1841–1905.
The mean of all the lowest daily readings in the month was 40°.5, being 5°.4 *higher* than the average for the 65 years, 1841–1905.
The mean of the daily ranges was 12°.9, being 1°.8 *less* than the average for the 65 years, 1841–1905.
The mean for the month was 45°.8, being 3°.9 *higher* than the average for the 65 years, 1841–1905.

MONTH and DAY, 1912.	Daily Duration of Sunshine.	Sun above Horizon.	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	0·1	10·8	SW : SSW	SSW : SW	10·3	0·76	527	9 : 10, slt.-r : 10, sc, s, slt.-r, w	10, s, n, r, w : p.-cl, sh.-r, w : p.-cl, st.-w
2	1·5	10·9	WSW : SW	SW : SSW	11·1	1·10	589	p.-cl, st.-w : p.-cl : 10, cu.-s, s, so.-ha, w	7, cu, th.-cl, w : 10, fq.-r, w : p.-cl, r, w
3	3·8	11·0	SW	SW : WSW	5·0	0·55	470	p.-cl, w : p.-cl : 9, sh.-r, w	9, ci.-s, cu.-s, s, sh.-r : p.-cl, slt.-sh : 2
4	0·6	11·0	WSW : SW : SSW	SSW : SW	20·0	1·32	599	p.-cl : 9 : 10, s, fq.-r, w	10, sc, s, n, fq.-r, st.-w : v, hy.-sh, hl, l, t, sq : 9, sh.-r, g
5	3·8	11·1	SW : WSW : W	W : WSW : SW	14·0	1·60	684	10, g : 10, oc.-slt.-r, g : p.-cl, st.-w	9, w : 10, shs.-r, sq : p.-cl, slt.-sh
6	3·7	11·1	W : WSW	W : NW : WNW	1·8	0·15	335	p.-cl, slt.-sh : p.-cl : 9, cu.-s, n	6, ci.-s, cu, n, so.-ha : v, sh.-r, hl : 1
7	5·3	11·2	W	W : WSW : SW	7·2	0·11	309	1, ho.-fr : p.-cl, h : 1, cu	p.-cl, sq : v, oc.-shs : 2
8	0·3	11·3	SSW : S	SSW : SW	8·3	0·34	374	p.-cl : 10, s, so.-ha, w	10, slt.-r, w : p.-cl, sh.-r : 3, hy.-d
9	6·6	11·4	SSW : S	SSW : S : SE	2·3	0·14	285	p.-cl : 6, cu	9, ci.-s, cu, cu.-s : p.-cl, ci.-s, so.-ha : p.-cl, d
10	1·6	11·5	SE : Calm : E	E : ESE : Calm	0·0	0·00	111	9 : 9 : 8, cu	8, cu : 9 : 0, h, d
11	3·1	11·5	Calm	NE : NNE : Calm	0·1	0·00	103	h, f : f : th.-cl, f	2, cu, s : p.-cl : 10, f
12	0·0	11·6	N : Calm : SSW	WSW : SW : SSW	0·3	0·00	150	10, f : 10, f : 10, s, slt.-f	10, th.-cl, so.-ha : 9 : p.-cl
13	0·0	11·6	SW	SW : WSW	4·3	0·23	346	10 : 10, r : 10, th.-r	10, oc.-m.-r : 10 : 9
14	1·9	11·7	WSW : SW	SW	2·0	0·14	320	9 : 10	9, ci.-s, ci.-cu, so.-ha : p.-cl : 10
15	0·0	11·8	SSW : SW	WSW : W : WNW	4·5	0·30	378	10 : 9 : 10, sc, n, r	10, r : p.-cl, ci.-s, ci.-cu : p.-cl
16	6·5	11·8	W : WSW	WSW : SW : SSW	2·1	0·18	342	p.-cl, ho.-fr : 0, ho.-fr : p.-cl, cu	8 : 10, oc.-slt.-r : 10, th.-r
17	0·0	11·9	SSW	SSW : S : SW	4·0	0·35	368	9, oc.-slt.-r : 10, oc.-slt.-r	10, slt.-r : 10, fq.-r : 10, c.-r
18	0·2	12·0	SSW : S : SE	ESE : NW	3·3	0·17	264	p.-cl : p.-cl, sh.-r : 9, r	10, fq.-r : 10, fq.-r
19	3·1	12·0	W : WSW	WSW : SW : S	6·7	0·41	413	p.-cl : p.-cl : 10, r, w	8, cu, n, sh.-r, w : 10, r : p.-cl
20	4·9	12·1	WSW	WSW : SW : S	7·2	0·25	343	p.-cl, ho.-fr : p.-cl, ho.-fr : 5, ci.-s, li.-cl	9, sn, w : 9, oc.-slt.-r : 10, sn, r
21	3·0	12·2	SSE : SE : SW	SW : SSW	11·5	0·66	465	p.-cl : 10, r : 9, cu, n, oc.-slt.-r	8, cu, n, r, hy.-sh, hl, l, t, sq, w : 9, r, w : 9, fq.-shs, w
22	1·5	12·2	SW : WSW : W	SW : W	9·0	0·53	464	10, oc.-r, st.-w : p.-cl, slt.-r : 9, cu, cu.-s, slt.-r	9 : 10, oc.-r : 10
23	0·0	12·3	NNW : Calm : SE	S : SSE : SSW	0·8	0·00	171	p.-cl, ho.-fr : p.-cl, m, ho.-fr : 10, s, r	10, r : 10 : 10, r
24	6·2	12·4	S : WSW : W	W : WSW : SW	7·7	0·64	518	9, r, w : p.-cl, w : 5, cu, cu.-s, w	p.-cl, so.-ha : 10, lu.-co : 10
25	0·2	12·4	SW : WSW	SW	3·0	0·40	423	10 : 9 : 10, cu, cu.-s	9, n, s : 10 : 10, lu.-ha
26	4·6	12·5	WSW : SW	WSW : SW	2·5	0·18	326	10 : 10 : p.-cl	p.-cl, cu : p.-cl, lu.-co : p.-cl, lu.-ha
27	8·1	12·6	WSW : W	W : WSW	4·4	0·51	475	9 : 9 : 5, cu, th.-cl	3, w : 10, lu.-ha, oc.-m.-r
28	1·5	12·6	WSW : W	W : N	4·8	0·53	472	10, m.-r, w : 10 : 10, n, s, w	10, cu, cu.-s, n : p.-cl : p.-cl, lu.-ha
29	10·4	12·7	WNW : WSW : W	WNW : W : WSW	4·8	0·51	473	1, h, ho.-fr : 1, cu, h	2, cu : p.-cl, w : p.-cl, lu.-ha
30	9·3	12·8	WSW : W : WNW	WNW : NW : WSW	7·6	0·85	561	p.-cl, w : p.-cl, slt.-sh, : 3, cu, cu.-s, w	7, cu, cu.-s, n, w : p.-cl, lu.-ha, w : p.-cl, lu.-ha
31	0·0	12·8	WSW : SSW : SW	SW : WNW : Calm	3·6	0·13	251	9, lu.-ha : 10 : 10, n, s	10, fq.-r : p.-cl : p.-cl, ho.-fr, lu.-co, lu.-ha
Means	3·0	11·8	...	...	...	0·42	384		
Number of Column for Reference.	19	20	21	22	23	24	25	26	27

The mean *Temperature of Evaporation* for the month was 43°·4, being 4°·0 *higher* than the average for the 65 years, 1841–1905.
The mean *Temperature of the Dew Point* for the month was 40°·7, being 4°·4 *higher* than the average for the 65 years, 1841–1905.
The mean *Degree of Humidity* for the month was 83·2, being 2·7 *greater* than the average for the 65 years, 1841–1905.
The mean *Elastic Force of Vapour* for the month was $0^{in}·254$, being $0^{in}·040$ *greater* than the average for the 65 years, 1841–1905.
The mean *Weight of Vapour in a Cubic Foot of Air* for the month was $2^{grs}·9$, being $0^{gr}·4$ *greater* than the average for the 65 years, 1841–1905.
The mean *Weight of a Cubic Foot of Air* for the month was 542 grains, being 7 grains *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 0·250. The maximum daily amount of *Sunshine* was 10·4 hours on March 29.

The highest reading of the *Solar Radiation Thermometer* was 113°·9 on March 27; and the lowest reading of the *Terrestrial Radiation Thermometer* was 27°·0 on March 31.

The *Proportions of Wind* referred to the cardinal points were N. 2, E. 1, S. 11, and W. 15. Two days were calm.

The *Greatest Pressure of the Wind* in the month was 20·0 lbs. on the square foot on March 4. The mean daily *Horizontal Movement of the Air* for the month was 384 miles; the greatest daily value was 684 miles on March 5; and the least daily value was 103 miles on March 11.

Rain ($0^{in}·005$ or over) fell on 20 days in the month, amounting to $2^{in}·557$, as measured by gauge No. 6 partly sunk below the ground; being $1^{in}·037$ *greater* than the average fall for the 65 years, 1841–1905.

MONTH and DAY, 1912.	Phases of the Moon.	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 3 ft. 2 in. below the Surface of the Soil.	Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Electricity.
		in.	°	°	°	°	°	°	°	°	°	°		°	°	°	in.	
Apr. 1	In Equator : Full	29·595	49·2	37·0	12·2	41·7	− 3·6	38·2	33·9	7·8	17·0	0·0	75	103·4	27·0	47·04	0·030	wP, wN : sP : sP
2	...	30·130	55·1	32·5	22·6	44·5	− 1·2	40·1	35·0	9·5	16·6	2·8	69	101·5	22·6	46·80	0·000	sP : sP : vP, sN
3	...	30·258	58·8	35·6	23·2	47·6	+ 1·6	43·5	39·0	8·6	17·1	1·4	73	87·2	25·2	46·50	0·000	mP : vP : vP
4	...	30·193	59·1	42·2	16·9	49·0	+ 2·8	46·8	44·4	4·6	10·9	0·7	85	116·1	33·2	46·40	0·000	wP
5	...	29·981	61·9	46·2	15·7	52·6	+ 6·3	49·3	46·0	6·6	11·0	2·7	79	97·4	40·2	46·51	0·000	wP
6	...	30·002	67·7	49·1	18·6	56·7	+10·4	53·0	49·6	7·1	16·7	1·7	77	116·7	42·9	46·90	0·000	wP
7	...	30·044	64·2	47·6	16·6	54·3	+ 8·0	50·3	46·4	7·9	17·4	2·5	74	109·2	39·0	47·31	0·000	wP
8	Greatest Dec. S.	29·567	56·1	43·3	12·8	49·4	+ 3·3	44·7	39·7	9·7	17·7	6·3	69	88·0	36·5	47·81	0·000	wP : wP : mP
9	Last Quarter	29·588	51·1	36·2	14·9	42·6	− 3·4	37·2	30·7	11·9	21·2	7·6	64	107·1	29·0	48·11	0·004	mP, wN : sP, wN : vP
10	Apogee	29·535	50·7	39·2	11·5	43·5	− 2·4	39·0	33·7	9·8	17·2	3·6	68	106·3	25·3	48·01	0·016	vP, vN : sP : sP
11	...	29·804	53·0	32·4	20·6	40·6	− 5·2	36·7	31·8	8·8	17·7	2·3	71	106·2	19·9	47·83	0·000	mP : sP : sP
12	...	30·213	51·0	32·5	18·5	40·8	− 5·1	36·1	30·2	10·6	18·0	7·4	66	122·3	20·6	47·71	0·000	vP
13	...	30·268	56·2	38·0	18·2	47·1	+ 1·0	41·9	36·1	11·0	16·4	6·8	66	101·3	28·1	47·23	0·000	vP : sP : sP
14	...	30·216	59·0	43·5	15·5	49·7	+ 3·3	45·9	41·9	7·8	11·9	3·4	75	104·4	32·0	47·21	0·000	wP : mP : mP
15	In Equator	30·175	57·2	38·7	18·5	45·4	− 1·4	42·7	39·6	5·8	13·0	2·0	80	117·9	28·5	47·26	0·000	mP
16	...	30·084	56·3	34·0	22·3	45·7	− 1·5	41·1	35·8	9·9	20·4	0·7	69	124·0	21·9	47·53	0·000	mP : wP
17	New	29·878	59·0	41·5	17·5	48·4	+ 0·8	43·9	39·0	9·4	18·5	1·5	70	113·9	32·3	47·60	0·000	mP : wP : mP
18	...	29·753	65·5	33·1	32·4	50·0	+ 2·0	44·2	38·0	12·0	25·3	0·2	64	121·9	22·9	47·69	0·000	vP, sN : mP : vP
19	...	29·841	69·9	38·6	31·3	52·7	+ 4·4	46·0	39·3	13·4	21·9	7·1	61	141·0	27·1	47·84	0·000	vP : wP : mP
20	...	30·015	69·5	38·1	31·4	53·6	+ 5·1	47·3	41·1	12·5	21·5	1·8	63	128·1	26·0	48·10	0·000	vP : wP : wP
21	...	30·130	71·3	37·2	34·1	54·2	+ 5·5	47·3	40·5	13·7	25·8	1·6	60	126·2	25·5	48·50	0·000	mP : wP : mP
22	Greatest Dec. N. : Perigee	30·187	67·1	42·1	25·0	54·7	+ 6·0	48·4	42·3	12·4	25·3	2·8	63	126·5	28·0	48·85	0·000	wP
23	...	30·193	65·8	44·3	21·5	54·1	+ 5·5	46·8	39·6	14·5	30·0	3·8	58	129·2	31·1	48·72	0·000	wP : mP : mP
24	First Quarter	30·108	65·9	43·2	22·7	53·8	+ 5·2	46·0	38·4	15·4	26·7	4·1	56	128·2	33·4	49·05	0·000	vP
25	...	30·030	63·5	39·3	24·2	50·2	+ 1·6	45·4	40·4	9·8	18·4	2·7	69	124·8	26·0	49·69	0·000	vP : sP : mP
26	...	29·822	61·5	40·4	21·1	47·4	− 1·2	44·6	41·5	5·9	14·1	1·3	81	120·2	32·0	49·81	0·000	mP : mP : wP
27	...	29·667	60·2	41·5	18·7	48·1	− 0·6	45·4	42·4	5·7	12·3	1·1	81	120·0	35·0	49·81	0·000	mP : wP
28	In Equator	29·754	58·0	39·6	18·4	47·3	− 1·5	41·7	35·5	11·8	20·0	2·5	64	123·2	33·5	50·01	0·000	wP : mP : vP
29	...	29·900	53·2	40·1	13·1	45·1	− 3·9	40·9	36·1	9·0	14·1	5·0	71	102·1	31·7	49·91	0·018	mP, wwN : sP, ssN : sP
30	...	30·093	56·0	36·1	19·9	44·7	− 4·4	39·6	33·7	11·0	19·8	1·7	65	128·5	22·9	49·99	0·000	sP : sP : vP
Means	...	29·967	59·8	39·4	20·3	48·5	+ 1·2	43·8	38·7	9·8	18·5	3·0	69·5	114·8	29·3	48·58	Sum 0·068	...
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

The results apply to the civil day.

The mean reading of the Barometer (Column 2) and the mean temperatures of the Air and Evaporation (Columns 6 and 8) are deduced from the photographic records. The average temperature (Column 7) is deduced from the 65 years' observations, 1841–1905. The temperature of the Dew Point (Column 9) and the Degree of Humidity (Column 13) are deduced from the corresponding temperatures of the Air and Evaporation by means of Glaisher's Hygrometrical Tables. The mean difference between the Air and Dew Point Temperatures (Column 10) is the difference between the numbers in Columns 6 and 9, and the Greatest and Least Differences (Columns 11 and 12) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers. The readings in Column 16 are taken daily at noon.

The values given in Columns 3, 4, 5, 14, and 15 are derived from eye-readings of self-registering thermometers.

The mean reading of the *Barometer* for the month was 29in·967, being 0in·219 *higher* than the average for the 65 years, 1841–1905.

TEMPERATURE OF THE AIR.

The highest in the month was 71°·3 on April 21; the lowest in the month was 32°·4 on April 11; and the range was 38°·9.
The mean of all the highest daily readings in the month was 59°·8, being 2°·6 *higher* than the average for the 65 years, 1841–1905.
The mean of all the lowest daily readings in the month was 39°·4, being 0°·4 *higher* than the average for the 65 years, 1841–1905.
The mean of the daily ranges was 20°·3, being 2°·1 *greater* than the average for the 65 years, 1841–1905.
The mean for the month was 48°·5, being 1°·2 *higher* than the average the 65 years, 1841–1905.

MONTH and DAY, 1912.	Daily Duration of Sunshine.	Sun above Horizon.	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.		
Apr. 1	6·8	12·9	NNE : N	NNE : N	9·5	1·04	480	10, m.-r : 10, w : p.-cl, w	6, cu, st.-w : p.-cl, w : 1, ho.-fr
2	7·2	13·0	NNW : W : WSW	NNW : W : WNW	1·7	0·18	304	0, ho.-fr : 0 : 3, cu, h	7, cu, cu.-s : 9, slt.-r : 9, slt.-sh
3	10·1	13·0	NNW : Calm : Variable	Calm : SSW : SW	0·6	0·01	138	0,h,ho.-fr : 0,h,ho.-fr : 1, h	3, s, h : 1 : p.-cl
4	4·1	13·1	SW : WSW	SW : WSW	3·8	0·41	449	p.-cl : 10 : 10, s	7, cu : p.-cl, w : 10, w
5	1·1	13·1	WSW	W : WSW	7·2	1·03	614	9, w : 10, w : 10, sc, so.-ha, w	10, s, w : p.-cl, so.-ha, w : p.-cl
6	9·7	13·2	WSW : W	W	8·1	0·68	524	p.-cl : p.-cl, m.-r, w : 2, cu, st.-w	0, w : p.-cl, w : 9
7	3·0	13·3	W : NNW : SW	WSW : SW : W	2·8	0·14	263	9 : 10 : 10, cu, s	p.-cl, cu, s, so.-ha : 9 : 9
8	1·9	13·3	WSW : W	W : WNW	13·0	1·51	703	10 : 10, st.-w : 10, st.-w	9, g : p.-cl, g : p.-cl, w
9	10·6	13·4	WNW : NNW : N	NNW : WNW : WSW	10·3	0·85	517	p.-cl, w : p.-cl, w : 5, cu, cu.-s, w	6, ci.-cu, cu, s, so.-ha, w : 4, ci, ci.-s : 9, slt.-sh
10	6·8	13·4	WSW : NNW : N	N : NNW : NW	5·5	0·53	404	10, sh.-r : p.-cl, w : 7, cu, n, w	7, cu, n, s : 9 : 1, ho.-fr
11	7·7	13·5	NW : W : NNW	NW : NE : Calm	4·7	0·20	274	0, ho.-fr : p.-cl : 8, cu	8, cu, n, w : 9 : p.-cl, h, ho.-fr
12	7·2	13·6	N : NE	Calm : SSW : SW	1·0	0·02	174	p.-cl, ho.-fr : 0, ho.-fr : 4, cu	8, cu, cu.-s : 1, h : 10, th.-cl
13	3·4	13·7	SW : W : Variable	N : Calm	0·5	0·00	167	9 : p.-cl : 8, s, so.-ha	9 : 9 : 10
14	0·3	13·7	Calm : N	NNE : N : NNE	1·2	0·03	152	9 : 10 : 10, cu, s	10, s : p.-cl, ci.-cu, h : p.-cl, h, d
15	2·7	13·8	NE	NE : ESE : E	1·2	0·06	210	p.-cl : 10 : 10, n, s	p.-cl, ci, s, n : 10
16	10·4	13·9	E : ENE : Calm	E	4·0	0·23	267	p.-cl, ho.-fr : 0 : 5	1 : 0 : p.-cl
17	8·3	13·9	ENE : NE : E	ESE : Calm	2·5	0·13	243	10 : 10 : 2, cu	1, cu : 0 : 0, d
18	8·2	14·0	Calm	W : WNW : SW	0·3	0·00	138	0, f, ho.-fr : 0	0 : p.-cl : p.-cl
19	8·6	14·0	SW : Calm	SW	1·6	0·02	173	p.-cl, m : 0 : 4, ci.-cu, cu	8, cu, n : p.-cl : 0, d
20	10·5	14·1	Calm : E	ESE : SE : Calm	1·5	0·04	136	0, d : 0 : 3, cu	4, cu : 1 : 0
21	12·4	14·2	Calm : E	E : ESE	3·0	0·07	149	p.-cl : 0	0 : 0, d
22	12·7	14·2	E : ENE	ESE : E	4·1	0·24	265	0, d : 0	0 : 0
23	12·9	14·3	ENE : NE	E : ENE : NE	6·0	0·45	363	0 : 1 : 1, cu	0, w : 0, h
24	11·5	14·3	NE : ENE : NNE	E : ENE : NE	7·1	0·54	403	p.-cl : p.-cl : 0, w	2, ci.-s, w : 4, ci.-s, s, w : th.-cl, m, lu.-ha
25	12·4	14·4	NE : NNE : N	NE : ESE	1·9	0·09	233	0 : 0, m : 0	p.-cl : 0, d
26	7·9	14·5	NE : E	E : SE : ESE	1·3	0·15	265	p.-cl : 10 : 7, th.-cl, s, so.-ha	2, li.-cl : 1 : p.-cl
27	6·8	14·5	E : ENE	ENE : E : NE	2·0	0·20	294	10 : 10 : 9, cu, n	4, cu, h : 1, cu : 1, hy.-d
28	9·6	14·6	NE : NNE	NNE : N	3·2	0·39	352	p.-cl : p.-cl	1 : p.-cl
29	1·2	14·7	N	N : NE : NNE	4·1	0·30	335	p.-cl : 9, slt.-sh, hl : 9, cu, n, oc.-shs	10, slt.-sh : 9, slt.-sh : 1
30	8·1	14·7	N : NE	NE : N : SSE	1·7	0·08	216	1 : p.-cl, cu : 5, cu, n	8, cu, n : p.-cl : p.-cl, d, lu.-co
Means	7·5	13·8	...	...	...	0·32	307		
Number of Column for Reference.	19	20	21	22	23	24	25	26	27

The mean *Temperature of Evaporation* for the month was 43°·8, being 0°·1 *lower* than
The mean *Temperature of the Dew Point* for the month was 38°·7, being 1°·4 *lower* than
The mean *Degree of Humidity* for the month was 69·5, being 6·3 *less* than
The mean *Elastic Force of Vapour* for the month was 0in·235, being 0in·013 *less* than
The mean *Weight of Vapour in a Cubic Foot of Air* for the month was 2grs·7, being 0gr·2 *less* than
The mean *Weight of a Cubic Foot of Air* for the month was 546 grains, being 3 grains *greater* than
} the average for the 65 years, 1841–1905.

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

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·541. The maximum daily amount of *Sunshine* was 12·9 hours on April 23.

The highest reading of the *Solar Radiation Thermometer* was 141°·0 on April 19; and the lowest reading of the *Terrestrial Radiation Thermometer* was 19°·9 on April 11.

The *Proportions of Wind* referred to the cardinal points were N. 9, E. 8, S. 2, and W. 7. Four days were calm.

The *Greatest Pressure of the Wind* in the month was 13·0 lbs. on the square foot on April 8. The mean daily *Horizontal Movement of the Air* for the month was 307 miles; the greatest daily value was 703 miles on April 8; and the least daily value was 136 miles on April 20.

Rain (0in·005 or over) fell on 3 days in the month, amounting to 0in·068, as measured by gauge No. 6 partly sunk below the ground; being 1in·498 *less* than the average fall for the 65 years, 1841–1905.

MONTH and DAY, 1912.	Phases of the Moon.	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 3 ft. 2 in. below the Surface of the Soil.	Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Electricity.
		in.	°	°	°	°	°	°	°	°	°	°		°	°	°	in.	
May 1	Full	30·012	66·2	38·3	27·9	51·1	+ 1·8	44·9	38·5	12·6	22·2	4·0	62	115·0	22·9	49·89	0·000	wP : vP : sP
2	...	29·862	70·7	49·0	21·7	57·0	+ 7·5	51·5	46·4	10·6	18·5	1·4	68	132·6	40·4	50·00	0·000	wP : mP : sP
3	...	29·807	65·8	46·1	19·7	54·8	+ 5·0	50·9	47·2	7·6	12·5	1·9	75	116·6	38·0	50·32	0·009	mP : mP : vP
4	...	29·826	50·6	45·8	4·8	48·4	− 1·6	47·7	46·9	1·5	2·7	0·6	95	64·1	46·0	50·67	0·176	wwP : wP, wN : mN, wP
5	Greatest Dec. S.	29·843	61·1	46·1	15·0	51·3	+ 1·0	49·2	47·0	4·3	10·3	0·2	86	125·0	40·0	50·98	0·000	wwP : wP
6	...	29·870	67·3	46·1	21·2	55·0	+ 4·5	51·3	47·8	7·2	15·2	0·2	77	112·1	36·3	51·03	0·007	wP : mP : mP
7	Apogee	29·946	65·2	52·1	13·1	57·1	+ 6·4	55·4	53·9	3·2	6·9	1·1	89	107·9	46·0	51·29	0·055	wP
8	...	30·112	73·6	56·8	16·8	62·6	+11·6	59·0	55·9	6·7	14·0	1·9	79	129·5	50·5	51·69	0·000	wP
9	Last Quarter	30·100	76·0	54·2	21·8	63·5	+12·3	59·0	55·2	8·3	16·8	0·4	75	118·9	48·1	52·17	0·000	wP
10	...	29·954	70·1	52·2	17·9	59·9	+ 8·4	53·8	48·4	11·5	19·4	3·6	66	132·9	45·7	52·73	0·000	wP
11	...	29·671	82·6	50·3	32·3	64·2	+12·4	57·0	51·0	13·2	27·2	4·0	62	152·0	42·6	53·38	0·000	wP : wP : wP, sN
12	...	29·636	72·0	48·4	23·6	59·6	+ 7·5	55·6	52·1	7·5	15·8	2·8	77	130·0	43·5	53·90	0·290	vN,wP : wP : vP, vN
13	In Equator	29·953	62·5	46·4	16·1	53·5	+ 1·1	49·2	45·0	8·5	15·0	2·5	73	130·3	35·8	54·30	0·000	ssN, wP : wP : wP
14	...	29·773	71·3	44·0	27·3	57·2	+ 4·6	50·0	43·4	13·8	23·0	4·7	60	137·7	33·4	54·50	0·000	wP
15	...	29·377	68·2	51·7	16·5	58·8	+ 6·0	54·8	51·2	7·6	14·1	0·4	76	129·3	47·8	54·50	0·169	vP, ssN : wP : vP,vN
16	New	29·513	58·0	44·0	14·0	49·3	− 3·7	45·3	41·0	8·3	17·4	0·4	73	126·8	36·5	54·62	0·226	vP, vN
17	...	29·818	61·6	43·2	18·4	51·5	− 1·6	46·2	40·7	10·8	17·2	2·6	67	117·8	35·6	54·62	0·000	mP
18	...	29·828	67·0	46·6	20·4	55·2	+ 1·9	50·5	46·0	9·2	15·8	3·1	71	123·0	33·0	54·41	0·000	mP
19	Greatest Dec. N. : Perigee	29·836	70·1	45·1	25·0	56·4	+ 2·9	51·9	47·7	8·7	17·7	0·8	73	133·1	30·9	54·49	0·000	wP
20	...	29·641	72·0	45·2	26·8	56·6	+ 2·8	51·9	47·5	9·1	17·7	2·5	71	136·1	34·4	54·62	0·000	wP
21	...	29·577	67·4	45·1	22·3	55·7	+ 1·5	51·3	47·1	8·6	16·1	1·3	73	125·1	34·3	54·79	0·008	wP : mP : wP
22	...	29·434	67·3	50·0	17·3	56·8	+ 2·2	53·4	50·2	6·6	16·6	0·6	79	132·2	43·8	54·97	0·170	vP,ssN : wP : vP, ssN
23	First Quarter	29·530	60·4	47·1	13·3	51·8	− 3·1	49·3	46·8	5·0	9·3	2·1	83	109·1	42·9	55·12	0·000	wP : mP : mP
24	...	29·956	57·6	43·6	14·0	49·4	− 5·9	46·2	42·8	6·6	13·9	1·1	78	104·7	33·5	55·10	0·007	mP
25	In Equator	30·153	62·1	38·6	23·5	50·3	− 5·2	45·5	40·7	9·6	21·9	0·7	69	124·3	27·5	55·00	0·000	mP : mP : wP
26	...	30·033	66·7	36·1	30·6	50·5	− 5·3	45·7	40·7	9·8	22·0	0·0	70	127·3	23·9	54·82	0·000	wP
27	...	29·881	71·1	41·1	30·0	55·4	− 0·6	49·2	43·3	12·1	26·1	1·1	64	139·4	29·1	54·75	0·000	wP : wP : mP
28	...	29·784	71·9	45·4	26·5	57·2	+ 1·0	51·4	46·1	11·1	21·2	2·5	66	138·4	35·3	54·92	0·000	wP : mP : ...
29	...	29·708	72·0	45·6	26·4	57·9	+ 1·5	52·4	47·4	10·5	22·6	0·0	68	116·3	32·2	55·20	0·000	... : mP : wP
30	Full	29·617	77·0	47·0	30·0	60·9	+ 4·2	53·9	47·8	13·1	26·1	1·7	62	139·8	35·3	55·56	0·000	wP : wP : mP
31	...	29·631	68·1	48·9	19·2	56·4	− 0·7	53·5	50·8	5·6	14·1	0·2	82	132·0	37·4	55·80	0·171	vP, vN : wP : wP
Means	...	29·796	67·5	46·5	21·1	55·7	+ 2·6	51·2	47·0	8·7	17·1	1·6	73·2	124·5	37·5	53·55	Sum 1·288	...
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

The results apply to the civil day.

The mean reading of the Barometer (Column 2) and the mean temperatures of the Air and Evaporation (Columns 6 and 8) are deduced from the photographic records. The average temperature (Column 7) is deduced from the 65 years' observations, 1841–1905. The temperature of the Dew Point (Column 9) and the Degree of Humidity (Column 13) are deduced from the corresponding temperatures of the Air and Evaporation by means of Glaisher's Hygrometrical Tables. The mean difference between the Air and Dew Point Temperatures (Column 10) is the difference between the numbers in Columns 6 and 9, and the Greatest and Least Differences (Columns 11 and 12) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers. The readings in Column 16 are taken daily at noon.

The values given in Columns 3, 4, 5, 14, and 15 are derived from eye-readings of self-registering thermometers.

The mean reading of the *Barometer* for the month was 29in·796, being 0in·002 *higher* than the average for the 65 years, 1841–1905.

TEMPERATURE OF THE AIR.

The highest in the month was 82°·6 on May 11; the lowest in the month was 36°·1 on May 26; and the range was 46°·5.
The mean of all the highest daily readings in the month was 67°·5, being 3°·6 *higher* than the average for the 65 years, 1841–1905.
The mean of all the lowest daily readings in the month was 46°·5, being 2°·8 *higher* than the average for the 65 years, 1841–1905.
The mean of the daily ranges was 21°·1, being 0°·9 *greater* than the average for the 65 years, 1841–1905.
The mean for the month was 55°·7, being 2°·6 *higher* than the average for the 65 years, 1841–1905.

MONTH and DAY, 1912.	Daily Duration of Sunshine.	Sun above Horizon.	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	7·8	14·8	SW : Calm : WSW	WSW : W	1·0	0·04	189	9, h : p.-cl : 6, cu, h	6, cu, cu.-s : p.-cl,ci.-s,ci.-cu,cu : 9
2	4·5	14·8	SW : WSW	WSW : W	1·0	0·08	265	10 : 9 : 8,cu, s, so.-ha	7,ci.-s,cu,so.-ha : 9,ci.-s,ci.-cu,n : 9
3	1·6	14·9	WSW : Calm	WSW : W : ENE	0·6	0·01	182	p.-cl : p.-cl : 10, s, n, slt.-r, so.-ha	10, s, n : 10
4	0·0	14·9	E : ENE	ESE : E	3·3	0·22	255	10 : 10 : 10, s, n, r	10, s, n, r : 10, slt.-r
5	4·5	15·0	E : ESE	E : ESE : SE	1·6	0·13	207	10 : 10 : 9,ci.-s,ci.-cu, s	7, ci.-s,ci.-cu,cu.-s : 9 : 9
6	3·0	15·1	Calm : SW : W	WSW : SW	2·1	0·15	236	9 : p.-cl : 9	9, cu, cu.-s : p.-cl : 9, sh.-r
7	0·0	15·1	SW	SW : WSW	2·9	0·25	308	10 : 10 : 10, n, s, r	10, fq.-r : 10, n, s, r : 10, s
8	4·7	15·2	W	W : WSW : SW	2·8	0·30	340	10 : 10 : 8,ci.-cu,cu,s,n	p.-cl, cu, n, s : p.-cl, so.-ha : p.-cl, d
9	5·3	15·2	WSW	W : SW : N	1·3	0·08	222	p.-cl : p.-cl, li.-cl : 7,cu,n,s,so.-ha	10, s : 10 : p.-cl
10	4·2	15·3	NE : ENE	E : ESE	1·8	0·14	232	9 : p.-cl : 4, ci.-s,cu	8, so.-ha : th.-cl,so.-ha : 8
11	9·4	15·3	ESE : Calm : SW	SW : WSW	5·8	0·27	273	p.-cl : p.-cl : 6,ci,ci.-s.ci-cu	3, ci.-s, w : p.-cl, n : 9
12	5·0	15·4	Variable : Calm : NE	NNE : NE : E	3·6	0·20	239	p.-cl : p.-cl : 5, cu, cu.-s, n	10, cu, n : 10, hy.-sh, hl, l, t : 10, fq. r
13	13·2	15·4	ENE : NE : ESE	ESE : SE	1·5	0·10	201	9 : p.-cl : 3, cu	3, cu : p.-cl, ci, cu : p.-cl, hy.-d
14	10·4	15·5	SSE : Calm : SE	E	1·6	0·16	201	p.-cl : p.-cl : 3,ci,ci.-s,ci.-cu, so.-ha	5,ci.-s,ci.-cu : p.-cl, so.-ha : 9
15	4·5	15·5	ENE : E	SW : W	6·5	0·49	362	9, r : 9 : 9, s, n	9, w : p.-cl, w : 10, r
16	10·9	15·6	NW : W : WNW	NW : WSW	10·7	0·64	423	p.-cl, r : p.-cl : 8,cu,n,sh.-r,w	8, ci, cu, n,sh.-r,hl, so.-ha, st.-w : p.-cl,sh.-r,w : p.-cl
17	7·7	15·6	WSW : W : NW	WNW : NW : SW	4·2	0·35	346	p.-cl : p.-cl : 8, cu, w	9, cu.-s, n : p.-cl : 2
18	1·5	15·7	SW : WSW	WSW : SW	2·0	0·16	258	p.-cl : 9, slt.-sh : 9, cu, n	9, cu, n, t : p.-cl : p.-cl
19	6·9	15·7	WSW : SW	SW	0·5	0·01	151	p.-cl : p.-cl : 5,ci.-s, so.-ha	9 : p.-cl : th.-cl
20	7·1	15·8	Calm : ENE : SSW	WSW : SW	2·8	0·19	252	p.-cl : 9 : 8,ci.-s,cu.-s,n	6, cu, cu.-s : p.-cl : 1
21	3·9	15·8	WSW : SW	W : Calm : SE	0·7	0·02	135	p.-cl : p.-cl : 9, s, n	9,cu,cu.-s,n,slt.-sh : p.-cl,ci.-cu,cu : 9, shs.-r
22	6·6	15·9	Calm : SSW	SSW : SW	3·1	0·27	275	9,hy.-sh : 9,oc.-slt.-r : 8, slt.-r	3,ci,cu,cu.-s : 9, fq.-r : 9
23	2·4	15·9	SW : WSW : WNW	NW : NNW : N	2·4	0·22	313	p.-cl : p.-cl : 10, n, s	10, n, s : 10, n, s : 10, oc.-m.-r
24	3·2	16·0	N : NNE	NNE : NE	4·0	0·37	332	10, slt.-r : 10 : 10, slt.-sh, w	9, n, s : p.-cl : 1
25	12·2	16·0	NNE : N	NNE : ESE : Calm	2·6	0·09	196	p.-cl : p.-cl, m : 5, cu, cu.-s	5, cu,cu.-s : 2, ci.-s, cu, s : 1, ci.-s, s, hy.-d
26	8·4	16·0	Calm : Variable : NW	N : NE : SE	1·5	0·04	163	p.-cl : p.-cl : 9, cu	9 : p. cl : p.-cl, m
27	11·8	16·1	Calm : SW : WSW	NW : NNW : Calm	1·6	0·09	178	p.-cl : 2 : 3, cu	4 : ci,ci.-s,ci.-cu : p.-cl, d
28	9·3	16·1	Calm : N : NNW	N : NNW : NE	1·4	0·05	155	p.-cl : p.-cl,cu,th.-cl,so.-ha	7, cu : p.-cl,cu,cu.-s : p.-cl
29	7·6	16·1	Calm : Variable	N : Variable : Calm	0·4	0·00	100	10, m : p.-cl, h : 5, cu, s	5,cu,cu.-s,h : 9 : 9
30	8·7	16·2	Calm: WSW	SW : WSW : Calm	1·3	0·03	176	9 : li.-cl : 7,cu,th.-cl,so.-ha	8, cu, n : p.-cl,ci.-cu,cu : p.-cl, m.-r
31	4·5	16·2	SW : Variable : ESE	SE : SSE : Calm	0·8	0·01	147	10, r : 10, n, s, oc.-slt.-r	8, cu, n, s : p.-cl : p.-cl
Means	6·2	15·6	...	...	...	0·17	236		
Number of Column for Reference.	19	20	21	22	23	24	25	26	27

The mean *Temperature of Evaporation* for the month was 51°·2, being 2°·2 *higher* than
The mean *Temperature of the Dew Point* for the month was 47°·0, being 2°·0 *higher* than
The mean *Degree of Humidity* for the month was 73·2, being 1·0 *less* than
The mean *Elastic Force of Vapour* for the month was 0^{in}·323, being 0^{in}·024 *greater* than
The mean *Weight of Vapour in a Cubic Foot of Air* for the month was 3^{grs}·7, being 0^{gr}·3 *greater* than
The mean *Weight of a Cubic Foot of Air* for the month was 535 grains, being 3 grains *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 7·3.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·396. The maximum daily amount of *Sunshine* was 13·2 hours on May 13.

The highest reading of the *Solar Radiation Thermometer* was 152°·0 on May 11; and the lowest reading of the *Terrestrial Radiation Thermometer* was 22°·9 on May 1.

The *Proportions of Wind* referred to the cardinal points were N. 5, E. 5, S. 6, and W. 11. Four days were calm.

The *Greatest Pressure of the Wind* in the month was 10·7 lbs. on the square foot on May 16. The mean daily *Horizontal Movement of the Air* for the month was 236 miles; the greatest daily value was 423 miles on May 16; and the least daily value was 100 miles on May 29.

Rain (0^{in}·005 or over) fell on 11 days in the month, amounting to 1^{in}·288, as measured by gauge No. 6 partly sunk below the ground; being 0^{in}·627 *less* than the average fall for the 65 years, 1841–1905.

