



RESULTS

OF THE

MAGNETICAL AND METEOROLOGICAL OBSERVATIONS

MADE AT

THE ROYAL OBSERVATORY, GREENWICH,

IN THE YEAR

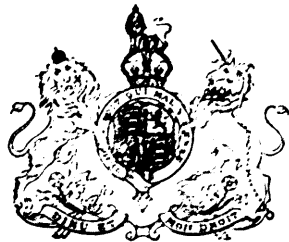
1907:

UNDER THE DIRECTION OF

SIR W. H. M. CHRISTIE, K.C.B., M.A., D.Sc., F.R.S.,

ASTRONOMER ROYAL.

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E R R A T A.

MAGNETICAL AND METEOROLOGICAL OBSERVATIONS, 1906.

RESULTS.

Pages (xcv) and (xcvi), Table V.—Reject all readings after May 30.

Page (cx), Column 8. Height of receiving surface of standard rain-gauge above mean sea-level,
for 155 ft. 3 in., read 149 ft. 6 in.

N.B.—This correction should be made in preceding volumes from 1899 inclusive.

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ROYAL OBSERVATORY, GREENWICH.

RESULTS

OF

MAGNETICAL AND METEOROLOGICAL
OBSERVATIONS.

1907.

GREENWICH MAGNETICAL AND METEOROLOGICAL
OBSERVATIONS,
1907.

INTRODUCTION.

§ 1. *Personal Establishment and Arrangements.*

During the year 1907 the personal establishment in the Magnetical and Meteorological Department of the Royal Observatory consisted of Walter William Bryant, Superintendent, aided by one Established Computer, David J. R. Edney, and four Computers. The Computers employed during the year were:— Wilfred C. Parkinson, Henry George Scott Barrett, Arnold F. Dauncey, Edward Kirby, Henry J. S. Quarterman, William H. Timbury, and Arthur E. Loomes.

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 Magnetical and Meteorological Observatory was erected in the year 1838. Its northern face is distant about 170 feet south-south-east from the nearest point of the South-East Dome and about 20 feet south of the new Altazimuth Pavilion. On its east stands the New Library (now used as a store-room), erected at the end of the year 1881, in the construction of which non-magnetic bricks were used, and every care was taken to exclude iron. The Magnetical and Meteorological Observatory

is based on concrete and built of wood, united for the most part by pegs of bamboo; no iron was intentionally admitted in its construction, or in subsequent alterations. Its form is that of a cross, the arms of the cross being nearly in the direction of the cardinal magnetic points as they were in 1838. The northern arm is longer than the others, and is separated from them by a partition, and used as a Computing Room; the stove which warms this room, and its flue, are of copper. The remaining portion, consisting of the eastern, southern, and western arms, is known as the Upper Magnet Room. The upper declination magnet and its theodolite, for determination of absolute declination, were formerly placed in the southern arm, an opening in the roof allowing circumpolar stars to be observed by the theodolite, for determination of its reading for the astronomical meridian. Both the magnet and its theodolite were supported on piers built from the ground. In the eastern arm is placed the Thomson electrometer for photographic record of the variations of atmospheric electricity; its water cistern rests on four glass insulators supported by a platform fixed to the western side of the southern arm, near the ceiling. The Standard barometer is suspended near the junction of the southern and western arms. The sidereal clock, Grimalde and Johnson, no longer in use since the removal of the upper declination magnet and its theodolite, is fixed at the junction of the eastern and southern arms, and there is in addition a mean solar chronometer, M^cCabe No. 649, for general use.

Until the year 1863 the horizontal and vertical force magnets were also located in the Upper Magnet Room, the declination magnet being up to that time employed for photographic record of the variations of declination, as well as for absolute measure of the element. But experience having shown that the horizontal and vertical force magnets were exposed in the upper room to large variations of temperature, a room known as the Magnet Basement (in which the variations of temperature are very much smaller) was excavated in the year 1864 below the Upper Magnet Room, and the horizontal and vertical force magnets, as well as a new declination magnet for photographic record of declination, were mounted therein. The Magnet Basement is of the same dimensions as the Upper Magnet Room. The lower declination magnet and the horizontal force and vertical force magnets, as now located in the Basement, are used entirely for record of the variations of the respective magnetic elements. The declination magnet is suspended in the southern arm, immediately beneath the position formerly occupied by the upper declination magnet; the horizontal and vertical force magnets are placed in the eastern and western arms respectively, in positions nearly underneath those which they occupied when in the Upper Magnet Room. All are mounted on or suspended from supports carried by piers built from the ground. A photographic barometer is fixed to the northern wall of the Basement, and an apparatus for photographic registration of earth currents is

placed near the southern wall of the eastern arm. A mean solar clock of peculiar construction for interruption of the photographic traces at each hour is fixed on the north side of the central pier. Another mean solar clock for general use is attached to the western wall of the southern arm. For better ascertaining the variations of temperature of the Basement, a Richard metallic thermograph was added in February 1886. It is placed on the pier carrying the horizontal force magnet, and gives a continuous register of temperature on a scale of 5° to 1 inch, the scale for time being 24 hours to $5\frac{1}{2}$ inches. On the northern wall, near the photographic barometer, is fixed the Sidereal Standard clock of the Astronomical Observatory, Dent 1906, communicating with the chronograph and with clocks of the Astronomical Department by means of underground wires. This clock is placed in the Magnet Basement because of its nearly uniform temperature.

The Basement is warmed, when necessary, by a gas stove (of copper), and ventilated by means of a large copper tube nearly two feet in diameter, which receives the flues from the stove and all gas-lights, and passes through the Upper Magnet Room to a revolving cowl above the roof. Another gas stove provided with the object of maintaining a higher temperature during the winter, and so rendering the Basement temperature more uniform throughout the year, is placed near the middle of the western wall of the western arm. Each of the arms of the Basement has a well window facing the south, but these wells are usually closely stopped up with bags packed with straw or jute.

A platform erected above the roof of the Magnet House is used for the observation of meteors. A rain gauge is placed on a table on this platform, and there are also thermometers (placed in a louvre-boarded shed or screen, with free circulation of air) for observation of the temperature of the air in an exposed situation at a height of 20 feet above the ground. A wooden stand on which the nephoscope can be mounted for occasional observations was placed there in May 1904.

To the south of the Magnet House, in what is known as the Magnet Ground, is an open shed, on the west side of the earth thermometers, consisting principally of a roof supported on four posts, under which is placed the photographic dry-bulb and wet-bulb thermometer apparatus. On the roof of this shed were fixed an ozone box and a rain gauge, of which the former was removed on 1906 October 22, and mounted on the Stevenson screen in the Magnetic Pavilion enclosure. About 20 feet south of the southern arm of the Magnet House are placed the earth thermometers, the upper portions of which, projecting above the ground, are protected by a small wooden hut,

and at about the same distance south east of the southern arm of the Magnet House is situated a Stevenson screen containing dry-bulb, wet-bulb, and maximum and minimum thermometers, and a few feet further east there were two rain gauges, both of which were removed at the end of 1906 February, being replaced by a single new one.

The Magnet Ground is bounded on its western side by a range of seven rooms formerly known as the Magnetic Offices.

In the South Ground stands the new Observatory Building erected in the years 1891 to 1898, and on the north side of the Magnetical Observatory stands the new Altazimuth Pavilion erected in 1894 to 1895. In both of these buildings considerable masses of iron have been introduced.

The Magnetic Pavilion, in an enclosure in Greenwich Park, at a distance of about 350 yards from the Observatory, on the East side, was completed at the end of 1898 September, and the instruments for absolute determinations of magnetic declination, dip and horizontal force are installed there. The greatest care was taken to exclude all iron in building the Magnetic Pavilion, and the site was selected so that there should be no suspicion of magnetic disturbance from iron in the neighbourhood. The revolving stand carrying the thermometers used for ordinary eye observations, the thermometers for solar and terrestrial radiation, and the standard rain gauge, were moved to an open position in the Magnetic Pavilion enclosure at the beginning of 1899, and a Stevenson screen was added on 1900 March 31.

The Anemometers are fixed above the roof of the Octagon Room (the ancient part of the Observatory):—Osler's, for continuous record of direction and pressure of wind, and amount of rain, above the north-western turret, and Robinson's for continuous record of velocity, above the small wooden building on the southern side of the roof of the Octagon Room. Since 1896 February 6 the sunshine instrument has also been mounted on the building which carries the Robinson Anemometer.

Regular observation of the principal magnetical and meteorological elements was commenced in the autumn of the year 1840, and has been continued, with some additions to the subjects of observation, to the present time. Until the end of the year 1847 observations were in general made every two hours, but at the beginning of the year 1848 these were superseded by the introduction of the method of photographic registration, by which means a continuous record of the various elements is obtained.

For information on many particulars concerning the history of the Magnetical and Meteorological Observatory, especially in regard to alterations not recited in this volume, which have been made from time to time, the reader is referred to the Introductions to the Magnetical and Meteorological Observations for preceding years, and to the Descriptions of the Buildings and Grounds, with accompanying Plans, given in the volumes of Astronomical Observations for the years 1845 and 1862.

§ 3. *Subjects of Observation in the year 1907.*

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, and of the earth currents indicated in two distinct lines of wire; eye observations of the ordinary meteorological instruments, including the barometer, dry and wet-bulb thermometers, radiation and earth thermometers, and of thermometers placed on the roof of the Magnet House; 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, and amount of ozone; 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.

From the beginning of the year 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. In previous years the time used throughout the magnetic section was Greenwich astronomical time, reckoning from noon to noon; and generally in the meteorological section, Greenwich civil time, reckoning from midnight to midnight.

§ 4. *Magnetic Instruments.*

DECLINATION MAGNET FOR ABSOLUTE DETERMINATIONS. — For determination of magnetic declination in the Magnetic Pavilion, the hollow cylindrical magnet, Elliot No. 75, has been mounted in conjunction with the theodolite formerly used with the upper declination magnet in the Observatory, the aperture of the viewing telescope being reduced to that of the magnet collimator (0·3 inch) and a low-power eye-piece being provided. Since 1899 January 1 regular observations of declination have been made in the Magnetic Pavilion (alternating during 1899 with

determinations with the upper declination magnet in the Magnet House) to determine the correction required to the results found at the latter site, representing the effect of the iron in the Observatory Buildings. This correction was found to be $-10'8$. The upper declination magnet, formerly employed until the end of the year 1898 for the determination of absolute declination, was finally dismantled at the end of the year 1900.

The theodolite, by which the position of the declination magnet is observed, is by Troughton and Simms. It is planted about 2 feet south of the magnet. The radius of its horizontal circle is 8.3 inches, and the circle is divided to 5', and read, by three verniers, to 5". The theodolite has three foot-screws, which rest in brass channels let into the capping stone cemented to the concrete pier which rises from the ground. The length of the telescope is 21 inches, and the aperture of its object-glass 2 inches: it is carried by a horizontal transit-axis $10\frac{1}{2}$ inches long, supported on Y's carried by the central vertical axis of the theodolite. The eye-piece has one fixed horizontal wire and one vertical wire moved by a micrometer-screw, the field of view in the observation of stars being illuminated through the pivot of the transit-axis on that side of the telescope which carries the micrometer-head. The value of one division of the level is $1''\cdot15$. By opening the North door of the Magnetic Pavilion observations of circumpolar stars can be made for determination of the reading of the horizontal circle of the theodolite corresponding to the astronomical meridian. For these observations a Sidereal Chronometer, Parkinson and Frodsham No. 3719, is kept in the Pavilion.

The inequality of the pivots of the axis of the theodolite telescope was determined on 1898 November 25 and 1898 December 5, and the correction was found to be $-6^{\text{dir}}\cdot0$, which is equivalent to $-6''\cdot9$.

The value in arc of one revolution of the telescope-micrometer is $1'34''\cdot2$.

The adopted reading for the line of collimation of the theodolite telescope throughout the year was $100^{\text{r}}\cdot280$.

The effect of the plane glass in front of the box of the declination magnet was found to be insensible.

The error of collimation of the magnet collimator is found by observing the position of the magnet, first with the collimator in the usual position with its scale direct, then with the collimator with its scale reversed, repeating the observations several times. This value was found from twenty-five determinations during the first six months of the year to be $+0'36''\cdot3$, and from twenty-seven determinations during the remainder of the year to be $+0'45''\cdot2$.

The effect of torsion of the silk suspending thread is eliminated by turning the torsion-circle until the brass torsion weight inserted in place of the magnet rests in the plane of the magnetic meridian. The weight is inserted usually about once a week, and whenever the adjustment is found not to have been sufficiently close, the observed positions of the magnet are corrected for displacement of the magnet from the meridian by the torsion of the thread. Such correction is determined experimentally, with the magnet in position, by changing the reading of the torsion-circle by a definite amount, usually 90° , thus giving the suspension thread that amount of azimuthal twist, and observing, with the theodolite, the change in the position of the magnet thereby produced, from which is derived the ratio of the couple due to torsion of the thread to the couple due to the earth's horizontal magnetic force. This ratio for the old thread was found from the mean of nine determinations to be $\frac{1}{900}$. On March 4 the thread gave way and was replaced by a new one, for which the ratio was found from the mean of the first twenty-five determinations to be $\frac{1}{700}$. After October 1 the ratio was found from the mean of thirteen determinations to be $\frac{1}{900}$.

The reading of the azimuthal circle of the theodolite corresponding to the astronomical meridian was determined about twice in each month by observations of Polaris, until October, since when observations have been taken once every week when practicable.

In regard to the manner of making observations with the declination magnet:—The observer, on looking into the theodolite telescope, sees the image of the scale of the magnet collimator vibrating alternately right and left. At the pre-arranged time of observation, by means of the tangent screw, the vertical wire carried by the telescope-micrometer is made to bisect the central division of the scale: repeating the operation if found necessary. The verniers of the theodolite-circle are then read. The mean circle-reading being adopted, and corrected for collimation of the magnet, the concluded circle-reading corresponding to the position of the magnet is found. The difference between this reading and the adopted reading of the circle for the north astronomical meridian gives, when (as is usually the case) no correction for torsion of the skein is necessary, the observed value of absolute declination, afterwards used for determining the value of the photographed base line on the photographic register of the lower declination magnet. The times of observation of the declination magnet are usually 9^h , 12^h (noon), 15^h , and 21^h of Greenwich civil time, reckoning from midnight.

LOWER DECLINATION MAGNET.—The lower declination magnet suspended in the Magnet Basement is used simply for the purpose of obtaining photographic register

of the variations of magnetic declination. It is by Troughton and Simms, and is 2 feet long, $1\frac{1}{2}$ inches broad, and $\frac{1}{4}$ inch thick.

The magnet is suspended by a skein of silk passing over two brass suspension pulleys carried by a small pier built on crossed slates resting on brick piers rising from the ground. The length of free suspending skein is about 6 feet. The position of the azimuthal plane in which the brass torsion bar rests, when substituted for the magnet, is examined from time to time, and adjustment made as necessary, to keep this plane in or near the magnetic meridian.

The magnet is enclosed in a double rectangular wooden box (one box within another), covered externally and internally with gilt paper, placed upon the pier; and to destroy the small accidental vibrations to which the magnet would be otherwise liable, it is encircled by a damper consisting of a copper bar, about 1 inch square, which is bent into a long oval form, the plane of the oval being vertical; a lateral bend is made in the upper bar of the oval to avoid interference with the suspension piece of the magnet. The effect of the damper is to reduce the amplitude of the oscillation after every complete or double vibration of the magnet in the proportion of 5 : 2 nearly.

In regard to photographic arrangements, it may be convenient, before proceeding to speak of the details peculiar to each instrument, to remark that the general principle adopted for obtaining continuous photographic record is the same for all instruments. For the register of each indication a cylinder of ebonite is provided, the axis of the cylinder being placed parallel to the direction of the change of indication to be registered. If, as is usually the case, there are two indications whose movements are in the same direction, both may be registered on the same cylinder: thus, the movements in the case of magnetic declination and horizontal magnetic force, being both horizontal, can be registered on different parts of one cylinder with axis horizontal: so, also, can two different galvanic earth currents. The movements in the case of vertical magnetic force and of the barometer, being both vertical, can similarly be registered on different parts of one cylinder having its axis vertical, as also can the indications of the dry-bulb and wet-bulb thermometers. In the electrometer, the movement being horizontal, a horizontal cylinder is provided.

The cylinder is in each case driven by chronometer or accurate clock-work to ensure uniform motion. The pivots of the horizontal cylinders turn on anti-friction wheels; the vertical cylinders rest each on a circular plate turning on anti-friction wheels, the driving mechanism being placed below. A sheet of sensitized paper

being wrapped round the cylinder, and held by a slender brass clip, the cylinder thus prepared is placed in position, and connected with the clock-movement: it is then ready to receive the photographic record, the optical arrangements for producing which will be found explained in the special description of each particular instrument. The sheets are removed from the cylinders, and fresh sheets supplied every day, usually at 11 a.m. On each sheet a reference line is also photographed, the arrangements for which will be more particularly described in each special case. All parts of the apparatus and all parts of the paths of light are protected, as found necessary, by wood or zinc casings or tubes, blackened on the inside, in order to prevent stray light from reaching the photographic paper.

In June 1882 the photographic process employed for many years was discarded, and a dry paper process introduced, the argentic-gelatino-bromide paper, as prepared by Messrs. Morgan and Kidd of Richmond (Surrey), being used with ferrous oxalate development until June 1904, when amidol development was substituted. The greater sensitiveness of this paper permits diminution of the effective surface of the magnet mirrors, and allows also the use of smaller gas flames. In the case of the vertical force magnet the old and comparatively heavy mirror has been replaced by a small and light mirror with manifest advantage, as will be seen in the description of the vertical force magnet. The new paper acts equally well at all seasons of the year, and any loss of register on account of photographic failure is now extremely rare.

Referring now specially to the lower declination magnet, there is attached to the magnet carrier, for the purpose of obtaining photographic register of the motions of the magnet, a concave mirror of speculum metal, 5 inches in diameter (reduced by a stop, on the introduction of the new photographic paper, to an effective diameter of about 1 inch), which thus partakes in all the angular movements of the magnet. The revolving ebonite cylinder is $11\frac{1}{2}$ inches long and $14\frac{1}{4}$ inches in circumference. It is supported, in an approximately east and west position, on brass uprights carried by a metal plate, the whole being planted on a firm wooden platform, the supports of which rest on blocks driven into the ground. The platform is placed midway between the declination and horizontal force magnets, in order that the variations of magnetic declination and horizontal force may both be registered on the same cylinder, which makes one complete revolution in 26 hours.

The light used for obtaining the photographic record is that given by a flame of coal gas. A vertical slit, about $0^{\text{in}}.3$ long and $0^{\text{in}}.01$ wide, placed close to the light, is firmly supported on the pier which carries the magnet. It stands slightly out of the straight line joining the mirror of the magnet and the registering cylinder, and

its distance from the mirror is about 25 inches. The distance of the axis of the registering cylinder from the mirror is 134·4 inches. Immediately above the cylinder, and parallel to its axis, are placed two long reflecting prisms (each 11 inches in length), extending from end to end of the cylinder, and facing opposite ways towards the mirrors carried by the declination and horizontal force magnets respectively. The front surface of each prism is convex, being a portion of a horizontal cylinder. The light of the declination lamp, after passing through the vertical slit, falls on the concave mirror, and is thence reflected as a converging beam to form an image of the slit on the convex surface of the reflecting prism, by the action of which it is reflected downwards to the paper on the cylinder as a small spot of light. The concave mirror can be so adjusted in azimuth on the magnet, that the spot shall fall, not at the centre of the cylinder, but rather towards its western side, in order that the declination trace shall not interfere with that of horizontal force, which is made to fall towards the eastern side of the cylinder. The special advantage of the arrangement here described is that the registers of both magnets are made at the same part of the circumference of the cylinder, a line joining the two spots being parallel to its axis, so that when the traces on the paper are developed, the parts of the two registers which appear in juxtaposition correspond to the same Greenwich time.

By means of a small prism, fixed near the registering cylinder, the light from another lamp is made to form a spot of light on the cylinder in a fixed position, so that, as the cylinder revolves, a reference or base line is traced out on the paper, from which, in the interpretation of the records, the ordinates are measured.

A clock of special construction, arranged by Messrs. E. Dent and Co., acting upon a small shutter placed near the declination slit, cuts off the light from the mirror two minutes before each hour, and admits it again two minutes after the hour, thus producing at each hour a visible interruption in the trace, and so ensuring accuracy as regards time scale. By means of another shutter the observer occasionally cuts off the light for a few minutes, registering the times at which it was cut off and admitted again. The visible interruptions thus made at definite times in the trace obviate any possibility of error being made by wrong numeration of the hourly breaks.

The usual hour of changing the photographic sheet is 11 a.m., but on Sundays, and occasionally on other days, this rule is not strictly followed. To obviate any uncertainty that might arise on such occasions from the interference of the two ends of a trace slightly longer than 24 hours, it has been arranged that one revolution of the cylinder should be made in 26 hours. The actual length of 24 hours on the sheet is about 13·3 inches.

The scale for measurement of ordinates of the photographic curve is thus determined. The distance from the concave mirror carried by the magnet to the surface of the cylinder, in the actual path of the ray of light through the prism, is practically the same as the horizontal distance of the centre of the cylinder from the mirror, 134.4 inches. A movement of 1° of the mirror produces a movement of 2° in the reflected ray. From this it is found that 1° of movement of the mirror, representing a change of 1° of magnetic declination, is equal to 4.691 inches on the photographic paper. A small strip of cardboard is therefore prepared, graduated on this scale to degrees and minutes. The ordinates of the curve, as referred to the base line, being measured for the times at which absolute values of declination were determined, usually four times daily, the apparent value of the base line, as inferred from each observation, is found. The process assumes that the movements of the two declination magnets are precisely similar. The separate base line values being divided into groups, usually monthly, a mean base line value is adopted for use through each group. This adopted base line value is written upon every sheet. Then, with the cardboard scale, there is laid down, conveniently near to the photographic trace, a new base line, whose ordinate represents some whole number of degrees or other convenient quantity. Thus every sheet carries its own scale of magnetic measure. From the new base line the hourly ordinates (see page *xxix*) are measured.

HORIZONTAL FORCE MAGNET.—The horizontal force magnet, for measure of the variations of horizontal magnetic force, was made by Meyerstein of Göttingen, and like the lower declination magnet, is 2 feet long, $1\frac{1}{2}$ inches broad, and about $\frac{1}{4}$ inch thick. For support of its suspension skein, the back and sides of its brick pier rise through the eastern arm of the Magnet Basement to the Upper Magnet Room, being there covered by a slate slab, to the top of which a brass plate is attached, carrying, immediately above the magnet, two brass pulleys, with their axes in the same east and west line; and at the back of the pier, and opposite to these pulleys, two others, with their axes similarly in an east and west line: these constitute the upper suspension piece, and support the upper portions of the two branches of the suspension skein. The two lower pulleys, having their axes in the same horizontal plane, and their grooves in the same vertical plane, are attached to a small horizontal bar which forms the upper portion of the torsion-circle: it carries the verniers for reading the torsion-circle, and can be turned independently of the lower and graduated portion of the torsion-circle, below which, and in rigid connexion with it, is the magnet carrier.

The suspension skein is led under the two pulleys carried by the upper portion of the torsion-circle; its two branches then rise up and pass over the front pulleys of the upper suspension piece, thence to and over the back pulleys, thence descending to a

single pulley, round which the two branches are tied: from this pulley a cord goes to a small windlass fixed to the back of the pier. The effective length of each of the two branches of the suspension skein is about 7^{ft}. 6ⁱⁿ. The distance between the branches of the skein, where they pass over the upper pulleys, is 1ⁱⁿ.14; at the lower pulleys the distance between the branches is 0ⁱⁿ.80. The two branches are not intended to hang in one plane, but are to be so twisted that their torsion will maintain the magnet in a direction very nearly east and west magnetic, the marked end being west. In this state an increase of horizontal magnetic force draws the marked end of the magnet towards the north, whilst a diminution of horizontal force allows the marked end to recede towards the south under the influence of torsion. An oval copper bar, exactly similar to that used with the lower declination magnet, is applied also to the horizontal force magnet, for the purpose of diminishing the small accidental vibrations.

Below the magnet carrier there is attached a small plane mirror, to which is directed a small telescope for the purpose of observing by reflexion the graduations of a horizontal opal glass scale attached to the southern wall of the eastern arm of the basement. The magnet, with its plane mirror, hangs within a double rectangular box, covered externally and internally with gilt paper. The numbers of the fixed scale increase from east to west, so that when the magnet is inserted in its usual position, with its marked end towards the west, increasing readings of the scale, as seen in the telescope, denote increasing horizontal force. The normal to the scale that meets the centre of the plane mirror is situated at the division 51 of the scale nearly, the distance of the scale from the centre of the plane mirror being 90.84 inches. The angle between the normal to the scale, which coincides nearly with the normal to the axis of the magnet, and the axis of the fixed telescope, is about 38°, the plane of the mirror being therefore inclined about 19° to the axis of the magnet.

To adjust the magnet so that it shall be truly transverse to the magnetic meridian, which position is necessary in order that the indications of the instrument may apply truly to changes in the magnitude of horizontal magnetic force, without regard to changes of direction, the time of vibration of the magnet and the reading of the fixed scale are determined for different readings of the torsion-circle. In regard to the interpretation of such experiments, the following explanation may be premised.

Suppose that the magnet is suspended in its carrier with its marked end in a magnetic westerly direction, not exactly west, but in any westerly direction, and suppose that, by means of the fixed telescope, the reading of the scale is taken. The position of the axis of the magnet is thereby defined. Now let the magnet be taken

out of its carrier, and replaced with its marked end easterly. The terrestrial magnetic force will now act, as regards torsion, in the direction opposite to that in which it acted before, and the magnet will take up a different position. But by turning the torsion-circle so as to reverse the direction of the torsion produced by the oblique tension of the two branches of the suspending skein, the magnet may be made to take the same position as before, but with poles reversed, which will be proved by the reading of the scale, as seen in the fixed telescope, being the same. We thus obtain two readings of the torsion-circle corresponding to the same direction of the magnet axis, but with the marked end opposite ways, without, however, possessing any information as to whether the magnet axis is accurately transverse to the magnetic meridian, inasmuch as the same operation can be performed whether the magnet axis be transverse or not.

But there is another observation which will indicate whether the magnet axis is or is not accurately transverse. Let, in addition, the time of vibration be taken in each position of the magnet. Resolve the terrestrial magnetic forces acting on the poles of the magnet each into two parts, one transverse to the magnet, the other longitudinal. In the two positions of the magnet, marked end westerly and marked end easterly, the magnitude of the transversal force is the same, and the changes which the torsion undergoes in a vibration of given extent are the same, and if there were no other force, the time of vibration would also be the same. But there is another force, the longitudinal force, and when the marked end is northerly this tends from the centre of the magnet's length, and when it is southerly it tends towards the centre of the magnet's length; and in a vibration of given extent this force, in one case increases that due to the torsion, and in the other case diminishes it. The times of vibration will therefore be different. There is only one exception to this, which is when the magnet axis is transverse to the magnetic meridian, in which case the longitudinal force vanishes, and the times of vibration in both positions of the magnet become the same.

The criterion, then, of the position truly transverse to the meridian is this. Find the readings of the torsion-circle which, with the magnet in reversed positions, will give the same readings of the scale and the same time of vibration for the magnet. With such readings of the torsion-circle the magnet is, in either position, transverse to the meridian, and the difference of circle-readings is the difference between the position in which the terrestrial magnetism acting on the magnet twists it one way, and the position in which the same force twists it the opposite way, and is therefore double of the angle of torsion of the suspending lines for which, in either position, the force of terrestrial magnetism is neutralized by the torsion.

The suspension skein now in use was mounted on 1900 July 9.

On 1907 January 1 the following observations were made for determination of the angle of torsion:—

1907. Day.	The Marked End of the Magnet.							
	West.				East.			
	Torsion-Circle Reading.	Scale-Reading.	Difference of Scale-Readings for change of 1° of Torsion-Circle Reading.	Mean of the Times of Vibration.	Torsion-Circle Reading.	Scale-Reading.	Difference of Scale-Readings for change of 1° of Torsion-Circle Reading.	Mean of the Times of Vibration.
Jan. 1	146° 0'	div. 46·19	div.	^s 21·26	230° 30'	div. 47·06	div.	^s 20·32
	147° 0'	54·45	8·26	20·95	231° 30'	55·07	8·01	20·70
	148° 0'	62·51	8·06	20·71	232° 30'	63·60	8·53	20·82

From these observations it appeared that the times of vibration and scale-readings were sensibly the same when the torsion-circle read 147°.34', marked end west, and 231°.58', marked end east, the difference being 84°.24'. Half this difference, or 42°.12', is therefore the angle of torsion when the magnet is transverse to the meridian.

The value adopted in the reduction of the observations throughout the year was 42°.14' derived from the determinations made on 1907 January 1 and December 31.

The adopted reading of torsion-circle, for transverse position of the magnet, the marked end being west, was 146° throughout the year.

The angle through which the magnet turns to produce a change of one division of scale-reading, and the corresponding variation of horizontal force in terms of the whole horizontal force, is thus found.

The length of 30^{div}·85 of the fixed scale is exactly 12 inches, and the distance of the centre of the face of the plane mirror from the scale, 90·84 inches; consequently, the angle at the mirror subtended by one division of the scale is 14'.43''·2, or for change of one division of scale-reading the magnet is turned through an angle of 7'.21''·6.

The variation of horizontal force, in terms of the whole horizontal force, producing angular motion of the magnet corresponding to change of one division of scale-

reading = cotan angle of torsion \times value of one division in terms of radius. The change of horizontal force corresponding to change of one division of scale-reading was thus found to be 0.002358; and this value has been used for conversion of the observed scale-readings into parts of the whole horizontal force.

In regard to the manner of making observations with the horizontal force magnet, a fine vertical wire is fixed in the field of view of the observing telescope, across which the graduations of the fixed scale, as reflected by the plane mirror carried by the magnet, are seen to pass alternately right and left as the magnet oscillates, and the scale-reading for the extreme points of vibration is easily taken. The hours of observation are usually 9^h 30^m, 12^h 30^m, 15^h 30^m, and 20^h 30^m of Greenwich civil time (reckoning from midnight).

A thermometer, the bulb of which reaches considerably below the attached scale, is so planted in a nearly upright position on the outer magnet box, that the bulb projects into the interior of the inner box containing the magnet. 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 Greenwich civil time. An index correction of $-0^{\circ}.3$ has been applied to all readings.

The photographic record of the movements of the horizontal force magnet is made on the same revolving cylinder as is used for record of the motions of the lower declination magnet, and, as described for that magnet, there is also attached to the carrier of the horizontal force magnet a concave mirror, 4 inches in diameter, reduced by a stop since 1882 to an effective diameter of about 1 inch. The arrangements, as regards lamp, slit, and other parts, are precisely similar to those for the lower declination magnet already described, and may be perfectly understood by reference to that description (pages *xi* and *xii*), in which was incidentally included an explanation of some parts specially referring to register of horizontal force. The distance of the vertical slit from the concave mirror of the magnet is about 21 inches, and the distance of the axis of the registering cylinder from the concave mirror is 136.8 inches, the slit standing slightly out of the straight line joining the mirror and the registering cylinder. The same base line is used for measure of the horizontal force ordinates, and the register is similarly interrupted at each hour by the clock, and occasionally by the observer, for determination of time scale, the length of which is, of course, the same as that for declination.

The scale for measure of ordinates of the photographic curve is thus constructed. The distance from the concave mirror to the surface of the cylinder, in the actual path

of the ray of light through the prism, is (as for declination) practically the same as the horizontal distance of the centre of the cylinder from the mirror, or 136·8 inches. But, because of the reflexion at the concave mirror, the double of this measure, or 273·6 inches, is the distance that determines the extent of motion on the cylinder of the spot of light, which, in inches, for a change of 0·01 part of the whole horizontal force, will therefore be $273·6 \times \tan \text{angle of torsion} \times 0·01$. Taking for angle of torsion $42°·14'$, the movement of the spot of light on the cylinder for a change of 0·01 of horizontal force is found to be 2·484 inches; and with this unit the cardboard scale for measure of the ordinates was prepared. The ordinates being measured for the times at which eye observations were made, combination of the measured ordinates with the observed scale-readings converted into parts of the whole horizontal force, gives an apparent value of the base line for each observation. These being divided into groups, mean base line values are adopted, written on the sheets, and new base lines laid down, from which the hourly ordinates (see page *xxix*) are measured, exactly in the same way as described for declination.

The indications of horizontal force are in a slight degree affected by the small changes of temperature to which the Magnet Basement is subject. 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 thereby produced. This process seems preferable to others in which was observed the effect which the magnet, when enclosed within a copper trough or box, and artificially heated by hot water or hot air to different temperatures, produced on another suspended magnet, since the result obtained includes the entire effect of temperature upon all the various parts of the mounting of the magnet, as well as on the magnet itself. Referring to previous volumes for details, it is sufficient here to state that, from a series of experiments made between January 3 and February 21 of the year 1868, on the principle mentioned, in temperatures ranging from $48°·2$ to $61°·5$, it appeared that when the marked end of the horizontal force magnet was to the west (its ordinary position), a change of $1°$ of temperature (Fahrenheit) produced an apparent change of ·000174 of the whole horizontal force, a smaller number of observations made with the marked end of the magnet east, in temperatures ranging from $49°·0$ to $60°·9$, indicating that a change of $1°$ of temperature produced an apparent change of ·000187 of horizontal force, increase of temperature in both cases being accompanied by decrease of magnetic force. It was concluded that an increase of $1°$ of temperature produces an apparent decrease of ·00018 of horizontal force. In the years 1885 and 1886 further observations on the same general plan were made, with the result that the decrease of horizontal force for increase of $1°$ of temperature was found to be somewhat greater at the higher

than at the lower temperatures. A discussion of all the observations taken in 1885 and 1886, details of which are given at the end of the Introduction for 1886, shows that the correction for reduction to temperature 32° (expressed in terms of the horizontal force) is $(t - 32) \times .0000936 + (t - 32)^2 \times .000002074$, in which t is the temperature 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° .

VERTICAL FORCE MAGNET.—The vertical force magnet, for measure of the variations of vertical magnetic force, is by Troughton and Simms. It is 1 ft. 6 in. long and lozenge-shaped, being broad at the centre and pointed at the ends; it is mounted on a solid brick pier capped with stone, situated in the western arm of the Basement, its position being nearly symmetrical with that of the horizontal force magnet in the eastern arm. The supporting frame consists of two pillars, connected at their bases, on whose tops are the agate planes upon which rest the extreme parts of the continuous steel knife edge, attached to the magnet carrier by clamps and pinching screws. The knife edge, 8 inches long, passes through an aperture in the magnet. The axis of the magnet is approximately transverse to the magnetic meridian, its marked end being east; its axis of vibration is thus nearly north and south magnetic. The magnet carrier is of iron; at its southern end there is fixed a small plane mirror for use in eye observations, whose plane makes with the vertical plane through the magnet an angle of $52\frac{3}{4}^{\circ}$ nearly. A telescope, fixed to the west side of the central brick pier, is directed to the mirror for observation by reflexion of the divisions of a vertical opal glass scale fixed to the pier that carries the telescope, very near to the telescope itself. The numbers of this fixed scale increase downwards, so that when the magnet is placed in its usual position with the marked end east, increasing readings of the scale, as seen in the telescope, denote increasing vertical force.

The magnet is placed excentrically between the bearing parts of its knife edge, nearer to the southern side, leaving a space of about 4 inches in the northern part of the iron frame, in which the concave mirror used for the photographic register is planted. Two steel screw stalks, carrying adjustable screw weights, are fixed to the magnet carrier, near its northern side; one stalk is horizontal, and a change in the position of the weight affects the position of equilibrium of the magnet; the other stalk is vertical, and change in the position of its weight affects the delicacy of the balance, and so varies the magnitude of its change of position produced by a given change in the vertical force of terrestrial magnetism.

In the year 1882 Messrs. Troughton and Simms substituted for the old mirror of 4 inches diameter a much lighter mirror of 1 inch diameter, and also lowered the

position of the knife-edge bar with respect to the magnet, so as to permit of a diminution of the adjustable counterpoise weights, which, as well as the mirror, appear to largely affect the temperature-correction of this balance magnet. The use of a smaller and much lighter mirror was rendered possible by the greater sensitiveness of the photographic paper introduced in 1882 June.

The whole is enclosed in a rectangular box, resting upon the pier before mentioned, and having apertures, covered with glass, opposite to the two mirrors carried by the magnet.

A copper "damper," to reduce vibratory disturbances from electric railways or other sources, was applied to the magnet. After some preliminary trials this was made in the form of a flattened ring of round bar copper, half an inch in diameter, closely encircling the magnet and carried over its axis of vibration, and it was mounted on 1902 April 16. It was found that its effect was to reduce the amplitude of oscillation after every complete or double vibration (taking 36 seconds) in the ratio of 10 to 4.3, which is nearly the same as that of the damper for the declination magnet. It was dismantled on 1902 August 13, and since then it has not been found to be required.

The time of vibration of the magnet in the vertical plane is observed usually about once in each week. From 52 observations made during the year this was found to be $16^s.138$.

The time of vibration of the magnet in the horizontal plane is determined by suspending the magnet with all its attached parts from a tripod stand, its broad side being in a plane parallel to the horizon, so that its moment of inertia is the same as when in observation. A telescope, with a wire in its focus, being directed to the plane mirror carried by the magnet, a scale of numbers is placed on the floor, at right angles to the long axis of the magnet, so as to be seen, by reflexion, in the fixed telescope. The magnet is observed only when swinging through a small arc. Observations made in the way described on 1905 December 29 gave for the time of vibration of the magnet in the horizontal plane $16^s.435$. This value has been used throughout for the year 1907.

The length of the normal to the fixed vertical scale that meets the face of the plane mirror is 186.07 inches, and $30^{\text{div}}.85$ of the scale correspond to 12 inches. Consequently the angle which one division of the scale subtends, as seen from the mirror, is $7'.11''.2$, or the angular movement of the normal to the mirror, corresponding to a change of one division of scale-reading, is $3'.35''.6$.

But the angular movement of the normal to the mirror is equal to the angular movement of the magnet multiplied by the sine of the angle which the plane of the mirror makes with a vertical plane through the magnet. This angle, as already stated, is $52\frac{3}{4}^{\circ}$. Therefore, dividing the result just obtained, $3'.35''\cdot6$, by $\sin 52\frac{3}{4}^{\circ}$, the angular motion of the magnet corresponding to a change of one division of scale-reading is found to be $4'.30''\cdot9$.

The variation of vertical force, in terms of the whole vertical force, producing angular motion of the magnet corresponding to a change of one division of scale-reading = $\cotan \text{ dip} \times \left(\frac{T'}{T}\right)^2 \times \text{value of one division in terms of radius, in which } T'$ is the time of vibration of the magnet in the horizontal plane, and T that in the vertical plane. Assuming $T' = 16^s\cdot435$, $T = 16^s\cdot138$, and $\text{dip} = 66^{\circ}.56'.1''$, the change of vertical force corresponding to change of one division of scale-reading was found to be $0\cdot0005801$, and this value has been used during the year 1907 for conversion of the observed scale-readings into parts of the whole vertical force.

The hours of observation of the vertical force magnet are the same as those for the horizontal force magnet, and the method of observation is precisely similar, the time of vertical vibration being substituted for that of horizontal. The wire in the fixed telescope is here horizontal, and as the magnet oscillates, the divisions of the scale are seen to pass upwards and downwards in the field of view.

As in the case of the horizontal force magnet, a thermometer is provided whose bulb projects into the interior of the magnet box. Readings are taken usually at 9^h , 10^h , 11^h , 12^h , 13^h , 14^h , 15^h , 16^h , and 21^h Greenwich civil time. An index-correction of $-0^{\circ}\cdot3$ has been applied to all readings.

The photographic register of the movements of the vertical force magnet is made on a cylinder of the same size as that used for declination and horizontal force, driven also by chronometer movement. The cylinder is here placed vertical instead of horizontal, and the variations of the barometer are also registered on it. The slit is horizontal, and other arrangements are generally similar to those already described for declination and horizontal force. The concave mirror carried by the magnet is 1 inch in diameter, and the slit is distant from it about 22 inches, being placed a little out of the straight line joining the mirror and the registering cylinder. There is a slight deviation in the further optical arrangements. Instead of falling on a reflecting prism (as for declination and horizontal force), the converging horizontal beam from the concave mirror falls on a system of plano-convex cylindrical lenses, placed in front of the cylinder, with their axes parallel to that of the cylinder. The

trace is made on the western side of the cylinder, the position of the magnet being so adjusted, that the spot of light shall fall on the lower part of the sheet to avoid interference with the barometer trace. A base line is photographed, and the record is interrupted at each hour by the clock, and occasionally by the observer, for establishment of time scale, in the same way as for the other magnets. The length of the time scale is the same as that for the other magnetic registers.

The scale for measure of ordinates of the photographic curve is determined as follows:—The distance from the concave mirror of the magnet to the surface of the registering cylinder is 100·2 inches. But the double of this measure, or 200·4 inches, is the distance that determines the extent of motion on the cylinder of the spot of light, which, in inches, for a change of 0·01 part of the whole vertical force, will therefore be $= 200·4 \times \tan \text{dip} \times \left(\frac{T}{T'}\right)^2 \times 0·01$. Using the values of T , T' , and of dip before given (page *xxi*), the movement of the spot of light on the cylinder for a change of 0·01 of vertical force is thus found to be 4·537 inches, and with this unit the scale for measure of the ordinates was constructed for use during the year. Base line values were then determined and written on the sheets, and new base lines laid down, from which the hourly ordinates (see page *xxix*) were measured, exactly in the same way as was described for declination.

In regard to the temperature-correction of the vertical force magnet, it is only necessary here to say that, according to a series of experiments made 1882 October 17 to 23, in a similar manner to those for the horizontal force magnet (page *xviii*), and in temperatures ranging from 59°·3 to 64°·9, it appeared that an increase of 1° of temperature (Fahrenheit) produced an apparent increase of 0·00020 of vertical force, a value which succeeding experiments have closely confirmed. The value of the coefficient is thus much less than was found in the old state of the magnet with the large mirror, although still not following the ordinary law of increase of temperature producing loss of magnetic power. Further observations made in the years 1885 and 1886, of which particulars are given at the end of the Introduction for 1886, showed that through the range of temperature to which the magnet is usually exposed the increase of vertical force for increase of 1° of temperature is uniformly 0·000212, no term depending on the square of the temperature being here necessary, as in the case of horizontal force.

DIP INSTRUMENT.—The instrument with which the observations of magnetic dip are made is that which is known as Airy's instrument. It was constructed by Messrs. Troughton and Simms, and is mounted in the Magnetic Pavilion on a slate slab supported by a braced wooden stand built up from the ground independently

of the floor. The plan of the instrument was arranged by Sir G. B. Airy so that the points of the needles should be viewed by microscopes, and, if necessary, observed whilst the needles were in a state of vibration; that there should be power of employing needles of different lengths; and that the field of view of each microscope should be illuminated from the side opposite to the observer, in such a way that the needle point should form a dark image in the bright field.

The instrument is adapted to the observation of needles of 9 inches, 6 inches, and 3 inches in length. The main portion of the instrument, that in which the needle under observation is placed, consists of a square box made of gun metal (carefully selected to ensure freedom from iron), with back and front of glass. Six microscopes, so planted as to command the points of the three different lengths of needles, turn on a horizontal axis so as to follow the points of the needles in the different positions which in observation they take up. The needle pivots rest on agate bearings. The object-glasses and field-glasses of the microscopes are within the front glass plate, their eye-glasses being outside, and turning with them on the same axis. Upon the plane side of each field-glass (the side next the object-glass and on which the image of the needle point is formed) a scale is etched, by means of which the position of the needle points is noted. And on the inner side of the front glass plate is etched the graduated circle, $9\frac{3}{4}$ inches in diameter, divided to $10'$, and read by two verniers to $10''$. The verniers (thin plates of metal, with notches instead of lines, for use with transmitted light) are carried by the horizontal axis, inside the front glass plate, their reading lenses, attached to the same axis, being outside. A suitable clamp with slow motion is provided.

The whole of the apparatus is planted upon a circular horizontal plate, admitting of rotation in azimuth. A graduated circle near the circumference of the plate is read by two fixed verniers.

A brass zenith-point needle, having points corresponding in position to the three different lengths of dip needles, is used to determine the zenith-point for each particular length of needle.

The instrument carries two levels—one parallel to the plane of the vertical circle the other at right angles to that plane—by means of which the instrument is adjusted in level from time to time. The readings of the first-mentioned level are also regularly employed to correct the apparent value of dip for any small outstanding error of level; the correction seldom exceeds a very few seconds of arc.

Observations are made only in the plane of the magnetic meridian, and the following is a description of the method of proceeding. The needle to be used is first magnetised by double touch, giving it nine strokes on each of its sides: it is then placed in position in the instrument, the microscope scale-readings are taken, and the verniers of the vertical graduated circle are read: the readings of the level parallel to the plane of this circle are also read. The instrument is then reversed in azimuth, and a second observation made. The needle pivots are then reversed on the agate bearings, and two observations in reversed positions of the instrument again made. The needle is then removed from the instrument and re-magnetised, so as to reverse the direction of its poles, and four more observations are made in the way just described. The mean of the eight partial values of dip thus found, corrected for error of level, gives the final value of dip which appears in the printed results.

The needles in regular use in 1907 are of the ordinary construction; they are the 3-inch needles, D_1 and D_2 . The pivot of D_2 was broken on February 19, a new spindle was fitted by Messrs. Simms, and the needle finally adjusted by Mr. Dover on March 18.

DEFLEXION INSTRUMENT.—The observations of deflexion of a magnet in combination with observations of vibration of the deflecting magnet, for determination of the absolute measure of horizontal magnetic force, are made with a *Unifilar Instrument*, Gibson No. 3, which, with the exception of some slight modification of the mechanical arrangements, is similar to those issued from the Kew Observatory. The instrument is adapted to the determination of horizontal force in British (foot-grain-second) measure. It is mounted in the Magnetic Pavilion on a slate slab 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 deflexion the deflecting magnet is placed on the transverse deflexion 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, and generally the Kew notation, 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 = $\mu = 0\cdot00015587$.

The correction for decrease of the magnetic moment of the deflecting magnet required in order to reduce to the temperature 35° Fahrenheit = $c = 0\cdot00013126(t - 35) + 0\cdot000000259(t - 35)^2$; t representing the temperature (in degrees Fahrenheit) at which the observation is made.

Moment of inertia of the deflecting magnet = K . At temperature 30° , $\log. K = 0\cdot66643$; at temperature 90° , $\log. K = 0\cdot66679$.

The distance on the deflexion rod from $1^{\text{ft}}\cdot0$ east to $1^{\text{ft}}\cdot0$ west of the engraved scale, at temperature 62° , is too long by $0\cdot0034$ inch, and the distance from $1^{\text{ft}}\cdot3$ east to $1^{\text{ft}}\cdot3$ west is too long by $0\cdot0053$ inch. The coefficient of expansion of the scale for 1° is $\cdot00001$.

The adopted value of K was confirmed in the year 1878 by a new and entirely independent determination made at the Royal Observatory, giving $\log. K$ at temperature $30^{\circ} = 0\cdot66727$.

Let m = Magnetic moment of deflecting or vibrating magnet.

X = Horizontal component of Earth's magnetic force.

Then, if in the two deflexion observations, r_1, r_2 , be the apparent distances of centre of deflecting magnet from deflected magnet, corrected for scale-error and temperature (about $1\cdot0$ and $1\cdot3$ foot),

u_1, u_2 the observed angles of deflexion,

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

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

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

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

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

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

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

$$\frac{\text{Log. } A_1 - \text{Log. } A_2}{\text{modulus}} \times \frac{r_1^2 \times r_2^2}{r_2^2 - r_1^2} = (\text{Log. } A_1 - \text{Log. } A_2) \times 5.64.$$

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 deflexion, corrected for temperature, rate of chronometer, semi-arc of vibration, induction, and torsion force.

From the combination of the values of $\frac{m}{X}$ and mX , m and X are immediately found. The computation is made with reference to English measure, taking as units of length and weight the foot and grain, but it is desirable to express X also in metric measure. If the English foot be supposed equal to α times the millimètre, and the grain equal to

β times the milligramme, then, for reduction to metric measure, $\frac{m}{X}$ and mX must be multiplied by α^3 and $\alpha^2\beta$ respectively, or X must be multiplied by $\sqrt{\frac{\beta}{\alpha}}$. Taking the mètre as equal to 39·37079 inches, and the gramme as equal to 15·432349 grains, the factor by which X is to be multiplied in order to obtain X in metric (millimètre-milligramme-second) measure is $0·46108 = \frac{1}{2·1689}$. The values of X in metric measure thus derived from those in English measure are given in the proper table. Values of X in terms of the centimètre and gramme, known as the C.G.S. unit (centimètre-gramme-second unit), are readily obtained by dividing those referred to the millimètre and milligramme by 10.

EARTH CURRENT APPARATUS.—For observation of the spontaneous galvanic currents, which, in some measure, are almost always discoverable in the earth, and which are occasionally very powerful, two insulated wires having earth connexions at Angerstein Wharf (on the bank of the River Thames near Charlton) and Lady Well for one circuit, and at the Morden College end of the Blackheath Tunnel and the North Kent East Junction of the South-Eastern Railway for the other circuit, have been employed. The connecting wires, which are special and used for no other purpose, pass from the Royal Observatory to the Greenwich Station of the South-Eastern Railway, and thence, by kind permission of the Directors of the South-Eastern Railway Company, along the lines of the Railway to the respective earths, in each case a copper plate. The direct distance between the earth plates of the Angerstein Wharf—Lady Well circuit is 3 miles, and the azimuth of the line, reckoning from magnetic north towards east, 49° ; in the Blackheath—North Kent East Junction circuit the direct distance is $2\frac{1}{2}$ miles, and the azimuth, from magnetic north towards west, 47° . The actual lengths of wire in the circuitous courses which the wires necessarily take in order to reach the Observatory registering apparatus are about $7\frac{1}{2}$ miles and 5 miles respectively. The identity of the four branches is tested from time to time as appears necessary.