MONTH and DAY, 1912.	Phases of the Moon.	BAROMETER. Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	TEMPERATURE. Of the Air. Highest.	Of the Air. Lowest.	Of the Air. Daily Range.	Of the Air. Mean of 24 Hourly Values.	Of the Air. 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.	Of Radiation. Lowest on the Grass.	Of the Earth 3 ft. 2 in. below the Surface of the Soil.	Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Electricity.
		in.	°	°	°	°	°	°	°	°	°	°		°	°	°	in.	
June 1	Greatest Dec. S.	29·472	67·0	45·1	21·9	56·0	− 1·4	52·5	49·2	6·8	13·0	1·0	78	101·8	31·9	56·10	0·001	mP : wP : vP, vN
2	...	29·284	65·6	45·2	20·4	55·7	− 2·1	52·5	49·5	6·2	15·7	1·0	80	131·0	33·4	56·12	0·157	wP, wN : wP
3	...	29·317	68·1	41·5	26·6	52·8	− 5·3	49·6	46·4	6·4	15·9	0·9	80	134·4	30·9	56·32	0·012	mP : wP, vN : mP
4	Apogee	29·243	65·1	44·3	20·8	52·6	− 5·7	48·9	45·2	7·4	18·4	1·7	76	139·1	34·0	56·20	0·084	wP, wN : vP, vN : mP
5	...	29·334	66·1	43·4	22·7	53·2	− 5·2	49·0	44·8	8·4	17·9	1·3	73	140·0	34·0	56·13	0·109	vP, ssN : wP : wP
6	...	29·553	69·5	48·1	21·4	57·1	− 1·2	52·5	48·3	8·8	19·4	1·5	72	142·1	38·0	56·09	0·000	wP : wP : sN, mP
7	...	29·635	59·3	44·6	14·7	52·6	− 5·6	51·6	50·6	2·0	6·1	0·4	94	99·1	33·1	56·13	0·524	wP : wP, vN : vP, vN
8	Last Quarter	29·708	66·0	48·8	17·2	54·9	− 3·2	53·1	51·3	3·6	9·2	0·8	87	122·0	38·0	56·19	0·105	wP, wN : wP, wwN : wP
9	In Equator	29·774	67·0	48·7	18·3	56·7	− 1·3	53·5	50·5	6·2	11·6	0·2	80	122·8	37·9	56·17	0·150	wP : vP, ssN : wP
10	...	29·639	68·5	46·8	21·7	56·9	− 1·2	51·5	46·5	10·4	19·6	2·4	68	141·1	37·5	56·31	0·014	wP : ssN, wP : wP
11	...	29·540	71·0	44·5	26·5	58·3	+ 0·1	53·0	48·3	10·0	21·7	2·3	70	144·6	36·0	56·50	0·033	wP : wP : vP, wN
12	...	29·652	66·2	52·7	13·5	57·3	− 1·1	55·4	53·7	3·6	9·5	1·4	88	122·4	48·0	56·69	0·190	wP, wwN : wP : vN, wP
13	...	29·677	70·5	50·0	20·5	58·5	0·0	53·1	48·3	10·2	20·2	0·6	69	134·1	41·8	57·00	0·000	wP : wP : mP
14	...	29·697	70·1	48·5	21·6	58·2	− 0·5	52·8	48·0	10·2	21·1	1·9	69	130·7	41·3	57·13	0·000	mP : mP : wP
15	New : Greatest Dec. N.	29·701	67·9	51·9	16·0	58·7	− 0·1	52·6	47·2	11·5	20·7	1·6	66	137·1	45·0	57·29	0·009	mP : mP : wP
16	Perigee	29·627	64·0	50·1	13·9	55·3	− 3·6	51·5	47·9	7·4	16·9	0·6	76	125·5	49·3	57·39	0·629	wP, vN : vP, ssN : mP
17	...	29·841	67·0	49·1	17·9	56·4	− 2·6	53·0	49·8	6·6	16·0	0·2	79	118·0	42·2	57·53	0·020	wP
18	...	29·819	76·7	53·6	23·1	64·2	+ 5·0	59·8	56·2	8·0	17·4	0·8	75	143·2	45·6	57·60	0·000	wwP : wP : wP
19	...	29·719	84·3	49·7	34·6	65·9	+ 6·4	60·2	55·6	10·3	20·8	1·0	70	144·9	41·3	57·95	0·000	wP : wwP, sN : wP
20	...	29·835	71·9	52·3	19·6	59·8	− 0·1	54·1	49·0	10·8	25·8	3·4	68	135·5	46·8	58·29	0·000	wP
21	First Quarter	29·882	73·0	52·1	20·9	60·6	+ 0·3	54·7	49·6	11·0	18·9	1·8	67	139·0	42·2	58·79	0·000	wP
22	In Equator	29·749	80·5	48·2	32·3	66·3	+ 5·7	59·2	53·4	12·9	24·3	1·6	64	142·0	38·2	59·22	0·000	wP
23	...	29·672	75·6	54·6	21·0	65·6	+ 4·7	58·1	52·0	13·6	20·1	4·3	61	143·5	49·0	59·40	0·000	wP
24	...	29·779	71·0	52·4	18·6	59·9	− 1·3	55·8	52·2	7·7	15·9	2·4	76	142·1	45·9	59·90	0·101	wP : vP, ssN : wP
25	...	29·687	63·0	53·1	9·9	57·1	− 4·3	54·6	52·3	4·8	9·1	1·2	84	101·3	45·3	60·09	0·120	wP : wP, wN : wP
26	...	29·736	71·5	53·3	18·2	61·1	− 0·4	55·3	50·3	10·8	19·3	1·6	68	132·0	44·6	60·20	0·018	wP
27	...	29·927	68·2	51·5	16·7	58·6	− 3·0	54·0	49·9	8·7	15·8	3·6	73	118·1	41·7	60·00	0·000	wP
28	...	29·729	73·0	51·4	21·6	60·0	− 1·6	55·1	50·8	9·2	20·0	1·8	71	137·9	42·0	60·01	0·010	wP, sN : wP : wP
29	Greatest Dec. S. : Full	29·635	70·9	50·9	20·0	58·4	− 3·2	54·7	51·4	7·0	17·5	1·2	78	133·1	40·0	60·08	0·046	wP : wP, mN : wP, vN
30	...	29·657	67·3	51·2	16·1	57·3	− 4·2	53·9	50·8	6·5	14·0	0·6	79	113·2	43·0	60·09	0·014	wP : vP, vN : vN, wP
Means	...	29·651	69·5	49·3	20·3	58·2	− 1·2	53·9	50·0	8·2	17·1	1·5	74·6	130·4	40·6	57·76	Sum 2·346	...
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

The results apply to the civil day.

The mean reading of the Barometer (Column 2) and the mean temperatures of the Air and Evaporation (Columns 6 and 8) are deduced from the photographic records. The average temperature (Column 7) is deduced from the 65 years' observations, 1841–1905. The temperature of the Dew Point (Column 9) and the Degree of Humidity (Column 13) are deduced from the corresponding temperatures of the Air and Evaporation by means of Glaisher's Hygrometrical Tables. The mean difference between the Air and Dew Point Temperatures (Column 10) is the difference between the numbers in Columns 6 and 9, and the Greatest and Least Differences (Columns 11 and 12) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers. The readings in Column 16 are taken daily at noon.

The values given in Columns 3, 4, 5, 14, and 15 are derived from eye-readings of self-registering thermometers.

The mean reading of the *Barometer* for the month was 29in·651, being 0in·164 *lower* than the average for the 65 years, 1841–1905.

TEMPERATURE OF THE AIR.

The highest in the month was 84°·3 on June 19; the lowest in the month was 41°·5 on June 3; and the range was 42°·8.
The mean of all the highest daily readings in the month was 69°·5, being 1°·2 *lower* than the average for the 65 years, 1841–1905.
The mean of all the lowest daily readings in the month was 49°·3, being 0°·6 *lower* than the average for the 65 years, 1841–1905.
The mean of the daily ranges was 20°·3, being 0°·5 *less* than the average for the 65 years, 1841–1905.
The mean for the month was 58°·2, being 1°·2 *lower* than the average for the 65 years, 1841–1905.

MONTH and DAY, 1912.	Daily Duration of Sunshine.	Sun above Horizon.	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	2·9	16·2	Calm : ENE	E	1·3	0·04	160	0 : p.-cl, m : 10, s, so.-ha	9, s, n, slt.-sh: 10, slt.-r : 10
2	5·4	16·3	Calm : SW	SW : SSW	2·2	0·13	203	10 : 10, r, hy.-sh: 10, n, s, slt.-r	7, ci.-s, cu, so.-ha: 1 : 0
3	5·7	16·3	Calm : SW : WSW	WSW : SW	8·5	0·26	292	p.-cl, m : p.-cl : 8, ci, ci.-cu, cu	10, s, n, w, sh.-r: 10, s, n, sh.-r: p.-cl
4	5·5	16·3	S : SSW : SW	SSW : S : SSE	3·2	0·13	235	p.-cl : 10, oc.-r : 7, cu, sh.-r, so.-ha	8, cu, n, r : p.-cl, r : p.-cl
5	8·7	16·4	W : WSW	SW : SSW	3·5	0·23	322	9, m.-r : 10, fq.-m.-r: 7, ci.-s, cu	4, ci.-s, cu : 3, ci, ci.-s, cu: p.-cl, d
6	12·8	16·4	SW : WSW	SSW : SW	3·0	0·19	307	p.-cl : 1 : 4, cu	7, cu, cu.-s : p.-cl, slt.-sh : 0, d
7	0·0	16·4	Calm : NE	ENE : NE : N	0·5	0·01	133	th.-cl : 10, s, m : 10, s, r	10, s, r : 10, fq.-r : 10, r
8	2·3	16·4	N : Calm	WSW : SW	0·3	0·01	145	10, r : 10, n	9, s, n, slt.-r: p.-cl, slt.-sh : 0
9	6·3	16·4	WSW : SW	SW : SE : Calm	2·0	0·01	153	9 : p.-cl : 9, l, t, hy.-sh	9, m : p.-cl : p.-cl, l
10	13·8	16·5	Calm : SSW : SW	SW : SSW	2·1	0·10	220	p.-cl : 1 : 7, cu, n, sh.-r	5, cu : ci, cu : 0
11	10·6	16·5	S : NE : ENE	E : NE	3·1	0·16	268	p.-cl, m : p.-cl, ci, cu, so.-ha : 3, ci, ci.-cu, cu	4, ci, ci.-s, so.-ha: 10, s, n, sh.-r : 10, li.-shs
12	0·2	16·5	NE : NNE : N	N	1·6	0·13	266	10, slt.-r : 10, oc.-slt.-r: 10, n, s	10, n, s, r : 10, n, s, r : p.-cl
13	9·6	16·5	N : WSW : W	W : WNW	4·8	0·36	375	9 : p.-cl : 6, cu, cu.-s, n	6, ci.-s, cu, cu.-s, w: 1, w : p.-cl
14	6·5	16·5	W : WSW : WNW	W : WSW	2·8	0·31	354	p.-cl : p.-cl : 8, cu, cu.-s	9 : p.-cl : 2
15	8·7	16·5	W	W : WSW : SW	4·9	0·70	525	p.-cl : p.-cl, w : 5, ci.-cu, cu, w	7, cu, th.-cl, so.-ha, w : 9, so.-ha, w : 10, r
16	7·1	16·5	WSW : W : WNW	NW : Calm : SW	11·7	0·37	323	10, r : 10, hy.-sh, sq: 8, cu, n, w	9, hy.-sh, hl, t, w: p.-cl, slt.-sh : 10
17	0·8	16·6	WSW : SW : W	WSW : SW	2·5	0·15	290	9 : 10 : 10	10, n, s : 10, n, s, slt.-r: 10, slt.-r
18	10·9	16·6	WSW	WSW : SW	6·0	0·46	400	10, oc.-m.-r: 9 : 9, ci.-s, s, n, so.-ha, w	p.-cl, ci.-s, cu: 3 : 0, hy.-d
19	10·3	16·6	Calm : S	SW : WSW : W	5·4	0·28	290	0 : 0 : p.-cl	7, cu, cu.-s, n, w: p.-cl, so.-ha : p.-cl, w
20	7·2	16·6	W : WSW	W : WSW	6·3	0·53	443	p.-cl : p.-cl : 10, cu, n	9, s, n, so.-ha, w: 9, ci.-s, s : 1
21	13·0	16·6	W : WSW	SW : SSW	1·7	0·18	300	li.-cl : li.-cl : 7, ci.-s, cu, so.-ha	7, ci.-s, cu, so.-ha; 2 : 0, hy.-d
22	15·3	16·6	S : Calm : SE	SSW : S : SE	2·5	0·15	241	0, d : 0	0 : 0 : p.-cl, l
23	11·2	16·6	SSE : W : WSW	WSW : SW	4·3	0·40	370	p.-cl : p.-cl, cu : 5, cu.-s	5 : p.-cl : p.-cl
24	10·0	16·6	SSW : SW	WSW : SW	5·8	0·24	323	li.-cl : p.-cl, cu : p.-cl, shs.-r, t	7, cu, n, shs.-r, t, w: p.-cl : p.-cl
25	3·2	16·6	SW : SSW	SSW	4·8	0·47	383	p.-cl : 9 : 10, n, s, r, w	10, n, s, r, w : p.-cl, sh.-r : p.-cl, slt.-sh
26	10·0	16·5	SW : WSW	WNW : W : WSW	2·7	0·29	373	p.-cl, sh.-r: p.-cl : 8, cu, cu.-s, h	8, cu, cu.-s, n : p.-cl, cu.-s : th.-cl, h
27	3·3	16·5	WSW : SW	SW : SSW : SSE	2·1	0·13	251	p.-cl : 10 : 8, s, n	8, ci.-cu, s, n : p.-cl : 9
28	7·9	16·5	SE : SSE : SSW	SSW : SW	4·3	0·25	304	9 : 10, slt.-sh : p.-cl, li.-shs	4, cu : p.-cl : 1
29	6·0	16·5	SSW : S : SW	SW	2·7	0·18	275	p.-cl : 9 : 9, cu, n, li.-shs	p.-cl, oc.-slt.-r: 9, slt.-r, t : p.-cl
30	3·6	16·5	WSW	WSW : SW	1·2	0·02	190	p.-cl : th.-cl : 10, ci.-cu, s, n	10, s, n, t, r : 10, slt.-r : 10
Means	7·3	16·5	...	...	...	0·23	290		
Number of Column for Reference.	19	20	21	22	23	24	25	26	27

The mean *Temperature of Evaporation* for the month was 53°·9, being 1°·0 *lower* than
The mean *Temperature of the Dew Point* for the month was 50°·0, being 0°·9 *lower* than
The mean *Degree of Humidity* for the month was 74·6, being 1·0 *greater* than
The mean *Elastic Force of Vapour* for the month was 0in·361, being 0in·012 *less* than
The mean *Weight of Vapour in a Cubic Foot of Air* for the month was 4grs·1, being 0gr·1 *less* than
The mean *Weight of a Cubic Foot of Air* for the month was 530 grains, being 1 grain *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 6·7.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·442. The maximum daily amount of *Sunshine* was 15·3 hours on June 22.

The highest reading of the *Solar Radiation Thermometer* was 144°·9 on June 19; and the lowest reading of the *Terrestrial Radiation Thermometer* was 30°·9 on June 3.

The *Proportions of Wind* referred to the cardinal points were N. 3, E. 2, S. 9, and W. 14. Two days were calm.

The *Greatest Pressure of the Wind* in the month was 11·7 lbs. on the square foot on June 16. The mean daily *Horizontal Movement of the Air* for the month was 290 miles; the greatest daily value was 525 miles on June 15; and the least daily value was 133 miles on June 7.

Rain (0in·005 or over) fell on 19 days in the month, amounting to 2in·346, as measured by gauge No. 6 partly sunk below the ground; being 0in·308 *greater* than the average fall for the 65 years, 1841–1905.

MONTH and DAY, 1912.	Phases of the Moon.	BAROMETER. Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	TEMPERATURE. Of the Air. Highest.	Of the Air. Lowest.	Of the Air. Daily Range.	Of the Air. Mean of 24 Hourly Values.	Of the Air. 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.	Of Radiation. Lowest on the Grass.	Of the Earth 3 ft. 2 in. below the Surface of the Soil.	Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Electricity.
		in.	°	°	°	°	°	°	°	°	°	°		°	°	°	in.	
July 1	...	29·662	70·2	51·1	19·1	56·9	− 4·6	53·9	51·1	5·8	14·5	0·8	81	123·0	42·1	60·03	0·024	wP : vP, vN : vP, vN
2	Apogee	29·695	63·0	52·6	10·4	54·9	− 6·7	52·7	50·6	4·3	10·7	0·0	86	108·1	47·0	59·91	0·203	vP, vN : mP, wN : vN, wP
3	...	29·741	62·1	52·2	9·9	56·6	− 5·2	54·3	52·2	4·4	7·5	0·0	85	108·2	42·5	59·69	0·132	wP
4	...	30·008	68·1	53·3	14·8	58·5	− 3·6	55·1	52·0	6·5	13·8	1·4	79	115·1	42·0	59·49	0·000	wP
5	...	30·031	70·2	53·1	17·1	60·8	− 1·5	57·2	54·1	6·7	12·0	1·2	79	125·1	49·6	59·38	0·000	wP
6	In Equator	29·808	74·0	55·2	18·8	63·4	+ 1·0	58·4	54·2	9·2	20·9	0·6	72	139·6	48·9	59·52	0·000	wP
7	Last Quarter	29·745	75·4	57·5	17·9	63·0	+ 0·6	58·7	55·1	7·9	19·7	0·9	75	125·2	52·4	59·79	0·170	wP : wP : vP, ssN
8	...	29·871	72·6	54·0	18·6	61·4	− 1·0	57·6	54·3	7·1	14·5	1·1	78	126·7	48·0	60·06	0·019	wP
9	...	29·924	75·4	49·6	25·8	61·9	− 0·5	56·0	51·0	10·9	19·6	2·2	68	137·3	38·2	60·33	0·009	wP
10	...	29·805	81·0	57·4	23·6	66·9	+ 4·4	61·5	57·2	9·7	17·7	1·7	72	141·0	54·8	60·59	0·003	wP
11	...	29·830	78·9	57·2	21·7	66·3	+ 3·6	61·3	57·3	9·0	15·8	2·6	73	144·6	47·0	60·91	0·000	wP
12	...	29·735	90·0	53·4	36·6	73·2	+10·3	65·0	59·0	14·2	27·2	1·9	61	150·3	43·7	61·53	0·000	wP
13	Greatest Dec. N.	29·799	84·9	63·1	21·8	72·5	+ 9·4	66·2	61·5	11·0	20·2	3·9	68	140·9	54·3	62·02	0·000	wP
14	New : Perigee	29·842	88·1	60·4	27·7	71·6	+ 8·3	65·7	61·2	10·4	20·0	2·1	69	142·2	54·6	62·61	0·000	wP
15	...	29·939	87·1	59·1	28·0	73·7	+10·3	64·6	58·0	15·7	31·0	2·2	58	150·1	46·0	63·22	0·000	wP
16	...	29·918	86·8	59·5	27·3	72·7	+ 9·3	63·7	57·0	15·7	29·4	3·7	58	150·1	46·9	63·66	0·000	wP
17	...	29·852	84·2	58·5	25·7	69·0	+ 5·6	62·3	57·0	12·0	24·0	3·9	65	145·0	50·0	63·98	0·000	wP
18	...	29·756	73·0	51·5	21·5	61·1	− 2·2	56·5	52·5	8·6	16·1	3·3	74	129·1	44·3	64·16	0·000	wP : mP : sN, wP
19	In Equator	29·689	57·9	48·1	9·8	53·0	−10·2	50·0	47·0	6·0	11·8	1·8	80	79·5	40·9	64·08	0·038	mP : mP, wwN : mP, sN
20	...	29·670	67·8	51·1	16·7	57·6	− 5·6	54·5	51·7	5·9	13·5	1·4	81	117·9	47·0	63·81	0·001	mP : mP : wP
21	First Quarter	29·731	76·8	51·1	25·7	62·4	− 0·8	57·5	53·3	9·1	21·4	0·4	73	138·8	39·1	63·40	0·000	wP
22	...	29·775	69·7	49·2	20·5	59·7	− 3·4	56·1	52·9	6·8	14·7	1·3	79	108·0	40·5	63·10	0·077	wP : vP, vN : wP
23	...	29·740	71·9	55·7	16·2	63·6	+ 0·6	60·6	58·1	5·5	11·2	0·8	83	123·5	46·4	63·10	0·069	wP, wN : wP, wN : wP
24	...	29·735	81·6	56·7	24·9	67·0	+ 4·1	61·2	56·6	10·4	24·0	0·2	69	146·0	48·5	63·02	0·000	wP
25	...	29·678	80·9	56·4	24·5	65·8	+ 3·1	60·0	55·3	10·5	24·7	2·6	69	146·2	46·4	63·11	0·002	wP, wwN : wP : wP
26	Greatest Dec. S.	29·738	79·2	51·9	27·3	64·4	+ 1·9	58·0	52·7	11·7	23·0	0·6	65	144·5	41·0	63·33	0·000	wP
27	...	29·541	79·0	58·6	20·4	66·9	+ 4·5	62·1	58·3	8·6	20·0	2·4	74	151·6	48·0	63·51	0·007	wP
28	...	29·421	72·0	55·6	16·4	62·2	− 0·1	56·8	52·2	10·0	19·5	0·4	70	135·1	49·2	63·69	0·132	wP : wP : vP, ssN
29	Full : Apogee	29·451	64·0	54·0	10·0	57·7	− 4·6	55·2	53·0	4·7	22·0	0·4	84	102·0	49·0	63·69	0·253	wP : wP, vN : wP, mN
30	...	29·518	70·9	51·3	19·6	60·2	− 2·1	54·8	50·1	10·1	15·6	1·2	69	132·3	43·0	63·59	0·001	wP : wP, mN : wP
31	...	29·491	63·9	49·2	14·7	56·8	− 5·4	54·0	51·4	5·4	8·2	0·6	82	95·3	41·2	63·10	0·100	wP
Means	...	29·746	74·9	54·4	20·4	63·3	+ 0·6	58·4	54·4	8·8	18·2	1·5	73·5	129·8	46·2	62·11	Sum 1·240	...
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

The results apply to the civil day.

The mean reading of the Barometer (Column 2) and the mean temperatures of the Air and Evaporation (Columns 6 and 8) are deduced from the photographic records. The average temperature (Column 7) is deduced from the 65 years' observations, 1841–1905. The temperature of the Dew Point (Column 9) and the Degree of Humidity (Column 13) are deduced from the corresponding temperatures of the Air and Evaporation by means of Glaisher's Hygrometrical Tables. The mean difference between the Air and Dew Point Temperatures (Column 10) is the difference between the numbers in Columns 6 and 9, and the Greatest and Least Differences (Columns 11 and 12) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers. The readings in Column 16 are taken daily at noon.

The values given in Columns 3, 4, 5, 14, and 15 are derived from eye-readings of self-registering thermometers.

The mean reading of the *Barometer* for the month was $29^{in}\cdot746$, being $0^{in}\cdot053$ *lower* than the average for the 65 years, 1841–1905.

TEMPERATURE OF THE AIR.

The highest in the month was 90°·0 on July 12; the lowest in the month was 48°·1 on July 19; and the range was 41°·9.
The mean of all the highest daily readings in the month was 74°·9, 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 54°·4, being 1°·1 *higher* than the average for the 65 years, 1841–1905.
The mean of the daily ranges was 20°·4, being 0°·5 *less* than the average for the 65 years, 1841–1905.
The mean for the month was 63°·3, being 0°·6 *higher* than the average for the 65 years, 1841–1905.

MONTH and DAY, 1912.	Daily Duration of Sunshine.	Sun above Horizon.	Wind as Deduced from Self-Registering Anemometers. Osler's. General Direction. A.M.	P.M.	Pressure on the Square Foot. Greatest.	Mean of 24 Hourly Measures.	Robinson's. Horizontal Movement of the Air.	Clouds and Weather. A.M.	P.M.
	hours.	hours.			lbs.	lbs.	miles.		
July 1	0·8	16·5	WSW : W : NW	Variable : W : NW	1·5	0·04	193	10 : 10, m, m.-r : 9, s	10, r, t : 9, s, n, shs.-r : p.-cl
2	0·0	16·5	W : N	N : NW : WNW	1·5	0·08	230	10, slt.-r : 10, s, n	10, s, n, r : 10, r
3	0·2	16·5	WNW : N : E	E : ENE	2·0	0·06	183	10, r : 10, sh.-r : 10, s, n, slt.-sh	10, li.-shs : p.-cl
4	2·4	16·4	NE : N	NNE : NE	2·3	0·16	272	9 : 10 : 10, s, n	10, s, n : p.-cl : p.-cl
5	4·7	16·4	NE : ENE	E : ENE : NE	2·5	0·17	284	9 : 9, cu, n	9, cu, n : p.-cl : 2
6	5·6	16·4	NE : ENE	E : Calm	1·7	0·12	230	p.-cl, m : p.-cl : 5, ci, cu, cu.-s	8, s, so.-ha : 9, s : 10
7	5·4	16·4	N : NW : W	W : WSW	1·0	0·05	229	p.-cl, m : 10, r : 9, s	8 : 9, hy.-shs : p.-cl
8	3·5	16·4	WSW : SW	WSW : SW : W	2·3	0·25	317	9 : p.-cl : 9, cu, n	10, s, n : 10, s, shs.-r : p.-cl
9	11·0	16·3	WNW : W : WSW	SW	0·8	0·03	170	p.-cl : 0 : 2, ci, cu, cu.-s	8, so.-ha : 9, s, so.-ha : 10, m.-r
10	6·2	16·3	SSE : SE : S	SSW : SW : WSW	1·6	0·09	229	10, slt.-r : p.-cl, slt.-r : 8, ci.-s, ci.-cu	8, ci, ci.-s, cu : 9 : 9
11	9·8	16·3	SW : WSW	SW : SSW	1·1	0·03	224	9 : p.-cl : 7, cu, cu.-s	p.-cl, cu, cu.-s : p.-cl, cu, n : 0, hy.-d
12	11·4	16·2	Calm : SE : SSE	S : W	2·0	0·09	217	0, d : 0	2, ci.-s, ci.-cu, cu., so.-ha : 2 : 2
13	5·3	16·2	NW : Calm : NNE	W : N : NE	1·3	0·02	189	p.-cl : p.-cl, m : 6, ci.-s, th.-cl	8, ci.-s, cu, slt.-sh : p.-cl : 0, h
14	9·4	16·2	NE : NNE : N	NNE : E	1·0	0·01	203	p.-cl : 9, m : 4, th.-cl	0, h : 0, h
15	13·4	16·1	Calm : ENE : E	ESE : E : ENE	2·2	0·10	213	1 : 0, m : 0, h	th.-cl, so.-ha : 0 : 0, d
16	12·8	16·1	NE	E : ENE	2·3	0·14	245	0, h, d : 1, h : 0, h	0 : 0
17	12·4	16·0	NE : NNE	NE : E	2·2	0·22	326	0, h, hy.-d : 0	1, cu : 1, cu : 0, h
18	1·3	16·0	NE : NNE : N	N : NNE : NE	7·0	0·20	281	p.-cl, m : 9 : 10, s, n	8, ci.-cu, cu : p.-cl, n, w : 9
19	0·0	16·0	N : NNW	NW : N	3·7	0·33	342	9 : 10, s, n	10, s, n, slt.-r : 10, fq.-r : 10, sh.-r
20	0·6	15·9	N : NNE	N : Calm	0·5	0·01	151	9, slt.-sh : 10 : 10, s, n	10, cu, s, n, oc.-slt.-r : 9 : 9, h, d
21	4·4	15·9	Calm : SW	Calm : S : SW	0·2	0·00	105	p.-cl : p.-cl : 8, cu, n	9 cu, n : p.-cl, h : p.-cl, h, d
22	0·4	15·8	Calm : WSW	Calm : ESE	0·0	0·00	116	p.-cl, m : 9 : 10, s	10, fq.-r : p.-cl : p.-cl, hy.-d
23	1·2	15·8	Calm : ESE	ESE : SSE : Calm	1·5	0·03	137	10, sh.-r : 10, m : 9, cu, s, n	10, cu, n, sh.-r : 10, cu, s, n, so.-ha : 9
24	7·1	15·7	Calm : S	SSW : Calm	1·3	0·02	139	9 : p.-cl : 9, cu, n	8, cu, n : 7, cu, cu.-s : 9
25	6·9	15·7	Calm : SW	SW	1·6	0·08	218	9 : p.-cl, m.-r : 5, cu, n	9, cu, cu.-s, n : 9 : 1, m
26	7·2	15·7	SW : Calm : SSW	SSW : S : E	1·8	0·08	196	p.-cl : p.-cl : 6, cu, cu.-s	4, cu, th.-cl : s, so.-ha : 9
27	7·2	15·6	ESE : Calm : SE	SSW : E : SE	3·0	0·07	174	9, oc.-slt.-r : 9 : 9, cu, n, sh.-r	7, cu, n : p.-cl : 9, l
28	6·3	15·6	S : SW	SW : SSW	4·9	0·57	425	9 : 9, oc.-slt.-r, w : 6, w	7, cu.-s, n, shs.-r, w : p.-cl, sh.-r : p.-cl, shs.-r
29	0·4	15·5	SSW : SW	SW	8·0	0·63	448	9, sh.-r : 10, fq.-shs : 10, fq.-r, w	10, cu, n, fq.-r, w : 9, oc.-r, w : 10, oc.-slt.-r
30	7·9	15·5	SSW : SW : WSW	SW : W WSW	3·6	0·33	375	9 : p.-cl : p.-cl, cu	7, cu, cu.-s, shs.-r : p.-cl : p.-cl
31	0·4	15·4	WSW : SSW : S	S : SW	5·0	0·29	320	9, m : 10 : 10, s, n, fq.-r	10, s, n, fq.-r, w : 10, oc.-slt.-r, w : 9, slt.-sh
Means	5·3	16·0	...	...	..	0·14	238		
Number of Column for Reference.	19	20	21	22	23	24	25	26	27

The mean *Temperature of Evaporation* for the month was $58^{\circ}\cdot4$, being $0^{\circ}\cdot5$ *higher* than
The mean *Temperature of the Dew Point* for the month was $54^{\circ}\cdot4$, being $0^{\circ}\cdot6$ *higher* than
The mean *Degree of Humidity* for the month was 73·5, being 0·7 *greater* than
The mean *Elastic Force of Vapour* for the month was $0^{\text{in}}\cdot424$, being $0^{\text{in}}\cdot009$ *greater* than
The mean *Weight of Vapour in a Cubic Foot of Air* for the month was $4^{\text{grs}}\cdot7$, being $0^{\text{gr}}\cdot1$ *greater* than
The mean *Weight of a Cubic Foot of Air* for the month was 526 grains, being 1 grain *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 0·333. The maximum daily amount of *Sunshine* was 13·4 hours on July 15.

The highest reading of the *Solar Radiation Thermometer* was $151^{\circ}\cdot6$ on July 27; and the lowest reading of the *Terrestrial Radiation Thermometer* was $38^{\circ}\cdot2$ on July 9.

The *Proportions of Wind* referred to the cardinal points were N. 6, E. 7, S. 8, and W. 7. Three days were calm.

The *Greatest Pressure of the Wind* in the month was 8·0 lbs. on the square foot on July 29. The mean daily *Horizontal Movement of the Air* for the month was 238 miles; the greatest daily value was 448 miles on July 29; and the least daily value was 105 miles on July 21.

Rain ($0^{\text{in}}\cdot005$ or over) fell on 13 days in the month, amounting to $1^{\text{in}}\cdot240$, as measured by gauge No. 6 partly sunk below the ground; being $1^{\text{in}}\cdot159$ *less* than the average fall for the 65 years, 1841–1905.

MONTH and DAY, 1912.	Phases of the Moon.	BAROMETER. Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	TEMPERATURE. Of the Air. Highest.	Of the Air. Lowest.	Of the Air. Daily Range.	Of the Air. Mean of 24 Hourly Values.	Of the Air. 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.	Of Radiation. Lowest on the Grass.	Of the Earth 3 ft. 2 in. below the Surface of the Soil.	Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Electricity.
		in.	°	°	°	°	°	°	°	°	°	°		°	°	°	in.	
Aug. 1	...	29·361	68·9	51·0	17·9	59·2	− 3·0	53·0	47·5	11·7	17·9	4·6	65	124·0	41·6	62·82	0·000	wP : wP : mP
2	In Equator	29·614	69·3	46·2	23·1	54·2	− 7·9	50·4	46·7	7·5	21·2	0·4	75	131·0	36·2	62·52	0·036	wP : mP, vN : mP
3	...	29·734	68·3	42·2	26·1	56·2	− 5·9	51·2	46·5	9·7	18·8	1·1	70	121·8	32·3	62·21	0·017	mP : wP : wP, wN
4	...	29·434	73·0	54·2	18·8	60·2	− 1·9	57·1	54·4	5·8	15·3	1·5	82	121·5	48·3	62·02	0·350	vP, vN : wP : wP, wwN
5	...	29·552	66·6	51·9	14·7	57·6	− 4·5	52·9	48·6	9·0	17·3	5·2	72	126·0	44·4	61·88	0·061	wP : vP, vN : wP
6	Last Quarter	29·250	62·7	52·6	10·1	57·1	− 5·1	53·8	50·7	6·4	11·7	2·0	79	111·9	47·5	61·61	0·263	wP, vN
7	...	29·309	70·1	52·2	17·9	57·4	− 4·8	54·2	51·3	6·1	15·9	0·8	80	129·0	47·1	61·56	0·153	wP : vP, ssN
8	...	29·571	71·8	52·2	19·6	57·5	− 4·8	55·0	52·8	4·7	15·4	0·8	84	136·0	46·6	61·41	0·167	wP : vP, ssN
9	Greatest Dec. N.	29·658	67·5	50·2	17·3	57·2	− 5·1	53·1	49·3	7·9	16·1	1·6	75	123·4	42·8	61·30	0·000	wP : wP : mP, wN
10	...	29·658	65·6	47·6	18·0	53·8	− 8·5	51·7	49·7	4·1	14·4	0·6	86	120·9	40·1	61·20	0·269	wP : vP, ssN
11	...	29·890	66·9	47·4	19·5	55·4	− 7·0	51·5	47·8	7·6	15·5	1·5	76	113·5	40·6	61·09	0·014	wP : vP, ssN : mP
12	Perigee : New	29·741	62·0	45·1	16·9	53·4	− 9·1	50·3	47·2	6·2	12·7	0·8	79	105·5	36·5	60·89	0·000	wP
13	...	29·581	62·9	47·2	15·7	53·8	− 8·7	49·6	45·5	8·3	14·2	3·1	74	111·7	43·9	60·61	0·010	wP : mP : vP, ssN
14	...	29·535	64·2	44·1	20·1	52·9	− 9·6	49·5	46·1	6·8	14·6	1·5	78	117·1	37·5	60·41	0·135	... : vP, ssN : wP
15	In Equator	29·590	62·7	50·7	12·0	55·7	− 6·7	53·0	50·5	5·2	7·9	3·3	84	94·2	47·0	60·24	0·004	wP
16	...	29·825	70·1	49·8	20·3	58·8	− 3·5	54·7	51·0	7·8	16·0	2·7	75	129·6	43·1	60·11	0·000	wP
17	...	29·780	67·8	57·2	10·6	61·3	− 0·8	58·2	55·5	5·8	10·8	1·1	82	108·0	55·2	60·01	0·065	wP
18	...	29·519	70·0	54·2	15·8	59·5	− 2·4	56·5	53·9	5·6	13·3	1·5	82	124·9	48·0	60·21	0·010	wwP : wwP : wP
19	First Quarter	29·445	68·1	52·1	16·0	58·8	− 2·9	55·3	52·2	6·6	14·2	1·4	79	125·3	46·9	60·40	0·400	wwP, vN : wwP : vP, vN
20	...	29·453	68·1	50·7	17·4	56·6	− 4·9	53·7	51·0	5·6	14·4	1·6	82	124·3	47·0	60·48	0·080	wP, sN : wP, vN : vP, ssN
21	...	29·792	62·0	47·1	14·9	53·8	− 7·5	50·9	48·1	5·7	13·5	0·8	81	116·4	41·0	60·38	0·071	wP : wP, sN : wP
22	Greatest Dec. S.	29·871	64·4	49·3	15·1	56·0	− 5·1	51·3	46·9	9·1	17·7	1·4	72	118·3	43·2	60·19	0·055	wP : mP : mP
23	...	29·638	65·6	50·3	15·3	58·0	− 2·9	56·6	55·3	2·7	4·3	1·0	91	74·0	50·0	59·99	0·313	wP : wwP, wwN : wwP
24	...	29·434	64·1	56·6	7·5	59·6	− 1·2	58·8	58·1	1·5	3·0	0·6	95	84·0	46·8	59·86	0·335	wwP
25	Apogee	29·466	68·0	54·0	14·0	59·2	− 1·5	56·3	53·7	5·5	12·8	1·0	83	108·9	47·4	59·92	0·000	wwP : wwP : wP
26	...	29·131	61·0	49·8	11·2	54·7	− 6·0	53·7	52·7	2·0	7·7	1·0	93	94·5	47·0	60·00	1·194	wwP, vN : wP, wN
27	Full	29·400	62·2	48·5	13·7	54·4	− 6·2	50·3	46·3	8·1	15·0	1·8	74	106·9	39·5	60·00	0·000	wP
28	...	29·656	66·3	42·1	24·2	54·2	− 6·2	50·2	46·3	7·9	15·8	0·6	74	118·0	32·5	59·71	0·000	wP
29	...	29·416	70·1	54·1	16·0	60·1	− 0·2	57·0	54·3	5·8	14·3	1·9	82	125·3	46·9	59·50	0·137	wwP, wN : wwP
30	In Equator	29·552	70·0	53·6	16·4	59·9	− 0·2	56·1	52·8	7·1	12·9	1·8	78	117·7	44·5	59·52	0·003	wwP : wP, wN : wP
31	...	29·904	66·1	49·0	17·1	55·9	− 4·0	50·9	46·3	9·6	17·6	3·7	70	117·0	39·5	59·50	0·000	wP
Means	...	29·573	66·7	50·1	16·6	56·9	− 4·8	53·4	50·4	6·6	13·9	1·7	79·1	115·5	43·6	60·70	Sum 4·142	...
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

The results apply to the civil day.

The mean reading of the Barometer (Column 2) and the mean temperatures of the Air and Evaporation (Columns 6 and 8) are deduced from the photographic records. The average temperature (Column 7) is deduced from the 65 years' observations, 1841–1905. The temperature of the Dew Point (Column 9) and the Degree of Humidity (Column 13) are deduced from the corresponding temperatures of the Air and Evaporation by means of Glaisher's Hygrometrical Tables. The mean difference between the Air and Dew Point Temperatures (Column 10) is the difference between the numbers in Columns 6 and 9, and the Greatest and Least Differences (Columns 11 and 12) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers. The readings in Column 16 are taken daily at noon.

The values given in Columns 3, 4, 5, 14, and 15 are derived from eye-readings of self-registering thermometers.

The mean reading of the *Barometer* for the month was 29in·573, being 0in·210 *lower* than the average for the 65 years, 1841–1905.

TEMPERATURE OF THE AIR.

The highest in the month was 73°·0 on August 4; the lowest in the month was 42°·1 on August 28; and the range was 30°·9.
The mean of all the highest daily readings in the month was 66°·7, being 6°·0 *lower* than the average for the 65 years, 1841–1905.
The mean of all the lowest daily readings in the month was 50°·1, being 2°·9 *lower* than the average for the 65 years, 1841–1905.
The mean of the daily ranges was 16°·6, being 3°·1 *less* than the average for the 65 years, 1841–1905.
The mean for the month was 56°·9, being 4°·8 *lower* than the average for the 65 years, 1841–1905.

MONTH and DAY, 1912.	Daily Duration of Sunshine.	Sun above Horizon.	Wind as deduced from Self-Registering Anemometers. Osler's. General Direction. A.M.	P.M.	Pressure on the Square Foot. Greatest.	Mean of 24 Hourly Measures.	Robinson's. Horizontal Movement of the Air.	Clouds and Weather. A.M.	P.M.
	hours.	hours.			lbs.	lbs.	miles.		
Aug. 1	9·2	15·4	SW : WSW : W	WSW : W	7·3	0·64	449	9, w : p.-cl, li.-cl, w : 5, cu, w	8, cu : 3, cu, cu.-s : th.-cl, h, d
2	7·6	15·3	SW : WSW : W	Variable	4·9	0·05	184	th.-cl, h, d : h : 7, cu, n	9, s, n, shs.-r, sq : p.-cl : th.-cl, h, d
3	3·9	15·3	Calm : ENE : SE	SSE : SE : ESE	0·9	0·04	159	h, d : h, m : p.-cl, ci.-s, cu, n	10, s, n : 10, s, n, r : 10, oc.-r
4	3·2	15·2	ESE : S	SSW : SW	7·0	0·43	355	10, r : fq.-r, hy.-sh : 10, shs.-r	9, oc.-shs, w : 9, oc.-shs, w : 10, w
5	8·8	15·1	SW	SW : SSW : SSE	8·3	0·67	435	p.-cl, w : 1, cu, h, w : 6, cu, n, hy.-shs, sqs	9, cu, n, w : p.-cl, w : 10
6	2·8	15·1	SE : S	SSW : SW	8·3	0·65	413	10, r : 10, fq.-r : 9, cu, n, shs.-r, w	8, cu, n, fq.-shs, w : p.-cl, sh.-r, w : 9, sh.-r
7	3·2	15·0	SW	SW : WSW	3·1	0·23	335	9 : 9, cu, n	p.-cl, n, t : 9, n, hy.-shs, t : p.-cl, r, l, t
8	5·2	15·0	WSW : SW	WSW : SW	3·2	0·10	284	p.-cl : 9, cu, n : 8, cu, n	p.-cl, cu, n, sh.-r, t : 10, fq.-r, t.-sm : 9, r
9	3·5	14·9	WSW : W	WSW : SW	1·3	0·05	238	9 : th.-cl : 6, ci.-s, cu, th.-cl	9, th.-cl, cu, n : 10 : p.-cl
10	2·5	14·9	SSW : S : SW	SW : W	1·5	0·03	201	9 : th.-cl, n : 8, cu, n, sh.-r	10, r, t : 9, r, l, t, m : 10, r, m
11	3·7	14·8	WNW : W	W : Variable : WSW	3·6	0·11	267	9 : p.-cl, h : 5, cu, n, s	10, cu, n, s, sh.-r : p.-cl : p.-cl, h, d
12	0·7	14·8	WSW : Calm : NE	ESE : E : NE	3·3	0·13	207	th.-cl, hy.-d : p.-cl : 9, s, n	10, s, n : 10, s, n : 10, oc.-slt.-r
13	2·4	14·7	NE : NNE : N	NNW : WNW : WSW	2·5	0·31	313	9 : ci.-s, ci.-cu : 9, cu, n	10, cu, n : v, shs.-r, l, t : p.-cl
14	4·6	14·6	WSW : SW	WSW : SW	4·1	0·14	266	p.-cl : 1 : 5, cu, cu.-s	10, s, n, shs.-r : 10, sh.-r : p.-cl
15	0·0	14·6	WSW	WSW	2·8	0·38	376	9 : 10 : 10, s, n, slt.-r	10, cu, cu.-s, n : 10
16	2·7	14·5	WSW	SW	3·8	0·32	348	p.-cl : 9 : 7, ci, cu, cu.-s	9, cu, cu.-s, n : 10, s, n, slt.-r, w : 10, fq.-m.-r
17	0·4	14·5	SW : SSW	SW : SSW : S	2·8	0·28	319	10, r : 10, fq.-r : 10, s, n	10, cu, s, n : 10, cu, s, n : 10, r
18	2·1	14·4	SSW : SW	SW : SSW	2·0	0·21	294	10, slt.-r : 9, slt.-r : 8, cu.-s, n	7, cu, s, n, sh.-r : p.-cl, n : p.-cl, slt.-sh, l, t
19	6·3	14·3	SW : SSW : S	SSW : SW	6·8	0·34	320	9 : v, shs.-r : p.-cl, cu, s, n, sh.-r, w	8, cu, s, n, w : p.-cl, slt.-sh, l, t : 9, fq.-r, hy.-sh, t.-sm
20	4·9	14·3	SSW : SW	SW : WSW : W	5·2	0·42	398	9, oc.-shs : 9 : 8, cu, n, w	8, cu, n, glm, sh.-r, w : v, n, shs.-r : p.-cl, slt.-sh
21	3·7	14·2	WSW : W	WSW : SW	3·2	0·24	350	p.-cl : 1 : 6, cu, cu.-s	10, shs.-r : 10, shs.-r
22	7·3	14·2	WSW : NNW : NW	WNW : WSW	3·3	0·33	377	10, r : p.-cl, cu : 5, cu, s	7, cu, cu.-s, n, w : p.-cl, cu, n, th.-cl : 10, oc.-slt.-r
23	0·0	14·1	WSW : SSW : SW	WSW	5·3	0·51	417	10, slt.-r : 10, fq.-r : 10, n, sc, c.-r	10, s, n, oc.-th.-r, w : 10, n, sc, fq.-th.-r, w : 10, slt.-sh, w
24	0·0	14·0	WSW : SW	SW : Calm : WSW	2·4	0·21	289	10, fq.-r : 10, c.-r : 10, s, n, r	10, s, n, fq.-r : p.-cl, so.-ha : p.-cl, hy.-d, slt.-m
25	3·1	14·0	WSW	SW : S : ESE	0·5	0·01	175	9 : p.-cl : 7, cu, so.-ha	8, cu, h, so.-ha : p.-cl : p.-cl, s
26	0·0	13·9	NE : N : W	W : NW : N	3·8	0·23	327	10, r : 10, c.-r : 10, fq.-r, glm	10, s, n, sc, sh.-r, w : 10, c.-r : 10, oc.-r
27	2·8	13·9	WNW	WNW : N : Calm	3·5	0·19	312	9 : 9 : 8, cu, th.-cl	8, cu, n, h : p.-cl, cu, n, th.-cl, h, so.-ha : th.-cl, h, hy.-d, m
28	5·8	13·8	Calm : WSW	SSW : S	0·9	0·02	186	h, m, hy.-d, ho.-fr : 1 : 1	p.-cl, cu, s, n : 9 : 9
29	4·0	13·7	S : SSW	SW : SSW	6·7	0·35	363	9, oc.-slt.-r : 10, slt.-r : 10, cu, n, fq.-r, w :	5, ci.-s, cu : th.-cl : p.-cl
30	3·1	13·7	SSW : SW	SW : NW	3·0	0·10	277	9, slt.-sh : p.-cl : 9, cu, n, shs.-r	7, cu, cu.-s, shs.-r : p.-cl : p.-cl, h, hy.-d
31	6·8	13·6	W : NW	NW : W : WSW	0·9	0·02	236	0, h, hy.-d : 1 : 4, cu, n, th.-cl	7, cu, n : p.-cl, cu, d : 9
Means	3·7	14·5	...	...	...	0·25	305		
Number of Column for Reference.	19	20	21	22	23	24	25	26	27

The mean *Temperature of Evaporation* for the month was 53°·4, being 4°·1 *lower* than the average for the 65 years, 1841–1905.
The mean *Temperature of the Dew Point* for the month was 50°·4, being 3°·6 *lower* than the average for the 65 years, 1841–1905.
The mean *Degree of Humidity* for the month was 79·1, being 2·8 *greater* than the average for the 65 years, 1841–1905.
The mean *Elastic Force of Vapour* for the month was 0^{in}·366, being 0^{in}·052 *less* than the average for the 65 years, 1841–1905.
The mean *Weight of Vapour in a Cubic Foot of Air* for the month was 4^{grs}·0, being 0^{gr}·6 *less* than the average for the 65 years, 1841–1905.
The mean *Weight of a Cubic Foot of Air* for the month was 529 grains, being 1 grain *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 7·8.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·254. The maximum daily amount of *Sunshine* was 9·2 hours on August 1.

The highest reading of the *Solar Radiation Thermometer* was 136°·0 on August 8; and the lowest reading of the *Terrestrial Radiation Thermometer* was 32°·3 on August 3.

The *Proportions of Wind* referred to the cardinal points were N. 2, E. 2, S. 10, and W. 15. Two days were calm.

The *Greatest Pressure of the Wind* in the month was 8·3 lbs. on the square foot on August 5 and 6. The mean daily *Horizontal Movement of the Air* for the month was 305 miles; the greatest daily value was 449 miles on August 1; and the least daily value was 159 miles on August 3.

Rain (0^{in}·005 or over) fell on 21 days in the month, amounting to 4^{in}·142, as measured by gauge No. 6 partly sunk below the ground; being 1^{in}·798 *greater* than the average fall for the 65 years, 1841–1905.

MONTH and DAY, 1912.	Phases of the Moon.	BAROMETER. Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	TEMPERATURE. Of the Air. Highest.	Of the Air. Lowest.	Of the Air. Daily Range.	Of the Air. Mean of 24 Hourly Values.	Of the Air. 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.	Of Radiation. Lowest on the Grass.	Of the Earth 3 ft. 2 in. below the Surface of the Soil.	Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Electricity.
		in.	°	°	°	°	°	°	°	°	°	°		°	°	°	in.	
Sept. 1	...	29·782	64·3	51·1	13·2	56·4	− 3·4	53·6	51·0	5·4	12·6	0·8	82	99·2	45·1	59·44	0·131	vP, sN : wP : wP
2	...	29·731	61·2	49·3	11·9	54·9	− 4·8	51·5	48·2	6·7	18·1	1·2	78	118·0	41·2	59·31	0·077	wP
3	...	29·965	62·1	42·2	19·9	53·5	− 6·1	50·4	47·4	6·1	13·0	0·9	79	97·3	32·0	59·21	0·001	wP
4	Last Quarter	29·809	69·1	51·5	17·6	60·9	+ 1·4	56·6	52·9	8·0	17·7	1·1	75	124·9	45·2	59·08	0·000	wwP : wP
5	...	29·816	60·9	47·0	13·9	53·3	− 6·1	48·8	44·3	9·0	15·5	2·5	72	117·5	40·4	58·99	0·000	wP : mP : mP
6	Greatest Dec. N.	29·784	60·0	45·3	14·7	52·6	− 6·6	48·4	44·2	8·4	13·9	3·6	73	117·9	38·4	58·90	0·004	wP : mP, sN : mP
7	...	29·998	62·0	44·2	17·8	53·9	− 5·1	49·6	45·4	8·5	15·3	1·7	73	109·8	35·6	58·65	0·000	... : mP : mP
8	...	29·946	67·0	53·1	13·9	59·8	+ 1·0	56·5	53·6	6·2	11·3	2·4	81	104·9	49·1	58·61	0·000	wP
9	Perigee	29·991	58·5	46·0	12·5	51·0	− 7·6	46·4	41·6	9·4	16·7	3·1	70	110·8	35·0	58·41	0·000	wP : mP : mP
10	...	29·930	54·7	44·0	10·7	48·6	− 9·8	45·7	42·6	6·0	9·2	3·6	80	78·1	34·0	58·38	0·004	mP
11	New	29·913	51·7	44·1	7·6	48·0	−10·1	45·2	42·1	5·9	10·1	1·2	80	70·0	38·0	58·06	0·024	mP : mP : wP
12	In Equator	30·113	63·0	49·1	13·9	54·9	− 3·1	51·7	48·6	6·3	13·3	2·0	79	114·3	38·0	57·73	0·000	wP
13	...	30·235	59·0	43·2	15·8	51·1	− 6·7	48·9	46·6	4·5	9·4	0·2	85	79·6	31·9	57·48	0·000	wP
14	...	30·094	63·0	43·2	19·8	53·8	− 3·9	51·6	49·5	4·3	9·2	0·0	85	104·3	32·0	57·40	0·001	wP
15	...	30·021	63·0	54·2	8·8	56·8	− 0·8	54·3	52·0	4·8	10·5	2·4	84	89·0	49·5	57·40	0·000	wP
16	...	30·054	63·1	53·1	10·0	56·9	− 0·6	55·2	53·7	3·2	7·1	1·4	89	75·4	41·3	57·37	0·000	wwP
17	...	30·096	58·9	50·6	8·3	54·8	− 2·4	53·2	51·6	3·2	5·6	0·0	89	65·9	41·2	57·50	0·000	wwP : wP : wP
18	First Quarter : Greatest Dec. S.	30·210	62·1	42·4	19·7	52·1	− 4·8	49·5	46·9	5·2	13·0	0·0	82	111·9	34·0	57·53	0·000	wP
19	...	30·254	55·9	48·2	7·7	51·2	− 5·3	47·6	43·9	7·3	9·7	4·9	77	80·5	40·1	57·43	0·000	wP
20	...	30·207	61·7	46·9	14·8	53·0	− 3·2	49·1	45·2	7·8	19·9	2·3	75	120·0	35·0	57·31	0·000	wP
21	Apogee	30·220	59·0	41·1	17·9	50·3	− 5·6	46·2	41·9	8·4	16·5	3·0	74	117·0	27·0	57·12	0·000	wP
22	...	30·213	60·7	41·4	19·3	51·0	− 4·6	46·9	42·6	8·4	17·4	1·9	73	112·3	28·7	56·91	0·000	wP
23	...	30·227	64·0	44·6	19·4	52·6	− 2·8	50·0	47·4	5·2	15·1	0·2	82	119·7	32·5	56·59	0·000	wP
24	...	30·162	60·4	43·3	17·1	50·7	− 4·6	47·5	44·1	6·6	13·8	0·8	79	110·2	31·1	56·32	0·000	wP
25	...	30·022	56·8	46·3	10·5	50·5	− 4·7	45·4	40·1	10·4	14·4	6·7	68	107·1	36·0	56·19	0·000	wP
26	In Equator : Full	29·976	58·6	42·5	16·1	49·5	− 5·7	44·2	38·5	11·0	16·8	5·4	66	116·2	29·4	56·04	0·000	wP
27	...	29·936	60·6	37·2	23·4	49·3	− 5·8	44·9	40·2	9·1	17·6	2·3	71	117·1	24·3	55·83	0·000	wP
28	...	29·732	56·6	46·8	9·8	51·7	− 3·2	48·2	44·7	7·0	11·6	3·0	77	104·9	39·3	55·54	0·021	wP : wP, wwN : wwP,wwN
29	...	29·619	63·2	51·0	12·2	55·1	+ 0·4	52·6	50·2	4·9	14·8	0·6	84	117·6	46·1	55·39	0·227	wwP, sN : wP : wP, vN
30	...	29·212	63·9	52·6	11·3	56·0	+ 1·6	55·0	54·1	1·9	4·1	0·4	93	96·2	50·8	55·37	1·497	wN : wN, wP : wP, wN
Means	...	29·976	60·8	46·5	14·3	53·1	− 4·1	49·8	46·5	6·6	13·1	2·0	78·5	103·6	37·4	57·52	Sum 1·987	...
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

The results apply to the civil day.

The mean reading of the Barometer (Column 2) and the mean temperatures of the Air and Evaporation (Columns 6 and 8) are deduced from the photographic records. The average temperature (Column 7) is deduced from the 65 years' observations, 1841–1905. The temperature of the Dew Point (Column 9) and the Degree of Humidity (Column 13) are deduced from the corresponding temperatures of the Air and Evaporation by means of Glaisher's Hygrometrical Tables. The mean difference between the Air and Dew Point Temperatures (Column 10) is the difference between the numbers in Columns 6 and 9, and the Greatest and Least Differences (Columns 11 and 12) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers. The readings in Column 16 are taken daily at noon.

The values given in Columns 3, 4, 5, 14, and 15 are derived from eye-readings of self-registering thermometers.

The mean reading of the *Barometer* for the month was $29^{in}·976$, being $0^{in}·165$ *higher* than the average for the 65 years, 1841–1905.

TEMPERATURE OF THE AIR.

The highest in the month was 69°·1 on September 4; the lowest in the month was 37°·2 on September 27; and the range was 31°·9.
The mean of all the highest daily readings in the month was 60°·8, being 6°·5 *lower* than the average for the 65 years, 1841–1905.
The mean of all the lowest daily readings in the month was 46°·5, being 2°·6 *lower* than the average for the 65 years, 1841–1905.
The mean of the daily ranges was 14°·3, being 3°·9 *less* than the average for the 65 years, 1841–1905.
The mean for the month was 53°·1, being 4°·1 *lower* than the average for the 65 years, 1841–1905.

MONTH and DAY, 1912.	Daily Duration of Sunshine.	Sun above Horizon.	Wind as Deduced from Self-Registering Anemometers. Osler's. General Direction. A.M.	P.M.	Pressure on the Square Foot. Greatest.	Mean of 24 Hourly Measures.	Robinson's. Horizontal Movement of the Air.	Clouds and Weather. A.M.	P.M.
	hours.	hours.			lbs.	lbs.	miles.		
Sept. 1	0·1	13·5	WSW : SW : W	NW : Calm	0·4	0·00	203	9, r : 10, r : 10, s, n	10, s, so.-ha : p.-cl, ci.-s, s: p.-cl, d
2	3·9	13·5	Calm : W : NW	N	3·2	0·19	283	10, r : 10, r : 9, cu, cu.-s, slt.-r	5, cu, cu.-s : 10, n, oc.-slt.-r: 1, h
3	1·6	13·4	N : WSW	SW : SSW	2·2	0·09	246	1, h, ho.-fr: 1, h : 6, s, h	10, s : 10, s, n : 9, oc.-slt.-r
4	6·3	13·3	SW : WSW	NW : W	5·7	0·66	505	9 : 10, slt.-r : 8, ci, ci.-s, ci.-cu, cu, w	7, ci.-s, cu, cu.-s, w : p.-cl, cu, s, n: p.-cl
5	8·9	13·3	W	WNW : W	7·0	0·73	509	1 : p.-cl : 5, ci.-cu, cu, w	5, cu, cu.-s, w: p.-cl, cu, cu.-s, w: p.-cl
6	6·4	13·2	W : NW	WNW : NNW : NW	7·0	0·60	461	1 : p.-cl : 7, cu, slt.-sh, w	8, cu, s, n, slt.-sh, w: 8, w : p.-cl, w
7	6·5	13·2	WNW : WSW : NNW	NNW : NW : W	3·3	0·19	314	1 : 1 : 4, ci.-cu, cu, cu.-s	7, ci.-cu, cu, n: 9, ci.-s, cu, s, n: 9
8	0·5	13·1	WSW : W : WNW	W : WNW	4·0	0·41	419	9 : 9 : 9, ci.-cu, s, n, w	10, cu, s, n, w: 9, s, n, oc.-slt.-r: 10, slt.-sh
9	8·6	13·0	NNE : N	N : NW	2·8	0·27	318	9, slt.-r : p.-cl : 3, cu	3, cu : p.-cl : th.-cl, h
10	0·2	13·0	NNW : NW : N	N	4·2	0·27	318	h : 9 : 9, cu.-s, s, n	10, s, n, sh.-r : 10, w : p.-cl
11	0·0	12·9	NNW	NNW : N	5·4	0·50	404	9 : 10 : 10, s, n, w	10, s, n, w : 10, slt.-r : 10, slt.-r
12	2·6	12·8	N : NNE	NE : E	3·8	0·31	324	9, slt.-r : 9 : 9, cu, cu.-s, n	p.-cl, cu, n : p.-cl, ci, cu, n : 9
13	0·5	12·8	NNE : Calm	Calm : W	0·2	0·00	111	p.-cl : p.-cl, m : 10, s	9, s : p.-cl : m, d
14	0·6	12·7	W : NW : N	N : NNW	0·2	0·00	186	p.-cl, m : 9, slt.-sh : 9, ci.-s, ci.-cu, s	10, s : 10
15	0·0	12·6	NNW : NW : N	N : NNE : Calm	0·5	0·01	157	10 : 9 : 10	10, s : 9, cu, s, n : 10
16	0·0	12·6	Calm	Calm : WSW : SW	0·1	0·00	90	10, m : 10 : 10, s	10, s : p.-cl : p.-cl, d
17	0·0	12·5	Calm : NNW : N	N : Calm	0·1	0·00	126	9 : 10 : 10, s, n	10, s, n : 10, s, n : p.-cl, th.-cl, m
18	3·3	12·4	Calm : ENE	NE : ESE	0·9	0·04	178	p.-cl, m, f : p.-cl, slt.-f: 5, cu, cu.-s, slt.-m	9, cu, n : p.-cl, cu, s, n: p.-cl, d
19	0·0	12·4	NE	ENE : NE	1·5	0·15	293	9 : 9 : 10, s, n	10, s, n : 10
20	5·8	12·3	NE : ENE	E : ENE	2·8	0·15	265	10, oc.-m.-r: 9 : 9, s, n	4, cu : 3 : 9
21	10·0	12·2	ENE : E	E : ENE	4·5	0·23	280	p.-cl, ho.-fr: 0 : p.-cl, cu, cu.-s, w	0, w : 0, hy.-d
22	10·0	12·2	E : ENE	E : ENE	5·0	0·36	316	0, hy.-d, ho.-fr: 0 : 0, w	0, w : 1 : p.-cl
23	7·3	12·1	NE : ENE : E	E : ENE	2·9	0·12	255	0, m, hy.-d: 1 : 1, cu	4, ci, cu : p.-cl, cu, n : 1, th.-cl, d
24	4·9	12·1	NE : N	E : ENE	4·2	0·25	279	0, m, hy.-d: p.-cl : 9, cu, n	6, cu, n, w : p.-cl, cu, n, w: 9
25	3·7	12·0	ENE : ESE : SE	ESE : SE	1·7	0·10	215	9 : 9, cu, n	6, cu, n, s : p.-cl, cu, s, n: 9, cu.-s, th.-cl
26	9·1	11·9	SE	SE : ESE	2·8	0·13	233	p.-cl : p.-cl : 1, cu	1, cu : 0 : 0, h, hy.-d
27	8·9	11·9	SE : ESE	E : ESE	3·9	0·28	273	0, h, ho.-fr: 0, h, slt.-m: 1, cu	1, cu : p.-cl, ci.-s, cu, s, lu.-co, m : th.-cl, lu.-ha, lu.-co, hy.-d
28	5·6	11·8	ESE : E	E : ESE	7·5	0·50	347	th.-cl : p.-cl : 6, ci.-s, ci.-cu, cu, w	p.-cl, ci.-s, cu, w: 10, s, slt.-r : 9, oc.-slt.-r
29	3·0	11·7	E : SE : S	S : SSE : SE	4·5	0·25	283	9, slt.-r : 10, oc.-r : 7, cu, s, n, slt.-r	p.-cl, cu, s, : 10, fq.-shs : 10, r
30	0·5	11·7	SSE : S	SSW : SW : NE	4·2	0·41	338	10, c.-r, w: 10, c.-r : 10, n, sc, fq.-r	8, ci.-cu, cu, n, slt.-sh : 10, n, r : 10, r
Means	4·0	12·6	...	...	...	0·24	284		
Number of Column for Reference.	19	20	21	22	23	24	25	26	27

The mean *Temperature of Evaporation* for the month was 49°·8, being 4°·3 *lower* than the average for the 65 years, 1841–1905.
The mean *Temperature of the Dew Point* for the month was 46°·5, being 4°·7 *lower* than the average for the 65 years, 1841–1905.
The mean *Degree of Humidity* for the month was 78·5, being 1·7 *less* than the average for the 65 years, 1841–1905.
The mean *Elastic Force of Vapour* for the month was 0in·317, being 0in·060 *less* than the average for the 65 years, 1841–1905.
The mean *Weight of Vapour in a Cubic Foot of Air* for the month was 3grs·6, being 0gr·6 *less* than the average for the 65 years, 1841–1905.
The mean *Weight of a Cubic Foot of Air* for the month was 541 grains, being 8 grains *greater* than the average for the 65 years, 1841–1905.

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

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·314. The maximum daily amount of *Sunshine* was 10·0 hours on September 21 and 22.

The highest reading of the *Solar Radiation Thermometer* was 124°·9 on September 4; and the lowest reading of the *Terrestrial Radiation Thermometer* was 24°·3 on September 27.

The *Proportions of Wind* referred to the cardinal points were N. 8, E. 9, S. 3, and W. 7. Three days were calm.

The *Greatest Pressure of the Wind* in the month was 7·5 lbs. on the square foot on September 28. The mean daily *Horizontal Movement of the Air* for the month was 284 miles; the greatest daily value was 509 miles on September 5; and the least daily value was 90 miles on September 16.

Rain (0in·005 or over) fell on 6 days in the month, amounting to 1in·987, as measured by gauge No. 6 partly sunk below the ground; being 0in·161 *less* than the average fall for the 65 years, 1841–1905.

MONTH and DAY, 1912.	Phases of the Moon.	BAROMETER. Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	TEMPERATURE. Of the Air. Highest.	TEMPERATURE. Of the Air. Lowest.	TEMPERATURE. Of the Air. Daily Range.	TEMPERATURE. Of the Air. Mean of 24 Hourly Values.	TEMPERATURE. Of the Air. Excess above Average of 65 Years.	TEMPERATURE. Of Evaporation. Mean of 24 Hourly Values.	TEMPERATURE. Of the Dew Point. Deduced Mean Daily Value.	Difference between the Air Temperature and Dew Point Temperature. Mean.	Difference … Greatest.	Difference … Least.	Degree of Humidity (Saturation = 100).	TEMPERATURE. Of Radiation. Highest in Sun's Rays.	TEMPERATURE. Of Radiation. Lowest on the Grass.	TEMPERATURE. Of the Earth 3 ft. 2 in. below the Surface of the Soil.	Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Electricity.
		in.	°	°	°	°	°	°	°	°	°	°		°	°	°	in.	
Oct. 1	...	29·129	63·9	47·0	16·9	53·8	− 0·3	51·5	49·3	4·5	13·7	0·4	85	114·0	42·8	55·35	0·526	wP : wP : vP, vN
2	...	29·485	52·0	39·8	12·2	47·5	− 6·2	44·7	41·6	5·9	12·0	1·5	81	72·1	30·4	55·35	0·038	wP : mP
3	Greatest Dec. N. : Last Quarter	29·997	51·9	36·1	15·8	42·5	−10·8	39·4	35·6	6·9	12·5	1·8	77	109·0	21·9	55·27	0·004*	mP
4	...	30·405	53·1	33·5	19·6	41·9	−11·1	39·1	35·6	6·3	15·4	0·7	79	112·0	22·8	54·80	0·001*	mP
5	...	30·313	56·1	29·9	26·2	41·5	−11·3	38·9	35·7	5·8	14·7	0·3	81	102·4	22·0	54·22	0·001*	mP
6	...	30·153	55·2	29·4	25·8	40·2	−12·3	37·9	35·0	5·2	16·2	0·0	82	97·7	19·8	53·62	0·001*	mP : wP : ...
7	Perigee	30·094	59·8	33·1	26·7	45·2	− 7·1	42·3	38·9	6·3	14·1	0·4	79	100·6	26·0	53·13	0·001*	mP : mP : wP
8	...	30·075	58·0	34·1	23·9	44·7	− 7·3	43·5	42·1	2·6	9·6	0·0	91	94·5	26·3	52·69	0·001*	vP : wP : wP
9	In Equator	30·065	60·9	39·2	21·7	48·7	− 2·9	45·9	42·9	5·8	18·4	0·0	81	100·0	29·1	52·42	0·004*	wP
10	New	30·106	63·0	37·1	25·9	48·2	− 3·1	45·9	43·4	4·8	17·2	0·0	84	103·3	28·0	52·29	0·003*	wP
11	...	30·080	60·5	36·1	24·4	43·2	− 7·7	42·2	41·0	2·2	13·5	0·0	92	106·5	29·0	52·18	0·004*	wP : wP : vP
12	...	30·094	60·1	36·1	24·0	45·0	− 5·6	43·4	41·5	3·5	12·5	0·0	88	101·2	28·1	52·02	0·003*	vP : wP
13	...	30·070	65·7	36·9	28·8	49·8	− 0·5	47·9	45·9	3·9	12·0	0·0	88	107·9	26·8	51·85	0·003*	wP
14	...	30·028	60·4	46·9	13·5	55·1	+ 5·0	53·4	51·8	3·3	5·0	3·0	89	67·3	41·8	51·89	0·055	wP
15	...	30·155	57·9	34·3	23·6	45·1	− 4·8	43·6	41·8	3·3	8·9	0·2	89	91·7	25·4	52·01	0·004*	wP
16	Greatest Dec. S.	29·891	59·0	36·2	22·8	48·1	− 1·7	46·0	43·7	4·4	12·6	0·2	85	110·3	26·0	52·10	0·026	wP
17	...	29·942	57·5	40·9	16·6	50·6	+ 1·0	47·5	44·3	6·3	13·7	2·0	79	90·9	30·1	51·90	0·004	wP
18	First Quarter	30·089	59·1	36·1	23·0	48·2	− 1·1	45·6	42·8	5·4	13·2	0·7	82	104·3	27·5	51·97	0·006	wP
19	Apogee	29·915	57·2	44·1	13·1	51·4	+ 2·3	47·7	43·9	7·5	16·8	1·2	76	95·2	35·2	51·81	0·027	wP
20	...	29·546	59·0	44·1	14·9	50·2	+ 1·4	47·6	44·9	5·3	12·9	1·3	82	100·1	35·2	51·75	0·356	wP : wP : vP, vN
21	...	29·146	49·1	39·1	10·0	43·8	− 4·8	41·5	38·8	5·0	10·0	0·4	82	99·1	28·9	51·70	0·136	vN, wP : mP : mP, vN
22	...	29·206	49·3	39·1	10·2	44·0	− 4·3	42·7	41·1	2·9	7·0	0·7	90	65·3	34·1	51·70	0·022	wP
23	In Equator	29·239	53·0	36·4	16·6	44·1	− 4·0	42·6	40·8	3·3	9·6	0·0	88	79·3	28·1	51·41	0·003	wP
24	...	29·181	51·9	38·6	13·3	44·8	− 3·1	43·4	41·8	3·0	8·2	0·0	90	81·7	27·1	51·19	0·028	wP
25	...	29·351	51·5	34·4	17·1	41·6	− 6·1	40·2	38·4	3·2	10·5	0·0	89	92·9	28·3	51·00	0·000	wP, wwN : mP : wP
26	Full	29·509	57·9	33·0	24·9	45·0	− 2·6	44·4	43·7	1·3	2·2	0·0	95	62·4	25·0	50·69	0·329	wP : ... : wwP
27	...	29·536	60·3	56·6	3·7	57·5	+10·0	54·9	52·6	4·9	8·2	1·7	84	96·0	50·1	50·58	0·010	... : wwP
28	...	29·352	59·9	52·3	7·6	56·1	+ 8·7	54·0	52·0	4·1	10·5	0·2	86	74·2	50·7	50·80	0·289	... : wwP : wwP, wwN
29	...	29·325	59·7	51·3	8·4	55·2	+ 7·9	51·9	48·7	6·5	12·7	2·2	79	104·7	44·2	51·24	0·038	... : wwP : wP
30	Greatest Dec. N.	29·227	55·0	47·5	7·5	51·2	+ 4·0	48·6	45·9	5·3	11·3	2·1	82	91·6	41·8	51·55	0·207	wwP, wN : wP, mN : wP, vN
31	...	29·429	52·8	39·2	13·6	46·4	− 0·7	44·0	41·3	5·1	8·3	3·4	83	75·1	32·5	51·64	0·000	wP
Means	...	29·746	57·1	39·3	17·8	47·4	− 2·6	45·2	42·8	4·6	11·7	0·8	84·5	93·7	31·1	52·33	Sum 2·130	...
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

The results apply to the civil day.

The mean reading of the Barometer (Column 2) and the mean temperatures of the Air and Evaporation (Columns 6 and 8) are deduced from the photographic records. The average temperature (Column 7) is deduced from the 65 years' observations, 1841–1905. The temperature of the Dew Point (Column 9) and the Degree of Humidity (Column 13) are deduced from the corresponding temperatures of the Air and Evaporation by means of Glaisher's Hygrometrical Tables. The mean difference between the Air and Dew Point Temperatures (Column 10) is the difference between the numbers in Columns 6 and 9, and the Greatest and Least Differences (Columns 11 and 12) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers. The readings in Column 16 are taken daily at noon.

The values given in Columns 3, 4, 5, 14, and 15 are derived from eye-readings of self-registering thermometers.

* Rainfall (Column 17). The amount entered on October 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 and 15 are derived from dew, frost or fog.

The mean reading of the *Barometer* for the month was 29in·746, being 0in·025 ***higher*** than the average for the 65 years, 1841–1905.

TEMPERATURE OF THE AIR.

The highest in the month was 65°·7 on October 13 ; the lowest in the month was 29°·4 on October 6 ; and the range was 36°·3.
The mean of all the highest daily readings in the month was 57°·1, being 0°·4 *lower* than the average for the 65 years, 1841–1905.
The mean of all the lowest daily readings in the month was 39°·3, being 3°·9 *lower* than the average for the 65 years, 1841–1905.
The mean of the daily ranges was 17°·8, being 3°·5 *greater* than the average for the 65 years, 1841–1905.
The mean for the month was 47°·4, being 2°·6 *lower* than the average for the 65 years, 1841–1905.

MONTH and DAY, 1912.	Daily Duration of Sunshine.	Sun above Horizon.	Wind as deduced from Self-Registering Anemometers.					Clouds and Weather.	
			Osler's.				Robinson's.		
			General Direction.		Pressure on the Square Foot.		Horizontal Movement of the Air.		
			A.M.	P.M.	Greatest.	Mean of 24 Hourly Measures.		A.M.	P.M.
	hours.	hours.			lbs.	lbs.	miles.		
Oct. 1	4·2	11·6	N : W : WSW	WSW : SW : NE	5·4	0·31	356	10, r, w : p.-cl : p.-cl, ci.-s, cu, n	p.-cl, ci, ci.-cu, cu : 10, fq.-r, slt.-m : 10, oc.-r, slt.-m
2	0·0	11·6	NE	ENE : NE : NNE	2·0	0·18	295	10, oc.-slt.-r : 10, slt.-r : 10, s, n, slt.-r	9, ci.-s, ci.-cu, cu : p.-cl : 0, d
3	7·7	11·5	N	NNE : N	4·0	0·35	309	0, ho.-fr : 1 : 3, cu, n	5, cu, cu.-s, n : 1, cu : 0, d
4	6·7	11·4	NNE : N	NE : Calm	0·3	0·00	114	0, ho.-fr, slt.-m : 1, h : 1, cu	1, cu, th.-cl : p.-cl, h, f : tk.-f, ho.-fr
5	7·2	11·4	Calm : SW	SW : Calm	0·1	0·00	107	0, f, ho.-fr : 0, slt.-f : 0, slt.-m	1, cu : 0, slt.-f : 0, m, ho.-fr
6	3·6	11·3	Calm	Calm : S	0·0	0·00	89	0, m, f, ho.-fr : f : li.-cl, f	6, li.-cl, cu : 2, slt.-f : 0, h, m, ho.-fr
7	7·6	11·2	Calm : SW	WSW : Calm	0·1	0·00	105	0, m, ho.-fr : 0, slt.-m : 1, th.-cl	1, th.-cl : p.-cl : 0, f, ho.-fr
8	7·0	11·1	Calm	E	1·0	0·02	134	f, ho.-fr : f : 0, slt.-f	0 : 0 : 0, slt.-f, hy.-d
9	7·3	11·1	Calm : E : ENE	E : ENE : NE	2·0	0·07	185	f : f : 0, slt.- f	0 : 0 : 0, d, f
10	7·5	11·0	ENE : Calm : ESE	SE : ESE : Calm	0·5	0·01	138	tk.-f, ho.-fr : f : 0, slt.-f	0 : 0 : 0, hy.-d, f
11	3·1	10·9	Calm	Calm	0·0	0·00	56	tk.-f : tk.-f : f	0, f : 0, f
12	4·8	10·9	Calm	SW : S : Calm	0·3	0·00	95	tk.-f, hy.-d : tk.-f : s, f	1, slt.-f : 0, slt.-f, ho.-fr : tk.-f, ho.-fr
13	3·9	10·8	Calm	SW : SSW	0·5	0·00	147	tk.-f, hy.-d : f : 6, ci, f	6, ci, ci.-s : ci.-cu, cu, cu.-s : 1, d
14	0·0	10·7	SSW : SW	WSW : W : NNE	3·2	0·12	300	0 : p.-cl : 10, s, n, slt.-sh	10, s, n, oc.-slt.-r : 10, r : p.-cl
15	1·2	10·7	NE : Calm	Calm : SW	0·2	0·00	120	0, slt.-f : tk.-f : 4, ci.-s, s, f	8, ci.-s, s, slt.-f, so.-ha : th.-cl : 0, slt.-f
16	6·2	10·6	SW	SW	2·5	0·16	296	0, slt.-h, ho.-fr : 0, h	p.-cl, cu, n : 10, slt.-r : 10, slt.-r
17	4·8	10·5	SW : W	NW : W : WSW	3·0	0·14	295	p.-cl, oc.-r : p.-cl, cu, n, h	6, cu : p.-cl, h, slt.-m : 0, h, d
18	5·6	10·5	WSW : SW	WSW : SW	3·2	0·16	313	0, h, m, ho.-fr : li.-cl : 4, ci, ci.-cu, cu	6, ci, cu, cu.-s : 10 : 10, slt.-r
19	6·7	10·4	WSW : NNW : NW	NW : WNW : SW	2·0	0·14	301	10, slt.-r : 1, slt.-m : 2, cu	6, cu : 4 : p.-cl
20	4·7	10·4	WSW : SW	SW	7·3	0·55	484	9 : p.-cl : 4, ci, cu, w	8, cu, n, slt.-r, w : 9, slt.-r, w : 10, r, w
21	3·6	10·3	SW	WSW : W : SSW	1·3	0·05	244	p.-cl, r : p.-cl : 5, cu, s, n	7, cu, n : p.-cl, slt.-r : 10, fq.-r
22	0·1	10·3	Calm : NE	ENE : NE	2·8	0·07	209	10, oc.-slt.-r : 10 : 10, fq.-r	10, oc.-slt.-r : 10 : p.-cl
23	1·3	10·2	Calm	SW : NE : Calm	0·0	0·00	96	p.-cl, f, ho.-fr : f : p.-cl, cu, cu.-s, f	8, cu.-s, h : 10, s, n : 10, slt.-f, oc.-r
24	1·4	10·1	Calm : SW	Calm	0·0	0·00	94	10, slt.-f, slt.-r : 10, slt.-r. : 8, cu, n, h	8, cu, n, h : p.-cl : f, ho.-fr
25	5·3	10·1	Calm	WSW : Calm : SW	0·1	0·00	137	tk.-f, ho.-fr : tk.-f : th.-cl, f	1, cu : p.-cl, cu, n : p.-cl, slt.-m, ho.-fr
26	0·0	10·0	SW : Calm : SE	SE : SSE : SW	3·2	0·07	212	1, ho.-fr, f : f : 10, s, f, m.-r	10, slt.-r : 10, s, n, r : 10
27	0·5	9·9	SW	SW : SSW	8·8	0·87	542	10 : 10, li.-shs, w : 9, ci.-s, s, n, w	10, s, n, sc, w : 10, s, n, sc, w : 10, oc.-slt.-r, lu.-ha, w
28	0·0	9·9	SW	SW : SSW	9·6	1·28	589	10, oc.-r, st.-w : 10, slt.-r, w : 10, s, n, sc, th.-r, w	10, s, n, oc.-slt.-r, sqs : 10, r, st.-w
29	6·3	9·8	SW : WSW	WSW : SW : SSW	16·5	1·31	561	10, oc.-r, st.-w : p.-cl, st.-w : 5, cu, st.-w	5, ci, ci.-s, cu, w : p.-cl, ci, ci.-s, r : p.-cl
30	4·2	9·7	SSW : SW	WSW : SW	9·7	0·63	448	p.-cl : 9, fq.-r, sq : v, oc.-r, w	p.-cl, r, w : p.-cl, oc.-r, w : p.-cl, oc.-r, lu.-co
31	0·3	9·7	WSW : W : NW	NNE : N	4·8	0·57	446	10 : 10 : p.-cl, cu, n	10, sc, s, n, oc.-slt.-r, w : 0, h
Means	4·0	10·6	...	...	...	0·23	252		
Number of Column for Reference.	19	20	21	22	23	24	25	26	27

The mean *Temperature of Evaporation* for the month was 45°·2, being 2°·7 *lower* than
The mean *Temperature of the Dew Point* for the month was 42°·8, being 2°·9 *lower* than
The mean *Degree of Humidity* for the month was 84·5, being 0·5 *less* than
The mean *Elastic Force of Vapour* for the month was 0in·275, being 0in·032 *less* than
The mean *Weight of Vapour in a Cubic Foot of Air* for the month was 3grs·2, being 0gr·3 *less* than
The mean *Weight of a Cubic Foot of Air* for the month was 543 grains, being 3 grains *greater* than
} the average for the 65 years, 1841–1905.

The mean amount of *Cloud* for the month (a clear sky being represented by 0, and an overcast sky by 10) was 4·8.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·373. The maximum daily amount of *Sunshine* was 7·7 hours on October 3.

The highest reading of the *Solar Radiation Thermometer* was 114°·0 on October 1; and the lowest reading of the *Terrestrial Radiation Thermometer* was 19°·8 on October 6.

The *Proportions of Wind* referred to the cardinal points were N. 4, E. 3, S. 6, and W. 9. Nine days were calm.

The *Greatest Pressure of the Wind* in the month was 16·5 lbs. on the square foot on October 29. The mean daily *Horizontal Movement of the Air* for the month was 252 miles; the greatest daily value was 589 miles on October 28; and the least daily value was 56 miles on October 11.

Rain (0in·005 or over) fell on 15 days in the month, amounting to 2in·130, as measured by gauge No. 6 partly sunk below the ground; being 0in·652 *less* than the average fall for the 65 years, 1841–1905.