In each circuit at the Royal Observatory there is placed a horizontal galvanometer, having its magnet suspended by a hair. Each galvanometer coil contains 150 turns of No. 29 copper wire, or the double coil of each instrument consists of 300 turns of wire, the resistance, as found by direct measurement, being 7·3 ohms. For registration of the larger earth currents, a portion only of the current is allowed to pass through the galvanometer, while the greater part flows through a shunt, consisting of a short coil of fine copper wire, the resistance of which is 1·33 ohms. The amplitude of the movement, having regard to the diminution of resistance in the circuit due to the shunt, is by this reduced in the ratio of 6·3 to 1 nearly in both circuits. On a few days in each month in former years registers on a large scale, for determination of the small diurnal

inequality in earth currents, were obtained by removing the shunts, but no discussion of these registers has been made, on account of the difficulty of eliminating the effect of certain small dislocations of the Angerstein Wharf—Lady Well register, which occur usually shortly after sunset and before sunrise. It is suspected that these are due to electric lighting in the neighbourhood of the Angerstein Wharf earth plate. The galvanometers are placed on opposite sides of the registering cylinder, which is horizontal. One galvanometer stands towards one end of the cylinder, and the other towards the other end, and each carries, on a light stalk extending downwards from its magnet, a small plane mirror. Immediately above the cylinder are placed two long reflecting prisms, which, except that they are each but half the length of the cylinder, and are placed end to end, are generally similar to those used for magnetic declination and horizontal force, the front convex surfaces facing opposite ways, each towards the mirror of its respective galvanometer. In each case the light of a gas lamp, passing through a vertical slit and a cylindrical lens having its axis vertical, falls upon the galvanometer mirror, which reflects the converging beam to the convex surface of the reflecting prism, by whose action it is made to form on the paper on the cylinder a small spot of light; thus all the azimuthal motions of the galvanometer magnet are registered. The extent of trace for each galvanometer is thus confined to half the length of the cylinder, which is of the same size as those used for the magnetic registers. The arrangements for turning the cylinder, automatically determining the time scale, and forming a base line, are similar to those which have been before described. When the traces on the paper are developed, the parts of the registers which appear in juxtaposition correspond, as for declination and horizontal force, to the same Greenwich time, and the scale of time is of the same length as for the magnetic registers.

Towards the end of the year 1890 serious disturbances began to be experienced in both earth current registers. These interruptions were found in the early part of the year 1891 to be due to the passage of trains on the City and South London Electric Railway, distant about $2\frac{1}{2}$ miles from the nearest earth plate (at the North Kent East Junction of the South-Eastern Railway), and about $4\frac{1}{2}$ miles from the Observatory. The abnormal excursions recorded indicate frequent changes of potential, varying from a small fraction of a volt to one-third of a volt or more, and the amount of change was approximately the same both in the Blackheath—North Kent East Junction circuit, which is perpendicular to the course of the electric railway, and in the Angerstein Wharf—Lady Well circuit, which is parallel to the line of railway, with one earth plate (Angerstein Wharf) near the river. Recently, however, the former circuit shows less disturbance, owing probably to alterations in the working of the Electric Railway. At night when the trains are not running, the interruptions entirely cease.

§ 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 two days, February 9–10, in the year 1907 which are classed as days of great disturbance. Days of lesser disturbance are January 14–15; February 7–8, 10–11, 11–12; March 10–11, 11–12, 21–22; May 18–19, 28–29; June 19–20; July 10–11, 27–28; September 10–11; October 13–14, 14–15; November 21–22. 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, the measures being entered in a form having double argument—the vertical argument ranging through the 24 hours of the civil day (0^h to 23^h), and the horizontal argument through the days of a calendar month; the means of the numbers standing in the vertical columns giving the mean daily value of the element, and the means of the numbers in the horizontal columns the mean monthly value at each hour of the day. Tables I. and II. contain the results for declination, Tables III. to VI. those for horizontal force, with corresponding tables of temperature, and Tables VII. to X. those for vertical force, with corresponding tables of temperature. 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. February 9 and 10 were omitted on account of great disturbance in the formation of these Tables, and from other causes there are omitted in Tables III. to VI. for horizontal force, and in Tables VII. to X. for vertical force, January 1 and December 31.

Table XI. gives the collected monthly values for declination, horizontal force, and vertical force, and Table XII. the mean diurnal inequalities for the year.

The temperature of the horizontal and vertical force magnets was maintained so nearly uniform through each day, that the determination of the diurnal inequalities of horizontal and vertical force should possess great exactitude. By means of the additional stove placed in the western arm of the Basement, as mentioned on page *v*, the temperature of the Basement has also been kept nearly constant throughout the year, the endeavour being to keep the temperature as near to 67° as possible. In years preceding 1883 the results for horizontal and vertical force were given uncorrected for temperature, leaving the correction to be applied when the results for series of years are collected for discussion; but from the beginning of the year 1883 it has been considered desirable to add also, in Tables III., V., VII.; and IX., results corrected for temperature, in order to render them more immediately available. In Tables XI. and XII., only results corrected for temperature are given. The corrected mean daily and mean hourly values of horizontal force given in Tables III. and V. respectively are obtained by applying to the uncorrected values the correction $(t-32) \times .0000936 + (t-32)^2 \times .000002074$ (page *xix*), where t is the temperature in degrees Fahrenheit; and to those of vertical force, Tables VII. and IX., the correction $-(t-32) \times .000212$ (page *xxii*). The corrections applied are founded on the daily and hourly values of temperature given in Tables IV., VI., VIII., and X.

In regard to the formation of the tables of temperature, the hourly readings of the Richard Thermograph were entered into a form having double arguments as for the magnets, the mean hourly values deduced therefrom giving for each month the variation through the day, and the mean daily values the variation through the month. 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 results are given in Tables IV., VI., VIII., and X.

In order to economise space, the daily values, as exhibited in Tables III. and VII., both uncorrected and corrected, have been diminished by constants. The division

 in these Tables and in Table XI. indicates that the instrument has been disturbed for experiment or adjustment, or that for some reason the continuity of the values has been broken, the constants deducted being different before and after each

break. In the interval between two breaks the values of u and c are each comparable throughout, remarking only that in certain cases it is to be understood that the values are to be taken 1000 greater or less for comparison with adjacent values. See, for example, c in Table III. on January 14, which should be taken as 1017 for comparison with the adjacent values, and similarly in other cases. The excess of the value of c above that of u on any day (supposing c , when the smaller value, to be increased by 1000) shows the correction for temperature that has been actually applied. In Tables II., V., IX., and XII. the separate hourly values of the different elements have been simply diminished by the smallest hourly value.

The variations of declination are given in the sexagesimal division of the circle, and those of horizontal and vertical force in terms of '00001 of the whole horizontal and vertical forces respectively taken as units. In Tables XI. and XII. they have been also expressed in terms of '00001 of Gauss's absolute unit, as referred to the metrical system of the millimètre-milligramme-second.

The factors for conversion from the former to the latter system of measures are as follows:—

For variation of declination, expressed in minutes, the factor is

$$\text{H.F. in metrical measure} \times \sin 1' = 1.8533 \times \sin 1' = 0.0005391.$$

For variation of horizontal force, the factor is

$$\text{H.F. in metrical measure} = 1.8533,$$

and for variation of vertical force

$$\begin{aligned} \text{V.F. in metrical measure} &= \text{H.F. in metrical measure} \times \tan \text{dip}, \\ &= 1.8533 \times \tan 66^{\circ}.56'.1'' = 4.3521. \end{aligned}$$

The measures as referred to the millimètre-milligramme-second system are readily convertible into measures on the centimètre-gramme-second (C.G.S.) system by dividing by 10.

Table XIII. exhibits the diurnal range of declination and horizontal force on each separate day, as determined from the 24 hourly ordinates of each element measured from the photographic register (as explained on page *xxix*), and the monthly means of these numbers, the results for horizontal force being corrected for temperature. The first portion of Table XIV. contains the difference between the greatest and least hourly mean values in each month, for declination, horizontal force, and vertical force, as extracted from Table II. and columns c of Tables V. and IX. In the second portion of the table there are given for each month the numerical sums of the deviations of the 24 hourly values from the mean, taken without regard to sign.

The magnetic diurnal inequalities of declination, horizontal force, and vertical force, for each month and for the year, as given in Tables II., V., and IX., have been

treated by the method of harmonic analysis, and the results are given in Tables XV. and XVI. The values of the coefficients contained in Table XV. have been thus computed, 0 representing the value at 0^h (midnight), 1 that at 1^h, and so on.

$$\begin{aligned}
 m &= \frac{1}{24}(0+1+2 \dots \dots 22+23). \\
 12 a_1 &= 0-12 + \{ (1+23) - (11+13) \} \cos 15^\circ + \{ (2+22) - (10+14) \} \cos 30^\circ \\
 &\quad + \{ (3+21) - (9+15) \} \cos 45^\circ + \{ (4+20) - (8+16) \} \cos 60^\circ \\
 &\quad + \{ (5+19) - (7+17) \} \cos 75^\circ. \\
 12 b_1 &= 6-18 + \{ (5+7) - (17+19) \} \sin 75^\circ + \{ (4+8) - (16+20) \} \sin 60^\circ \\
 &\quad + \{ (3+9) - (15+21) \} \sin 45^\circ + \{ (2+10) - (14+22) \} \sin 30^\circ \\
 &\quad + \{ (1+11) - (13+23) \} \sin 15^\circ. \\
 12 a_2 &= (0+12) - (6+18) + \{ (1+11+13+23) - (5+7+17+19) \} \cos 30^\circ \\
 &\quad + \{ (2+10+14+22) - (4+8+16+20) \} \cos 60^\circ. \\
 12 b_2 &= (3+15) - (9+21) + \{ (2+4+14+16) - (8+10+20+22) \} \sin 60^\circ \\
 &\quad + \{ (1+5+13+17) - (7+11+19+23) \} \sin 30^\circ. \\
 12 a_3 &= (0+8+16) - (4+12+20) + \{ (1+7+9+15+17+23) - (3+5+11+13+19+21) \} \cos 45^\circ. \\
 12 b_3 &= (2+10+18) - (6+14+22) + \{ (1+3+9+11+17+19) - (5+7+13+15+21+23) \} \sin 45^\circ. \\
 12 a_4 &= (0+6+12+18) - (3+9+15+21) \\
 &\quad + \{ (1+5+7+11+13+17+19+23) - (2+4+8+10+14+16+20+22) \} \cos 60^\circ. \\
 12 b_4 &= \{ (1+2+7+8+13+14+19+20) - (4+5+10+11+16+17+22+23) \} \sin 60^\circ.
 \end{aligned}$$

The values of the coefficient c_1 and of the constant angles α contained in Table XVI. are then determined by means of the following relations:—

$$\frac{a_1}{b_1} = \tan \alpha \qquad c_1 = \frac{a_1}{\sin \alpha} = \frac{b_1}{\cos \alpha}.$$

Similarly for c_2 , β , &c.

Finally, the values of the angles α' , β' , &c. were thus found. Calling the Sun's hour-angle east at mean midnight = h , then—

$$\begin{aligned}
 \alpha' &= \alpha + h \\
 \beta' &= \beta + 2h \\
 \&c. &= \&c.,
 \end{aligned}$$

a mean value of h for the month being employed.

The values of α_5 and b_5 for the diurnal inequalities for the year were also calculated, but could not be conveniently included in Table XV. They are as follows:—

1906.	α_5 .	b_5 .
Declination	-0.05	+0.01
Horizontal Force	-0.4	-1.4
Vertical Force	+0.8	-0.6

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 (xii), corresponding to the single terms of the expressions on page (xiii), 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.

For the Year 1907.	Declination.	Horizontal Force.	Vertical Force.
Sums of Squares of Observed Values (Table XII.)	316'40	385478'5	20517'5
Sums of Squares of Residuals after the introduction of m	135'78	66281'9	3764'1
" " a_1 and b_1	48'95	16145'8	1864'2
" " a_2 and b_2	8'15	2503'2	254'6
" " a_3 and b_3	1'00	648'9	41'3
" " a_4 and b_4	0'05	30'9	15'8
" " a_5 and b_5	0'01	6'9	5'2

The unit in the case of horizontal and vertical force being '00001 of the whole horizontal and vertical forces respectively, it thus appears that there would be no advantage in carrying the approximation (Table XV.) beyond the determination of a_4, b_4 .

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

The results of the observations for Absolute Measure of Horizontal Force contained in Table XIX. 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.

In order to facilitate the comparison of the diurnal inequalities of magnetism at the different British and other magnetic observatories, an arrangement has been made with the Sub-Committee of the Kew Committee of the Royal Society, by which five quiet days are to be 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. The particular days selected are given on page (xviii), and the results found for Greenwich are contained in Tables XX., XXI., and XXII., which it is interesting to compare with the values found from the records of all days, as given in Tables II., V., IX., and XII.

No numerical discussion of Earth Current records is contained in the present volume.

In the treatment of disturbed days it was formerly the custom to measure out for each element all salient points of the curves, and to print the numerical values. But, since the year 1882, it has been considered preferable to give instead of these tables reduced copies of the actual photographic curves (reproduced by photo-lithography from full-sized tracings of the original photographs), adding thereto copies of the corresponding earth current curves. In the present year no copies of earth current curves have been given because of the interruption produced by the trains running on the City and South London Electric Railway. The registers thus exhibited are those for the days of disturbance mentioned on page *xxix*.

The list of these days since the year 1889 has been selected in concert with M. Mascart, 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 proposed to follow this plan in future years, and if other magnetic observatories should eventually join in the scheme for concerted action, in regard to the publication of their registers, the discussion of magnetic perturbations would be much facilitated.

The plates are preceded 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 1907, 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 (xxxiv).

An additional plate (VII.) 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 earth currents on these days are very small.

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 page *xxx*, will show the effect produced. Briefly, an increase of about $4\frac{1}{2}^{\circ}$ of temperature throws the horizontal force curve upward by 0.001 of the whole horizontal force ; an increase of about 5° of temperature throws the vertical force curve downward by 0.001 of the whole vertical force.

The original photographs have been reduced in the proportion of 20 to 11 on the plates, and the corresponding scale values are :—

—	LENGTH IN INCHES.					
	Of 1° of Declination.		Of 0.01 of Horizontal Force.		Of 0.01 of Vertical Force.	
	in.	mm.	in.	mm.	in.	mm.
On the Photographs - -	4.691	119.15	2.484	63.09	4.537	115.25
On the Plates - -	2.580	65.53	1.366	34.70	2.496	63.34

The scales actually attached to the plates are, however, so arranged as to correspond with the tables of the magnetic section—that is to say, the units for horizontal force and vertical force are .00001 of the whole horizontal and vertical forces respectively, the numbers being in some cases increased by 1000 to avoid negative quantities. At the foot of each plate equivalent scales, in C.G.S. measure, are given for each of the magnetic registers. (See page *xxxvi*.)

Since the preceding scale values are not immediately comparable for the different elements, it therefore becomes desirable to refer them all to the same unit, say 0.01 of the horizontal force.

Now, the transverse force represented by a variation of 1° of Declination
 = 0.0175 of Horizontal Force,
 and Vertical Force = Horizontal Force × tan dip [adopted dip = 66°.56'.1"]
 = Horizontal Force × 2.3483 ;

whence we have the following equivalent scale values for the different elements :—

—	LENGTH OF UNIT, EQUIVALENT TO 0.01 OF HORIZONTAL FORCE.					
	For Declination Curve.		For Horizontal Force Curve.		For Vertical Force Curve.	
	in.	mm.	in.	mm.	in.	mm.
On the Photographs - -	2.68	68.1	2.48	63.1	1.93	49.1
On the Plates - -	1.47	37.4	1.37	34.7	1.06	27.0

It may be convenient to give also comparative scale values for the different systems of absolute measurement, viz. :—

Foot-grain-second, or British unit, in terms of which Mean H.F. for 1907 = 4.0195
 Millimètre-milligramme-second, or Metric unit, " " " = 1.8533
 Centimètre-gramme-second, or C.G.S. unit, " " " = 0.18533

Dividing, therefore, the scale values last given by 4.0195, 1.8533, and 0.18533 respectively, the following comparative scale values for each of the elements on the photographs and on the plates as referred to 0.01 of these units respectively are found :—

UNIT.	LENGTH OF 0.01 OF UNIT.											
	Declination.				Horizontal Force.				Vertical Force.			
	On the Photographs.		On the Plates.		On the Photographs.		On the Plates.		On the Photographs.		On the Plates.	
	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.
British - - - -	0.67	16.9	0.37	9.3	0.62	15.7	0.34	8.6	0.48	12.2	0.26	6.7
Metric - - - -	1.45	36.7	0.80	20.2	1.34	34.0	0.74	18.7	1.04	26.5	0.57	14.6
C.G.S. - - - -	14.5	367	8.0	202	13.4	340	7.4	187	10.4	265	5.7	146

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

Year.	Declination West.	Horizontal Force, C.G.S. Unit.	Dip.	Year.	Declination West.	Horizontal Force, C.G.S. Unit.	Dip.
1841	23.16'2	...	...	1874	19.28'9	0.1795	67.43'6
1842	23.14'6	...	...	1875	19.21'2	0.1795	67.42'3
1843	23.11'7	...	69. 0'6	1876	19. 8'3	0.1797	67.40'9
1844	23.15'3	...	69. 0'3	1877	18.57'2	0.1799	67.39'6
1845	22.56'7	...	68.57'5	1878	18.49'3	0.1801	67.38'1
1846	22.49'6	0.1731	68.58'1	1879	18.40'5	0.1803	67.36'9
1847	22.51'3	0.1736	68.59'0	1880	18.32'6	0.1804	67.35'6
1848	22.51'8	0.1731	68.54'7	1881	18.27'1	0.1805	67.34'6
1849	22.37'8	0.1733	68.51'3	1882	18.22'3	0.1804	67.34'1
1850	22.23'5	0.1738	68.46'9	1883	18.15'0	0.1810	67.31'6
1851	22.18'3	0.1744	68.40'4	1884	18. 7'6	0.1812	67.29'6
1852	22.17'9	0.1745	68.42'7	1885	18. 1'7	0.1816	67.27'8
1853	22.10'1	0.1748	68.44'6	1886	17.54'5	0.1816	67.27'0
1854	22. 0'8	0.1749	68.47'7	1887	17.49'1	0.1818	67.26'4
1855	21.48'4	0.1756	68.44'6	1888	17.40'4	0.1820	67.25'4
1856	21.43'5	0.1759	68.43'5	1889	17.34'9	0.1821	67.24'1
1857	21.35'4	0.1769	68.31'1	1890	17.28'6	0.1823	67.22'9
1858	21.30'3	0.1762	68.28'3	1891	17.23'4	0.1825	67.21'4
1859	21.23'5	0.1761	68.26'9	1892	17.17'4	0.1827	67.19'9
1860	21.14'3	...	68.30'1	1893	17.11'4	0.1829	67.17'8
1861	21. 5'5	0.1773	68.24'6	1894	17. 4'6	0.1829	67.17'3
		0.1757	68.15'8	1895	16.57'4	0.1832	67.16'0*
1862	20.52'6	0.1761	68. 9'6	1896	16.51'7*	0.1833*	67.15'0*
1863	20.45'9	0.1763	68. 7'0	1897	16.45'8*	0.1836	67.13'4*
1864	...	0.1765	68. 4'1	1898	16.39'2*	0.1838	67.11'8
1865	20.33'9	0.1765	68. 2'7	1899	16.34'2	0.1842	67.10'2
1866	20.28'0	0.1771	68. 1'3	1900	16.29'0	0.1844	67. 8'5
1867	20.20'5	0.1776	67.57'2	1901	16.26'0	0.1848	67. 6'1
1868	20.13'1	0.1777	67.56'5	1902	16.22'8	0.1850	67. 3'4
1869	20. 4'1	0.1780	67.54'6	1903	16.19'1	0.1850	67. 0'9
1870	19.53'0	0.1782	67.52'4	1904	16.15'0	0.1852	66.57'2
1871	19.41'9	0.1785	67.50'2	1905	16. 9'9	0.1852	66.55'9
1872	19.36'8	0.1787	67.47'9	1906	16. 3'6	0.1852	66.55'3
1873	19.33'4	0.1791	67.45'6	1907	15.59'8	0.1853	66.56'0

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

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, and at somewhat different times on Sundays.

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^m·565 in diameter, and the depression of the mercury due to capillary action is 0^m·002, 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^m·05, sub-divided by vernier to 0^m·002.

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 $-0^m\cdot006$, 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 $-0^{\text{m}}\cdot006$) did not exceed $0^{\text{m}}\cdot001$. (*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 $5^{\text{t}}\cdot 2^{\text{in}}$ 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) on week days; and at 10^{h} , noon, and 20^{h} on Sundays. 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, the register being arranged to fall on the upper half of the cylinder, on its eastern side. 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 = $4^{\text{m}}\cdot16$ 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 *lii*) 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 $-0^{\circ}.4$ has been applied to the readings of this thermometer. The wet bulb thermometer Negretti and Zambra, No. 45356 was accidentally broken on March 13, and replaced by Negretti and Zambra, No. 94737. The correction $-0^{\circ}.3$ has been applied to the readings of both these thermometers.

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 $+0^{\circ}.1$ has been applied; to those of Negretti and Zambra, No. 102104, for maximum temperature of evaporation, a correction of $+0^{\circ}.1$ has been applied; and to those of Negretti and Zambra, No. 98508, for minimum temperature of evaporation, a correction of $+0^{\circ}.1$ has been applied.

The dry and wet bulb thermometers are read at 9^h, 12^h (noon), 15^h, 21^h (civil reckoning) on week days, and at 10^h, noon, and 20^h on Sundays. Readings of the maximum and minimum thermometers are taken at 9^h and 21^h on week days, and at 10^h and 20^h on Sundays. 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 $-0^{\circ}.1$ 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 $+0^{\circ}.1$ has been applied. The observation of the dry and wet bulb thermometers is omitted on Sundays and a few other days.

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.

At the beginning of the year 1886 three thermometers were mounted on the platform above the Magnet House, in a louvre-boarded shed or screen, so constructed as to give free circulation of air with protection from radiation. The thermometer for eye-observation of the temperature of the air used in the year 1907 was Hicks, No. 268524, to the readings of which a correction of $-0^{\circ}\cdot 1$ has been applied. Negretti and Zambra, No. 37467, is a self-registering maximum thermometer, to the readings of which a correction of $-0^{\circ}\cdot 4$ has been applied. No. 342663, by Hicks, is a self-registering minimum thermometer, to the readings of which corrections have been applied as follow: below $45^{\circ} + 0^{\circ}\cdot 1$, 45° to $55^{\circ} + 0^{\circ}\cdot 2$, and above $55^{\circ} + 0^{\circ}\cdot 3$. The bulbs of all these thermometers are 4 feet above the platform, and about 20 feet above the ground. The eye-observation of the thermometer for temperature of the air is omitted on Sundays and a few other days.

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, which required no correction to their readings. To the readings of the maximum thermometer, Negretti and Zambra, No. 94859, a correction of $-0^{\circ}\cdot 4$ has been applied, and to those of the minimum thermometer, Negretti and Zambra, No. 85080, a correction of $+ 0^{\circ}\cdot 1$ has been applied.

PHOTOGRAPHIC DRY-BULB AND WET-BULB THERMOMETERS.—The apparatus now in use was constructed in the year 1884 by Messrs. Negretti & Zambra from designs furnished by me, and was mounted in the year 1885, but from various causes it was not brought into regular use until 1887 January 1. Until February 1891 it stood nearly in the centre of the South Ground: it was then removed to the Magnet Ground, being placed in the position formerly occupied by the old apparatus, which had been previously dismantled. It is placed under a shed, 8 feet square, standing upon posts about 8 feet high. On 1899 May 16 and 17, the shed was shifted 15 feet westwards. This shed is open to the north, and is generally similar to that provided for the old apparatus, excepting that the roof

inclines somewhat towards the south, and that the protecting boards (fixed as far as necessary on the eastern, southern, and western sides) are double, with spaces between to ensure a free circulation of air while screening the thermometers from the direct rays of the sun. The thermometers are further protected from sky and ground radiation by boards on the thermometer stand as described below. The photographic register is received on paper placed on a vertical ebonite cylinder $11\frac{1}{2}$ inches high and $14\frac{1}{4}$ inches in circumference, and I have arranged that the dry and wet-bulb traces shall fall on the same part of the cylinder, as regards time scale, a long air-bubble in the wet-bulb thermometer column giving 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.

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 at the beginning of the year was Negretti and Zambra, No. 99989. On January 10 the outer tube was broken and the thermometer sent for repair, Negretti and Zambra, No. 99993 being issued to replace it. On February 20, the outer tube of this one was found broken, and this thermometer sent for repair, being returned on February 22. During the interval Negretti and Zambra, No. 99989 was issued to replace it. The thermometer for radiation to the sky is a self-registering spirit minimum thermometer of Rutherford's construction, by Horne and Thornthwaite, No. 3120. 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 day at noon, and the readings are given without correction. The index-errors of Nos. 1, 2, 3, and 4 are unknown; No. 6 appears to read too high by 0°·4, but no corrections have been applied. No. 5 was accidentally cracked on 1906 May 30, and the readings after a time were found to be quite erroneous, so that none are given for 1907.

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 experiments showed that the springs were weakening, and a fresh set was ordered from

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. The old springs were dismantled on July 9, but owing to interruptions the new ones were not finally adjusted until September.

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.

It is assumed, in accordance with the experiments made by Dr. Robinson, that the horizontal motion of the air is three times the space described by the centres of the cups. To verify this conclusion, experiments were made in the year 1860 in Greenwich Park with the anemometer by Negretti and Zambra, which was in use from 1859 until the introduction of the larger instrument by Browning in 1866 October. The instrument was fixed to the end of a horizontal arm, which was made to revolve round a vertical axis. For more detailed account of these experiments see the Introduction for 1880 and for previous years. With the arm revolving in the direction N., E., S., W., opposite to the direction of rotation of the cups, for movement of the instrument through 1 mile, 1.15 was registered; with the arm revolving in the direction N., W., S., E., in the same direction as the rotation of the cups, 0.97 was registered. This was considered to confirm sufficiently the accuracy of the assumption. The hemispherical cups of the instrument with which these experiments were made were each $3\frac{3}{4}$ inches in diameter, the distance between the centres of the opposite cups being 13.45 inches.

From 1889 April 22 to May 8, both of the above instruments were sent to Mr. W. H. Dines, who kindly tested them on his whirling machine then erected at Hersham. The particulars of these experiments are given at the end of the Introduction for 1889. The results appear to show that the instrumental results in the case of high velocities of the wind are too great for both anemometers, but it has been thought better, for the sake of continuity, not to apply any corrections to the recorded values, which consequently indicate velocities corresponding to three times the space described by the centres of the cups.

RAIN GAUGES.—During the year 1907 seven rain gauges were employed, placed at different elevations above the ground, complete information in regard to which will be found at page (cxv) 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 complete 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, as was the case for several weeks during 1907.

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. 6 is the Standard gauge, No. 7 is used as a check on the readings of No. 6. No. 6 is read daily, usually at 9^h, 15^h, and 21^h Greenwich civil time, and No. 7 at 9^h only.

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 electrometer, constructed by White, of Glasgow.

For a full description of the principle of the electrometer, reference may be made to Lord Kelvin's "Report on Electrometers and Electrostatic Measurements," contained in the *British Association Report* for the year 1867. It will be sufficient

here to give a general description of the instrument which, with its registering apparatus, is planted in the Upper Magnet Room on the slate slab which carries the suspension pulleys of the Horizontal Force Magnet. A thin flat needle of aluminium, carrying immediately above it a small light mirror, is suspended, on the bifilar principle, by two silk fibres from an insulated support within a large Leyden jar. A little strong sulphuric acid is placed in the bottom of the jar, and from the lower side of the needle depends a platinum wire, kept stretched by a weight, which connects the needle with the sulphuric acid—that is, with the inner coating of the jar. A positive charge of electricity being given to the needle and jar, this charge is easily maintained at a constant potential by means of a small electric machine or replenisher forming part of the instrument, and by which the charge can be either increased or diminished at pleasure. A gauge is provided for the purpose of indicating at any moment the amount of charge. The needle hangs within four insulated quadrants, which may be supposed to be formed by cutting a circular flat brass box into quarters, and then slightly separating them. The opposite quadrants are placed in metallic connexion.

Lord Kelvin's water-dropping apparatus is used to collect the atmospheric electricity. For this purpose a rectangular cistern of copper, capable of holding above 30 gallons of water, is placed near the ceiling on the west side of the south arm of the Upper Magnet Room. The cistern rests on four pillars of glass, each one encircled and nearly completely enclosed by a glass vessel containing sulphuric acid. A pipe passing out from the cistern, through the south face of the building, extends about 6 feet into the atmosphere, the nozzle (about 10 feet above the ground) having a very small hole, through which the water passes and breaks almost immediately into drops. The cistern is thus brought to the same electrical potential as that of the atmosphere near the nozzle, and this potential is communicated by means of a connecting wire to one of the pairs of electrometer quadrants, the other pair being connected to earth. The varying atmospheric potential thus influences the motions of the included needle, causing it to be deflected from zero in one direction or the other, according as the atmospheric potential is greater or less than that of the earth—that is, according as it is positive or negative.

The small mirror carried by the needle is used for the purpose of obtaining photographic record of its motions. The light of a gas lamp, passing through a slit and falling upon the mirror, is thence reflected, and by means of a plano-convex cylindrical lens is brought to a focus at the surface of a horizontal cylinder of ebonite, nearly 7 inches long and 16 inches in circumference, which is turned by clock-work. A second fixed mirror, by means of the same gas lamp, causes a reference line to be traced round the cylinder. The actual zero is found by cutting off the cistern communication, and placing the pairs of quadrants in metallic connexion with each

other and with earth. The break of register at each hour is made by the driving-clock of the electrometer cylinder itself. Other photographic arrangements are generally similar to those which have been described for other instruments.

The scale of time is the same as that of the magnetic registers.

Interruptions sometimes occur through cobwebs making connexion between the cistern or its pipe and the walls of the building, and in winter, from the occasional freezing of the water in the exit pipe.

SUNSHINE RECORDER.—Until the end of the year 1886 the instrument with which the record given in the printed volume was made was that presented to the Royal Observatory by Mr. J. F. Campbell, by whom this method of record was devised. This instrument is fully described in the Introductions to previous volumes. Commencing with the year 1887, the record is that of a modification of the Campbell form of instrument, as arranged by Sir G. G. Stokes for use at the observing stations of the Meteorological Office. By employing this instrument, the manipulation of which is more simple, there is the further advantage that the Greenwich results become strictly comparable with those of the Meteorological Office Stations. A very complete account of the Campbell-Stokes instrument is given in the *Quarterly Journal of the Royal Meteorological Society*, vol. vi. page 83. 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. Very little record is obtained near to sunrise at any part of the year.

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.

OZONOMETER.—This apparatus was fixed on the roof of the Photographic Thermometer shed, at a height of about 10 feet from the ground. The box in which the papers were formerly exposed is of wood: it is about 8 inches square, blackened inside, and so constructed that there is free circulation of air through the box, without exposure of the paper to light. Since 1901 the papers have been exposed in the Stevenson's screen in the Magnetic Pavilion Enclosure, in order to be at a greater distance from the main buildings, the use of the old Ozonometer box being temporarily discontinued, as a comparison had shown that more ozone was indicated in the new position. On 1906 October 22, the Ozonometer box was removed and placed on the top of the Stevenson's screen in the Magnetic Pavilion Enclosure, and Ozone papers subsequently exposed for purposes of comparison, both in the box and in the screen. The papers exposed at 9^h, 15^h, and 21^h are collected respectively at 15^h, 21^h, and 9^h, and the degree of tint produced is compared with a scale of graduated tints, numbered from 0 to 10. The value of ozone for the civil day is determined by taking the degree of tint obtained at each hour of collection as proportional to the period of exposure. Thus, to form the value for any given civil day, three-fourths of the value registered at 9^h, the values registered at 15^h and 21^h, and one-fourth of that registered at the following 9^h, are added together, the resulting sum (which appears in the tables of "Daily Results of the Meteorological Observations") being taken as the value referring to the civil day on a scale of 0 to 30. The means of the 9^h, 15^h, and 21^h values, as observed, are also given for each month in the footnotes.

§ 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 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 *xxix*), 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. 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 factors by which the dew-point given in these tables is

calculated were found by Mr. Glaisher from the comparison of a great number of dew-point determinations obtained by use of Daniell's hygrometer, with simultaneous observations of dry and wet bulb thermometers, combining observations made at the Royal Observatory, Greenwich, with others made in India and at Toronto. The factors are given in the following table.

TABLE OF FACTORS by which the DIFFERENCE between the READINGS of the DRY-BULB and WET-BULB THERMOMETERS is to be MULTIPLIED in order to PRODUCE the CORRESPONDING DIFFERENCE between the DRY-BULB TEMPERATURE and that of the DEW-POINT.

Reading of Dry-bulb Thermometer.	Factor.	Reading of Dry-bulb Thermometer.	Factor.	Reading of Dry-bulb Thermometer.	Factor.	Reading of Dry-bulb Thermometer.	Factor.
10	8.78	33	3.01	56	1.94	79	1.69
11	8.78	34	2.77	57	1.92	80	1.68
12	8.78	35	2.60	58	1.90	81	1.68
13	8.77	36	2.50	59	1.89	82	1.67
14	8.76	37	2.42	60	1.88	83	1.67
15	8.75	38	2.36	61	1.87	84	1.66
16	8.70	39	2.32	62	1.86	85	1.65
17	8.62	40	2.29	63	1.85	86	1.65
18	8.50	41	2.26	64	1.83	87	1.64
19	8.34	42	2.23	65	1.82	88	1.64
20	8.14	43	2.20	66	1.81	89	1.63
21	7.88	44	2.18	67	1.80	90	1.63
22	7.60	45	2.16	68	1.79	91	1.62
23	7.28	46	2.14	69	1.78	92	1.62
24	6.92	47	2.12	70	1.77	93	1.61
25	6.53	48	2.10	71	1.76	94	1.60
26	6.08	49	2.08	72	1.75	95	1.60
27	5.61	50	2.06	73	1.74	96	1.59
28	5.12	51	2.04	74	1.73	97	1.59
29	4.63	52	2.02	75	1.72	98	1.58
30	4.15	53	2.00	76	1.71	99	1.58
31	3.70	54	1.98	77	1.70	100	1.57
32	3.32	55	1.96	78	1.69		

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

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

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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 the following table.

ADOPTED VALUES of MEAN TEMPERATURE of the AIR, deduced from the OBSERVATIONS for the Sixty-five Years 1841-1905.

Day of the Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1	38.6	39.6	40.4	45.3	49.3	57.4	61.5	62.2	59.8	54.1	47.0	40.9
2	38.4	39.5	40.4	45.7	49.5	57.8	61.6	62.1	59.7	53.7	46.8	40.9
3	38.3	39.5	40.5	46.0	49.8	58.1	61.8	62.1	59.6	53.3	46.6	41.1
4	38.3	39.5	40.7	46.2	50.0	58.3	62.1	62.1	59.5	53.0	46.4	41.3
5	38.2	39.6	40.9	46.3	50.3	58.4	62.3	62.1	59.4	52.8	46.1	41.5
6	38.1	39.6	41.0	46.3	50.5	58.3	62.4	62.2	59.2	52.5	45.8	41.5
7	38.0	39.5	41.0	46.3	50.7	58.2	62.4	62.2	59.0	52.3	45.4	41.3
8	37.9	39.3	41.1	46.1	51.0	58.1	62.4	62.3	58.8	52.0	45.0	41.0
9	37.9	39.1	41.0	46.0	51.2	58.0	62.4	62.3	58.6	51.6	44.6	40.6
10	37.9	38.9	40.9	45.9	51.5	58.1	62.5	62.3	58.4	51.3	44.3	40.4
11	37.9	38.8	41.0	45.8	51.8	58.2	62.7	62.4	58.1	50.9	44.0	40.2
12	37.9	38.8	41.1	45.9	52.1	58.4	62.9	62.5	58.0	50.6	43.7	40.3
13	38.0	39.0	41.3	46.1	52.4	58.5	63.1	62.5	57.8	50.3	43.5	40.5
14	38.0	39.3	41.5	46.4	52.6	58.7	63.3	62.5	57.7	50.1	43.3	40.7
15	38.1	39.4	41.7	46.8	52.8	58.8	63.4	62.4	57.6	49.9	43.1	40.8
16	38.3	39.5	41.9	47.2	53.0	58.9	63.4	62.3	57.5	49.8	42.8	40.7
17	38.5	39.6	42.0	47.6	53.1	59.0	63.4	62.1	57.2	49.6	42.6	40.4
18	38.6	39.5	42.0	48.0	53.3	59.2	63.3	61.9	56.9	49.3	42.4	40.0
19	38.7	39.5	41.9	48.3	53.5	59.5	63.2	61.7	56.5	49.1	42.3	39.5
20	38.8	39.5	41.9	48.5	53.8	59.9	63.2	61.5	56.2	48.8	42.2	39.0
21	38.8	39.6	41.9	48.7	54.2	60.3	63.2	61.3	55.9	48.6	42.1	38.7
22	38.8	39.7	42.0	48.7	54.6	60.6	63.1	61.1	55.6	48.3	42.1	38.4
23	38.9	39.8	42.2	48.6	54.9	60.9	63.0	60.9	55.4	48.1	42.0	38.2
24	38.9	40.0	42.4	48.6	55.3	61.2	62.9	60.8	55.3	47.9	42.0	38.2
25	39.1	40.1	42.7	48.6	55.5	61.4	62.7	60.7	55.2	47.7	41.9	38.4
26	39.3	40.2	43.0	48.6	55.8	61.5	62.5	60.7	55.2	47.6	41.8	38.6
27	39.5	40.3	43.3	48.7	56.0	61.6	62.4	60.6	55.1	47.5	41.7	38.8
28	39.6	40.3	43.7	48.8	56.2	61.6	62.3	60.4	54.9	47.4	41.5	38.9
29	39.7		44.1	49.0	56.4	61.6	62.3	60.3	54.7	47.3	41.2	39.0
30	39.7		44.5	49.1	56.7	61.5	62.3	60.1	54.4	47.2	41.0	38.9
31	39.7		44.9		57.1		62.2	59.9		47.1		38.7
Means	38.6	39.5	41.9	47.3	53.1	59.4	62.7	61.6	57.2	50.0	43.5	39.9

The mean of the twelve monthly values is 49°.6.

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 footnotes, and in the abstract tables, pages (lxiii) and (cxv), is formed from the records of this gauge. In this numeration only those days are counted on which the fall amounted to or exceeded 0ⁱⁿ·005.

The indications of atmospheric electricity are derived from Thomson's Electrometer. Occasionally, during interruption of photographic registration, the results depend on eye observations.

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

The following is the notation employed for Electricity:—

N denotes <i>negative</i>	w denotes <i>weak</i>
P ... <i>positive</i>	s ... <i>strong</i>
m ... <i>moderate</i>	v ... <i>variable</i>

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; observations of thermometers in a Stevenson screen in the Observatory Grounds, on the roof of the Magnet House, and in another Stevenson screen in the Magnetic Pavilion Enclosure; readings of the earth thermometers; 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; rain results; 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 (lxiv) and (lxv), do not in some cases agree with the monthly means given in the daily results

pages (xxxvi) to (lviii), and in the table on page (lxiii), 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 (xcix), 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 (cix), 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 $0^{\text{in}}.020$, 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 (cviii) and (cix) 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 1907 were Mr. Bryant, Mr. Edney, Mr. Parkinson, Mr. Barrett and Mr. Kirby. Their observations are distinguished by the initials B., E., P., H.B. and K. respectively. A few observations taken by Mr. Melotte, Mr. Stevens and Mr. Fowler are distinguished by the initials P.M., W.S. and F. respectively.

W. H. M. CHRISTIE.

ROYAL OBSERVATORY, GREENWICH.

RESULTS

OF

MAGNETICAL OBSERVATIONS

(EXCLUDING DAYS OF GREAT MAGNETIC DISTURBANCE),

1907.

TABLE I.—MEAN MAGNETIC DECLINATION WEST FOR EACH CIVIL DAY.
(Each result is the mean of 24 hourly ordinates from the photographic register.)

1907.												
Day of Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	15°	16°	15°	15°	15°	15°	15°	15°	15°	15°	15°	15°
d												
1	62.2	1.5	61.8	61.3	59.9	60.9	60.1	59.9	59.4	60.0	57.9	57.4
2	61.3	2.7	61.5	61.1	60.0	60.2	60.0	58.8	58.9	56.3	57.8	58.5
3	61.6	3.0	62.4	61.2	60.2	60.5	60.0	58.4	59.8	56.7	56.1	58.2
4	61.3	2.5	62.6	61.0	60.4	60.1	59.9	58.1	58.7	57.1	54.1	58.7
5	62.1	2.4	61.9	60.7	60.7	59.5	60.1	58.2	58.7	57.0	57.2	59.5
6	61.7	2.3	61.9	60.4	59.6	60.1	57.8	59.1	59.8	56.6	57.2	58.3
7	62.3	2.6	62.2	60.9	59.7	60.0	59.6	58.6	59.6	57.1	57.4	58.7
8	59.7	0.7	62.5	60.8	59.6	60.4	59.9	59.1	59.7	57.9	57.3	57.2
9	61.0	...	62.5	60.9	60.6	59.3	59.3	58.7	60.1	56.6	57.1	57.9
10	61.8	...	59.6	60.5	59.8	59.5	58.8	59.0	59.7	57.2	57.8	57.9
11	61.5	0.7	61.1	60.7	60.5	59.8	61.8	60.2	61.3	57.9	55.7	57.7
12	61.7	0.3	63.1	60.5	60.8	60.9	59.3	60.4	62.1	57.9	56.4	58.0
13	61.3	2.1	61.2	60.3	60.9	60.9	58.9	60.0	59.5	57.8	57.3	56.7
14	59.9	1.9	62.3	61.4	59.5	60.1	58.6	60.5	60.0	56.8	56.8	57.9
15	60.8	2.4	61.9	60.1	59.0	59.3	58.8	60.1	60.6	57.7	57.1	58.0
16	61.2	1.3	61.9	59.7	60.7	59.4	59.5	60.4	61.5	57.6	57.2	57.8
17	60.6	1.2	62.0	60.6	60.0	59.6	59.6	59.8	60.7	57.1	56.5	57.4
18	61.4	1.5	61.7	59.9	58.2	59.9	59.3	59.7	61.0	58.2	56.9	57.3
19	61.8	1.6	62.0	60.5	59.2	60.3	59.9	59.6	60.1	57.6	56.8	57.1
20	61.8	0.9	62.3	60.5	60.2	58.8	58.5	59.8	60.1	57.9	57.4	57.9
21	61.9	1.8	60.7	60.3	59.6	59.3	59.5	61.3	59.5	57.1	58.3	57.4
22	61.7	1.9	61.1	60.3	60.7	58.7	59.0	59.7	60.5	59.8	57.2	56.9
23	60.8	1.9	61.7	60.4	59.8	59.7	58.5	59.4	61.2	57.7	57.0	57.1
24	61.9	2.9	61.9	60.3	59.9	57.9	59.4	58.8	61.1	58.1	57.6	57.3
25	61.5	1.2	62.1	60.0	59.0	60.6	59.6	59.8	60.8	57.5	57.1	57.3
26	62.2	1.1	61.5	60.2	59.4	60.7	59.8	59.7	61.5	58.3	57.6	57.2
27	61.2	1.6	62.3	60.1	59.7	59.1	58.9	59.0	59.9	59.3	57.7	58.0
28	61.2	2.3	62.0	60.3	60.1	60.3	60.1	59.6	61.0	57.8	56.6	57.8
29	60.6		61.5	61.2	61.0	60.8	58.9	59.7	61.6	57.7	57.3	57.7
30	60.9		61.6	60.0	61.8	59.8	59.3	60.6	60.5	58.2	57.4	58.0
31	60.5		62.2		61.2		60.3	59.2		57.7		57.8

TABLE II.—MONTHLY MEAN DIURNAL INEQUALITY OF MAGNETIC DECLINATION WEST.
(The results in each month are diminished by the smallest hourly value.)

1907.												
Hour, Greenwich Civil Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Midn.	0.5	0.2	1.6	3.8	2.4	3.7	2.5	2.4	2.0	1.0	0.5	0.2
1 ^h	0.9	0.5	1.9	4.1	2.3	3.5	2.6	2.5	2.0	1.2	1.1	0.6
2	1.2	0.9	2.3	4.1	2.4	3.4	2.6	2.4	1.9	1.3	1.7	1.0
3	1.3	1.2	2.4	3.9	2.6	3.1	2.4	2.2	1.7	1.4	2.1	1.3
4	1.2	1.6	2.7	3.9	2.3	2.6	2.0	1.8	1.4	1.6	2.3	1.4
5	1.1	1.9	2.9	3.4	1.4	1.8	1.3	1.2	1.3	1.7	2.2	1.2
6	1.1	1.9	2.6	2.4	0.5	1.0	0.4	0.4	1.0	1.6	2.1	1.2
7	1.2	1.8	1.7	0.9	0.0	0.0	0.0	0.0	0.3	1.3	1.9	1.2
8	1.2	1.2	0.4	0.0	0.3	0.2	0.1	0.2	0.0	0.5	1.5	1.2
9	1.5	1.0	0.0	0.8	1.7	1.5	1.0	1.3	0.9	0.1	1.4	1.2
10	2.4	2.0	1.6	3.6	4.0	3.8	2.9	3.3	3.1	1.1	2.4	1.8
11	3.4	4.3	4.3	7.3	7.0	7.1	5.5	5.9	5.9	3.8	4.5	2.8
Noon.	4.5	6.7	7.5	10.6	9.7	9.2	8.0	8.1	8.0	6.3	6.0	3.6
13 ^h	5.4	7.5	9.2	12.2	10.6	10.5	8.9	9.0	9.3	7.5	6.5	4.3
14	5.0	7.4	9.0	11.7	10.1	10.9	9.2	8.8	9.2	7.7	5.9	4.0
15	4.0	6.5	7.9	9.8	9.0	10.2	8.6	7.7	7.8	6.3	5.0	3.4
16	3.6	5.0	6.2	8.0	7.6	9.0	7.4	6.1	6.2	4.3	4.1	2.8
17	3.0	3.8	4.6	6.4	6.1	7.5	6.1	4.8	4.7	3.0	3.5	2.1
18	2.6	3.1	3.7	5.2	4.7	6.2	4.9	3.8	3.4	2.4	2.9	1.7
19	1.9	2.7	3.1	4.8	3.7	5.1	4.1	3.3	2.7	1.8	2.2	1.4
20	1.2	2.0	2.9	4.3	3.1	4.7	3.5	2.8	2.3	0.9	1.2	1.0
21	0.4	1.0	2.5	4.1	2.9	4.3	3.1	2.3	2.0	0.2	0.3	0.5
22	0.0	0.2	1.9	4.0	2.8	3.9	2.8	2.1	1.9	0.0	0.0	0.0
23	0.0	0.0	1.7	3.8	2.6	3.8	2.7	2.2	1.9	0.4	0.0	0.1
Means	2.02	2.68	3.53	5.13	4.16	4.87	3.86	3.53	3.37	2.39	2.55	1.67

TABLE III.—MEAN HORIZONTAL MAGNETIC FORCE (diminished by a Constant) FOR EACH CIVIL DAY.

(Each result is the mean of 24 hourly ordinates from the photographic register, expressed in terms of the whole Horizontal Force, the unit in the table being 00001 of the whole Horizontal Force. The letters u and c indicate respectively values uncorrected for, and corrected for temperature.)

1907.

Day of Month.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
	u	c	u	c	u	c	u	c	u	c	u	c	u	c	u	c	u	c	u	c	u	c	u	c
d																								
1	...	...	930	529	040	610	090	694	159	719	472	052	512	084	646	221	797	353	932	504	653	216	609	148
2	058	669	931	506	983	577	115	731	157	746	485	048	500	087	656	233	782	340	895	455	687	271	540	110
3	056	612	905	470	025	631	211	774	134	714	435	007	499	076	672	278	817	370	859	422	574	158	654	205
4	044	604	868	457	082	647	200	751	207	787	454	046	491	087	716	336	747	315	855	423	556	150	644	195
5	025	600	907	499	049	607	175	738	250	820	499	095	518	117	680	288	803	387	838	401	598	168	619	201
6	987	610	015	583	052	634	063	652	306	902	588	144	501	090	653	245	930	507	854	455	654	210	572	142
7	984	571	755	332	076	644	029	597	376	932	505	092	473	055	636	211	947	531	888	480	641	221	597	174
8	044	609	750	325	064	648	040	632	383	948	475	083	455	039	673	250	945	529	852	394	639	223	575	181
9	999	557	...	...	064	639	077	671	360	949	593	175	451	035	744	348	970	542	751	326	672	264	594	181
10	076	656	...	...	041	628	097	674	442	038	555	135	489	066	773	377	947	519	792	388	587	150	552	148
11	945	537	709	322	028	588	110	678	459	031	507	099	388	946	732	312	807	363	806	388	494	071	557	146
12	944	512	823	405	887	457	071	667	470	052	546	123	449	024	771	348	786	344	818	378	549	102	571	153
13	944	562	892	460	935	531	157	746	422	009	544	104	417	013	787	376	840	417	825	376	571	134	567	137
14	017	589	844	400	958	540	153	740	406	978	573	143	493	101	819	427	856	426	698	270	571	158	590	150
15	968	545	848	440	036	642	118	705	382	954	602	194	505	111	792	396	869	411	675	228	568	188	607	155
16	040	620	023	576	149	741	100	684	348	937	582	142	534	133	794	378	842	405	660	228	600	160	578	136
17	027	609	053	618	188	753	127	707	309	884	515	080	533	125	765	345	860	428	695	279	567	139	541	118
18	070	630	050	632	194	783	126	694	292	850	527	104	521	105	862	449	768	324	697	284	570	176	564	139
19	068	633	059	634	159	727	996	578	148	692	494	066	585	169	849	421	810	366	797	372	610	182	626	239
20	071	622	055	611	072	683	013	609	182	740	349	926	554	141	852	424	823	400	882	433	629	187	683	267
21	061	629	943	527	090	660	039	659	164	739	410	985	563	150	744	314	836	418	818	395	447	022	713	288
22	002	560	876	463	939	523	083	706	167	754	384	973	698	297	750	332	838	413	707	284	385	948	717	282
23	935	477	861	431	983	548	183	758	288	901	362	930	656	267	781	365	820	353	646	214	430	010	719	303
24	941	460	818	395	018	569	285	877	366	950	368	945	677	259	767	344	781	337	658	221	460	016	750	310
25	037	542	860	483	051	631	272	861	368	952	386	956	726	313	832	397	726	325	641	209	460	056	674	237
26	081	552	958	542	027	631	250	810	395	970	418	012	683	301	890	474	820	400	628	181	544	107	611	186
27	080	556	010	580	059	646	186	773	460	025	470	081	716	336	905	475	871	446	582	124	572	173	585	153
28	007	591	005	582	108	688	139	721	497	077	553	130	660	271	899	462	863	440	615	168	602	179	573	136
29	965	571			112	711	115	726	341	889	515	083	623	243	863	450	904	467	673	238	621	181	544	109
30	959	546			048	668	187	757	249	833	536	096	636	242	872	456	923	495	684	237	614	153	541	104
31	977	554			142	712			357	970			620	202	865	442			648	220				

At the end of the year experiments were made for determination of the angle of torsion, thus breaking the continuity of the values.