MONTH and DAY, 1912.	Phases of the Moon.	BAROMETER. Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	TEMPERATURE. Of the Air. Highest.	TEMPERATURE. Of the Air. Lowest.	TEMPERATURE. Of the Air. Daily Range.	TEMPERATURE. Of the Air. Mean of 24 Hourly Values.	TEMPERATURE. Of the Air. Excess above Average of 65 Years.	TEMPERATURE. Of Evaporation. Mean of 24 Hourly Values.	TEMPERATURE. Of the Dew Point. Deduced Mean Daily Value.	Difference between the Air Temperature and Dew Point Temperature. * Mean.	Difference between the Air Temperature and Dew Point Temperature. Greatest.	Difference between the Air Temperature and Dew Point Temperature. Least.	Degree of Humidity (Saturation = 100).	TEMPERATURE. Of Radiation. Highest in Sun's Rays.	TEMPERATURE. Of Radiation. Lowest on the Grass.	TEMPERATURE. Of the Earth 3 ft. 2 in. below the Surface of the Soil.	Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Electricity.
		in.	°	°	°	°	°	°	°	°	°	°		°	°	°	in.	
Nov. 1	...	30·129	44·0	34·6	9·4	38·7	− 8·3	35·5	31·3	7·4	12·7	4·6	75	77·1	26·2	51·45	0·001*	wP : mP : mP
2	Last Quarter	30·169	47·0	32·1	14·9	38·9	− 7·9	36·0	32·1	6·8	13·6	2·5	78	67·0	25·2	50·90	0·003*	mP
3	Perigee	30·149	42·4	29·1	13·3	34·4	−12·2	33·2	31·2	3·2	8·2	1·1	87	46·3	21·9	50·27	0·003*	mP : vP : mP
4	...	30·100	51·8	28·7	23·1	42·6	− 3·8	40·5	38·0	4·6	8·2	1·7	84	69·1	21·9	49·69	0·002	mP, wN : mP : wP
5	In Equator	29·751	51·0	44·9	6·1	47·7	+ 1·6	46·7	45·6	2·1	5·8	0·8	93	59·4	38·9	49·20	0·176	wP : wwN, wP : wP
6	...	30·017	49·5	47·1	2·4	48·5	+ 2·7	48·1	47·7	0·8	2·3	0·6	97	51·0	45·0	49·12	0·000	wP
7	...	30·181	56·5	47·5	9·0	51·1	+ 5·7	49·3	47·4	3·7	8·3	2·3	88	81·8	43·5	49·23	0·000	wP
8	...	30·177	56·2	50·6	5·6	53·2	+ 8·2	51·8	50·4	2·8	4·9	2·0	90	78·2	49·0	49·47	0·000	wP
9	New	29·996	56·0	46·7	9·3	50·6	+ 6·0	48·8	46·9	3·7	6·9	0·8	88	77·2	38·2	49·81	0·003	wP
10	...	29·640	50·9	44·0	6·9	47·9	+ 3·6	45·2	42·2	5·7	8·8	1·3	82	72·5	36·1	50·00	0·050	wwP : wP, wwN : wP, vN
11	...	29·209	47·3	38·7	8·6	42·2	− 1·8	38·5	34·0	8·2	10·1	6·7	74	62·2	32·4	50·10	0·003	sP, wN : mP, mN : mP
12	Greatest Dec. S.	29·276	42·1	36·4	5·7	39·5	− 4·2	37·1	34·0	5·5	9·3	2·6	81	50·8	28·9	49·82	0·012	mP : mP, wN : vN, mP
13	...	29·422	43·1	37·1	6·0	40·0	− 3·5	37·9	35·2	4·8	7·6	2·1	83	53·0	31·2	49·30	0·008	mP : mP, wN : mP, vN
14	...	29·722	43·6	41·1	2·5	42·1	− 1·2	40·3	38·1	4·0	5·7	2·0	86	49·2	35·0	48·91	0·069	vN, wP : mP : mP
15	...	29·943	47·6	39·1	8·5	43·6	+ 0·5	41·6	39·3	4·3	7·0	1·1	85	55·6	33·2	48·62	0·028	mP
16	Apogee : First Quarter	29·996	49·6	45·0	4·6	47·4	+ 4·6	46·2	44·9	2·5	3·3	0·9	92	51·3	43·9	48·41	0·002	wP
17	...	29·969	49·2	41·4	7·8	46·7	+ 4·1	45·6	44·4	2·3	6·4	0·4	92	51·6	32·4	48·43	0·055	wP
18	...	29·915	47·9	34·2	13·7	41·1	− 1·3	40·0	38·6	2·5	5·8	0·2	91	60·7	25·1	48·45	0·010	wP : mP, wN : mP
19	...	29·931	47·0	35·0	12·0	42·0	− 0·3	40·5	38·7	3·3	7·7	0·0	89	71·3	28·2	48·46	0·004	wP : mP : mP
20	In Equator	29·910	48·1	41·9	6·2	45·6	+ 3·4	42·6	39·2	6·4	11·2	1·3	79	55·1	33·3	48·29	0·001	wP : mP : mP
21	...	30·018	50·7	44·1	6·6	47·4	+ 5·3	45·7	43·8	3·6	6·3	0·0	89	54·1	34·1	48·11	0·049	wP
22	...	30·175	55·8	43·2	12·6	49·4	+ 7·3	47·2	44·8	4·6	8·9	0·2	85	83·0	35·0	48·12	0·000	wP : wwP
23	...	30·127	52·0	47·0	5·0	49·5	+ 7·5	47·7	45·8	3·7	6·9	0·8	88	64·0	43·9	48·22	0·004	... : wP : wP
24	Full	29·993	50·1	42·4	7·7	45·8	+ 3·8	43·6	41·1	4·7	9·7	0·4	84	65·5	34·0	48·38	0·185	wP, wwN : mP : mP
25	...	29·799	52·9	41·1	11·8	47·5	+ 5·6	45·0	42·3	5·2	11·4	1·1	83	64·0	35·2	48·51	0·161	wP : wP, wN : vN, mP
26	Greatest Dec. N.	29·338	52·0	41·3	10·7	47·3	+ 5·5	46·0	44·6	2·7	5·7	0·2	91	53·8	35·4	48·46	0·365	wP : wwP : vN, wP
27	...	29·200	44·6	32·0	12·6	38·5	− 3·2	36·6	34·0	4·5	6·8	0·9	85	60·0	23·7	48·31	0·002*	wP : mP : vP
28	Perigee	29·540	40·2	29·3	10·9	33·3	− 8·2	32·3	30·4	2·9	5·0	0·0	89	42·6	19·4	48·11	0·003*	vP : sP : vP, wN
29	...	29·126	43·7	32·2	11·5	39·5	− 1·7	38·3	36·7	2·8	5·2	0·9	90	45·8	24·4	47·53	0·354	vP, ssN : vN, mP : mP
30	...	29·370	36·2	30·0	6·2	32·5	− 8·5	30·0	24·8	7·7	16·5	3·9	72	51·9	19·0	46·96	0·000	mP : sP : sP :
Means	...	29·810	48·3	39·3	9·0	43·8	+ 0·3	41·9	39·6	4·2	7·9	1·4	85·7	60·8	32·5	48·95	Sum 1·553	...
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

The results apply to the civil day.

The mean reading of the Barometer (Column 2) and the mean temperatures of the Air and Evaporation (Columns 6 and 8) are deduced from the photographic records. The average temperature (Column 7) is deduced from the 65 years' observations, 1841–1905. The temperature of the Dew Point (Column 9) and the Degree of Humidity (Column 13) are deduced from the corresponding temperatures of the Air and Evaporation by means of Glaisher's Hygrometrical Tables. The mean difference between the Air and Dew Point Temperatures (Column 10) is the difference between the numbers in Columns 6 and 9, and the Greatest and Least Differences (Columns 11 and 12) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers. The readings in Column 16 are taken daily at noon.

The values given in Columns 3, 4, 5, 14, and 15 are derived from eye-readings of self-registering thermometers.

* Rainfall (Column 17). The amount entered on November 1, 2, 3, 27 and 28 are derived from frost and fog.

The mean reading of the *Barometer* for the month was 29in·810, being 0in·052 *higher* than the average for the 65 years, 1841–1905.

TEMPERATURE OF THE AIR.

The highest in the month was 56°·5 on November 7; the lowest in the month was 28°·7 on November 4; and the range was 27°·8.
The mean of all the highest daily readings in the month was 48°·3, being 0°·7 *lower* than the average for the 65 years, 1841–1905.
The mean of all the lowest daily readings in the month was 39°·3, being 1°·4 *higher* than the average for the 65 years, 1841–1905.
The mean of the daily ranges was 9°·0, being 2°·1 *less* than the average for the 65 years, 1841–1905.
The mean for the month was 43°·8, being 0°·3 *higher* than the average for the 65 years, 1841–1905.

MONTH and DAY, 1912.	Daily Duration of Sunshine.	Sun above Horizon.	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.		
Nov. 1	5·6	9·6	N : NNE	N : NW : WSW	1·9	0·14	250	0, ho.-fr : 0	1, cu, h : 0, h, ho.-fr, slt.-m : 9,slt.-f,ho.-fr
2	4·4	9·6	W : WSW	NW : WNW : W	0·5	0·01	209	1, slt.-f, ho.-fr : 0, ho.-fr : 1, cu	p-cl, cu, cu.-s : p.-cl, cu, cu.-s : 9, slt.-f
3	0·8	9·5	W : WSW : Calm	Calm	0·0	0·00	127	0, slt.-f, ho.-fr : 2, slt.-f	p.-cl, glm : 9, f, ho.-fr : p.-cl,slt.-f, ho.-fr
4	0·0	9·4	Calm : WSW	WSW : SW	1·2	0·07	220	p.-cl,slt.-f, ho.-fr : 10, slt.-r : 10, cu.-s, slt. f	10,th.-cl,so.-ha: 10, cu, s,th.-cl: th.-cl, h
5	0·0	9·4	SW	W : N : NE	2·0	0·13	278	9 : 10, r : 10,s,n,slt.-r,slt.-f :	10, fq.-r, slt.-f: 10, s, n, slt.-f : 10, slt.-f
6	0·0	9·3	N : Calm	Calm : S : SW	0·2	0·00	116	10, slt.-f : 10 : 10, glm	10, glm : 10
7	2·1	9·3	SSW : SW	SW : WSW	1·5	0·08	272	10 : 10, cu.-s, s	p.-cl,ci.-s,ci.-cu, cu: 9 : 10
8	0·3	9·2	WSW : W	W : WNW : WSW	2·0	0·20	339	10 : 10, s, n	9, cu, s, n : 10, s, n : 10
9	0·4	9·2	WSW : SW	SW : WSW	1·6	0·10	257	10, slt.-r : 10, oc.-slt.-r: 10, cu, s, n	9 : p.-cl : p.-cl
10	0·3	9·1	WSW : WNW : W	W : WSW : WNW	10·0	0·71	483	9, m.-r : 9 : 10, s	10, s, n, r : 9, fq.-r,st.-w: p.-cl, w
11	1·5	9·1	NW : W : WNW	NW : NNW	14·2	1·73	739	p.-cl, slt.-sh, w : 9,cu,s,n,oc.-slt.-r,st.-w	6,cu,oc. slt.-r,st.-w: p.-cl, w : h, th.-cl, w
12	0·0	9·0	NNW : WNW : N	N	8·2	0·95	520	1, w : p.-cl, oc.-slt.-r : 10, slt.-sh, w	10, s, n, li.-shs, w : 10,n,sc,fq.-r,w : 10, cu.-s, w
13	0·0	8·9	N	N : NNW	6·8	0·68	425	9, w : 10, w : 10, s, n, sc, slt.-r, w	10, n, slt.-r : p.-cl, th.-cl, slt.-m : p.-cl, slt.-r
14	0·0	8·9	N : NNW	NNW : N	3·7	0·38	364	10, slt.-r : 10 : 10, n, fq.-th.-r	10, oc.-th.-r : 10, n, sc, oc.-th.-r: 9, oc.-slt.-r
15	0·0	8·8	NNW : W : SW	N : Calm	0·3	0·00	128	9, slt.-f : 10, slt.-f	9,cu.-s,li.-shs: 10, slt.-f : 10, m.-r, slt.-f
16	0·0	8·8	N	NNE : Calm	0·3	0·00	121	10, slt.-f, m.-r : 10 : 10, s, n, glm	10, glm : 10 : 9, slt.-m
17	0·0	8·7	Calm : W	WNW : WSW : W	0·2	0·00	156	9 : 10, oc.-r : 10, s, n, slt.-r,slt.-f	10 : 10, s, slt.-f : p.-cl, slt.-f
18	0·2	8·7	W : WSW	W : NNE : Calm	0·5	0·00	150	p.-cl, ho.-fr : 8, cu, cu.-s, s	10,slt.-r,slt.-f: 10, s, n : p.-cl, hy.-d
19	0·6	8·7	WSW : W	W	2·1	0·13	302	th.-cl, f : p.-cl,slt.-f: 9, s, slt.-sh	10,s,oc.-slt.-r: 9, slt.-sh : p.-cl, th.-cl
20	0·0	8·6	W	W	3·3	0·42	466	p.-cl : 0 : 10, th.-cl	10,s,n,slt.-sh : 10,s,n,slt.-sh: p.-cl, slt.-sh
21	0·0	8·6	NW : NNW : N	Calm : Variable	0·8	0·04	182	9, slt.-sh : li.-cl : 10, cu.-s, s	10, s, n : 10, slt.-m, m.-r : 10, slt.-m
22	2·9	8·5	N : W : WSW	W : WSW	0·3	0·01	192	p.-cl : slt.-f : 4, cu, cu.-s, slt.-f	8, cu.-s : 10 : 10
23	0·0	8·5	WSW : SW	WSW	1·9	0·14	309	10, slt.-r : p.-cl, slt.-sh : 9,cu.-s, m.-r	10, cu, n, s : 10, oc.-m.-r : p.-cl, lu.-ha, lu.-co
24	5·7	8·4	WSW : NW : WNW	NW : W : WSW	5·0	0·25	390	9,r,hy.-sh: p.-cl, r,sq : 1, th.-cl	2, cu.-s : p.-cl, th.-cl : th.-cl
25	0·0	8·4	SW : WSW	WSW : W	14·5	0·91	540	p.-cl : p.-cl, w : 10, s, n, st.-w	10, n, slt.-r, st.-w : 10, n,s,r,hl,w,lu.-ha : 10, s, lu.-ha
26	0·0	8·3	WSW : SW	SW : WSW	22·5	1·43	627	10, lu.-ha : 10,fq.-r, w: 10, n, sc, oc.-th.-r, st.-w	10,n,sc,fq.-th.-r,st.-w: 10, r, hy.-sh,hl,st.-w : p.-cl, r, w
27	1·6	8·3	W : WSW	W : WNW : WSW	2·4	0·14	307	p.-cl : 1 : 4, cu.-s, n	7, cu.-s, s : p.-cl, slt.-f : th.-cl, slt.-f, ho.-fr
28	0·1	8·2	WSW	Calm : S	0·5	0·02	197	p.-cl : 0,slt.-f,ho.-fr: 5, s, slt.-f	p.-cl, ci,ci.-s,s,slt.-f: v, cu, s, n : 9, ho.-fr
29	0·0	8·2	S : N	NNW : N	5·3	0·40	350	10, r : 10, r : 10,slt.-r, slt.-f	10, s, n,slt.-r,slt.-f: 9, cu.-s, s, oc.-slt.-r, w : th.-cl, slt.-f, ho.-fr
30	0·2	8·1	NE : NNE	NNE : N : NW	4·1	0·40	350	p.-cl, ho.-fr: 10 : 10, s	9, cu, s, w : 2 : p.-cl, ho.-fr
Means	0·9	8·8	...	...	...	0·32	312		
Number of Column for Reference.	19	20	21	22	23	24	25	26	27

The mean *Temperature of Evaporation* for the month was 41°·9, being the *same* as
The mean *Temperature of the Dew Point* for the month was 39°·6, being 0°·4 *lower* than
The mean *Degree of Humidity* for the month was 85·7, being 1·6 *less* than
The mean *Elastic Force of Vapour* for the month was 0in·243, being 0in·004 *less* than
The mean *Weight of Vapour in a Cubic Foot of Air* for the month was 2grs·8, being the *same* as
The mean *Weight of a Cubic Foot of Air* for the month was 548 grains, being the *same* as
} 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 0·010. The maximum daily amount of *Sunshine* was 5·7 hours on November 24.

The highest reading of the *Solar Radiation Thermometer* was 83°·0 on November 22; and the lowest reading of the *Terrestrial Radiation Thermometer* was 19°·0 on November 30.

The *Proportions of Wind* referred to the cardinal points were N. 8, E. 1, S. 4, and W. 13. Four days were calm.

The *Greatest Pressure of the Wind* in the month was 22·5 lbs. on the square foot on November 26. The mean daily *Horizontal Movement of the Air* for the month was 312 miles; the greatest daily value was 739 miles on November 11; and the least daily value was 116 miles on November 6.

Rain (0in·005 or over) fell on 13 days in the month, amounting to 1in·553, as measured by gauge No. 6 partly sunk below the ground; being 0in·667 *less* than the average fall for the 65 years, 1841–1905.

MONTH and DAY, 1912.	Phases of the Moon.	BAROMETER. Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	TEMPERATURE. Of the Air. Highest.	Of the Air. Lowest.	Of the Air. Daily Range.	Of the Air. Mean of 24 Hourly Values.	Of the Air. 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.	Of Radiation. Lowest on the Grass.	Of the Earth 3 ft. 2 in. below the Surface of the Soil.	Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Electricity.
		in.	°	°	°	°	°	°	°	°	°	°		°	°	°	in.	
Dec. 1	Last Quarter	29·565	45·1	26·2	18·9	34·1	− 6·8	32·6	30·0	4·1	7·8	1·2	84	42·0	17·9	46·14	0·178	mP : sP : vP, ssN
2	...	29·688	45·8	38·3	7·5	42·3	+ 1·4	39·8	36·7	5·6	8·0	2·6	82	61·9	32·3	45·83	0·003	wP : mP : mP
3	In Equator	30·174	47·7	32·9	14·8	40·8	− 0·3	38·6	35·8	5·0	7·5	0·9	83	55·9	28·0	45·49	0·025	mP
4	...	30·109	52·1	39·9	12·2	47·7	+ 6·4	46·7	45·6	2·1	4·5	0·4	93	61·2	31·0	45·43	0·023	wP : wP : mP
5	...	29·770	45·2	34·2	11·0	38·6	− 2·9	37·1	35·1	3·5	7·1	1·5	88	54·0	24·1	45·59	0·001*	wP : mP : mP
6	...	29·686	51·2	39·8	11·4	47·2	+ 5·7	45·9	44·5	2·7	4·3	0·9	91	56·0	32·2	45·69	0·076	wP : vP, vN : wP
7	...	29·844	50·8	37·2	13·6	45·6	+ 4·3	44·7	43·7	1·9	3·7	0·7	93	54·1	29·2	45·71	0·003	wP
8	New	29·972	53·0	47·2	5·8	50·2	+ 9·2	48·4	46·5	3·7	5·9	1·6	88	64·6	40·2	45·81	0·002	wP
9	Greatest Dec. S.	29·945	51·4	44·9	6·5	48·5	+ 7·9	47·0	45·3	3·2	5·3	1·3	89	59·1	36·0	46·12	0·020	wP
10	...	29·837	50·3	44·2	6·1	48·0	+ 7·6	47·5	47·0	1·0	1·9	0·2	96	49·6	39·0	46·49	0·405	wP
11	...	29·624	51·2	45·7	5·5	48·9	+ 8·7	47·3	45·5	3·4	6·2	0·4	89	56·8	41·9	46·77	0·034	wP
12	...	29·567	51·0	40·2	10·8	44·2	+ 3·9	42·0	39·4	4·8	7·1	1·5	83	64·0	33·1	46·91	0·120	wwN, wP : mP, wN : mP
13	...	29·816	53·0	41·9	11·1	48·7	+ 8·2	46·3	43·7	5·0	8·0	2·4	83	55·3	35·5	47·02	0·003	wP
14	Apogee	29·751	56·5	52·0	4·5	54·5	+13·8	52·3	50·2	4·3	6·1	1·6	85	56·6	49·1	47·42	0·036	wwP : wP
15	...	29·876	55·0	47·7	7·3	51·2	+10·4	48·7	46·1	5·1	11·2	0·4	83	77·2	39·9	47·47	0·221	wwP : wP : wP
16	First Quarter	29·748	49·6	35·8	13·8	42·9	+ 2·2	40·7	38·1	4·8	9·7	1·4	84	57·6	27·6	47·52	0·256	wP, wwN : mP : mP
17	In Equator	29·692	44·9	34·4	10·5	39·0	− 1·4	36·9	34·2	4·8	7·3	2·4	83	63·3	27·6	47·59	0·000	mP
18	...	29·459	46·3	36·1	10·2	41·2	+ 1·2	39·5	37·4	3·8	5·4	1·9	87	51·5	29·6	47·19	0·099	wP, wN : mP, sN : sP
19	...	29·668	50·0	38·5	11·5	46·5	+ 7·0	44·0	41·2	5·3	8·5	2·7	83	66·9	32·5	46·86	0·005	wP
20	...	29·786	53·2	41·2	12·0	47·9	+ 8·9	46·1	44·1	3·8	6·9	0·9	87	80·9	29·9	46·56	0·000	wP
21	...	29·854	49·1	40·3	8·8	45·3	+ 6·6	43·8	42·1	3·2	4·9	0·9	89	55·4	28·4	46·60	0·000	wP
22	...	29·737	50·7	41·1	9·6	46·3	+ 7·9	44·3	42·0	4·3	6·4	1·1	86	71·0	30·4	46·69	0·003	wP
23	...	29·708	52·0	47·0	5·0	48·9	+10·7	47·5	46·0	2·9	5·5	1·0	90	75·5	42·0	46·79	0·194	wP, wN : wP : wP, vN
24	Greatest Dec. N. : Full	29·710	51·8	43·3	8·5	48·1	+ 9·9	46·1	43·9	4·2	9·2	1·6	86	55·5	36·1	46·81	0·120	wP : wP, wN : wP
25	...	29·694	53·0	41·1	11·9	46·9	+ 8·5	45·3	43·5	3·4	8·0	0·2	89	52·0	34·3	46·99	0·312	wP : wP, wN
26	Perigee	29·286	48·9	39·1	9·8	44·9	+ 6·3	42·9	40·6	4·3	9·5	0·9	86	60·2	31·0	47·01	0·440	wP : vN, wP : wN, wP
27	...	29·504	56·1	38·2	17·9	46·2	+ 7·4	44·7	43·0	3·2	8·3	0·4	89	60·6	30·6	46·82	0·123	wP
28	...	29·466	56·3	50·6	5·7	54·1	+15·2	51·9	49·7	4·4	6·5	1·6	85	61·6	46·5	46·81	0·036	wwP : wP : wP, wwN
29	...	29·624	51·2	42·1	9·1	46·4	+ 7·4	43·9	41·0	5·4	8·4	2·7	83	67·0	36·3	47·02	0·064	wwP, wN : wP : wP
30	In Equator : Last Quarter	30·073	46·9	40·3	6·6	42·9	+ 4·0	40·6	37·9	5·0	7·5	3·1	83	66·4	32·0	47·28	0·000	wP : mP : mP
31	...	29·997	50·2	41·0	9·2	45·2	+ 6·5	42·8	40·0	5·2	9·6	3·3	82	68·1	32·8	47·10	0·000	wP : mP : mP
Means	...	29·749	50·6	40·7	9·9	45·9	+ 6·0	44·1	41·9	4·0	7·0	1·4	86·5	60·7	33·5	46·63	Sum 2·802	...
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

The results apply to the civil day.

The mean reading of the Barometer (Column 2) and the mean temperatures of the Air and Evaporation (Columns 6 and 8) are deduced from the photographic records. The average temperature (Column 7) is deduced from the 65 years' observations, 1841–1905. The temperature of the Dew Point (Column 9) and the Degree of Humidity (Column 13) are deduced from the corresponding temperatures of the Air and Evaporation by means of Glaisher's Hygrometrical Tables. The mean difference between the Air and Dew Point Temperatures (Column 10) is the difference between the numbers in Columns 6 and 9, and the Greatest and Least Differences (Columns 11 and 12) are deduced from the 24 hourly photographic measures of the Dry-bulb and Wet-bulb Thermometers. The readings in Column 16 are taken daily at noon.

The values given in Columns 3, 4, 5, 14, and 15 are derived from eye-readings of self-registering thermometers.

* Rainfall (Column 17). The amount entered on December 5 is derived from frost.

The mean reading of the *Barometer* for the month was 29in·749, being 0in·036 *lower* than the average for the 65 years, 1841–1905.

TEMPERATURE OF THE AIR.

The highest in the month was 56°·5 on December 14; the lowest in the month was 26°·2 on December 1; and the range was 30°·3.
The mean of all the highest daily readings in the month was 50°·6, being 6°·4 *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 5°·7 *higher* than the average for the 65 years, 1841–1905.
The mean of the daily ranges was 9°·9, being 0°·7 *greater* than the average for the 65 years, 1841–1905.
The mean for the month was 45°·9, being 6°·0 *higher* than the average for the 65 years, 1841–1905.

MONTH and DAY, 1912.	Daily Duration of Sunshine.	Sun above Horizon.	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	0·1	8·1	W : WSW	SW : S : WSW	7·7	0·25	341	1, ho.-fr : 1, ho.-fr : 8, ci.-cu, s	10,s,oc.-slt.-r : 10, c.-r, w : p.-cl
2	4·8	8·1	WSW : W	NW : W : NNW	3·9	0·37	460	p.-cl, ho.-fr : 1, cu, th.-cl	1, th.-cl : 9, slt.-sh : 10, oc.-slt.-r
3	0·0	8·1	NNW : Calm : WSW	WSW : SSW : SW	2·8	0·10	232	10, slt.-f : 10, f : 6, ci.-cu, cu.-s, slt.-f	10, cu.-s, n : 10, oc.-slt.-r
4	0·0	8·1	SW	SW : SSW : S	2·0	0·09	275	10, slt.-r : 10, slt.-sh : 10, s, n	p.-cl, ci.-s, ci.-cu, s : th.-cl : th.-cl, hy.-d
5	0·0	8·0	S : SE	SSE : S : SW	1·0	0·04	173	1, ho.-fr : 1, ho.-fr : 7, ci.-s, s	9, s : 10 : 9
6	0·0	8·0	S : SW : SSW	SW : WSW	3·5	0·23	316	10, slt.-r : p.-cl : 9, ci.-s, s, n, fq.-m.-r	10, fq.-m.-r : p.-cl, slt.-r : 0, d
7	0·0	7·9	SW : SSW : S	SSW : SW	1·8	0·23	337	p.-cl : 8, cu, s, slt.-sh	10, s, n, sc, slt.-r : 10, oc.-slt.-r : 10, slt.-sh
8	0·0	7·9	SW : SSW	SW : SSW	1·8	0·14	288	10 : 10, slt.-sh : 10, cu.-s, n, th.-r	10 : 9, n : 9
9	0·0	7·9	SW	SW	3·3	0·23	327	9 : 9, cu.-s	10, oc.-slt.-r : 10, slt.-r
10	0·0	7·9	SW : NE	Calm	1·9	0·11	197	10, r : 10, fq.-r : 10, n, sc, fq.-r, glm	10, m, glm, r : 10, m, f
11	0·0	7·9	WSW : SW	SW	7·0	0·80	510	10, slt.-r, f : 9 : 10, s, n, sc	10, s, n, sc, w : 10, oc.-slt.-r, w : 10, oc.-r, w
12	1·1	7·9	WSW : W : SW	W : WNW : WSW	7·0	0·33	419	p.-cl, r, w : li.-cl : p.-cl, cu, n, r	7, n : p.-cl, n : 0, w
13	0·0	7·8	WSW	WSW	14·5	1·54	686	p.-cl, w : 9, w : 10, s, n, sc, w	10, sc, st.-w : 10, sc, slt.-r, st.-w : 10, oc.-slt.-r, st.-w
14	0·0	7·8	WSW	W : WSW	12·5	1·93	754	10, oc.-slt.-r, st.-w : 10, st.-w : 10, s, n, sc, st.-w	10, s, n, sc, oc.-slt.-r, w : 10, slt.-r, w : 10, slt.-sh, st.-w
15	0·8	7·8	W : WNW	W : WSW	11·3	1·20	586	p.-cl, st.-w : p.-cl, st.-w : 7, ci, ci.-s, ci.-cu, w	9 : 10, r : 10, r, hy.-sh, w
16	2·6	7·8	W : NW : WNW	WNW : W : WSW	3·3	0·38	410	10, r : 10, oc.-r : 7, ci.-s, ci.-cu, so.-ha	2, cu : 1 : 0, ho.-fr
17	5·0	7·8	W : WSW	W : WSW : SW	4·0	0·47	452	0, ho.-fr : 0 : 5	1, cu : 1 : 8, s, w
18	0·0	7·8	WSW : SW : NNW	W : WSW	6·8	0·41	425	10, slt.-r, w : 10, s, n, shs.-r, w, sq	p.-cl, sh.-r : 1, th.-cl : p.-cl, ho.-fr
19	0·3	7·8	WSW : SW	SW	6·0	0·51	454	10 : 10, slt.-r : 9, s, n, slt.-sh	10, s, n, w : 9, w : 9
20	1·6	7·8	SSW : SW	SW : SSW	3·0	0·31	343	9 : 10 : 9, cu, n	8, cu, cu.-s : p.-cl, s, d, lu.-co : p.-cl, hy.-d
21	0·0	7·7	SW	SW : WSW	1·4	0·09	237	9 : 9 : 10, cu.-s, s	10, cu.-s, s : 9 : 10
22	1·4	7·7	SW	SW	1·8	0·08	277	10 : p.-cl : p.-cl, ci.-s, ci.-cu, cu.-s	v, cu.-s : 10, cu.-s, s, n : 10, m.-r
23	2·9	7·8	SW	SW	2·9	0·26	362	10, slt.-r : 10, slt.-r : 8, cu.-s	6, ci.-s, cu.-s : 10, r : 10, r
24	0·0	7·8	WSW : SW	SW : WSW	12·0	0·88	543	1 : th.-cl : 10, s, n, w	10, sc, n, r, st.-w : 10, r, lu.-ha, w : 10, th.-cl, lu.-ha, w
25	0·0	7·8	WSW : SW : SSW	S : SW : W	6·4	0·52	453	1, w : th.-cl, lu.-ha : 10, slt.-r	10, s, sc, r, hy.-sh, w : p.-cl : 2
26	0·2	7·8	SW : S : SSE	SW : W : NW	14·5	1·20	591	p.-cl : 9, w : p.-cl, hy.-r, st.-w	10, n, sc, r, hy.-shs, st.-w : 9, w
27	0·0	7·8	W : WSW : SW	SSW : SW : WSW	9·7	0·33	347	p.-cl : 9 : 10, slt.-r	10, s, n, oc.-slt.-r : 10, fq.-r : 10, slt.-sh, st.-w
28	0·0	7·8	WSW	WSW : SW	9·5	1·06	558	10, st.-w : 10, w : 9, cu, s, n, w	p.-cl, ci.-s, cu.-s li.-shs, w : p.-cl, oc.-m.-r : 10, r
29	3·6	7·8	SW : NW : W	WSW : W	7·4	0·83	544	10, slt.-r, w : 10, shs.-r, w : 6, cu, s, n	1, w : 0, w : 0, w
30	5·3	7·8	W : WSW	W : WSW : SW	4·0	0·38	413	0, w : 0 : 1, th.-cl	1, ci.-s, li.-cl : 1, cu.-s, h : p.-cl, hy.-d
31	0·3	7·8	SW : WSW	SW : SSW	4·7	0·49	427	9 : 9 : 10, cu.-s, s	10, cu.-s, n, w : p.-cl, cu, cu.-s : p.-cl
Means	1·0	7·9	...	...	...	0·51	411		
Number of Column for Reference.	19	20	21	22	23	24	25	26	27

The mean *Temperature of Evaporation* for the month was 44°·1, being 5°·6 *higher* than the average for the 65 years, 1841–1905.
The mean *Temperature of the Dew Point* for the month was 41°·9, being 5°·2 *higher* than the average for the 65 years, 1841–1905.
The mean *Degree of Humidity* for the month was 86·5, being 2·1 *less* than the average for the 65 years, 1841–1905.
The mean *Elastic Force of Vapour* for the month was 0in·266, being 0in·048 *greater* than the average for the 65 years, 1841–1905.
The mean *Weight of Vapour in a Cubic Foot of Air* for the month was 3grs·0, being 0gr·4 *greater* than the average for the 65 years, 1841–1905.
The mean *Weight of a Cubic Foot of Air* for the month was 545 grains, being 7 grains *less* than the average for the 65 years, 1841–1905.

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

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·123. The maximum daily amount of *Sunshine* was 5·3 hours on December 30.

The highest reading of the *Solar Radiation Thermometer* was 80°·9 on December 20; and the lowest reading of the *Terrestrial Radiation Thermometer* was 17°·9 on December 1.

The *Proportions of Wind* referred to the cardinal points were N. 0, E. 0, S. 12, and W. 18. One day was calm.

The *Greatest Pressure of the Wind* in the month was 14·5 lbs. on the square foot on December 13 and 26. The mean daily *Horizontal Movement of the Air* for the month was 411 miles; the greatest daily value was 754 miles on December 14; and the least daily value was 173 miles on December 5.

Rain (0in·005 or over) fell on 20 days in the month, amounting to 2in·802, as measured by gauge No. 6 partly sunk below the ground; being 0in·975 *greater* 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. Greenwich Civil Time, 1912.	Reading.	MINIMA. Greenwich Civil Time, 1912.	Reading.
January d h m	in.	**January** d h m	in.
1. 21. 50	30·299	5. 12. 55	29·315
5. 20. 45	29·438	6. 17. 10	28·628
8. 3. 30	29·825	9. 1. 0	29·230
12. 10. 40	30·105	16. 7. 0	29·577
17. 21. 5	29·753	18. 15. 55	29·671
19. 10. 5	29·988	20. 13. 5	29·809
21. 10. 20	29·930	24. 3. 45	29·316
30. 0. 5	30·128		
February		**February**	
4. 11. 0	29·439	2. 13. 5	29·111
7. 9. 40	29·210	5. 21. 45	28·913
10. 11. 15	29·261	8. 13. 35	28·843
15. 2. 5	29·977	11. 6. 0	29·064
22. 11. 10	29·832	19. 23. 10	29·168
24. 11. 10	29·780	23. 23. 25	29·621
26. 8. 40	29·831	25. 3. 50	29·647
27. 21. 0	30·023	27. 2. 55	29·741
29. 21. 35	29·800	29. 4. 25	29·624
March		**March**	
2. 7. 50	29·572	1. 23. 10	29·392
4. 4. 15	29·512	3. 0. 45	29·200
7. 23. 0	29·809	5. 3. 30	28·919
9. 12. 5	29·576	8. 16. 30	29·453
12. 11. 50	30·149	10. 5. 45	29·498
16. 9. 20	29·683	15. 15. 5	29·539
20. 21. 35	29·339	18. 17. 45	28·600
23. 6. 10	29·565	21. 23. 25	28·743
26. 9. 15	30·096	24. 1. 50	29·209
29. 10. 0	30·079	28. 4. 50	29·860
April		**April**	
3. 10. 5	30·289	1. 0. 40	29·222
7. 9. 20	30·115	5. 8. 10	29·946
9. 17. 0	29·654	8. 16. 45	29·346
13. 0. 15	30·295	10. 4. 25	29·398
23. 7. 30	30·224	18. 17. 40	29·713
30. 10. 5	30·124	27. 16. 45	29·620

MAXIMA. Greenwich Civil Time, 1912.	Reading.	MINIMA. Greenwich Civil Time, 1912.	Reading.
May d h m	in.	**May** d h m	in.
8. 22. 45	30·174	3. 18. 45	29·791
12. 0. 5	29·663	11. 13. 30	29·595
12. 16. 35	29·693	12. 2. 55	29·571
13. 10. 15	30·007	12. 17. 10	29·607
19. 8. 45	29·867	15. 21. 0	29·281
25. 7. 40	30·176	22. 17. 50	29·393
31. 10. 0	29·662	30. 15. 40	29·583
June		**June**	
3. 22. 5	29·385	2. 8. 10	29·252
9. 1. 0	29·808	4. 18. 10	29·170
12. 20. 50	29·715	11. 16. 10	29·513
15. 13. 10	29·733	13. 15. 5	29·631
17. 13. 5	29·870	16. 5. 55	29·516
18. 22. 55	29·873	18. 3. 55	29·780
20. 22. 40	29·925	19. 17. 15	29·614
22. 22. 25	29·836	23. 3. 5	29·561
27. 7. 50	29·968	25. 19. 0	29·563
		29. 15. 10	29·592
July		**July**	
5. 0. 20	30·095	7. 2. 40	29·687
9. 7. 40	29·956	10. 13. 45	29·758
11. 11. 10	29·854	12. 18. 0	29·653
15. 22. 30	29·966	19. 16. 30	29·642
22. 8. 50	29·791	25. 4. 55	29·658
26. 8. 10	29·769	28. 2. 30	29·335
31. 0. 0	29·668		
August		**August**	
3. 7. 40	29·790	1. 1. 15	29·230
5. 10. 50	29·605	4. 16. 5	29·352
9. 21. 15	29·696	6. 13. 5	29·171
11. 21. 0	29·927	10. 12. 20	29·610
16. 20. 35	29·862	14. 15. 5	29·488
21. 12. 55	29·854	20. 4. 0	29·356
22. 19. 55	29·942	22. 1. 45	29·718
25. 9. 10	29·522	24. 16. 0	29·394
28. 10. 15	29·711	26. 16. 20	29·075
31. 12. 40	29·953	29. 10. 50	29·320

MAXIMA. Greenwich Civil Time, 1912.	Reading.	MINIMA. Greenwich Civil Time, 1912.	Reading.
September d h m	in.	**September** d h m	in.
3. 9. 35	30·016	2. 5. 20	29·673
5. 8. 20	29·859	4. 10. 0	29·775
7. 21. 35	30·057	6. 5. 5	29·746
9. 11. 30	30·024	8. 23. 40	29·893
13. 9. 25	30·275	11. 11. 40	29·879
19. 9. 10	30·279	15. 3. 55	30·004
October		**October**	
4. 10. 25	30·453	1. 1. 0	28·837
10. 9. 45	30·138	9. 3. 30	30·032
12. 9. 10	30·133	11. 14. 35	30·048
15. 9. 15	30·215	14. 7. 15	29·974
18. 7. 40	30·163	17. 0. 10	29·731
22. 21. 30	29·326	21. 23. 50	29·066
27. 9. 40	29·580	24. 3. 40	29·141
28. 14. 40	29·399	28. 8. 20	29·312
29. 18. 5	29·445	29. 4. 40	29·179
		31. 0. 40	29·115
November		**November**	
1. 20. 50	30·235	5. 12. 20	29·634
7. 10. 25	30·222	11. 14. 50	29·132
16. 10. 40	30·015	18. 13. 15	29·886
19. 8. 0	29·976	19. 16. 45	29·888
22. 10. 30	30·204	24. 4. 45	29·886
24. 17. 50	30·040	26. 18. 30	29·030
28. 10. 50	29·646	29. 10. 30	28·966
December		**December**	
1. 10. 10	29·666	1. 19. 55	29·412
3. 11. 15	30·242	6. 1. 45	29·601
8. 19. 40	30·044	12. 0. 5	29·322
13. 9. 20	29·879	14. 5. 30	29·666
15. 11. 15	30·030	16. 4. 15	29·692
16. 10. 40	29·786	18. 10. 50	29·327
21. 0. 15	29·897	24. 14. 45	29·581
25. 4. 0	29·815	25. 15. 10	29·473
25. 23. 30	29·725	26. 16. 35	28·895
27. 10. 10	29·588	28. 0. 10	29·393
28. 19. 20	29·513	29. 4. 55	29·412
30. 21. 20	30·157		

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 expressed in civil reckoning, commencing at midnight and counting from 0^h to 24^h.
The height of the barometer cistern above mean sea level is 159 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 1912.

	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	30·299	30·023	30·149	30·295	30·176	29·968	30·095	29·953	30·279	30·453	30·235	30·242
Lowest	28·628	28·843	28·600	29·222	29·281	29·170	29·255	29·075	28·844	28·837	28·966	28·895
Range	1·671	1·180	1·549	1·073	0·895	0·798	0·840	0·878	1·435	1·616	1·269	1·347

The highest reading in the year was $30^{in.}453$ on October 4. The lowest reading in the year was $28^{in.}600$ on March 18.
The range of reading in the year was $1^{in.}853$.

MONTHLY RESULTS of METEOROLOGICAL ELEMENTS for the YEAR 1912.

MONTH, 1912.	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 Average of 65 Years.	Mean Temperature of Evaporation.	Mean Temperature of the Dew Point.	Mean Degree of Humidity. (Saturation = 100.)
	in.	°	°	°	°	°	°	°	°	°	°	
January	29·761	51·3	19·1	32·2	44·9	36·0	8·9	40·2	+ 1·6	39·0	36·9	88·4
February	29·495	59·5	19·1	40·4	48·6	38·6	10·0	43·3	+ 3·7	41·5	38·7	84·0
March	29·537	61·9	31·3	30·6	53·3	40·5	12·9	45·8	+ 3·9	43·4	40·7	83·2
April	29·967	71·3	32·4	38·9	59·8	39·4	20·3	48·5	+ 1·2	43·8	38·7	69·5
May	29·796	82·6	36·1	46·5	67·5	46·5	21·1	55·7	+ 2·6	51·2	47·0	73·2
June	29·651	84·3	41·5	42·8	69·5	49·3	20·3	58·2	− 1·2	53·9	50·0	74·6
July	29·746	90·0	48·1	41·9	74·9	54·4	20·4	63·3	+ 0·6	58·4	54·4	73·5
August	29·573	73·0	42·1	30·9	66·7	50·1	16·6	56·9	− 4·8	53·4	50·4	79·1
September	29·976	69·1	37·2	31·9	60·8	46·5	14·3	53·1	− 4·1	49·8	46·5	78·5
October	29·746	65·7	29·4	36·3	57·1	39·3	17·8	47·4	− 2·6	45·2	42·8	84·5
November	29·810	56·5	28·7	27·8	48·3	39·3	9·0	43·8	+ 0·3	41·9	39·6	85·7
December	29·749	56·5	26·2	30·3	50·6	40·7	9·9	45·9	+ 6·0	44·1	41·9	86·5
Means	29·734	Highest 90·0	Lowest 19·1	Annual Range 70·9	58·5	43·4	15·1	50·2	+ 0·6	47·1	44·0	80·1

MONTH, 1912.	Mean Elastic Force of Vapour.	Mean Weight of Vapour in a Cubic Foot of Air.	Mean Weight of a Cubic Foot of Air.	Mean Temperature at Noon of the Earth 3ft. 2in. below the surface of the Soil.	Mean Amount of Cloud. (0–10.)	RAIN. Number of Rainy Days in (0·005 or over).	RAIN. 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.	grs.	grs.	°			in.	h	h	h	h	h	h	h	h	h	lbs.	miles.
January	0·219	2·6	552	45·18	8·3	18	3·025	41	62	92	98	66	128	128	24	105	0·20	269
February	0·235	2·8	543	42·80	8·3	20	1·721	46	35	48	62	174	226	60	13	32	0·25	305
March	0·254	2·9	542	45·92	7·8	20	2·557	15	7	12	21	100	316	198	31	44	0·42	384
April	0·235	2·7	546	48·58	4·6	3	0·068	123	136	100	33	8	84	98	48	90	0·32	307
May	0·323	3·7	535	53·55	7·3	11	1·288	64	50	77	60	18	199	136	43	97	0·17	236
June	0·361	4·1	530	57·76	6·7	19	2·346	39	28	22	20	84	291	169	13	54	0·23	290
July	0·424	4·7	526	62·11	6·5	13	1·240	80	111	83	39	64	184	66	33	84	0·14	238
August	0·366	4·0	529	60·70	7·8	21	4·142	24	11	23	19	85	293	201	48	40	0·25	305
September	0·317	3·6	541	57·52	6·6	6	1·987	105	93	129	70	21	60	90	86	66	0·24	284
October	0·275	3·2	543	52·33	4·8	15	2·130	45	70	30	15	34	236	68	24	222	0·23	252
November	0·243	2·8	548	48·95	8·1	13	1·553	141	27	0	0	25	166	204	72	85	0·32	312
December	0·266	3·0	545	46·63	7·4	20	2·802	7	1	0	10	60	420	198	24	24	0·51	411
Sums	...	...	...	...	...	179	24·859	730	631	616	447	739	2603	1616	459	943	...	...
Means	0·293	3·3	540	51·84	7·0	...	...	...	...	...	...	...	...	...	...	...	0·27	299

The greatest recorded pressure of the wind on the square foot in the year was 22·5 lbs. on November 26.
The greatest recorded daily horizontal movement of the air in the year was 754 miles on December 14.
The least recorded daily horizontal movement of the air in the year was 56 miles on October 11.

MONTHLY MEAN READING of the BAROMETER at every HOUR of the DAY, as deduced from the PHOTOGRAPHIC RECORDS.

Hour, Greenwich Civil Time.	1912.												Yearly Means.
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Midnight	29·773	29·500	29·548	29·966	29·816	29·658	29·759	29·572	29·995	29·724	29·826	29·747	29·740
1^h	29·771	29·495	29·544	29·962	29·812	29·656	29·755	29·566	29·992	29·723	29·822	29·746	29·737
2	29·772	29·494	29·539	29·958	29·808	29·650	29·751	29·562	29·988	29·717	29·818	29·747	29·734
3	29·769	29·488	29·536	29·954	29·804	29·643	29·747	29·559	29·982	29·716	29·813	29·747	29·730
4	29·761	29·484	29·535	29·953	29·798	29·643	29·747	29·557	29·976	29·720	29·807	29·745	29·727
5	29·757	29·485	29·539	29·956	29·802	29·644	29·749	29·558	29·973	29·724	29·804	29·745	29·728
6	29·755	29·483	29·543	29·964	29·804	29·650	29·752	29·563	29·976	29·728	29·804	29·749	29·731
7	29·759	29·487	29·547	29·971	29·804	29·653	29·755	29·569	29·979	29·739	29·806	29·753	29·735
8	29·766	29·493	29·552	29·974	29·805	29·655	29·757	29·573	29·984	29·752	29·814	29·759	29·740
9	29·773	29·499	29·555	29·978	29·805	29·654	29·756	29·577	29·986	29·760	29·818	29·765	29·744
10	29·775	29·504	29·556	29·979	29·803	29·654	29·753	29·576	29·986	29·764	29·820	29·772	29·745
11	29·772	29·507	29·555	29·975	29·800	29·653	29·752	29·575	29·982	29·764	29·818	29·767	29·743
Noon	29·761	29·505	29·548	29·971	29·795	29·651	29·749	29·571	29·980	29·758	29·807	29·755	29·738
13^h	29·750	29·498	29·539	29·966	29·791	29·649	29·746	29·569	29·975	29·753	29·800	29·743	29·732
14	29·747	29·490	29·529	29·960	29·788	29·647	29·742	29·569	29·971	29·751	29·796	29·736	29·727
15	29·748	29·490	29·521	29·954	29·782	29·644	29·737	29·569	29·966	29·751	29·796	29·731	29·724
16	29·751	29·489	29·517	29·951	29·777	29·643	29·731	29·568	29·963	29·750	29·797	29·735	29·723
17	29·755	29·490	29·518	29·951	29·775	29·641	29·726	29·569	29·962	29·754	29·802	29·739	29·724
18	29·756	29·496	29·523	29·958	29·777	29·644	29·728	29·572	29·964	29·759	29·806	29·742	29·727
19	29·759	29·501	29·528	29·966	29·780	29·647	29·732	29·580	29·969	29·762	29·809	29·746	29·732
20	29·760	29·501	29·530	29·980	29·788	29·651	29·739	29·589	29·970	29·763	29·810	29·748	29·736
21	29·762	29·503	29·532	29·987	29·797	29·662	29·749	29·595	29·969	29·762	29·813	29·754	29·740
22	29·758	29·503	29·533	29·992	29·799	29·662	29·751	29·596	29·966	29·760	29·813	29·756	29·741
23	29·761	29·501	29·532	29·993	29·801	29·661	29·750	29·596	29·962	29·758	29·813	29·759	29·741
24	29·758	29·501	29·530	29·995	29·801	29·660	29·747	29·593	29·960	29·758	29·813	29·758	29·740
Means $0^h.-23^h.$	29·761	29·495	29·537	29·967	29·796	29·651	29·746	29·573	29·976	29·746	29·810	29·749	29·734
Means $1^h.-24^h.$	29·761	29·495	29·537	29·969	29·796	29·651	29·746	29·574	29·974	29·748	29·809	29·750	29·734
Number of Days employed.	31	29	31	30	31	30	31	31	30	31	30	31	...

MONTHLY MEAN TEMPERATURE of the AIR at every HOUR of the DAY, as deduced from the PHOTOGRAPHIC RECORDS.

Hour, Greenwich Civil Time.	1912.												Yearly Means.
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
	°	°	°	°	°	°	°	°	°	°	°	°	°
Midnight	40·0	41·9	43·8	43·6	50·2	52·9	57·8	53·6	50·1	44·9	42·9	45·5	47·3
1^h	39·7	41·6	43·5	42·9	49·6	52·1	57·2	53·2	49·5	44·2	42·5	45·2	46·8
2	39·4	41·3	43·1	42·3	49·0	51·5	56·5	52·7	49·1	43·6	42·2	44·9	46·3
3	39·1	41·0	42·6	41·6	48·4	51·0	55·9	52·1	48·5	43·0	41·9	44·7	45·8
4	39·0	40·7	42·3	41·0	48·1	50·8	55·5	51·4	48·1	42·5	41·6	44·5	45·5
5	38·9	40·3	42·0	40·5	48·1	51·4	55·6	51·2	48·0	41·8	41·4	44·4	45·3
6	38·6	40·3	42·2	40·9	49·4	53·1	57·1	51·9	48·4	41·1	41·3	44·3	45·7
7	38·4	40·3	42·8	42·9	52·0	55·2	59·3	53·5	49·6	41·6	41·6	44·2	46·8
8	38·6	41·0	44·5	46·2	55·2	58·0	62·4	56·1	52·0	43·3	42·2	44·5	48·7
9	38·9	42·3	46·2	49·9	58·2	60·7	65·7	58·5	54·7	46·0	43·3	45·1	50·8
10	39·7	43·6	47·6	52·3	60·0	62·1	67·8	60·4	56·3	48·5	44·4	46·1	52·4
11	40·7	45·2	48·8	54·5	61·6	63·8	69·1	61·4	57·5	51·5	45·4	46·8	53·9
Noon	41·7	46·2	49·7	55·5	62·8	64·5	70·1	62·2	58·4	54·0	46·4	47·4	54·9
13^h	42·2	46·6	50·2	56·9	63·0	64·7	70·8	62·8	58·6	55·1	46·8	47·9	55·5
14	42·4	46·8	50·4	57·2	63·3	65·6	71·0	62·8	58·9	55·5	46·8	47·8	55·7
15	42·3	46·6	50·3	57·3	63·2	65·8	70·2	62·4	58·5	54·7	46·4	47·7	55·5
16	42·0	46·2	49·6	56·2	62·3	64·4	69·9	61·3	57·5	53·3	46·0	47·0	54·6
17	41·4	45·3	48·5	54·6	61·0	63·3	69·3	60·1	56·2	51·4	45·2	46·5	53·6
18	41·1	44·6	47·4	52·7	59·3	62·1	67·7	58·9	54·8	49·7	44·8	46·4	52·5
19	40·8	43·9	46·0	50·3	57·3	60·2	65·5	57·3	53·6	48·2	44·4	46·3	51·2
20	40·5	43·5	45·3	48·4	55·5	58·1	63·3	56·1	52·8	47·2	44·1	46·3	50·1
21	40·1	43·4	44·7	46·8	53·9	56·3	61·6	55·3	52·1	46·4	43·7	46·3	49·2
22	39·9	43·2	44·2	45·5	52·6	54·9	60·2	54·7	51·6	45·6	43·3	46·1	48·5
23	39·7	42·9	43·9	44·5	51·4	53·8	59·1	54·0	50·8	44·8	42·8	46·0	47·8
24	39·5	42·4	43·6	43·7	50·5	52·9	58·0	53·5	50·2	44·4	42·6	45·8	47·3
Means $0^h.-23^h.$	40·2	43·3	45·8	48·5	55·6	58·2	63·3	56·8	53·1	47·4	43·8	45·9	50·2
Means $1^h.-24^h.$	40·2	43·3	45·8	48·5	55·7	58·2	63·3	56·8	53·2	47·4	43·8	45·9	50·2
Number of Days employed.	31	29	31	30	31	30	31	31	30	31	30	31	...

MONTHLY MEAN TEMPERATURE of EVAPORATION at every HOUR of the DAY, as deduced from the PHOTOGRAPHIC RECORDS.

Hour, Greenwich Civil Time.	1912. January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Yearly Means.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Midnight	39·0	40·6	42·2	41·3	48·2	51·3	56·0	51·9	48·3	43·8	41·3	43·8	45·6
1h	38·7	40·4	42·0	40·7	47·8	50·7	55·6	51·5	48·0	43·3	40·9	43·6	45·3
2	38·4	40·2	41·6	40·2	47·5	50·2	55·0	51·0	47·4	42·8	40·7	43·5	44·9
3	38·2	39·8	41·2	39·6	47·1	49·7	54·4	50·4	46·9	42·2	40·4	43·2	44·4
4	38·0	39·5	40·8	39·1	47·0	49·7	54·2	50·0	46·5	41·7	40·3	43·0	44·2
5	37·7	39·4	40·6	38·8	47·1	50·1	54·2	50·0	46·5	41·0	40·2	42·8	44·0
6	37·6	39·4	40·8	39·1	48·1	51·2	55·3	50·6	46·9	40·3	40·1	42·5	44·3
7	37·6	39·5	41·4	40·7	49·7	52·6	56·8	51·8	48·0	40·8	40·3	42·7	45·2
8	37·7	39·8	42·7	43·2	51·5	54·1	58·5	53·4	49·6	42·3	40·9	43·0	46·4
9	38·0	40·6	43·8	45·6	53·0	55·6	60·1	54·7	51·2	44·6	41·7	43·6	47·7
10	38·5	41·6	44·4	46·6	54·0	56·2	60·9	55·4	51·8	46·4	42·4	44·1	48·5
11	39·4	42·7	45·2	47·2	54·6	56·7	61·5	55·7	52·2	48·3	43·1	44·6	49·3
Noon	40·1	43·3	45·9	47·4	54·9	56·9	61·7	56·1	52·4	49·5	43·6	44·9	49·7
13h	40·3	43·6	46·2	47·8	55·0	57·0	61·9	56·4	52·4	49·7	44·0	45·2	50·0
14	40·5	43·7	46·3	48·2	55·0	57·2	61·8	56·2	52·4	49·9	43·9	45·3	50·0
15	40·4	43·7	46·4	48·2	54·7	57·3	61·6	56·1	52·3	49·6	43·7	45·3	49·9
16	40·2	43·5	45·9	48·0	54·3	56·6	61·6	55·6	51·9	48·9	43·5	44·8	49·6
17	39·9	43·1	45·3	47·1	53·6	56·4	61·1	55·3	51·4	47·9	43·0	44·6	49·1
18	39·6	42·6	44·6	46·1	53·0	55·8	60·4	54·7	51·0	47·2	42·8	44·6	48·5
19	39·5	42·2	43·8	45·0	52·1	55·1	59·5	54·0	50·4	46·3	42·3	44·5	47·9
20	39·3	41·9	43·4	44·0	51·3	54·2	58·8	53·5	50·1	45·7	42·1	44·6	47·4
21	39·1	41·9	42·9	43·1	50·4	53·3	58·0	53·0	49·7	45·2	41·9	44·5	46·9
22	38·8	41·8	42·5	42·4	49·8	52·7	57·4	52·7	49·3	44·6	41·5	44·4	46·5
23	38·7	41·5	42·3	41·8	49·2	52·2	56·9	52·3	48·9	43·8	41·4	44·4	46·1
24	38·5	41·1	42·0	41·3	48·6	51·4	56·1	51·7	48·4	43·2	41·0	44·2	45·6
Means { 0h.–23h.	39·0	41·5	43·4	43·8	51·2	53·9	58·5	53·4	49·8	45·2	41·9	44·1	47·1
Means { 1h.–24h.	38·9	41·5	43·4	43·8	51·2	53·9	58·5	53·4	49·8	45·2	41·9	44·1	47·1
Number of Days employed.	31	29	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 by GLAISHER'S TABLES from the corresponding AIR and EVAPORATION TEMPERATURES.

Hour, Greenwich Civil Time.	1912. January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Yearly Means.
	°	°	°	°	°	°	°	°	°	°	°	°	°
Midnight	37·7	39·0	40·3	38·6	46·1	49·7	54·4	50·3	46·4	42·6	39·4	41·8	43·9
1h	37·4	38·9	40·2	38·1	45·9	49·3	54·2	49·8	46·4	42·2	39·0	41·7	43·6
2	37·1	38·8	39·8	37·6	45·8	48·9	53·7	49·3	45·5	41·8	38·9	41·9	43·3
3	37·0	38·3	39·5	37·1	45·7	48·4	53·0	48·7	45·2	41·2	38·5	41·5	42·8
4	36·7	38·0	39·0	36·7	45·8	48·6	53·0	48·6	44·8	40·7	38·7	41·3	42·7
5	36·1	38·3	38·9	36·6	46·0	48·8	52·9	48·8	44·9	40·0	38·7	40·9	42·6
6	36·3	38·3	39·1	36·9	46·7	49·3	53·7	49·3	45·3	39·3	38·6	40·4	42·8
7	36·5	38·5	39·7	38·1	47·4	50·1	54·6	50·2	46·3	39·8	38·7	40·9	43·4
8	36·5	38·3	40·6	39·8	48·0	50·6	55·2	50·9	47·2	41·1	39·4	41·3	44·1
9	36·8	38·5	41·1	41·1	48·3	51·2	55·5	51·3	47·8	43·0	39·8	41·8	44·7
10	36·9	39·3	40·9	40·8	48·7	51·1	55·5	51·0	47·6	44·1	40·0	41·8	44·8
11	37·8	39·8	41·3	40·1	48·6	50·8	55·6	50·8	47·4	45·1	40·5	42·1	45·0
Noon	38·1	40·0	41·9	39·7	48·2	50·6	55·2	50·8	47·0	45·1	40·4	42·2	44·9
13h	38·0	40·2	42·0	39·5	48·2	50·6	55·1	50·9	46·9	44·5	40·8	42·2	44·9
14	38·2	40·2	42·0	39·9	48·0	50·4	54·8	50·5	46·6	44·6	40·6	42·5	44·9
15	38·1	40·4	42·3	39·9	47·5	50·4	54·9	50·7	46·8	44·7	40·6	42·7	44·9
16	38·0	40·4	42·0	40·3	47·4	50·2	55·2	50·7	46·8	44·5	40·6	42·4	44·9
17	38·0	40·6	41·8	39·8	47·1	50·6	54·8	51·1	46·9	44·3	40·5	42·5	44·8
18	37·7	40·3	41·5	39·5	47·5	50·4	54·6	50·9	47·4	44·5	40·5	42·6	44·8
19	37·9	40·2	41·3	39·4	47·4	50·6	54·6	51·0	47·3	44·2	39·8	42·5	44·7
20	37·8	40·0	41·2	39·2	47·3	50·7	55·0	51·1	47·4	44·0	39·7	42·7	44·7
21	37·8	40·1	40·8	38·9	47·0	50·5	54·9	50·8	47·3	43·9	39·8	42·5	44·5
22	37·4	40·1	40·5	38·8	47·0	50·6	55·0	50·8	47·0	43·5	39·4	42·5	44·4
23	37·4	39·8	40·4	38·6	47·0	50·6	54·9	50·6	46·9	42·7	39·7	42·6	44·3
24	37·2	39·5	40·1	38·5	46·6	49·9	54·4	50·0	46·5	41·8	39·1	42·4	43·8
Means { 0h.–23h.	37·4	39·4	40·8	39·0	47·2	50·1	54·6	50·4	46·6	43·0	39·7	42·0	44·2
Means { 1h.–24h.	37·4	39·4	40·7	39·0	47·2	50·1	54·6	50·4	46·6	42·9	39·7	42·0	44·2

MONTHLY MEAN DEGREE of HUMIDITY (Saturation = 100) at every HOUR of the DAY, as deduced by GLAISHER'S TABLES from the corresponding AIR and EVAPORATION TEMPERATURES.

Hour, Greenwich Civil Time.	1912.												Yearly Means.
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
Midnight	92	91	87	82	86	90	88	89	88	92	87	88	88
1^h	92	91	88	84	88	90	89	88	89	93	88	88	89
2	92	91	88	84	89	91	90	89	88	94	89	90	90
3	93	90	89	85	91	91	90	88	89	94	89	89	90
4	92	90	89	85	92	92	91	90	89	94	90	89	90
5	91	93	89	87	93	91	91	92	89	94	91	88	91
6	92	93	89	86	91	87	88	91	89	94	91	86	90
7	94	94	89	84	84	84	85	89	89	94	90	88	89
8	93	90	87	79	77	76	77	83	84	92	90	89	85
9	93	87	83	72	70	71	70	77	77	90	88	89	81
10	90	85	78	66	66	68	64	71	73	85	85	86	76
11	90	82	76	58	63	63	62	69	69	79	83	85	73
Noon	88	80	75	56	58	61	60	67	66	72	81	83	71
13^h	86	80	74	53	59	60	58	66	66	68	80	82	69
14	86	79	74	53	58	57	56	65	64	67	81	83	69
15	86	80	75	53	56	57	59	66	65	69	82	84	69
16	86	81	75	55	58	60	59	69	68	72	83	85	71
17	89	84	78	57	60	63	59	72	71	77	84	87	73
18	88	85	81	62	65	66	63	75	75	83	86	87	76
19	90	86	85	67	69	71	68	80	79	87	84	87	79
20	90	88	86	71	74	76	75	83	82	90	84	88	82
21	92	88	87	75	77	81	79	85	84	92	86	87	84
22	91	89	87	78	82	85	83	87	85	93	86	88	86
23	92	89	87	80	85	89	87	88	88	93	89	89	88
24	92	90	87	82	87	90	88	88	88	91	87	88	88
Means 0^h.–23^h.	90	87	83	71	75	76	75	80	79	86	86	87	81
Means 1^h.–24^h.	90	87	83	71	75	76	75	80	79	86	86	87	81

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 1912.

Month, 1912.	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.
	5^h.	6^h.	7^h.	8^h.	9^h.	10^h.	11^h.	Noon.	13^h.	14^h.	15^h.	16^h.	17^h.	18^h.	19^h.	20^h.				
	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h		°
January	...	...	...	...	0·1	1·9	4·5	5·7	5·0	4·9	3·7	1·8	...	...	...	...	27·6	258·2	0·107	18
February	...	...	...	0·2	2·8	4·4	5·5	6·2	5·4	6·4	3·9	3·3	0·4	...	...	...	38·5	286·9	0·134	26
March	...	...	1·7	5·7	6·9	8·9	11·1	11·1	11·3	12·2	10·0	8·0	4·6	0·3	...	...	91·8	366·8	0·250	37
April	...	3·5	14·1	15·5	17·3	17·7	19·8	20·6	21·1	21·4	19·9	17·9	18·1	13·4	3·8	...	224·1	414·3	0·541	48
May	1·3	8·4	11·1	14·3	15·3	17·3	17·2	17·1	15·2	14·4	14·4	12·8	11·8	11·9	7·2	1·1	190·8	482·1	0·396	57
June	4·8	11·2	15·1	14·8	15·0	15·3	16·4	15·4	14·8	14·5	17·2	16·2	13·5	15·5	14·5	4·6	218·8	494·5	0·442	62
July	0·1	3·3	7·2	12·4	14·3	15·3	13·6	13·9	13·7	15·5	12·1	13·6	14·6	10·8	5·2	...	165·6	497·3	0·333	60
August	...	0·4	4·5	12·4	14·6	14·8	12·7	11·8	9·5	9·2	9·4	6·3	5·8	2·7	0·2	...	114·3	449·8	0·254	52
September	...	...	1·6	7·7	11·7	11·5	12·4	13·6	13·9	13·2	13·7	11·5	7·6	0·4	...	...	118·8	378·1	0·314	41
October	...	...	...	2·2	8·2	14·1	16·0	19·7	17·0	18·0	14·5	10·8	2·3	...	...	...	122·8	329·6	0·373	30
November	...	...	...	...	1·1	3·7	4·5	4·1	4·4	4·9	3·1	0·9	...	...	...	...	26·7	265·3	0·010	20
December	...	...	...	...	...	1·9	3·7	6·4	7·1	6·7	4·0	0·2	...	...	...	...	30·0	243·8	0·123	16
For the Year	6·2	26·8	55·3	85·2	107·3	126·8	137·4	145·6	138·4	141·3	125·9	103·3	78·7	55·0	30·9	5·7	1369·8	4466·7	0·307	...

The hours are reckoned from *apparent* midnight.

READINGS of THERMOMETERS on the ORDINARY STAND in the MAGNETIC PAVILION ENCLOSURE, in the YEAR 1912.

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

JANUARY.

Days of the Month.	Dry-Bulb Thermometers, 4 ft. above the Ground. Maximum.	Minimum.	9^{h}	Noon.	15^{h}	21^{h}	Wet-Bulb Thermometer, 4 ft. above the Ground. 9^{h}	Noon.	15^{h}	21^{h}
d	°	°	°	°	°	°	°	°	°	°
1	49.6	45.2	45.8	47.6	49.4	47.1	45.8	47.1	48.8	47.0
2	47.7	40.9	42.2	46.9	46.7	46.2	41.5	45.0	44.7	44.0
3	49.6	45.1	47.3	48.6	49.2	48.4	45.1	46.4	46.9	47.2
4	50.0	47.1	47.7	48.4	48.6	49.9	46.2	47.4	48.3	49.1
5	50.4	38.0	44.7	44.7	42.8	38.1	44.1	41.0	38.9	36.1
6	51.3	37.1	38.8	42.4	45.6	50.7	38.3	41.7	45.1	47.9
7	51.0	35.0	38.9	41.9	40.0	35.4	37.2	39.4	38.3	33.2
8	39.0	29.1	30.2	34.6	38.5	38.7	29.8	33.3	36.2	38.1
9	51.0	38.3	46.6	48.8	50.4	43.8	44.8	46.8	46.3	41.9
10	51.0	35.1	36.1	48.0	46.8	44.2	36.0	46.2	45.1	43.4
11	46.7	37.9	42.3	45.5	43.8	42.2	40.9	42.8	42.7	41.9
12	47.0	38.5	40.6	43.4	44.6	42.0	40.6	42.8	42.7	41.8
13	47.2	39.1	43.2	45.8	46.5	43.5	43.0	45.4	45.2	42.9
14	45.6	43.1	43.8	44.1	44.4	44.1	41.7	41.9	42.4	43.0
15	44.9	42.6	43.0	43.9	43.4	43.8	42.2	43.3	42.9	43.4
16	44.1	41.0	41.8	42.9	43.6	41.5	41.1	42.1	42.1	41.1
17	41.6	31.4	35.6	34.7	32.4	31.7	34.9	33.4	32.0	31.5
18	42.9	31.7	32.6	33.2	36.1	38.4	32.1	32.8	35.8	37.4
19	42.0	33.0	34.6	40.6	41.6	40.9	34.3	39.8	41.2	40.8
20	48.4	40.9	42.3	44.9	46.6	42.9	42.0	43.6	44.5	42.7
21	45.0	40.2	43.1	42.7	41.9	40.5	42.8	42.5	41.8	40.0
22	41.1	35.6	37.6	39.6	39.0	38.6	37.6	39.4	38.8	38.3
23	41.9	38.1	41.1	41.9	41.6	41.4	40.8	41.7	41.4	40.8
24	48.0	37.4	38.3	45.8	45.6	44.0	38.0	44.1	42.9	43.8
25	44.9	38.1	38.6	38.5	38.6	38.3	38.6	38.0	38.1	38.1
26	40.2	34.9	38.2	39.6	39.6	34.9	36.8	37.2	37.5	33.5
27	38.0	29.9	34.6	37.6	35.1	29.9	31.5	33.9	31.5	28.9
28	37.3	23.0	26.3	35.2	36.5	27.2	25.7	31.6	31.5	25.8
29	36.0	19.1	24.3	32.8	35.3	28.2	23.8	29.8	31.6	26.0
30	38.0	24.4	31.2	29.9	37.2	35.7	28.6	27.8	31.8	33.1
31	39.0	31.1	33.4	36.7	38.6	32.1	31.8	34.7	34.3	29.9
Means	44.9	36.2	38.9	41.7	42.3	40.1	38.0	40.1	40.4	39.1

FEBRUARY.

Days of the Month.	Dry-Bulb Thermometers, 4 ft. above the Ground. Maximum.	Minimum.	9^{h}	Noon.	15^{h}	21^{h}	Wet-Bulb Thermometer, 4 ft. above the Ground. 9^{h}	Noon.	15^{h}	21^{h}
d	°	°	°	°	°	°	°	°	°	°
1	37.0	28.4	33.0	36.6	35.9	34.7	32.0	32.6	32.9	31.3
2	34.9	23.7	24.5	28.2	28.4	24.3	22.4	26.0	27.7	22.8
3	32.0	19.1	21.1	29.3	31.7	27.4	19.8	25.9	28.0	25.8
4	27.4	24.0	25.9	26.3	26.9	24.0	25.1	25.4	25.9	23.0
5	32.0	20.2	23.9	26.8	29.6	31.6	22.1	24.8	27.9	31.5
6	45.6	31.3	36.5	41.9	43.2	42.6	36.0	41.2	42.4	41.9
7	50.5	38.3	40.8	48.3	47.7	43.2	39.5	43.6	43.5	41.8
8	50.1	43.1	45.9	47.1	48.8	48.8	43.9	45.9	47.8	46.7
9	53.0	45.6	47.6	52.6	51.6	47.9	46.9	50.2	48.8	46.6
10	52.0	39.6	44.6	49.6	51.1	39.7	42.9	46.5	46.6	39.7
11	54.0	39.1	46.1	50.6	49.6	43.5	44.8	46.6	46.3	41.8
12	50.0	40.9	43.5	47.6	48.8	46.6	43.1	45.8	46.2	44.5
13	47.0	42.0	43.8	43.6	42.3	44.3	41.7	42.5	42.0	43.1
14	44.3	41.5	42.6	42.6	42.7	42.6	41.6	41.5	41.6	40.4
15	48.6	38.1	39.8	46.2	45.6	44.8	38.7	42.8	42.4	43.5
16	52.1	44.1	47.4	50.3	51.0	48.8	47.0	48.8	49.5	47.8
17	58.0	42.0	46.6	56.6	56.2	48.5	43.8	49.8	49.1	45.7
18	54.1	42.1	47.3	53.4	51.6	45.9	45.4	48.8	48.1	44.1
19	54.0	45.5	50.9	51.0	49.4	46.9	48.0	48.5	47.8	44.9
20	48.0	42.3	43.5	46.5	46.9	43.6	42.3	44.6	44.0	41.0
21	49.0	32.1	39.6	46.4	47.6	45.8	37.8	44.7	46.0	45.3
22	53.2	45.1	50.6	51.9	52.1	52.8	49.8	50.9	51.2	51.7
23	55.3	50.4	51.7	53.6	53.9	50.8	50.2	51.7	51.8	49.8
24	52.7	42.1	44.4	49.6	50.3	46.0	42.5	45.8	45.4	44.9
25	54.3	43.6	49.2	51.8	50.9	44.6	48.4	47.0	46.7	43.8
26	51.3	35.2	43.6	50.1	49.6	50.6	41.3	45.6	47.6	49.0
27	57.6	49.1	50.7	54.0	56.9	49.6	45.8	46.5	49.0	46.8
28	59.5	48.9	51.0	55.0	56.8	51.4	48.7	51.4	52.8	49.7
29	56.8	46.3	49.8	52.5	54.6	47.4	47.2	48.9	48.8	45.6
Means	48.8	38.7	42.3	46.2	46.6	43.4	40.6	43.3	43.7	41.9

MARCH.

Days of the Month.	Dry-Bulb Thermometers, 4 ft. above the Ground. Maximum.	Minimum.	9^{h}	Noon.	15^{h}	21^{h}	Wet-Bulb Thermometer, 4 ft. above the Ground. 9^{h}	Noon.	15^{h}	21^{h}
d	°	°	°	°	°	°	°	°	°	°
1	52.0	46.1	48.2	49.5	51.2	50.6	46.8	47.7	48.7	48.2
2	56.3	46.9	51.0	53.0	55.6	50.7	47.8	49.3	49.9	48.0
3	53.6	42.4	48.6	48.7	49.1	42.9	44.5	45.0	45.0	41.4
4	51.1	40.4	45.2	45.6	47.6	46.4	43.1	44.9	46.5	42.9
5	53.1	41.6	47.0	50.7	50.4	42.9	44.2	44.1	46.2	40.8
6	50.0	38.1	41.8	46.2	49.3	42.3	39.7	42.5	41.8	39.0
7	52.1	35.6	41.5	49.6	48.0	39.9	38.8	42.0	41.8	37.0
8	48.9	34.0	44.0	47.0	43.6	42.9	41.5	43.5	42.5	42.1
9	54.1	39.2	48.7	50.6	52.0	43.2	46.1	46.9	46.5	42.3
10	53.0	41.1	45.4	51.6	50.8	43.6	44.2	47.3	47.7	42.8
11	49.7	35.1	40.6	44.3	47.7	39.7	40.4	43.3	45.3	39.7
12	50.0	38.1	38.7	42.6	49.3	42.7	38.7	41.1	46.0	42.0
13	51.8	42.1	47.7	50.2	51.5	51.3	46.8	48.6	50.0	50.4
14	60.6	48.9	49.6	52.6	57.6	49.0	48.5	50.8	53.0	48.1
15	52.1	39.7	49.6	45.6	45.6	39.7	46.9	44.7	43.9	37.3
16	52.0	33.5	41.1	47.9	47.6	43.4	38.4	42.0	42.3	42.7
17	47.7	43.0	44.9	46.5	46.0	43.7	43.4	44.8	45.0	43.1
18	47.2	36.7	43.8	43.3	44.7	42.7	41.6	41.6	44.1	42.0
19	52.0	35.3	39.7	45.6	46.6	35.6	38.5	41.8	41.4	35.3
20	49.4	33.9	42.6	46.4	44.4	37.9	38.8	40.3	40.1	36.1
21	55.1	31.3	44.3	54.6	49.6	44.6	43.8	49.9	46.4	43.6
22	52.1	43.1	44.5	48.0	50.1	44.9	43.2	45.4	46.7	43.3
23	47.9	35.7	42.3	44.7	44.7	44.8	40.1	43.9	44.1	44.4
24	57.2	44.1	51.2	54.5	55.8	51.1	47.5	49.1	49.8	49.5
25	61.9	50.7	54.8	59.0	55.9	51.6	53.0	55.5	54.0	50.1
26	61.8	49.2	52.5	56.0	59.5	50.6	47.1	49.4	52.7	48.8
27	60.0	48.1	50.6	56.6	48.5	49.8	46.9	49.2	50.5	45.8
28	59.1	47.1	53.0	56.0	57.7	49.8	50.6	52.4	53.8	43.5
29	54.9	38.2	46.1	51.7	51.6	44.7	41.8	44.6	43.9	39.9
30	55.7	41.1	47.9	52.8	52.0	44.5	42.8	44.8	44.0	41.2
31	51.1	38.2	45.7	50.3	45.6	38.6	43.6	46.1	44.3	38.5
Means	53.3	40.6	46.2	49.7	50.3	44.7	43.8	45.9	46.4	42.9

APRIL.

Days of the Month.	Dry-Bulb Thermometers, 4 ft. above the Ground. Maximum.	Minimum.	9^{h}	Noon.	15^{h}	21^{h}	Wet-Bulb Thermometer, 4 ft. above the Ground. 9^{h}	Noon.	15^{h}	21^{h}
d	°	°	°	°	°	°	°	°	°	°
1	49.2	37.0	40.6	44.0	47.7	40.5	37.6	40.1	40.1	35.8
2	55.1	32.5	43.4	49.6	53.5	48.6	39.1	42.1	45.3	46.6
3	58.8	35.6	48.3	54.5	57.6	45.2	44.8	46.6	48.8	42.9
4	59.1	42.2	47.1	50.8	58.1	49.9	45.4	48.2	52.7	47.8
5	61.9	46.2	51.6	57.4	58.2	52.9	49.7	53.0	53.8	51.1
6	67.7	49.1	58.3	62.3	66.5	54.6	54.6	55.9	57.8	51.3
7	64.2	47.6	53.7	58.3	62.5	53.1	49.7	51.8	54.9	50.1
8	56.1	46.3	49.6	51.3	51.5	46.6	45.5	46.5	48.0	40.2
9	51.1	36.2	42.6	46.9	48.6	40.8	36.8	37.6	40.5	36.3
10	50.7	39.9	44.0	46.7	47.8	41.3	39.2	39.4	40.1	37.9
11	53.0	32.4	44.9	50.3	50.6	34.9	41.1	41.8	42.1	32.5
12	51.0	32.5	42.7	49.3	47.6	39.4	37.8	41.9	40.6	35.8
13	56.2	38.0	47.6	51.3	55.3	50.6	43.3	44.7	46.8	44.9
14	59.0	44.3	49.1	54.9	54.6	49.6	45.9	48.9	48.8	45.8
15	57.2	38.7	44.7	50.6	55.2	43.6	42.8	46.2	48.8	41.2
16	56.3	34.0	48.7	55.6	55.3	43.2	46.0	45.2	44.8	40.9
17	59.0	41.2	50.5	53.5	57.4	45.9	46.4	44.0	46.9	44.0
18	65.5	33.1	50.6	60.5	64.1	51.1	48.8	47.9	49.3	45.5
19	69.9	38.6	61.6	62.8	61.5	48.4	50.9	51.7	51.2	44.6
20	69.5	38.1	60.3	66.7	67.4	50.8	52.7	54.1	54.8	46.4
21	71.3	37.2	59.6	68.5	69.0	48.6	50.8	54.9	54.1	45.8
22	67.1	42.1	58.2	65.7	64.7	54.5	52.8	53.8	51.3	47.9
23	65.8	44.3	58.3	63.6	63.6	50.4	51.8	52.0	46.8	44.5
24	65.9	43.2	55.6	65.5	63.7	52.2	49.8	51.7	49.7	45.2
25	63.5	39.3	51.6	58.5	61.4	46.3	47.8	50.8	51.4	45.0
26	61.5	40.4	44.7	55.8	59.5	44.7	42.8	50.1	52.9	44.0
27	60.2	42.6	47.1	53.5	58.6	45.2	44.8	48.7	52.0	43.3
28	58.0	39.6	48.1	55.7	55.3	45.9	42.6	46.4	45.5	39.7
29	53.2	40.1	46.1	49.5	48.7	43.8	43.8	42.8	42.8	39.5
30	56.0	36.1	48.6	51.8	53.5	40.1	41.9	42.6	43.8	37.0
Means	59.8	39.6	49.9	55.5	57.3	46.8	45.6	47.4	48.2	43.1

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 at 21^h.)

MAY.

Days of the Month.	Dry-Bulb Thermometers, 4 ft. above the Ground. Maximum.	Minimum.	9^h	Noon.	15^h	21^h	Wet-Bulb Thermometer, 4 ft. above the Ground. 9^h	Noon.	15^h	21^h
d	°	°	°	°	°	°	°	°	°	°
1	66·2	38·3	52·7	58·2	63·6	53·6	46·8	49·2	50·8	48·2
2	70·7	49·0	57·2	63·8	67·8	58·2	52·4	55·8	57·2	51·9
3	65·8	46·1	54·5	59·7	61·5	55·3	51·0	55·0	54·1	52·4
4	55·8	46·1	48·6	48·5	48·6	46·6	47·3	47·5	47·8	45·9
5	61·1	45·8	52·6	56·6	59·6	49·7	49·9	52·8	54·0	48·6
6	67·3	46·1	58·6	60·9	63·6	52·8	54·4	55·2	55·6	49·7
7	65·2	51·9	56·6	62·5	58·7	57·8	54·7	59·3	57·8	56·8
8	73·6	57·1	59·9	70·6	68·6	61·7	57·7	62·7	61·6	60·0
9	76·0	54·2	65·7	70·1	71·7	63·5	59·9	61·8	61·6	60·7
10	70·1	53·9	63·6	67·7	62·9	53·9	55·3	56·6	54·1	49·1
11	82·6	50·3	70·3	77·8	76·6	61·7	62·5	64·5	60·0	57·3
12	72·0	52·1	64·6	67·6	67·0	52·6	58·8	59·8	59·7	50·0
13	62·5	47·1	55·7	59·7	61·2	50·6	50·9	52·8	53·7	46·3
14	71·3	44·0	62·6	68·1	66·6	56·6	52·6	54·2	55·8	49·9
15	68·2	53·0	61·2	65·2	65·2	55·5	56·8	60·4	58·1	53·1
16	58·0	44·1	50·5	55·5	51·6	44·6	45·7	46·8	44·3	41·8
17	61·6	43·2	52·7	56·4	58·4	53·6	45·8	48·7	49·8	48·8
18	67·0	46·6	57·6	60·7	61·0	54·5	52·6	52·6	53·1	51·0
19	70·1	45·1	58·6	65·0	64·8	52·2	54·7	56·3	56·7	49·0
20	72·0	45·2	60·7	69·6	66·1	52·9	55·4	60·8	56·3	46·6
21	67·4	45·1	59·5	62·1	61·7	54·9	52·0	54·0	55·3	52·7
22	67·3	50·0	58·0	66·1	65·2	53·6	56·0	58·1	56·4	51·7
23	60·4	48·1	54·9	55·4	53·5	48·6	51·3	51·7	50·1	46·4
24	57·6	45·2	48·8	51·4	54·3	48·6	47·0	46·8	48·3	44·2
25	62·1	38·6	56·3	56·4	61·4	47·4	50·0	48·3	50·8	44·3
26	66·7	36·1	58·6	63·3	59·6	46·2	48·2	51·8	51·3	44·7
27	71·1	41·1	57·9	65·5	68·8	54·6	52·1	54·5	54·2	50·2
28	71·9	45·4	63·2	66·5	64·4	58·4	53·8	55·0	53·7	50·9
29	72·0	45·6	60·6	66·6	68·1	57·7	53·3	54·3	55·8	54·4
30	77·0	47·0	65·6	71·7	73·5	57·6	57·8	59·2	59·3	51·7
31	68·1	51·2	56·5	58·8	63·7	54·2	54·9	55·2	57·6	52·6
Means	67·7	46·9	58·2	62·8	63·2	53·9	53·0	54·9	54·7	50·4

JULY.

Days of the Month.	Dry-Bulb Thermometers, 4 ft. above the Ground. Maximum.	Minimum.	9^h	Noon.	15^h	21^h	Wet-Bulb Thermometer, 4 ft. above the Ground. 9^h	Noon.	15^h	21^h
d	°	°	°	°	°	°	°	°	°	°
1	70·2	51·1	58·6	62·4	58·0	56·8	55·4	55·8	55·4	52·8
2	63·0	52·6	56·6	59·6	56·8	54·1	53·9	53·3	53·9	53·0
3	62·1	52·2	58·8	59·4	60·2	56·2	55·5	55·9	55·9	54·8
4	68·1	53·3	58·4	59·8	63·6	58·1	55·0	56·8	57·3	55·5
5	70·2	53·1	61·6	65·6	66·8	60·8	58·1	60·0	61·0	56·8
6	74·0	55·2	67·0	72·2	71·0	60·3	61·9	63·5	59·4	56·7
7	75·4	57·5	61·6	65·8	71·3	59·3	58·2	60·1	61·7	58·1
8	72·6	54·0	62·8	67·9	67·6	58·7	58·2	60·8	60·8	57·8
9	75·4	49·6	64·6	69·7	71·5	62·6	56·4	59·8	59·8	58·9
10	81·0	57·4	71·6	76·7	75·6	64·3	65·4	66·7	65·8	60·5
11	78·9	59·1	67·8	73·4	73·6	63·4	62·3	64·8	64·1	61·3
12	90·0	53·4	80·5	87·5	87·3	73·1	69·5	71·6	70·6	66·0
13	84·9	63·1	75·2	82·8	79·8	70·3	67·8	70·0	68·8	65·8
14	88·1	60·4	66·6	78·6	86·5	73·3	63·4	69·9	74·7	65·0
15	87·1	59·1	78·9	85·5	85·6	70·3	69·7	68·2	67·2	64·6
16	86·8	59·5	77·0	84·4	83·8	70·4	68·1	68·0	67·4	62·8
17	84·2	59·4	68·4	76·8	82·0	63·6	62·5	66·9	68·7	60·2
18	73·0	55·1	62·8	67·3	70·4	55·6	58·8	59·9	60·8	50·6
19	57·9	48·1	56·1	56·4	52·8	53·9	51·1	50·5	50·8	52·9
20	67·8	51·1	56·7	61·8	63·8	57·8	54·3	56·3	56·8	56·3
21	76·8	51·1	67·6	70·6	72·3	59·6	60·5	60·2	61·3	56·8
22	69·7	49·2	64·6	67·9	63·9	58·4	57·1	61·0	60·7	56·4
23	71·9	55·7	65·6	70·7	68·6	63·4	61·5	64·8	65·3	60·9
24	81·6	56·7	69·1	74·0	78·2	64·3	63·2	64·6	64·7	59·4
25	80·9	57·2	70·7	75·9	72·9	61·3	63·2	64·9	62·0	58·1
26	79·2	51·9	68·6	73·7	74·5	64·9	61·7	62·2	61·1	58·4
27	79·0	58·6	71·6	69·6	74·6	63·9	63·8	64·8	65·2	59·8
28	72·0	57·8	64·9	69·5	61·0	57·8	57·6	57·8	56·5	54·8
29	64·0	54·5	61·4	59·6	59·0	55·1	57·4	57·3	56·0	53·7
30	70·9	52·6	62·0	68·7	67·4	57·0	56·3	59·1	59·1	51·2
31	63·9	49·2	58·9	58·6	56·9	60·5	54·3	56·8	56·4	57·1
Means	74·9	54·8	65·7	70·1	70·2	61·6	60·1	61·7	61·6	58·0

JUNE.