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

1907.												
Day of Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d												
1	...	67.7	66.5	67.9	66.1	66.9	66.6	66.7	65.9	66.6	66.2	65.2
2	68.2	66.7	67.5	68.4	67.3	66.2	67.2	66.8	66.0	66.1	67.1	66.5
3	65.9	66.3	68.0	66.2	66.9	66.6	66.8	68.0	65.8	66.2	67.1	65.7
4	66.1	67.3	66.3	65.7	66.9	67.4	67.6	68.6	66.4	66.4	67.5	65.7
5	66.7	67.4	66.0	66.2	66.5	67.6	67.7	68.1	67.1	66.2	66.5	67.0
6	68.7	66.4	67.0	67.3	67.6	65.9	67.3	67.4	66.8	67.8	65.9	66.5
7	67.2	66.8	66.4	66.4	65.9	67.2	67.0	66.7	67.1	67.4	66.9	66.8
8	66.3	66.7	67.1	67.4	66.3	68.1	67.1	66.8	67.1	65.3	67.1	68.0
9	66.0	...	66.7	67.5	67.3	67.0	67.1	67.9	66.6	66.7	67.4	67.2
10	66.9	...	67.2	66.8	67.6	66.9	66.8	67.9	66.6	67.6	66.2	67.6
11	67.4	68.3	66.1	66.4	66.6	67.4	66.0	66.9	65.9	67.0	66.8	67.3
12	66.4	67.0	66.5	67.6	67.0	66.8	66.7	66.8	66.0	66.1	65.8	67.0
13	68.5	66.4	67.6	67.3	67.2	66.1	67.6	67.3	66.8	65.7	66.2	66.5
14	66.6	65.9	67.0	67.2	66.6	66.5	68.1	68.1	66.5	66.6	67.2	66.1
15	66.8	67.4	68.0	67.2	66.6	67.4	68.0	67.9	65.3	65.8	68.6	65.6
16	66.9	65.8	67.4	67.1	67.3	66.1	67.7	67.1	66.2	66.4	66.1	66.0
17	67.0	66.3	66.3	66.9	66.7	66.3	67.4	66.9	66.4	67.1	66.6	66.8
18	66.1	67.0	67.3	66.4	66.0	66.8	67.1	67.2	65.9	67.2	68.0	66.7
19	66.3	66.7	66.4	67.0	65.4	66.6	67.1	66.6	65.9	66.7	66.6	68.3
20	65.7	65.9	68.2	67.6	66.0	66.8	67.2	66.6	66.8	65.7	66.0	67.1
21	66.4	67.1	66.5	68.6	66.7	66.7	67.2	66.5	67.0	66.8	66.7	66.7
22	66.0	67.2	67.1	68.7	67.2	67.3	67.7	67.0	66.7	66.8	66.2	66.3
23	65.3	66.5	66.3	66.7	68.3	66.4	68.2	67.1	64.9	66.4	66.9	67.1
24	64.3	66.8	65.7	67.4	67.1	66.8	67.0	66.8	65.9	66.2	65.9	66.1
25	63.7	68.7	66.9	67.3	67.1	66.5	67.2	66.3	67.7	66.4	67.6	66.2
26	62.2	67.1	67.9	66.1	66.7	67.5	68.5	67.1	66.9	65.8	66.2	66.7
27	62.4	66.5	67.2	67.2	66.3	68.2	68.6	66.5	66.7	65.3	67.8	66.4
28	67.1	66.8	66.9	67.0	66.9	66.8	68.2	66.2	66.8	65.8	66.8	66.2
29	68.0		67.7	68.2	65.6	66.4	68.6	67.2	66.2	66.3	66.1	66.3
30	67.2		68.6	66.5	67.1	66.1	68.0	67.1	66.6	65.8	65.2	66.2
31	66.8		66.5		68.3		67.0	66.8		66.6		...
Means	66.30	66.87	66.99	67.14	66.81	66.84	67.43	67.13	66.42	66.41	66.71	66.59

TABLE V.—MONTHLY MEAN DIURNAL INEQUALITY OF HORIZONTAL MAGNETIC FORCE.

(The results are expressed in terms of the whole Horizontal Force, diminished in each case by the smallest hourly value, the unit in the table being '00001 of the whole Horizontal Force. The letters u and c indicate respectively values uncorrected for, and corrected for temperature.)

1907.																								
Hour, Greenwich Civil Time.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
	u	c	u	c	u	c	u	c	u	c	u	c	u	c	u	c	u	c	u	c	u	c	u	c
Midnight.	25	49	143	160	109	133	206	223	166	180	182	199	189	204	188	203	162	178	167	176	103	115	29	43
1 ^h	32	53	150	164	112	133	204	218	159	171	185	199	185	200	185	200	163	176	171	178	108	117	40	52
2	38	55	155	167	116	135	200	212	155	164	182	194	183	195	182	194	158	169	174	181	110	117	44	53
3	44	58	161	171	122	138	192	201	154	163	177	187	179	189	182	192	157	166	170	175	118	122	49	56
4	51	60	167	174	123	135	194	203	152	159	176	183	172	180	173	180	153	159	173	175	129	133	58	63
5	64	71	176	181	137	146	199	206	142	146	161	166	159	164	156	161	144	150	180	180	141	143	73	75
6	75	77	183	188	139	146	198	203	123	125	131	136	127	130	128	131	133	137	179	179	146	146	80	82
7	75	77	172	174	126	130	168	170	83	85	93	95	86	86	96	99	112	113	163	160	132	132	76	78
8	56	56	137	139	89	93	107	109	36	38	46	48	45	45	54	54	69	68	120	117	112	112	58	60
9	33	33	75	77	43	45	46	48	10	12	18	18	17	17	17	17	26	25	65	62	61	61	33	33
10	12	12	28	28	10	10	4	4	0	0	0	0	0	0	0	0	1	0	17	14	17	17	6	6
11	0	0	0	0	0	0	0	0	13	15	9	9	8	8	27	27	0	1	0	0	0	0	1	1
Noon.	14	16	7	7	21	23	48	50	49	51	39	39	53	53	73	76	33	37	8	8	8	10	0	0
1 ^{3h}	23	30	30	30	54	58	103	108	81	88	79	84	98	101	127	132	77	83	45	50	33	37	9	11
14	16	25	63	68	83	92	149	158	93	102	127	134	137	142	157	164	96	105	84	89	52	59	7	12
15	6	20	84	94	101	115	184	196	131	143	167	174	177	185	177	184	102	113	97	104	53	65	11	20
16	0	21	90	102	111	127	208	222	172	186	198	208	198	208	188	198	118	129	104	113	52	64	17	31
17	3	29	99	113	115	136	220	237	202	218	228	240	217	229	198	208	130	143	122	131	60	74	25	44
18	6	35	115	132	120	141	228	247	229	245	253	265	231	243	218	230	142	158	137	146	76	90	28	47
19	13	42	124	141	123	147	227	246	237	253	260	272	236	251	232	244	156	172	142	154	85	99	24	45
20	14	43	128	145	126	152	228	247	219	235	247	261	233	250	233	248	158	174	140	152	93	107	17	38
21	15	44	132	149	136	162	225	244	196	215	224	238	221	238	221	236	164	182	149	161	90	104	18	37
22	15	41	140	154	130	156	226	243	180	196	203	217	208	225	203	218	167	183	158	167	90	104	16	35
23	14	38	141	155	116	140	218	235	175	191	192	206	203	220	195	210	168	184	160	169	93	105	20	37
Means corrected for Temperature.	41°0		121°4		112°2		176°2		140°9		157°2		156°8		158°6		125°2		126°7		88°9		40°0	

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

1907.													
Hour, Greenwich Civil Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	For the Year.
Midnight.	66°7	67°2	67°4	67°4	67°0	67°2	67°7	67°4	66°7	66°6	66°9	66°8	67°08
1 ^h	66°6	67°1	67°3	67°3	66°9	67°1	67°7	67°4	66°6	66°5	66°8	66°7	67°00
2	66°4	67°0	67°2	67°2	66°8	67°0	67°6	67°3	66°5	66°5	66°7	66°6	66°90
3	66°3	66°9	67°1	67°1	66°8	66°9	67°5	67°2	66°4	66°4	66°6	66°5	66°81
4	66°1	66°8	66°9	67°1	66°7	66°8	67°4	67°1	66°3	66°3	66°6	66°4	66°71
5	66°0	66°7	66°8	67°0	66°6	66°7	67°3	67°0	66°3	66°2	66°5	66°3	66°62
6	65°8	66°7	66°7	66°9	66°5	66°7	67°2	66°9	66°2	66°2	66°4	66°3	66°54
7	65°8	66°6	66°6	66°8	66°5	66°6	67°1	66°9	66°1	66°1	66°4	66°3	66°48
8	65°7	66°6	66°5	66°8	66°5	66°6	67°1	66°8	66°0	66°1	66°4	66°3	66°46
9	65°7	66°6	66°4	66°7	66°4	66°5	67°1	66°8	66°0	66°1	66°4	66°2	66°43
10	65°7	66°5	66°4	66°7	66°4	66°5	67°1	66°8	66°0	66°1	66°4	66°2	66°40
11	65°7	66°5	66°4	66°7	66°5	66°5	67°1	66°8	66°1	66°2	66°4	66°2	66°42
Noon.	65°8	66°5	66°5	66°8	66°5	66°5	67°1	66°9	66°2	66°2	66°5	66°2	66°48
1 ^{3h}	66°0	66°5	66°6	66°9	66°7	66°7	67°2	67°0	66°3	66°4	66°6	66°3	66°60
14	66°1	66°7	66°8	67°1	66°8	66°8	67°3	67°1	66°4	66°4	66°7	66°4	66°72
15	66°3	66°9	67°0	67°2	66°9	66°8	67°4	67°1	66°5	66°5	66°9	66°6	66°84
16	66°6	67°0	67°1	67°3	67°0	66°9	67°5	67°2	66°5	66°6	66°9	66°8	66°95
17	66°8	67°1	67°3	67°4	67°1	67°0	67°6	67°2	66°6	66°6	67°0	67°0	67°06
18	66°9	67°2	67°3	67°5	67°1	67°0	67°6	67°3	66°7	66°6	67°0	67°0	67°10
19	66°9	67°2	67°4	67°5	67°1	67°0	67°7	67°3	66°7	66°7	67°0	67°1	67°13
20	66°9	67°2	67°5	67°5	67°1	67°1	67°8	67°4	66°7	66°7	67°0	67°1	67°17
21	66°9	67°2	67°5	67°5	67°2	67°1	67°8	67°4	66°8	66°7	67°0	67°0	67°17
22	66°8	67°1	67°5	67°4	67°1	67°1	67°8	67°4	66°7	66°6	67°0	67°0	67°13
23	66°7	67°1	67°4	67°4	67°1	67°1	67°8	67°4	66°7	66°6	66°9	66°9	67°09

TABLE VII.—MEAN VERTICAL MAGNETIC FORCE (diminished by a Constant) FOR EACH CIVIL DAY.

(Each result is the mean of 24 hourly ordinates from the photographic register, expressed in terms of the whole Vertical Force, the unit in the table being 00001 of the whole Vertical Force. The letters u and c indicate respectively values uncorrected for, and corrected for temperature.)

1907.

Day of Month.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
	u	c	u	c	u	c	u	c	u	c	u	c	u	c	u	c	u	c	u	c	u	c	u	c
d																								
1	...	...	010	266	020	280	017	262	966	237	050	316	068	324	099	363	087	372	096	362	985	241	927	193
2	049	296	022	288	027	272	037	261	979	220	034	309	058	310	073	329	074	340	079	350	992	237	948	191
3	014	282	000	264	041	278	993	278	965	229	034	288	048	312	099	336	067	361	056	314	005	252	935	203
4	020	280	023	256	005	276	976	259	958	218	049	280	055	292	114	349	053	315	026	284	008	255	918	186
5	039	284	014	261	000	264	995	268	955	221	057	302	065	310	122	365	059	319	002	260	015	290	923	189
6	101	315	973	239	019	287	012	270	986	233	031	306	035	293	125	385	073	341	018	247	003	295	921	179
7	098	348	992	248	003	271	001	272	972	255	042	275	042	302	117	400	097	363	025	277	018	280	912	159
8	035	295	013	271	008	266	012	266	959	217	065	306	043	307	103	376	100	354	975	273	008	274	927	153
9	045	328	...	...	004	264	006	251	990	250	056	322	056	320	107	357	108	376	984	238	013	273	940	183
10	047	307	...	...	021	268	004	272	003	257	048	316	066	334	122	374	125	396	016	263	023	321	952	202
11	100	360	116	357	990	256	990	267	000	277	056	316	031	316	107	380	113	394	000	260	027	279	951	209
12	067	333	041	301	986	254	031	272	018	291	058	322	075	339	106	381	111	398	980	248	983	245	943	203
13	122	355	042	315	045	299	004	258	044	321	062	337	074	315	098	362	117	388	975	252	986	233	928	190
14	070	343	061	327	029	293	004	262	047	311	059	315	084	310	131	376	117	388	990	252	978	217	931	208
15	070	341	071	306	018	263	995	253	052	302	078	338	092	333	134	388	096	385	975	254	001	225	914	189
16	071	335	045	309	015	275	011	269	063	306	057	338	091	345	119	394	099	361	995	253	979	264	916	176
17	070	341	037	291	991	270	000	260	043	303	058	324	096	358	122	382	116	395	009	269	980	246	926	173
18	047	318	059	309	009	271	974	236	019	292	053	311	093	355	132	390	112	387	014	255	005	244	923	185
19	047	313	050	302	997	257	986	238	968	243	077	339	093	361	113	386	092	367	008	272	984	244	943	188
20	030	311	028	301	039	255	989	228	005	271	054	314	082	348	098	360	097	353	992	260	972	249	943	216
21	044	308	055	296	014	272	998	218	013	263	074	336	076	336	097	361	095	357	025	281	023	287	950	233
22	049	326	067	314	032	294	019	237	018	259	074	317	106	353	105	359	094	356	044	308	006	285	945	218
23	000	275	038	296	018	295	986	254	034	275	066	339	140	390	107	373	061	365	031	302	994	256	964	214
24	970	264	029	268	993	278	997	263	021	285	058	314	111	382	093	366	045	328	016	270	973	248	946	219
25	943	252	065	279	004	260	008	279	024	274	047	309	104	366	077	358	077	327	005	261	975	204	939	214
26	910	251	039	301	033	262	989	278	029	308	065	308	122	351	089	357	093	366	989	245	948	210	941	207
27	899	238	018	295	028	275	010	253	026	299	087	324	139	378	084	355	065	344	005	288	963	200	920	182
28	986	225	015	283	001	253	992	244	037	308	078	357	107	346	082	361	092	367	984	252	957	221	890	148
29	043	295			013	248	010	243	022	303	072	349	135	374	087	347	063	342	985	247	948	225	885	120
30	009	282			045	276	990	261	053	292	061	340	141	388	095	361	072	336	984	248	932	207	875	125
31	992	273			992	271			059	292			121	383	108	381			988	233				

At the end of the year the magnet was readjusted, thus breaking the continuity of the values.

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

1907.												
Day of Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	...	67.1	66.9	67.6	66.4	66.6	67.1	66.7	65.7	66.6	67.1	66.6
1	67.5	66.6	67.6	68.6	67.8	66.2	67.3	67.1	66.6	66.4	67.6	67.7
2	66.5	66.7	68.0	65.7	66.7	67.2	66.7	68.0	65.3	67.0	67.5	66.5
3	66.9	68.2	66.4	65.8	66.9	68.3	68.0	68.1	66.8	67.0	67.5	66.5
4	67.6	67.5	66.7	66.3	66.6	67.6	67.6	67.7	66.9	67.0	66.2	66.6
5	69.1	66.6	66.5	67.0	67.5	66.2	67.0	66.9	66.5	68.4	65.4	67.0
6	67.4	67.1	66.5	66.4	65.8	68.2	66.9	65.8	66.6	67.3	66.8	67.5
7	66.9	67.0	67.0	67.2	67.0	67.8	66.7	66.3	67.2	65.1	66.6	68.5
8	65.8	...	66.9	67.6	66.9	66.6	66.7	67.4	66.5	67.2	66.9	67.7
9	66.9	...	67.5	66.5	67.2	66.5	66.5	67.3	66.4	67.5	65.1	67.4
10	66.9	67.8	66.6	66.1	66.1	66.9	65.7	66.3	65.9	66.9	67.3	67.0
11	66.6	66.9	66.5	67.8	66.3	66.7	66.7	66.2	65.6	66.5	66.8	66.9
12	68.2	66.3	67.2	67.2	66.1	66.2	67.8	66.7	66.4	66.1	67.5	66.8
13	66.3	66.6	66.7	67.0	66.7	67.1	68.5	67.6	66.4	66.8	67.9	66.1
14	66.4	68.1	67.6	67.0	67.4	66.9	67.8	67.2	65.5	66.0	68.6	66.2
15	66.7	66.7	66.9	67.0	67.7	65.9	67.2	66.2	66.8	67.0	65.7	66.9
16	66.4	67.2	66.0	66.9	66.9	66.6	66.8	66.9	66.0	66.9	66.6	67.5
17	66.4	67.4	66.8	66.8	66.3	67.0	66.8	67.0	66.2	67.8	67.9	66.8
18	66.6	67.3	66.9	67.3	66.2	66.8	66.5	66.3	66.2	66.7	66.9	67.6
19	65.9	66.3	69.0	67.9	66.6	66.9	66.6	66.8	67.1	66.5	66.1	66.3
20	66.7	67.8	67.0	68.8	67.4	66.8	66.9	66.7	66.8	67.1	66.7	65.8
21	66.1	67.5	66.8	68.9	67.8	67.7	67.5	67.2	66.8	66.7	66.0	66.3
22	66.2	67.0	66.1	66.5	67.8	66.3	67.4	66.6	64.8	66.4	66.8	67.4
23	65.3	67.9	65.7	66.6	66.7	67.1	66.4	66.3	65.8	67.2	66.2	66.3
24	64.6	69.1	67.1	66.4	67.4	66.8	66.8	65.9	67.4	67.1	68.4	66.2
25	63.1	66.8	68.4	65.5	66.0	67.7	68.4	66.5	66.3	67.1	66.8	66.6
26	63.2	66.1	67.5	67.7	66.3	68.0	67.9	66.4	66.0	65.8	68.0	66.8
27	67.9	66.5	67.3	67.3	66.4	66.0	67.9	66.0	66.2	66.5	66.7	67.0
28	67.3		68.1	68.2	65.9	66.1	67.9	66.9	66.0	66.8	66.1	68.1
29	66.3		68.3	66.4	67.9	66.0	67.5	66.6	66.7	66.7	66.2	67.4
30	65.9		66.0		68.2		66.8	66.3		67.6		...
31												
Means	66.45	67.16	67.05	67.07	66.87	66.89	67.17	66.77	66.31	66.83	66.86	66.93

TABLE IX.—MONTHLY MEAN DIURNAL INEQUALITY OF VERTICAL MAGNETIC FORCE.

(The results are expressed in terms of the whole Vertical Force, diminished in each case by the smallest hourly value, the unit in the table being 00001 of the whole Vertical Force. The letters u and c indicate respectively values uncorrected for, and corrected for temperature.)

Table with 12 columns for months (January to December) and 24 rows for hours (Midnight to 23). Each month has two sub-columns: 'u' (uncorrected) and 'c' (corrected). A final row shows 'Means corrected for Temperature' with values ranging from 15.4 to 8.5.

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

Table with 13 columns for months (January to December) and 'For the Year', and 24 rows for hours (Midnight to 23). Each cell contains a numerical temperature value.

TABLE XI.—MEAN MAGNETIC DECLINATION, HORIZONTAL FORCE, and VERTICAL FORCE, in each MONTH.

(The results for Horizontal Force and Vertical Force are corrected for Temperature.)

Month, 1907.	DECLINATION WEST in Arc.	HORIZONTAL FORCE in terms of the whole Horizontal Force (diminished by a Constant).	VERTICAL FORCE in terms of the whole Vertical Force (diminished by a Constant).	DECLINATION diminished by 15° and expressed as Westerly Force	HORIZONTAL FORCE (diminished by a Constant)	VERTICAL FORCE (diminished by a Constant)
				in terms of GAUSS'S METRICAL UNIT.		
January.....	16. 1'3	579	302	3305	1073	1314
February.....	16. 1'8	492	290	3332	912	1262
March.....	16. 1'8	635	271	3332	1177	1179
April.....	16. 0'5	712	258	3262	1320	1123
May.....	16. 0'1	895	271	3240	1659	1179
June.....	15. 59'9	1068	319	3229	1979	1388
July.....	15. 59'5	1145	340	3208	2122	1480
August.....	15. 59'5	1361	368	3208	2522	1602
September.....	16. 0'3	1412	361	3251	2617	1571
October.....	15. 57'7	1322	270	3111	2450	1175
November.....	15. 57'1	1146	250	3078	2124	1088
December.....	15. 57'8	1181	189	3116	2189	823
Means.....	15. 59'8	.....	.....	3223	.....	.....
Number of Column.....	1	2	3	4	5	6

The units in columns 2 and 3 are '00001 of the whole Horizontal and Vertical Forces respectively; in columns 4, 5, and 6 the unit is '00001 of the Millimètre-Milligramme-Second Unit, or '000001 of the Centimètre-Gramme-Second (C.G.S.) Unit, in terms of which units the values of the whole Horizontal Force (applicable to columns 4 and 5) are 1'8533 and 0'18533 respectively for the year, and of whole Vertical Force (applicable to column 6) are 4'3521 and 0'43521 respectively for the year.

HORIZONTAL FORCE.—At the end of the year experiments were made for determination of the angle of torsion, thus breaking the continuity of the values.
 VERTICAL FORCE.—At the end of the year the magnet was readjusted, thus breaking the continuity of the values.

TABLE XII.—MEAN DIURNAL INEQUALITIES OF MAGNETIC DECLINATION, HORIZONTAL FORCE, and VERTICAL FORCE,
for the YEAR 1907.

(Each result is the mean of the twelve monthly mean values, the annual means for each element being diminished by the smallest hourly value. The results for Horizontal Force and Vertical Force are corrected for temperature.)

Hour, Greenwich Civil Time.	Inequality of			Inequality of		
	DECLINATION WEST in Arc.	HORIZONTAL FORCE in terms of the whole Horizontal Force.	VERTICAL FORCE in terms of the whole Vertical Force.	DECLINATION expressed as WESTERLY FORCE	HORIZONTAL FORCE	VERTICAL FORCE
				in terms of GAUSS'S METRICAL UNIT.		
Midnight.	1.16	150.2	26.5	62.5	278.4	115.3
1 ^h	1.36	150.0	22.3	73.3	278.0	97.1
2	1.53	147.9	19.9	82.5	274.1	86.6
3	1.56	146.4	19.6	84.1	271.3	85.3
4	1.50	145.2	21.6	80.9	269.1	94.0
5	1.21	144.0	23.5	65.2	266.9	102.3
6	0.78	134.9	25.3	42.1	250.0	110.1
7	0.29	111.5	27.4	15.6	206.6	119.2
8	0.00	73.1	28.1	0.0	135.5	122.3
9	0.46	32.2	22.1	24.8	59.7	96.2
10	2.10	2.5	13.1	113.2	4.6	57.0
11	4.58	0.0	4.8	246.9	0.0	20.9
Noon.	6.78	25.7	0.0	365.5	47.6	0.0
13 ^h	7.84	62.6	7.6	422.7	116.0	33.1
14	7.67	90.7	18.5	413.5	168.1	80.5
15	6.61	112.7	29.1	356.4	208.9	126.6
16	5.29	129.0	37.1	285.2	239.1	161.5
17	4.06	145.1	44.3	218.9	268.9	192.8
18	3.15	159.8	47.0	169.8	296.2	204.5
19	2.50	167.1	46.0	134.8	309.7	200.2
20	1.90	165.9	44.2	103.5	307.5	192.4
21	1.40	162.4	39.8	75.5	301.0	173.2
22	1.06	156.5	35.3	57.1	290.0	153.6
23	1.03	152.4	31.0	55.5	282.4	134.9
Means	2.74	115.3	26.4	147.9	213.7	115.0
Number of Column	1	2	3	4	5	6

The units in columns 2 and 3 are '00001 of the whole Horizontal and Vertical Forces respectively; in columns 4, 5, and 6 the unit is '00001 of the Millimètre-Milligramme-Second Unit, or '000001 of the Centimètre-Gramme-Second (C.G.S.) Unit, in terms of which units the values of the whole Horizontal Force (applicable to columns 4 and 5) are 1.8533 and 0.18533 respectively, and of the whole Vertical Force (applicable to column 6) are 4.3521 and 0.43521 respectively.

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

(The Declination is expressed in minutes of arc ; the unit for Horizontal Force is '00001 of the whole Horizontal Force. The results for Horizontal Force are corrected for temperature.)

1907.

Day of Month.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
	Dec.	H.F.	Dec.	H.F.	Dec.	H.F.	Dec.	H.F.	Dec.	H.F.	Dec.	H.F.	Dec.	H.F.	Dec.	H.F.	Dec.	H.F.	Dec.	H.F.	Dec.	H.F.	Dec.	H.F.
1	4'6	...	5'7	187	11'4	127	11'7	283	11'7	308	13'9	295	9'9	291	11'0	289	9'2	281	11'2	247	6'2	174	5'0	92
2	5'3	216	7'0	145	10'9	130	12'0	292	8'6	314	9'2	255	9'2	342	11'4	352	9'8	251	7'9	292	8'8	201	4'5	123
3	5'0	89	7'5	202	6'9	138	14'1	267	12'5	407	8'1	259	8'6	349	6'2	341	8'1	255	6'0	134	20'2	363	3'3	119
4	4'0	104	5'4	192	8'0	116	13'5	291	12'1	232	8'7	301	9'0	186	9'2	340	10'3	320	7'5	217	20'0	257	7'2	144
5	6'8	232	6'9	307	10'4	262	13'6	259	11'3	229	9'2	343	7'1	299	10'2	239	9'0	338	7'5	201	8'6	177	5'2	167
6	6'9	71	5'9	127	8'6	175	15'3	221	9'8	380	9'8	245	12'7	297	10'0	204	13'7	335	6'6	187	7'5	155	7'2	149
7	9'7	37	15'7	533	9'9	237	10'7	287	8'9	290	9'2	271	11'0	257	7'2	206	10'0	325	8'1	96	7'1	125	9'3	245
8	14'4	310	15'2	188	10'2	203	12'1	313	9'9	206	10'7	293	9'1	265	11'1	261	12'0	357	14'4	232	8'5	225	8'7	88
9	8'8	103	...	...	10'6	142	10'4	299	12'1	268	12'0	236	10'3	282	8'2	479	10'5	259	13'3	228	8'8	222	2'9	120
10	3'0	106	...	...	14'8	363	12'1	280	12'2	327	13'7	294	14'4	305	12'6	225	21'2	370	9'0	250	10'4	392	7'8	310
11	10'4	379	12'9	210	12'5	172	11'7	265	14'8	271	11'2	355	15'5	532	10'2	308	15'5	385	7'5	230	14'0	277	6'6	158
12	5'2	136	9'8	282	20'6	387	13'5	262	12'5	278	14'2	428	11'5	271	8'2	335	14'7	351	8'0	233	12'4	275	6'9	195
13	5'0	131	10'3	200	7'3	178	13'4	342	15'8	417	14'2	407	10'4	319	9'1	349	11'3	351	19'5	318	5'2	183	8'8	226
14	9'4	290	13'5	565	10'0	229	15'0	379	16'4	306	11'0	259	10'9	249	11'9	231	10'5	302	20'6	335	8'2	236	4'6	157
15	9'6	170	10'1	414	11'3	332	10'9	358	13'1	426	11'0	328	11'7	286	9'0	220	9'6	221	11'1	347	8'8	211	4'4	88
16	4'2	105	9'4	264	10'7	241	13'8	507	8'5	239	9'9	241	11'7	259	5'9	174	13'3	181	6'9	266	4'5	182	4'2	65
17	3'8	140	8'0	132	10'1	206	14'5	307	7'7	177	9'0	241	9'5	278	8'9	249	8'1	190	11'2	291	6'9	75	6'3	207
18	2'7	102	6'4	204	10'1	119	14'1	263	15'8	429	13'0	302	10'2	364	7'5	402	8'0	219	9'5	282	5'3	126	6'3	127
19	5'1	117	9'3	207	10'9	175	10'6	324	19'3	365	13'7	365	9'4	219	9'8	345	8'5	246	9'1	253	4'8	132	4'8	135
20	4'9	120	10'0	151	12'9	228	9'0	216	9'6	239	12'5	385	11'3	207	9'9	268	9'3	214	8'8	113	4'7	159	8'1	165
21	4'9	149	8'4	202	20'0	452	11'6	294	9'7	242	9'9	269	11'3	338	8'0	470	9'3	195	7'9	284	15'6	523	3'0	110
22	8'5	238	10'3	257	14'6	269	14'3	300	9'2	300	13'8	356	12'3	139	10'4	279	8'9	130	15'8	464	11'2	307	4'4	89
23	11'1	142	11'1	334	9'7	237	13'0	360	9'3	317	11'3	298	9'0	275	14'3	222	9'5	219	7'4	217	6'7	162	3'3	62
24	6'8	133	13'1	323	11'1	277	10'9	277	9'7	435	11'8	399	11'3	338	14'0	257	10'0	282	8'1	237	5'9	169	2'9	111
25	5'6	104	9'2	223	12'5	270	12'9	265	11'0	294	14'3	329	10'5	434	11'1	296	10'9	182	8'4	212	4'4	148	2'9	181
26	5'2	153	6'6	150	11'3	205	13'6	244	10'3	210	13'8	380	10'8	404	11'2	295	11'2	379	8'5	316	3'9	133	4'0	170
27	6'6	44	10'8	244	10'5	205	13'1	221	11'3	209	10'6	436	12'0	303	11'3	332	10'5	314	13'9	322	6'0	183	5'1	154
28	7'0	231	12'9	283	9'9	221	11'1	203	16'3	315	12'5	355	8'5	492	10'0	307	10'8	242	10'2	201	5'7	120	4'4	78
29	8'8	146	...	...	11'1	178	16'1	338	19'9	401	9'5	237	12'0	323	10'2	279	6'5	222	9'1	201	4'6	112	3'5	69
30	9'8	97	...	...	12'7	224	13'6	326	9'7	286	12'1	294	8'5	275	16'0	265	13'0	257	6'1	213	4'3	128	5'6	170
31	7'1	127	...	...	12'8	228	...	...	14'8	297	...	...	9'0	264	9'6	270	...	...	5'7	169	...	...	3'0	...
Means	6'8	151	9'7	251	11'4	223	12'7	295	12'1	304	11'5	315	10'6	305	10'1	293	10'8	272	9'8	245	8'3	204	5'3	142

The mean of the twelve monthly values is, for Declination 9'92, and for Horizontal Force 250'0.

TABLE XIV.—MONTHLY MEAN DIURNAL RANGE, and SUMS of HOURLY DEVIATIONS from MEAN, for DECLINATION, HORIZONTAL FORCE, and VERTICAL FORCE, as deduced from the Monthly Mean Diurnal Inequalities, Tables II., V., and IX.

(The Declination is expressed in minutes of arc : the units for Horizontal Force and Vertical Force are '00001 of the whole Horizontal and Vertical Forces respectively. The results for Horizontal Force and Vertical Force are corrected for temperature.)

Month, 1907.	Difference between the Greatest and Least of the 24 Hourly Values.			Sum of the 24 Hourly Deviations from the Mean Value.		
	Declination.	Horizontal Force.	Vertical Force.	Declination.	Horizontal Force.	Vertical Force.
January	5'4	77	28	31'2	385	141
February	7'5	188	41	45'8	1149	293
March	9'2	162	48	48'2	931	224
April	12'2	247	69	60'1	1528	348
May	10'6	253	76	63'4	1503	384
June	10'9	272	67	63'8	1704	321
July	9'2	251	55	56'2	1657	277
August	9'0	248	46	51'8	1462	258
September	9'3	184	54	55'3	1165	267
October	7'7	181	44	44'4	1165	257
November	6'5	146	31	36'3	825	193
December	4'3	82	15	23'2	437	89
Means	8'48	190'9	47'8	48'31	1159'2	254'3

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

V_t = m + a₁ cos t + b₁ sin t + a₂ cos 2t + b₂ sin 2t + a₃ cos 3t + b₃ sin 3t + a₄ cos 4t + b₄ 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., V., IX., and XII., 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 units for Horizontal Force and Vertical Force are 1/10000 of the whole Horizontal and Vertical Forces respectively.

Table with 10 columns: Month, 1907., m, a1, b1, a2, b2, a3, b3, a4, b4. It is divided into three sections: DECLINATION WEST, HORIZONTAL FORCE, and VERTICAL FORCE. Each section contains monthly data and a 'For the Year' summary row.

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

$$V_t = m + c_1 \sin(t + a) + c_2 \sin(2t + \beta) + c_3 \sin(3t + \gamma) + c_4 \sin(4t + \delta)$$

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

(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., V., IX., and XII., 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 units for Horizontal Force and Vertical Force are $\cdot 00001$ of the whole Horizontal and Vertical Forces respectively.

Month, 1907.	m	c_1	a	a'	c_2	β	β'	c_3	γ	γ'	c_4	δ	δ'
DECLINATION WEST.													
January.....	2.02	1.89	248.51	251.9	0.96	21.15	25.51	0.30	270.28	277.22	0.29	35.38	44.50
February.....	2.68	2.76	244.24	247.54	1.41	13.57	20.56	0.86	226.1	236.30	0.47	36.15	50.14
March.....	3.53	2.57	230.19	232.32	2.06	19.31	23.58	1.32	217.1	223.41	0.46	43.40	52.34
April.....	5.13	3.20	222.11	222.17	2.84	37.21	37.32	1.44	234.15	234.32	0.44	73.46	74.8
May.....	4.16	3.63	228.17	227.25	2.41	43.0	41.17	0.87	244.28	241.53	0.17	124.24	120.57
June.....	4.87	3.76	215.14	215.17	2.39	37.44	37.50	0.72	239.27	239.35	0.15	126.36	126.47
July.....	3.86	3.26	218.10	219.31	2.10	35.21	38.3	0.64	238.14	242.17	0.09	76.6	81.30
August.....	3.53	2.96	227.35	228.35	2.16	44.8	46.8	0.71	245.53	248.52	0.20	53.49	57.48
September.....	3.37	3.11	231.44	230.34	2.19	41.30	39.10	0.84	225.55	222.24	0.27	69.40	64.59
October.....	2.39	2.39	244.52	241.25	1.92	23.17	16.23	0.88	213.49	203.28	0.61	42.12	28.24
November.....	2.55	2.12	258.8	254.25	1.33	14.18	6.52	0.59	255.27	244.18	0.40	57.37	42.45
December.....	1.67	1.44	255.5	253.57	0.77	17.16	14.59	0.35	247.11	243.46	0.19	14.13	9.40
For the Year.....	2.74	2.69	232.17	232.17	1.84	31.52	31.52	0.77	233.53	233.53	0.28	54.14	54.14
HORIZONTAL FORCE.													
January.....	41.0	21.8	47.22	49.40	13.1	277.59	282.35	7.3	173.7	180.1	8.4	20.37	29.49
February.....	121.4	67.0	75.57	79.27	38.2	280.57	287.56	18.6	138.0	148.29	8.8	352.40	366.39
March.....	112.2	53.9	106.14	108.27	34.2	290.10	294.37	19.1	160.22	167.2	6.7	344.14	353.8
April.....	176.2	92.9	119.10	119.16	51.1	302.34	302.45	26.2	156.46	157.3	9.3	23.46	24.8
May.....	140.9	96.6	131.22	130.30	40.5	299.46	298.3	7.7	244.39	242.4	9.5	78.59	75.32
June.....	157.2	107.1	129.51	129.54	48.2	304.13	304.19	5.9	219.20	219.28	5.1	34.53	35.4
July.....	156.8	104.8	129.50	131.11	41.9	315.50	318.32	11.2	195.28	199.31	2.7	14.23	19.47
August.....	158.6	94.5	130.49	131.49	37.6	325.11	327.11	17.5	208.52	211.51	9.8	11.32	15.31
September.....	125.2	75.3	108.56	107.46	27.3	314.53	312.33	16.5	178.33	175.2	8.7	23.21	18.40
October.....	126.7	70.7	86.43	83.16	35.8	294.24	287.30	18.6	144.20	133.59	9.6	6.59	353.11
November.....	88.9	46.8	68.18	64.35	28.4	281.31	274.5	15.1	155.22	144.13	10.1	2.50	347.58
December.....	40.0	22.8	50.33	49.25	21.1	277.40	275.23	6.1	124.47	121.22	5.8	44.28	39.55
For the Year.....	115.3	64.6	111.7	111.7	33.7	299.30	299.30	12.4	168.9	168.9	7.2	18.52	18.52
VERTICAL FORCE.													
January.....	15.4	8.5	130.43	133.1	6.2	241.6	245.42	1.4	86.7	93.1	0.5	201.2	210.14
February.....	17.2	17.2	170.32	174.2	7.9	253.56	260.55	3.7	87.27	97.56	2.0	240.3	254.2
March.....	30.2	10.8	129.35	131.48	11.5	250.24	254.51	6.6	67.12	73.52	2.2	273.44	282.38
April.....	46.8	18.2	108.20	108.26	17.9	258.32	258.43	7.3	98.2	98.19	2.8	293.5	293.27
May.....	43.2	22.9	132.37	131.45	17.6	252.9	250.26	5.2	100.53	98.18	2.2	297.45	294.18
June.....	37.0	18.2	133.0	133.3	16.0	249.46	249.52	4.1	79.40	79.48	0.8	330.7	330.18
July.....	27.8	14.5	148.20	149.41	13.5	247.36	250.18	3.7	97.27	101.30	1.0	309.23	314.47
August.....	28.0	10.4	133.38	134.38	13.8	259.7	261.7	5.5	106.40	109.39	1.4	248.31	252.30
September.....	31.1	12.0	139.25	138.15	14.8	253.15	250.55	5.9	77.52	74.21	1.5	293.20	288.39
October.....	21.0	13.3	169.59	166.32	10.8	256.19	249.25	4.9	67.28	57.7	2.6	268.22	254.34
November.....	13.2	10.7	184.30	180.47	7.1	264.33	257.7	2.7	92.28	81.19	1.7	277.14	262.22
December.....	8.5	5.0	148.31	147.23	2.3	253.53	251.36	1.8	134.14	130.49	0.7	310.55	306.22
For the Year.....	26.4	12.6	142.28	142.28	11.6	253.32	253.32	4.2	88.26	88.26	1.5	279.25	279.25

TABLE XVII.—SEPARATE RESULTS of OBSERVATIONS of MAGNETIC DIP made in the YEAR 1907.

Greenwich Civil Time, 1907.	3-inch Needle.	Magnetic Dip.	Observer.	Greenwich Civil Time, 1907.	3-inch Needle.	Magnetic Dip.	Observer.	Greenwich Civil Time, 1907.	3-inch Needle.	Magnetic Dip.	Observer.
Jan. d h				May d h				Sept. d h			
2. 12	D ₁	66. 57. 58	E	2. 12	D ₁	66. 54. 44	B	2. 13	D ₁	66. 53. 31	B
4. 12	D ₂	66. 52. 43	E	3. 16	D ₂	66. 56. 25	B	4. 12	D ₂	66. 56. 47	B
7. 12	D ₁	66. 53. 50	E	6. 12	D ₁	66. 58. 24	B	6. 12	D ₁	66. 54. 53	B
10. 12	D ₂	66. 51. 49	B	8. 12	D ₂	66. 53. 45	B	9. 12	D ₂	66. 56. 53	B
14. 12	D ₁	66. 54. 43	B	13. 12	D ₁	66. 55. 53	B	12. 12	D ₁	66. 55. 5	E
15. 12	D ₂	66. 53. 16	B	15. 12	D ₂	66. 54. 51	B	13. 12	D ₂	66. 57. 0	E
18. 13	D ₂	66. 53. 7	B	17. 12	D ₂	66. 53. 25	E	16. 12	D ₂	66. 55. 8	E
21. 12	D ₁	66. 54. 53	E	22. 12	D ₁	66. 55. 42	E	18. 12	D ₁	66. 51. 55	E
23. 12	D ₂	66. 52. 0	E	23. 12	D ₂	66. 57. 58	E	20. 12	D ₂	66. 58. 44	E
25. 12	D ₁	66. 54. 45	E	23. 16	D ₁	66. 53. 28	E	23. 12	D ₁	66. 53. 16	E
28. 13	D ₂	66. 52. 12	B	27. 12	D ₂	66. 57. 1	E	24. 12	D ₂	66. 59. 0	E
30. 12	D ₁	66. 54. 28	E	28. 12	D ₁	66. 51. 15	E	26. 12	D ₁	66. 55. 8	E
				30. 12	D ₂	66. 57. 53	E	30. 13	D ₂	66. 58. 12	E
Feb. d h				June d h				Oct. d h			
2. 11	D ₁	66. 58. 45	B	3. 12	D ₁	66. 56. 29	B	2. 12	D ₂	66. 59. 22	E
4. 13	D ₂	66. 53. 5	B	5. 12	D ₂	66. 59. 29	B	4. 12	D ₁	66. 55. 42	E
7. 16	D ₁	66. 56. 49	B	7. 13	D ₁	66. 54. 4	B	8. 12	D ₂	66. 58. 21	E
9. 12	D ₂	66. 53. 34	B	10. 12	D ₂	66. 58. 32	B	10. 12	D ₁	66. 57. 23	E
11. 15	D ₁	66. 57. 40	B	12. 12	D ₁	66. 57. 50	B	14. 12	D ₂	66. 59. 15	E
14. 12	D ₂	66. 58. 53	B	15. 12	D ₂	66. 58. 55	B	15. 12	D ₁	66. 54. 47	E
19. 12	D ₁	66. 55. 10	E	17. 14	D ₂	66. 57. 14	E	18. 12	D ₂	67. 0. 11	B
22. 12	D ₁	66. 54. 9	E	18. 12	D ₁	66. 52. 58	E	22. 12	D ₁	66. 56. 36	B
27. 12	D ₁	66. 55. 8	E	20. 12	D ₂	66. 56. 31	E	24. 12	D ₂	66. 58. 8	B
				21. 12	D ₁	66. 53. 53	E	26. 12	D ₁	66. 57. 25	B
Mar. d h				24. 12	D ₂	66. 58. 1	E	28. 13	D ₂	66. 57. 27	B
1. 12	D ₁	66. 53. 55	E	26. 12	D ₁	66. 53. 34	E	30. 12	D ₁	66. 55. 24	B
6. 12	D ₁	66. 56. 46	E	27. 12	D ₂	66. 58. 32	E				
13. 12	D ₁	66. 57. 9	E	July d h				Nov. d h			
18. 15	D ₁	66. 55. 47	B	2. 12	D ₂	66. 58. 38	E	1. 13	D ₁	66. 50. 42	B
21. 12	D ₂	66. 57. 57	B	3. 12	D ₁	66. 53. 19	E	4. 12	D ₂	66. 57. 50	B
22. 12	D ₁	66. 57. 5	B	5. 14	D ₂	66. 58. 44	E	6. 13	D ₁	66. 54. 49	B
23. 12	D ₂	66. 57. 41	B	8. 12	D ₁	66. 53. 38	E	9. 12	D ₂	66. 57. 32	B
26. 11	D ₁	66. 56. 10	B	10. 12	D ₂	66. 58. 16	E	11. 13	D ₁	66. 56. 31	B
28. 13	D ₂	66. 56. 13	B	12. 12	D ₁	66. 55. 3	E	13. 12	D ₂	66. 56. 0	B
				15. 12	D ₂	66. 57. 57	E	18. 12	D ₂	66. 59. 56	E
Apr. d h				17. 15	D ₁	66. 53. 20	B	19. 12	D ₁	66. 58. 49	E
2. 12	D ₁	66. 53. 13	B	19. 13	D ₂	66. 56. 33	B	21. 12	D ₂	66. 58. 30	E
4. 13	D ₂	66. 57. 41	B	22. 13	D ₁	66. 53. 7	B	25. 12	D ₁	66. 57. 11	E
6. 16	D ₁	66. 55. 37	B	24. 15	D ₂	66. 57. 44	B	27. 12	D ₂	66. 59. 43	E
8. 12	D ₂	66. 57. 19	B	26. 12	D ₁	66. 55. 39	B	29. 12	D ₁	66. 56. 45	E
11. 14	D ₁	66. 52. 54	B	29. 15	D ₂	67. 0. 17	B				
12. 10	D ₂	67. 1. 20	B	Aug. d h				Dec. d h			
15. 15	D ₂	66. 55. 55	E	2. 12	D ₁	66. 54. 3	B	2. 12	D ₁	66. 54. 17	E
17. 12	D ₁	66. 55. 13	E	2. 12	D ₂	66. 55. 58	B	4. 12	D ₂	66. 57. 49	E
19. 12	D ₂	66. 57. 42	E	7. 12	D ₁	66. 53. 50	B	6. 12	D ₁	66. 55. 31	E
22. 13	D ₁	66. 56. 45	E	9. 12	D ₂	66. 57. 26	B	9. 13	D ₂	67. 0. 3	E
24. 12	D ₂	66. 56. 50	E	12. 13	D ₁	66. 53. 57	B	11. 12	D ₁	66. 55. 3	E
26. 12	D ₁	66. 52. 42	E	14. 11	D ₂	66. 56. 8	B	13. 12	D ₂	66. 59. 49	E
29. 12	D ₂	66. 57. 49	E	16. 12	D ₂	66. 58. 15	E	17. 12	D ₂	66. 58. 52	B
				19. 12	D ₁	66. 51. 50	E	20. 13	D ₁	66. 55. 18	B
				21. 12	D ₂	66. 56. 49	E	23. 14	D ₂	66. 57. 12	B
				22. 12	D ₁	66. 55. 43	E	24. 13	D ₁	66. 54. 20	B
				26. 12	D ₂	66. 57. 13	E	28. 11	D ₂	66. 54. 18	B
				28. 11	D ₁	66. 54. 8	B	30. 12	D ₁	66. 53. 6	B
				30. 12	D ₂	66. 54. 33	B				

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

A pivot of D₂ was broken on February 19. A new pivot was fitted by Messrs. Troughton and Simms, and the needle adjusted by Mr. Dover on March 18.

TABLE XVIII.—MONTHLY and YEARLY MEANS of MAGNETIC DIP in the YEAR 1907.

Monthly Means of Magnetic Dip.				
Month, 1907.	D_1 , 3-inch Needle.	Number of Observations.	D_2 , 3-inch Needle.	Number of Observations.
January	66. 55. 6	6	66. 52. 31	6
February	66. 56. 17	6	66. 55. 10	3
March.....	66. 56. 9	6	66. 57. 17	3
April	66. 54. 24	6	66. 57. 48	7
May.....	66. 54. 54	6	66. 55. 54	7
June.....	66. 54. 48	6	66. 58. 11	7
July.....	66. 54. 1	6	66. 58. 18	7
August.....	66. 53. 55	6	66. 56. 37	7
September	66. 53. 58	6	66. 57. 23	7
October	66. 56. 13	6	66. 58. 47	6
November.....	66. 55. 48	6	66. 58. 15	6
December	66. 54. 36	6	66. 58. 0	6
Means.....	66. 55. 1	Sum 72	66. 57. 1	Sum 72
Mean Annual Dip.....	66. 56. 1.			

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.
 A pivot of D_2 was broken on February 19. A new pivot was fitted by Messrs. Troughton and Simms, and the needle adjusted by Mr. Dover on March 18.

TABLE XIX.—DETERMINATIONS of the ABSOLUTE VALUE of HORIZONTAL MAGNETIC FORCE in the YEAR 1907.

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

Greenwich Civil Time, 1907.	Distances of Centres of Magnets.	Temperature Fahrenheit.	Observed Deflexion.	Mean of the Times of Vibration of Deflecting Magnet.	Number of Vibrations.	Temperature Fahrenheit.	Observer.
January 7. 14	ft. 1'0 1'3	° 42'5	9. 38. 12 4. 22. 35	^s 5'802 5'802	100 100	° 42'5 44'1	E
January 22. 15	1'0 1'3	41'8	9. 38. 35 4. 22. 55	5'804 5'804	100 100	41'8 42'2	B
February 7. 15	1'0 1'3	41'3	9. 39. 31 4. 23. 10	5'803 5'803	100 100	41'2 41'8	B
February 21. 15	1'0 1'3	41'3	9. 38. 22 4. 22. 40	5'801 5'801	100 100	41'7 42'9	E
March 7. 15	1'0 1'3	46'2	9. 38. 11 4. 22. 30	5'803 5'802	100 100	46'9 47'9	E
March 21. 16	1'0 1'3	56'8	9. 35. 5 4. 21. 5	5'802 5'798	100 100	56'6 58'6	B
April 8. 17	1'0 1'3	51'0	9. 37. 13 4. 22. 0	5'798 5'800	100 100	51'8 52'0	B
April 22. 15	1'0 1'3	56'6	9. 35. 46 4. 21. 28	5'803 5'805	100 100	58'2 60'1	E
May 7. 16	1'0 1'3	57'5	9. 35. 55 4. 21. 38	5'807 5'803	100 100	56'1 57'2	B
May 23. 15	1'0 1'3	65'6	9. 35. 20 4. 21. 19	5'811 5'812	100 100	67'2 69'6	E
June 7. 15	1'0 1'3	62'0	9. 35. 10 4. 21. 15	5'806 5'808	100 100	63'3 63'3	B
June 21. 15	1'0 1'3	64'1	9. 35. 49 4. 21. 16	5'809 5'809	100 100	64'0 66'4	E
July 8. 15	1'0 1'3	60'8	9. 36. 4 4. 21. 36	5'808 5'805	100 100	61'4 61'5	E
July 22. 15	1'0 1'3	66'6	9. 35. 0 4. 21. 18	5'809 5'811	100 100	66'7 67'3	B
August 7. 16	1'0 1'3	63'9	9. 35. 0 4. 21. 10	5'806 5'808	100 100	64'0 64'6	B
August 22. 15	1'0 1'3	63'1	9. 36. 13 4. 21. 34	5'807 5'812	100 100	64'2 65'1	E
September 6. 16	1'0 1'3	68'6	9. 35. 5 4. 21. 0	5'812 5'814	100 100	69'8 69'8	B
September 24. 15	1'0 1'3	63'2	9. 35. 39 4. 21. 26	5'811 5'812	100 100	64'4 66'9	E
October 8. 15	1'0 1'3	50'6	9. 36. 53 4. 21. 56	5'808 5'805	100 100	50'7 51'6	E
October 22. 15	1'0 1'3	58'9	9. 37. 25 4. 22. 8	5'815 5'817	100 100	59'0 59'4	B
November 7. 15	1'0 1'3	49'1	9. 37. 13 4. 22. 8	5'808 5'806	100 100	48'6 49'6	B
November 22. 13	1'0 1'3	43'8	9. 38. 31 4. 22. 58	5'812 5'811	100 100	44'4 45'5	E
December 6. 14	1'0 1'3	45'9	9. 37. 25 4. 22. 10	5'802 5'803	100 100	46'5 47'8	E
December 20. 14	1'0 1'3	58'4	9. 36. 15 4. 21. 45	5'814 5'812	100 100	58'9 59'7	B

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 deflexion given in the table above is the mean of four deflexions observed in these positions of the magnets.

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

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

TABLE XIX.—*continued*—COMPUTATION of the VALUES of HORIZONTAL FORCE in ABSOLUTE MEASURE.

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

Greenwich Civil Time, 1907.	In English Measure.									In Metric Measure.	
	Apparent Value of A ₁ .	Apparent Value of A ₂ .	Apparent Value of P.	Mean Value of P.	Log. $\frac{m}{X}$.	Corrected Time of Vibration of Deflecting Magnet.	Log. $m X$.	Value of m .	Value of Horizontal Force X .	Value of Horizontal Force.	
										As observed.	Reduced to Mean of Month.
d h						s					
Jan. 7. 14	0.08379	0.08391	-0.00350	-0.00330	8.92464	5.8087	0.13264	0.3378	4.0179	1.8526	1.8524
Jan. 22. 15	0.08384	0.08401	-0.00491		8.92502	5.8109	0.13231	0.3378	4.0147	1.8511	1.8528
Feb. 7. 15	0.08397	0.08408	-0.00338		8.92554	5.8122	0.13212	0.3379	4.0113	1.8496	1.8544
Feb. 21. 15	0.08380	0.08392	-0.00355		8.92471	5.8087	0.13262	0.3378	4.0175	1.8524	1.8517
Mar. 7. 15	0.08384	0.08393	-0.00271		8.92484	5.8080	0.13275	0.3379	4.0175	1.8524	1.8530
Mar. 21. 16	0.08355	0.08364	-0.00259		8.92331	5.8031	0.13357	0.3376	4.0284	1.8574	1.8523
Apr. 8. 17	0.08377	0.08385	-0.00214		8.92443	5.8048	0.13328	0.3380	4.0218	1.8544	1.8543
Apr. 22. 15	0.08364	0.08375	-0.00316		8.92385	5.8063	0.13309	0.3377	4.0236	1.8552	1.8541
May 7. 16	0.08368	0.08382	-0.00412		8.92410	5.8080	0.13283	0.3377	4.0213	1.8542	1.8519
May 23. 15	0.08371	0.08384	-0.00367		8.92425	5.8090	0.13273	0.3377	4.0201	1.8536	1.8532
June 7. 15	0.08364	0.08376	-0.00372		8.92386	5.8066	0.13308	0.3377	4.0236	1.8552	1.8535
June 21. 15	0.08376	0.08380	-0.00130		8.92428	5.8087	0.13277	0.3377	4.0202	1.8537	1.8560
July 8. 15	0.08375	0.08386	-0.00333		8.92441	5.8075	0.13293	0.3378	4.0203	1.8537	1.8562
July 22. 15	0.08368	0.08385	-0.00485		8.92419	5.8087	0.13280	0.3377	4.0207	1.8539	1.8515
Aug. 7. 16	0.08364	0.08377	-0.00367		8.92389	5.8071	0.13300	0.3376	4.0231	1.8550	1.8565
Aug. 22. 15	0.08380	0.08388	-0.00231		8.92460	5.8092	0.13270	0.3378	4.0184	1.8528	1.8532
Sept. 6. 16	0.08372	0.08378	-0.00180		8.92413	5.8086	0.13281	0.3377	4.0211	1.8540	1.8515
Sept. 24. 15	0.08372	0.08384	-0.00350		8.92429	5.8110	0.13254	0.3376	4.0191	1.8531	1.8548
Oct. 8. 15	0.08372	0.08382	-0.00299		8.92422	5.8099	0.13250	0.3376	4.0192	1.8532	1.8519
Oct. 22. 15	0.08391	0.08400	-0.00248		8.92519	5.8167	0.13154	0.3376	4.0103	1.8491	1.8537
Nov. 7. 15	0.08375	0.08386	-0.00327	8.92439	5.8105	0.13241	0.3376	4.0180	1.8526	1.8511	
Nov. 22. 13	0.08386	0.08405	-0.00564	8.92517	5.8178	0.13129	0.3375	4.0092	1.8486	1.8545	
Dec. 6. 14	0.08373	0.08382	-0.00282	8.92426	5.8087	0.13267	0.3377	4.0198	1.8534	1.8540	
Dec. 20. 14	0.08374	0.08387	-0.00389	8.92440	5.8133	0.13205	0.3375	4.0163	1.8519	1.8511	
Means	...	...	...	...	...	...	...	...	4.0189	1.8530	1.8533

The value of X in English Measure is referred to the Foot-Grain-Second Unit, and in Metric Measure to the Millimètre-Milligramme-Second Unit. To obtain X in the Centimètre-Gramme-Second (C.G.S.) Unit, the values in Metric Measure must be divided by 10.

MONTHLY MEAN DIURNAL INEQUALITIES OF MAGNETIC ELEMENTS 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 for comparison with results at other British Observatories. The days included are January 3, 6, 19, 21, 31, February 4, 5, 6, 18, 27, March 3, 8, 16, 17, 31, April 3, 9, 12, 21, 30, May 1, 8, 9, 26, 30, June 5, 8, 15, 17, 29, July 4, 16, 17, 21, 24, August 6, 12, 13, 15, 29, September 2, 14, 22, 23, 24, October 4, 7, 19, 20, 24, November 1, 6, 18, 20, 30, December 3, 9, 16, 23, 24.

The results for Declination are given in minutes of arc: those for Horizontal Force and Vertical Force are given both in terms of the whole Horizontal or Vertical Force and in terms of the Millimètre-Milligramme-Second (Metric) Unit. The letter f indicates values in terms of the whole Horizontal or Vertical Force, and the letter m values in terms of the Metric Unit, the unit for the former values being 1/10000 of the whole Horizontal or Vertical Force, and for the latter 1/10000 of the Metric Unit, or 1/100000 of the Centimètre-Gramme-Second (C.G.S.) Unit. The values of the whole Horizontal and Vertical Forces expressed in terms of the Metric Unit are 1.8533 and 4.3521 respectively for the year.

TABLE XX.—MONTHLY MEAN DIURNAL INEQUALITY of MAGNETIC DECLINATION WEST.

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

1907.

Table with 14 columns: Hour, Greenwich Civil Time; January; February; March; April; May; June; July; August; September; October; November; December; For the Year. Rows include hourly data from Midnight to 24h, and summary rows for means from 0h-23h and 1h-24h.

TABLE XXI.—MONTHLY MEAN DIURNAL INEQUALITY OF HORIZONTAL MAGNETIC FORCE.

(The results are corrected for temperature, and in each case diminished by the smallest hourly value.)

1907.

Hour, Green- wich Civil Time.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		For the Year.	
	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f	m
Midn.	64	119	147	272	178	330	214	397	205	380	167	310	150	278	217	402	217	402	150	278	115	213	25	46	147.7	273.7
1 ^h	61	113	146	271	175	324	220	408	189	350	159	295	142	263	204	378	204	378	158	293	119	221	39	72	144.9	268.6
2	61	113	160	297	175	324	203	376	174	322	151	280	144	267	202	374	196	363	157	291	110	204	45	83	141.8	262.6
3	70	130	164	304	172	319	187	347	164	304	145	269	142	263	202	374	190	352	149	276	112	208	56	104	139.7	258.9
4	77	143	172	319	168	311	190	352	163	302	149	276	129	239	189	350	186	345	161	298	117	217	55	102	139.9	259.3
5	88	163	177	328	169	313	190	352	143	265	144	267	120	222	169	313	185	343	163	302	123	228	72	133	138.9	257.2
6	90	167	181	335	170	315	194	360	139	258	120	222	88	163	136	252	168	311	153	284	126	234	78	145	130.5	241.9
7	83	154	185	343	164	304	164	304	93	172	84	156	54	100	100	185	144	267	149	276	112	208	79	146	111.2	206.0
8	63	117	147	272	123	228	110	204	53	98	40	74	21	39	45	83	94	174	123	228	94	174	57	106	74.4	137.8
9	36	67	83	154	52	96	42	78	25	46	16	30	9	17	5	9	48	89	59	109	54	100	38	70	32.5	60.2
10	16	30	35	65	12	22	0	0	0	0	0	0	0	0	0	0	14	26	11	20	0	0	14	26	2.1	3.9
11	0	0	0	0	0	0	2	4	22	41	11	20	24	44	16	30	0	0	0	0	2	4	0	0	0.0	0.0
Noon.	23	43	20	37	36	67	44	82	59	109	47	87	80	148	62	115	16	30	26	48	28	52	5	9	30.8	57.0
1 ^h	46	85	42	78	88	163	103	191	81	150	99	183	127	235	117	217	75	139	59	109	68	126	20	37	70.7	130.8
14	68	126	105	195	129	239	147	272	102	189	131	243	153	284	143	265	120	222	103	191	86	159	32	59	103.5	191.8
15	69	128	142	263	150	278	200	371	168	311	173	321	182	337	173	321	138	256	115	213	88	163	47	87	130.7	242.2
16	71	132	148	274	166	308	238	441	206	382	193	358	192	356	202	374	161	298	111	206	89	165	47	87	145.6	269.9
17	62	115	160	297	163	302	244	452	217	402	235	436	210	389	214	397	179	332	139	258	107	198	50	93	158.6	294.0
18	60	111	187	347	169	313	254	471	227	421	261	484	231	428	236	437	194	360	165	306	123	228	52	96	173.5	321.6
19	73	135	192	356	172	319	264	489	227	421	283	524	247	458	246	456	216	400	167	310	125	232	50	93	182.1	337.5
20	81	150	186	345	174	322	259	480	228	423	275	510	253	469	246	456	206	382	163	302	137	254	46	85	181.4	336.3
21	79	146	185	343	184	341	251	465	232	430	253	469	251	465	234	434	200	371	155	287	125	232	34	63	175.5	325.3
22	79	146	187	347	180	334	261	484	228	423	243	450	239	443	229	424	186	345	146	271	117	217	30	56	170.7	316.3
23	71	132	179	332	170	315	249	461	212	393	229	424	215	398	220	408	178	330	148	274	119	221	34	63	162.3	300.7
24	76	141	187	347	168	311	236	437	218	404	209	387	199	369	210	389	184	341	148	274	139	258	32	59	160.8	297.9
Means 0 ^h -23 ^h	62.1	115.2	138.7	257.2	139.1	257.8	176.3	326.7	148.2	274.7	150.3	278.7	141.8	262.7	158.6	293.9	146.5	271.5	122.1	226.2	95.7	177.4	41.9	77.5	120.4	223.1
1 ^h -24 ^h	62.6	116.1	140.4	260.4	138.7	257.0	177.2	328.4	148.8	275.7	152.1	281.9	143.8	266.5	158.3	293.4	145.1	268.9	122.0	226.1	96.7	179.3	42.2	78.1	120.9	224.1

TABLE XXII.—MONTHLY MEAN DIURNAL INEQUALITY OF VERTICAL MAGNETIC FORCE.

(The results are corrected for temperature, and in each case diminished by the smallest hourly value.)

1907.

Hour, Greenwich Civil Time.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		For the Year.	
	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f	m
Midn.	20	87	24	104	26	113	60	261	58	252	34	148	38	165	16	70	44	191	26	113	9	39	9	39	29.6	129.0
1 ^h	16	70	20	87	24	104	58	252	58	252	32	139	34	148	16	70	44	191	24	104	7	30	7	30	27.6	120.3
2	16	70	16	70	26	113	58	252	56	244	24	104	34	148	16	70	44	191	20	87	7	30	3	13	26.0	113.2
3	16	70	20	87	29	126	62	270	58	252	26	113	36	157	18	78	48	209	20	87	9	39	6	26	28.3	123.4
4	16	70	18	78	31	135	56	244	60	261	30	131	46	200	24	104	48	209	18	78	9	39	10	44	29.8	130.0
5	18	78	18	78	37	161	58	252	60	261	34	148	48	209	30	131	50	218	20	87	10	44	8	35	31.9	139.0
6	17	74	16	70	39	170	62	270	60	261	34	148	46	200	34	148	54	235	18	78	12	52	12	52	33.0	143.7
7	21	91	16	70	41	178	60	261	60	261	32	139	46	200	35	152	57	248	18	78	14	61	12	52	33.6	146.4
8	15	65	22	96	43	187	58	252	54	235	28	122	49	213	35	152	55	239	24	104	14	61	10	44	33.2	144.7
9	15	65	14	61	30	131	38	165	38	165	16	70	37	161	23	100	47	205	24	104	16	70	13	57	25.2	110.0
10	15	65	6	26	20	87	18	78	18	78	8	35	25	109	8	35	31	135	14	61	8	35	9	39	14.3	62.5
11	13	57	2	9	10	44	4	17	8	35	8	35	9	39	7	30	10	44	8	35	0	0	6	26	6.4	28.1
Noon.	4	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	17	0	0	0.0	0.0
1 ³ ^h	0	0	2	9	6	26	14	61	16	70	6	26	4	17	6	26	6	26	2	9	10	44	4	17	5.6	24.8
14	10	44	4	17	15	65	36	157	32	139	14	61	12	52	12	52	12	52	8	35	15	65	10	44	14.3	62.4
15	14	61	12	52	25	109	52	226	46	200	32	139	26	113	24	104	22	96	20	87	23	100	10	44	24.8	108.1
16	9	39	18	78	37	161	57	248	58	252	38	165	30	131	30	131	32	139	28	122	19	83	10	44	29.8	130.0
17	13	57	24	104	39	170	62	270	62	270	50	218	37	161	38	165	36	157	32	139	17	74	14	61	34.6	151.0
18	21	91	24	104	37	161	64	279	70	305	48	209	39	170	34	148	35	152	38	165	13	57	10	44	35.4	154.3
19	23	100	22	96	35	152	64	279	70	305	54	235	37	161	32	139	39	170	34	148	13	57	12	52	35.6	155.0
20	21	91	24	104	31	135	64	279	68	296	54	235	39	170	32	139	39	170	36	157	11	48	10	44	35.0	152.9
21	21	91	24	104	29	126	66	287	70	305	50	218	41	178	32	139	40	174	36	157	9	39	10	44	35.0	152.4
22	19	83	16	70	27	118	62	270	66	287	44	191	41	178	28	122	40	174	32	139	11	48	12	52	32.5	141.5
23	15	65	16	70	31	135	64	279	66	287	40	174	35	152	28	122	38	165	26	113	9	39	14	61	31.1	135.7
24	20	87	14	61	31	135	60	261	68	296	38	165	37	161	26	113	36	157	22	96	7	30	12	52	30.2	131.7
Means 0 ^h -23 ^h	15.3	66.7	15.7	68.5	27.8	121.1	49.9	217.0	50.5	219.7	30.7	133.5	32.9	143.0	23.3	101.1	36.3	157.9	21.9	95.3	11.2	48.8	9.2	40.2	26.4	114.9
1 ^h -24 ^h	15.3	66.7	15.3	66.7	28.0	122.0	49.9	217.0	50.9	221.5	30.8	134.2	32.8	142.8	23.7	102.9	36.0	156.5	21.8	94.6	11.1	48.4	9.3	40.7	26.4	115.0

ROYAL OBSERVATORY, GREENWICH.

MAGNETIC DISTURBANCES

AND

EARTH CURRENTS.

1907.

MAGNETIC DISTURBANCES in DECLINATION, HORIZONTAL FORCE, and VERTICAL FORCE,
recorded at the ROYAL OBSERVATORY, GREENWICH, in the Year 1907.

The following notes give a brief description of all magnetic movements (superposed on the ordinary diurnal movement) exceeding 3' in Declination, 0.001 in Horizontal Force, or 0.0003 in Vertical Force, as taken from the photographic records of the respective Magnetometers. The movements in Horizontal and Vertical Force are expressed in parts of the whole Horizontal and Vertical Forces respectively. 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).

1907.

- January 2^d 0 $\frac{3}{4}$ ^h to 1 $\frac{3}{4}$ ^h Wave in Dec. (+ 4'). 0 $\frac{3}{4}$ ^h to 2 $\frac{1}{2}$ ^h Wave in H.F. (+ .0018): in V.F. (- .0003).
 4^d 0 $\frac{3}{4}$ ^h to 3^h Two successive waves in H.F. (+ .0010) and (+ .0010): in Dec. small.
 5^d 14 $\frac{1}{2}$ ^h to 15 $\frac{1}{4}$ ^h Wave in H.F. (- .0011), followed by several small movements: small movements also in Dec. 21 $\frac{1}{2}$ ^h to 22 $\frac{1}{2}$ ^h Wave in Dec. (+ 3'): in H.F. (+ .0012).
 7^d 20 $\frac{1}{2}$ ^h to 21 $\frac{3}{4}$ ^h Wave in Dec. (- 7'). 20 $\frac{3}{4}$ ^h to 21 $\frac{1}{2}$ ^h Wave in H.F. (+ .0014). 23^h to 23 $\frac{3}{4}$ ^h Wave in H.F. (+ .0016). 7^d 23^h to 8^d 0 $\frac{1}{4}$ ^h Double-crested wave in Dec. (- 6').
 8^d 1 $\frac{3}{4}$ ^h Small, very sharp wave in Dec. and H.F.: slight in V.F. 4 $\frac{1}{4}$ ^h to 5 $\frac{1}{2}$ ^h Wave in Dec. (+ 5'): in V.F. small. 4 $\frac{1}{2}$ ^h to 4 $\frac{3}{4}$ ^h Sharp increase in H.F. (+ .0028), followed by partial return. 19^h to 19 $\frac{1}{4}$ ^h Sharp wave in H.F. (- .0016), very steep at commencement, followed till 19 $\frac{1}{2}$ ^h by a decrease (- .0030). 19 $\frac{1}{4}$ ^h to 20 $\frac{1}{4}$ ^h Sharp wave in Dec. (- 8'), followed till 20 $\frac{1}{2}$ ^h by sharp decrease (- 15'). 19 $\frac{1}{2}$ ^h to 20 $\frac{1}{4}$ ^h Wave in V.F. (+ .0005). 20^h to 20 $\frac{1}{2}$ ^h Very steep double wave in H.F. (+ .0024 to - .0014), followed by sharp fluctuations. 20 $\frac{1}{2}$ ^h to 21 $\frac{3}{4}$ ^h Wave in Dec. (- 8'), steep at commencement, followed till 24^h by irregular increase (+ 8'). 21 $\frac{1}{2}$ ^h to 22^h Sharp wave in H.F. (- .0011). 8^d 22^h to 9^d 1^h Slow double wave in H.F. (- .0014 to + .0014).
 9^d 0^h to 1 $\frac{1}{2}$ ^h Wave in Dec. (- 4'), followed by slow increase (+ 3'). 18^h to 19 $\frac{1}{2}$ ^h Wave in H.F. (- .0012).
 10^d 17^h Small sharp fluctuations in Dec. and H.F. 18 $\frac{3}{4}$ ^h Very sharp double wave in H.F. (+ .0010) to (- .0008): in Dec. small.
 11^d 8 $\frac{3}{4}$ ^h Extremely sharp double wave in Dec. (- 5' to + 5'): sharp wave in H.F. (+ .0018): in V.F. small. 8 $\frac{3}{4}$ ^h to 9 $\frac{1}{4}$ ^h Wave in H.F. (+ .0012), with small sharp fluctuations in Dec. and H.F. 10^h to 11 $\frac{1}{2}$ ^h Flat-crested wave in Dec. (+ 3'), followed till 12^h by an increase (+ 6'). 10 $\frac{1}{4}$ ^h to 12^h Double-crested wave in H.F. (- .0014). 12 $\frac{1}{2}$ ^h to 14 $\frac{1}{4}$ ^h Wave in Dec. (+ 9'), with small superposed fluctuations. 12 $\frac{3}{4}$ ^h to 13^h Decrease in H.F. (- .0024), followed till 15^h by a wave (- .0018), with strong superposed vibrations. 16^h to 19^h Wave in V.F. (+ .0012). 16 $\frac{1}{4}$ ^h to 18^h Sharp wave in Dec. (- 21'): in H.F. (- .0030). 18 $\frac{1}{4}$ ^h to 22^h Slow wave in Dec. (- 7'), with superposed fluctuations: in H.F. small.
 12^d 9^h to 10 $\frac{1}{2}$ ^h Wave in H.F. (- .0010). 11 $\frac{1}{4}$ ^h to 11 $\frac{1}{2}$ ^h Increase in Dec. (+ 3'). 18 $\frac{1}{4}$ ^h to 19 $\frac{3}{4}$ ^h Two successive sharp waves in Dec. (- 10') and (- 7'). 18 $\frac{3}{4}$ ^h to 20^h Two successive waves in H.F. (+ .0027) and (+ .0010), the first very steep: small movements in V.F. 21^h to 23^h Irregular double-crested wave in H.F. (+ .0022). 21 $\frac{3}{4}$ ^h to 23^h Wave in Dec. (- 4').

1907.

- January 13^d 20³/₄^h to 23^h Wave in H.F. (− .0012). 21³/₄^h to 23^h Wave in Dec. (− 4').
- 14^d 7¹/₂^h to 9^h Wave in Dec. (+ 3'). 9¹/₂^h to 10¹/₂^h Wave in Dec. (+ 3'). 14^d 16^h to 15^d 16^h See Plate I.
- 15^d 20¹/₂^h to 23¹/₂^h Two successive waves in Dec. (− 6') and (− 10'), the latter steep at commencement.
21^h to 22¹/₂^h Small double wave in V.F. (+ .0002 to − .0002). 21¹/₂^h to 23^h Two successive waves in H.F. (+ .0025) and (+ .0016), the former steep at commencement.
- 18^d 16¹/₂^h to 17^h Wave in Dec. (− 3'): in H.F. small.
- 20^d 1^h to 2^h Wave in Dec. (+ 4'): in H.F. (+ .0011); in V.F. small. 4¹/₂^h to 5¹/₂^h Wave in Dec. (+ 3').
- 22^d 23³/₄^h to 24^h Decrease in Dec. (− 4').
- 23^d 0¹/₂^h to 2³/₄^h Two successive waves in Dec. (+ 3') and (+ 3'). 1¹/₂^h to 2¹/₄^h Wave in H.F. (− .0010).
- 24^d 1¹/₂^h to 2¹/₂^h Wave in Dec. (+ 3'). 10^h to 12^h Wave in H.F. (− .0015). 15¹/₄^h to 17^h Double-crested wave in H.F. (− .0016). 15³/₄^h to 16¹/₂^h Wave in Dec. (+ 3'). 18¹/₂^h to 19¹/₂^h Wave in H.F. (− .0014).
18³/₄^h to 20¹/₄^h Wave in Dec. (− 6'), steep at commencement.
- 25^d 13³/₄^h to 15^h Wave in H.F. (− .0010).
- 26^d 17³/₄^h to 19^h Wave in Dec. (− 3'). 20^h to 21^h Wave in H.F. (− .0010).
- 27^d 21¹/₄^h to 22^h Wave in Dec. (+ 4'). 21¹/₄^h to 23¹/₄^h Irregular wave in H.F. (+ .0026), followed till 28^d 0¹/₂^h by another wave (+ .0012).
- 28^d 14^h to 15³/₄^h Wave in H.F. (− .0014). 17¹/₂^h to 19^h Wave in Dec. (− 4'): in H.F. small. 20¹/₂^h to 21¹/₂^h Wave in Dec. (− 3'). 23¹/₄^h to 24^h Wave in H.F. (+ .0010). 28^d 23¹/₄^h to 29^d 0³/₄^h Double wave in Dec. (+ 3' to − 3').
- 29^d 22³/₄^h to 23¹/₂^h Flat-crested wave in Dec. (− 4'). 23^h to 24^h Wave in H.F. (+ .0015).
- 30^d 17¹/₂^h to 19¹/₄^h Wave in Dec. (− 3'): in H.F. small. 30^d 23^h to 31^d 0¹/₂^h Wave in Dec. (− 4').

- February 1^d 16¹/₄^h to 17¹/₄^h Wave in Dec. (− 4'): in H.F. small.
- 2^d 14¹/₂^h to 15¹/₂^h Wave in Dec. (− 4'): in H.F. small. 20¹/₄^h to 21¹/₂^h Wave in Dec. (− 3').
- 7^d 1¹/₂^h to 2¹/₂^h Wave in Dec. (− 3'): in H.F. small. 2³/₄^h to 4¹/₂^h Double wave in Dec. (+ 3' to − 3'). 3^h to 3¹/₂^h Decrease in V.F. (− .0003). 3^h to 4^h Wave in H.F. (+ .0015), steep at commencement. 7^d 5^h to 8^d 5^h See Plate I.
- 8^d 8^h to 10^h Small sharp fluctuations in Dec. 9¹/₂^h to 10^h Decrease in H.F. (− .0016). 11¹/₂^h to 11³/₄^h Sharp wave in Dec. (+ 4'): in H.F. (+ .0018). 16^h to 23^h Very slow wave in V.F. (+ .0014). 16¹/₄^h to 18^h Irregular double wave in H.F. (+ .0012 to − .0014). 17¹/₂^h to 18¹/₂^h Double wave in Dec. (− 3' to + 3'). 18³/₄^h to 19¹/₂^h Wave in H.F. (− .0011), followed by several smaller ones. 20¹/₂^h to 21¹/₄^h Sharp double-crested wave in H.F. (− .0012). 20¹/₂^h to 21³/₄^h Irregular double wave in Dec. (+ 4' to − 4'). 22¹/₂^h to 23^h Decrease in Dec. (− 3').
- 9^d 0¹/₂^h to 2¹/₂^h Irregular double wave in Dec. (+ 6' to − 7'). Triple wave in H.F. (+ .0016), (− .0012), (+ .0018). 0³/₄^h to 1¹/₂^h Decrease in V.F. (− .0005). 7^h to 10¹/₂^h Irregular slow double wave in Dec. (+ 4' to − 5'). 7¹/₄^h to 8¹/₄^h Flat-crested wave in H.F. (− .0010). 9¹/₄^h to 10^h Wave in H.F. (− .0010).
9^d 12^h to 10^d 12^h See Plate II.
- 10^d 16^h to 11^d 3^h See Plate II.
- 11^d 18^h to 12^d 5^h See Plate II.
- 12^d 20¹/₂^h to 21¹/₂^h Irregular wave in Dec. (− 6'): in H.F. small.
- 13^d 19³/₄^h to 20¹/₂^h Sharp wave in H.F. (+ .0020), very steep at commencement. 20^h to 20³/₂^h Decrease in Dec. (− 4'). 20³/₂^h Instantaneous decrease in Dec. (− 3'): in H.F. (− .0008), and in V.F. (− .0004), followed till 21^h by irregular increase in Dec. (+ 5'), and in V.F. (+ .0006). 21^h to 21³/₄^h Increase in H.F. (+ .0020).
- 14^d 4¹/₂^h to 6¹/₂^h Wave in H.F. (+ .0020). 6¹/₄^h to 7³/₄^h Wave in Dec. (+ 6'): in V.F. small. 6¹/₂^h to 7³/₄^h Wave in H.F. (+ .0015). 12^h to 12¹/₂^h Sharp wave in H.F. (+ .0015); in Dec. small: increase in V.F. (+ .0003). 12¹/₂^h to 13¹/₄^h Wave in H.F. (− .0010). 12³/₄^h to 20^h Wave in V.F. (+ .0013), with superposed fluctuations (\pm .0002) between 15^h and 16^h. 14¹/₂^h to 15^h Irregular wave in Dec. (+ 3'), followed till 15¹/₄^h by a sharp decrease (− 6'). 14³/₄^h to 15³/₄^h Very sharp double wave in H.F. (− .0014 to + .0028), immediately followed by a very sharp wave (+ .0020). 15¹/₄^h to 16^h Two successive sharp waves in Dec. (+ 5') and (+ 6'). 16^h to 16³/₂^h Wave in H.F. (+ .0010). 18¹/₂^h to 19^h Sharp wave in Dec. (− 7'), followed by smaller ones till 20^h. 18¹/₂^h to 18³/₄^h Increase in H.F. (+ .0028), immediately followed by decrease (− .0014), and small sharp waves. 21³/₂^h to 24^h Waves in Dec. (− 4').
- 15^d 0^h to 1^h Wave in H.F. (+ .0012). 0^h to 0¹/₂^h Decrease in V.F. (− .0003). 0¹/₄^h to 2^h Irregular double wave in Dec. (− 5' to + 5'). 1¹/₄^h to 2¹/₂^h Wave in H.F. (+ .0010). 1¹/₂^h to 1³/₄^h Decrease in V.F. (− .0003). 4¹/₂^h to 5³/₄^h Wave in H.F. (− .0010). 5^h to 6^h Wave in Dec. (+ 3'): in V.F. small. 15¹/₄^h to 16¹/₄^h Wave in H.F. (− .0012). 15³/₄^h to 17¹/₄^h Irregular double-crested wave in Dec. (− 5'): wave in V.F. (+ .0003).

1907.

- February 16^d 2^h to 5^h Two successive waves in Dec. (+ 4') and (+ 3'). 8^h to 9^h Wave in Dec. (- 4'). 18^h to 19^h Wave in Dec. (- 3').
- 17^d 17^h to 18^h Sharp wave in Dec. (- 6'). 17^h to 18^h Wave in H.F. (+ '0018). 22^h to 23^h Wave in Dec. (- 4'). 22^h to 23^h Wave in H.F. (+ '0010).
- 20^d 0^h to 1^h Wave in Dec. (- 3'). 2^h to 3^h Irregular wave in Dec. (- 5'): in H.F. small. 3^h to 5^h Wave in Dec. (+ 4'). 4^h to 6^h Wave in H.F. (+ '0015). 20^h to 21^h Irregular double-crested wave in Dec. (- 4'), immediately followed by a sharp decrease (- 6'). 20^h to 22^h Wave in H.F. (+ '0025), sharp at commencement. 21^h to 21^h Decrease in V.F. (- '0003).
- 21^d 23^h to 22^d 0^h Irregular wave in Dec. (- 5'): in H.F. (+ '0020).
- 22^d 3^h to 4^h Two successive waves in Dec. (- 3') and (- 3'). 8^h to 9^h Irregular double-crested wave in Dec. (+ 3'). 15^h to 16^h Irregular double-crested wave in Dec. (- 5'): in H.F. (- '0030). 15^h to 17^h Wave in V.F. (+ '0004). 19^h to 21^h Two successive waves in H.F. (+ '0010) and (+ '0010). 20^h to 20^h Flat-crested wave in Dec. (+ 4'). 21^h to 22^h Double-crested wave in Dec. (- 7'): in H.F. and V.F. small. 23^h to 24^h Wave in H.F. (+ '0010). 22^d 23^h to 23^d 0^h Wave in Dec. (- 4').
- 23^d 1^h to 2^h Flat-crested wave in H.F. (+ '0010). 1^h to 2^h Wave in Dec. (- 4'), very steep at commencement. 17^h to 18^h Wave in Dec. (- 6'): in H.F. (+ '0018). 21^h to 21^h Decrease in Dec. (- 4'). 21^h to 22^h Wave in H.F. (+ '0014). 23^d 23^h to 24^d 0^h Sharp wave in Dec. (- 3'). 23^d 23^h to 24^d 1^h Wave in H.F. (+ '0018), very steep at commencement.
- 24^d 1^h to 2^h Flat-crested wave in Dec. (- 3'). 2^h to 3^h Wave in H.F. (- '0010). 3^h to 4^h Wave in Dec. (+ 4'). 5^h to 7^h Irregular wave in Dec. (+ 3'): wave in H.F. (- '0018). 8^h to 10^h Wave in Dec. (+ 3'): in H.F. (+ '0010), both followed by small rapid fluctuations till 14^h. 19^h to 19^h Wave in Dec. (- 3'). 19^h to 21^h Two successive waves in H.F. (+ '0010) and (+ '0030). 19^h to 21^h Two successive waves in Dec. (- 12') and (- 7'), the first very steep: small double wave in V.F.
- 25^d 0^h to 1^h Wave in Dec. (+ 3'). 0^h to 2^h Wave in H.F. (+ '0016), steep at commencement: in V.F. small. 11^h to 13^h Wave in H.F. (- '0024). 18^h to 19^h Two successive waves in Dec. (- 3') and (- 4'). 18^h to 20^h Double wave in H.F. (+ '0019 to - '0017), the first portion very steep. 20^h to 23^h Irregular wave in Dec. (- 7'). 21^h to 22^h Wave in H.F. (+ '0010). 25^d 23^h to 26^d 1^h Wave in Dec. (- 5').
- 26^d 4^h to 5^h Wave in Dec. (+ 6'): increase in H.F. (+ '0015): decrease in V.F. (- '0004).
- 28^d 11^h to 12^h Wave in H.F. (- '0010). 14^h to 15^h Wave in H.F. (- '0010), followed by small fluctuations in Dec. and H.F.
- March 1^d 14^h to 15^h Wave in H.F. (- '0010). 15^h to 16^h Double wave in H.F. (+ '0010 to - '0010): in Dec. small. 17^h to 19^h Double wave in H.F. (+ '0010 to - '0010). 20^h to 20^h Flat-crested wave in H.F. (+ '0010). 21^h to 22^h Wave in Dec. (- 6'). 22^h to 23^h Wave in H.F. (- '0014), steep at end. 22^h to 23^h Decrease in V.F. (- '0006): small wave in H.F. 1^d 23^h to 2^d 1^h Wave in Dec. (- 9'), very steep at commencement. 1^d 23^h to 2^d 1^h Wave in H.F. (- '0016).
- 5^d 21^h Sudden decrease in Dec. (- 5'), immediately followed till 21^h by a wave (- 5'): small movement in H.F. 22^h to 23^h Wave in H.F. (- '0014): small increase in Dec.
- 6^d 13^h to 14^h Sharp decrease in Dec. (- 3'): in H.F. (- '0010). 17^h to 18^h Wave in H.F. (- '0010): in Dec. small. 22^h to 23^h Flat-crested wave in Dec. (- 4'), very steep at commencement: in H.F. small.
- 9^d 21^h Sudden decrease in Dec. (- 3'). 9^d 23^h to 10^d 1^h Wave in Dec. (+ 3').
- 10^d 2^h to 4^h Irregular wave in H.F. (+ '0020). 2^h to 4^h Flat-crested wave in Dec. (- 3'): small decrease in V.F. 10^d 4^h to 11^d 4^h See Plate III.
- 11^d 8^h Very sharp wave in Dec. (- 3'): in H.F. (- '0010), followed by smaller ones. 11^d 17^h to 12^d 17^h See Plate III.
- 12^d 17^h to 17^h Sharp fluctuations in V.F.: smaller in H.F. and smaller still in Dec. 17^h to 18^h Wave in H.F. (- '0017): in V.F. small. 18^h to 19^h Two successive waves in Dec. (- 4') and (- 3'). 20^h to 22^h Steep wave in Dec. (- 9'): irregular wave in H.F. (+ '0020), very steep at commencement: in V.F. small. 22^h to 22^h Wave in H.F. (+ '0017): a succession of small waves in Dec. and V.F. 23^h to 24^h Wave in H.F. (+ '0010).
- 13^d 19^h to 20^h Wave in Dec. (- 3').
- 19^d 23^h to 24^h Irregular wave in H.F. (+ '0014), steep at commencement: in Dec. small.
- 20^d 21^h to 24^h Two successive waves in Dec. (- 3') and (- 5'): small waves in H.F. and V.F.
- 21^d 12^h to 22^d 12^h See Plate III.
- 25^d 21^h to 23^h Double-crested wave in Dec. (- 4'): in H.F. small.
- 26^d 18^h to 19^h Wave in Dec. (- 4'). 19^h to 20^h Wave in H.F. (+ '0010).
- 29^d 19^h to 20^h Wave in Dec. (- 4'): in H.F. small.

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- April
- 5^d 12^h to 13^h Wave in H.F. (− 0010): in Dec. small. 16^h to 17^h Wave in H.F. (− 0015). 22^h to 24^h Irregular wave in H.F. (+ 0024). 22^h to 23^h Sudden decrease in Dec. (− 9'), followed till 23^h by partial return (+ 3'): decrease in V.F. (− 0004). 5^d 23^h to 6^d 0^h Wave in Dec. (+ 3').
- 6^d 0^h to 2^h Double wave in H.F. (− 0010 to + 0008): in V.F. small. 1^h to 2^h Flat-crested wave in Dec. (− 4'). 8^h to 9^h Rapid fluctuations in Dec. and H.F. 20^h to 22^h Wave in Dec. (− 7'). 21^h to 22^h Wave in H.F. (+ 0017).
- 8^d 0^h to 1^h Wave in Dec. (+ 3').
- 11^d 19^h to 21^h Wave in Dec. (− 8'): in H.F. (− 0016): in V.F. small.
- 14^d 1^h to 3^h Wave in Dec. (+ 4'): small movements in H.F. 14^h to 14^h Decrease in Dec. (− 5'). 22^h to 23^h Double-crested wave in Dec. (− 6'), very steep at commencement. Double-crested wave in H.F. (+ 0022).
- 15^d 1^h to 2^h Wave in Dec. (+ 4'). 21^h to 23^h Two successive waves in H.F. (+ 0012) and (+ 0010). 15^d 22^h to 16^d 0^h Wave in Dec. (− 3').
- 16^d 1^h to 2^h Wave in Dec. (+ 3'). 2^h to 2^h Wave in H.F. (+ 0011): in V.F. small. 5^h to 6^h Wave in Dec. (+ 5'). 8^h to 10^h Irregular wave in H.F. (− 0017), with superposed fluctuations. 11^h to 12^h Wave in H.F. (− 0020). 14^h to 15^h Wave in H.F. (− 0010). 16^h to 17^h Sharp double-crested wave in H.F. (− 0010). 16^h to 17^h Irregular decrease in Dec. (− 5'), followed till 19^h by a very irregular triple wave (+ 5') (− 5') and (+ 4'). 17^h to 17^h Sharp increase in H.F. (+ 0015), immediately followed by decrease (− 0025): small irregular movements in V.F. 18^h to 18^h Sharp wave in H.F. with irregular return (+ 0034). Irregular decrease in V.F. (− 0005).
- 17^d 2^h to 3^h Wave in Dec. (+ 4'). 3^h to 5^h Wave in H.F. (− 0013). 4^h to 6^h Flat-crested wave in Dec. (+ 4').
- 18^d 0^h to 2^h Wave in H.F. (+ 0014). 16^h to 17^h Wave in H.F. (+ 0011). 18^h to 19^h Double wave in H.F. (− 0012 to + 0018). 18^h to 19^h Wave in Dec. (+ 3'). 19^h to 20^h Flat-crested wave in H.F. (− 0010). 19^h to 20^h Decrease in Dec. (− 3'). 20^h to 21^h Two successive sharp waves in Dec. (− 3') and (− 7'). 20^h to 21^h Sharp wave in H.F. (− 0018), immediately followed by sharp decrease (− 0012): small movements in V.F. 22^h to 24^h Irregular wave in Dec. (− 3') and H.F. (+ 0020).
- 19^d 0^h to 3^h Wave in Dec. (+ 7'): in H.F. small. 3^h to 5^h Wave in H.F. (− 0010). 17^h to 17^h Decrease in Dec. (− 4'). 17^h to 17^h Sharp double wave in H.F. (− 0008 to + 0008).
- 22^d 18^h to 19^h Wave in H.F. (− 0012).
- 23^d 17^h to 19^h Two successive waves in H.F. (+ 0010) and (+ 0010). 17^h to 19^h Wave in Dec. (− 3').
- 24^d 0^h to 1^h Wave in Dec. (+ 3').
- 25^d 18^h to 19^h Wave in H.F. (− 0012). 20^h to 22^h Irregular wave in Dec. (− 5'). 20^h to 22^h Irregular wave in H.F. (+ 0017). 25^d 23^h to 26^d 0^h Wave in Dec. (+ 4'): in V.F. small. 25^d 23^h to 26^d 0^h Irregular wave in H.F. (+ 0012).
- 27^d 5^h to 6^h Wave in Dec. (− 3'). 17^h to 18^h Wave in H.F. (− 0014). 18^h to 18^h Decrease in Dec. (− 4'). 19^h to 22^h Slow wave in H.F. (− 0022), with small superposed fluctuations. 22^h to 23^h Decrease in Dec. (− 5').
- 29^d 3^h to 4^h Flat-crested wave in Dec. (+ 3'): in H.F. small. 12^h to 12^h Sharp wave in H.F. (+ 0018), immediately followed by sharp increase (+ 0010): small similar movements in Dec. 13^h to 14^h Wave in H.F. (− 0010). 17^h to 19^h Wave in Dec. (− 5').

- May
- 3^d 13^h to 14^h Wave in H.F. (− 0018). 19^h to 19^h Wave in H.F. (− 0010). 3^d 23^h to 4^d 0^h Flat-crested wave in H.F. (+ 0014).
- 4^d 2^h to 4^h Wave in Dec. (+ 5').
- 5^d 13^h to 14^h Wave in H.F. (− 0013).
- 6^d 11^h to 12^h Flat-crested wave in H.F. (− 0010). 17^h to 18^h Sharp double wave in H.F. (+ 0022 to − 0013). 17^h to 20^h Slow irregular wave in Dec. (− 5'). 18^h to 20^h Irregular double wave in H.F. (+ 0012 to − 0012). 20^h to 22^h Double-crested wave in Dec. (− 3'), followed till 23^h by a wave (− 5'): small waves in H.F.
- 7^d 12^h to 14^h Wave in H.F. (− 0022).
- 10^d 19^h to 21^h Two successive waves in H.F. (+ 0016) and (+ 0016), with superposed fluctuations. 21^h to 22^h Wave in Dec. (− 6'), very steep at commencement: in H.F. small.
- 11^d 0^h to 1^h Wave in Dec. (− 4'). 14^h to 15^h Wave in H.F. (− 0013). 16^h Sharp decrease in Dec. (− 3'). 16^h to 18^h Wave in H.F. (− 0015), very sharp at commencement.
- 12^d 13^h to 14^h Wave in H.F. (− 0010). 15^h to 16^h Double-crested wave in Dec. (− 3'). 15^h to 18^h Double wave in H.F. (+ 0012 to − 0010). 21^h to 22^h Flat-crested wave in Dec. (− 3'). 12^d 23^h to 13^d 0^h Wave in Dec. (+ 3'): in H.F. (+ 0017), steep at end.

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May

- 13^d 0^h to 0^h Decrease in V.F. (− .0003). 2^h to 3^h Wave in Dec. (+ 7'). 2^h to 4^h Wave in H.F. (+ .0012). 3^h to 3^h Decrease in V.F. (− .0004). 12^h to 13^h Wave in H.F. (− .0010): in Dec. small. 18^h to 20^h Two successive waves in H.F. (+ .0016) and (+ .0012). 19^h to 21^h Double-crested wave in Dec. (− 6'). 22^h to 23^h Wave in Dec. (− 3'). 13^d 18^h to 14^d 9^h Loss of V.F. register.
- 14^d 2^h to 5^h Flat-crested double wave in Dec. (− 3' to + 3'). 3^h to 5^h Wave in H.F. (− .0013). 15^h to 15^h Increase in H.F. (+ .0012). 19^h to 20^h Sharp double wave in H.F. (+ .0010 to − .0020). 19^h to 20^h Wave in V.F. (− .0003). 19^h to 22^h Wave in Dec. (− 11'), very steep at commencement. 22^h to 24^h Wave in Dec (+ 3'). 22^h to 23^h Wave in H.F. (− .0010).
- 15^d 0^h to 2^h Wave in Dec. (− 4'): small double wave in H.F. 5^h to 7^h Wave in H.F. (− .0010). 14^h to 15^h Wave in H.F. (− .0010). 18^h to 19^h Wave in Dec. (− 11'), steep at commencement. 18^h to 19^h Sharp double wave in H.F. (− .0019 to + .0019): small sharp wave in V.F. 20^h to 21^h Wave in Dec. (− 3').
- 16^d 1^h to 3^h Wave in Dec. (+ 3'): in H.F. (+ .0010). 15^h to 15^h Wave in H.F. (− .0010). 16^h to 17^h Wave in H.F. (− .0012). 17^h to 18^h Wave in H.F. (− .0010). 20^h to 21^h Three successive waves in Dec. (− 3'), (− 2'), (− 2'), and in H.F. (+ .0006), (+ .0007), (+ .0010): in V.F. small.
- 17^d 0^h to 1^h Flat-crested wave in Dec. (+ 3'). 0^h to 2^h Irregular double wave in H.F. (− .0008 to + .0011).
- 18^d 12^h to 19^d 12^h See Plate IV.
- 19^d 16^h to 18^h Triple-crested waves in Dec. (− 3'), and H.F. (+ .0014), with superposed fluctuations. 19^h to 21^h Wave in Dec. (− 6'): in H.F. small. 21^h to 23^h Double-crested wave in Dec. (+ 5'): in H.F. small.
- 20^d 1^h to 2^h Wave in Dec. (+ 6'): in H.F. small. 2^h to 3^h Wave in V.F. (− .0003). 2^h to 5^h Irregular wave in Dec. (+ 5'). 2^h to 4^h Wave in H.F. (− .0020). 16^h to 17^h Sharp wave in H.F. (− .0014), followed immediately until 18^h by very irregular wave (+ .0014). 16^h to 18^h Flat-crested wave in Dec. (− 4'). 22^h to 23^h Double-crested wave in H.F. (+ .0016). 22^h to 23^h Increase in Dec. (+ 6'), immediately followed until 24^h by a sharp decrease (− 11'). 23^h to 23^h Decrease in V.F. (− .0005).
- 22^d 2^h to 4^h Wave in H.F. (− .0018). 2^h to 4^h Wave in Dec. (+ 4').
- 23^d 14^h to 15^h Wave in H.F. (− .0010), steep at commencement. 18^h to 20^h Slow wave in Dec. (− 3'). 23^h to 23^h Sharp increase in H.F. (+ .0018), immediately followed until 24^h by sharp decrease (− .0027). 23^d 23^h to 24^d 0^h Wave in Dec. (+ 4'): small movements in V.F.
- 24^d 20^h to 21^h Double wave in Dec. (− 2' to + 2'): double-crested wave in H.F. (+ .0017): in V.F. small. 24^d 23^h to 25^d 0^h Double-crested wave in Dec. (+ 3'): wave in H.F. (+ .0022). 24^d 23^h to 25^d 0^h Decrease in V.F. (− .0005).
- 25^d 23^h to 26^d 0^h Wave in Dec. (+ 5'). 25^d 23^h to 26^d 1^h Wave in H.F. (+ .0013). 25^d 23^h to 24^h Decrease in V.F. (− .0005).
- 28^d 18^h to 29^d 18^h See Plate IV.
- 29^d 18^h to 19^h Wave in H.F. (− .0013).

June

- 1^d 12^h to 12^h Increase in H.F. (+ .0013). 14^h to 15^h Wave in H.F. (− .0010). 18^h to 18^h Wave in Dec. (− 3'). 18^h to 19^h Double wave in H.F. (− .0007 to + .0009).
- 2^d 14^h to 15^h Wave in H.F. (+ .0010). 22^h to 22^h Decrease in Dec. (− 4').
- 3^d 14^h to 14^h Wave in H.F. (− .0011). 23^h Sudden increase in H.F. (+ .0020): in Dec. and V.F. small. 23^h to 24^h Irregular double-crested wave in Dec. (− 5'). 23^h to 23^h Wave in H.F. (+ .0010), followed till 4^d 0^h by an irregular decrease (− .0016).
- 4^d 11^h to 13^h Wave in H.F. (− .0020).
- 6^d 13^h to 14^h Wave in H.F. (+ .0011). 14^h to 15^h Sharp double-crested wave in H.F. (+ .0012). 15^h to 17^h Wave in H.F. (− .0013). 18^h to 19^h Irregular wave in H.F. (+ .0020): in V.F. small.
- 7^d 2^h to 3^h Wave in Dec. (+ 7'): decrease in V.F. (− .0004).
- 9^d 13^h to 13^h Wave in H.F. (− .0010), steep at commencement. 20^h to 21^h Decrease in Dec. (− 4').
- 10^d 2^h to 2^h Wave in Dec. (+ 3'): in H.F. and V.F. small. 4^h to 5^h Wave in Dec. (+ 4'): in H.F. (+ .0014): decrease in V.F. (− .0003). 6^h to 7^h Wave in Dec. (− 3'). 13^h to 15^h Double-crested wave in H.F. (− .0025), followed until 16^h by another (− .0012). 20^h to 21^h Wave in Dec. (− 3'): in H.F. small.
- 11^d 1^h to 3^h Double wave in H.F. (+ .0009 to − .0009). 3^h to 4^h Wave in Dec. (+ 5'). 3^h to 5^h Wave in H.F. (+ .0010). 6^h to 7^h Wave in Dec. (+ 3'). 11^h to 12^h Wave in H.F. (− .0014). 20^h to 20^h Decrease in Dec. (− 4').