Days of the Month.	Dry-Bulb Thermometers, 4 ft. above the Ground. Maximum.	Minimum.	9^h	Noon.	15^h	21^h	Wet-Bulb Thermometer, 4 ft. above the Ground. 9^h	Noon.	15^h	21^h
d	°	°	°	°	°	°	°	°	°	°
1	67·0	45·1	60·5	62·7	64·5	55·5	56·0	56·3	57·8	53·9
2	65·6	50·8	56·6	58·3	64·6	50·8	55·3	54·1	56·8	47·8
3	68·1	41·5	59·6	64·6	56·3	52·7	53·6	55·9	52·3	48·8
4	65·1	44·3	57·6	62·1	56·3	47·7	52·3	52·6	48·8	46·0
5	66·1	43·4	50·9	62·8	63·6	52·6	48·8	53·2	54·8	50·0
6	69·5	48·1	62·6	65·8	64·8	55·1	54·4	55·5	57·6	52·4
7	59·3	44·6	54·4	57·7	55·2	54·6	53·0	56·0	54·2	53·9
8	66·0	51·3	54·3	54·6	62·7	52·4	53·0	53·2	57·1	51·7
9	67·0	48·7	61·5	54·2	62·0	55·0	56·5	53·8	56·4	51·6
10	68·5	49·9	57·6	66·2	64·6	51·7	53·0	55·3	55·0	48·8
11	71·0	44·5	62·1	69·1	68·5	59·4	56·0	57·9	57·2	56·3
12	66·2	54·2	57·6	63·5	59·3	56·3	55·3	58·8	57·1	55·0
13	70·5	50·0	62·0	64·3	68·6	56·6	55·8	56·6	56·7	50·8
14	70·1	48·5	60·6	63·6	65·9	58·6	54·5	54·0	55·3	54·8
15	67·9	51·9	61·2	65·2	65·5	56·5	52·8	53·9	54·1	53·6
16	64·0	50·1	55·6	58·6	59·9	54·2	52·1	49·9	52·0	52·5
17	67·0	49·1	59·0	63·6	61·7	56·6	53·8	55·3	55·4	56·0
18	76·7	56·2	65·1	69·3	75·6	59·6	59·7	61·4	65·8	57·7
19	84·3	49·7	75·4	74·3	80·6	63·6	65·5	66·1	68·0	58·1
20	71·9	52·3	60·4	64·1	68·1	58·6	54·4	56·9	54·4	53·0
21	73·0	52·1	63·0	68·5	70·2	58·4	55·8	58·6	60·2	53·9
22	80·5	48·2	70·9	78·6	79·4	67·3	62·7	65·8	65·5	61·7
23	75·6	59·5	64·3	72·3	72·6	59·6	58·0	59·9	60·8	54·7
24	71·0	52·4	65·5	67·4	69·1	57·9	57·6	60·7	59·5	55·4
25	63·0	53·1	59·4	58·7	58·7	55·6	54·8	54·8	56·9	53·2
26	71·5	53·3	63·8	68·4	67·1	60·1	57·1	59·2	57·2	54·4
27	68·2	51·5	59·6	66·5	63·5	56·3	55·2	57·9	56·0	54·0
28	73·0	51·4	60·2	65·8	71·8	56·2	56·5	58·5	61·1	52·7
29	70·9	50·9	58·9	61·8	69·0	54·1	57·0	57·8	59·6	52·9
30	67·3	51·2	62·2	63·1	63·7	54·8	56·8	56·1	56·8	53·0
Means	69·5	49·9	60·7	64·5	65·8	56·3	55·6	56·9	57·3	53·3

AUGUST.

Days of the Month.	Dry-Bulb Thermometers, 4 ft. above the Ground. Maximum.	Minimum.	9^h	Noon.	15^h	21^h	Wet-Bulb Thermometer, 4 ft. above the Ground. 9^h	Noon.	15^h	21^h
d	°	°	°	°	°	°	°	°	°	°
1	68·9	51·4	59·6	64·7	65·7	57·0	53·9	55·3	54·9	52·1
2	69·3	46·2	56·9	63·6	56·7	53·1	52·1	54·2	52·7	49·4
3	68·3	42·2	61·6	63·4	64·6	57·6	54·4	55·6	55·1	54·8
4	73·0	55·9	61·4	67·8	65·0	56·8	60·2	62·8	60·7	52·8
5	66·6	51·9	60·6	57·6	62·1	56·6	53·8	55·2	55·8	53·2
6	62·7	54·0	61·2	57·5	61·1	54·3	55·5	53·8	55·8	52·4
7	70·1	52·2	59·6	65·0	61·6	55·1	56·0	57·7	54·2	53·9
8	71·8	52·2	59·6	66·0	64·9	55·7	55·7	58·6	59·3	55·4
9	67·5	51·1	58·8	64·9	64·1	55·5	54·8	56·2	54·8	52·2
10	65·6	47·6	55·6	63·5	54·2	52·5	54·0	56·6	53·6	52·0
11	66·9	47·4	59·1	62·2	63·1	52·8	54·4	54·1	54·4	50·1
12	62·0	45·1	55·8	58·6	57·1	55·6	51·8	52·8	51·9	51·6
13	62·9	47·2	54·9	58·6	59·6	53·7	50·2	51·8	52·8	50·2
14	64·2	44·1	56·7	60·9	59·6	52·2	51·9	52·9	52·7	49·8
15	62·7	50·7	55·8	58·1	60·2	56·8	52·8	54·9	56·2	54·1
16	70·1	49·8	61·4	64·5	65·1	58·3	55·7	57·0	57·6	56·8
17	67·8	57·2	61·5	65·6	65·8	61·0	58·5	60·7	60·1	57·4
18	70·0	54·8	60·7	64·7	64·9	54·8	57·8	57·9	59·1	52·9
19	68·1	52·5	59·2	65·6	67·4	53·3	56·9	58·9	58·8	52·0
20	68·1	52·1	60·7	63·9	59·0	53·6	56·7	57·8	53·2	52·2
21	62·0	47·1	56·8	59·8	56·2	54·9	51·1	52·5	53·9	53·5
22	64·4	49·3	55·9	59·9	63·6	54·6	50·9	51·0	53·7	50·1
23	65·6	50·3	56·9	60·7	64·3	60·5	56·5	59·7	61·7	59·6
24	64·1	56·6	59·6	58·7	61·6	57·8	58·6	57·8	59·9	57·7
25	68·0	54·0	61·5	63·2	65·4	54·5	57·7	57·7	58·5	53·8
26	61·0	51·0	54·6	54·9	59·3	51·0	54·1	54·6	54·7	49·6
27	62·2	49·4	54·9	59·6	60·5	52·8	50·3	52·5	52·8	50·2
28	66·3	42·1	55·2	63·3	62·1	56·5	51·6	54·1	54·9	55·0
29	70·1	55·1	59·7	64·5	68·3	55·3	59·1	61·4	59·9	53·3
30	70·0	54·1	61·4	67·6	67·3	56·8	57·8	61·6	60·4	51·8
31	66·1	49·0	57·6	59·6	64·7	54·5	51·7	51·9	54·8	51·6
Means	66·7	50·4	58·5	62·2	62·4	55·3	54·7	56·1	56·1	53·0

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 at 21h.)

SEPTEMBER.

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

NOVEMBER.

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

OCTOBER.

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

DECEMBER.

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

EXCESS of MEAN MONTHLY READINGS of THERMOMETERS placed in a STEVENSON'S SCREEN above those of the corresponding THERMOMETERS on the adjacent ORDINARY STAND in the MAGNETIC PAVILION ENCLOSURE in the YEAR 1912.

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

MONTH, 1912.	Dry Bulb Thermometers, 4 ft. above the Ground.						Wet Bulb Thermometer, 4 ft. above the Ground.			
	Maximum.	Minimum.	9h	Noon.	15h	21h	9h	Noon.	15h	21h
	°	°	°	°	°	°	°	°	°	°
January	− 0·2	+ 0·4	0·0	0·0	+ 0·1	+ 0·2	+ 0·1	0·0	+ 0·2	+ 0·3
February	− 0·5	+ 0·5	− 0·1	− 0·1	0·0	+ 0·2	+ 0·1	− 0·2	0·0	+ 0·2
March	− 1·0	+ 0·4	− 0·2	− 0·4	− 0·3	+ 0·3	0·0	− 0·3	− 0·1	+ 0·3
April	− 1·4	+ 0·7	− 0·4	− 0·3	− 0·4	+ 0·4	− 0·4	0·0	0·0	+ 0·6
May	− 2·5	+ 0·5	− 0·4	− 0·6	− 0·6	+ 0·4	− 0·3	− 0·4	− 0·2	+ 0·4
June	− 2·3	+ 0·6	− 0·4	− 0·6	− 0·9	+ 0·4	− 0·2	− 0·2	− 0·3	+ 0·3
July	− 2·0	+ 0·6	− 0·5	− 0·7	− 0·6	+ 0·3	− 0·3	− 0·3	− 0·4	+ 0·3
August	− 1·8	+ 0·7	− 0·4	− 0·6	− 0·6	+ 0·2	− 0·2	− 0·4	− 0·4	+ 0·2
September	− 1·1	+ 0·7	− 0·4	− 0·4	− 0·1	+ 0·2	− 0·3	− 0·2	+ 0·1	+ 0·3
October	− 0·5	+ 0·6	0·0	+ 0·2	+ 0·2	+ 0·4	− 0·1	0·0	+ 0·1	+ 0·2
November	− 0·4	+ 0·5	+ 0·1	0·0	+ 0·1	+ 0·3	+ 0·1	+ 0·1	+ 0·1	+ 0·3
December	− 0·1	+ 0·6	+ 0·2	0·0	+ 0·2	+ 0·3	+ 0·1	0·0	0·0	+ 0·2
Means	− 1·1	+ 0·6	− 0·2	− 0·3	− 0·2	+ 0·3	− 0·1	− 0·2	− 0·1	+ 0·3

AMOUNT of RAIN COLLECTED in each MONTH of the YEAR 1912.

MONTH, 1912.	Number of Rainy Days (0in·005 or over).	Monthly Amount of Rain collected in each Gauge.							
		Self-registering Gauge of Osler's Anemometer.	Second Gauge at Osler's Anemometer.	On the roof of the Octagon Room.	On the roof of the Magnetic Observatory.	On the roof of the Photographic Thermometer Shed.	Gauges partly sunk in the ground.		
							In Magnetic Pavilion Enclosure.	In Observatory Grounds.	In Magnetic Pavilion Enclosure.
		No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.	No. 7.	No. 8.
		in.	in.	in.	in.	in.	in.	in.	in.
January	18	2·166	2·216	2·386	2·662	2·894	3·025	2·865	3·041
February	20	0·941	0·949	1·264	1·420	1·691	1·721	1·650	1·717
March	20	1·400	1·243	1·828	2·129	2·488	2·557	2·483	2·546
April	3	0·007	0·005	0·055	0·064	0·071	0·068	0·065	0·074
May	11	0·777	0·777	1·006	1·118	1·196	1·288	1·197	1·263
June	19	1·494	1·425	1·975	2·256	2·407	2·346	2·384	2·337
July	13	0·777	0·669	1·114	1·224	1·285	1·240	1·284	1·211
August	21	2·839	2·725	3·687	4·003	4·200	4·142	4·181	4·136
September	6	1·503	1·565	1·623	1·906	1·913	1·987	1·909	1·906
October	15	1·202	1·155	1·718	1·870	2·081	2·130	2·069	2·115
November	13	0·765	0·663	1·050	1·252	1·444	1·553	1·444	1·520
December	20	1·368	1·207	1·987	2·147	2·602	2·802	2·639	2·758
Sums	179	15·239	14·599	19·693	22·051	24·272	24·859	24·170	24·624
Height of receiving Surface: above the ground	...	ft. in. 50. 8	ft. in. 50. 8	ft. in. 38. 4	ft. in. 21. 6	ft. in. 10. 0	ft. in. 0. 5	ft. in. 0. 5	ft. in. 1. 0
Height of receiving Surface: above mean sea level	...	ft. in. 205. 6	ft. in. 205. 6	ft. in. 193. 2	ft. in. 176. 4	ft. in. 164. 10	ft. in. 149. 6	ft. in. 155. 3	ft. in. 150. 1

ABSTRACT of the CHANGES of the DIRECTION of the WIND, as derived from the Records of OSLER'S ANEMOMETER in the Year 1912.

(It is to be understood that the direction of the wind was nearly constant in the intervals between the times given in the second column and those next following in the first column.)

Directions are given to 16 points of the Compass, 0 = N, 1 = NNE . . . . . . 15 = NNW.

Note.—The time is expressed in civil reckoning, commencing at midnight and counting from 0^h to 24^h.

Greenwich Civil Time. From	Greenwich Civil Time. To	Change of Direction.	Amount of Motion. Direct.	Amount of Motion. Retrograde.
January.				
d h	d h			
1. 4	1. 6½	11—13	2	
1. 8	1. 8¾	13—12		1
1. 11¾	1. 12	12—11		1
1. 15½	1. 16	11—12	1	
1. 17½	1. 17¾	12—11		1
2. 11½	2. 13¾	11—12	1	
3. 0½	3. 2¼	12—11		1
3. 4	3. 5¼	11—12	1	
3. 17	3. 17¼	12—11		1
5. 6	5. 6¼	11—12	1	
5. 13	5. 14	12—13	1	
5. 18¾	5. 19	13—12		1
6. 0	6. 0½	12—11		1
6. 5	6. 9½	11—6		5
6. 10¼	6. 12	6—7	1	
6. 13¾	6. 14½	7—11	4	
7. 1½	7. 2¼	11—13	2	
7. 4	7. 5	13—0	3	
7. 6½	7. 7	0—1	1	
7. 8½	7. 8¾	1—0		1
7. 10	7. 10¼	0—1	1	
7. 18	7. 18¼	1—0		1
7. 20¾	7. 21¼	0—14		2
7. 22½	8. 0	14—11		3
8. 6¾	8. 7	11—9		2
8. 9	8. 9¼	9—6		3
8. 13	8. 13¾	6—7	1	
8. 16½	8. 17	7—6		1
8. 19½	8. 20	6—7	1	
8. 21½	8. 23½	7—10	3	
9. 9¼	9. 10	10—11	1	
9. 14	9. 15¼	11—10		1
9. 18	9. 18¾	10—11	1	
10. 2½	10. 5	11—10		1
10. 10¼	10. 11	10—6		4
10. 12	10. 13½	6—9	3	
10. 15	10. 15¼	9—6		3
10. 16¼	10. 16¾	6—7	1	
11. 0	11. 0½	7—8	1	
11. 2	11. 2¼	8—7		1
11. 10	11. 12	7—8	1	
11. 16¼	11. 16½	8—10	2	
11. 17¾	11. 18	10—9		1
11. 19½	11. 19¾	9—10	1	
12. 13¼	12. 13½	10—11	1	
12. 15	12. 15½	11—10		1
12. 17	12. 17¾	10—8		2
12. 19½	12. 20	8—9	1	
12. 21	12. 21½	9—8		1
13. 8	13. 9¼	8—7		1
13. 15¾	13. 16	7—6		1
13. 21¾	13. 22	6—7	1	
Jan.—*cont.*				
d h	d h			
14. 6¾	14. 7	7—8	1	
14. 10	14. 10¾	8—9	1	
14. 15	14. 17¼	9—7		2
14. 19¾	14. 20¾	7—8	1	
15. 0	15. 1	8—6		2
15. 4	15. 6¾	6—8	2	
15. 7¼	15. 7½	8—6		2
15. 9¾	15. 12	6—8	2	
15. 13½	15. 16	8—6		2
16. 7	16. 9	6—5		1
16. 14½	16. 15	5—6	1	
16. 18	16. 18½	6—5		1
17. 1	17. 2	5—4		1
17. 16	17. 16¾	4—5	1	
17. 18	17. 19	5—4		1
18. 6¼	18. 7	4—5	1	
18. 9½	18. 10	5—4		1
18. 12	18. 12¾	4—5	1	
18. 15	18. 19¾	5—10	5	
19. 3¾	19. 4	10—6		4
19. 7¼	19. 7½	6—2		4
19. 9¼	19. 9½	2—4	2	
19. 17	19. 17¾	4—5	1	
20. 13¾	20. 14	5—6	1	
20. 21	21. 1	6—10	4	
21. 6	21. 6½	10—11	1	
21. 20¾	21. 21	11—7		4
21. 23	21. 23¼	7—9	2	
22. 2	22. 2½	9—8		1
22. 3½	22. 3¾	8—5	13	
22. 5½	22. 6½	5—6	1	
22. 9	22. 9¼	6—2		4
22. 10	22. 10¾	2—5	3	
22. 13½	22. 15	5—3		2
22. 20½	22. 20¾	3—4	1	
23. 1½	23. 2½	4—3		1
24. 2¼	24. 2½	3—2		1
24. 7	24. 7¾	2—3	1	
24. 9½	24. 9¾	3—4	1	
24. 11¼	24. 11½	4—10	6	
24. 14	24. 15	10—11	1	
24. 16¼	24. 17	11—9		2
24. 18½	24. 19	9—7		2
24. 21¼	24. 21¾	7—13	6	
24. 23	25. 0	13—9		4
25. 2	25. 3½	9—11	2	
25. 14¾	25. 16	11—10		1
25. 18	25. 18¾	10—15	5	
25. 19¼	25. 19½	15—11		4
25. 21½	25. 22	11—15	4	
25. 23¾	26. 0	15—0	1	
26. 6	26. 6¼	0—1	1	
Jan.—*cont.*				
d h	d h			
26. 9	26. 10½	1—2	1	
26. 16	26. 17½	2—3	1	
26. 18¾	26. 19½	3—2		1
27. 4½	27. 5½	2—3	1	
27. 7¼	27. 7½	3—2		1
27. 11¼	27. 13	2—4	2	
27. 16½	27. 16¾	4—3		1
28. 3	28. 7	3—2		1
28. 12	28. 13	2—3	1	
28. 15	28. 16½	3—4	1	
28. 22	28. 23	4—3		1
29. 3¼	29. 3½	3—15		4
29. 7¼	29. 8	15—0	1	
29. 14	29. 14¼	0—2	2	
29. 20	29. 21	2—1		1
29. 22½	29. 23	1—0		1
30. 5½	30. 6	0—15		1
30. 10½	30. 11	15—10		5
30. 13	30. 15	10—0	6	
30. 15½	30. 16½	0—14		2
30. 19¾	30. 20¾	14—12		2
31. 3½	31. 4½	12—11		1
31. 10½	31. 13	11—15	4	
31. 21	31. 21¼	15—10		5
		Sums	131	116
February.				
1. 0¼	1. 0¾	10—11	1	
1. 9¼	1. 11¾	11—14	3	
1. 13	1. 13¼	14—13		1
1. 15¾	1. 16¼	13—15	2	
1. 20½	1. 20¾	15—0	1	
2. 8¼	2. 8½	0—15		1
2. 10¼	2. 11½	15—0	1	
2. 12½	2. 12¾	0—2	2	
2. 18	2. 20	2—1		1
2. 21¾	2. 22	1—0		1
3. 1¼	3. 3¾	0—11		5
3. 10¼	3. 10½	11—12	1	
3. 11½	3. 11¾	12—14	2	
3. 15	3. 15¼	14—15	1	
3. 17½	3. 17¾	15—0	1	
3. 22	3. 22½	0—1	1	
4. 1	4. 3¼	1—3	2	
4. 4½	4. 4¾	3—2		1
4. 6	4. 9	2—4	2	
Feb.—*cont.*				
d h	d h			
4. 17½	4. 18	4—5	1	
5. 2	5. 2¼	5—6	1	
5. 7	5. 8½	6—5		1
5. 11½	5. 12	5—4		1
6. 0	6. 0¼	4—10	6	
6. 3	6. 4½	10—6		4
6. 7½	6. 7¾	6—4		2
6. 9½	6. 9¾	4—6	2	
6. 21	6. 22	6—7	1	
7. 0	7. 1	7—9	2	
7. 3	7. 4	9—10	1	
7. 7	7. 9	10—8		2
7. 17	7. 18	8—7		1
8. 11¼	8. 12	7—8	1	
8. 13½	8. 14½	8—9	1	
8. 16	8. 16½	9—8		1
8. 18½	8. 20	8—7		1
9. 9	9. 9¼	7—8	1	
9. 16½	9. 18	8—9	1	
10. 0	10. 0¾	9—10	1	
10. 6¼	10. 8½	10—9		1
10. 11	10. 11½	9—8		1
10. 15¼	10. 15½	8—6		2
10. 17	10. 19	6—4		2
11. 3	11. 3½	4—5	1	
11. 6	11. 7½	5—8	3	
11. 10¼	11. 11	8—9	1	
11. 13	11. 13½	9—8		1
11. 17	11. 18	8—6		2
11. 22	11. 23	6—5		1
12. 3½	12. 4	5—4		1
12. 7½	12. 10	4—10	6	
12. 15½	12. 18	10—9		1
12. 19½	12. 23	9—8		1
13. 2	13. 2½	8—9	1	
13. 5½	13. 6	9—10	1	
13. 15¾	13. 16	10—0	6	
14. 3½	14. 4	0—1	1	
14. 11½	14. 12	1—2	1	
14. 21½	15. 0¼	2—6	4	
15. 6¼	15. 7¼	6—7	1	
15. 10	15. 11	7—9	2	
16. 0½	16. 1	9—10	1	
16. 3	16. 4¼	10—9		1
16. 10	16. 10½	9—10	1	
16. 15½	16. 16½	10—9		1
16. 21¾	16. 22¼	9—8		1
17. 16	17. 16½	8—10	2	
18. 3½	18. 4	10—9		1
18. 6¼	18. 6¾	9—5		4
18. 8	18. 11¼	5—8	3	
18. 12¼	18. 12½	8—6		2

ABSTRACT of the CHANGES of the DIRECTION of the WIND—*continued.*

Greenwich Civil Time. From	To	Change of Direction.	Amount of Motion. Direct.	Retrograde.
Feb.—*cont.*				
d h	d h			
18. 14¼	18. 15½	6—8	2	
18. 22½	18. 23	8—7		1
19. 0	19. 0½	7—9	2	
19. 2¼	19. 2½	9—10	1	
19. 4¾	19. 7½	10—8		2
19. 16¼	19. 18½	8—10	2	
20. 1	20. 2½	10—11	1	
20. 8	20. 10½	11—12	1	
21. 0¼	21. 0¾	12—11		1
21. 4	21. 4¼	11—10		1
21. 8½	21. 9¾	10—6		4
21. 10½	21. 11¼	6—9	3	
21. 12½	21. 13	9—8		1
21. 19¾	21. 20½	8—9	1	
22. 8½	22. 10¼	9—10	1	
22. 13	22. 14	10—9		1
22. 19	22. 20	9—10	1	
23. 23¼	23. 23¾	10—1	7	
24. 2	24. 3½	1—2	1	
24. 8	24. 9½	2—11	9	
24. 10½	24. 11½	11—10		1
24. 15½	24. 16½	10—8		2
25. 4	25. 4¼	8—10	2	
25. 5¼	25. 6½	10—8		2
25. 9	25. 10	8—10	2	
25. 14½	25. 15½	10—11	1	
26. 7¼	26. 8¼	11—10		1
27. 3	27. 7¼	10—12	2	
27. 14	27. 14½	12—11		1
27. 17	27. 17¼	11—10		1
28. 1	28. 2¼	10—11	1	
28. 10	28. 11¼	11—10		1
28. 15	28. 16	10—9		1
28. 20¼	28. 20¾	9—8		1
28. 23	29. 0¼	8—9	1	
29. 4¾	29. 5¼	9—10	1	
29. 11¾	29. 12¾	10—11	1	
29. 13¾	29. 15¾	11—10		1
		Sums	117	69
March.				
1. 2½	1. 4½	10—9		1
1. 16	1. 16¼	9—10	1	
1. 22	2. 1¼	10—11	1	
2. 3½	2. 6¼	11—10		1
2. 13¼	2. 14	10—9		1
2. 22	3. 0	9—10	1	
3. 14	3. 14¼	10—11	1	
4. 2½	4. 4½	11—10		1
4. 9	4. 10	10—9		1
4. 14	4. 15	9—10	1	
5. 3	5. 4½	10—11	1	
5. 8	5. 10	11—12	1	
5. 12½	5. 13	12—11		1
5. 14½	5. 14¾	11—10		1

Greenwich Civil Time. From	To	Change of Direction.	Amount of Motion. Direct.	Retrograde.
Mar.—*cont.*				
d h	d h			
5. 17½	5. 18	10—12	2	
5. 18¾	5. 22½	12—10		2
6. 0¾	6. 1½	10—12	2	
6. 2	6. 4	12—11		1
6. 8½	6. 10	11—12	1	
6. 13¼	6. 13½	12—14	2	
6. 19¾	6. 20¼	14—13		1
6. 23	6. 23¼	13—12		1
7. 11	7. 11¼	12—13	1	
7. 13	7. 13¼	13—12		1
7. 17½	7. 18½	12—11		1
7. 20½	8. 0	11—9		2
8. 3¼	8. 4	9—8		1
8. 12	8. 12½	8—9	1	
8. 16½	8. 17	9—10	1	
8. 23	8. 23¾	10—9		1
9. 16	9. 16¼	9—8		1
9. 17¾	9. 21	8—6		2
10. 4½	10. 4¾	6—5		1
10. 6	10. 6¼	5—4		1
10. 15	10. 16	4—5	1	
11. 5¼	11. 5¾	5—12	7	
11. 9¼	11. 10½	12—2		10
11. 14¼	11. 15	2—1		1
11. 17½	11. 18	1—2	1	
11. 23¼	11. 23¾	2—0		2
12. 7¼	12. 8½	0—9		7
12. 11¾	12. 12	9—11	2	
12. 14½	12. 15	11—10		1
12. 17	12. 18½	10—9		1
12. 21	12. 21¾	9—10	1	
13. 19¾	13. 20	10—11	1	
14. 3	14. 5	11—10		1
14. 6¾	14. 7½	10—11	1	
14. 10¼	14. 10¾	11—10		1
14. 22¾	14. 23¼	10—9		1
15. 2½	15. 3	9—10	1	
15. 4	15. 4½	10—9		1
15. 11	15. 11¾	9—12	3	
15. 13¼	15. 13½	12—11		1
15. 17½	15. 19¼	11—13	2	
16. 0¾	16. 1½	13—11		2
16. 8¼	16. 8¾	11—12	1	
16. 12½	16. 12¾	12—11		1
16. 15½	16. 17	11—10		1
16. 19¼	16. 19½	10—9		1
17. 14	17. 15	9—8		1
17. 21	17. 21¼	8—10	2	
18. 2½	18. 4¼	10—8		2
18. 6	18. 7½	8—6		2
18. 11	18. 11¼	6—5		1
18. 18¼	18. 19	5—0		5
18. 20	18. 20½	0—14		2
18. 23¼	19. 2½	14—11		3
19. 15	19. 15½	11—10		1
19. 18	19. 19½	10—8		2
19. 21½	19. 22½	8—11	3	
20. 1¾	20. 2½	11—10		1
20. 3¾	20. 4½	10—11	1	
20. 15¼	20. 15½	11—10		1
20. 19	20. 20¼	10—9		1

Greenwich Civil Time. From	To	Change of Direction.	Amount of Motion. Direct.	Retrograde.
Mar.—*cont.*				
d h	d h			
20. 21¾	20. 22½	9—8		1
21. 0	21. 1	8—7		1
21. 4	21. 5	7—6		1
21. 6½	21. 10½	6—10	4	
21. 19¾	21. 20½	10—9		1
21. 22½	22. 4	9—11	2	
22. 8	22. 8¼	11—12	1	
22. 14	22. 14¼	12—11		1
22. 15¾	22. 17	11—12	1	
22. 22½	23. 0½	12—15	3	
23. 2½	23. 3½	15—0	1	
23. 5¼	23. 6	0—7		9
23. 8½	23. 8¾	7—6		1
23. 9¼	23. 10¾	6—8	2	
23. 15¼	23. 16¾	8—7		1
23. 17¾	23. 22	7—9	2	
23. 23¼	23. 23¾	9—8		1
24. 1	24. 3¼	8—12	4	
24. 16½	24. 16¾	12—11		1
24. 18¾	24. 19½	11—10		1
25. 3	25. 4	10—11	1	
25. 6½	25. 7½	11—10		1
26. 0	26. 1	10—11	1	
26. 4	26. 4¼	11—10		1
26. 11¾	26. 12	10—11	1	
26. 13¼	26. 14½	11—10		1
27. 0	27. 2	10—11	1	
27. 4	27. 5	11—12	1	
27. 22	27. 22¾	12—11		1
28. 3	28. 4	11—12	1	
28. 17	28. 17¼	12—0	4	
28. 22¾	29. 3¼	0—11		5
29. 6¾	29. 7½	11—12	1	
29. 9¼	29. 9½	12—13	1	
29. 13¼	29. 13½	13—12		1
29. 21	29. 23	12—11		1
30. 7	30. 9	11—13	2	
30. 14½	30. 15	13—14	1	
30. 16½	30. 17	14—13		1
30. 18	30. 20½	13—11		2
30. 23	31. 0½	11—10		1
31. 3½	31. 4½	10—9		1
31. 7	31. 8¼	9—10	1	
31. 12½	31. 13½	10—13	3	
31. 16	31. 18¾	13—10		3
		Sums	83	115
April.				
1. 0½	1. 0¾	10—1	7	
1. 7	1. 7¼	1—0		1
1. 12	1. 12¾	0—1	1	
1. 17½	1. 17¾	1—0		1
2. 1	2. 1¾	0—15		1
2. 4	2. 5¼	15—12		3
2. 6½	2. 6¾	12—11		1

Greenwich Civil Time. From	To	Change of Direction.	Amount of Motion. Direct.	Retrograde.
Apr.—*cont.*				
d h	d h			
2. 8½	2. 8¾	11—15	4	
2. 13	2. 13½	15—12		3
2. 20	2. 21½	12—13	1	
2. 23	2. 23½	13—15	2	
3. 5	3. 5¾	15—12		3
3. 8	3. 8½	12—2	6	
3. 11	3. 12	2—6	4	
3. 14½	3. 15	6—11		11
3. 16¼	3. 16½	11—6	11	
3. 18	3. 18¼	6—9	3	
4. 0¼	4. 0½	9—10	1	
4. 2½	4. 4	10—11	1	
4. 11¾	4. 12	11—10		1
4. 14½	4. 15¼	10—11	1	
5. 11½	5. 12	11—12	1	
5. 18	5. 18½	12—11		1
6. 7¼	6. 8	11—12	1	
7. 0½	7. 2	12—15	3	
7. 5¼	7. 5¾	15—10		5
7. 11	7. 11¾	10—12	2	
7. 13	7. 13½	12—11		1
7. 16¾	7. 17¾	11—10		1
7. 18½	7. 20	10—12	2	
8. 1	8. 2	12—11		1
8. 6¼	8. 7¾	11—12	1	
8. 17	8. 17¼	12—14	2	
8. 19	8. 19¼	14—13		1
8. 20½	8. 21	13—12		1
8. 22½	9. 1¾	12—15	3	
9. 3	9. 3½	15—14		1
9. 6	9. 6½	14—15	1	
9. 9	9. 9¼	15—0	1	
9. 11¾	9. 12	0—15		1
9. 15½	9. 16½	15—13		2
9. 17¾	9. 18¼	13—11		2
10. 3½	10. 6½	11—15	4	
10. 10	10. 10½	15—0	1	
10. 14¾	10. 15	0—15		1
10. 18¼	10. 18½	15—14		1
11. 3¾	11. 4¼	14—12		2
11. 8¼	11. 9¾	12—15	3	
11. 13½	11. 14¼	15—14		1
11. 15¼	11. 16½	14—2	4	
11. 23	12. 1	2—0		2
12. 9½	12. 9¾	0—2	2	
12. 15½	12. 16	2—7	5	
12. 20	12. 20½	7—10	3	
13. 4½	13. 7½	10—12	2	
13. 9½	13. 9¾	12—1	5	
13. 10½	13. 10¾	1—15		2
13. 13	13. 13½	15—0	1	
14. 11½	14. 11¾	0—1	1	
14. 17½	14. 18¼	1—0		1
14. 20¼	14. 20½	0—2	2	
15. 16¼	15. 16½	2—5		13
15. 20	15. 20¼	5—4		1
15. 23	15. 23¼	4—3		1
16. 8¼	16. 8½	3—4	1	
16. 23	16. 23½	4—3		1
17. 3½	17. 3¾	3—2		1
17. 9½	17. 12½	2—5	3	

ABSTRACT of the CHANGES of the DIRECTION of the WIND—*continued.*

Apr.—*cont.*

Greenwich Civil Time. From (d h)	To (d h)	Change of Direction.	Amount of Motion. Direct.	Retrograde.
18. 9½	18. 10¼	5—12	7	
18. 14	18. 14¼	12—13	1	
18. 18	18. 19	13—10		3
19. 15	19. 16¼	10—8		2
19. 17¼	19. 17½	8—10	2	
20. 3	20. 5	10—3		7
20. 7	20. 8	3—2		1
20. 8¾	20. 9	2—4	2	
20. 10¼	20. 10½	4—5	1	
20. 14½	20. 14¾	5—6	1	
20. 18¾	20. 21	6—5		1
21. 8¼	21. 8½	5—4		1
21. 11	21. 11¼	4—3		1
21. 13¼	21. 13½	3—5	2	
21. 23	21. 23½	5—4		1
22. 3¼	22. 3½	4—2		2
22. 6	22. 6½	2—3	1	
22. 10¾	22. 12	3—5	2	
22. 16½	22. 16¾	5—4		1
23. 0½	23. 4	4—2		2
23. 9	23. 9½	2—3	1	
23. 11½	23. 12	3—4	1	
23. 15	23. 16¼	4—3		1
23. 18	23. 18½	3—2		1
24. 4¾	24. 5¾	2—1		1
24. 6½	24. 7½	1—2	1	
24. 10	24. 13	2—4	2	
24. 17½	24. 20	4—2		2
25. 2	25. 3½	2—1		1
25. 7	25. 7¾	1—0		1
25. 9½	25. 12	0—2	2	
25. 16	25. 16¾	2—5	3	
25. 21½	25. 23	5—2		3
26. 8½	26. 10½	2—4	2	
26. 14	26. 15¾	4—6	2	
26. 19	26. 20½	6—5		1
26. 22½	26. 23	5—4		1
27. 1½	27. 2½	4—3		1
27. 13½	27. 13¾	3—4	1	
27. 20	27. 22¼	4—2		2
28. 9	28. 9½	2—1		1
28. 16¼	28. 16½	1—0		1
28. 18½	28. 18¾	0—1	1	
28. 22¼	28. 22½	1—0		1
29. 17	29. 17¼	0—2	2	
29. 21½	29. 22	2—1		1
30. 0	30. 0½	1—0		1
30. 6¾	30. 8	0—2	2	
30. 14	30. 14¾	2—0		2
30. 16	30. 16¼	0—1	1	
30. 19¼	30. 19½	1—6	5	
30. 20½	30. 20¾	6—7	1	
		Sums	142	113

May.

Greenwich Civil Time. From (d h)	To (d h)	Change of Direction.	Amount of Motion. Direct.	Retrograde.
1. 1½	1. 1¾	7—10	3	
1. 6	1. 6¼	10—8		2
1. 7½	1. 7¾	8—11	3	
1. 17½	1. 17¾	11—12	1	
1. 20	2. 1	12—10		2
2. 5¼	2. 5¾	10—11	1	
2. 17¾	2. 18	11—12	1	
2. 22¼	2. 22¾	12—11		1
3. 7½	3. 8¾	11—14	3	
3. 10½	3. 11	14—10		4
3. 13½	3. 16¾	10—14	4	
3. 17	3. 17½	14—12		2
3. 19½	3. 19¾	12—11		1
3. 20¾	3. 21	11—6	11	
3. 22	3. 22½	6—2		4
3. 23¾	4. 1	2—4	2	
4. 2½	4. 3	4—3		1
4. 6½	4. 7	3—4	1	
4. 12	4. 12¼	4—5	1	
4. 17	4. 17½	5—4		1
5. 5½	5. 7¾	4—5	1	
5. 11¾	5. 12	5—4		1
5. 15	5. 16	4—5	1	
5. 19	5. 22	5—6	1	
6. 2½	6. 2¾	6—10	4	
6. 9½	6. 10¼	10—12	2	
6. 11¼	6. 12	12—11		1
6. 17½	6. 18	11—10		1
7. 15¼	7. 17¼	10—11	1	
7. 23	8. 1	11—12	1	
8. 16	8. 16½	12—11		1
9. 10¾	9. 11	11—12	1	
9. 17¾	9. 18	12—10		2
9. 19¾	9. 21	10—12	2	
9. 22	9. 22¼	12—0	4	
10. 0½	10. 1½	0—2	2	
10. 8	10. 8¼	2—3	1	
10. 10½	10. 12	3—4	1	
10. 14	10. 14½	4—5	1	
11. 7¼	11. 7½	5—10	5	
11. 14¼	11. 14½	10—11	1	
11. 16	11. 17½	11—10		1
12. 2¼	12. 4¾	10—6	12	
12. 6¾	12. 7	6—1		5
12. 7½	12. 7¾	1—2	1	
12. 12	12. 13	2—1		1
12. 15¾	12. 16¼	1—2	1	
12. 18¾	12. 19	2—4	2	
12. 20½	12. 20¾	4—5	1	
12. 21¼	12. 22	5—2		3
12. 23½	12. 23¾	2—3	1	
13. 2	13. 3	3—2		1
13. 7½	13. 10¾	2—6	4	
13. 12½	13. 14	6—5		1
13. 17	13. 18	5—6	1	
13. 23½	13. 23¾	6—7	1	
14. 6½	14. 7½	7—6		1
14. 12¼	14. 13¼	6—4		2
15. 1½	15. 1¾	4—3		1
15. 4½	15. 5	3—4	1	
15. 10	15. 12¼	4—10	6	

May—*cont.*

Greenwich Civil Time. From (d h)	To (d h)	Change of Direction.	Amount of Motion. Direct.	Retrograde.
15. 21¾	16. 0¾	10—14	4	
16. 2	16. 3	14—12		2
16. 6	16. 6¾	12—13	1	
16. 8½	16. 8¾	13—14	1	
16. 17¼	16. 18	14—11		3
17. 5½	17. 8	11—14	3	
17. 11	17. 11½	14—13		1
17. 13½	17. 14	13—14	1	
17. 17¾	17. 20	14—10		4
18. 8½	18. 8¾	10—11	1	
18. 16½	18. 16¾	11—10		1
18. 18	18. 19	10—11	1	
19. 1	19. 3	11—10		1
19. 9¼	19. 9¾	10—11	1	
19. 11½	19. 12	11—10		1
20. 1	20. 1¼	10—5		5
20. 3¾	20. 4	5—3		2
20. 7¼	20. 13½	3—11	8	
20. 15½	20. 16¾	11—10		1
20. 22½	20. 23¼	10—11	1	
21. 2	21. 2½	11—10		1
21. 6½	21. 7	10—11	1	
21. 12	21. 12¼	11—12	1	
21. 15	21. 16¼	12—8		4
21. 18	21. 19¾	8—6		2
22. 6½	22. 8½	6—9	3	
22. 14	22. 16	9—10	1	
23. 7	23. 12	10—14	4	
23. 13½	23. 16	14—0	2	
24. 14¾	24. 15	0—1	1	
25. 2¼	25. 2½	1—0		1
25. 7	25. 8	0—1	1	
25. 14¾	25. 15	1—2	1	
25. 17	25. 17¼	2—5	3	
25. 19	25. 19½	5—6	1	
25. 21	25. 22	6—7	1	
25. 23¾	26. 0½	7—11	4	
26. 3¼	26. 3½	11—10		1
26. 6¾	26. 7	10—12	2	
26. 10¼	26. 10¾	12—15	3	
26. 13	26. 13¼	15—0	1	
26. 14½	26. 14¾	0—2	2	
26. 16¾	26. 17	2—5	3	
26. 19	26. 20½	5—6	1	
27. 6	27. 8½	6—11	5	
27. 10½	27. 12½	11—15	4	
27. 19¼	27. 20	15—0	1	
27. 23½	27. 23¾	0—11	11	
28. 2	28. 2¼	11—2		9
28. 3¾	28. 4	2—11		7
28. 7½	28. 9	11—0	5	
28. 10	28. 11	0—15		1
28. 13½	28. 14	15—0	1	
28. 17	28. 17¾	0—15		1
28. 20¾	28. 21	15—2	3	
28. 22¾	28. 23	2—4	2	
29. 0	29. 2	4—11	7	
29. 9½	29. 9¾	11—14	3	
29. 11¾	29. 12	14—0	2	
29. 16	29. 17	0—7	7	
29. 20¾	29. 23	7—12	5	

May—*cont.*

Greenwich Civil Time. From (d h)	To (d h)	Change of Direction.	Amount of Motion. Direct.	Retrograde.
30. 0¾	30. 2	12—11		1
30. 11	30. 12	11—10		1
30. 15	30. 15¼	10—11	1	
30. 19	30. 20	11—12	1	
30. 21	30. 21½	12—11		1
30. 23	30. 23½	11—10		1
31. 2	31. 3	10—11	1	
31. 5½	31. 6¼	11—1		10
31. 7½	31. 8½	1—6	5	
31. 9¼	31. 10	6—3		3
31. 10¼	31. 11¾	3—6	3	
31. 15½	31. 17½	6—8	2	
		Sums	218	105

June.