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- June
- 12^d 2^h $\frac{1}{4}$ to 3^h $\frac{1}{4}$ Wave in H.F. ($- \cdot 0012$). 4^h $\frac{1}{4}$ to 5^h Wave in Dec. ($- 3'$). 4^h $\frac{3}{4}$ to 6^h Wave in H.F. ($- \cdot 0012$). 12^h $\frac{3}{4}$ to 13^h $\frac{1}{2}$ Wave in H.F. ($+ \cdot 0013$). 15^h to 16^h $\frac{1}{4}$ Double wave in H.F. ($+ \cdot 0009$ to $- \cdot 0008$). 16^h $\frac{1}{2}$ to 17^h $\frac{1}{2}$ Double wave in H.F. ($+ \cdot 0010$ to $- \cdot 0009$).
- 13^d 14^h $\frac{1}{4}$ to 15^h $\frac{3}{4}$ Wave in H.F. ($- \cdot 0010$). 16^h to 16^h $\frac{3}{4}$ Wave in H.F. ($- \cdot 0013$).
- 14^d 12^h to 12^h $\frac{1}{4}$ Increase in H.F. ($+ \cdot 0011$).
- 17^d 10^h $\frac{3}{4}$ to 11^h $\frac{1}{2}$ Wave in H.F. ($- \cdot 0010$).
- 19^d 3^h to 4^h $\frac{1}{4}$ Irregular wave in Dec. ($+ 3'$) and H.F. ($+ \cdot 0016$), each with small superposed fluctuations. 4^h $\frac{1}{4}$ to 5^h Increase in V.F. ($+ \cdot 0003$).
- 19^d 12^h to 20^d 12^h See Plate IV.
- 20^d 18^h to 19^h $\frac{1}{2}$ Wave in H.F. ($+ \cdot 0010$). 19^h $\frac{3}{4}$ to 21^h Flat-crested wave in Dec. ($- 3'$).
- 21^d 2^h $\frac{1}{4}$ to 4^h Wave in Dec. ($+ 3'$). 21^h $\frac{1}{4}$ to 22^h $\frac{1}{4}$ Wave in H.F. ($+ \cdot 0018$), very sharp at commencement: small double wave in Dec.
- 22^d 0^h to 1^h $\frac{1}{4}$ Wave in Dec. ($- 3'$). 1^h to 2^h Double-crested wave in H.F. ($+ \cdot 0014$), followed immediately until 3^h by a wave ($- \cdot 0016$). 1^h $\frac{1}{4}$ to 2^h $\frac{3}{4}$ Irregular wave in Dec. ($- 8'$). 1^h $\frac{1}{4}$ to 4^h $\frac{1}{2}$ Slow wave in V.F. ($- \cdot 0006$), with small superposed fluctuations. 7^h $\frac{1}{2}$ to 8^h $\frac{1}{4}$ Wave in Dec. ($- 3'$). 9^h $\frac{3}{4}$ to 10^h $\frac{1}{2}$ Two successive waves in H.F. ($+ \cdot 0010$) and ($+ \cdot 0012$): small sharp movements in Dec., H.F. and V.F. continuing until 12^h. 13^h $\frac{1}{2}$ to 5^h $\frac{1}{2}$ Irregular triple-crested wave in H.F. ($+ \cdot 0030$), followed till 16^h $\frac{1}{2}$ by an increase ($+ \cdot 0027$). 16^h $\frac{1}{2}$ to 17^h Wave in H.F. ($+ \cdot 0012$). 17^h $\frac{1}{4}$ to 18^h Wave in H.F. ($+ \cdot 0018$). 17^h $\frac{3}{4}$ to 18^h $\frac{3}{4}$ Wave in Dec. ($- 3'$). 18^h $\frac{1}{4}$ to 19^h $\frac{1}{4}$ Sharp double-crested wave in H.F. ($+ \cdot 0020$), followed till 20^h by a sharp wave ($- \cdot 0014$): small movements in Dec. and V.F. 21^h to 22^h $\frac{1}{4}$ Irregular double-crested wave in Dec. ($- 6'$). 21^h $\frac{1}{4}$ to 22^h $\frac{3}{4}$ Very sharp wave in H.F. ($+ \cdot 0042$), followed by a small wave in continuation ($- \cdot 0008$). 21^h $\frac{3}{4}$ to 23^h $\frac{1}{4}$ Wave in V.F. ($- \cdot 0005$).
- 24^d 0^h to 1^h $\frac{1}{4}$ Wave in H.F. ($+ \cdot 0010$). 2^h to 4^h $\frac{1}{4}$ Slow double-crested wave in H.F. ($+ \cdot 0010$): small double wave in Dec.
- 25^d 0^h $\frac{3}{4}$ to 1^h Sharp increase in Dec. ($+ 9'$), followed till 1^h $\frac{3}{4}$ by a decrease ($- 5'$): small wave in V.F. 15^h $\frac{3}{4}$ to 16^h $\frac{3}{4}$ Wave in H.F. ($+ \cdot 0013$): in Dec. small.
- 26^d 12^h $\frac{3}{4}$ to 14^h $\frac{1}{4}$ Flat-crested wave in Dec. ($+ 4'$).
- 27^d 13^h $\frac{1}{4}$ to 14^h $\frac{1}{4}$ Wave in H.F. ($- \cdot 0010$). 22^h to 23^h Wave in Dec. ($- 4'$).
- 28^d 12^h $\frac{3}{4}$ to 14^h Flat-crested wave in H.F. ($+ \cdot 0010$). 15^h $\frac{1}{2}$ to 16^h $\frac{1}{4}$ Wave in H.F. ($+ \cdot 0010$). 17^h to 18^h $\frac{1}{2}$ Wave in H.F. ($+ \cdot 0015$), with small superposed fluctuations and followed by fluctuations till 21^h.
- 30^d 22^h to 23^h $\frac{1}{4}$ Wave in Dec. ($- 3'$).
- July
- 2^d 11^h $\frac{3}{4}$ to 13^h Wave in H.F. ($- \cdot 0023$). 13^h $\frac{1}{2}$ to 14^h $\frac{1}{4}$ Wave in H.F. ($- \cdot 0016$). 14^h $\frac{1}{2}$ to 15^h $\frac{1}{2}$ Irregular wave in H.F. ($- \cdot 0018$), followed immediately by a sharp increase ($+ \cdot 0014$). 21^h $\frac{1}{4}$ to 21^h $\frac{1}{2}$ Decrease in Dec. ($- 4'$). 21^h $\frac{1}{4}$ to 22^h $\frac{1}{4}$ Wave in H.F. ($+ \cdot 0016$).
- 3^d 9^h $\frac{1}{2}$ to 10^h $\frac{1}{2}$ Wave in H.F. ($- \cdot 0010$). 19^h $\frac{1}{2}$ to 19^h $\frac{3}{4}$ Decrease in Dec. ($- 3'$).
- 5^d 12^h $\frac{1}{4}$ to 13^h $\frac{1}{4}$ Double-crested wave in H.F. ($- \cdot 0012$).
- 6^d 12^h to 12^h $\frac{3}{4}$ Wave in H.F. ($- \cdot 0012$).
- 7^d 3^h to 5^h Wave in H.F. ($- \cdot 0014$). 6^h $\frac{1}{2}$ to 7^h $\frac{1}{4}$ Wave in Dec. ($- 4'$), with small superposed fluctuations. 6^h $\frac{1}{2}$ to 8^h Wave in H.F. ($- \cdot 0015$). 11^h $\frac{3}{4}$ to 14^h $\frac{1}{4}$ Quadruple wave in H.F. ($- \cdot 0010$), ($+ \cdot 0010$), ($- \cdot 0010$) and ($+ \cdot 0010$). 15^h $\frac{3}{4}$ to 16^h $\frac{3}{4}$ Wave in Dec. ($+ 3'$). 15^h $\frac{3}{4}$ to 17^h $\frac{1}{2}$ Double wave in H.F. ($+ \cdot 0019$ to $- \cdot 0019$). 20^h $\frac{3}{4}$ to 21^h Wave in Dec. ($- 3'$): small double wave in H.F. 23^h $\frac{1}{2}$ to 24^h Wave in Dec. ($+ 3'$): in H.F. and V.F. (small).
- 8^d 0^h $\frac{1}{2}$ to 1^h $\frac{1}{4}$ Wave in Dec. ($- 3'$). 1^h to 2^h $\frac{1}{2}$ Wave in H.F. ($- \cdot 0013$). 2^h $\frac{1}{4}$ to 4^h Wave in Dec. ($- 5'$). 12^h to 12^h $\frac{3}{4}$ Wave in H.F. ($- \cdot 0010$). 17^h $\frac{3}{4}$ to 18^h $\frac{1}{4}$ Sharp triple-crested wave in H.F. ($- \cdot 0010$). 22^h $\frac{1}{4}$ to 23^h $\frac{3}{4}$ Flat-crested wave in H.F. ($+ \cdot 0012$).
- 10^d 3^h to 3^h $\frac{3}{4}$ Wave in H.F. ($- \cdot 0010$). 10^d 12^h to 11^d 12^h See Plate V.
- 11^d 18^h $\frac{1}{4}$ to 19^h Wave in Dec. ($- 4'$): small double wave in H.F.
- 12^d 0^h to 1^h $\frac{1}{4}$ Wave in H.F. ($+ \cdot 0013$): in Dec. small. 2^h $\frac{1}{2}$ to 3^h $\frac{1}{2}$ Wave in Dec. ($+ 4'$). 17^h to 18^h $\frac{1}{4}$ Wave in H.F. ($- \cdot 0014$).
- 15^d 0^h $\frac{1}{2}$ to 1^h $\frac{3}{4}$ Wave in Dec. ($+ 3'$). 11^h $\frac{1}{4}$ to 14^h $\frac{1}{2}$ Loss of Dec. and H.F. registers.
- 18^d 22^h $\frac{3}{4}$ to 24^h Wave in Dec. ($+ 4'$).
- 19^d 22^h $\frac{1}{2}$ to 23^h $\frac{1}{2}$ Wave in H.F. ($+ \cdot 0013$).
- 20^d 2^h $\frac{1}{2}$ to 4^h Wave in Dec. ($+ 3'$).
- 22^d 14^h $\frac{1}{2}$ to 16^h $\frac{1}{4}$ Flat-crested wave in H.F. ($- \cdot 0014$). 17^h to 18^h $\frac{1}{4}$ Wave in H.F. ($- \cdot 0014$).

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July

- 23^d 2 $\frac{1}{4}$ ^h to 3 $\frac{1}{2}$ ^h Wave in Dec. (+ 4'): in H.F. small. 5 $\frac{3}{4}$ ^h to 7^h Wave in Dec. (+ 3').
- 25^d 10^h to 12 $\frac{1}{2}$ ^h Wave in H.F. (- '0023). 14 $\frac{1}{2}$ ^h to 16 $\frac{1}{4}$ ^h Irregular double wave in H.F. (+ '0012 to - '0010).
17^h to 17 $\frac{1}{2}$ ^h Sharp wave in H.F. (- '0019). 22 $\frac{1}{4}$ ^h to 23 $\frac{3}{4}$ ^h Sharp double wave in Dec. (- 6' to + 3').
22 $\frac{3}{4}$ ^h to 23 $\frac{3}{4}$ ^h Wave in H.F. (+ '0015).
- 26^d 0 $\frac{1}{4}$ ^h to 1 $\frac{1}{4}$ ^h Wave in Dec. (- 3'). 15 $\frac{1}{2}$ ^h to 16 $\frac{1}{2}$ ^h Wave in Dec. (- 4'): in H.F. small. 22 $\frac{3}{4}$ ^h to 23 $\frac{1}{4}$ ^h Wave
in H.F. (+ '0015), steep at commencement.
- 27^d 12^h to 28^d 12^h See Plate V.
- 28^d 19 $\frac{1}{4}$ ^h to 20^h Wave in Dec. (- 3').
- 29^d 0^h to 2^h Small sharp fluctuations in Dec., H.F. and V.F. 2^h to 3 $\frac{1}{4}$ ^h Waves in Dec. (+ 4'), in H.F.
(- '0017), and in V.F. (- '0003), all steep at commencement.
- 30^d 17 $\frac{1}{2}$ ^h to 18 $\frac{1}{4}$ ^h Wave in H.F. (+ '0010)
- 31^d 16^h to 17 $\frac{1}{4}$ ^h Wave in H.F. (+ '0019).

August

- 1^d 11 $\frac{1}{2}$ ^h to 12 $\frac{1}{2}$ ^h Flat-crested wave in H.F. (- '0010). 13^h to 14^h Wave in H.F. (+ '0014). 14 $\frac{3}{4}$ ^h to 15 $\frac{1}{2}$ ^h
Double wave in H.F. (- '0008 to + '0010), immediately followed till 16^h by a wave (+ '0018): similar
small movements in Dec. and V.F. 19^h to 19 $\frac{3}{4}$ ^h Wave in H.F. (+ '0010). 21 $\frac{3}{4}$ ^h to 23^h Wave in Dec.
(- 9'), steep at commencement: double wave in H.F. (+ '0013 to - '0011). Wave in V.F. (- '0003).
- 2^d 0 $\frac{1}{2}$ ^h to 2^h Wave in Dec. (+ 7'). 0 $\frac{3}{4}$ ^h to 1 $\frac{3}{4}$ ^h Wave in H.F. (+ '0014). 3 $\frac{1}{2}$ ^h to 4 $\frac{1}{2}$ ^h Irregular wave in Dec.
(- 3'). 5^h to 6 $\frac{1}{4}$ ^h Wave in H.F. (- '0010). 17^h to 17 $\frac{1}{2}$ ^h Wave in H.F. (+ '0010). 18 $\frac{1}{2}$ ^h to 20^h
Irregular double-crested wave in H.F. (+ '0016). 20^h to 21 $\frac{1}{2}$ ^h Flat-crested wave in Dec. (- 3'): small
double-crested wave in H.F. 22 $\frac{3}{4}$ ^h to 23 $\frac{1}{2}$ ^h Wave in Dec. (- 3').
- 3^d 5 $\frac{3}{4}$ ^h to 7^h Double-crested wave in H.F. (- '0011). 16 $\frac{1}{2}$ ^h Sudden decrease in H.F. (- '0015). 19^h to 20^h
Wave in Dec. (- 5'). 23^h to 24^h Wave in Dec. (+ 5'). 3^d 23^h to 4^d 1^h Double-crested wave in H.F.
(+ '0015): small double wave in V.F.
- 4^d 8 $\frac{1}{2}$ ^h to 10^h Wave in H.F. (- '0017). 14 $\frac{1}{2}$ ^h to 15 $\frac{1}{2}$ ^h Wave in H.F. (+ '0013). 19 $\frac{1}{2}$ ^h to 20^h Wave in H.F.
(+ '0010). 22 $\frac{3}{4}$ ^h to 23 $\frac{1}{2}$ ^h Wave in Dec. (+ 3').
- 7^d 2^h to 3 $\frac{1}{4}$ ^h Wave in Dec. (+ 3').
- 9^d 20^h to 21 $\frac{1}{4}$ ^h Sharp triple-crested wave in H.F. (+ '0024). 20 $\frac{1}{4}$ ^h to 22^h Two successive waves in Dec. (- 4')
and (- 3'): small movements in V.F.
- 10^d 17 $\frac{3}{4}$ ^h to 18 $\frac{1}{2}$ ^h Wave in Dec. (- 4'): in H.F. (+ '0016).
- 14^d 15^h to 15 $\frac{1}{2}$ ^h Waves in Dec. (+ 3'): in H.F. (+ '0028), and in V.F. (+ '0002), all very steep at
commencement. 15 $\frac{1}{2}$ ^h to 16 $\frac{3}{4}$ ^h Flat-crested wave in H.F. (- '0014), followed till 17 $\frac{1}{4}$ ^h by a wave
(+ '0013).
- 16^d 9^h to 11 $\frac{1}{2}$ ^h Loss of Dec. and H.F. registers. 16^d 23 $\frac{1}{2}$ ^h to 17^d 0 $\frac{3}{4}$ ^h Wave in Dec. (- 4'): small double wave
in H.F.
- 18^d 17 $\frac{1}{2}$ ^h to 18 $\frac{1}{2}$ ^h Double-crested wave in H.F. (- '0016). 19 $\frac{1}{2}$ ^h to 20 $\frac{1}{4}$ ^h Wave in H.F. (- '0010). 21 $\frac{1}{2}$ ^h to 23^h
Wave in Dec. (- 3').
- 19^d 20 $\frac{1}{2}$ ^h to 21 $\frac{1}{2}$ ^h Wave in Dec. (- 4').
- 20^d 2 $\frac{1}{2}$ ^h to 3 $\frac{1}{2}$ ^h Very sharp fluctuations in Dec. and H.F. 20 $\frac{1}{2}$ ^h to 21^h Sharp wave in Dec. (- 7'): in V.F.
small. 20 $\frac{3}{4}$ ^h to 22^h Wave in H.F. (- '0019). 21^h to 22 $\frac{1}{4}$ ^h Wave in Dec. (- 5').
- 21^d 1 $\frac{1}{2}$ ^h to 3 $\frac{1}{4}$ ^h Wave in Dec. (+ 10'). 1 $\frac{3}{4}$ ^h to 4^h Wave in H.F. (+ '0022). 2^h to 6^h Slow double-crested
wave in V.F. (- '0006). 3 $\frac{1}{2}$ ^h to 4 $\frac{1}{2}$ ^h Wave in Dec. (+ 3'). 4^h to 4 $\frac{1}{2}$ ^h Decrease in H.F. (- '0010).
5^h to 8^h Irregular double wave in H.F. (+ '0020 to - '0020). 7^h to 8 $\frac{1}{4}$ ^h Flat-crested wave in Dec.
(+ 3'). 9^h to 10^h Wave in Dec. (- 3'): in H.F. (- '0011). 11 $\frac{3}{4}$ ^h to 12 $\frac{1}{4}$ ^h Wave in H.F. (- '0012).
18^h to 19^h Wave in H.F. (- '0010). 22 $\frac{3}{4}$ ^h to 23 $\frac{1}{4}$ ^h Wave in Dec. (- 3'): in H.F. small.
- 22^d 1^h to 2^h Wave in Dec. (+ 4'). 12^h to 15^h Two successive waves in H.F. (+ '0014) and (+ '0027).
17 $\frac{3}{4}$ ^h to 19 $\frac{1}{4}$ ^h Two successive waves in H.F. (- '0010) and (- '0010). 22 $\frac{3}{4}$ ^h to 23 $\frac{3}{4}$ ^h Wave in H.F.
(- '0010).

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- August 23^d 18³/₄^h to 19¹/₂^h Waves in Dec. (− 6′) and H.F. (− .0012). 22¹/₄^h to 23¹/₂^h Irregular wave in Dec. (− 7′). 23¹/₄^h to 23³/₄^h Wave in H.F. (− .0010). 23^d 23³/₄^h to 24^d 0³/₄^h Wave in Dec. (− 4′): in V.F. (− .0003): in H.F. small.
- 24^d 14¹/₂^h to 15¹/₄^h Wave in H.F. (+ .0014), followed till 16^h by an increase (+ .0021). 15¹/₄^h to 16^h Wave in Dec. (− 3′). 17³/₄^h to 19¹/₂^h Wave in Dec. (− 9′), with irregular return. 17³/₄^h to 19^h Double wave in H.F. (− .0014 to + .0016): small wave in V.F.
- 25^d 0¹/₂^h to 2¹/₄^h Irregular wave in Dec. (+ 3′). 19^h to 20^h Wave in Dec. (− 8′). 19¹/₄^h to 20¹/₂^h Wave in H.F. (+ .0026).
- 27^d 0^h to 1^h Wave in H.F. (+ .0010).
- 30^d 8^h to 9¹/₂^h Wave in H.F. (+ .0010). 12¹/₄^h to 13³/₄^h Sharp fluctuations in Dec., H.F. and V.F. 13³/₄^h to 15^h Irregular double wave in Dec. (− 6′ to + 4′). 13³/₄^h to 15¹/₂^h Sharp quintuple wave in H.F. (− .0038), (+ .0034), (− .0024), (+ .0019 to − .0020). 14^h to 14¹/₂^h Increase in V.F. (+ .0006). 14³/₄^h Decrease in V.F. (− .0002). 15^h to 15¹/₂^h Increase in V.F. (+ .0006). 20¹/₄^h to 21¹/₂^h Double wave in H.F. (− .0010 to + .0010). 20¹/₂^h to 21¹/₄^h Sharp wave in Dec. (− 5′).
- 31^d 3^h to 4^h Irregular wave in Dec. (+ 3′). 4³/₄^h to 6^h Irregular wave in Dec. (− 3′). 20³/₄^h to 21^h Sharp wave in Dec. (− 3′). 20³/₄^h to 21¹/₄^h Sharp wave in H.F. (+ .0016).
- September 3^d 22³/₄^h to 23³/₄^h Wave in H.F. (+ .0014). 23¹/₄^h to 24^h Wave in Dec. (− 3′).
- 5^d 1^h to 2^h Wave in Dec. (+ 3′): in H.F. (+ .0011). 2¹/₄^h to 4¹/₂^h Irregular wave in H.F. (+ .0019). 3¹/₂^h to 4³/₄^h Wave in Dec. (− 4′): small wave in V.F. 17¹/₂^h to 18¹/₄^h Wave in H.F. (− .0010). 17³/₄^h to 18¹/₂^h Wave in Dec. (− 3′). 21¹/₂^h to 23^h Wave in H.F. (+ .0019): in Dec. small.
- 6^d 8^h to 13^h Loss of Dec. register. 22¹/₂^h to 23³/₄^h Wave in Dec. (− 4′). 6^d 23¹/₄^h to 7^d 0¹/₂^h Wave in H.F. (+ .0016).
- 7^d 1^h to 1¹/₂^h Decrease in H.F. (− .0010).
- 8^d 11¹/₂^h to 9^d 9¹/₂^h Loss of Dec. register.
- 10^d 12^h to 11^d 12^h See Plate V.
- 11^d 21¹/₄^h to 22^h Two successive waves in Dec. (− 3′) and (− 2′): wave in H.F. (+ .0015): decrease in V.F. (− .0003). 11^d 23^h to 12^d 1¹/₄^h Irregular flat-crested wave in Dec. (+ 4′).
- 12^d 0^h to 1¹/₄^h Irregular wave in H.F. (+ .0011). 2^h to 3¹/₂^h Flat-crested wave in Dec. (+ 6′): small waves in V.F. 4^h to 6¹/₂^h Two successive waves in H.F. (− .0020) and (− .0020). 4¹/₂^h to 5¹/₂^h Wave in Dec. (+ 9′): in V.F. (+ .0003). 13¹/₄^h to 14^h Sharp double wave in H.F. (+ .0010 to − .0008). 14¹/₂^h to 14³/₄^h Sharp decrease in H.F. (− .0012). 16^h to 16¹/₂^h Sharp wave in H.F. (+ .0019): in Dec. and V.F. small. 17^h to 18^h Flat-crested wave in Dec. (+ 3′): fluctuations in H.F. till 19^h. 19¹/₂^h to 20¹/₂^h Double-crested wave in Dec. (− 5′): wave in H.F. (+ .0025): decrease in V.F. (− .0004).
- 13^d 0¹/₂^h to 1³/₄^h Wave in H.F. (+ .0014). 13^d 23¹/₄^h to 14^d 0¹/₂^h Wave in H.F. (+ .0017): in Dec. small.
- 16^d 6^h to 7³/₄^h Flat-crested wave in Dec. (− 4′). 6³/₄^h to 8¹/₄^h Wave in H.F. (− .0012). 12¹/₂^h to 13¹/₄^h Double-crested wave in Dec. (− 3′): wave in H.F. (− .0010). 13¹/₄^h to 13³/₄^h Two successive sharp waves in Dec. (+ 3′) and (+ 4′), and in H.F. (+ .0013) and (+ .0018): small sharp movements in V.F. 15^h to 16^h Two successive sharp waves in H.F. (− .0013) and (− .0010): in Dec. and V.F. small. 17^h to 17¹/₄^h Sharp decreases in Dec. (− 5′) and H.F. (− .0010), immediately followed by waves (− 8′) and (− .0016) respectively. 20³/₄^h to 21¹/₄^h Two successive very sharp waves in H.F. (+ .0017) and (+ .0016), followed by very sharp fluctuations until 23^h (± .0009): sharp fluctuations also in Dec. and V.F.
- 17^d 8³/₄^h to 9^h Wave in H.F. (+ .0011), followed till 15¹/₂^h by sharp fluctuations in Dec. and H.F. 15¹/₂^h to 17¹/₂^h Very irregular wave in Dec. (− 10′), with superposed fluctuations. 15^h to 19^h Long wave in V.F. (+ .0013). 15³/₄^h to 16^h Sharp wave in H.F. (− .0010). 16^h to 18¹/₂^h Wave in H.F. (− .0036), with sharp waves superposed, including one at 16³/₄^h (+ .0021), and another at 17¹/₄^h (+ .0012).
- 18^d 0³/₄^h to 2^h Wave in Dec. (+ 10′), sharp at commencement: in H.F. (+ .0019): small double wave in V.F. 4¹/₄^h to 5¹/₂^h Wave in Dec. (+ 5′): in H.F. small. 12¹/₄^h to 13^h Double-crested wave in H.F. (− .0010): in Dec. small. 13¹/₂^h to 14¹/₂^h Wave in Dec. (+ 4′). 13³/₄^h to 15¹/₂^h Triple wave in H.F. (+ .0012) (− .0018 to + .0010): in V.F. small. 16^h to 17³/₄^h Triple-crested wave in H.F. (− .0012). 20¹/₂^h to 21¹/₄^h Wave in Dec. (− 3′): in H.F. (+ .0009). 22^h to 23¹/₂^h Double-crested wave in Dec. (+ 9′): two successive waves in H.F. (+ .0015) and (+ .0010): wave in V.F. (− .0003).

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- September 19^d 0^h to 2^h Irregular wave in Dec. (+ 9'). 0^h to 1^h Wave in H.F. (+ .0021). 1^h to 2^h Wave in V.F. (- .0003). 3^h to 4^h Flat-crested wave in Dec. (+ 3'), with superposed fluctuations. 17^h to 19^h Double wave in H.F. (- .0010 to + .0011). 18^h to 19^h Wave in Dec. (- 5'). 19^h to 21^h Two successive waves in H.F. (+ .0010) and (+ .0010): in Dec. small. 22^h to 22^h Wave in Dec. (+ 4'). 22^h to 23^h Wave in H.F. (+ .0012).
- 20^d 0^h to 3^h Slow double-crested wave in Dec. (+ 5'): in H.F. small. 5^h to 7^h Wave in H.F. (+ .0010). 17^h to 17^h Flat-crested wave in Dec. (- 3'). 20^h to 21^h Wave in Dec. (- 3'): in H.F. (+ .0010). 22^h to 22^h Wave in Dec. (+ 5'): in V.F. small. 22^h to 23^h Double wave in H.F. (- .0010 to + .0018). 23^h to 24^h Wave in Dec. (- 4').
- 21^d 16^h to 17^h Flat-crested wave in Dec. (- 3'): small double wave in H.F. 19^h to 19^h Wave in Dec. (- 3').
- 25^d 18^h to 19^h Wave in Dec. (- 3'): in H.F. (- .0013).
- 26^d 12^h to 13^h Wave in Dec. (- 3'): in H.F. (- .0019). 15^h to 16^h Very sharp wave in H.F. (+ .0014): in Dec. and V.F. small. 16^h to 17^h Flat-crested wave in Dec. (- 3'). 16^h to 17^h Triple wave in H.F. (- .0010), (+ .0010 to - .0010). 21^h to 22^h Wave in Dec. (- 4'). Double-crested wave in H.F. (+ .0018). 22^h to 23^h Wave in Dec. (+ 5'). 22^h to 24^h Wave in H.F. (+ .0020): in V.F. small. 26^d 23^h Sharp decrease in Dec. (- 9').
- 27^d 0^h to 3^h Irregular double wave in H.F. (+ .0014 to - .0012). 1^h to 3^h Irregular wave in Dec. (+ 9').
- 28^d 15^h to 16^h Wave in H.F. (- .0012): in Dec. small. 18^h to 20^h Wave in H.F. (- .0012).
- 29^d 2^h to 3^h Wave in Dec. (+ 7'): double-crested wave in H.F. (+ .0013). 2^h to 3^h Decrease in V.F. (- .0003). 13^h to 13^h Wave in Dec. (+ 3'): in H.F. (+ .0013).
- 30^d 12^h to 12^h Sharp wave in Dec. (+ 5'): in H.F. (+ .0015): in V.F. small. 13^h to 13^h Wave in Dec. (+ 3'): in H.F. (+ .0010). 13^h to 15^h Double-crested wave in H.F. (- .0018). 16^h to 17^h Wave in H.F. (+ .0021). 18^h to 19^h Sharp decrease in Dec. (- 8'), continued till 19^h by a wave (- 7'), followed by a small double wave. 18^h to 20^h Double wave in H.F. (- .0012 to + .0014): the first portion double-crested. 21^h to 22^h Very sharp double wave in Dec. (+ 6' to - 13'). 21^h to 22^h Sharp wave in V.F. (- .0005). 22^h to 22^h Sharp wave in H.F. (+ .0028).
- October 1^d 12^h to 16^h Sharp fluctuations in H.F.: in Dec. small. 14^h to 16^h Wave in Dec. (- 3'). 16^h to 18^h Sharp double-crested waves in Dec. (- 9'), and H.F. (+ .0019).
- 2^d 1^h to 3^h Two successive irregular waves in H.F. (+ .0016) and (+ .0013). 1^h to 4^h Double wave in Dec. (+ 8' to - 5'), the first portion steep. 2^h to 2^h Decrease in V.F. (- .0003). 19^h to 21^h Wave in Dec. (- 4'): in H.F. (+ .0012). 21^h to 23^h Flat-crested wave in H.F. (+ .0019). 22^h to 22^h Wave in Dec. (+ 3').
- 3^d 0^h to 3^h Two successive waves in Dec. (- 5') and (- 5'). 1^h to 2^h Wave in H.F. (+ .0015). 4^h to 6^h Double wave in H.F. (+ .0008 to - .0010). 5^h to 6^h Wave in Dec. (+ 3').
- 5^d 21^h to 23^h Wave in H.F. (+ .0010). 21^h Decrease in Dec. (- 3').
- 8^d 19^h to 20^h Wave in H.F. (- .0011). 21^h to 23^h Double-crested wave in Dec. (- 10'), sharp at commencement. 22^h to 23^h Wave in H.F. (+ .0015). 8^d 23^h to 9^d 2^h Irregular wave in Dec. (- 6').
- 9^d 0^h to 0^h Increase in H.F. (+ .0011). 4^h to 5^h Wave in Dec. (+ 4'). 4^h to 6^h Wave in H.F. (+ .0013). 20^h to 21^h Wave in H.F. (+ .0010). 20^h to 22^h Wave in Dec. (- 5').
- 10^d 21^h to 23^h Wave in Dec. (- 5'). 21^h to 23^h Wave in H.F. (+ .0012).
- 11^d 20^h to 21^h Irregular double wave in Dec. (+ 3' to - 5').
- 13^d 1^h to 2^h Wave in Dec. (- 3'): in H.F. (+ .0013). 11^h to 11^h Sharp increase in Dec. (+ 5'), followed until 12^h by three successive sharp waves (+ 4') (+ 4') and (+ 5'). 11^h to 11^h Irregular sharp double-crested wave in H.F. (+ .0025), followed till 12^h by two successive sharp waves (+ .0010) and (+ .0017). 11^h to 12^h Small sharp fluctuations in V.F.
- 13^d 12^h to 15^d 12^h See Plate VI.
- 15^d 15^h to 17^h Two successive waves in H.F. (- .0012) and (- .0020). 16^h to 18^h Irregular wave in Dec. (- 9'), steep at commencement. 20^h to 22^h Irregular triple-crested wave in H.F. (- .0026). 20^h to 22^h Irregular double-crested wave in Dec. (- 10'), continued till 23^h by a wave (+ 5').
- 16^d 0^h to 1^h Wave in Dec. (+ 5'). 11^h to 12^h Wave in H.F. (- .0010). 13^h to 15^h Wave in Dec. (+ 3'). 14^h to 15^h Wave in H.F. (- .0013). 19^h to 20^h Wave in Dec. (- 3'): fluctuations in H.F. 22^h to 23^h Wave in Dec. (+ 3'). 16^d 23^h to 17^d 1^h Irregular double-crested wave in Dec. (+ 3').

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- October 17^d 16^h to 17^h Wave in Dec. (− 3′): in H.F. small. 21^h to 22^½^h Wave in H.F. (+ .0012).
 21^d 21^h to 22^¼^h Wave in H.F. (− .0011). 22^h to 23^h Wave in Dec. (+ 3′).
 22^d 7^¼^h to 8^¾^h Wave in Dec. (+ 5′). 11^½^h to 12^h Irregular increase in Dec. (+ 7′), followed by fluctuations. 12^½^h to 14^h Irregular wave in H.F. (+ .0025), followed by fluctuations. 13^h to 13^½^h Sharp wave in Dec. (+ 5′). 14^h to 14^¼^h Sharp wave in Dec. (+ 4′), continued till 14^¾^h by a decrease (− 8′). 14^h to 16^¾^h Wave in V.F. (+ .0006), with superposed small fluctuations. 14^¾^h to 16^¾^h Triple wave in Dec. (+ 4′) (− 4′ to + 5′). 14^¾^h to 16^h Sharp triple wave in H.F. (+ .0015) (− .0014 to + .0020). 19^h to 20^h Wave in Dec. (+ 3′). 21^¾^h to 22^h Sharp wave in H.F. (+ .0010). 23^h Short sharp fluctuations in Dec. and H.F.
 23^d 1^h to 2^h Sharp fluctuations in Dec. and H.F. 4^h to 5^h Wave in Dec. (+ 3′). 19^¾^h to 21^h Flat-crested wave in Dec. (− 3′).
 25^d 13^¼^h to 13^½^h Sharp increase in H.F. (+ .0012): in Dec. small. 18^¾^h to 19^h Sharp decrease in Dec. (− 3′): in H.F. (− .0015). 19^h to 20^h Wave in Dec. (− 3′): in H.F. small. 25^d 23^¼^h to 26^d 1^¼^h Double wave in Dec. (− 4′ to + 3′): in H.F. small.
 27^d 16^h to 18^h Irregular wave in Dec. (− 11′), very steep at commencement: double wave in H.F. (− .0008 to + .0017). 16^h to 16^¼^h Sharp increase in V.F. (+ .0003). 19^½^h to 20^h Decrease in Dec. (− 6′). 19^½^h to 21^h Irregular double wave in H.F. (+ .0012 to − .0012). 20^h to 21^½^h Irregular double wave in Dec. (+ 4′ to − 4′). 21^½^h to 23^½^h Double-crested wave in Dec. (− 5′). 27^d 23^½^h to 28^d 0^½^h Double-crested wave in Dec. (− 4′). Small double wave in H.F.
 28^d 0^½^h to 2^h Wave in Dec. (− 7′). 23^h to 24^h Wave in Dec. (+ 3′).
 29^d 19^h to 20^¼^h Wave in Dec. (− 14′), immediately followed until 22^h by a flat-crested wave (− 6′). 20^h to 20^½^h Wave in V.F. (+ .0003). 20^¼^h to 21^½^h Double wave in H.F. (− .0010 to + .0015).
- November 2^d 22^h to 3^d 0^½^h Wave in Dec. (− 9′).
 3^d 7^h to 7^½^h Increase in Dec. (+ 9′). 7^¼^h to 8^¼^h Wave in H.F. (+ .0012). 8^h to 8^¼^h Decrease in Dec. (− 5′). 15^½^h to 17^h Wave in Dec. (− 3′): in H.F. (− .0014). 18^¾^h to 19^¾^h Wave in Dec. (− 10′): in H.F. (+ .0014). 20^¼^h to 20^½^h Sharp decrease in Dec. (− 5′): in H.F. (− .0008). 21^h to 23^h Double-crested wave in Dec. (− 5′). 21^½^h to 22^h Wave in H.F. (+ .0010). 3^d 23^h 4^d 0^¼^h Irregular double-crested waves in Dec. (+ 7′), and V.F. (− .0003): small fluctuations in H.F.
 4^d 1^½^h to 2^h Increase in Dec. (+ 7′): in H.F. (+ .0017): in V.F. (+ .0003). 2^h to 4^h Irregular double-crested wave in Dec. (− 8′). 2^h to 3^h Wave in H.F. (+ .0011). 10^h to 10^½^h Double-crested wave in Dec. (+ 3′).
 5^d 20^h to 22^½^h Two successive waves in H.F. (+ .0018) and (+ .0013). 5^d 23^h to 6^d 0^¼^h Wave in Dec. (+ 4′).
 7^d 20^½^h to 22^h Irregular wave in Dec. (− 9′), steep at commencement: small double wave in H.F.
 8^d 4^½^h to 6^h Wave in Dec. (+ 7′). 18^¼^h to 19^h Wave in Dec. (− 4′): in H.F. (− .0013).
 9^d 2^h to 3^¼^h Wave in Dec. (+ 3′). 19^¾^h to 20^¼^h Wave in Dec. (− 3′): in H.F. (− .0010). 23^h to 24^h Wave in Dec. (− 4′).
 10^d 1^¼^h to 2^h Wave in H.F. (+ .0014). 1^½^h to 2^¼^h Wave in Dec. (− 3′). 5^½^h to 6^½^h Wave in Dec. (− 4′): in H.F. small. 12^½^h to 15^¾^h Four successive waves in Dec. (− 3′), (− 3′), (− 4′) and (− 4′). 13^¾^h to 14^½^h Wave in H.F. (− .0018). 14^¼^h to 17^½^h Irregular wave in V.F. (+ .0007). 15^¼^h to 16^h Double-crested wave in H.F. (− .0018), followed till 17^h by three successive waves, (− .0012), (− .0011) and (− .0011). 16^h to 16^½^h Wave in Dec. (− 8′). 16^½^h to 17^½^h Very sharp triple-crested wave in Dec. (− 7′). 17^h to 17^¾^h Sharp double wave in H.F. (+ .0016 to − .0012), immediately followed till 18^½^h by a sharp wave (− .0022). 17^½^h to 18^h Sharp wave in Dec. (− 8′), followed till 18^½^h by another (− 3′).
 11^d 18^h to 19^h Double-crested wave in H.F. (− .0011). 19^¾^h to 21^½^h Three successive waves in Dec. (− 5′), (− 4′) and (− 3′). 20^h to 20^½^h Sharp wave in Dec. (+ .0020). 22^¼^h to 23^½^h Sharp double wave in Dec. (+ 4′ to − 9′). Wave in H.F. (+ .0026), followed till 24^h by sharp increase (+ .0016). 22^½^h to 23^h Decrease in V.F. (− .0006). 11^d 23^¾^h to 12^d 1^½^h Double wave in Dec. (+ 3′ to − 3′).
 12^d 20^½^h to 21^½^h Flat-crested wave in Dec. (− 6′), steep at commencement: small waves in H.F.

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- November 13^d 20^h to 20³/₄^h Wave in H.F. (+ '0015): in Dec. small.
- 14^d 0¹/₂^h to 1³/₄^h Wave in H.F. (+ '0017): in Dec. small. 20¹/₂^h to 23^h Two successive waves in H.F. (+ '0016) and (+ '0013). 21^h to 23¹/₄^h Flat-crested wave in Dec. (- 4').
- 16^d 23¹/₄^h to 17^d 2^h Irregular wave in Dec. (- 7').
- 17^d 12¹/₂^h to 13³/₄^h Wave in H.F. (+ '0012).
- 21^d 8^h to 22^d 8^h See Plate VI.
- 22^d 11³/₄^h to 13¹/₄^h Flat-crested wave in Dec. (+ 7'), with small superposed fluctuations: in H.F. and V.F. small. 16¹/₂^h to 17¹/₂^h Sharp wave in H.F. (- '0025). 16³/₄^h to 17¹/₂^h Wave in Dec. (- 4'): in V.F. small. 21³/₄^h to 23^h Double-crested wave in Dec. (- 4'): small wave in V.F. 21³/₄^h to 22¹/₂^h Wave in H.F. (+ '0021).
- 23^d 21¹/₄^h to 21³/₄^h Wave in H.F. (+ '0012). 21¹/₂^h to 22¹/₂^h Double wave in Dec. (+ 2' to - 3'). Small decrease in V.F.
- 24^d 21¹/₂^h to 23^h Wave in H.F. (+ '0010).
- 25^d 19³/₄^h to 20¹/₂^h Wave in Dec. (- 3').
- 26^d 16¹/₂^h to 18^h Wave in H.F. (- '0010). 26^d 23¹/₄^h to 27^d 0³/₄^h Wave in H.F. (+ '0011).
- 27^d 12¹/₂^h to 14¹/₂^h Slow wave in H.F. (- '0010), having superposed on it from 13^h to 13¹/₂^h a sharp wave (- '0020). 13^h to 14¹/₄^h Two successive waves in Dec. (+ 3') and (+ 3'), the first very sharp.
- 28^d 17^h to 19¹/₂^h Three successive waves in Dec. (- 2'), (- 4') and (- 3'). 18¹/₂^h to 19¹/₂^h Wave in H.F. (- '0010). 28^d 22³/₄^h to 29^d 0¹/₄^h Double-crested wave in Dec. (- 3'): in H.F. small.
- December 4^d 22^h to 23^h Wave in H.F. (+ '0010).
- 5^d 5¹/₄^h to 8^h Slow wave in H.F. (+ '0018). 6¹/₄^h to 7^h Decrease in Dec. (- 4'). 17^h to 19^h Slow wave in Dec. (+ 3').
- 6^d 20³/₄^h to 22^h Wave in Dec. (- 5'), steep at commencement: in H.F. small.
- 7^d 13¹/₂^h to 14³/₄^h Wave in Dec. (+ 3'). 13³/₄^h to 15^h Wave in H.F. (- '0018). 7^d 22¹/₂^h to 8^d 0¹/₂^h Wave in Dec. (- 8'): small wave in H.F.
- 8^d 0^h to 1¹/₄^h Wave in H.F. (+ '0029), steep at commencement. 0¹/₄^h to 1¹/₂^h Wave in V.F. (- '0003). 0¹/₂^h to 2¹/₂^h Wave in Dec. (- 10'), steep at commencement. 2^h to 2¹/₂^h Wave in H.F. (+ '0017), followed till 4¹/₂^h by a wave (- '0025). 2¹/₂^h to 3^h Sharp wave in Dec. (- 5'): in V.F. small. 3¹/₂^h to 4³/₄^h Wave in Dec. (+ 4').
- 10^d 17¹/₄^h to 18¹/₄^h Irregular increase in H.F. (- '0024). 18^h to 19^h Irregular wave in Dec. (- 4'). 19¹/₂^h to 21^h Irregular double wave in Dec. (- 4' to + 5'). 20¹/₄^h to 22^h Double wave in H.F. (+ '0010 to - '0020), the first portion sharp, the second flat-crested. 21¹/₄^h to 22¹/₄^h Wave in Dec. (- 5'). 22^h to 22³/₄^h Wave in H.F. (- '0010). 22¹/₄^h to 23¹/₂^h Double-crested wave in Dec. (- 5').
- 11^d 0³/₄^h to 1¹/₂^h Wave in Dec. (- 4'). 17¹/₂^h to 17³/₄^h Sharp decrease in Dec. (- 5') and H.F. (- '0015). 17³/₄^h to 19^h Wave in V.F. (+ '0005). 18^h to 19^h Very sharp irregular double wave in Dec. (- 6' to + 9'). 18¹/₄^h Very sharp increase in H.F. (+ '0030). 18³/₄^h to 19^h Very sharp wave in H.F. (- '0023). 19^h to 20¹/₂^h Double wave in Dec. (+ 4' to - 5'), the first portion sharp, the second flat-crested. 19^h to 19¹/₂^h Irregular wave in H.F. (+ '0012).
- 12^d 2¹/₂^h to 6^h Irregular double wave in H.F. (+ '0015 to - '0010): wave in V.F. (- '0004). 3¹/₂^h to 4³/₄^h Wave in Dec. (- 4'), preceded by smaller ones. 6¹/₂^h to 8¹/₄^h Wave in Dec. (+ 7'), with superposed fluctuations. 16³/₄^h to 18¹/₂^h Triple-crested wave in Dec. (- 9'). 17¹/₄^h to 18^h Wave in H.F. (- '0010). 21¹/₂^h to 22^h Sharp wave in Dec. (- 7'). 21¹/₂^h to 23¹/₄^h Two successive sharp waves in H.F. (+ '0017) and (+ '0030). 22¹/₂^h to 24^h Double wave in Dec. (+ 6' to - 5'): small wave in V.F.
- 13^d 0^h to 1¹/₂^h Wave in Dec. (- 10'). 0¹/₄^h to 1³/₄^h Flat-crested wave in H.F. (- '0020). 2^h to 4^h Wave in H.F. (- '0017). 4³/₄^h to 6^h Flat-crested wave in H.F. (- '0012). 16³/₄^h to 18¹/₂^h Double wave in H.F. (- '0010 to + '0019). 17^h to 18^h Wave in Dec. (- 8'). 21^h to 21¹/₂^h Wave in Dec. (+ 3'), and H.F. (+ '0012). 23^h to 24^h Increase in Dec. (+ 5').
- 17^d 2¹/₄^h to 3^h Wave in Dec. (+ 3'). 18^h to 19¹/₄^h Wave in Dec. (- 3').

1907.

December 18^d 2 $\frac{3}{4}$ ^h to 4^h Wave in Dec. (+ 4'): in H.F. (+ .0012).19^d 22 $\frac{1}{2}$ ^h to 23 $\frac{3}{4}$ ^h Sharp increase in H.F. (+ .0014).20^d 1^h to 2^h Wave in Dec. (+ 3').22^d 18 $\frac{3}{4}$ ^h to 19^h Decrease in Dec. (- 3').25^d 0 $\frac{1}{2}$ ^h to 1 $\frac{1}{2}$ ^h Irregular wave in Dec. (+ 3').26^d 19 $\frac{1}{2}$ ^h to 20 $\frac{1}{4}$ ^h Wave in H.F. (+ .0010). 22^h to 22 $\frac{3}{4}$ ^h Wave in H.F. (- .0010).28^d 23^h to 29^d 1 $\frac{1}{2}$ ^h Double wave in Dec. (+ 3' to - 3'). 28^d 23^h to 29^d 1^h Irregular wave in H.F. (+ .0015).30^d 14 $\frac{1}{4}$ ^h to 15^h Decrease in Dec. (- 4').31^d 10 $\frac{1}{2}$ ^h to 17 $\frac{1}{2}$ ^h. Loss of V.F. register.

EXPLANATION OF THE PLATES.

The magnetic motions figured on the Plates are :—

- (1.) Those for days of great disturbance—February 9–10.
- (2.) Those for days of lesser disturbance—January 14^d 16^h to 15^d 16^h, February 7^d 5^h to 8^d 5^h, 10^d 16^h to 11^d 3^h, 11^d 18^h to 12^d 5^h, March 10^d 4^h to 11^d 4^h, 11^d 17^h to 12^d 17^h, 21–22, May 18–19, 28^d 18^h to 29^d 18^h, June 19–20, July 10–11, 27–28, September 10–11, October 13–14 14–15, November 21^d 8^h to 22^d 8^h.
- (3.) Those for four quiet days—February 5, May 9, August 12, November 20—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 units for horizontal and vertical force are 0.0001 of the whole horizontal and vertical forces respectively, 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 $0^{\text{m}}.80 = 20.2$ in the declination curve, by $0^{\text{m}}.74 = 18.7$ in the horizontal force curve, and by $0^{\text{m}}.57 = 14.6$ in the vertical force curve.

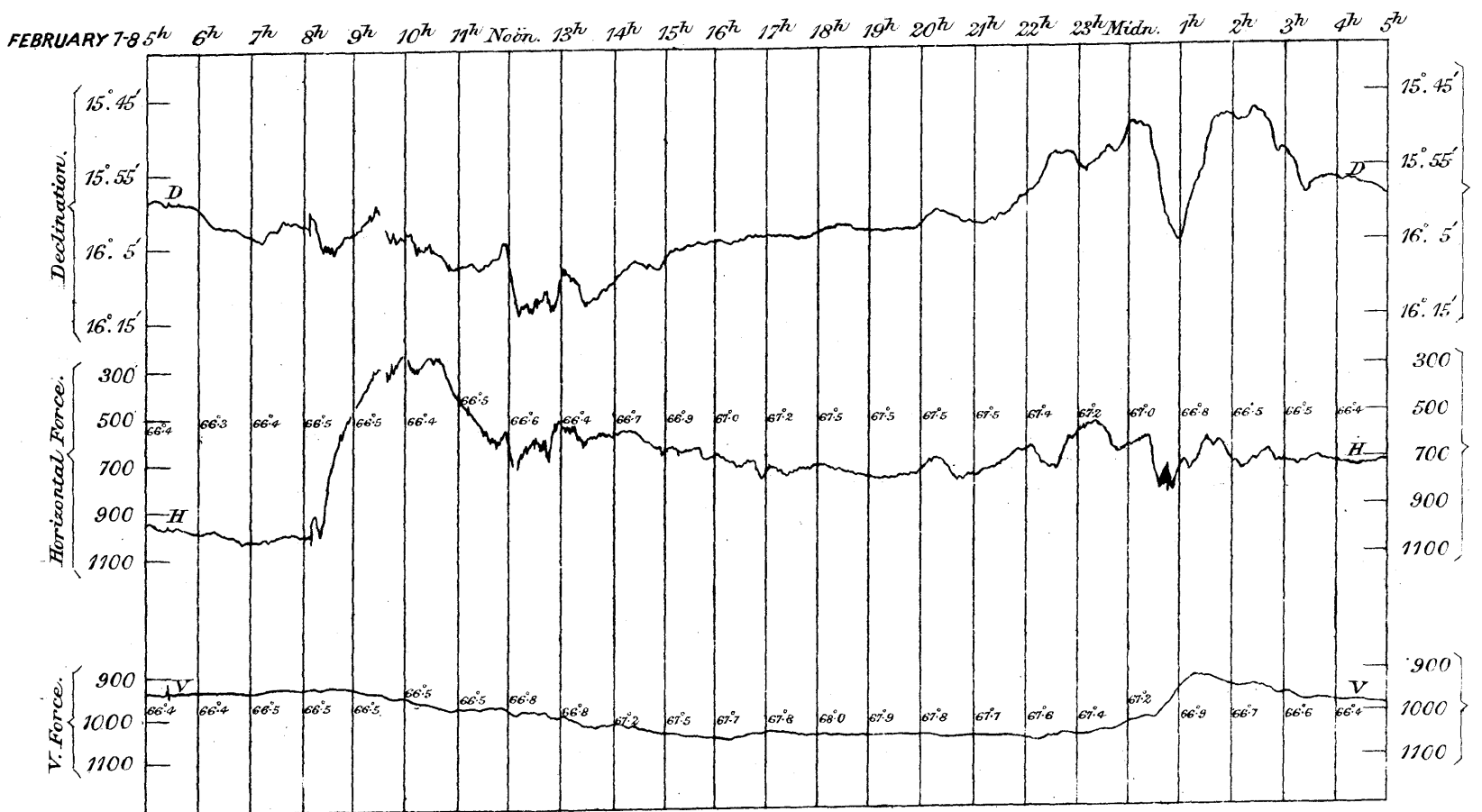
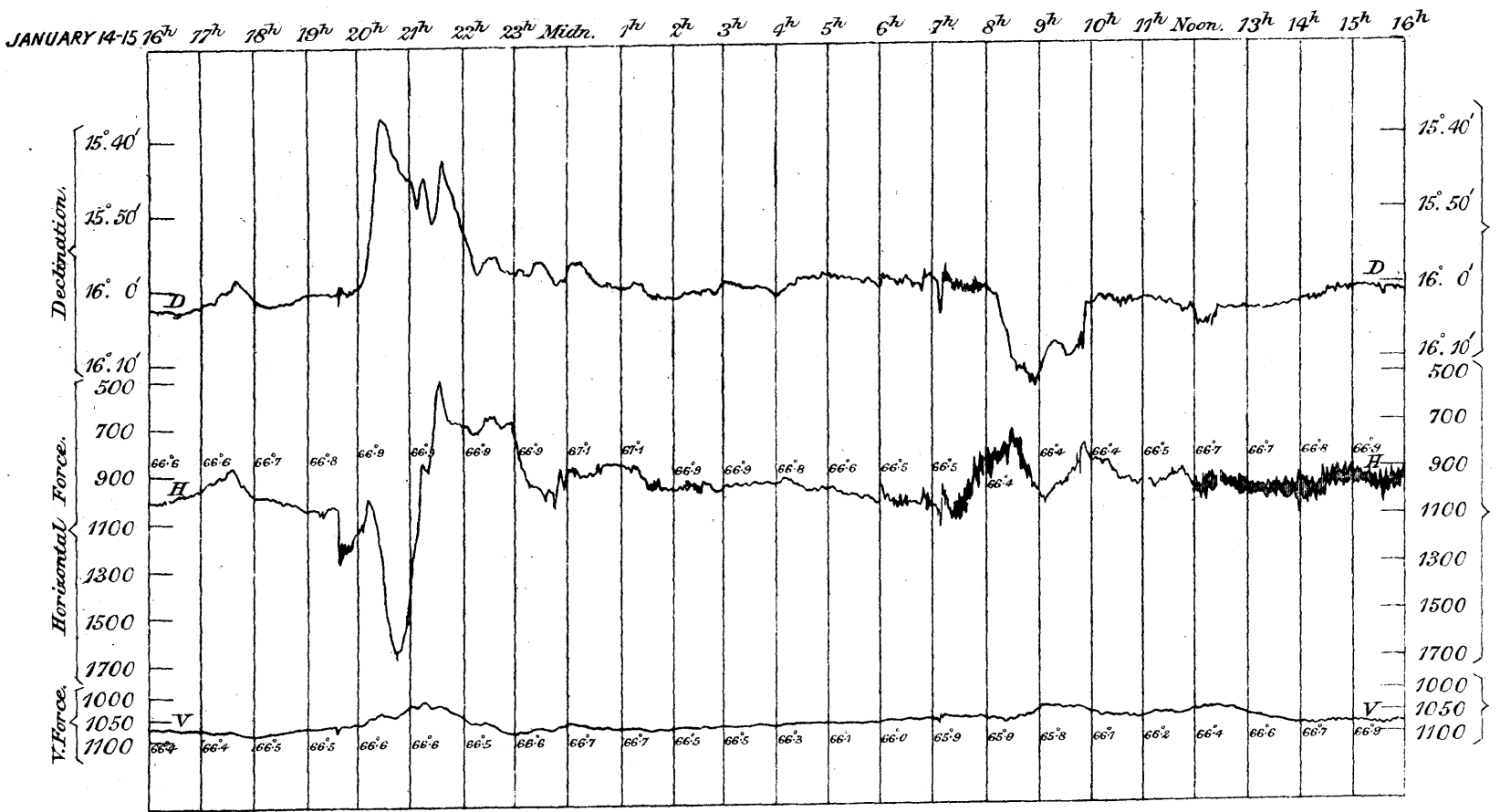
Downward motion indicates increase of declination and of horizontal and vertical force.

The earth current registers are not given on the plates in consequence of interference with the records caused by the running of trains on the City and South London Electric Railway.

An arrow (↑) indicates that the register was out of range of registration in the direction of the arrow head.

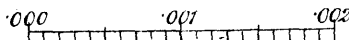
The temperatures (Fahrenheit) of the horizontal and vertical force magnets at each hour are given in small figures on the Diagrams.

Magnetic Disturbances recorded at the Royal Observatory, Greenwich, 1907.

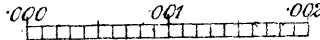


2173. 8. 08.

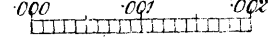
Scales for Magnetic Elements in C. G. S. measure.



Decination.

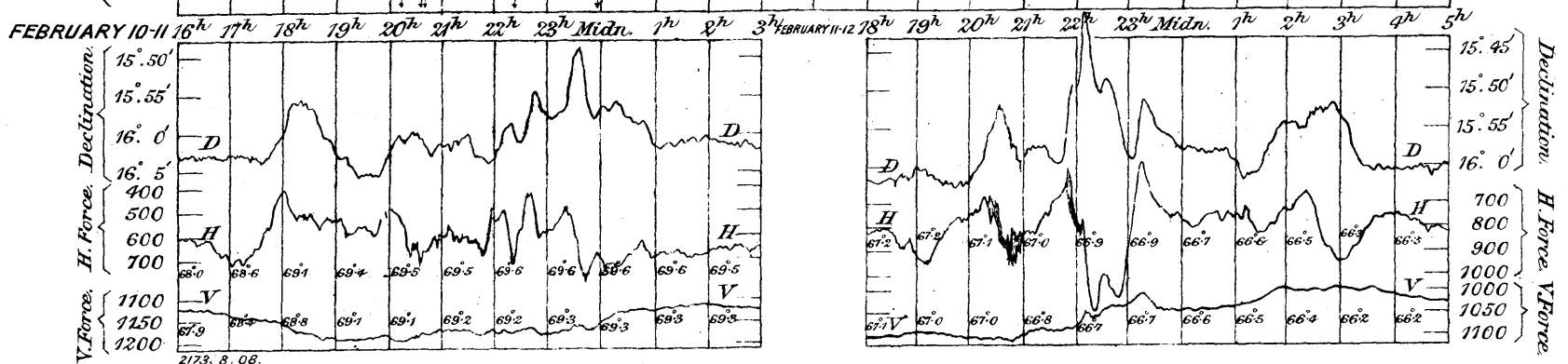
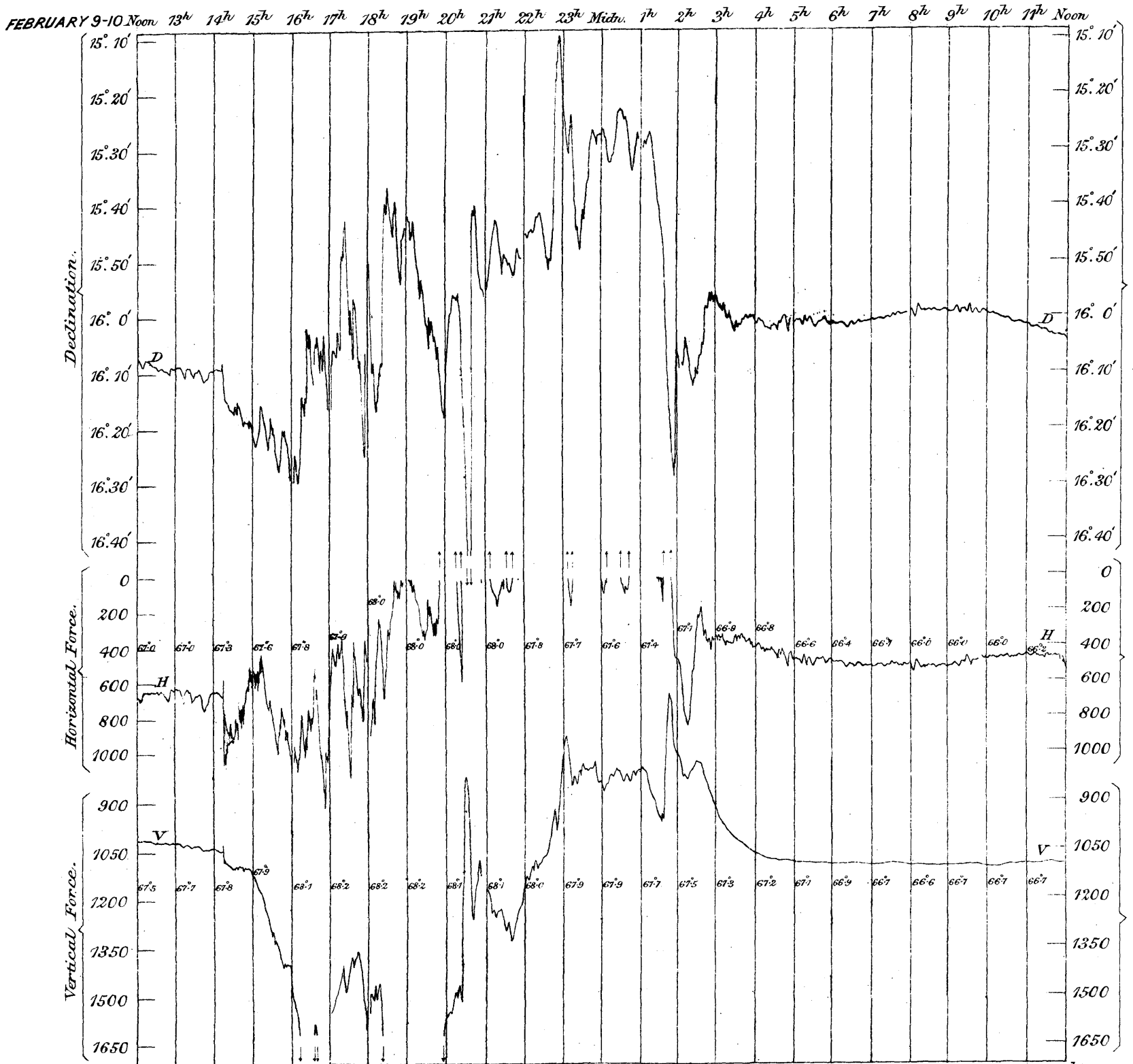


Horizontal Force.

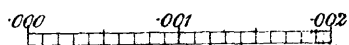


Vertical Force.

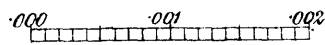
Magnetic Disturbances recorded at the Royal Observatory, Greenwich, 1907.



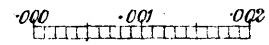
Scales for Magnetic Elements in C. G. S. measure



Declination.

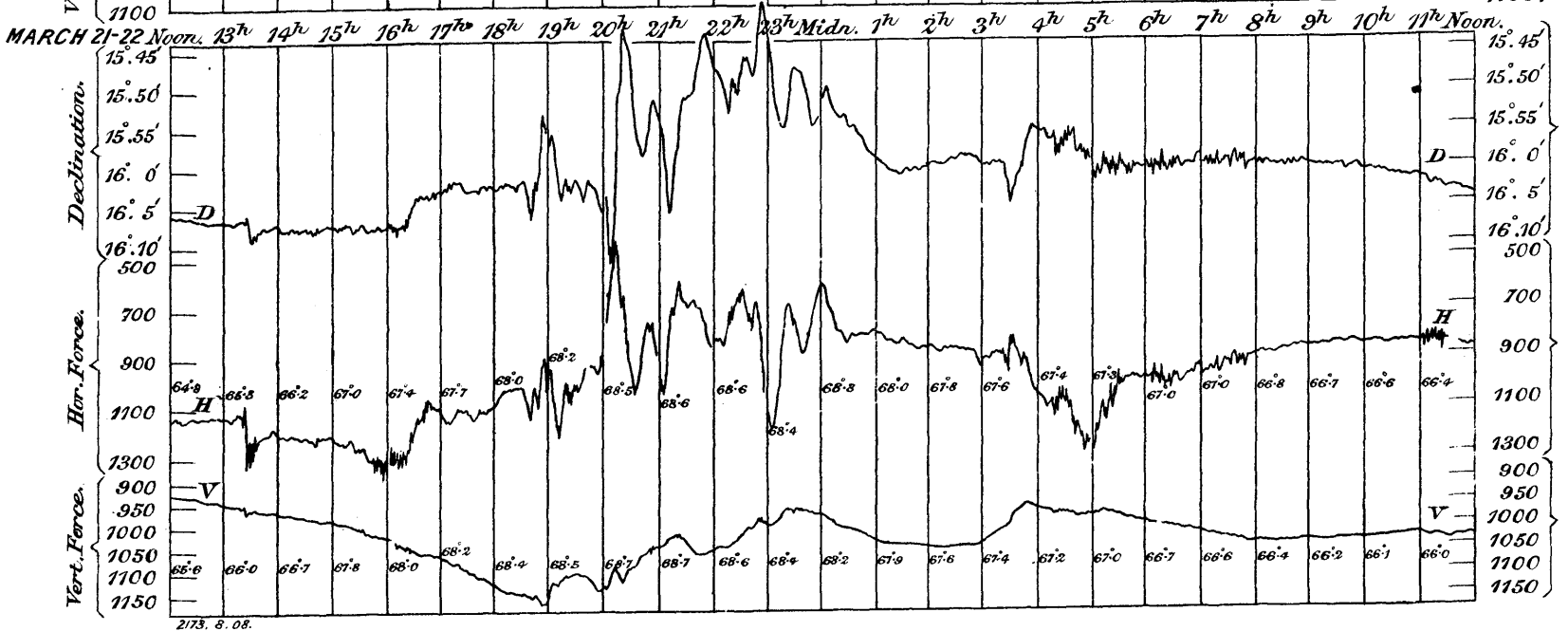
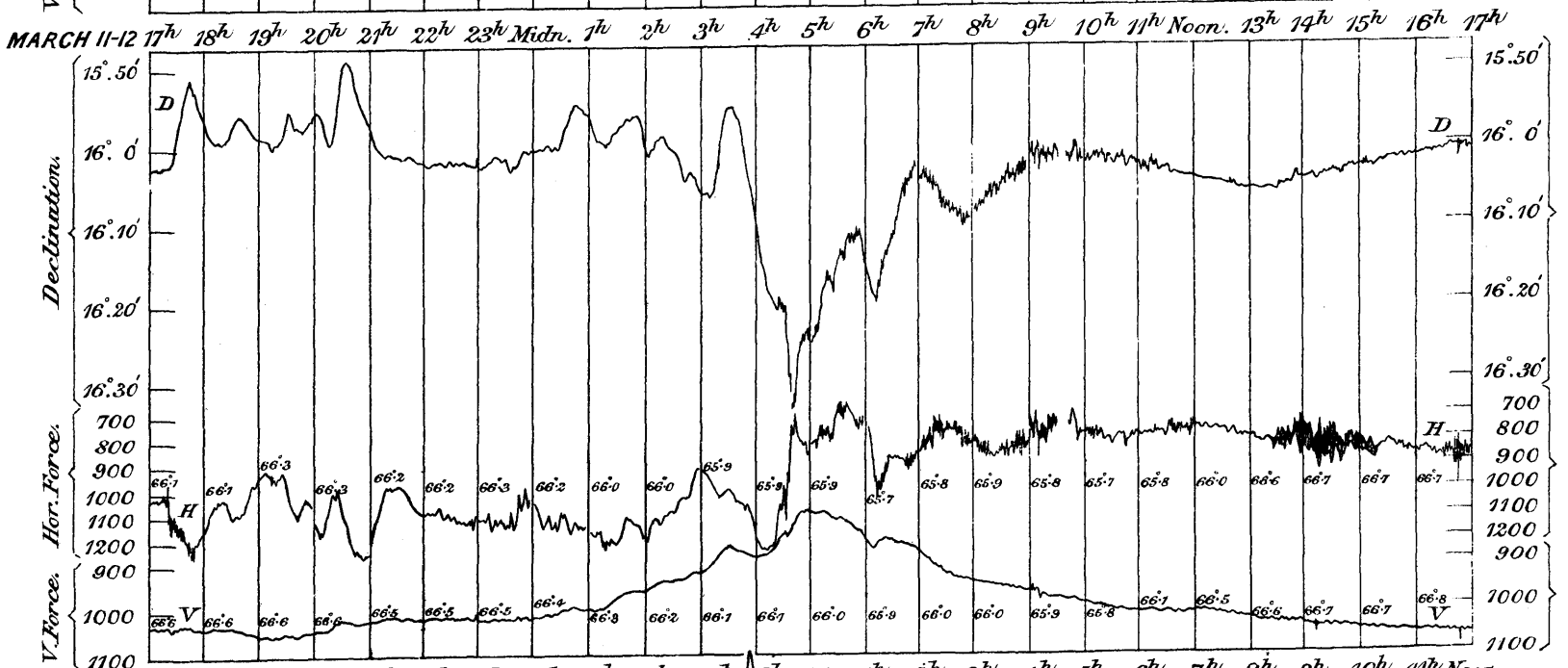
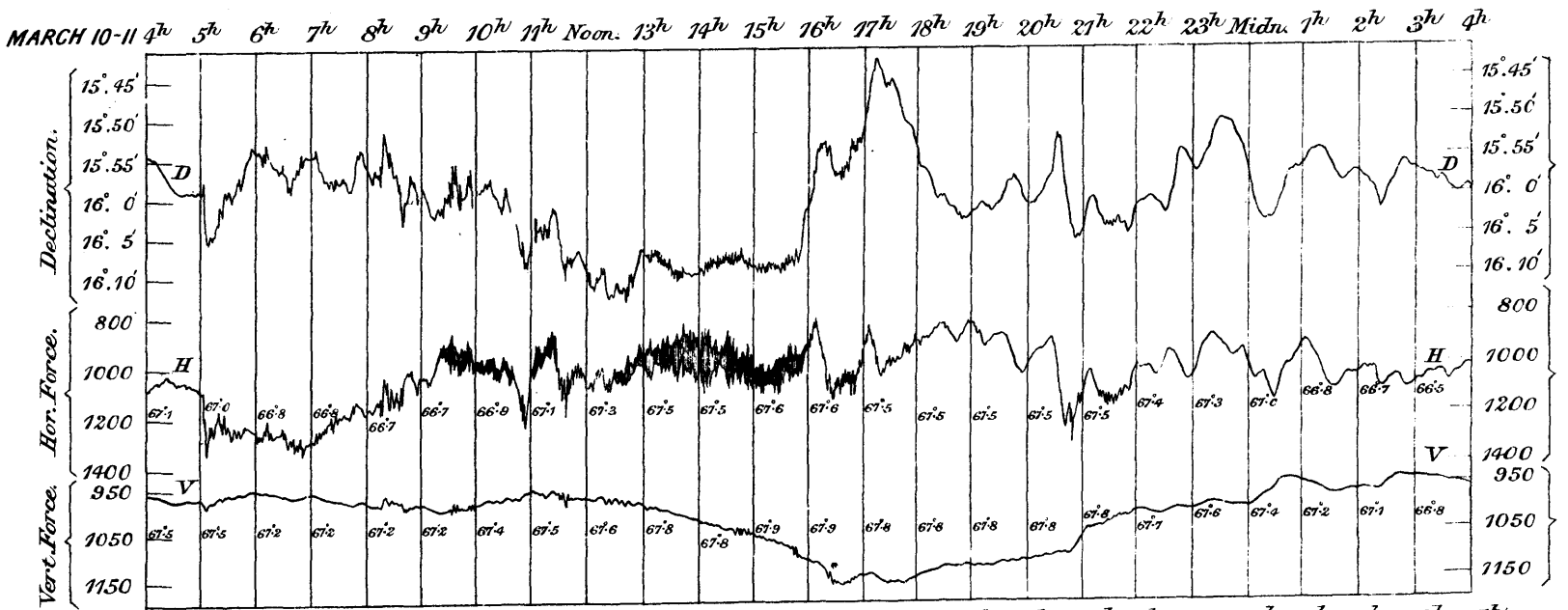


Horizontal Force.



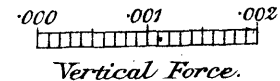
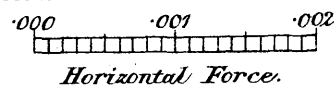
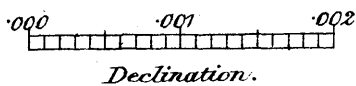
Vertical Force.

Magnetic Disturbances recorded at the Royal Observatory, Greenwich, 1907.



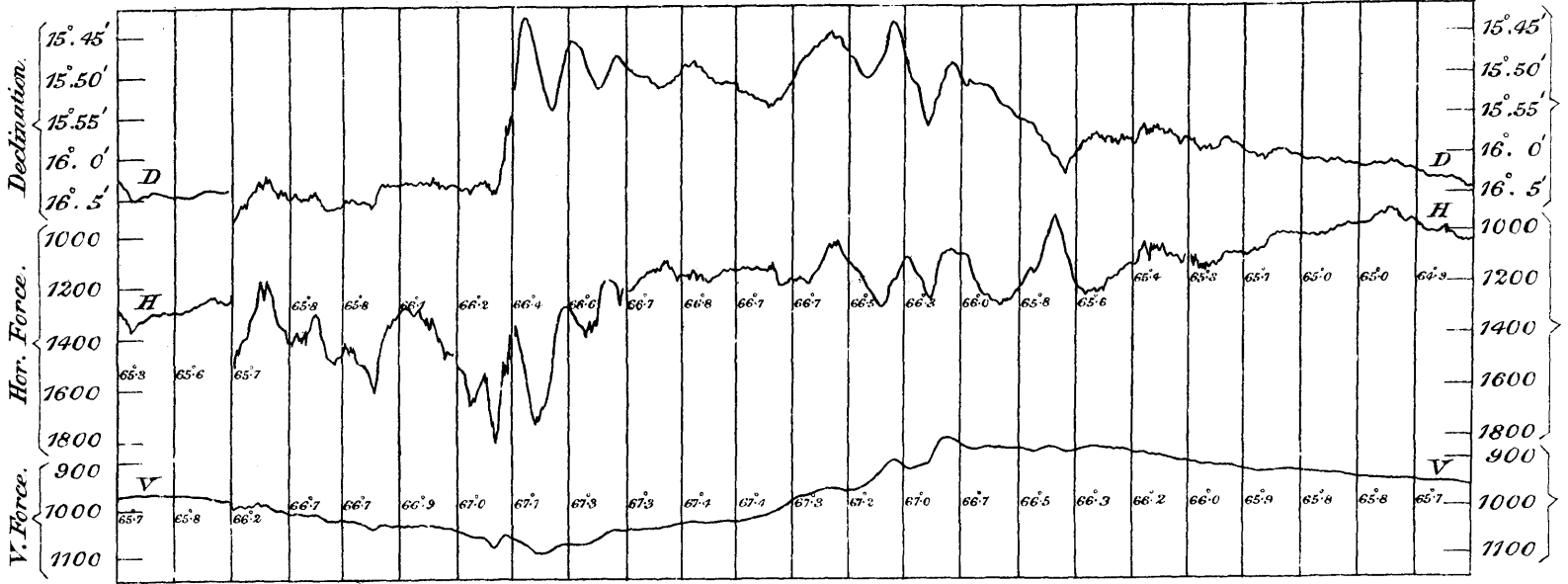
2173. 8. 08.

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

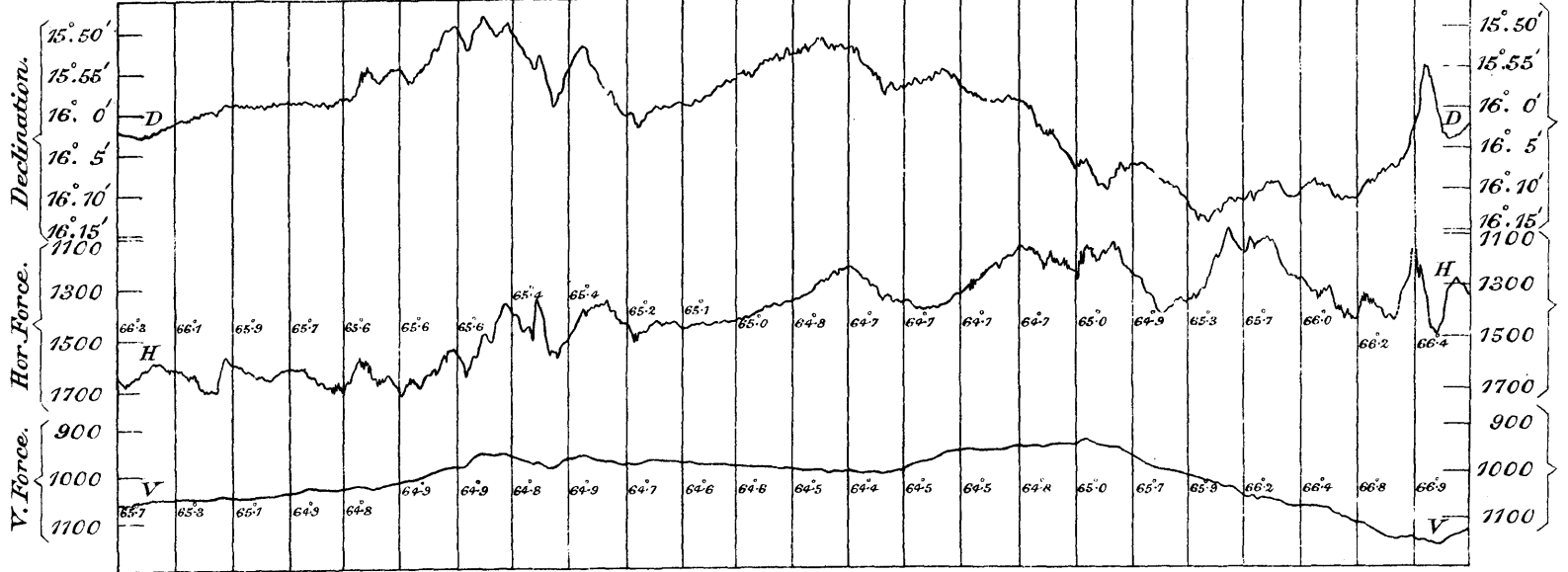


Magnetic Disturbances recorded at the Royal Observatory, Greenwich, 1907.

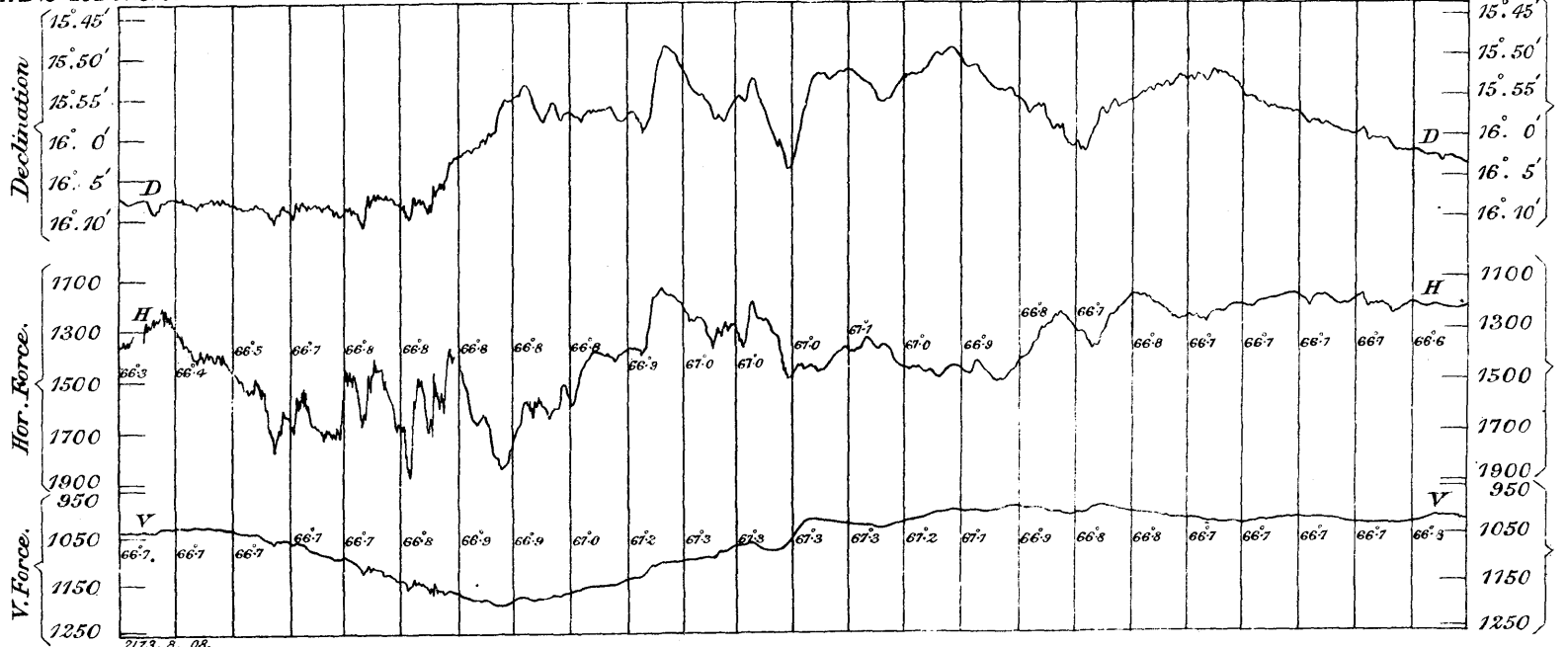
MAY 18-19 Noon. 13^h 14^h 15^h 16^h 17^h 18^h 19^h 20^h 21^h 22^h 23^h Midn. 1^h 2^h 3^h 4^h 5^h 6^h 7^h 8^h 9^h 10^h 11^h Noon



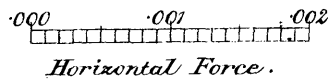
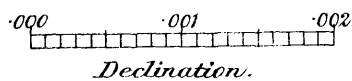
MAY 28-29 18^h 19^h 20^h 21^h 22^h 23^h Midn. 1^h 2^h 3^h 4^h 5^h 6^h 7^h 8^h 9^h 10^h 11^h Noon. 13^h 14^h 15^h 16^h 17^h 18^h



JUNE 19-20 Noon. 13^h 14^h 15^h 16^h 17^h 18^h 19^h 20^h 21^h 22^h 23^h Midn. 1^h 2^h 3^h 4^h 5^h 6^h 7^h 8^h 9^h 10^h 11^h Noon

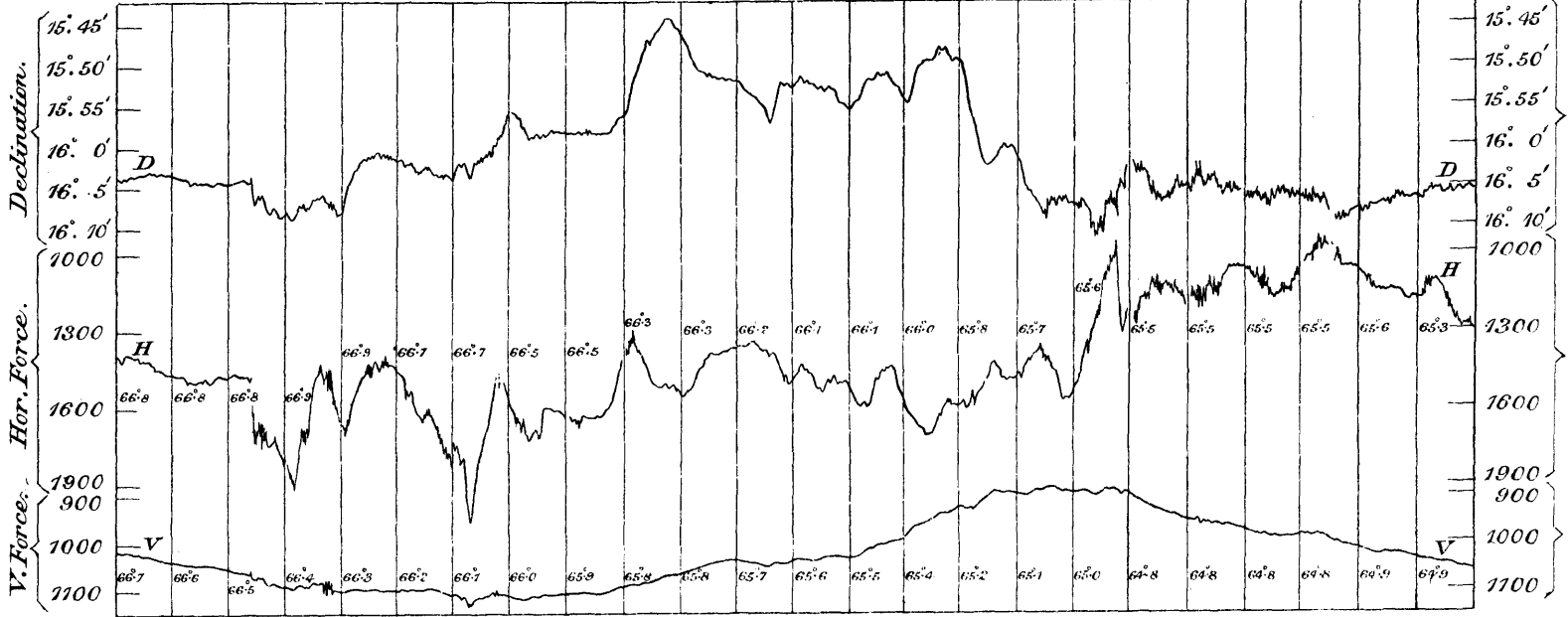


Scales for Magnetic Elements in C. G. S. measure.

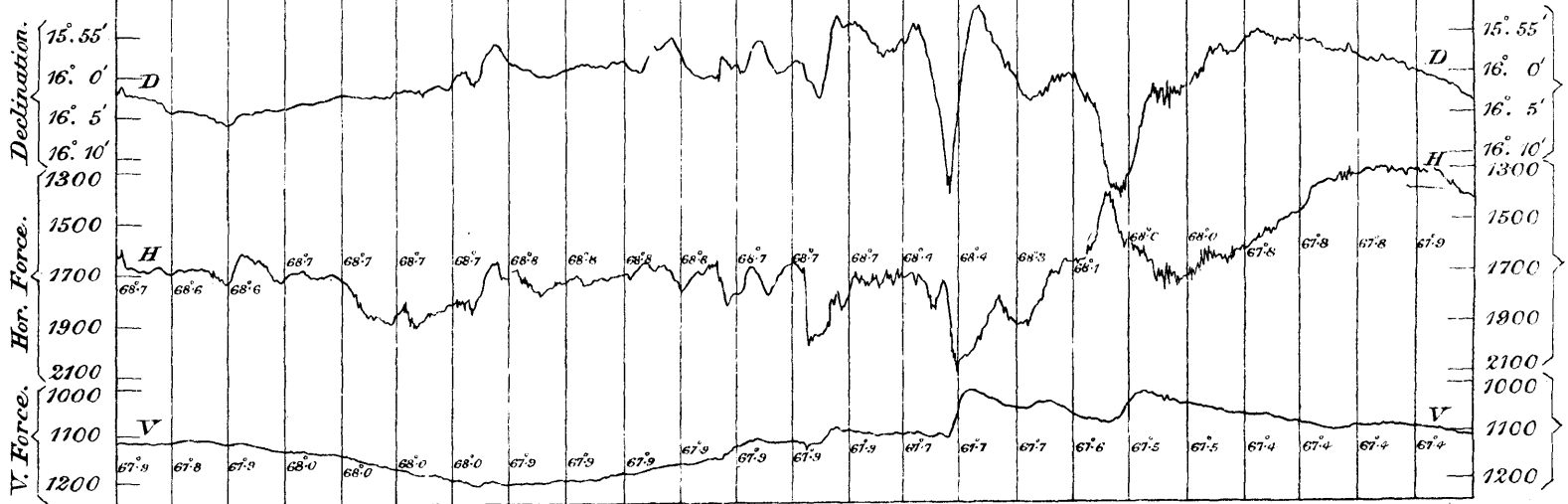


Magnetic Disturbances recorded at the Royal Observatory, Greenwich, 1907.

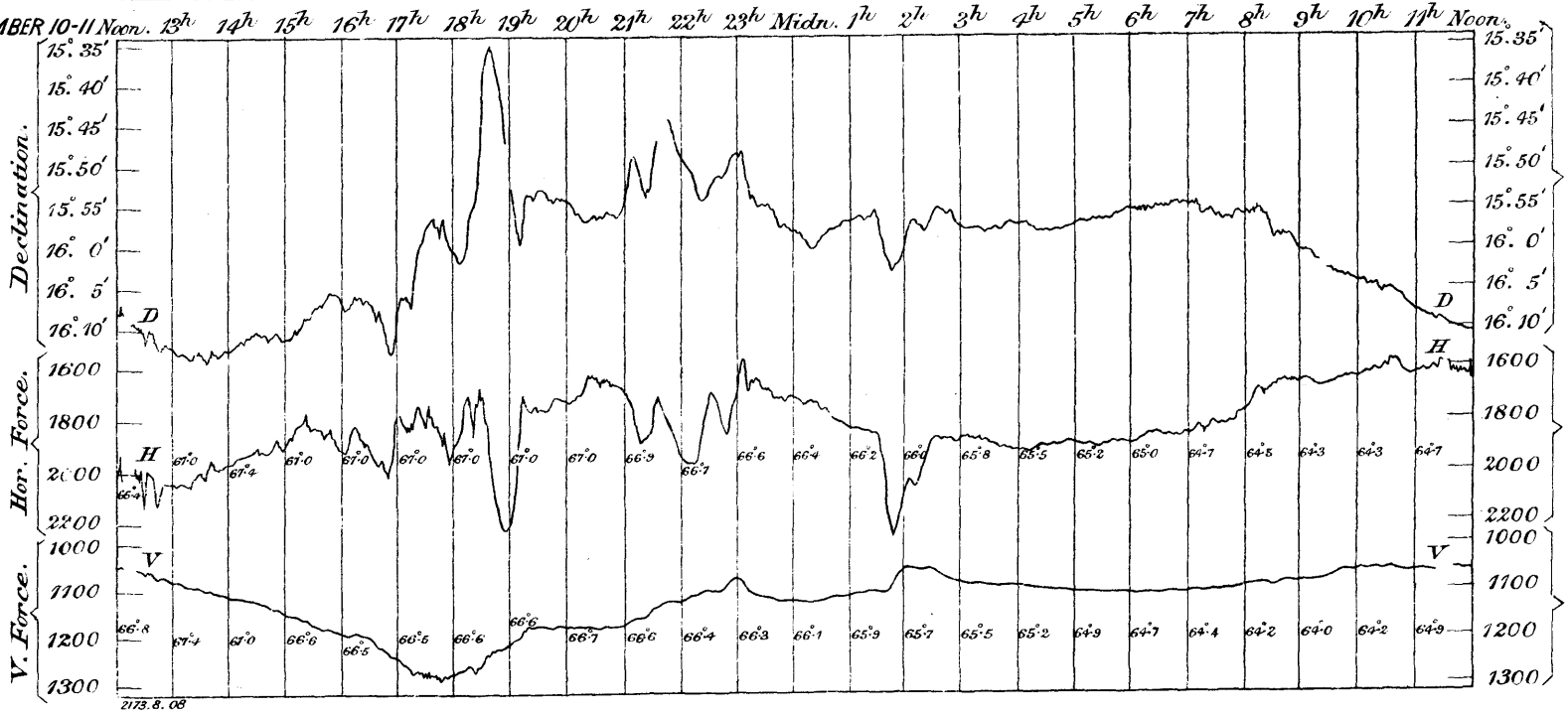
JULY 10-11 Noon. 13^h 14^h 15^h 16^h 17^h 18^h 19^h 20^h 21^h 22^h 23^h Noon. 1^h 2^h 3^h 4^h 5^h 6^h 7^h 8^h 9^h 10^h 11^h Noon.



JULY 27-28 Noon. 13^h 14^h 15^h 16^h 17^h 18^h 19^h 20^h 21^h 22^h 23^h Midn. 1^h 2^h 3^h 4^h 5^h 6^h 7^h 8^h 9^h 10^h 11^h Noon.



SEPTEMBER 10-11 Noon. 13^h 14^h 15^h 16^h 17^h 18^h 19^h 20^h 21^h 22^h 23^h Midn. 1^h 2^h 3^h 4^h 5^h 6^h 7^h 8^h 9^h 10^h 11^h Noon.



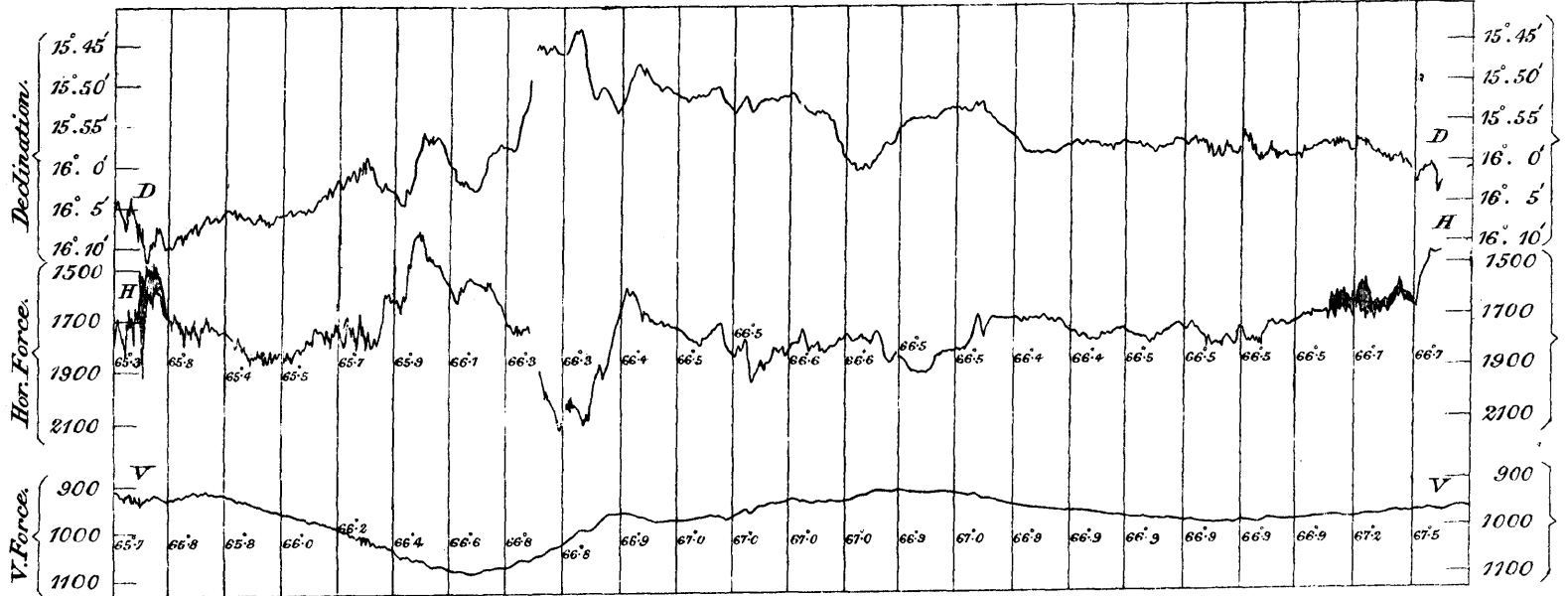
2173.8.08

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

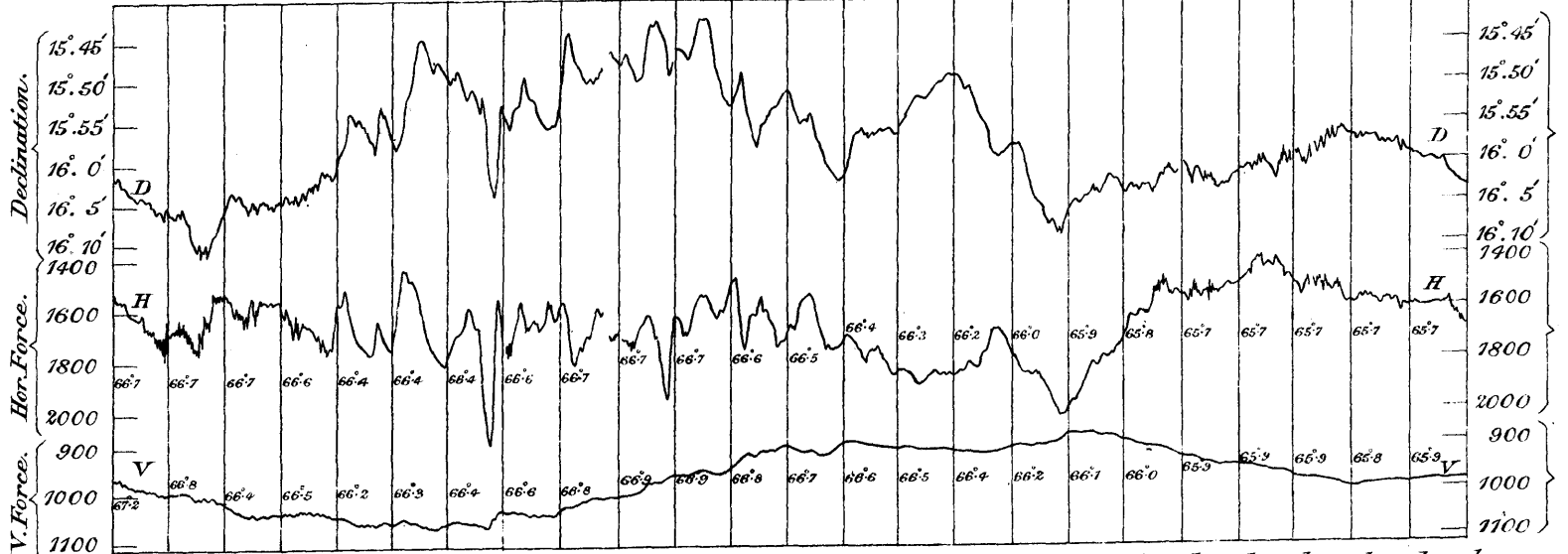


Magnetic Disturbances recorded at the Royal Observatory, Greenwich, 1907.

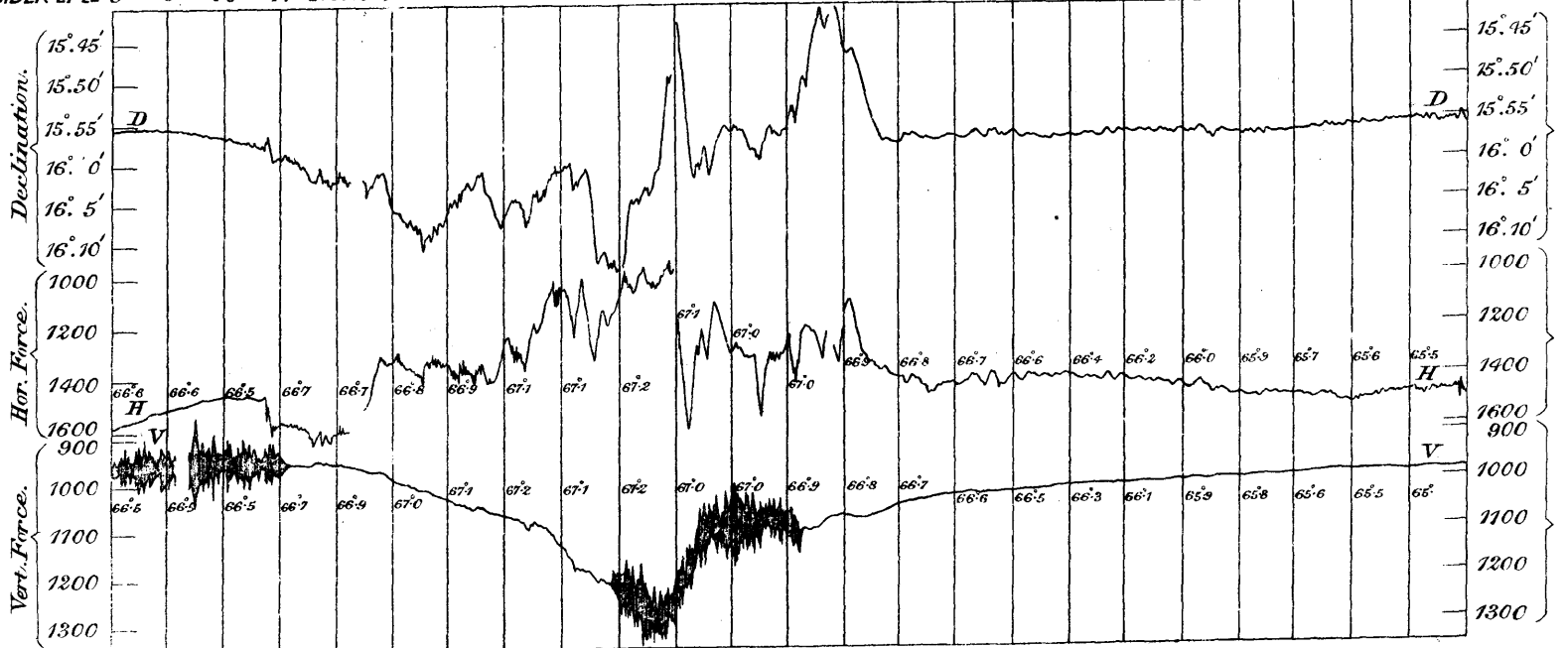
OCTOBER 13-14 Noon. 13^h 14^h 15^h 16^h 17^h 18^h 19^h 20^h 21^h 22^h 23^h Midn. 1^h 2^h 3^h 4^h 5^h 6^h 7^h 8^h 9^h 10^h 11^h Noon.



OCTOBER 14-15 Noon. 13^h 14^h 15^h 16^h 17^h 18^h 19^h 20^h 21^h 22^h 23^h Midn. 1^h 2^h 3^h 4^h 5^h 6^h 7^h 8^h 9^h 10^h 11^h Noon.