Greenwich Civil Time. From (d h)	To (d h)	Change of Direction.	Amount of Motion. Direct.	Retrograde.
1. 0	1. 1¾	8—7		1
1. 2¾	1. 3	7—3		4
1. 8½	1. 8¾	3—4	1	
1. 11	1. 11¼	4—3		1
1. 12	1. 12¼	3—4	1	
1. 13	1. 13¼	4—3		1
1. 16	1. 17¾	3—5	2	
1. 19	1. 19¼	5—4		1
2. 2¼	2. 2½	4—6	2	
2. 6	2. 7	6—10	4	
2. 13	2. 14	10—9		1
2. 17½	2. 18	9—10	1	
2. 19¼	2. 19¾	10—9		1
3. 4	3. 5	9—10	1	
3. 7	3. 7¼	10—12	2	
3. 8½	3. 10¾	12—10		2
3. 12	3. 12½	10—12	2	
3. 13½	3. 14	12—11		1
3. 17½	3. 19¼	11—10		1
3. 22	4. 1	10—8		2
4. 6¼	4. 7	8—9	1	
4. 9¼	4. 9½	9—11	2	
4. 10	4. 11½	11—9		2
4. 13¼	4. 14	9—7		2
4. 17	4. 17¾	7—9	2	
4. 19	4. 20	9—7		2
5. 0	5. 1½	7—12	5	
5. 3	5. 3½	12—11		1
5. 12	5. 12¼	11—10		1
5. 16	5. 17	10—9		1
5. 19¼	5. 20	9—10	1	
6. 6¼	6. 7	10—11	1	
6. 9	6. 9¼	11—10		1
6. 13	6. 13½	10—9		1
6. 15	6. 15½	9—10	1	
7. 6	7. 6¼	10—2		8
7. 12	7. 12½	2—3	1	
7. 14¾	7. 15	3—2		1
7. 16¾	7. 17¾	2—0		2
8. 12½	8. 13	0—11		5

ABSTRACT of the CHANGES of the DIRECTION of the WIND—*continued.*

Greenwich Civil Time. From	Greenwich Civil Time. To	Change of Direction.	Amount of Motion. Direct.	Amount of Motion. Retrograde.
June—*cont.*				
d h	d h			
8. 18½	8. 18¾	11—10		1
9. 0½	9. 1½	10—11	1	
9. 6	9. 7	11—10		1
9. 14	9. 14½	10—0	6	
9. 15¾	9. 16	0—6	6	
9. 19	9. 20	6—9	3	
10. 0½	10. 0¾	9—6		3
10. 4¼	10. 4½	6—9	3	
10. 6	10. 7	9—10	1	
10. 19¼	10. 19¾	10—9		1
10. 22¾	10. 23	9—7		2
11. 0	11. 0½	7—8	1	
11. 2¼	11. 2½	8—3		5
11. 5¼	11. 5¾	3—2		1
11. 7	11. 7½	2—3	1	
11. 11¼	11. 11½	3—4	1	
11. 15	11. 16	4—2		2
11. 16¾	11. 17	2—5	3	
11. 17½	11. 20	5—2		3
12. 0	12. 0½	2—1		1
12. 10	12. 11	1—0		1
13. 1¾	13. 2¾	0—11		5
13. 6½	13. 7	11—12	1	
13. 13½	13. 14	12—13	1	
13. 16¼	13. 16½	13—12		1
14. 2¾	14. 3	12—11		1
14. 5¾	14. 6¾	11—12	1	
14. 10	14. 10¼	12—13	1	
14. 13	14. 13½	13—12		1
14. 16	14. 17	12—11		1
14. 23	15. 0	11—12	1	
15. 15	15. 16¼	12—11		1
15. 19	15. 20	11—10		1
15. 22	15. 23	10—11	1	
16. 5¾	16. 7½	11—12	1	
16. 10½	16. 11½	12—14	2	
16. 17¾	16. 18½	14—0	2	
16. 20¼	16. 21	0—7	7	
16. 22	17. 0½	7—11	4	
17. 2¾	17. 3½	11—10		1
17. 5	17. 6¾	10—11	1	
17. 8	17. 8½	11—12	1	
17. 12	17. 12½	12—11		1
17. 14	17. 14¼	11—10		1
17. 22	18. 2	10—11	1	
19. 3½	19. 3¾	11—8		3
19. 5	19. 5½	8—6		2
19. 7	19. 8½	6—8	2	
19. 10½	19. 11	8—9	1	
19. 14	19. 14¼	9—10	1	
19. 16	19. 17¾	10—11	1	
19. 20	19. 20¼	11—12	1	
19. 22	19. 23	12—11		1
19. 23¾	20. 0	11—12	1	
20. 1½	20. 3	12—11		1
20. 13	20. 13¼	11—12	1	
20. 21	20. 23	12—11		1
21. 11¼	21. 12	11—10		1
21. 21¼	22. 1	10—8		2
22. 5½	22. 6	8—4		4
22. 7	22. 7½	4—6	2	

Greenwich Civil Time. From	Greenwich Civil Time. To	Change of Direction.	Amount of Motion. Direct.	Amount of Motion. Retrograde.
June—*cont.*				
d h	d h			
22. 8¾	22. 11	6—9	3	
22. 14¾	22. 15	9—8		1
22. 18	22. 21¼	8—6		2
22. 23½	23. 5½	6—12	6	
23. 7½	23. 9	12—11		1
23. 16½	23. 16¾	11—10		1
23. 23½	24. 0	10—9		1
24. 5¼	24. 5¾	9—10	1	
24. 12½	24. 13	10—11	1	
24. 16	24. 16½	11—10		1
25. 5½	25. 6½	10—9		1
26. 0	26. 0½	9—10	1	
26. 2¾	26. 4	10—11	1	
26. 11¾	26. 12½	11—13	2	
26. 14¼	26. 14¾	13—12		1
26. 20¾	26. 22	12—11		1
27. 7	27. 9	11—10		1
27. 15	27. 17	10—9		1
27. 21	27. 22	9—7		2
28. 4	28. 5¼	7—9	2	
28. 15½	28. 17½	9—10	1	
28. 20	28. 21	10—9		1
29. 2	29. 4	9—8		1
29. 6½	29. 9½	8—10	2	
30. 0	30. 1	10—11	1	
30. 15½	30. 16½	11—10		1
30. 21	30. 21¾	10—11	1	
		Sums	113	110
July.				
1. 6	1. 6¾	11—12	1	
1. 8	1. 10	12—14	2	
1. 12½	1. 13	14—12		2
1. 14	1. 14¼	12—15	3	
1. 16¼	1. 17	15—12		3
1. 20¼	1. 20½	12—14	2	
1. 22	1. 22¾	14—12		2
2. 3	2. 3½	12—0	4	
2. 14½	2. 15½	0—14		2
2. 16¾	2. 18¼	14—11		3
2. 19¾	2. 20½	11—14	3	
2. 22	2. 22½	14—13		1
3. 1¼	3. 3½	13—0	3	
3. 7¾	3. 8¼	0—4	4	
3. 21	4. 0	4—2		2
4. 9½	4. 10½	2—0		2
4. 11¾	4. 12	0—1	1	
4. 19	4. 19½	1—2	1	
5. 7¾	5. 8	2—3	1	
5. 12¾	5. 13	3—4	1	
5. 16	5. 16¾	4—3		1
5. 20½	5. 21	3—2		1
6. 8½	6. 8¾	2—3	1	
6. 12½	6. 13½	3—4	1	
6. 21¼	6. 23¼	4—0	12	

Greenwich Civil Time. From	Greenwich Civil Time. To	Change of Direction.	Amount of Motion. Direct.	Amount of Motion. Retrograde.
July—*cont.*				
d h	d h			
7. 3¼	7. 4¼	0—14		2
7. 8	7. 9½	14—12		2
7. 15	7. 15½	12—11		1
7. 18½	7. 20	11—9		2
7. 20¾	7. 22½	9—11	2	
8. 2	8. 4	11—10		1
8. 11½	8. 14	10—11	1	
8. 21	9. 0	11—13	2	
9. 1½	9. 2½	13—12		1
9. 4	9. 8	12—11		1
9. 11	9. 11¼	11—10		1
10. 2	10. 2½	10—8		2
10. 4	10. 6	8—6		2
10. 8	10. 8¼	6—7	1	
10. 9¾	10. 10	7—8	1	
10. 12½	10. 13	8—10	2	
10. 16¼	10. 16½	10—11	1	
10. 18½	10. 19	11—10		1
11. 3	11. 3¼	10—11	1	
11. 4½	11. 5¼	11—10		1
11. 12¾	11. 13¾	10—9		1
11. 23¼	11. 23½	9—7		2
12. 2¾	12. 3	7—2		5
12. 4¼	12. 5½	2—6	4	
12. 9	12. 9¾	6—7	1	
12. 11¼	12. 11½	7—8	1	
12. 18¾	12. 20¼	8—12	4	
13. 0¼	13. 0½	12—14	2	
13. 5¾	13. 6	14—0	2	
13. 8	13. 8½	0—1	1	
13. 11¾	13. 12½	1—12	11	
13. 13½	13. 15	12—0	4	
13. 16½	13. 17	0—2	2	
14. 5	14. 6¼	2—0		2
14. 10¾	14. 11¼	0—2	2	
14. 12¼	14. 12½	2—1		1
14. 15	14. 15½	1—4	3	
15. 1½	15. 2	4—3		1
15. 10	15. 12½	3—5	2	
15. 14¼	15. 14½	5—4		1
15. 20½	15. 23	4—2		2
16. 10	16. 12	2—4	2	
16. 21	16. 23½	4—2		2
17. 4½	17. 6½	2—1		1
17. 9	17. 10	1—2	1	
17. 15¾	17. 16	2—3	1	
17. 19¼	17. 19½	3—2		1
18. 6	18. 6½	2—1		1
18. 10¼	18. 10½	1—0		1
18. 17½	18. 17¾	0—1	1	
18. 23	19. 0½	1—0		1
19. 5	19. 5½	0—15		1
19. 13¼	19. 14½	15—13		2
19. 15¾	19. 16¾	13—0	3	
20. 4	20. 4¼	0—1	1	
20. 6¾	20. 7	1—0		1
20. 8¾	20. 9	0—1	1	
20. 12	20. 12½	1—0		1
20. 18	20. 18¼	0—6	6	
20. 19¾	20. 20	6—0		6
21. 2	21. 2¼	0—8	8	

Greenwich Civil Time. From	Greenwich Civil Time. To	Change of Direction.	Amount of Motion. Direct.	Amount of Motion. Retrograde.
July—*cont.*				
d h	d h			
21. 4	21. 4¼	8—7		1
21. 6¾	21. 7	7—10	3	
21. 11¼	21. 11½	10—6		4
21. 13	21. 13¼	6—7	1	
21. 15¼	21. 16	7—10	3	
22. 4¼	22. 4½	10—11	1	
22. 12	22. 12¾	11—10		1
22. 15	22. 15¼	10—5	11	
23. 11½	23. 12	5—4		1
23. 15½	23. 17	4—6	2	
23. 18½	23. 18¾	6—7	1	
24. 8¾	24. 9	7—8	1	
24. 11½	24. 12½	8—9	1	
24. 20½	24. 20¾	9—5		4
24. 23¼	24. 23½	5—9	4	
25. 9½	25. 10½	9—10	1	
26. 1	26. 1¾	10—11	1	
26. 3	26. 4	11—10		1
26. 7¾	26. 8	10—9		1
26. 10	26. 10½	9—10	1	
26. 11½	26. 12	10—9		1
26. 14¾	26. 15	9—8		1
26. 20	26. 22¼	8—4		4
27. 1	27. 2½	4—5	1	
27. 10	27. 10¼	5—6	1	
27. 12	27. 13	6—9	3	
27. 19	27. 20¼	9—3		6
27. 21	27. 22	3—6	3	
28. 0½	28. 4	6—10	4	
28. 19	28. 19½	10—9		1
29. 0½	29. 2	9—10	1	
29. 4	29. 5	10—9		1
29. 7½	29. 8	9—10	1	
30. 0½	30. 1	10—9		1
30. 6	30. 7	9—10	1	
30. 9¼	30. 10	10—11	1	
30. 11½	30. 12	11—10		1
30. 15	30. 16	10—11	1	
31. 1	31. 4¾	11—9		2
31. 7	31. 8	9—8		1
31. 16	31. 16¼	8—10	2	
		Sums	164	101
August.				
1. 1½	1. 2	10—11	1	
1. 8	1. 8½	11—12	1	
1. 14	1. 14½	12—11		1
1. 19¼	1. 19½	11—12	1	
1. 21	1. 21¼	12—11		1
1. 22½	2. 0	11—10		1
2. 1½	2. 1¾	10—11	1	
2. 6½	2. 9	11—12	1	
2. 12½	2. 12¾	12—11		1
2. 14¾	2. 15½	11—14	3	
2. 17	2. 17¼	14—10		4

ABSTRACT of the CHANGES of the DIRECTION of the WIND—*continued.*

Greenwich Civil Time. From	Greenwich Civil Time. To	Change of Direction.	Amount of Motion. Direct.	Amount of Motion. Retrograde.
Aug.—*cont.*				
d h	d h			
2. 18¾	2. 19¼	10—11	1	
2. 22¾	2. 23	11—10		1
3. 3½	3. 3¾	10—4		6
3. 7	3. 7¼	4—3		1
3. 9	3. 9¼	3—6	3	
3. 11½	3. 12	6—7	1	
3. 15½	3. 16½	7—6		1
3. 18	3. 20	6—5		1
4. 7½	4. 11¼	5—9	4	
4. 16½	4. 17	9—10	1	
5. 16	5. 21	10—7		3
5. 23	6. 0	7—5		2
6. 1	6. 1½	5—6	1	
6. 7½	6. 8¼	6—8	2	
6. 13	6. 14	8—9	1	
6. 20	6. 22	9—10	1	
7. 14¾	7. 15½	10—11	1	
8. 17½	8. 17¾	11—10		1
8. 19	8. 19½	10—11	1	
9. 7	9. 8½	11—12	1	
9. 11½	9. 12	12—11		1
9. 17¼	9. 19¾	11—10		1
9. 23	10. 0	10—9		1
10. 2	10. 3	9—10	1	
10. 4½	10. 6¾	10—8		2
10. 8	10. 9½	8—10	2	
10. 17½	10. 18½	10—12	2	
10. 22¼	10. 22½	12—13	1	
11. 2¼	11. 2½	13—12		1
11. 15¾	11. 16¼	12—10		2
11. 17	11. 17¼	10—14	4	
11. 18	11. 18¼	14—12		2
11. 21	11. 21½	12—11		1
12. 7¼	12. 7¾	11—2		9
12. 11¼	12. 11½	2—5	3	
12. 14¼	12. 14¾	5—4		1
12. 19	12. 20¼	4—2		2
13. 1½	13. 2	2—1		1
13. 4	13. 4½	1—0		1
13. 12½	13. 13	0—15		1
13. 14¾	13. 15½	15—13		2
13. 16½	13. 17	13—0	3	
13. 18½	13. 18¾	0—11	11	
14. 2½	14. 3½	11—10		1
14. 8½	14. 9	10—11	1	
14. 15½	14. 16½	11—10		1
14. 20½	14. 21	10—11	1	
16. 12¾	16. 13	11—10		1
17. 2½	17. 3	10—9		1
17. 5½	17. 6	9—10	1	
17. 17½	17. 19½	10—8		2
17. 21	17. 22	8—9	1	
18. 7	18. 7½	9—10	1	
18. 21¼	18. 21¾	10—9		1
19. 2½	19. 3½	9—8		1
19. 6½	19. 8	8—9	1	
19. 20¼	19. 20½	9—10	1	
19. 21½	19. 21¾	10—9		1
20. 2	20. 3¼	9—10	1	
20. 20	20. 22	10—12	2	
20. 23	20. 23¼	12—11		1

Greenwich Civil Time. From	Greenwich Civil Time. To	Change of Direction.	Amount of Motion. Direct.	Amount of Motion. Retrograde.
Aug.—*cont.*				
d h	d h			
21. 18½	21. 18¾	11—10		1
22. 0	22. 2¼	10—15	5	
22. 5	22. 5¼	15—14		1
22. 12¾	22. 13	14—13		1
22. 15¾	22. 16	13—11	14	
23. 0	23. 3½	11—9		2
23. 5	23. 7	9—10	1	
23. 10	23. 11	10—11	1	
24. 4	24. 6	11—10		1
24. 17¾	24. 18	10—11	1	
25. 11	25. 11¼	11—10		1
25. 19½	25. 19¾	10—7		3
25. 22¼	25. 22½	7—6		1
25. 23½	25. 23¾	6—3		3
26. 3	26. 3½	3—2		1
26. 4½	26. 4¾	2—0		2
26. 6½	26. 7	0—13		3
26. 8¾	26. 9	13—12		1
26. 14½	26. 14¾	12—13	1	
26. 16½	26. 17	13—14	1	
26. 20	26. 20½	14—0	2	
26. 21½	26. 22	0—13		3
27. 1½	27. 2	13—14	1	
27. 5¾	27. 6	14—13		1
27. 17¾	27. 19	13—0	3	
28. 0½	28. 0¾	0—10		6
28. 5½	28. 6½	10—11	1	
28. 9½	28. 10½	11—10		1
28. 13¼	28. 13½	10—9		1
28. 17¾	28. 19	9—8		1
28. 22	28. 23	8—7		1
29. 0	29. 1	7—8	1	
29. 6½	29. 7½	8—9	1	
29. 10	29. 11	9—10	1	
29. 21½	29. 22½	10—9		1
30. 1	30. 2	9—10	1	
30. 14	30. 15	10—14	4	
30. 17½	30. 18¼	14—15	1	
30. 19½	30. 20	15—14		1
30. 23	31. 0½	14—12		2
31. 1½	31. 2	12—13	1	
31. 5	31. 6	13—12		1
31. 7	31. 7½	12—15	3	
31. 10	31. 10¼	15—14		1
31. 14	31. 14¼	14—13		1
31. 15	31. 16	13—12		1
31. 17½	31. 19½	12—10		2
31. 21	31. 22	10—11	1	
		Sums	108	107
September.				
1. 3½	1. 4½	11—10		1
1. 9	1. 10½	10—13	3	
1. 12	1. 12½	13—14	1	
1. 18½	1. 20¾	14—12		2

Greenwich Civil Time. From	Greenwich Civil Time. To	Change of Direction.	Amount of Motion. Direct.	Amount of Motion. Retrograde.
Sept.—*cont.*				
d h	d h			
2. 7¾	2. 8	12—13	1	
2. 9½	2. 10½	13—15	2	
2. 15½	2. 16	15—0	1	
2. 20¼	2. 20½	0—15		1
2. 22¼	2. 23	15—0	1	
3. 5	3. 5¼	0—11		5
3. 12	3. 12½	11—10		1
3. 21½	3. 21¾	10—9		1
4. 1	4. 1½	9—10	1	
4. 7¾	4. 8½	10—11	1	
4. 12¼	4. 12½	11—13	2	
4. 14¾	4. 15	13—12		1
5. 11½	5. 12	12—13	1	
5. 19¼	5. 19¾	13—12		1
6. 8¼	6. 10¼	12—14	2	
6. 14	6. 15	14—15	1	
6. 17	6. 18½	15—13		2
6. 20	6. 20½	13—14	1	
7. 1½	7. 3½	14—11		3
7. 5¼	7. 6¼	11—13	2	
7. 7¾	7. 8½	13—15	2	
7. 12½	7. 13	15—14		1
7. 17¾	7. 19	14—12		2
7. 21½	7. 23	12—11		1
8. 5½	8. 6	11—12	1	
8. 9	8. 9¼	12—13	1	
8. 14½	8. 15	13—12		1
8. 18¼	8. 18¾	12—13	1	
8. 23¾	9. 0¾	13—1	4	
9. 5	9. 6	1—0		1
9. 21	9. 21½	0—15		1
10. 2	10. 3	15—13		2
10. 4¼	10. 9¼	13—0	3	
11. 0½	11. 1½	0—15		1
11. 19	11. 19¾	15—0	1	
12. 5	12. 6	0—1	1	
12. 11	12. 11¾	1—2	1	
12. 16¼	12. 17	2—4	2	
12. 21¼	12. 21½	4—3		1
12. 23	12. 23¼	3—2		1
13. 11¾	13. 12	2—8	6	
13. 14	13. 15	8—12	4	
13. 16¾	13. 17	12—11		1
14. 3	14. 3¼	11—14	3	
14. 4	14. 4½	14—11		3
14. 7	14. 10¾	11—0	5	
14. 14	14. 14½	0—15		1
15. 2	15. 2½	15—14		1
15. 4	15. 6	14—0	2	
15. 15¾	15. 16	0—1	1	
15. 21¼	15. 22½	1—6	5	
15. 23¾	16. 2¾	6—2		4
16. 4	16. 4¼	2—12	10	
16. 7	16. 7¼	12—8		4
16. 10	16. 10¼	8—1		7
16. 12	16. 13¼	1—11	10	
16. 19¾	16. 20¼	11—10		1
17. 0¾	17. 1	10—11	1	
17. 4½	17. 5½	11—15	4	
17. 10¼	17. 10¾	15—0	1	
17. 20	17. 21½	0—1	1	

Greenwich Civil Time. From	Greenwich Civil Time. To	Change of Direction.	Amount of Motion. Direct.	Amount of Motion. Retrograde.
Sept.—*cont.*				
d h	d h			
18. 8½	18. 10½	1—3	2	
18. 12	18. 13	3—2		1
18. 16	18. 16½	2—5	3	
18. 18¾	18. 20	5—2		3
19. 10¾	19. 11	2—3	1	
19. 15	19. 15½	3—2		1
20. 8	20. 8½	2—3	1	
20. 10¾	20. 11	3—4	1	
20. 19	20. 20¼	4—3		1
21. 8¾	21. 9¼	3—4	1	
21. 17	21. 19	4—3		1
22. 0½	22. 1	3—4	1	
22. 5¼	22. 5¾	4—3		1
22. 7¾	22. 8	3—4	1	
22. 17	22. 21	4—3		1
23. 9	23. 10	3—4	1	
23. 22½	24. 0½	4—2		2
24. 3¾	24. 5	2—0		2
24. 7½	24. 7¾	0—2	2	
24. 11½	24. 12	2—4	2	
24. 18	24. 18½	4—3		1
25. 2	25. 8	3—6	3	
25. 11¾	25. 12	6—5		1
25. 20	25. 21½	5—6	1	
26. 14	26. 14½	6—5		1
26. 20	26. 21	5—6	1	
27. 6½	27. 8	6—5		1
27. 13	27. 13¼	5—4		1
27. 18	27. 19	4—5	1	
28. 8	28. 10	5—4		1
28. 15	28. 15¼	4—5	1	
29. 1	29. 1½	5—4		1
29. 2¾	29. 4	4—6	2	
29. 6½	29. 8	6—8	2	
29. 14½	29. 14¾	8—7		1
29. 16¾	29. 17½	7—6		1
29. 19¾	29. 20	6—7	1	
30. 0	30. 1	7—8	1	
30. 3¼	30. 3½	8—7		1
30. 8½	30. 9½	7—8	1	
30. 11	30. 13	8—10	2	
30. 16	30. 16¾	10—9		1
30. 19¾	30. 22	9—2		7
		Sums	122	83
October.				
1. 0	1. 4	2—12		6
1. 6¼	1. 6¾	12—11		1
1. 17½	1. 18	11—0		11
1. 18½	1. 19	0—3		13
1. 22	1. 22½	3—2		1
2. 12	2. 12½	2—3	1	
2. 15¼	2. 15½	3—2		1
2. 20¾	2. 21	2—1		1
2. 23¾	3. 0¼	1—0		1

ABSTRACT of the CHANGES of the DIRECTION of the WIND—*continued.*

Greenwich Civil Time. From	To	Change of Direction.	Amount of Motion. Direct.	Retrograde.
Oct.—*cont.*				
d h	d h			
3. 11¾	3. 12	0—1	1	
3. 19¼	3. 19½	1—0		1
4. 3¾	4. 4	0—1	1	
4. 5¾	4. 6	1—0		1
4. 10¾	4. 11½	0—2	2	
4. 21¼	4. 21½	2—8	6	
4. 23¼	4. 23½	8—12	4	
5. 0¾	5. 1½	12—9		3
5. 6¼	5. 7¼	9—7	14	
5. 10	5. 10½	7—10	3	
5. 17½	5. 18	10—9		1
6. 0¾	6. 1	9—6		3
6. 5¼	6. 6	6—2		4
6. 7¾	6. 8	2—9	7	
6. 13½	6. 15½	9—4		5
6. 16½	6. 16¾	4—6	2	
6. 18½	6. 18¾	6—8	2	
6. 22	6. 23	8—9	1	
7. 4¼	7. 4½	9—11	2	
7. 6¼	7. 6½	11—10		1
7. 10	7. 10¼	10—11	1	
7. 15½	7. 18½	11—3	8	
7. 19½	7. 19¾	3—6	3	
8. 6	8. 6½	6—5		1
8. 11¼	8. 12	5—4		1
9. 2	9. 2¼	4—3		1
9. 9¼	9. 9½	3—4	1	
9. 10½	9. 10¾	4—3		1
9. 12	9. 12½	3—4	1	
9. 13¾	9. 14	4—3		1
10. 10	10. 10¼	3—5	2	
10. 11½	10. 12	5—6	1	
10. 14¼	10. 14½	6—5		1
11. 14	11. 15½	5—4	15	
11. 18¾	11. 19¾	4—8	4	
11. 23¾	12. 0	8—1		7
12. 3¼	12. 4	1—10	9	
12. 10	12. 10¼	10—6		4
12. 11¼	12. 11½	6—1		5
12. 12½	12. 13	1—10		7
12. 18½	12. 18¾	10—8		2
13. 2¼	13. 3	8—1		7
13. 8	13. 8½	1—12		5
13. 10	13. 10¾	12—10	14	
13. 17	13. 17½	10—9		1
14. 1	14. 2½	9—10	1	
14. 11¼	14. 12	10—11	1	
14. 16	14. 16¾	11—12	1	
14. 18¼	14. 18½	12—1	5	
14. 21	14. 21¼	1—0		1
14. 23½	15. 0	0—2	2	
15. 4	15. 5	2—9	7	
15. 6¼	15. 6½	9—12	3	
15. 9½	15. 9¾	12—8		4
15. 11½	15. 13	8—10	2	
17. 0¾	17. 2¾	10—12	2	
17. 11	17. 11¼	12—14	2	
17. 18½	17. 18¾	14—12		2
17. 20¼	17. 20¾	12—11		1
18. 5	18. 5½	11—10		1
18. 8¾	18. 9	10—11	1	

Greenwich Civil Time. From	To	Change of Direction.	Amount of Motion. Direct.	Retrograde.
Oct.—*cont.*				
d h	d h			
18. 19½	18. 20	11—10		1
18. 22¾	18. 23	10—11	1	
19. 2	19. 3	11—15	4	
19. 5½	19. 5¾	15—14		1
19. 13¾	19. 14½	14—13		1
19. 17	19. 17¾	13—10		3
19. 23½	20. 0½	10—11	1	
20. 11¾	20. 12	11—10		1
20. 22	20. 23	10—12	2	
21. 0½	21. 2	12—10		2
21. 9½	21. 10	10—11	1	
21. 14¼	21. 14½	11—12	1	
21. 16½	21. 18½	12—9		3
21. 21½	21. 22	9—8		1
22. 0¾	22. 2¾	8—0	8	
22. 5¼	22. 5½	0—2	2	
22. 12½	22. 13	2—3	1	
22. 16½	22. 16¾	3—2		1
23. 1	23. 1½	2—12	10	
23. 8½	23. 8¾	12—10		2
23. 14¾	23. 15	10—8		2
23. 17	23. 17½	8—2		6
23. 23¼	23. 23½	2—0		2
24. 1¾	24. 2	0—11		5
24. 7	24. 8	11—10		1
24. 20¼	24. 21½	10—1	7	
24. 23½	24. 23¾	1—11		6
25. 17¾	25. 18¼	11—10		1
26. 5¾	26. 6	10—3		7
26. 10½	26. 11	3—6	3	
26. 17	26. 20	6—10	4	
27. 19	27. 19½	10—9		1
27. 23½	28. 0½	9—10	1	
28. 18	28. 19	10—9		1
28. 22	29. 0	9—10	1	
29. 8	29. 8¾	10—11	1	
29. 14½	29. 17	11—10		1
29. 21¼	29. 22	10—9		1
30. 7½	30. 8	9—10	1	
30. 12½	30. 13	10—11	1	
30. 15½	30. 16	11—10		1
30. 23½	31. 0	10—11	1	
31. 3	31. 4	11—12	1	
31. 6¾	31. 8¼	12—14	2	
31. 12	31. 14	14—1	3	
31. 18	31. 18½	1—0		1
		Sums	189	159
November.				
1. 9	1. 9½	0—1	1	
1. 10½	1. 10¾	1—0		1
1. 16	1. 16½	0—14		2
1. 18½	1. 19½	14—0	2	
1. 21¼	1. 22¼	0—12		4
2. 1	2. 4	12—11		1

Greenwich Civil Time. From	To	Change of Direction.	Amount of Motion. Direct.	Retrograde.
Nov.—*cont.*				
d	d h			
2. 9	2. 12½	11—14	3	
2. 17½	2. 17¾	14—13		1
2. 20	2. 21	13—12		1
3. 0½	3. 2	12—11		1
3. 8½	3. 8¾	11—12	1	
3. 12¼	3. 12¾	12—1		11
3. 16	3. 16¼	1—7	6	
3. 18¼	3. 18½	7—10	3	
3. 20	3. 20½	10—11	1	
3. 22¼	3. 22½	11—10		1
4. 1¾	4. 2	10—11	1	
4. 4¼	4. 4½	11—10		1
4. 9¾	4. 10	10—11	1	
4. 16	4. 17	11—10		1
5. 11¾	5. 17½	10—2	8	
5. 22	5. 22¼	2—0		2
6. 6½	6. 7¼	0—1	1	
6. 10½	6. 10¾	1—8	7	
6. 20	6. 21	8—10	2	
7. 0	7. 0¼	10—9		1
7. 9½	7. 10	9—10	1	
7. 12	7. 13	10—11	1	
7. 16	7. 16¼	11—10		1
7. 18½	7. 20	10—11	1	
8. 8	8. 8½	11—12	1	
8. 17¾	8. 18	12—13	1	
8. 19¾	8. 21¾	13—11		2
9. 7	9. 8	11—10		1
9. 21	9. 22	10—11	1	
10. 3¼	10. 5¾	11—13	2	
10. 7	10. 7¼	13—12		1
10. 12½	10. 14	12—11		1
10. 20	10. 21¼	11—13	2	
11. 0¼	11. 0½	13—14	1	
11. 2¾	11. 3½	14—12		2
11. 7½	11. 9½	12—14	2	
11. 17¼	11. 18	14—15	1	
12. 4¾	12. 5½	15—13		2
12. 7¼	12. 8½	13—0	3	
13. 21	13. 23	0—15		1
14. 0	14. 0½	15—0	1	
14. 9	14. 10½	0—15		1
14. 18½	14. 20	15—0	1	
14. 21½	14. 23	0—15		1
15. 2	15. 2¼	15—14		1
15. 3½	15. 4	14—12		2
15. 6	15. 6¼	12—10		2
15. 10	15. 10¾	10—15	5	
15. 12	15. 13¼	15—1	2	
15. 15½	15. 15¾	1—0		1
16. 13½	16. 14¼	0—1	1	
16. 21½	16. 22½	1—11	10	
17. 7½	17. 8½	11—12	1	
17. 13¼	17. 13½	12—13	1	
17. 15¼	17. 15½	13—11		2
17. 17	17. 17¼	11—12	1	
17. 20	17. 20¼	12—14	2	
17. 22	17. 22¼	14—12		2
18. 2	18. 3	12—11		1
18. 11¾	18. 12	11—12	1	
18. 14½	18. 16¼	12—1	5	

Greenwich Civil Time. From	To	Change of Direction.	Amount of Motion. Direct.	Retrograde.
Nov.—*cont.*				
d h	d h			
19. 1¼	19. 1½	1—11		6
19. 4	19. 4¼	11—12	1	
19. 8¼	19. 8¾	12—10		2
19. 10	19. 11	10—12	2	
20. 23	21. 3¾	12—15	3	
21. 9¼	21. 9½	15—0	1	
21. 11¾	21. 12	0—1	1	
21. 15½	21. 16¾	1—11	10	
21. 19½	21. 20	11—12	1	
21. 22	21. 23½	12—0	4	
22. 1	22. 3½	0—12		4
22. 5	22. 5½	12—11		1
22. 11	22. 11¾	11—12	1	
22. 16½	22. 17	12—11		1
23. 7	23. 8	11—10		1
23. 10¾	23. 11¼	10—11	1	
24. 5	24. 5½	11—0	5	
24. 6	24. 7	0—14		2
24. 13¼	24. 13½	14—13		1
24. 15	24. 16½	13—11		2
25. 16	25. 16¼	11—13	2	
25. 17	25. 17½	13—12		1
25. 21½	25. 22½	12—11		1
26. 1½	26. 2¼	11—10		1
26. 18½	26. 18¾	10—11	1	
27. 2	27. 3	11—12	1	
27. 5	27. 5½	12—11		1
27. 8	27. 9	11—12	1	
27. 10	27. 10¼	12—11		1
27. 12¾	27. 13	11—12	1	
27. 15¾	27. 16	12—13	1	
27. 17¾	27. 19¼	13—11		2
28. 14½	28. 15¼	11—8		3
29. 0	29. 0½	8—9	1	
29. 1¼	29. 1½	9—8		1
29. 9	29. 10½	8—0		8
29. 12¼	29. 13	0—14		2
29. 15	29. 16	14—15	1	
29. 20	29. 20¼	15—0	1	
29. 22¾	30. 1½	0—2	2	
30. 8½	30. 9	2—1		1
30. 17½	30. 18	1—0		1
30. 20¾	30. 21½	0—14		2
		Sums	127	97
December.				
1. 0¼	1. 1	14—12		2
1. 5½	1. 7	12—11		1
1. 13	1. 15½	11—8		3
1. 17	1. 22	8—11	3	
2. 6¾	2. 8	11—12	1	
2. 11½	2. 13½	12—14	2	
2. 14½	2. 16	14—12		2
2. 20¾	2. 22	12—15	3	
3. 5½	3. 6	15—0	1	

ABSTRACT of the CHANGES of the DIRECTION of the WIND—*concluded.*

Greenwich Civil Time. From	Greenwich Civil Time. To	Change of Direction.	Amount of Motion. Direct.	Amount of Motion. Retrograde.
Dec.—*cont.*				
d h	d h			
3. 7¾	3. 8	0—12		4
3. 10½	3. 11½	12—11		1
3. 13¾	3. 14¾	11—9		2
3. 16¾	3. 17	9—10	1	
4. 19	4. 22	10—8		2
5. 1¼	5. 4	8—6		2
5. 11	5. 11½	6—7	1	
5. 14½	5. 15	7—8	1	
5. 16	5. 16½	8—7		1
5. 19½	5. 21¼	7—10	3	
5. 23½	6. 0	10—8		2
6. 2¾	6. 3	8—10	2	
6. 5	6. 6	10—9		1
6. 9½	6. 11	9—10	1	
6. 18½	6. 19	10—11	1	
6. 21½	6. 22	11—10		1
7. 1	7. 2½	10—9		1
7. 6½	7. 7¼	9—8		1
7. 9	7. 9½	8—9	1	
7. 13½	7. 13¾	9—10	1	
7. 15½	7. 16½	10—9		1
7. 23	8. 1	9—10	1	
8. 7	8. 9	10—9		1
8. 11	8 11½	9—10	1	
8. 20½	8 21	10—9		1
8. 23	8. 23¾	9—10	1	

Greenwich Civil Time. From	Greenwich Civil Time. To	Change of Direction.	Amount of Motion. Direct.	Amount of Motion. Retrograde.
Dec.—*cont.*				
d h	d h			
9. 3	9. 4	10—9		1
9. 6¾	9. 7½	9—10	1	
10. 8¾	10. 10½	10—2	8	
10. 13¾	10. 15	2—10		8
10. 16¾	10. 17	10—4	10	
10. 18¼	10. 18½	4—8	4	
10. 21	10. 21¼	8—7		1
11. 0½	11. 2½	7—11	4	
11. 6½	11. 8	11—10		1
12. 0	12. 0¼	10—12	2	
12. 1¼	12. 1½	12—11		1
12. 3¼	12. 3¾	11—12	1	
12. 5¼	12. 6¾	12—10		2
12. 11½	12. 12¼	10—12	2	
12. 13¾	12. 14	12—13	1	
12. 15¾	12. 16	13—12		1
12. 18¼	12. 18¾	12—11		1
14. 11¾	14. 12	11—12	1	
14. 17	14. 18½	12—11		1
14. 23	15. 1	11—12	1	
15. 3½	15. 5	12—13	1	
15. 7	15. 8	13—12		1
15. 13	15. 14	12—11		1
15. 17¾	15. 18	11—13	2	
15. 18½	15. 19½	13—12		1
16. 4¼	16. 4½	12—14	2	

Greenwich Civil Time. From	Greenwich Civil Time. To	Change of Direction.	Amount of Motion. Direct.	Amount of Motion. Retrograde.
Dec.—*cont.*				
d h	d h			
16. 5½	16. 6	14—13		1
16. 15	16. 16¾	13—11		2
16. 22½	16. 23½	11—12	1	
17. 3½	17. 4	12—11		1
18. 1	18. 3½	11—10		1
18. 10¾	18. 11	10—15	5	
18. 12¾	18. 13	15—12		3
18. 19½	18. 20½	12—11		1
19. 3	19. 5½	11—10		1
19. 23	20. 0½	10—9		1
20. 8½	20. 9½	9—10	1	
20. 14½	20. 15	10—9		1
20. 22¾	20. 23	9—10	1	
21. 21	21. 22	10—11	1	
22. 0	22. 0¼	11—10		1
24. 1¼	24. 2	10—11	1	
24. 3½	24. 4¼	11—10		1
24. 5½	24. 6	10—11	1	
24. 7	24. 8	11—10		1
24. 15¼	24. 15½	10—11	1	
25. 5¼	25. 7¼	11—9		2
25. 10½	25. 11	9—8		1
25. 13½	25. 13¾	8—10	2	
25. 14¾	25. 15¼	10—12	2	
25. 17	25. 17¾	12—11		1
25. 19¼	25. 20	11—12	1	

Greenwich Civil Time. From	Greenwich Civil Time. To	Change of Direction.	Amount of Motion. Direct.	Amount of Motion. Retrograde.
Dec.—*cont.*				
d h	d h			
25. 21	25. 22	12—11		1
25. 23¾	26. 0	11—10		1
26. 3¾	26. 4½	10—8		2
26. 9	26. 9½	8—10	2	
26. 15½	26. 19	10—14	4	
26. 20	26. 20½	14—12		2
27. 3	27. 3¾	12—11		1
27. 7½	27. 8¼	11—10		1
27. 10½	27. 11½	10—9		1
27. 16	27. 16½	9—10	1	
27. 20	27. 20¾	10—11	1	
28. 17½	28. 18½	11—10		1
29. 5	29. 6½	10—15	5	
29. 7½	29. 10	15—12		3
29. 12	29. 14	12—11		1
29. 20	29. 22	11—12	1	
30. 3	30. 3½	12—11		1
30. 5½	30. 7	11—12	1	
30. 15	30. 17	12—10		2
31. 5½	31. 6¾	10—11	1	
31. 11½	31. 12	11—10		1
31. 19¾	31. 21	10—9		1
		Sums	98	87

Excess of Motion in each Month.

1912.	Direct.	Retrograde.	1912.	Direct.	Retrograde.
January	15		July	63	
February	48		August	1	
March		32	September	39	
April	29		October	30	
May	113		November	30	
June	3		December	11	

The whole excess of direct motion for the year was 350 = 7875°.

MEAN HOURLY MEASURES of the HORIZONTAL MOVEMENT of the AIR in each MONTH, and GREATEST and LEAST HOURLY MEASURES, as derived from the RECORDS of ROBINSON'S ANEMOMETER.