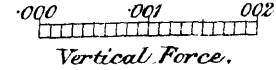
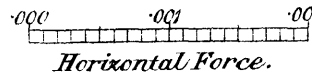
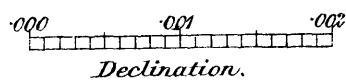


NOVEMBER 21-22 8^h 9^h 10^h 11^h Noon. 13^h 14^h 15^h 16^h 17^h 18^h 19^h 20^h 21^h 22^h 23^h Midn. 1^h 2^h 3^h 4^h 5^h 6^h 7^h 8^h.



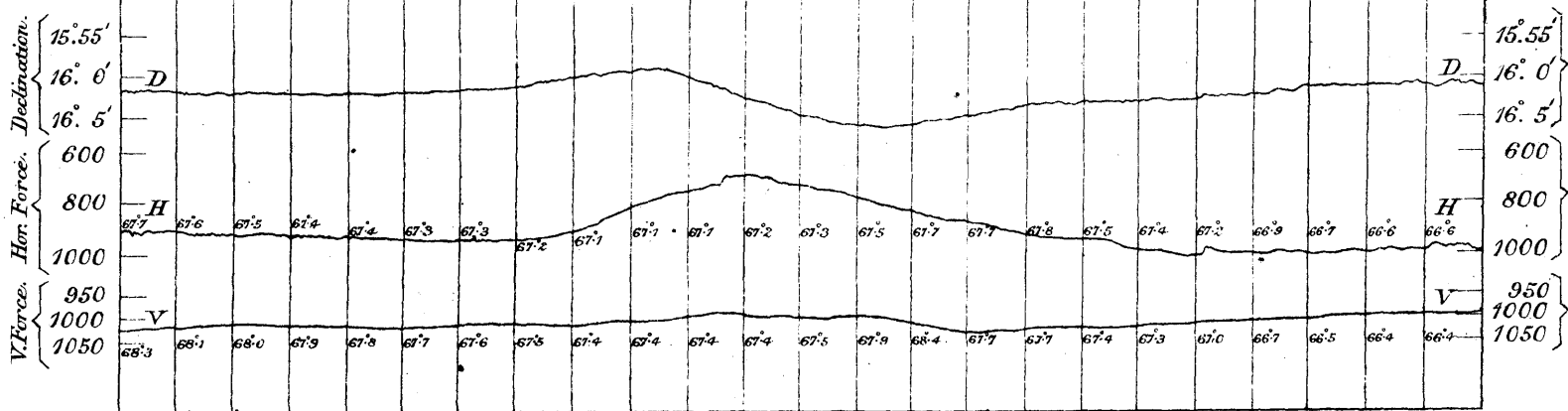
2738.08.

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

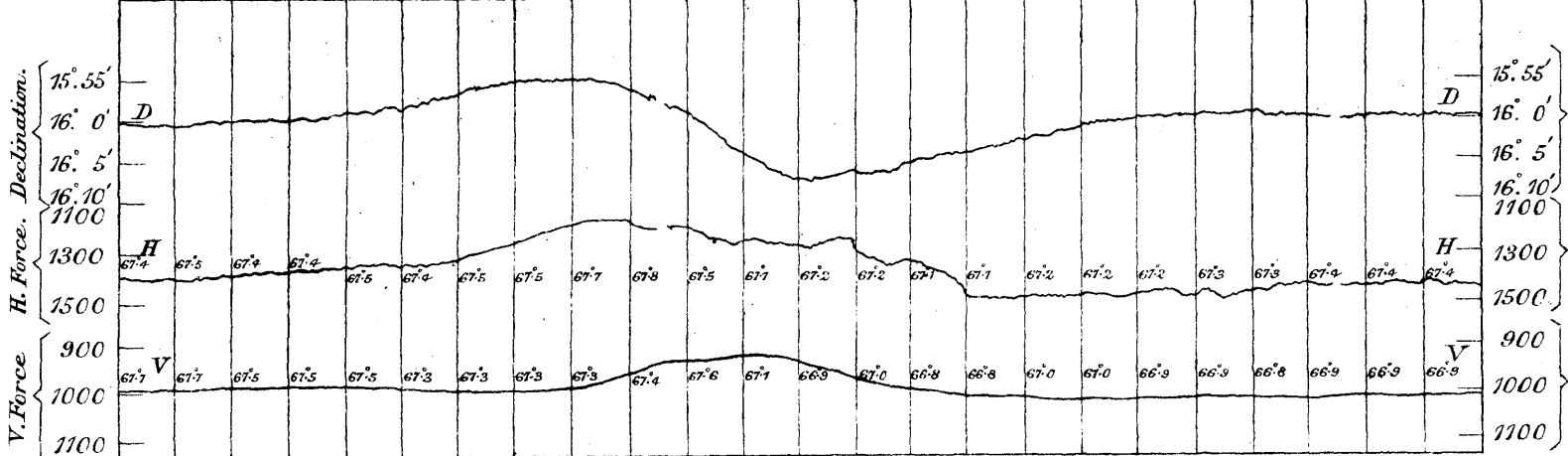


Types of Magnetic Diurnal Variations at four seasons of the Year, recorded at the Royal Observatory, Greenwich, 1907.

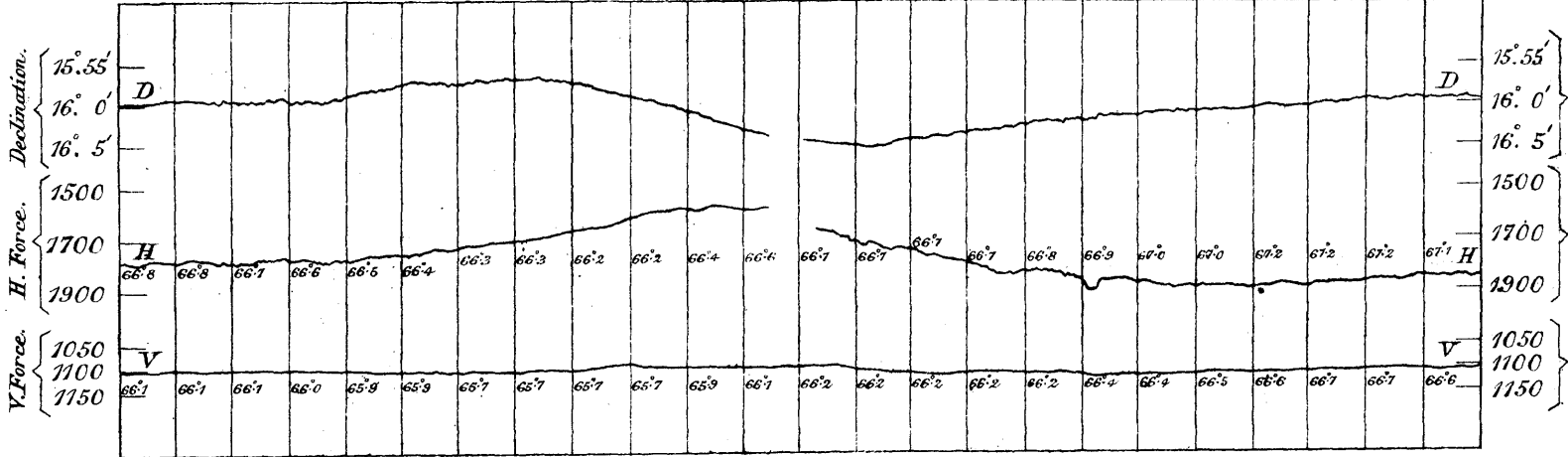
FEBRUARY 5 Midn. 1^h 2^h 3^h 4^h 5^h 6^h 7^h 8^h 9^h 10^h 11^h Noon. 13^h 14^h 15^h 16^h 17^h 18^h 19^h 20^h 21^h 22^h 23^h Midn.



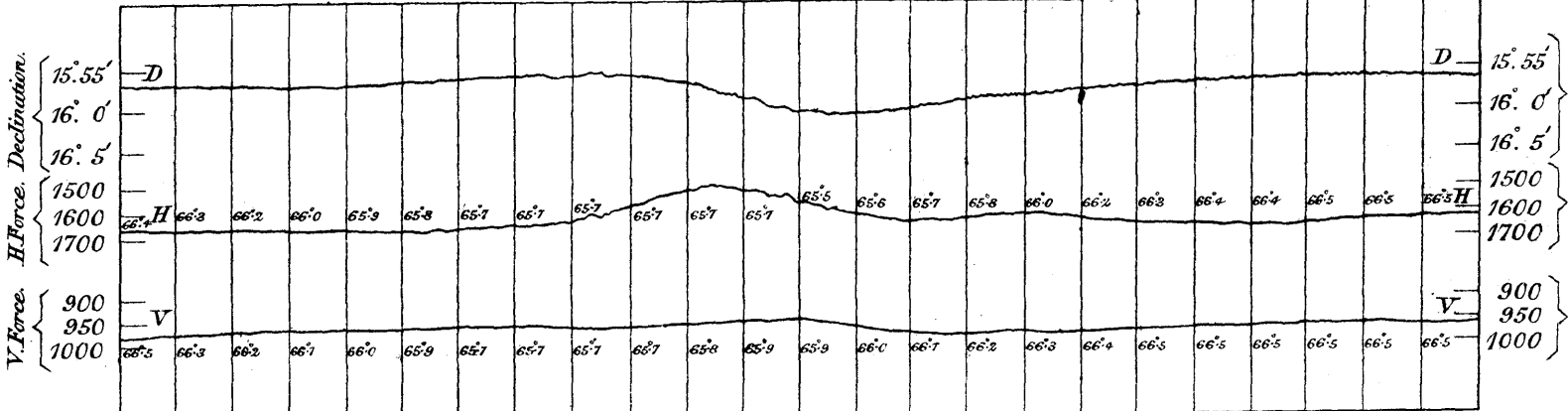
MAY 9 Midn. 1^h 2^h 3^h 4^h 5^h 6^h 7^h 8^h 9^h 10^h 11^h Noon. 13^h 14^h 15^h 16^h 17^h 18^h 19^h 20^h 21^h 22^h 23^h Midn.



AUGUST 12 Midn. 1^h 2^h 3^h 4^h 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 21^h 22^h 23^h Midn.

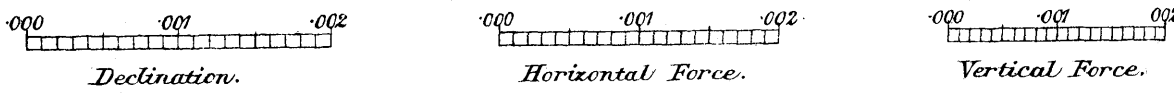


NOVEMBER 20 Midn. 1^h 2^h 3^h 4^h 5^h 6^h 7^h 8^h 9^h 10^h 11^h Noon. 13^h 14^h 15^h 16^h 17^h 18^h 19^h 20^h 21^h 22^h 23^h Midn.



2173 B. 08.

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



ROYAL OBSERVATORY, GREENWICH.

RESULTS

OF

METEOROLOGICAL OBSERVATIONS.

1907.

MONTH and DAY, 1907.	Phases of the Moon.	BARO- METER. Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	TEMPERATURE.							Difference between the Air Temperature and Dew Point Temperature.			Degree of Humidity (Saturation = 100).	TEMPERATURE.		Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the Ground.	Daily Amount of Ozone.	Electricity.
			Of the Air.				Of Evapo- ration. Mean of 24 Hourly Values.	Of the Dew Point. De- duced Mean Daily Value.	Mean.	Greatest.	Least.	Of Radiation.						
			Highest.	Lowest.	Daily Range.	Mean of 24 Hourly Values.						Excess above Average of 65 Years.		Highest in Sun's Rays.	Lowest on the Grass.			
Jan. 1	...	29°387	51°0	39°7	11°3	44°6	+ 6°0	43°2	41°6	3°0	5°5	0°0	89	49°0	35°5	0°282	2°0	wP : vP, wwN : wwP
2	...	29°100	50°8	36°6	14°2	43°9	+ 5°5	41°2	38°1	5°8	8°6	1°3	79	65°0	31°4	0°320	6°8	wwP, wwN : mP
3	...	29°257	43°0	36°5	6°5	39°7	+ 1°4	36°9	33°3	6°4	10°2	3°4	78	56°9	30°4	0°078	2°2	vP, vN : sP : sP
4	...	30°038	40°0	29°7	10°3	35°9	- 2°4	32°8	28°1	7°8	12°0	2°8	73	53°5	21°5	0°000	0°0	mP : ssP : ssP
5	...	30°170	48°8	34°0	14°8	44°2	+ 6°0	42°3	40°0	4°2	5°7	2°4	85	56°3	30°0	0°000	0°0	vP : wP : wP
6	...	30°194	48°3	36°3	12°0	44°9	+ 6°8	42°5	39°7	5°2	8°8	1°5	83	55°0	31°6	0°015	0°0	wP : wP : mP
7	In Equator : Last Quarter	30°381	46°3	33°7	12°6	40°2	+ 2°2	39°1	37°7	2°5	4°4	1°1	91	46°3	27°9	0°000	0°0	mP : mP : wP
8	...	30°354	46°9	41°3	5°6	44°5	+ 6°6	42°1	39°3	5°2	7°7	1°7	82	45°1	39°8	0°000	0°8	wP : mP : mP
9	...	30°210	45°3	41°0	4°3	43°2	+ 5°3	40°4	37°1	6°1	7°9	4°4	79	50°0	39°0	0°000	2°2	wP : mP : mP
10	...	30°175	47°2	43°4	3°8	45°0	+ 7°1	42°6	39°8	5°2	7°6	3°4	82	50°0	41°0	0°006	0°0	wP : mP : mP
11	...	30°394	44°8	35°5	9°3	41°4	+ 3°5	39°2	36°5	4°9	9°2	1°3	83	58°2	28°8	0°155	0°0	vN, wP : sP : sP
12	...	30°397	48°4	34°1	14°3	42°4	+ 4°5	40°6	38°4	4°0	6°7	1°9	86	63°4	28°6	0°000	0°0	mP : wP
13	Perigee : Greatest Declination S.	30°346	48°2	43°6	4°6	45°9	+ 7°9	42°8	39°3	6°6	10°7	2°3	78	57°5	35°9	0°000	0°0	wP : wP : mP
14	New	30°272	46°2	43°9	2°3	45°2	+ 7°2	42°4	39°2	6°0	8°2	2°0	80	47°2	37°8	0°000	0°0	wP : mP : mP
15	...	30°356	46°0	43°0	3°0	44°5	+ 6°4	41°1	37°2	7°3	9°9	5°3	75	49°4	40°4	0°000	0°0	mP : sP : sP
16	...	30°429	46°1	43°1	3°0	45°0	+ 6°7	40°9	36°2	8°8	10°1	5°7	71	46°1	39°5	0°000	0°0	mP : sP : mP
17	...	30°549	47°2	31°5	15°7	41°1	+ 2°6	38°2	34°5	6°6	11°1	2°0	78	67°7	19°0	0°000	0°0	wP : mP : mP
18	...	30°559	37°1	26°1	11°0	34°0	- 4°6	33°9	33°7	0°3	1°8	0°0	99	43°8	18°2	0°003*	0°0	mP : mP : sP
19	In Equator	30°479	34°2	29°3	4°9	32°4	- 6°3	32°3	32°1	0°3	0°9	0°0	99	44°2	28°0	0°008*	0°0	sP
20	...	30°478	38°1	31°7	6°4	35°7	- 3°1	34°6	33°0	2°7	4°4	0°8	90	43°2	20°0	0°000	0°0	wP : mP
21	First Quarter	30°400	44°0	34°2	9°8	39°6	+ 0°8	37°8	35°5	4°1	5°9	1°7	86	47°0	27°8	0°021	0°0	wP : mP : mP
22	...	30°346	36°8	26°8	10°0	32°0	- 6°8	30°4	26°7	5°3	13°0	0°8	79	42°2	21°3	0°000	0°7	wP : mP
23	...	30°556	28°8	23°6	5°2	26°2	- 12°7	24°0	13°8	12°4	19°1	8°0	58	39°0	21°8	0°000	2°3	... : sP : vP
24	...	30°350	27°3	22°4	4°9	25°0	- 13°9	23°9	17°8	7°2	16°8	2°7	72	42°0	20°0	0°020	0°0	... : vP : ssP
25	Apogee	30°246	30°7	24°1	6°6	27°3	- 11°8	26°6	23°6	3°7	9°6	1°7	86	42°7	8°8	0°000	0°0	ssP
26	...	30°261	34°1	23°3	10°8	30°1	- 9°2	27°3	18°6	11°5	23°5	2°6	61	63°0	10°0	0°000	0°0	sP : ssP : ssP
27	Greatest Declination N.	30°176	40°4	22°5	17°9	32°9	- 6°6	31°2	27°8	5°1	15°8	0°5	81	43°6	14°0	0°005	0°0	vP : sP
28	...	29°740	49°8	39°3	10°5	43°8	+ 4°2	41°9	39°7	4°1	6°4	0°9	86	64°0	33°6	0°172	5°0	ssN, mP : vP : wP, vN
29	Full	29°416	46°8	33°3	13°5	39°7	0°0	36°1	31°4	8°3	12°3	4°8	73	74°7	27°7	0°000	0°0	mP : ssP : ssP
30	...	29°578	43°0	33°2	9°8	36°8	- 2°9	33°1	27°8	9°0	12°2	5°3	70	61°0	27°5	0°000	0°0	sP : ssP : ssP
31	...	29°939	39°0	31°1	7°9	34°6	- 5°1	32°2	28°2	6°4	12°3	0°7	77	67°0	25°0	0°002	0°0	ssP
Means	...	30°146	42°7	33°8	8°9	38°8	+ 0°2	36°6	33°1	5°7	9°6	2°4	80°3	52°7	27°8	Sum 1°087	0°7	...
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

The results apply to the civil day.

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

* Rainfall (column 16). Amounts entered on January 18 and 19 are derived from fog.

The mean reading of the Barometer for the month was 30^m.146, being 0^m.352 higher than the average for the 65 years, 1841-1905.

TEMPERATURE OF THE AIR.

The highest in the month was 51°0 on January 1; the lowest in the month was 22°4 on January 24; and the range was 28°6. The mean of all the highest daily readings in the month was 42°7, 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 33°8, being 0°1 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 38°8, being 0°2 higher than the average for the 65 years, 1841-1905.

MONTH and DAY, 1907.	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.
Jan. 1	0°0	7°8	SW : SSW	SSW : S : SW	18.3	0.68	461	p.-cl : p.-cl : 10, r	10, c.-r : 10, r, w : 10, oc.-r, g
2	2°0	7°9	SW : SSW	SW : SSW	19.2	1.65	660	10, sh.-r, g : 10, g : p.-cl li.-shs, st.-w	p.-cl, li.-shs, st.-w : v, w : p.-cl, lu.-ha, w
3	4°6	7°9	SSW : WSW	W : WNW : NW	12.4	1.14	576	9, r, st.-w : 9, st.-w : 2, th.-cl	p.-cl, n, slt.-sh, w : 9 : p.-cl
4	2°8	7°9	WNW : W : NW	NNW : NW : SW	3.2	0.31	305	0, ho.-fr : 0 : 3	1, th.-cl : 1, th.-cl : p.-cl, ho.-fr, slt.-f
5	0°0	7°9	SSW : SW	WSW : SW	3.6	0.54	413	9 : 10 : 10	10 : 9 : 9, w
6	0°3	8°0	WSW : NNW : W	WNW : W : SW	3.3	0.28	325	10, li.-shs : 10 : 4, li.-cl, h	p.-cl, h : 0, ho.-fr
7	0°0	8°0	SW : WSW	SW : WSW	1.0	0.02	248	0, ho.-fr : 0, h : 8, th.-cl	10, th.-cl : 9 : 10
8	0°0	8°0	W : NW	W : WSW	0.9	0.01	181	10 : 10, glm : 10	10 : 10
9	0°0	8°0	WSW	SW : WSW	2.2	0.18	292	10 : 10	10 : 10
10	0°0	8°1	WSW	WSW : SW	1.5	0.14	299	10 : 10	10, th.-r : 10 : 10, r
11	4°9	8°1	WSW : NW : NNW	NNW : W : WSW	3.5	0.34	323	p.-cl, r : 0 : 1, th.-cl	0, h : 0, h, hy.-d : p.-cl, hy.-d
12	1°1	8°1	WSW	WSW	2.4	0.30	372	p.-cl : 10 : 9	p.-cl, cu.-s : 10 : 10
13	1°2	8°2	W : NNW : WNW	NW : W : WSW	2.7	0.18	294	9 : p.-cl : 6, cu	p.-cl, cu, h : p.-cl, th.-cl, d
14	0°0	8°2	WSW : SW : W	W	6.6	0.50	421	10 : 10, w	10 : 10
15	0°0	8°2	W : WSW : SW	W : WSW : SW	1.1	0.03	204	10 : 10	10 : 10
16	0°0	8°3	WSW : WNW : W	NW : N	0.4	0.00	123	10 : 10	10 : 10
17	2°1	8°3	SSE : ESE	E : ESE	0.2	0.00	90	10 : 10	p.-cl : 0, ho.-fr : 0, ho.-fr, f
18	0°0	8°4	E : ENE	ENE : E	0.2	0.00	98	0, f : f : f	f : f
19	0°0	8°4	E	ESE : Calm	0.3	0.00	92	f : f	f : f
20	0°0	8°5	ESE : SE	SE : SW	0.1	0.00	103	10, slt.-f : 0, ho.-fr : 10	10 : 10
21	0°1	8°5	SW : WSW : NNW	NNW : NW : SW	1.4	0.06	192	10 : 10, oc.-th.-r : 10, oc.-th.-r, slt.-f, glm	p.-cl : p.-cl, h, d : p.-cl
22	0°2	8°6	SW : E	ENE	12.5	0.93	437	9, ho.-fr : 10 : 10, th.-r, w	9, cu, n, st.-w : 9, st.-w : p.-cl, w
23	0°7	8°6	NE	NE : ENE	19.0	1.83	675	9, st.-w : 10, oc.-sn, st.-w : 9, oc.-sn, w	8, cu, w : 9, st.-w : 10, w
24	0°0	8°7	ENE	E : NE : NNE	4.6	0.30	302	10, w : 10	10, sn : 10, sn : 10
25	0°1	8°7	N : NNE	Variable : WSW	0.3	0.00	139	10 : 10	9, h : li.-cl, f, glm : h, ho.-fr
26	6°1	8°7	WSW : NNW : N	N : NNW : NW	3.3	0.34	296	8 : p.-cl, fr : 1, th.-cl	1, th.-cl : 4, th.-cl, lu.-co : th.-cl, h
27	0°0	8°8	SW	SW	2.9	0.12	266	p.-cl : 10 : 10	10, m.-r : 10 : p.-cl, h
28	0°2	8°9	SW : WSW	SW : WSW	12.7	1.11	582	10, r : li.-cl, h : 8, th.-cl	10, sc, w : 10, st.-w : p.-cl, sh.-r, w
29	4°4	8°9	W : WSW	WSW : W	11.0	1.50	705	0, ho.-fr, w : 1, w : 3, cl.-cu, th.-cl, w	6, cu, st.-w : p.-cl, w : p.-cl, w
30	2°4	9°0	WSW : WNW : NNW	NNW : NW	13.0	1.84	642	p.-cl, w : p.-cl, st.-w : 7, cu, n, st.-w	7, cu, st.-w : p.-cl, cu, n, st.-w : 0, w
31	4°2	9°0	NW : NNW	NNW : N	10.3	1.12	465	1, w, ho.-fr : 0 : 1, li.-cl, w	p.-cl, sn, sl, w : 9, w : 9
Means	1°2	8°3	...	...	...	0.50	341		
Number of Column for Reference.	19	20	21	22	23	24	25	26	27

The mean *Temperature of Evaporation* for the month was 36°·6, being 0°·6 lower than the mean *Temperature of the Dew Point* for the month was 33°·1, being 2°·2 lower than the mean *Degree of Humidity* for the month was 80·3, being 7·7 less than the mean *Elastic Force of Vapour* for the month was 0ⁱⁿ·188, being 0ⁱⁿ·018 less than the mean *Weight of Vapour in a Cubic Foot of Air* for the month was 2^{gr}·2, being 0^{gr}·2 less than the mean *Weight of a Cubic Foot of Air* for the month was 560 grains, being 6 grains greater than the mean amount of *Cloud* for the month (a clear sky being represented by 0, and an overcast sky by 10) was 7·2. The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·145. The maximum daily amount of *Sunshine* was 6·1 hours on January 26. The highest reading of the *Solar Radiation Thermometer* was 74°·7 on January 29; and the lowest reading of the *Terrestrial Radiation Thermometer* was 8°·8 on January 25. The mean daily distribution of *Ozone* for the 12 hours ending 9^h was 0·5; for the 6 hours ending 15^h was 0·2; and for the 6 hours ending 21^h was 0·0. The *Proportions of Wind* referred to the cardinal points were N. 6, E. 5, S. 6, and W. 13. One day was calm. The *Greatest Pressure of the Wind* in the month was 19·2 lbs. on the square foot on January 2. The mean daily *Horizontal Movement of the Air* for the month was 341 miles; the greatest daily value was 705 miles on January 29; and the least daily value was 90 miles on January 17. *Rain* (0ⁱⁿ·005 or over) fell on 10 days in the month, amounting to 1ⁱⁿ·087, as measured by gauge No. 6 partly sunk below the ground; being 0ⁱⁿ·794 less than the average fall for the 65 years, 1841-1905.

the average for the 65 years, 1841-1905.

Table with columns: MONTH and DAY, Phases of the Moon, BARO-METER, TEMPERATURE (Of the Air, Of Evaporation, Of the Dew Point), Difference between the Air Temperature and Dew Point Temperature, TEMPERATURE (Of Radiation), Degree of Humidity, Rain collected in Gauge, Daily Amount of Ozone, Electricity.

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 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 29.843, being 0.0041 higher than the average for the 65 years, 1841-1905.

TEMPERATURE OF THE AIR.

The highest in the month was 51.4 on February 17; the lowest in the month was 23.5 on February 7; and the range was 27.9. The mean of all the highest daily readings in the month was 42.8, being 2.4 lower than the average for the 65 years, 1841-1905. The mean of all the lowest daily readings in the month was 32.3, being 1.9 lower than the average for the 65 years, 1841-1905. The mean of the daily ranges was 10.5, being 0.5 less than the average for the 65 years, 1841-1905. The mean for the month was 37.8, being 1.7 lower than the average for the 65 years, 1841-1905.

MONTH and DAY, 1907.	Daily Duration of Sunshine.	Sun above Horizon.	WIND AS DEDUCED FROM SELF-REGISTERING ANEMOMETERS.					CLOUDS AND WEATHER.	
			OSLER'S.			ROBIN-SON'S.		A.M.	P.M.
			General Direction.		Pressure on the Square Foot.		Horizontal Movement of the Air.		
			A.M.	P.M.	Greatest.	Mean of 24 Hourly Measures.			
Feb. 1	0.5	9.1	NNW : N	N : NNE : NE	2.2	0.30	282	9, slt.-sn : p.-cl, ho.-fr : 7, th.-cl, slt.-sn	8 : 1, slt.-f, ho.-fr
2	0.1	9.1	NE : NNE : N	NE	1.0	0.03	166	p.-cl : 10 : 9	10 : 9 : p.-cl
3	0.0	9.2	NE : N : NNE	NE : ENE : NNE	2.0	0.07	177	9 : 10 : 10	10, slt.-sn : 10 : 10
4	0.0	9.2	NNE : N : NW	NNW : N : NW	0.7	0.03	135	10 : 10, glm, slt.-f : 10, slt.-sn	10, oc.-sn : 10, sn : 10, slt.-sn
5	0.0	9.3	N : NNE : ENE	NE : ENE	1.9	0.17	263	10, slt.-sn : 10	10 : 10
6	6.3	9.3	NE : ENE	ENE : E	4.5	0.32	282	10, th.-r : p.-cl : 4 w, cu, ci, cl.-s	4, ci, ci.-s : th.-cl : 10
7	8.0	9.4	SSE : SE	SE : SSE : S	1.2	0.04	151	9 : p.-cl, ho.-fr : 1, ci.-s	1, ci.-s, ci.-cu : 1, ci.-s : 0, ho.-fr
8	3.6	9.4	SE : SSE : S	SSW : SW : S	0.1	0.00	140	10 : 9 : p.-cl	1, th.-cl : 0 : 0, ho.-fr
9	0.0	9.5	S	SSW : SW	2.9	0.29	297	p.-cl : 9 : 10, slt.-r	10, sc : f
10	4.8	9.6	SW : SSW	SSW : S	1.6	0.06	191	f, ho.-fr : 0, ho.-fr : 3, ci.-s, slt.-f	th.-cl, so.-ha : p.-cl, th.-cl
11	3.0	9.6	S : SW : NW	NW : SSW	4.0	0.23	308	9 : 9, sn, r, sq : 9, cu	8, cu : p.-cl : 1, ho.-fr
12	0.0	9.7	S : SSE	S : SSW : NNW	5.6	0.53	363	p.-cl : 10, oc.-th.-r : 10, sc, fq.-r, w	10, fq.-r : 10, c.-r : 10, r
13	0.0	9.8	NNW	N	11.0	1.48	537	10, fq.-r, w : 10, w : 10, sc, oc.-th.-r	10, sc, oc.-th.-r, w : 10, oc.-th.-r, w : p.-cl
14	3.7	9.8	N	N : SSW : S	3.2	0.27	250	v : p.-cl : 4, cu, th.-cl	4, ci, th.-cl, h : 9, f : p.-cl, d
15	0.0	9.9	SSW	SSW : SW	2.4	0.28	349	10, slt.-r : 10 : 10	10 : 10 : p.-cl
16	3.5	10.0	WSW : W : NW	NW : WNW : WSW	4.0	0.40	388	10, sh.-r : p.-cl : 7, cu, th.-cl	6, cu, n : p.-cl : 10, slt.-sh, w
17	0.0	10.0	WSW	W : WSW	7.9	1.13	578	10, w : 10, w : 9, w	10, w : p.-cl, oc.-slt.-r, w : 10
18	0.5	10.1	SW : WSW	SW	10.7	0.60	465	10 : 10 : 10, oc.-th.-r	9, oc.-th.-r, sq : p.-cl : 10, oc.-slt.-r, w
19	0.7	10.1	W : SW	SW : SSW	21.7	1.74	651	9 : 10 : 9, sc, so.-ha, w	9, sc, s, sh.-r : 10, sc, s, oc.-r, g : 10, fq.-r, g
20	5.4	10.2	WSW	W : WSW	22.0	3.35	936	10, oc.-r, g : p.-cl, st.-w : p.-cl, st.-w	9, cu.-s, st.-w : 9, oc.-r, w : p.-cl, w
21	3.2	10.3	WNW : NW : W	NW : WNW : W	12.0	1.07	545	li.-cl, w : li.-cl, w : 9, slt.-sn, w	7, cu, w : 1, h, w : 1, d
22	4.0	10.3	WSW : WNW : NNW	N	1.9	0.10	290	9 : p.-cl, slt.-sn : 8, cu.-s, cu, n	6, cu, n : p.-cl : 2, h, ho.-fr
23	6.0	10.4	N	N	1.0	0.01	199	h, ho.-fr : 1, th.-cl : 3, th.-cl	5, cu, n, cu.-s : p.-cl, ho.-fr : 1, h, ho.-fr
24	2.2	10.5	W	W : NW	3.0	0.12	301	p.-cl, ho.-fr : p.-cl, : 4, th.-cl, h	p.-cl : 10 : 10
25	0.0	10.5	W : NW : N	NNW : NW : W	1.0	0.01	210	10 : 10, slt.-sh : 10	10 : 10
26	0.0	10.6	W : WNW : NW	WNW : NW : NNW	1.3	0.04	243	10 : 10, glm	10 : 10, glm : 10
27	0.2	10.7	NNW	NE	0.1	0.00	114	10 : 10	p.-cl : th.-cl : 0, slt.-f, ho.-fr
28	2.1	10.7	Variable : Calm	Variable : ESE : Calm	0.1	0.00	99	p.-cl, ho.-fr : 0, h, slt.-f, ho.-fr : 0, f	0, f : 1, th.-cl, so.-ha : th.-cl, lu.-ha, ho.-fr
Means	2.1	9.9	...	...	...	0.45	318		
Number of Column for Reference.	19	20	21	22	23	24	25	26	27

The mean *Temperature of Evaporation* for the month was 35°·5, being 2°·2 lower than
 The mean *Temperature of the Dew Point* for the month was 31°·6, being 3°·8 lower than
 The mean *Degree of Humidity* for the month was 78·1, being 7·4 less than
 The mean *Elastic Force of Vapour* for the month was 0·1178, being 0·0029 less than
 The mean *Weight of Vapour in a Cubic Foot of Air* for the month was 2875·1, being 0·3 less than
 The mean *Weight of a Cubic Foot of Air* for the month was 556 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 7·1.
 The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·209. The maximum daily amount of *Sunshine* was 8·0 hours on February 7.
 The highest reading of the *Solar Radiation Thermometer* was 83°·0 on February 7; and the lowest reading of the *Terrestrial Radiation Thermometer* was 12°·0 on February 7.
 The mean daily distribution of *Ozone* for the 12 hours ending 9^h was 0·9; for the 6 hours ending 15^h was 0·8; and for the 6 hours ending 21^h was 0·3.
 The *Proportions of Wind* referred to the cardinal points were N. 9, E. 3, S. 7, and W. 8. One day was calm.

The *Greatest Pressure of the Wind* in the month was 22·0 lbs. on the square foot on February 20. The mean daily *Horizontal Movement of the Air* for the month was 318 miles; the greatest daily value was 936 miles on February 20; and the least daily value was 99 miles on February 28.

Rain (0·1005 or over) fell on 14 days in the month, amounting to 1·1274, as measured by gauge No. 6 partly sunk below the ground; being 0·1206 less than the average fall for the 65 years, 1841-1905.

MONTH and DAY, 1907.	Phases of the Moon.	BARO- METER. Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	TEMPERATURE.							Difference between the Air Temperature and Dew Point Temperature.			Degree of Humidity (Saturation = 100).	TEMPERATURE.		Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the ground.	Daily Amount of Ozone.	Electricity.
			Of the Air.				Of Evapo- ration.	Of the Dew Point.				Of Radiation.						
			Highest.	Lowest.	Daily Range.	Mean of 24 Hourly Values.	Excess above Average of 65 Years.	Mean of 24 Hourly Values.	De- duced Mean Daily Value.	Mean.	Greatest.	Least.		Highest in Sun's Rays.	Lowest on the Grass.			
Mar. 1	...	30.280	55.0	28.1	26.9	40.6	+ 0.2	38.1	34.9	5.7	14.4	0.8	81	104.5	19.3	0.000	8.0	sP : mP : sP
2	In Equator	30.176	49.2	34.1	15.1	41.4	+ 1.0	39.7	37.6	3.8	9.7	1.4	87	59.4	21.5	0.000	0.0	sP
3	...	30.175	44.2	34.8	9.4	38.7	- 1.8	38.1	37.3	1.4	4.6	0.3	95	70.3	24.2	0.000	1.5	mP
4	...	30.147	47.2	31.3	15.9	37.7	- 3.0	35.7	33.0	4.7	12.5	0.0	84	88.7	19.3	0.000	4.5	wP : sP : mP
5	...	29.950	47.2	26.2	21.0	36.8	- 4.1	35.0	32.5	4.3	14.9	0.0	85	85.3	17.9	0.168	3.0	ssP : vP : vN, sP
6	...	30.022	49.0	33.2	15.8	41.5	+ 0.5	37.9	33.4	8.1	14.7	1.8	74	86.2	24.4	0.000	1.0	sP : ssP : ssP
7	Last Quarter	30.046	47.8	31.0	16.8	41.1	+ 0.1	39.5	37.5	3.6	9.7	1.5	87	66.0	22.1	0.047	0.0	mP
8	Greatest Declination S : Perigee	29.884	48.8	39.0	9.8	45.0	+ 3.9	40.9	36.2	8.8	14.3	2.5	71	90.3	34.8	0.000	1.0	vP : sP : vP, wN
9	...	30.035	46.0	38.1	7.9	41.1	+ 0.1	38.0	34.1	7.0	13.9	0.2	76	74.0	31.1	0.155	3.0	ssN, mP : vP, mN : mP
10	...	29.757	58.1	39.1	19.0	49.4	+ 8.5	45.9	42.2	7.2	13.6	0.0	76	107.3	36.7	0.002	3.5	wP : vP, vN : mP
11	...	30.075	42.5	29.5	13.0	38.1	- 2.9	34.7	30.1	8.0	12.2	3.8	72	91.0	19.1	0.036	1.5	wP, ssN : vP : ssP
12	...	30.256	45.1	24.1	21.0	37.0	- 4.1	32.6	26.3	10.7	17.8	2.3	65	85.1	13.6	0.000	4.2	sP : mP : mP, ssN
13	...	29.853	51.0	39.2	11.8	43.9	+ 2.6	40.2	35.9	8.0	17.0	0.9	73	98.8	37.1	0.196	0.8	vN, vP : sP : vP
14	New	29.833	47.2	35.1	12.1	41.1	- 0.4	36.6	31.0	10.1	17.6	3.5	67	87.2	30.8	0.064	0.2	ssN, mP : sP : ssP
15	In Equator	29.805	55.1	39.1	16.0	47.3	+ 5.6	45.3	43.1	4.2	9.2	1.0	86	83.4	35.5	0.094	2.6	ssN, wP : wP, wN : wP
16	...	29.603	49.0	45.6	3.4	47.7	+ 5.8	45.6	43.3	4.4	5.7	2.5	86	63.0	43.5	0.014	14.0	wP : wP : wP, wN
17	...	29.467	52.3	40.5	11.8	46.2	+ 4.2	41.5	36.1	10.1	18.5	2.1	69	97.0	33.8	0.069	6.2	wwN, wP : mP : mP, ssN
18	...	29.517	57.5	43.4	14.1	50.5	+ 8.5	45.5	40.3	10.2	19.8	2.2	69	100.3	37.7	0.000	3.2	... : vP : sP
19	...	29.818	53.5	38.0	15.5	45.8	+ 3.9	40.5	34.5	11.3	18.0	5.2	65	94.8	33.3	0.000	0.8	mP : vP, wwN : mP
20	...	30.035	54.4	39.4	15.0	48.6	+ 6.7	43.0	36.9	11.7	21.8	6.1	64	100.1	32.2	0.060	0.0	vP, ssN : sP : sP
21	Apogee	30.318	58.2	29.1	29.1	45.1	+ 3.2	40.1	34.3	10.8	20.1	3.1	66	102.3	19.0	0.000	0.0	sP : mP : sP
22	First Quarter : Great- est Declination N.	30.208	55.7	37.8	17.9	46.1	+ 4.1	41.4	36.0	10.1	13.2	7.1	69	92.2	24.1	0.000	0.0	mP : sP : sP
23	...	30.232	53.9	33.5	20.4	42.9	+ 0.7	38.6	33.4	9.5	18.6	4.2	70	97.9	22.5	0.000	0.0	sP : ssP : vP
24	...	30.204	56.1	29.1	27.0	43.3	+ 0.9	38.7	33.2	10.1	17.6	3.0	67	105.1	19.0	0.000	0.0	mP : wP
25	...	30.212	57.1	31.3	25.8	44.6	+ 1.9	41.0	36.8	7.8	16.0	2.5	73	82.0	20.5	0.000	0.0	wP : vP : mP
26	...	30.273	59.0	32.1	26.9	45.5	+ 2.5	42.8	39.7	5.8	15.0	1.4	81	92.7	22.8	0.000	0.0	mP : vP : mP
27	...	30.304	59.5	29.3	30.2	45.9	+ 2.6	41.7	36.9	9.0	20.3	0.8	72	114.0	19.0	0.000	0.0	mP : mP : sP
28	...	30.173	64.3	28.0	36.3	47.0	+ 3.3	42.1	36.6	10.4	25.6	0.8	68	115.2	18.2	0.000	0.0	wN, vP : mP : sP
29	Full	29.939	66.6	32.7	33.9	50.6	+ 6.5	44.7	38.5	12.1	23.9	0.9	63	116.1	23.6	0.000	0.0	wP
30	In Equator	29.820	63.1	35.2	27.9	50.6	+ 6.1	45.3	39.8	10.8	19.9	2.5	67	103.7	22.6	0.000	0.0	mP : sP : vP
31	...	29.779	69.4	36.2	33.2	53.0	+ 8.1	46.0	39.0	14.0	28.8	3.2	59	123.8	16.0	0.000	0.0	mP : wP : mP
Means	...	30.006	53.6	34.3	19.4	44.3	+ 2.4	40.5	36.1	8.2	16.1	2.2	73.8	92.8	25.7	Sum 0.995	1.9	...
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

The results apply to the civil day.

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 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 30.006, being 0.0260 higher than the average for the 65 years, 1841-1905.

TEMPERATURE OF THE AIR.

The highest in the month was 69.4 on March 31; the lowest in the month was 24.1 on March 12; and the range was 45.3. The mean of all the highest daily readings in the month was 53.6, being 3.8 higher than the average for the 65 years, 1841-1905. The mean of all the lowest daily readings in the month was 34.3, being 0.8 lower than the average for the 65 years, 1841-1905. The mean of the daily ranges was 19.4, being 4.7 greater than the average for the 65 years, 1841-1905. The mean for the month was 44.3, being 2.4 higher than the average for the 65 years, 1841-1905.

MONTH and DAY, 1907.	Daily Duration of Sunshine.		WIND AS DEDUCED FROM SELF-REGISTERING ANEMOMETERS.					CLOUDS AND WEATHER.	
	hours.	Sun above Horizon.	OSLER'S.		ROBINSON'S.		A.M.	P.M.	
			General Direction.		Pressure on the Square Foot.				
			A.M.	P.M.	Greatest.	Mean of 24 Hourly Measures.			Horizontal Movement of the Air.
Mar. 1	6.5	10.8	Calm : Variable : ESE	S	0.4	0.00	134	p.-cl,f,ho-fr: 1,tk.-f,ho-fr: 1, f	5,ci.-s,so.-ha : th.-cl : 1
2	0.0	10.8	Calm : SW	Variable : Calm	0.0	0.00	97	p.-cl, m : 10, slt.-f : 10, s	10, slt.-f : 10, oc.-th.-r : 10
3	0.6	10.9	NE : Calm	E	1.0	0.05	162	p.-cl, f : f : 10, f	9 : 10
4	4.9	11.0	ENE : E : NNE	E	2.0	0.07	227	10 : 10 : 9	4, cu, th.-cl : 0 : 0, ho.-fr, slt.-f
5	4.0	11.0	Calm : Variable	SSW : SW : WSW	2.8	0.11	198	f : f : 2, ci, ci.-s, slt.-f	p.-cl, ci, ci.-s : 10, r : p.-cl, r
6	8.2	11.1	NNW : N	N : NNW	1.8	0.09	206	p.-cl, ho.-fr : 0 : 1, th.-cl	2, cu, th.-cl : cu, th.-cl : p.-cl, h, d
7	0.0	11.2	SW : SSW	SW : SSW : WSW	4.8	0.59	414	th.-cl, ho.-fr : 10, s : 10, sc, s, slt.-r	10, sc, fq.-r, w : 10, sc, w : p.-cl, oc.-shs
8	3.4	11.2	WSW : W	W : WNW	6.8	0.80	531	p.-cl : 1, th.-cl : p.-cl, w	9, w : p.-cl, w : 10, oc.-slt.-r
9	0.8	11.3	WNW : NW : NNW	Variable	3.7	0.21	254	9, shs.-r, w : p.-cl : 8, cu.-s	10, oc.-slt.-r : 10, fq.-m.-r : 10, slt.-r
10	3.2	11.4	WSW : W : WNW	W : WNW	7.3	0.72	523	p.-cl, m.-r : p.-cl : 9, cu, n	10 : p.-cl, w : p.-cl
11	0.7	11.5	NW : N : NE	ENE : NE : N	4.0	0.35	301	9 : v, w, sn, r, sl, hl : 10, sn	9, cu, n, th.-cl : p.-cl : 0, ho.-fr
12	7.1	11.5	WSW	WSW : SW	2.5	0.12	266	o, ho.-fr, slt.-f : o, h, slt.-f, ho.-fr : 1, th.-cl	4, ci.-s, th.-cl : p.-cl : 10, slt.-sh
13	6.8	11.6	SW : W : WNW	W : WNW : WSW	8.0	0.78	513	10, r : p.-cl : 6, cu, n	5, cu, n, w : p.-cl : 9, sh.-r, w
14	8.9	11.7	W : WNW : NW	NW : WSW	15.0	1.07	529	v, sh.-r, hl, w : 1, w : 3, cu, st.-w	6, cu, w : 6, cu, n : p.-cl
15	0.3	11.7	SW : WSW	WSW : SW	5.2	0.68	485	9, oc.-slt.-r : 9, oc.-slt.-r : 10, sc, w	10, oc.-slt.-r, w : 10, oc.-slt.-r : 10, oc.-r, w
16	0.0	11.8	SW	SW : SSW	15.7	1.60	676	10, oc.-r, w : 10, oc.-r, w : 10, sc, w	10, oc.-th.-r, w : 10, oc.-th.-r, st.-w : 10, sh.-r, g
17	7.9	11.9	SSW : WSW : W	W : WNW : NW	14.0	1.14	561	p.-cl, slt.-sh, st.-w : 1 : 8, cu.-s, w	cu, cu.-s, w : 3, ci, th.-cl : 10, sh.-r
18	7.1	11.9	SW : WSW : W	WSW	18.0	1.90	759	9, w : p.-cl, st.-w : 6, ci, cu.-s, cu.-s, st.-w	5, ci, cu, st.-w : 2, ci, st.-w : p.-cl
19	7.9	12.0	WSW : SW	W : WSW	23.0	2.07	795	1, w : 1, w : 5, li.-sc, cu, n, st.-w	6, li.-sc, cu, n, st.-w : 6, n, g : 9, g
20	6.8	12.0	WSW : W : WNW	NW : NNW : N	22.8	1.85	696	p.-cl, g : p.-cl, sh.-r, st.-w : 6, cu.-s, w	4, ci, cu, w : 2, ci, cu : 0
21	9.1	12.1	SW	WSW : SW	1.4	0.09	219	1, slt.-m, ho.-fr : 1 : 1, slt.-h	0 : 2, th.-cl : 1, li.-cl, lu.-ha
22	3.9	12.2	SW : WSW : W	NW : NNW	2.2	0.29	349	1, ho.-fr : 1 : p.-cl	9, slt.-sh : th.-cl : 0, slt.-h
23	7.8	12.2	NNW : N	N : Variable	1.1	0.03	149	th.-cl, h, ho.-fr : h : 1, th.-cl	0 : 1, th.-cl : 1, th.-cl, ho.-fr
24	10.5	12.3	Calm : SE	SSW	1.1	0.04	159	p.-cl, ho.-fr : 0, m : 0	0 : 0, h
25	3.5	12.4	SSW : SW	ESE	0.1	0.00	105	o, h, ho.-fr : li.-cl, h : 4, th.-cl, so.-ha, slt.-f	3, th.-cl, slt.-f : 1 : 1, h
26	4.4	12.4	Calm	N : E : Calm	0.2	0.00	73	o, slt.-f, h, ho.-fr : 0, slt.-f	0, slt.-f : 0, slt.-f : 0, h, d
27	10.9	12.5	Calm : E	E	0.5	0.01	111	o, h, ho.-fr : 0, h : 0	1 : 0 : 0, ho.-fr
28	9.6	12.6	Calm : ENE : NE	E	0.2	0.01	123	o, h, f : 0, tk.-f : 1	3, ci, th.-cl : 1, ci : 0, slt.-f
29	10.5	12.6	E : Calm	S : SSE	1.5	0.06	167	o, h, ho.-fr : 0, h, f : 0	0 : 0
30	4.2	12.7	Calm : Variable	N : Variable : WSW	0.0	0.00	97	o, slt.-f, ho.-fr : 0, slt.-f : p.-cl, s	10, s : 10, s : h
31	10.7	12.8	Calm	SSW : Calm	0.5	0.01	98	h, ho.-fr : 0, h : 0, slt.-h, slt.-m	0 : 0, hy.-d : 1
Means	5.5	11.8	...	...	...	0.48	322		
Number of Column for Reference.	19	20	21	22	23	24	25	26	27

The mean *Temperature of Evaporation* for the month was 40°·5, being 1°·1 higher than the average for the 65 years, 1841-1905.

The mean *Temperature of the Dew Point* for the month was 36°·1, being 0°·2 lower than the average for the 65 years, 1841-1905.

The mean *Degree of Humidity* for the month was 73·8, being 6·7 less than the average for the 65 years, 1841-1905.

The mean *Elastic Force of Vapour* for the month was 0ⁱⁿ·213, being 0ⁱⁿ·001 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 25^{gr}·5, being the same as the average for the 65 years, 1841-1905.

The mean *Weight of a Cubic Foot of Air* for the month was 552 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 4·7.

The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0·466. The maximum daily amount of *Sunshine* was 10·9 hours on March 27.

The highest reading of the *Solar Radiation Thermometer* was 123°·8 on March 31; and the lowest reading of the *Terrestrial Radiation Thermometer* was 13°·6 on March 12.

The mean daily distribution of *Ozone* for the 12 hours ending 9^h was 1·1; for the 6 hours ending 15^h was 0·6; and for the 6 hours ending 21^h was 0·2.

The *Proportions of Wind* referred to the cardinal points were N. 4, E. 4, S. 7, and W. 11. Five days were calm.

The *Greatest Pressure of the Wind* in the month was 23·0 lbs. on the square foot on March 19. The mean daily *Horizontal Movement of the Air* for the month was 322 miles; the greatest daily value was 795 miles on March 19; and the least daily value was 73 miles on March 26.

Rain (0ⁱⁿ·005 or over) fell on 10 days in the month, amounting to 0ⁱⁿ·905, as measured by gauge No. 6 partly sunk below the ground; being 0ⁱⁿ·615 less than the average fall for the 65 years, 1841-1905.

DAILY RESULTS OF THE METEOROLOGICAL OBSERVATIONS,

Table with columns: MONTH and DAY, Phases of the Moon, BAROMETER, TEMPERATURE (Of the Air, Of Evaporation, Of the Dew Point, Difference between Air and Dew Point, Of Radiation), Degree of Humidity, Rain collected in Gauge No. 6, Daily Amount of Ozone, and Electricity. Rows include dates from Apr. 1 to Apr. 30, with various moon phases like Perigee, In Equator, Apogee, and Full.

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 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 29.605, being 0.143 lower than the average for the 65 years, 1841-1905.