Hour ending	1912.												Mean for the Year.
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
h	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
1	11·7	11·9	14·1	10·9	7·6	9·8	8·6	11·7	9·5	9·7	12·1	18·3	11·3
2	11·3	12·6	15·5	10·7	7·7	9·5	8·1	12·2	10·0	9·6	11·8	17·6	11·4
3	10·8	13·2	15·4	10·0	7·0	8·6	8·2	12·1	9·5	9·9	12·4	17·5	11·2
4	10·9	12·0	15·3	10·3	7·7	9·2	8·1	11·5	9·8	9·2	12·3	17·1	11·1
5	11·2	12·3	15·0	10·6	7·3	9·0	8·1	11·1	9·8	9·1	12·6	16·1	11·0
6	10·8	12·4	14·3	11·0	7·6	9·1	7·8	11·3	9·5	9·0	12·5	15·8	10·9
7	9·8	12·0	14·0	10·6	8·0	10·5	8·0	11·2	9·9	9·3	12·2	15·6	10·9
8	10·1	11·7	15·0	11·5	8·7	11·6	8·5	12·5	10·4	10·0	13·0	15·3	11·5
9	9·8	11·6	16·7	12·7	9·6	12·5	9·1	13·1	12·0	9·5	12·5	15·5	12·0
10	9·8	12·0	17·6	12·7	10·4	13·2	10·2	13·8	13·3	10·1	12·3	16·3	12·6
11	10·3	13·2	18·7	13·8	11·1	13·8	10·9	14·8	14·8	11·2	13·2	16·7	13·5
Noon.	11·1	13·9	19·5	14·7	10·8	14·3	11·4	14·4	15·2	12·0	13·4	17·1	14·0
13^h	12·6	14·0	19·0	15·6	11·5	15·1	12·0	15·0	14·5	12·5	13·9	17·3	14·4
14	12·5	14·6	19·3	16·6	13·1	15·8	13·1	16·2	14·7	12·7	15·0	17·7	15·1
15	12·1	14·7	18·3	16·4	13·1	16·2	12·3	15·3	15·2	12·3	14·5	17·5	14·8
16	12·0	13·9	17·7	16·1	13·2	16·4	12·3	14·9	15·0	12·5	14·1	17·5	14·6
17	11·6	13·7	16·0	15·6	13·3	15·0	11·9	13·6	14·5	11·0	13·8	16·6	13·9
18	11·8	13·2	15·0	15·2	12·4	15·2	12·0	12·9	12·9	10·6	13·4	17·2	13·5
19	11·6	12·0	14·3	13·4	10·8	13·5	11·3	12·3	11·7	10·4	14·0	17·0	12·7
20	11·6	11·5	14·3	12·5	10·0	11·6	10·4	11·1	10·3	10·4	13·8	18·2	12·1
21	11·5	12·2	14·8	11·8	9·5	10·9	9·6	11·3	10·4	10·6	12·9	18·2	12·0
22	11·6	12·3	15·0	11·8	9·0	10·3	9·2	11·0	10·4	10·5	11·9	18·0	11·8
23	11·5	11·9	15·2	11·2	8·4	9·8	8·4	11·0	10·4	9·9	12·3	18·6	11·6
Midnight.	11·3	12·0	14·2	11·1	7·9	9·6	8·6	11·1	10·5	10·2	12·3	18·3	11·4
Means	11·2	12·7	16·0	12·8	9·8	12·1	9·9	12·7	11·8	10·5	13·0	17·1	12·5
Greatest Hourly Measures. (1)	37	35	41	43	29	29	29	28	30	39	43	40	...
Greatest Hourly Measures. (2)	29	27	31	33	23	23	23	23	24	30	33	31	...

(1.) Deduced from the motion of the cups by the formula $V = 3\,v$;
(2.) ,, ,, ,, ,, ,, ,, ,, $V = 2\,v + 4$;
where v is the hourly motion of the cups in miles. See Introduction.

MEAN ELECTRICAL POTENTIAL of the ATMOSPHERE, from THOMSON'S ELECTROMETER, for each CIVIL DAY.

(Each result is the mean of Twenty-four Hourly Ordinates from the Photographic Register. The scale employed is arbitrary: the sign + indicates positive potential.)

1912.												
Day of Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d 1	+ 471	+1433	+ 203	+1063	+ 948	+ 368	+ 489	+ 482	+ 258	+ 314	+ 752	+ 838
2	+ 605	+1384	+ 192	+1100	+ 813	+ 277	+ 468	+ 670	+ 371	+ 507	+ 941	+ 847
3	+ 559	+1609	+ 353	+ 699	+ 815	+ 540	+ 293	+ 414	+ 376	+ 802	+ 885	+ 914
4	+ 339	...	+ 215	+ 524	+ 13	+ 493	+ 347	+ 254	+ 228	+ 807	+ 649	+ 520
5	+ 581	...	+ 303	+ 417	+ 240	+ 358	+ 237	+ 335	+ 529	+ 646	+ 299	+ 662
6	+ 219	+ 792	+ 735	+ 447	+ 510	+ 450	+ 212	+ 163	+ 604	+ 632	+ 241	+ 338
7	+ 531	+ 573	+ 866	+ 470	+ 319	+ 281	+ 172	+ 230	...	+ 732	+ 324	+ 358
8	+ 413	+ 250	+ 325	+ 496	+ 330	+ 387	+ 219	+ 413	+ 247	+ 524	+ 254	+ 244
9	+ 531	+ 215	+ 446	+1021	+ 332	+ 196	+ 348	+ 483	+ 603	+ 465	+ 291	+ 329
10	+ 597	+ 288	+ 370	+1095	+ 242	+ 341	+ 211	+ 646	+ 757	+ 358	+ 190	+ 375
11	+ 395	+ 295	+ 489	+1210	+ 328	+ 397	+ 221	+ 522	+ 725	+ 525	+ 637	+ 358
12	+ 702	+ 84	...	+ 985	+ 267	+ 348	+ 193	+ 440	+ 313	+ 659	+ 694	+ 531
13	+ 453	+ 424	+ 327	+1148	+ 351	+ 497	+ 240	+ 684	+ 343	+ 415	+ 742	+ 385
14	+ 403	+ 613	+ 276	+ 765	+ 330	+ 569	+ 157	...	+ 262	+ 211	+ 540	+ 165
15	+ 387	+ 477	+ 319	+ 693	+ 379	+ 499	+ 220	+ 341	+ 234	+ 387	+ 812	+ 293
16	+ 225	+ 366	+ 595	+ 621	+ 780	+ 333	+ 291	+ 301	+ 151	+ 381	+ 390	+ 667
17	− 270	+ 495	− 224	+ 591	+ 935	+ 422	+ 372	+ 186	+ 215	+ 401	+ 353	+ 782
18	− 174	+ 492	+ 142	+1001	+ 601	+ 208	+ 480	+ 139	+ 245	+ 375	+ 590	+ 684
19	+ 415	+ 277	+ 492	+ 661	+ 407	+ 257	+ 780	+ 172	+ 402	+ 427	+ 568	+ 542
20	+ 539	+ 560	+ 630	+ 537	+ 446	+ 407	+ 642	+ 224	+ 344	+ 252	+ 628	+ 414
21	+ 517	+ 771	...	+ 503	+ 516	+ 385	+ 280	+ 356	+ 332	+ 341	+ 330	+ 474
22	+ 586	+ 282	...	+ 464	+ 314	+ 264	+ 358	+ 505	+ 305	+ 451	...	+ 427
23	+ 156	+ 145	+ 280	+ 724	+ 589	+ 242	+ 228	+ 175	+ 290	+ 542	...	+ 293
24	+ 181	+ 410	+ 334	+ 779	+ 833	+ 283	+ 258	+ 85	+ 461	+ 434	+ 516	+ 352
25	+ 561	+ 423	+ 237	+ 849	+ 669	+ 305	+ 257	+ 115	+ 405	+ 519	+ 359	+ 299
26	+ 799	+ 435	+ 338	+ 592	+ 410	+ 507	+ 345	+ 76	+ 352	...	+ 282	+ 220
27	+ 947	+ 464	+ 542	+ 494	+ 487	+ 336	+ 265	+ 333	+ 449	...	+ 718	+ 416
28	+1213	+ 340	+ 524	+ 663	...	+ 315	+ 255	+ 245	+ 292	...	+ 833	+ 179
29	+1541	+ 355	+ 872	+1227	...	+ 372	+ 281	+ 119	+ 121	...	+ 200	+ 358
30	+1574		+ 889	+1124	+ 462	+ 378	+ 404	+ 201	+ 2	+ 175	+1337	+ 637
31	+1398		+ 614		+ 295		+ 460	+ 359		+ 335		+ 581
Means	+ 561	+ 528	+ 417	+ 765	+ 481	+ 367	+ 322	+ 322	+ 352	+ 467	+ 548	+ 467

MONTHLY MEAN ELECTRICAL POTENTIAL of the ATMOSPHERE, from THOMSON'S ELECTROMETER, at every HOUR of the DAY.

(The results depend on the Photographic Register, using all days of complete record. The scale employed is arbitary: the sign + indicates positive potential.)

Hour, Greenwich Civil Time.	1912.												Yearly Means.
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
Midnight	+ 524	+ 519	+ 452	+ 738	+ 428	+ 396	+ 329	+ 275	+ 300	+ 391	+ 475	+ 449	+ 440
1^h	+ 514	+ 486	+ 408	+ 669	+ 362	+ 363	+ 305	+ 267	+ 279	+ 397	+ 441	+ 391	+ 407
2	+ 481	+ 439	+ 361	+ 625	+ 340	+ 345	+ 279	+ 248	+ 264	+ 379	+ 419	+ 339	+ 377
3	+ 407	+ 408	+ 335	+ 587	+ 317	+ 350	+ 269	+ 234	+ 250	+ 382	+ 385	+ 314	+ 353
4	+ 362	+ 398	+ 309	+ 568	+ 302	+ 329	+ 258	+ 242	+ 251	+ 407	+ 349	+ 297	+ 339
5	+ 418	+ 402	+ 312	+ 607	+ 321	+ 328	+ 265	+ 250	+ 253	+ 421	+ 353	+ 314	+ 354
6	+ 450	+ 425	+ 363	+ 698	+ 404	+ 295	+ 301	+ 293	+ 272	+ 446	+ 411	+ 340	+ 391
7	+ 469	+ 451	+ 434	+ 817	+ 503	+ 282	+ 343	+ 335	+ 296	+ 447	+ 443	+ 393	+ 434
8	+ 485	+ 507	+ 462	+ 899	+ 552	+ 368	+ 367	+ 353	+ 320	+ 480	+ 457	+ 434	+ 474
9	+ 545	+ 603	+ 462	+ 935	+ 582	+ 424	+ 392	+ 383	+ 372	+ 528	+ 535	+ 492	+ 521
10	+ 597	+ 690	+ 474	+ 919	+ 587	+ 445	+ 382	+ 385	+ 414	+ 576	+ 627	+ 573	+ 556
11	+ 598	+ 658	+ 444	+ 833	+ 543	+ 383	+ 328	+ 337	+ 404	+ 570	+ 655	+ 562	+ 526
Noon	+ 702	+ 594	+ 353	+ 781	+ 477	+ 345	+ 320	+ 320	+ 363	+ 488	+ 641	+ 511	+ 491
13^h	+ 705	+ 531	+ 325	+ 725	+ 467	+ 291	+ 302	+ 330	+ 362	+ 468	+ 630	+ 515	+ 471
14	+ 650	+ 536	+ 290	+ 710	+ 485	+ 302	+ 284	+ 361	+ 381	+ 463	+ 613	+ 523	+ 466
15	+ 613	+ 548	+ 309	+ 753	+ 516	+ 361	+ 287	+ 328	+ 392	+ 484	+ 623	+ 519	+ 478
16	+ 669	+ 549	+ 363	+ 771	+ 532	+ 303	+ 291	+ 313	+ 403	+ 519	+ 649	+ 545	+ 492
17	+ 665	+ 547	+ 399	+ 791	+ 541	+ 350	+ 326	+ 357	+ 441	+ 569	+ 614	+ 564	+ 514
18	+ 618	+ 574	+ 518	+ 838	+ 575	+ 390	+ 336	+ 359	+ 453	+ 564	+ 663	+ 540	+ 536
19	+ 587	+ 591	+ 553	+ 855	+ 587	+ 415	+ 333	+ 384	+ 450	+ 508	+ 681	+ 530	+ 539
20	+ 597	+ 592	+ 576	+ 831	+ 578	+ 437	+ 337	+ 403	+ 437	+ 467	+ 673	+ 529	+ 538
21	+ 608	+ 580	+ 534	+ 813	+ 527	+ 444	+ 360	+ 353	+ 416	+ 454	+ 667	+ 515	+ 523
22	+ 605	+ 532	+ 495	+ 821	+ 536	+ 442	+ 380	+ 325	+ 361	+ 407	+ 611	+ 531	+ 504
23	+ 599	+ 506	+ 482	+ 785	+ 490	+ 422	+ 356	+ 299	+ 322	+ 398	+ 546	+ 491	+ 475
24	+ 555	+ 470	+ 464	+ 707	+ 428	+ 395	+ 324	+ 270	+ 296	+ 428	+ 498	+ 426	+ 438
Means $0^h.–23^h.$	+ 561	+ 528	+ 417	+ 765	+ 481	+ 367	+ 322	+ 322	+ 352	+ 467	+ 548	+ 467	+ 467
Means $1^h.–24^h.$	+ 562	+ 526	+ 418	+ 764	+ 481	+ 367	+ 322	+ 322	+ 352	+ 469	+ 549	+ 466	+ 467
Number of Days employed.	31	27	28	30	29	30	31	30	29	27	28	31	...

MONTHLY MEAN ELECTRICAL POTENTIAL of the ATMOSPHERE, from THOMSON'S ELECTROMETER, on RAINY DAYS, at every HOUR of the DAY.

(The results depend on the Photographic Register, using all days on which the rainfall amounted to or exceeded $0^{in}\cdot020$. The scale employed is arbitrary: the sign + indicates positive potential.)

Hour, Greenwich Civil Time.	1912.												Yearly Means.
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
Midnight	+ 286	+ 380	+ 417	+1290	+ 281	+ 425	+ 369	+ 249	+ 253	+ 144	+ 348	+ 402	+ 404
1^h	+ 288	+ 346	+ 382	+ 940	+ 167	+ 348	+ 363	+ 229	+ 227	+ 176	+ 304	+ 357	+ 344
2	+ 255	+ 317	+ 335	+ 920	+ 187	+ 327	+ 328	+ 206	+ 212	+ 205	+ 284	+ 314	+ 324
3	+ 153	+ 280	+ 308	+ 740	+ 206	+ 352	+ 286	+ 186	+ 222	+ 219	+ 199	+ 287	+ 287
4	+ 91	+ 279	+ 261	+ 330	+ 181	+ 314	+ 282	+ 195	+ 228	+ 253	+ 100	+ 269	+ 232
5	+ 183	+ 281	+ 259	+ 170	+ 206	+ 288	+ 332	+ 201	+ 228	+ 271	+ 96	+ 308	+ 235
6	+ 197	+ 300	+ 315	+ 430	+ 281	+ 173	+ 398	+ 252	+ 232	+ 291	+ 210	+ 332	+ 284
7	+ 206	+ 272	+ 367	+ 790	+ 394	+ 105	+ 437	+ 318	+ 207	+ 319	+ 270	+ 363	+ 337
8	+ 209	+ 327	+ 349	+ 930	+ 411	+ 295	+ 457	+ 314	+ 212	+ 366	+ 253	+ 395	+ 377
9	+ 247	+ 421	+ 297	+1000	+ 440	+ 407	+ 488	+ 338	+ 305	+ 417	+ 369	+ 438	+ 431
10	+ 261	+ 504	+ 302	+1200	+ 459	+ 444	+ 469	+ 334	+ 378	+ 463	+ 477	+ 531	+ 485
11	+ 224	+ 437	+ 293	+1220	+ 427	+ 352	+ 405	+ 284	+ 368	+ 424	+ 521	+ 513	+ 456
Noon	+ 465	+ 355	+ 149	+1100	+ 357	+ 316	+ 415	+ 286	+ 377	+ 360	+ 459	+ 454	+ 424
13^h	+ 521	+ 278	+ 113	+1000	+ 319	+ 218	+ 359	+ 313	+ 387	+ 378	+ 493	+ 467	+ 404
14	+ 482	+ 308	+ 57	+1080	+ 290	+ 245	+ 329	+ 368	+ 407	+ 397	+ 463	+ 481	+ 409
15	+ 429	+ 354	+ 81	+1160	+ 374	+ 375	+ 359	+ 292	+ 377	+ 415	+ 448	+ 468	+ 428
16	+ 466	+ 325	+ 159	+1390	+ 377	+ 333	+ 340	+ 270	+ 310	+ 457	+ 426	+ 494	+ 446
17	+ 414	+ 282	+ 183	+1340	+ 383	+ 377	+ 366	+ 321	+ 387	+ 524	+ 392	+ 508	+ 456
18	+ 300	+ 318	+ 382	+1410	+ 400	+ 386	+ 377	+ 288	+ 440	+ 528	+ 517	+ 462	+ 484
19	+ 213	+ 370	+ 452	+1410	+ 390	+ 400	+ 369	+ 352	+ 402	+ 472	+ 516	+ 464	+ 484
20	+ 261	+ 405	+ 532	+1360	+ 417	+ 432	+ 365	+ 391	+ 318	+ 421	+ 486	+ 491	+ 490
21	+ 300	+ 397	+ 447	+1530	+ 396	+ 429	+ 384	+ 330	+ 275	+ 393	+ 548	+ 481	+ 493
22	+ 329	+ 341	+ 377	+1500	+ 401	+ 433	+ 432	+ 311	+ 198	+ 263	+ 575	+ 512	+ 473
23	+ 366	+ 322	+ 390	+1280	+ 367	+ 446	+ 373	+ 284	+ 125	+ 228	+ 562	+ 477	+ 435
24	+ 339	+ 308	+ 412	+1200	+ 324	+ 411	+ 330	+ 244	+ 82	+ 268	+ 514	+ 413	+ 404
Means $0^h.-23^h.$	+ 298	+ 342	+ 300	+1063	+ 338	+ 343	+ 378	+ 288	+ 295	+ 349	+ 388	+ 428	+ 401
Means $1^h.-24^h.$	+ 300	+ 339	+ 300	+1060	+ 340	+ 342	+ 377	+ 288	+ 288	+ 354	+ 395	+ 428	+ 401
Number of Days employed.	14	12	15	1	7	13	10	16	6	10	10	19	...

MONTHLY MEAN ELECTRICAL POTENTIAL of the ATMOSPHERE, from THOMSON'S ELECTROMETER, on NON-RAINY DAYS, at every HOUR of the DAY.

(The results depend on the Photographic Register, using only those days on which no rainfall was recorded. The scale employed is arbitrary: the sign + indicates positive potential.)

Hour, Greenwich Civil Time.	1912.												Yearly Means.
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
Midnight	+ 735	+ 658	+ 427	+ 705	+ 468	+ 360	+ 281	+ 270	+ 265	+ 567	+ 544	+ 542	+ 485
1h	+ 712	+ 637	+ 394	+ 653	+ 414	+ 352	+ 251	+ 259	+ 249	+ 557	+ 523	+ 460	+ 455
2	+ 687	+ 561	+ 330	+ 619	+ 382	+ 325	+ 231	+ 256	+ 234	+ 516	+ 493	+ 400	+ 420
3	+ 661	+ 530	+ 297	+ 593	+ 328	+ 305	+ 241	+ 259	+ 215	+ 512	+ 473	+ 395	+ 401
4	+ 627	+ 525	+ 297	+ 597	+ 317	+ 287	+ 232	+ 271	+ 215	+ 529	+ 473	+ 370	+ 395
5	+ 645	+ 524	+ 307	+ 626	+ 337	+ 303	+ 230	+ 279	+ 226	+ 541	+ 492	+ 337	+ 404
6	+ 681	+ 536	+ 341	+ 685	+ 401	+ 337	+ 263	+ 316	+ 256	+ 568	+ 528	+ 360	+ 439
7	+ 683	+ 607	+ 428	+ 782	+ 476	+ 366	+ 285	+ 324	+ 287	+ 544	+ 540	+ 462	+ 482
8	+ 729	+ 653	+ 487	+ 857	+ 538	+ 387	+ 286	+ 372	+ 307	+ 562	+ 581	+ 520	+ 523
9	+ 834	+ 724	+ 524	+ 887	+ 581	+ 421	+ 299	+ 425	+ 345	+ 607	+ 654	+ 615	+ 576
10	+ 922	+ 805	+ 536	+ 847	+ 590	+ 431	+ 303	+ 444	+ 373	+ 651	+ 757	+ 703	+ 613
11	+ 939	+ 830	+ 482	+ 752	+ 543	+ 391	+ 270	+ 394	+ 365	+ 680	+ 798	+ 713	+ 596
Noon	+ 929	+ 861	+ 467	+ 714	+ 492	+ 331	+ 264	+ 358	+ 338	+ 574	+ 817	+ 662	+ 567
13h	+ 906	+ 811	+ 432	+ 657	+ 474	+ 305	+ 260	+ 334	+ 336	+ 523	+ 827	+ 662	+ 544
14	+ 870	+ 810	+ 433	+ 647	+ 516	+ 297	+ 239	+ 341	+ 353	+ 505	+ 830	+ 662	+ 542
15	+ 840	+ 860	+ 450	+ 667	+ 526	+ 318	+ 244	+ 330	+ 370	+ 541	+ 857	+ 657	+ 555
16	+ 860	+ 825	+ 483	+ 668	+ 532	+ 325	+ 260	+ 334	+ 416	+ 574	+ 921	+ 697	+ 575
17	+ 910	+ 819	+ 500	+ 703	+ 541	+ 355	+ 294	+ 386	+ 446	+ 619	+ 913	+ 752	+ 603
18	+ 908	+ 835	+ 571	+ 745	+ 599	+ 416	+ 285	+ 425	+ 445	+ 609	+ 893	+ 777	+ 626
19	+ 919	+ 829	+ 579	+ 774	+ 622	+ 410	+ 283	+ 429	+ 454	+ 549	+ 894	+ 743	+ 624
20	+ 910	+ 804	+ 547	+ 753	+ 604	+ 418	+ 298	+ 426	+ 461	+ 510	+ 880	+ 720	+ 611
21	+ 896	+ 794	+ 563	+ 727	+ 539	+ 430	+ 324	+ 376	+ 446	+ 512	+ 801	+ 687	+ 591
22	+ 887	+ 708	+ 552	+ 742	+ 558	+ 424	+ 339	+ 345	+ 387	+ 503	+ 672	+ 678	+ 566
23	+ 839	+ 656	+ 507	+ 726	+ 513	+ 380	+ 342	+ 326	+ 357	+ 530	+ 597	+ 627	+ 533
24	+ 798	+ 560	+ 443	+ 641	+ 459	+ 360	+ 304	+ 306	+ 334	+ 564	+ 561	+ 550	+ 490
Means 0h.–23h.	+ 814	+ 717	+ 456	+ 714	+ 495	+ 361	+ 275	+ 345	+ 339	+ 558	+ 698	+ 592	+ 530
Means 1h.–24h.	+ 816	+ 713	+ 456	+ 711	+ 495	+ 361	+ 276	+ 346	+ 342	+ 558	+ 699	+ 592	+ 530
Number of Days employed.	11	8	9	26	18	10	14	8	19	14	9	6	...

ROYAL OBSERVATORY, GREENWICH.

OBSERVATIONS

OF

LUMINOUS METEORS.

1912.

Month and Day, 1912.	Greenwich Civil Time.	Observer.	Brightness of Meteor in Star Magnitudes.	Colour of Meteor.	Duration of Meteor in Seconds of Time.	Appearance and Duration of Train.	Length of Meteor's Path in Degrees.	Path of Meteor in the Sky.
	h m s				s		°	° ° ° °
April 20	21. 50. 53	T	3	Orange	0·3	Faint	9	210 + 65 to 228 + 61
,,	22. 8. 43	T & D	2	White	0·2	None	20	222 + 60 to 180 + 68
,,	22. 36. 50	D	3	Yellow	0·3	None	24	248 + 50 to 215 + 46
,,	22. 45. 18	D	2	White	0·2	Slight	11	233 + 27 to 221 + 27
,,	22. 49. 11	D	2	White	0·3	None	11	207 + 48 to 215 + 40
,,	22. 58. 12	D	2	Bluish-white	0·3	Slight	23	213 + 24 to 207 + 47
,,	23. 1. 55	D	3	Yellow	0·4	None	8	222 + 28 to 231 + 26
,,	23. 9. 30	D	2	White	0·2	None	10	296 + 44 to 288 + 52
,,	23. 13. 29	D	3	Bluish-white	0·2	None	8	353 + 77 to 23 + 73
,,	23. 38. 2	D	2	Bluish-white	0·3	None	12	215 + 43 to 230 + 43
,,	23. 57. 56	T	2	Yellow	0·3	Slight	35	272 + 39 to 236 + 65
April 21	0. 4. 35	D	2	Yellow	0·3	Slight	21	264 + 27 to 251 + 10
,,	0. 9. 42	D	1	Blue	0·1	Slight	12	233 + 27 to 227 + 17
,,	0. 10. 30	D	1	Bluish-white	0·3	Bright	13	218 + 38 to 204 + 34
,,	0. 12. 19	T	2	Yellow	0·2	None	18	261 + 25 to 246 + 14
,,	0. 33. 32	D	1	White	0·3	Bright	8	192 + 38 to 203 + 39
,,	0. 59. 39	D	1	Bluish-white	0·8	Bright	23	177 + 55 to 143 + 73
,,	1. 13. 57	T	1	White	0·3	None	11	263 + 35 to 260 + 24
,,	1. 23. 17	D	3	Yellow	0·2	None	13	218 + 32 to 233 + 35
,,	1. 27. 39	D	2	Bluish-white	0·1	None	13	248 + 64 to 221 + 62
,,	1. 34. 33	T	1	Yellow	0·5	Bright	40	231 + 56 to 275 + 30
,,	1. 37. 22	D	2	Yellow	0·3	None	13	227 + 42 to 243 + 46
,,	1. 40. 56	T	1	White	0·5	None	14	278 + 43 to 291 + 54
,,	1. 43. 42	T & D	1	White	1·0	Bright	18	233 + 58 to 248 + 44
,,	1. 50. 40	D	1	Bluish-white	3·0	None	38	233 + 6 to 195 + 13
,,	2. 13. 53	D	3	Bluish-white	0·3	None	13	203 + 66 to 233 + 73
,,	2. 16. 58	T	1	White	2·0	Bright : 5 secs.	18	288 + 14 to 294 − 3
,,	2. 19. 12	D	2	White	0·5	Bright	4	237 + 29 to 233 + 27
,,	2. 24. 9	T	2	Yellow	0·3	None	3	326 + 17 to 303 + 23
,,	3. 4. 18	T	>1	White	3·0	Bright : 3 secs.	34	297 + 40 to 344 + 52
,,	3. 9. 32	T	3	White	0·2	None	14	306 + 24 to 297 + 13
,,	3. 12. 6	D	1	Bluish-white	0·5	Bright : 2 secs.	12	246 + 42 to 230 + 42
,,	3. 23. 27	D	3	Bluish-white	0·2	None	15	230 + 47 to 206 + 50
,,	3. 24. 37	D	2	Yellow	0·2	None	17	258 + 66 to 291 + 59
,,	21. 40. 5	T	1	Yellow	0·5	Faint	38	236 + 30 to 192 + 28
,,	22. 11. 44	T	2	Yellow	0·3	Faint	12	219 + 24 to 207 + 24
,,	22. 26. 41	FB	2	Bluish	0·5	Faint	6	275 + 36 to 281 + 33
,,	22. 48. 30	DE	2	Bluish	0·3	Faint	17	233 + 11 to 219 + 1
,,	23. 18. 27	T	2	Yellow	0·5	None	13	159 + 23 to 146 + 20
,,	23. 23. 52	T	2	Yellow	0·5	Faint	10	141 + 42 to 155 + 41
,,	23. 39. 18	FB	1	Yellow	3·0	Slight	13	291 + 27 to 296 + 15
,,	23. 55. 6	FB & T	3	White	0·4	None	8	281 + 27 to 290 + 27
April 22	0. 7. 26	FB	1	Yellow	1·0	Slight	13	303 + 50 to 324 + 55
,,	0. 26. 8	T	3	White	0·2	None	18	230 + 6 to 215 − 4
,,	0. 35. 39	T	1	Yellow	0·3	None	16	261 + 38 to 248 + 27
,,	0. 44. 1	T	2	Yellow	0·3	None	11	300 + 48 to 317 + 54
,,	0. 44. 20	T	3	Yellow	0·3	None	9	290 + 46 to 303 + 47
,,	0. 46. 39	FB	1	Yellow	0·5	Slight	15	278 + 50 to 284 + 65
,,	0. 52. 50	T	2	Yellow	0·5	None	13	342 + 65 to 14 + 66
,,	0. 54. 35	FB	2	Bluish-white	1·0	Slight	18	237 + 15 to 254 + 24
,,	1. 1. 40	FB	2	Bluish-white	0·3	None	15	315 + 56 to 342 + 59
,,	1. 3. 46	T	2	White	0·4	None	16	288 + 13 to 279 + 26
,,	1. 15. 47	FB	2	Yellow	2·0	None	29	257 + 32 to 284 + 15
,,	1. 24. 52	T & FB	>1	Yellow	1·0	Bright	14	264 + 35 to 254 + 24
,,	1. 33. 2	T	1	White	0·3	None	7	282 + 44 to 284 + 51
,,	1. 36. 29	FB	1	Bluish-white	0·5	Bright	15	293 + 36 to 311 + 34
,,	1. 41. 5	FB	1	Yellow	0·4	None	13	297 + 24 to 306 + 15
,,	1. 47. 1	FB	3	White	0·3	None	7	284 + 47 to 291 + 44

The time is expressed in civil reckoning, commencing at midnight and counting from 0^h to 24^h.

Month and Day, 1912.	Greenwich Civil Time.	Observer.	Brightness of Meteor in Star Magnitudes.	Colour of Meteor.	Duration of Meteor in Seconds of Time.	Appearance and Duration of Train.	Length of Meteor's Path in Degrees.	Path of Meteor in the Sky.
	h m s				s		°	° ° ° °
April 22	1. 55. 48	T	1	Yellow	0·3	None	8	345 + 54 to 0 + 56
,,	1. 59. 32	FB	2	Bluish-white	0·3	None	14	290 + 33 to 306 + 30
,,	1. 59. 39	FB	3	Bluish-white	0·3	None	10	258 + 25 to 267 + 20
,,	2. 3. 13	T	>1	Yellow	2·0	Bright : 1 sec.	22	188 + 54 to 225 + 53
,,	2. 8. 56	FB	3	White	0·3	None	12	290 + 18 to 293 + 6
,,	2. 16. 12	FB & T	1	White	0·3	None	11	296 + 9 to 285 + 8
,,	2. 22. 2	FB	3	White	0·2	None	6	318 + 32 to 324 + 28
,,	2. 28. 26	T & FB	3	Bluish-white	0·3	None	10	284 + 37 to 296 + 42
,,	2. 41. 28	T	2	Yellow	0·2	None	7	249 − 4 to 242 − 7
,,	2. 45. 53	FB	1	Bluish-white	0·3	Slight	20	288 + 30 to 306 + 18
,,	2. 46. 48	FB	3	Bluish-white	0·3	None	11	263 + 25 to 255 + 17
,,	2. 47. 47	FB	2	White	0·4	Slight	12	263 + 23 to 257 + 13
,,	2. 51. 56	FB	1	White	0·4	Slight	8	258 + 34 to 254 + 26
,,	3. 18. 38	T	3	White	0·3	None	10	237 + 17 to 228 + 12
,,	21. 15. 20	D	2	Yellow	0·4	None	7	168 + 16 to 174 + 20
,,	21. 19. 36	FB	3	White	0·2	Slight	9	273 + 33 to 263 + 32
,,	21. 19. 47	FB	2	White	0·3	None	13	300 + 44 to 318 + 47
,,	21. 25. 50	D	>1	White	0·4	Bright : 1 sec.	2	158 + 43 to 155 + 43
,,	21. 26. 2	D	2	Yellow	0·3	None	18	200 + 56 to 227 + 54
,,	21. 32. 4	D	3	Bluish-white	0·2	None	11	234 + 39 to 248 + 37
,,	21. 33. 29	S & D	2	Yellow	0·3	Slight	14	231 + 29 to 245 + 36
,,	21. 36. 36	D	3	Bluish-white	0·5	Slight	12	200 + 56 to 222 + 55
,,	21. 37. 28	S & D	2	White	0·3	None	6	228 + 73 to 246 + 69
,,	21. 40. 47	D	3	Blue	0·3	None	20	233 + 27 to 213 + 20
,,	21. 41. 49	S	1	Bluish-white	0·4	Slight	10	263 + 54 to 243 + 58
,,	21. 58. 46	D	3	White	0·3	Slight	11	218 + 38 to 231 + 40
,,	22. 7. 19	D	2	Yellow	0·6	Bright : 2 secs.	18	192 + 57 to 165 + 49
,,	22. 16. 49	FB	3	White	0·2	None	6	275 + 38 to 267 + 40
,,	22. 43. 16	FB	3	White	0·3	Slight	10	263 + 55 to 270 + 45
,,	22. 55. 3	D	1	White	0·5	Bright : 3 secs.	26	213 + 22 to 206 + 47
,,	22. 55. 5	D	2	Yellow	0·4	None	14	176 + 15 to 165 + 5
,,	22. 57. 12	FB	3	Bluish-white	0·3	None	13	281 + 39 to 296 + 45
,,	23. 6. 37	D	3	Yellow	0·2	None	13	215 + 38 to 198 + 37
,,	23. 14. 2	FB	2	Bluish-white	0·5	Slight	14	288 + 44 to 305 + 52
,,	23. 26. 56	FB	2	White	0·5	Slight	13	284 + 46 to 302 + 48
,,	23. 30. 39	D	3	Yellow	0·3	None	14	192 + 4 to 188 − 9
,,	23. 41. 13	D	2	White	0·3	None	5	279 + 38 to 282 + 33
,,	23. 47. 5	D	2	Bluish-white	0·2	None	13	248 + 35 to 260 + 43
,,	23. 49. 58	FB	2	Yellow	0·4	None	5	281 + 42 to 275 + 39
April 23	0. 6. 49	FB	1	Bluish-white	0·4	Slight	5	278 + 41 to 273 + 38
,,	0. 7. 58	D	3	Yellow	0·3	None	11	264 + 46 to 252 + 52
,,	0. 10. 58	FB	1	Bluish-white	0·5	Slight	5	275 + 42 to 273 + 37
,,	0. 14. 37	D	2	Yellow	0·3	None	9	215 + 20 to 221 + 27
,,	0. 31. 16	D	1	Bluish-white	0·3	Bright : 2 secs.	13	290 + 37 to 305 + 37
,,	0. 37. 54	FB	1	Yellow	0·4	Faint	7	345 + 85 to 338 + 78
,,	0. 48. 33	FB	2	Bluish-white	0·4	Faint	5	281 + 38 to 282 + 33
,,	0. 49. 26	D	3	Bluish-white	0·3	None	9	215 + 20 to 206 + 18
,,	0. 50. 19	D	1	White	0·7	Bright : 3 secs.	10	237 + 41 to 224 + 40
,,	1. 4. 46	D & FB	1	Bluish-white	1·0	Bright : 2 secs.	23	266 + 38 to 294 + 38
,,	1. 5. 13	D	2	White	1·0	None	14	185 + 12 to 173 + 5
,,	1. 6. 47	D	2	Bluish-white	0·7	Slight	8	221 + 26 to 215 + 20
,,	1. 12. 48	FB	1	Yellow	3·0	Bright : 3 secs.	20	308 + 62 to 318 + 43
,,	1. 16. 59	D	1	White	0·5	Bright : 3·5 secs.	11	239 + 38 to 225 + 41
,,	1. 17. 39	D	2	Bluish-white	0·3	None	6	224 + 39 to 216 + 38
,,	1. 26. 58	D	1	White	2·0	Bright : 2 secs.	13	219 + 36 to 236 + 37
,,	1. 39. 40	FB	1	Yellow	1·0	Slight	12	297 + 9 to 303 − 2
,,	1. 44. 21	D	1	Yellow	1·0	None	17	215 + 20 to 201 + 11
,,	1. 49. 55	D	2	Bluish-white	0·7	None	13	192 + 38 to 183 + 27
,,	1. 55. 12	D	2	Yellow	0·3	None	3	266 + 42 to 267 + 39
,,	1. 59. 58	FB	1	Bluish-white	1·0	Bright : 0·5 sec.	7	284 + 31 to 276 + 34
,,	2. 5. 25	FB	2	White	0·6	Faint	3	234 + 10 to 231 + 7

The time is expressed in civil reckoning, commencing at midnight and counting from 0^h to 24^h.

Month and Day, 1912.	Greenwich Civil Time.	Observer.	Brightness of Meteor in Star Magnitudes.	Colour of Meteor.	Duration of Meteor in Seconds of Time.	Appearance and Duration of Train.	Length of Meteor's Path in Degrees.	Path of Meteor in the Sky.
	h m s				s		°	° ° ° °
April 23	2. 14. 23	FB	3	White	0·2	None	1	276 + 40 to 275 + 39
,,	2. 16. 40	FB	2	Bluish-white	0·5	Faint	14	287 + 38 to 305 + 40
,,	2. 29. 37	D	2	Bluish-white	0·3	None	12	278 + 36 to 264 + 38
,,	2. 35. 57	D & FB	3	White	0·2	None	7	282 + 38 to 275 + 35
,,	2. 59. 37	D	2	White	0·1	Faint	17	281 + 34 to 263 + 28
,,	3. 3. 50	FB	3	White	0·3	None	5	281 + 35 to 275 + 33
,,	3. 3. 55	FB	3	White	0·3	None	5	278 + 38 to 273 + 35
,,	3. 5. 58	FB	3	Bluish-white	0·2	None	6	282 + 32 to 275 + 31
,,	3. 8. 17	D	3	White	0·5	None	7	278 + 39 to 269 + 43
,,	3. 8. 56	D	3	White	0·3	None	11	290 + 34 to 276 + 34
,,	3. 10. 13	D	3	White	0·2	None	9	251 + 43 to 261 + 38
,,	3. 11. 3	D	1	Blue	2·0	Bright : 5 secs.	28	221 + 28 to 200 + 9
,,	3. 15. 36	FB	2	Bluish-white	0·8	Faint	3	284 + 31 to 281 + 33
,,	3. 17. 54	FB	3	White	0·4	Faint	9	263 + 31 to 257 + 24
,,	3. 20. 4	D	3	Bluish-white	0·3	None	8	267 + 33 to 276 + 33
August 12	0. 17. 3	T & D	1	Yellow	1·0	Bright : 2 secs.	23	3 + 60 to 45 + 55
,,	0. 28. 38	D	2	Yellow	1·0	None	14	336 + 40 to 321 + 33
,,	0. 30. 19	D	3	Bluish-white	0·7	None	13	305 + 44 to 288 + 41
,,	0. 33. 13	T	1	Yellow	1·0	Bright : 1 sec.	23	0 + 38 to 341 + 24
,,	0. 37. 11	T & D	2	Blue	0·5	None	9	353 + 44 to 345 + 36
,,	0. 37. 57	T	1	White	0·5	Bright	24	35 + 64 to 341 + 65
,,	0. 40. 10	T	2	Yellow	0·5	None	9	339 + 66 to 318 + 64
,,	0. 42. 17	T	3	Bluish-white	0·3	None	7	353 + 15 to 350 + 9
,,	0. 42. 20	T	1	Yellow	0·5	Faint	22	9 + 43 to 353 + 27
,,	0. 47. 33	T	3	Bluish-white	0·3	None	6	15 + 86 to 285 + 86
,,	1. 2. 33	D	2	Bluish-white	1·0	None	15	0 + 25 to 345 + 20
,,	1. 2. 57	D	1	White	1·5	Bright : 2 secs.	15	339 + 66 to 305 + 63
,,	1. 7. 26	T	1	Yellow	0·5	Bright	14	21 + 65 to 350 + 63
,,	1. 7. 45	T	2	White	0·3	None	13	356 + 26 to 348 + 17
,,	1. 7. 46	T	2	White	0·4	None	19	326 + 5 to 336 + 22
,,	1. 10. 41	D	1	White	1·0	None	14	5 + 27 to 357 + 14
,,	1. 11. 19	D	1	White	1·0	None	8	5 + 23 to 0 + 16
,,	1. 13. 20	D	2	Blue	0·5	Slight	15	26 + 46 to 15 + 34
,,	1. 44. 41	T	2	Bluish-white	0·3	None	7	38 + 54 to 48 + 52
,,	1. 53. 22	D	3	White	0·3	None	11	26 + 33 to 18 + 25
,,	2. 7. 33	T	1	White	1·0	Faint	17	8 + 40 to 356 + 27
,,	2. 19. 26	T & D	1	White	1·0	Faint	25	356 + 44 to 326 + 36
,,	2. 19. 51	D	1	Bluish-white	1·3	Faint	25	356 + 44 to 326 + 36
,,	2. 21. 7	T	1	Yellow	0·5	Faint	15	12 + 44 to 29 + 54
,,	2. 26. 29	D	2	Bluish-white	0·4	None	11	341 + 27 to 330 + 22
,,	2. 29. 26	T & D	3	Bluish-white	0·3	None	7	20 + 55 to 8 + 54
,,	2. 31. 44	T	2	White	0·4	None	13	41 + 24 to 51 + 17
,,	2. 35. 3	D	1	Yellow	0·3	None	20	342 + 28 to 327 + 14
,,	2. 35. 36	D	1	White	0·5	Slight	19	11 + 31 to 357 + 17
,,	2. 40. 28	T & D	>1	Yellow	1·5	Bright : 1·0 sec.	6	30 + 59 to 23 + 55
,,	2. 42. 19	D	>1	Blue	0·2	Bright : 0·5 sec.	9	359 + 14 to 351 + 9
,,	2. 46. 42	T	3	Bluish-white	0·3	None	7	53 + 61 to 66 + 63
,,	2. 49. 1	D	1	White	0·4	None	7	50 + 47 to 56 + 42
,,	2. 50. 23	T	>1	Yellow	2·0	Bright : 1·0 sec.	17	54 + 66 to 86 + 82
,,	2. 55. 16	D	>1	White	0·8	Bright : 2·0 secs.	22	353 + 58 to 317 + 51
,,	2. 58. 49	D	1	Yellow	0·7	Bright : 0·5 sec.	10	3 + 57 to 345 + 57
December 8	20. 34. ±	D	>1	White	1·5	Bright : 2·0 secs.	25	32 + 62 to 71 + 53

The time is expressed in civil reckoning, commencing at midnight and counting from 0^h to 24^h.