TEMPERATURE OF THE AIR.

The highest in the month was 72.0 on April 24; the lowest in the month was 29.1 on April 19; and the range was 42.9. The mean of all the highest daily readings in the month was 56.0, 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 38.8, being 0.2 lower than the average for the 65 years, 1841-1905. The mean of the daily ranges was 17.2, being 1.0 less than the average for the 65 years, 1841-1905. The mean for the month was 46.5, being 0.8 lower than the average for the 65 years, 1841-1905.

MONTH and DAY, 1907.	Daily Duration of Sunshine. Sun above Horizon.		WIND AS DEDUCED FROM SELF-REGISTERING ANEMOMETERS.						CLOUDS AND WEATHER.					
			OSLER'S.				ROBIN-SON'S.							
			General Direction.				Pressure on the Square Foot.							
			A.M.		P.M.		Greatest.	Mean of 24 Hourly Measures.	Horizontal Movement of the Air.	A.M.			P.M.	
hours.	hours.			lbs.	lbs.	miles.								
Apr. 1	8.6	12.8	Calm		E	0.2	0.00	74	o,m,hy-d: 1, th-cl : 2 th-cl			li-cl : li-cl : p-cl		
2	8.4	12.9	E : ESE : S		SSW : SE	6.2	0.10	209	p-cl, slt-m, hy-d : p-cl : 5, ci, cu			2, ci, cu : 2, th-cl : p-cl, slt-r, sq		
3	1.1	13.0	SE : S		S : WSW : SW	4.8	0.23	280	9 : 10, r : 9, w			10, sc, oc-r : 10, n : 10		
4	4.6	13.0	SW : SSE : E		E	0.6	0.03	142	9 : 9 : 8, cu, th-cl			9, cu, eu-s, so-ha : p-cl : 1, hy-d		
5	4.4	13.1	NW : NNW		NW : SW : S	1.4	0.04	209	p-cl : 9 : 9, cu, n			8, cu, n : 5, cu, n, ci-cu : p-cl		
6	5.8	13.2	S : WSW : W		SSW : WSW : SW	6.1	0.45	407	10, r, w : p-cl			p-cl, w : v, oc-shs, w : o, d		
7	4.6	13.2	Variable		W : WSW : SW	6.4	0.12	265	9, r : 10, sn : 9, th-r, glm			8, cu, sq : 9, slt-r : 1		
8	2.2	13.3	SW : SSW : WSW		WSW : SW	3.0	0.17	308	p-cl : 10, c-r : 9			9, n : 9, oc-r : p-cl		
9	0.2	13.4	SW		SSW : SW : ESE	1.9	0.01	154	9 : 10 : 10, slt-sh			10, n : 10 : 10		
10	1.2	13.4	SE : NE : ESE		Variable : Calm	1.1	0.00	99	9 : 10, f : 10			9, cu, n, glm, slt-f, hy-sh, ht, l, t : p-cl, n : slt-f		
11	2.3	13.5	Calm : NE		ENE : E	2.5	0.11	200	9, slt-f : 10 : 10			9, cu, n : p-cl : 10		
12	0.0	13.5	E : ENE		E	6.7	0.79	430	10 : 10 : 10, sc, w			10, fq-r, w : 10, slt-r : 10, r, w		
13	8.3	13.6	E : SE : SSE		SE : ESE : E	2.6	0.17	234	10, r : 8, cu, n			7, cu, n : 6, cu, n : p-cl		
14	0.0	13.7	NE		ENE : NE	1.9	0.09	228	10 : 10			10, slt-r : 9 : p-cl		
15	5.9	13.7	NE : NNE : N		NNE : N	1.1	0.10	224	8 : 10 : 6, cu			4, cu, th-cl : cu, n : 10		
16	1.9	13.8	N		N : NE : NNE	2.0	0.08	223	10 : 10			p-cl : 9, r : 10		
17	3.1	13.9	N : NNW		N : NNE	4.0	0.28	267	10 : 10 : 5, th-cl, h			p-cl, sh-r : 10, oc-r, w : p-cl		
18	7.3	13.9	N		N : Variable	2.0	0.24	233	p-cl : p-cl : 6, cu, eu-s, n			9, cu, eu-s, n : p-cl : o, h, ho-fr		
19	0.6	14.0	Calm : Variable		... : SSE	0.3	0.01	128	o, h, ho-fr : p-cl : 9, s			9 : 10 : th-cl, h		
20	8.9	14.0	S : SSW		SW : SSW	3.6	0.35	343	th-cl, h, ho-fr : li-cl : 2, cu, th-cl			4, ci-s, so-ha : 10 : 10, oc-slt-r		
21	0.0	14.1	SSW : SW		SSW : SW : NNW	4.7	0.78	429	10, fq-r : 10, fq-r			10, sc, slt-r, w : 10, slt-r		
22	9.6	14.2	NW : W : WSW		W : WSW	1.9	0.13	263	p-cl : 1, h : 4, cu, th-cl			6, th-cl, so-ha : 2, th-cl : p-cl		
23	2.4	14.3	WSW		W : WSW	5.8	0.65	478	p-cl : 10 : 10			9, oc-slt-r, w : 5, cu, th-cl : p-cl		
24	10.4	14.3	WSW : W		NW : NNW	3.4	0.41	347	9 : 9 : 6, cu, th-cl			5, cu, th-cl : 3, ci-s : p-cl		
25	1.6	14.4	SW : W : NNE		NNE : NE : ESE	1.8	0.06	192	9 : 9 : 10, glm, oc-th-r			10 : 10, oc-th-r : 10		
26	0.0	14.4	S : Calm		ENE : N	0.6	0.01	101	10 : 10, r : 10, c-r			10, c-r : 10, r : 9		
27	7.4	14.5	NNE : NE		NNE : NW : N	4.1	0.10	188	9 : 9 : 8, cu, n			8, cu, n : 10, r, sq : 10		
28	10.2	14.6	NNW : N		NNW : NW : WSW	2.3	0.22	263	10, th-cl, ho-fr : p-cl : 7, cu, eu-s, n			p-cl : p-cl : 10		
29	3.6	14.6	WSW : NW		NW	4.0	0.34	322	10, r : 10 : 10			9, cu, n, w : p-cl : h		
30	0.4	14.7	W : SW		W : NW : WNW	5.9	0.28	319	p-cl, h : 10 : 10, oc-r			10, glm, r, w : 10, sc, glm, fq-r : 10, oc-slt-r		
Means	4.2	13.8	...		...	...	0.21	252						
Number of Column for Reference.	19	20	21		22	23	24	25	26			27		

The mean *Temperature of Evaporation* for the month was 43°.1, being 0°.8 lower than
 The mean *Temperature of the Dew Point* for the month was 39°.4, being 0°.7 lower than
 The mean *Degree of Humidity* for the month was 77.1, being 1.3 greater than
 The mean *Elastic Force of Vapour* for the month was 0.1241, being 0.0007 less than
 The mean *Weight of Vapour in a Cubic Foot of Air* for the month was 2878.8, being 0.8 less than
 The mean *Weight of a Cubic Foot of Air* for the month was 542 grains, being 1 grain less than
 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 0.303. The maximum daily amount of *Sunshine* was 10.4 hours on April 24.
 The highest reading of the *Solar Radiation Thermometer* was 122.0 on April 24; and the lowest reading of the *Terrestrial Radiation Thermometer* was 20.3 on April 19.
 The mean daily distribution of *Ozone* for the 12 hours ending 9^h was 0.8; for the 6 hours ending 15^h was 0.2; and for the 6 hours ending 21^h was 0.3.
 The *Proportions of Wind* referred to the cardinal points were N. 8, E. 5, S. 7, and W. 8. Two days were calm.
 The *Greatest Pressure of the Wind* in the month was 6.7 lbs. on the square foot on April 12. The mean daily *Horizontal Movement of the Air* for the month was 252 miles; the greatest daily value was 478 miles on April 23; and the least daily value was 74 miles on April 1.
Rain (0.1005 or over) fell on 16 days in the month, amounting to 3.139, as measured by gauge No. 6 partly sunk below the ground; being 1.573 greater than the average fall for the 65 years, 1841-1905.

the average for the 65 years, 1841-1905.

DAILY RESULTS OF THE METEOROLOGICAL OBSERVATIONS,

Table with columns: MONTH and DAY, 1907; Phases of the Moon; BAROMETER; TEMPERATURE (Of the Air, Of Evaporation, Of the Dew Point); Difference between the Air Temperature and Dew Point Temperature; TEMPERATURE (Of Radiation); Rain collected in Gauge No. 6; Daily Amount of Ozone; Electricity.

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 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 29.699, being 0.0095 lower than the average for the 65 years, 1841-1905.

TEMPERATURE OF THE AIR.

The highest in the month was 81.5 on May 12; the lowest in the month was 33.5 on May 20; and the range was 48.0. The mean of all the highest daily readings in the month was 62.3, being 1.6 lower than the average for the 65 years, 1841-1905. The mean of all the lowest daily readings in the month was 44.6, being 0.9 higher than the average for the 65 years, 1841-1905. The mean of the daily ranges was 17.8, being 2.4 less than the average for the 65 years, 1841-1905. The mean for the month was 52.6, being 0.5 lower than the average for the 65 years, 1841-1905.

MONTH and DAY, 1907.	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.
May 1	1 ^h 5 ^m	14 ^h 7 ^m	W : WNW	NW : W : SW	4.8	0.76	468	10, w : 10, oc.-slt.-r	10, n : p.-cl : p.-cl
2	8 ^h 7 ^m	14 ^h 8 ^m	SSW : WSW	WSW : SW	20.5	2.02	730	10, r, st.-w : 9, w : 8, cu, w	9, cu, n, sh.-r, w : p.-cl, st.-w : 0, w
3	5 ^h 4 ^m	14 ^h 8 ^m	SW : WSW	WSW : SW : SSW	16.0	1.33	622	0, w : p.-cl, w : 7, cu, cu.-s, n, w	9, cu, n, w : 10, r, w : 9, g
4	11 ^h 8 ^m	14 ^h 9 ^m	WSW	WSW : SW	18.4	1.06	529	9, slt.-sh, st.-w : p.-cl, w : 7, cu, n, w	4, cu, th.-cl, w : 2, cu, th.-cl : p.-cl
5	1 ^h 8 ^m	15 ^h 0 ^m	Variable : E	E	10.9	0.38	269	p.-cl : 9 : 8, ci, th.-cl	th.-cl, w : 10 : 9, li.-shs
6	8 ^h 8 ^m	15 ^h 0 ^m	E : ESE	E : ESE : SE	2.5	0.09	187	p.-cl, m : 1, slt.-h : 2, ci, th.-cl	2, ci, ci.-s, ci.-cu : 9 : 10
7	4 ^h 1 ^m	15 ^h 1 ^m	SE : SW	SW : SSW : SSE	5.5	0.20	254	p.-cl : p.-cl : 10, glm, c.-r	10, sc, c.-r, w : p.-cl : p.-cl
8	8 ^h 1 ^m	15 ^h 1 ^m	SSE : S	SSW : S	4.9	0.32	298	0, hy.-d : 1 : 4, cu, li.-cl, w	7, cu, n, th.-cl, sh.-r : 1
9	6 ^h 9 ^m	15 ^h 2 ^m	S	SSW : SSE : SE	4.3	0.43	330	0 : 9, oc.-slt.-r : 10, oc.-slt.-r	7, cu, n, th.-cl, so.-ha : cu, n, th.-cl : 1, li.-cl, h, d
10	9 ^h 2 ^m	15 ^h 2 ^m	SSE : S : SSW	SSW : SSE	3.2	0.28	267	9, slt.-sh : p.-cl : 6, ci, ci.-s	3, ci, ci.-s, so.-ha : 5, ci, ci.-s : p.-cl
11	11 ^h 3 ^m	15 ^h 3 ^m	S : SSE	S : SW : Variable	5.3	0.16	215	p.-cl : p.-cl : 5, ci, ci.-s	5, ci, ci.-cu : 2, ci, th.-cl : v, l, sq, d
12	11 ^h 7 ^m	15 ^h 3 ^m	... : ... : S	S : SW : WSW	2.0	0.15	232	p.-cl : p.-cl : 1, ci	2, ci : 2, ci, ci.-s : p.-cl
13	0 ^h 6 ^m	15 ^h 4 ^m	WSW : NNW	NNW : N : NE	1.1	0.06	191	9, r : 9, sh.-r : 9, s	10 : 10, r : 9, l
14	0 ^h 0 ^m	15 ^h 4 ^m	N	N	2.2	0.12	179	9, sh.-r : 10, oc.-r : 10, r	10 : 10 : 9, h
15	6 ^h 3 ^m	15 ^h 5 ^m	N : NE	NNE : ENE : ESE	1.4	0.08	162	10 : p.-cl : 6, cu, n	p.-cl, n : 10 : 10, slt.-sh
16	3 ^h 7 ^m	15 ^h 5 ^m	ESE : NNW : NW	N : NNE	2.9	0.18	238	10 : p.-cl : 8, cu, th.-cl	9, sc, cu, n : p.-cl : 10, oc.-slt.-r
17	8 ^h 1 ^m	15 ^h 6 ^m	NNE : N	N : NNE	3.8	0.44	335	10 : p.-cl : 6, cu, cu.-s	7, cu, n : p.-cl, slt.-sh : p.-cl
18	9 ^h 1 ^m	15 ^h 6 ^m	N	N	9.0	0.55	372	p.-cl : p.-cl : p.-cl, oc.-shs	7, cu, cu.-s, n, sh.-r, w : p.-cl : 0
19	0 ^h 9 ^m	15 ^h 7 ^m	N : NNE	N : ESE : ENE	2.4	0.15	220	p.-cl : 9 : 9, oc.-slt.-r	9, cu, n, sh.-r : 2
20	1 ^h 8 ^m	15 ^h 7 ^m	NNE : N	N : E	0.7	0.04	147	p.-cl, m : 9 : 10, cu, cu.-s, n	9 : 9, fq.-shs : 9
21	6 ^h 7 ^m	15 ^h 8 ^m	NE : E	SSW : S	1.7	0.04	155	p.-cl : p.-cl : 9, cu, slt.-sh	9 : 8, cu, n : p.-cl, d, slt.-sh
22	1 ^h 6 ^m	15 ^h 8 ^m	SE : NE : SW	Variable : S : E	0.6	0.00	101	10, oc.-r : 9	10, cu, n : 9 : 10, slt.-r
23	3 ^h 6 ^m	15 ^h 9 ^m	ENE : E : ESE	SE : ESE	1.2	0.05	165	10 : 10, oc.-r : 9	7, cu, cu.-s : p.-cl, oc.-shs : p.-cl
24	6 ^h 6 ^m	15 ^h 9 ^m	E : ESE : SSW	SSW : SW	4.5	0.17	212	p.-cl, h : 10 : 9, t, sh.-r	p.-cl, cu, n, w : 5, cu, n : th.-cl
25	7 ^h 0 ^m	16 ^h 0 ^m	SW : Calm : ENE	E : ESE	1.5	0.04	169	p.-cl, h : p.-cl : 5, cu, ci, th.-cl	5, ci, s : p.-cl : 10, t.-sm, slt.-r
26	0 ^h 0 ^m	16 ^h 0 ^m	NE : NNE : N	N : NNE	0.3	0.00	157	9 : 10 : 10	10 : 10
27	2 ^h 6 ^m	16 ^h 0 ^m	N : NNE	N : NE : SE	0.4	0.01	98	10 : 10	p.-cl, h : p.-cl, h
28	0 ^h 0 ^m	16 ^h 1 ^m	Variable : Calm : NE	ENE : NE	3.6	0.29	283	10 : 10	10, oc.-m.-r : 10 : 9
29	8 ^h 8 ^m	16 ^h 1 ^m	NE : ENE	ENE : E	3.7	0.48	391	p.-cl : 9 : 9, cu	7, cu, cu.-s : 7, cu, ci : p.-cl
30	2 ^h 3 ^m	16 ^h 2 ^m	ENE : ESE	SE : SSW : S	1.2	0.06	175	9 : p.-cl : 10	10 : 10, slt.-r : 10, slt.-r
31	0 ^h 1 ^m	16 ^h 2 ^m	SSW : SSE	SE : ESE	1.0	0.03	132	10, slt.-r : 9, oc.-slt.-r : 10, oc.-slt.-r	10 : 10, r : 10, m, l, slt.-r
Means	5 ^h 1 ^m	15 ^h 5 ^m	...	...	...	0.32	267		
Number of Column for Reference.	19	20	21	22	23	24	25	26	27

The mean *Temperature of Evaporation* for the month was 48°.5, being 0°.5 lower than
 The mean *Temperature of the Dew Point* for the month was 44°.4, being 0°.6 lower than
 The mean *Degree of Humidity* for the month was 74.2, being the same as
 The mean *Elastic Force of Vapour* for the month was 0.12293, being 0.0006 less than
 The mean *Weight of Vapour in a Cubic Foot of Air* for the month was 3.873, being 0.071 less than
 The mean *Weight of a Cubic Foot of Air* for the month was 537 grains, being 1 grain less than
 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 0.331. The maximum daily amount of *Sunshine* was 11.8 hours on May 4.
 The highest reading of the *Solar Radiation Thermometer* was 142°.0 on May 11; and the lowest reading of the *Terrestrial Radiation Thermometer* was 22°.2 on May 20.
 The mean daily distribution of *Ozone* for the 12 hours ending 9^h was 1.3; for the 6 hours ending 15^h was 1.6; and for the 6 hours ending 21^h was 0.5.
 The *Proportions of Wind* referred to the cardinal points were N. 8, E. 7, S. 9, and W. 5. Two days were calm.
 The *Greatest Pressure of the Wind* in the month was 20.5 lbs. on the square foot on May 2. The mean daily *Horizontal Movement of the Air* for the month was 267 miles; the greatest daily value was 730 miles on May 2; and the least daily value was 98 miles on May 27.
Rain (0.1005 or over) fell on 18 days in the month, amounting to 1.474, as measured by gauge No. 6 partly sunk below the ground; being 0.1441 less than the average fall for the 65 years, 1841-1905.

the average for the 65 years, 1841-1905.

MONTH and DAY, 1907.	Phases of the Moon.	BARO- METER. Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	TEMPERATURE.							Difference between the Air Temperature and Dew Point Temperature.			TEMPERATURE.			Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the ground.	Daily Amount of Ozone.	Electricity.
			Of the Air.				Of Evapo- ration.	Of the Dew Point.	Of Radiation.									
			Highest.	Lowest.	Daily Range.	Mean of 24 Hourly Values.	Excess above Average of 65 Years.	Mean of 24 Hourly Values.	De- duced Mean Daily Value.	Mean.	Greatest.	Least.	Degree of Humidity (Saturation = 100).	Highest in Sun's Rays.	Lowest on the Grass.			
June 1	...	29.303	66.9	52.0	14.9	55.8	- 1.6	54.4	53.1	2.7	9.3	0.8	91	122.0	52.1	0.500	0.0	vP, vN
2	...	29.480	58.5	47.8	10.7	54.1	- 3.7	50.6	47.2	6.9	12.5	1.0	77	83.0	42.1	0.241	2.7	wN, wwP : wP : wN, wP
3	Last Quarter	29.631	54.3	45.2	9.1	50.7	- 7.4	45.4	39.9	10.8	14.4	3.6	67	73.3	39.2	0.000	5.3	wwP : wP : mP
4	...	29.797	64.1	49.4	14.7	54.5	- 3.8	50.4	46.5	8.0	15.6	1.6	74	113.7	47.8	0.000	0.8	wP
5	In Equator	29.583	68.8	51.7	17.1	56.2	- 2.2	53.3	50.6	5.6	13.3	2.2	82	126.9	48.1	0.117	8.0	wwP : wP, vN : wP
6	...	29.550	61.0	47.6	13.4	53.6	- 4.7	49.1	44.7	8.9	16.1	4.6	72	115.7	44.3	0.063	5.2	wP : vP, vN : mP, ssN
7	...	29.726	69.0	46.1	22.9	55.4	- 2.8	51.6	48.0	7.4	17.8	2.1	77	133.7	41.5	0.000	2.8	wP
8	...	29.765	69.5	52.9	16.6	59.6	+ 1.5	55.3	51.5	8.1	18.7	3.8	75	132.1	40.2	0.000	9.7	wP
9	...	29.593	75.7	49.5	26.2	63.0	+ 5.0	58.3	54.3	8.7	21.6	3.0	73	142.3	38.0	0.039	12.7	wP : wP : vP, ssN
10	New	29.613	68.1	51.8	16.3	59.1	+ 1.0	54.5	50.4	8.7	16.2	2.6	73	134.7	45.5	0.000	8.3	wP : wwP, wwN : wP
11	...	29.724	68.0	50.2	17.8	58.6	+ 0.4	53.1	48.2	10.4	18.0	2.8	69	133.3	43.0	0.003	11.7	wP
12	Apoogee : Greatest Declination N.	29.533	66.8	52.6	14.2	58.3	- 0.1	53.5	49.2	9.1	18.4	2.6	72	139.8	49.3	0.041	19.5	wP, wN : wP : wP, wN
13	...	29.712	68.0	51.7	16.3	57.9	- 0.6	53.3	49.2	8.7	15.3	3.4	72	128.2	48.0	0.090	10.6	wP : vP, ssN : mP
14	...	29.866	67.7	47.1	20.6	57.0	- 1.7	53.8	50.8	6.2	12.2	2.3	80	104.5	41.6	0.005	8.2	wP
15	...	29.797	61.9	52.6	9.3	56.7	- 2.1	54.6	52.7	4.0	6.3	1.0	86	86.0	46.5	0.230	10.8	wP : wP, vN : wP
16	...	29.939	64.4	47.0	17.4	53.6	- 5.3	47.4	41.3	12.3	22.0	2.7	63	119.6	37.1	0.000	5.7	wP : wP : mP
17	...	29.987	67.5	43.1	24.4	54.2	- 4.8	48.4	42.7	11.5	19.4	4.2	65	128.0	33.1	0.000	0.0	mP
18	...	29.815	65.5	49.1	16.4	55.9	- 3.3	51.6	47.5	8.4	15.8	2.6	74	112.8	37.9	0.011	10.0	wP : mP : wP
19	First Quarter	29.844	67.0	48.1	18.9	56.8	- 2.7	51.6	46.8	10.0	22.8	1.9	69	119.0	42.5	0.000	0.5	mP
20	In Equator	29.696	70.3	49.6	20.7	58.3	- 1.6	52.6	47.5	10.8	20.5	4.9	68	131.2	42.8	0.000	10.8	wP : wP : mP
21	...	29.672	68.8	51.2	17.6	57.6	- 2.7	51.0	45.0	12.6	21.2	4.7	63	124.5	46.0	0.000	5.2	wP : vP : mP
22	...	29.739	68.5	49.8	18.7	58.2	- 2.4	51.6	45.7	12.5	24.3	5.3	63	135.5	43.8	0.000	12.3	wP : wP : wwN, mP
23	...	29.742	65.8	49.3	16.5	56.2	- 4.7	50.0	44.2	12.0	21.5	5.2	64	119.0	43.7	0.024	4.4	wP : wP : ssN, vP
24	...	29.690	62.2	47.9	14.3	54.2	- 7.0	51.3	48.5	5.7	10.6	2.3	81	101.3	42.9	0.153	19.8	wP : wP : ssN, vP
25	Full	29.554	60.2	48.0	12.2	53.9	- 7.5	50.0	46.2	7.7	16.0	2.8	75	110.5	43.0	0.040	15.0	wP : mP : wP, wwN
26	Perigee : Greatest Declination S.	29.634	71.0	53.3	17.7	59.0	- 2.5	55.3	52.0	7.0	16.4	3.4	78	130.0	53.0	0.000	10.7	wwP : wP : wP
27	...	29.743	70.2	56.1	14.1	61.1	- 0.5	57.6	54.6	6.5	12.8	3.0	79	125.8	52.1	0.003	12.3	wP
28	...	29.802	68.0	49.4	18.6	56.8	- 4.8	52.6	48.8	8.0	15.1	2.4	75	128.5	41.0	0.061	5.0	wP
29	...	29.790	65.5	44.3	21.2	55.1	- 6.5	51.0	47.1	8.0	20.0	2.1	75	113.0	33.5	1.026	0.0	wP : mP, vN : vP, ssN
30	...	29.709	63.0	46.0	17.0	54.2	- 7.3	50.3	46.5	7.7	16.1	1.7	75	115.2	37.9	0.000	6.0	wP
Means	...	29.701	66.2	49.3	16.9	56.5	- 2.9	52.1	48.0	8.5	16.7	2.9	73.6	119.4	43.3	Sum 2.647	7.8	...
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 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 29.701, being 0.114 lower than the average for the 65 years, 1841-1905.

TEMPERATURE OF THE AIR.

The highest in the month was 75.7 on June 9; the lowest in the month was 43.1 on June 17; and the range was 32.6. The mean of all the highest daily readings in the month was 66.2, being 4.5 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 16.9, being 3.9 less than the average for the 65 years, 1841-1905. The mean for the month was 56.5, being 2.9 lower than the average for the 65 years, 1841-1905.

MONTH and DAY, 1907.	Daily Duration of Sunshine. Sun above Horizon.		WIND AS DEDUCED FROM SELF-REGISTERING ANEMOMETERS.					ROBIN- SON'S.		CLOUDS AND WEATHER.	
			OSLER'S.		Pressure on the Square Foot.		Horizontal Movement of the Air.				
			General Direction.		Greatest.	Mean of 24 Hourly Measures.		miles.	A.M.	P.M.	
			A.M.	P.M.							
June 1	1.5	16.2	Calm	SW : WSW	2.0	0.03	129	10, shs.-r : 10, oc.-r	10, n, glm, t	9, n, oc.-r, l, t : 10, n, r, l, t : 10, m, oc.-r	
2	0.6	16.2	WSW : W	W : WSW	3.9	0.31	342	10, r : 10, sh.-r	10, n, oc.-slt.-r	10, oc.-shs : p.-cl : p.-cl	
3	1.0	16.3	WSW	WSW : W	11.5	0.81	511	p.-cl : p.-cl, w	10, w	10, w : 10 : 10	
4	0.4	16.3	W : WSW : SW	SW : SSW	1.3	0.07	222	9 : p.-cl	9, th.-cl	10, cu.-s, n : 10 : 9	
5	4.2	16.3	SSW : S	SSW : SW	4.1	0.23	300	9 : 10	10, r	9, cu : 4, cu, n, sh.-r, t, w : p.-cl	
6	5.2	16.4	SW : WSW	WSW : W	9.6	0.68	468	9, slt.-sh : 9	9, shs.-r, w	p.-cl, oc.-r, w : p.-cl, hy.-sh, w : p.-cl	
7	3.1	16.4	WSW : SW	SW	1.8	0.13	285	p.-cl : p.-cl	9, cu.-s	9, ci, cu, n : 9 : 9	
8	10.6	16.4	SW : SSW	SW : SSW : S	2.2	0.21	277	9 : p.-cl	9, cu, n	7, cu, th.-cl : 6, cu, s, th.-cl : p.-cl, hy.-d	
9	8.6	16.4	Variable : SSE : S	SE : SW	2.2	0.19	234	0, hy.-d : 1	4, cu	p.-cl, oc.-r : 2, l, d	
10	13.2	16.4	SW : SSW	SSW : SW	9.2	0.78	466	p.-cl, l : p.-cl, w	7, cu, w	7, cu, n, w : p.-cl, w : 1	
11	9.9	16.5	SSW : SW	SSW : S : ESE	3.0	0.19	282	p.-cl : p.-cl	8, cu, n	7, cu : p.-cl, ci.-s, s, so.-ha : 9, th.-r	
12	9.7	16.5	ESE : S : SSW	SSW	7.2	0.63	405	10, r : p.-cl	6, cu, n, w	5, cu, n, w : v, li.-shs, w : 9, slt.-sh	
13	5.4	16.5	SSW : SW	SW : WSW	6.4	0.39	376	9 : 9, slt.-sh	8, cu, n, hy.-sh	v, shs.-r, t, w : 9, n : 9	
14	1.7	16.5	SW : S : SSW	SSW : SW	1.9	0.18	284	p.-cl : p.-cl, slt.-sh	10	10, n, oc.-slt.-r : p.-cl : 10, oc.-slt.-r	
15	0.0	16.5	SSW : SW	SSW : SW : WSW	6.4	0.50	395	10 : 10, li.-shs	10, r, w	10, fq.-shs : 9, oc.-r : p.-cl	
16	13.5	16.5	WSW : W	W : WNW	3.3	0.49	410	0 : li.-cl	7, cu	7, cu : 3, cu : 0	
17	12.0	16.5	WSW : W : NW	W : SW	1.8	0.10	236	p.-cl : p.-cl	4, ci, cu	5, cu : 3, cu : 1, s, hy.-d	
18	1.0	16.6	SW	SW	3.4	0.23	304	p.-cl : 10, s	10, s, so.-ha	9, th.-r : 10, oc.-th.-r : 9	
19	11.8	16.6	SW : WSW	W : WSW	3.0	0.33	384	p.-cl : p.-cl	8, cu, n	8, cu, ci.-cu : 3, cu : 0	
20	7.8	16.6	WSW : SW	SW	3.9	0.50	432	1, th.-cl : p.-cl	p.-cl	5, ci, ci.-s, cu, so.-ha : p.-cl, cu : 9	
21	8.2	16.6	WSW : W : WNW	W : WSW : SW	5.0	0.46	402	10 : li.-cl, w	7, cu, n	8, cu, n : 10	
22	8.3	16.6	WSW : SW	W : WSW : SW	5.1	0.47	402	10 : 10	8, cu, n, slt.-sh	5, cu, w : 3, cu, w : 1, d	
23	8.0	16.6	SW : WSW : W	W : WSW : SW	4.9	0.77	497	p.-cl, slt.-r, w : p.-cl, w	9, w	p.-cl, slt.-sh : p.-cl	
24	0.6	16.6	WSW : SW	SW : WSW	9.0	0.73	465	p.-cl, slt.-r : 10	10, fq.-r, w	p.-cl, fq.-r, w : 10, r, w : p.-cl, w	
25	2.7	16.6	SW : WSW : W	WSW : SW	14.6	1.16	587	p.-cl, li.-shs, st.-w : p.-cl, w	8, cu, n, w	10, r, w : 10, fq.-th.-r : 10, slt.-r	
26	4.3	16.6	WSW	SW	3.7	0.56	465	10 : 10	9	7, cu, th.-cl : p.-cl, m.-r : p.-cl	
27	3.6	16.5	SW	SW	4.5	0.59	448	10 : 10	9, oc.-m.-r	9, cu, n, w : p.-cl : 10, oc.-th.-r	
28	2.5	16.5	W : NNW : WSW	W : WSW	1.4	0.06	209	10, r : 10, r	9	p.-cl, cu : 10 : p.-cl, h	
29	3.1	16.5	WSW	Variable	3.8	0.05	147	th.-cl, h : 10, th.-cl, h	8, s	p.-cl, oc.-slt.-r, t : 9, hy.-r, t.-sm : 10, oc.-th.-r	
30	5.1	16.5	NE : NNE : E	ENE : E : NE	1.9	0.17	242	p.-cl : 10	9, n	p.-cl, so.-ha : p.-cl : 9	
Means	5.6	16.5	...	...	...	0.40	354			
Number of Column for Reference.	19	20	21	22	23	24	25	26	27		

The mean *Temperature of Evaporation* for the month was 52°1, being 2°3 lower than
 The mean *Temperature of the Dew Point* for the month was 48°0, being 2°9 lower than
 The mean *Degree of Humidity* for the month was 73.6, being the same as
 The mean *Elastic Force of Vapour* for the month was 0.335, being 0.038 less than
 The mean *Weight of Vapour in a Cubic Foot of Air* for the month was 3.8, being 0.4 less than
 The mean *Weight of a Cubic Foot of Air* for the month was 532 grains, being 1 grain greater than
 The mean amount of *Cloud* for the month (a clear sky being represented by 0, and an overcast sky by 10) was 7.9.
 The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0.339. The maximum daily amount of *Sunshine* was 13.5 hours on June 16.
 The highest reading of the *Solar Radiation Thermometer* was 142°3 on June 9; and the lowest reading of the *Terrestrial Radiation Thermometer* was 33°1 on June 17.
 The mean daily distribution of *Ozone* for the 12 hours ending 9^h was 3.8; for the 6 hours ending 15^h was 2.4; and for the 6 hours ending 21^h was 1.6.
 The *Proportions of Wind* referred to the cardinal points were N. 1, E. 1, S. 11, and W. 16. One day was calm.
 The *Greatest Pressure of the Wind* in the month was 14.6 lbs. on the square foot on June 25. The mean daily *Horizontal Movement of the Air* for the month was 354 miles; the greatest daily value was 587 miles on June 25; and the least daily value was 129 miles on June 1.
Rain (0.1005 or over) fell on 15 days in the month, amounting to 2.647, as measured by gauge No. 6 partly sunk below the ground; being 0.609 greater than the average fall for the 65 years, 1841-1905.

the average for the 65 years, 1841-1905.

MONTH and DAY, 1907.	Phases of the Moon.	BARO-METER. Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	TEMPERATURE.							Difference between the Air Temperature and Dew Point Temperature.			TEMPERATURE.		Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the ground.	Daily Amount of Ozone.	Electricity.	
			Of the Air.				Of Evaporation.	Of the Dew Point.				Of Radiation.						
			Highest.	Lowest.	Daily Range.	Mean of 24 Hourly Values.	Excess above Average of 65 Years.	Mean of 24 Hourly Values.	Deducted Mean Daily Value.	Mean.	Greatest.	Least.	Degree of Humidity (Saturation=100).	Highest in Sun's Rays.				Lowest on the Grass.
July 1	...	29.748	61.0	46.0	15.0	53.0	- 8.5	48.6	44.2	8.8	18.4	2.7	72	120.3	34.2	0.000	0.0	wP : mP : mP
2	Last Quarter : In Equator	29.793	63.8	45.6	18.2	53.2	- 8.4	49.1	45.0	8.2	15.8	2.5	74	117.4	33.8	0.000	0.0	mP : mP : vP
3	...	29.612	60.5	43.6	16.9	52.7	- 9.1	50.0	47.3	5.4	13.7	1.7	82	117.0	33.5	0.039	12.0	mP : wP : mP
4	...	29.470	65.1	49.1	16.0	55.6	- 6.5	51.7	48.0	7.6	13.7	2.5	76	131.8	42.5	0.061	8.0	wP, wN : wP : wP
5	...	29.623	68.0	49.1	18.9	57.3	- 5.0	52.3	47.7	9.6	17.1	2.5	70	130.2	41.6	0.058	19.2	wP : wN, wP : wP
6	...	29.795	68.4	48.5	19.9	57.3	- 5.1	51.0	45.3	12.0	19.4	2.3	64	132.8	41.8	0.000	11.8	wP : vP, wwN : mP
7	...	29.802	67.1	49.1	18.0	54.6	- 7.8	49.7	45.0	9.6	18.9	2.9	69	123.3	39.8	0.005	0.5	wP, wN : wP : vP
8	...	29.721	64.5	47.4	17.1	55.2	- 7.2	51.2	47.4	7.8	14.8	2.0	75	121.4	40.1	0.007	13.2	wP
9	Apogee	29.782	67.2	51.8	15.4	57.7	- 4.7	53.6	49.9	7.8	14.1	1.6	75	122.2	50.5	0.026	6.3	wP : wP : mP
10	Greatest Declination N. : New	29.991	66.2	47.2	19.0	52.5	- 10.0	50.3	48.1	4.4	12.3	1.2	85	127.3	40.2	0.171	0.0	wP : ssP, ssN : mP
11	...	30.266	68.9	42.8	26.1	55.8	- 6.9	50.5	45.6	10.2	18.0	1.3	69	122.0	32.6	0.000	0.0	mP
12	...	30.196	70.3	44.6	25.7	57.6	- 5.3	51.4	45.8	11.8	21.1	1.9	65	122.8	35.0	0.000	3.0	wP : mP : mP
13	...	30.091	72.6	49.1	23.5	60.8	- 2.3	53.2	46.5	14.3	23.6	4.2	60	134.0	42.0	0.000	0.0	mP
14	...	30.085	72.0	57.3	14.7	62.7	- 0.6	59.2	56.2	6.5	12.1	3.0	80	113.8	53.6	0.000	0.0	wP : ...
15	...	30.177	78.5	53.1	25.4	66.3	+ 2.9	59.1	53.3	13.0	23.6	1.2	63	135.9	42.0	0.000	5.0	...
16	...	30.194	77.0	54.6	22.4	64.0	+ 0.6	58.3	53.5	10.5	25.3	2.7	68	139.0	47.2	0.000	0.0	... : wP
17	In Equator	30.104	72.1	53.4	18.7	59.7	- 3.7	55.6	52.0	7.7	17.8	2.7	76	126.1	43.8	0.000	0.0	wP
18	First Quarter	29.983	75.7	52.6	23.1	60.6	- 2.7	54.7	49.6	11.0	25.4	2.7	67	132.2	44.0	0.000	5.0	wP : wP : ...
19	...	29.948	79.0	48.7	30.3	61.9	- 1.3	56.8	52.4	9.5	20.6	1.2	72	133.0	39.5	0.000	0.0	... : wP
20	...	29.973	73.3	50.9	22.4	61.2	- 2.0	57.2	53.7	7.5	15.8	1.6	77	129.5	41.8	0.000	5.2	wwP
21	...	29.925	71.0	54.1	16.9	61.0	- 2.2	56.8	53.1	7.9	15.3	3.2	76	111.5	52.3	0.000	3.8	wwP : vP, vN : vP, sN
22	...	29.778	70.6	53.8	16.8	60.0	- 3.1	58.0	56.2	3.8	13.3	0.6	88	118.9	48.7	0.421	0.8	vP, vN
23	Greatest Declination S.	29.738	64.5	50.0	14.5	55.0	- 8.0	53.2	51.5	3.5	9.9	0.6	88	111.8	45.5	0.000	2.2	wwN, wP : wP
24	Perigee	29.774	68.0	45.8	22.2	57.4	- 5.5	53.7	50.3	7.1	15.3	1.2	77	129.3	35.3	0.000	4.0	wP
25	Full	29.764	66.5	44.5	22.0	56.8	- 5.9	52.4	48.4	8.4	16.7	1.5	73	124.0	33.3	0.020	3.0	wP : mP : wP
26	...	29.773	74.6	51.8	22.8	62.6	+ 0.1	57.8	53.7	8.9	14.6	2.4	73	127.6	47.0	0.000	5.0	wP
27	...	29.774	76.0	59.0	17.0	64.5	+ 2.1	59.6	55.5	9.0	16.6	1.3	73	130.0	50.2	0.071	3.0	wP
28	...	29.859	70.6	58.3	12.3	62.2	- 0.1	59.1	56.4	5.8	9.9	1.7	82	106.2	49.5	0.024	0.5	wP
29	...	29.716	76.1	55.9	20.2	63.0	+ 0.7	57.5	52.8	10.2	21.5	2.3	69	138.9	52.0	0.013	6.5	wP
30	In Equator	29.611	68.2	52.2	16.0	59.2	- 3.1	54.9	51.1	8.1	14.0	2.5	74	112.6	46.7	0.053	0.0	wP : vP, ssN : mP
31	...	29.796	65.5	48.4	17.1	55.8	- 6.4	49.6	43.8	12.0	19.8	5.5	65	123.0	40.5	0.000	0.0	wP : mP : sP
Means	...	29.867	69.8	50.3	19.5	58.6	- 4.0	54.1	50.0	8.6	17.0	2.2	73.5	124.7	42.6	Sum 0.969	3.8	...
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 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 29.867, being 0.068 higher than the average for the 65 years, 1841-1905.

TEMPERATURE OF THE AIR.

The highest in the month was 79.0 on July 19; the lowest in the month was 42.8 on July 11; and the range was 36.2. The mean of all the highest daily readings in the month was 69.8, being 4.4 lower than the average for the 65 years, 1841-1905. The mean of all the lowest daily readings in the month was 50.3, being 3.0 lower than the average for the 65 years, 1841-1905. The mean of the daily ranges was 19.5, being 1.4 less than the average for the 65 years, 1841-1905. The mean for the month was 58.6, being 4.0 lower than the average for the 65 years, 1841-1905.

MONTH and DAY, 1907.	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.									
			A.M.	P.M.	Greatest.	Mean of 24 Hourly Measures.	miles.													
July 1	6.0	16.5	NE : NNE	N : NNE : Variable	1.9	0.25	279	10	:	p-cl	:	9, cu	9, cu, n	:	p-cl	:	p-cl			
2	2.6	16.5	NNW : N	Variable	1.1	0.03	139	9, m	:	10	:	9, glm	8, cu, n	:	p-cl	:	th-cl, hy-d			
3	2.4	16.5	SW : SSW	S : SSW	3.5	0.25	276	p-cl	:	p-cl	:	9, n, fq-r, so-ha	10, sc, fq-r	:	p-cl, shs-r	:	p-cl, sh-r			
4	7.0	16.5	SW : SSW : S	SSW : SW	6.4	0.66	425	p-cl	:	10, shs-r	:	9, sc, cu, n, w	8, cu, n, slt-sh, w	:	4, cu, w	:	1			
5	10.2	16.4	SSW : SW	SW : SSW	5.9	0.63	429	1	:	v, shs-r, w	:	v, oc-shs	6, cu, n, w	:	4, cu, th-cl	:	p-cl, hy-d			
6	11.4	16.4	SW : WSW	WSW : W	3.0	0.34	362	p-cl, d	:	li-cl	:	6, cu, n	8, cu, n	:	5, ci, cu, n	:	p-cl			
7	5.5	16.4	WSW	WSW : NW : N	1.4	0.08	219	10	:	10, li-shs	:	9, cu, n	p-cl	:	p-cl	:	10			
8	2.1	16.4	WSW : SW	SW	4.8	0.48	366	9	:	p-cl	:	9, cu, n	10, cu, n, w	:	10, oc-th-r, w	:	10, oc-th-r			
9	1.1	16.3	SW : WSW	WSW : SW	...	...	271	10	:	10, li-shs	:	10, n	9, cu, n	:	p-cl	:	10, fq-r	
10	2.0	16.3	WSW : NW	NW : NNW	...	...	298	10	:	p-cl	:	9, cu, n, l, t, sh-r, w	9, fq-r	:	10, slt-r	:	0, d	
11	9.1	16.3	NNW	NW : SW	0.6	0.00	148	th-cl, hy-d	:	2	:	6, cu, th-cl	7, cu, th-cl	:	p-cl, cu, th-cl	:	9, d			
12	11.4	16.3	Calm : NW	NW : Variable	0.5	0.03	124	p-cl	:	p-cl, h	:	5, cu, th-cl	5, cu, th-cl	:	p-cl	:	p-cl, d			
13	5.4	16.2	SW : WSW	SW : WSW	0.6	0.01	163	9	:	p-cl	:	7, ci-cu, ci-s, so-ha	9, th-cl	:	10	:	10, slt-r			
14	0.1	16.2	SW : W : Calm	SSW : Calm : E	0.0	0.00	84	10, slt-r	:	9	:	10	10	:	10	:	10			
15	12.7	16.2	ENE : NE : NNE	NNE : E	0.7	0.00	200	p-cl, th-cl	:	0	:	0	0	:	1, li-cl	:	1			
16	11.6	16.1	NNE : N	NNE : NE	2.0	0.08	308	8, m	:	p-cl	:	1, th-cl	1, li-cl	:	1	:	1			
17	6.7	16.1	N : NNE	NNE : NE	1.4	0.08	314	2	:	9	:	10	2, th-cl	:	0	:	3, th-cl, h, d			
18	9.0	16.0	NE : NNE : N	N : NE : E	...	...	195	9, m	:	9	:	9, cu, th-cl	5, th-cl	:	th-cl, h	:	th-cl, h, m, d	
19	7.2	16.0	E : SE : ESE	SE : Variable	...	...	87	p-cl, m	:	p-cl, m	:	6, th-cl	6, th-cl	:	p-cl	:	1, m	
20	10.4	16.0	ESE : SE	ESE : E : SE	...	...	141	p-cl, m	:	8	:	th-cl	6, th-cl	:	th-cl	:	10	
21	0.5	15.9	ESE : NE : E	E : N : Variable	...	...	95	10	:	10	:	10, th-cl	9	:	10, t	:	10	
22	1.6	15.9	SW : WSW	N : ENE : E	...	...	148	9	:	10, r	:	9, slt-r	9, n, t	:	10, glm, fq-hy-shs	:	10, th-r, m	
23	0.0	15.8	NE : ENE : E	E : ENE	...	...	127	10, m	:	10	:	10	10	:	10	:	th-cl	
24	8.5	15.8	Calm : ENE	ENE : ESE : SE	...	...	134	th-cl, h, m	:	p-cl	:	7, cu, h	6, cu, li-cl	:	p-cl	:	2, th-cl, h	
25	8.0	15.7	SE : ESE : NE	NNE : NE	...	...	153	li-cl, m	:	p-cl	:	5, cu, li-cl	p-cl, ci-cu	:	9, slt-sh	:	9	
26	2.2	15.7	Calm : WSW	SW : WSW	...	...	168	10, m	:	9	:	10, s	p-cl, cu, s	:	9, slt-r	:	9, slt-sh	
27	3.9	15.6	SW : WSW : W	W : WSW	1.3	0.13	276	10	:	10, shs-r	:	9	9, cu, n	:	7, ci, ci-cu, cu	:	9			
28	0.4	15.6	WSW : W : Calm	SW	2.5	0.12	203	10	:	9, li-shs	:	10, m-r	10, cu, n, li-shs	:	9	:	9			
29	10.0	15.6	WSW : W	WSW	3.7	0.37	384	9	:	p-cl	:	7, cu	8, ci-cu, ci-s, cu	:	p-cl	:	9, li-shs			
30	2.4	15.5	WSW : W : WNW	NW : N	5.0	0.37	372	9	:	9	:	v, hy-sh	9, m, oc-slt-r	:	p-cl, w	:	1, w			
31	11.0	15.5	WNW : NW : NNW	WNW : NW	3.0	0.28	343	p-cl	:	p-cl	:	8, cu	p-cl, li-shs	:	p-cl	:	2			
Means	5.9	16.1	233													
Number of Column for Reference.	19	20	21	22	23	24	25												26	27

The mean *Temperature of Evaporation* for the month was 54°.1, being 3°.8 lower than
 The mean *Temperature of the Dew Point* for the month was 50°.0, being 3°.8 lower 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 0.12361, being 0.00054 less than
 The mean *Weight of Vapour in a Cubic Foot of Air* for the month was 4.8781, being 0.875 less than
 The mean *Weight of a Cubic Foot of Air* for the month was 533 grains, being 6 grains greater than
 The mean amount of *Cloud* for the month (a clear sky being represented by 0, and an overcast sky by 10) was 7.2.
 The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0.366. The maximum daily amount of *Sunshine* was 12.7 hours on July 15.
 The highest reading of the *Solar Radiation Thermometer* was 139°.0 on July 16; and the lowest reading of the *Terrestrial Radiation Thermometer* was 32°.6 on July 11.
 The mean daily distribution of *Ozone* for the 12 hours ending 9^h was 1.0; for the 6 hours ending 15^h was 1.9; and for the 6 hours ending 21^h was 0.9.
 The *Proportions of Wind* referred to the cardinal points were N. 6, E. 6, S. 6, and W. 10. Three days were calm.
 The *Greatest Pressure of the Wind* in the month was 6.4 lbs. on the square foot on July 4. The mean daily *Horizontal Movement of the Air* for the month was 233 miles; the greatest daily value was 429 miles on July 5; and the least daily value was 84 miles on July 14.
Rain (0.1005 or over) fell on 13 days in the month, amounting to 0.12969, as measured by gauge No. 6 partly sunk below the ground; being 1.1430 less than the average fall for the 65 years, 1841-1905.

the average for the 65 years, 1841-1905.

DAILY RESULTS OF THE METEOROLOGICAL OBSERVATIONS,

Table with columns: MONTH and DAY, 1907; Phases of the Moon; BAROMETER; TEMPERATURE (Of the Air, Of Evaporation, Of the Dew Point); Difference between the Air Temperature and Dew Point Temperature; TEMPERATURE (Of Radiation); Degree of Humidity; Rain collected in Gauge; Daily Amount of Ozone; Electricity.

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 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 29.830, being 0.0047 higher than the average for the 65 years, 1841-1905.

TEMPERATURE OF THE AIR.

The highest in the month was 79.0 on August 4; the lowest in the month was 44.1 on August 2; and the range was 34.9. The mean of all the highest daily readings in the month was 71.2, being 1.5 lower than the average for the 65 years, 1841-1905. The mean of all the lowest daily readings in the month was 52.0, being 1.0 lower than the average for the 65 years, 1841-1905. The mean of the daily ranges was 19.2, being 0.5 less than the average for the 65 years, 1841-1905. The mean for the month was 60.5, being 1.1 lower than the average for the 65 years, 1841-1905.

MONTH and DAY, 1907.	Daily Duration of Sunshine.		WIND AS DEDUCED FROM SELF-REGISTERING ANEMOMETERS.					CLOUDS AND WEATHER.					
	hours.	Sun above Horizon.	OSLER'S.				ROBINSON'S.						
			General Direction.		Pressure on the Square Foot.		Greatest.	Mean of 24 Hourly Measures.	Horizontal Movement of the Air.					A.M.		P.M.
			A.M.	P.M.	lbs.	lbs.				miles.			
Aug. 1	6.5	15.4	W : NW	WNW : NNW : WSW	2.2	0.09	232	p.-cl	li.-cl	9, cu	9, cu, n	9	1
2	8.4	15.4	WSW : Calm	WSW : SW : SSW	1.0	0.03	167	1, h	1, li.-cl	1, ci, ci.-cu	6, cu, ci.-cu	9	10, r
3	5.0	15.3	S : SW : WSW	WSW : SW	2.0	0.14	281	9, fq.-r	10, fq.-r	10, oc.-m.-r	8	3	p.-cl
4	8.9	15.3	SW	SW : WSW	2.8	0.24	321	10	9	8, ci.-s, cu, n	5, ci.-s, ci.-cu, cu, so.-ha	p.-cl, cu.-s	2
5	5.4	15.2	W : Calm : Variable	Variable : N : Calm	0.8	0.00	97	p.-cl	ci.-cu, th.-cl	6, cu	8, cu	10	10, n
6	8.3	15.1	W : WSW	SW : WSW	6.5	0.35	392	10, slt.-r	ci.-cu, li.-cl	7, cu	p.-cl, n, hy.-r, w	p.-cl, hy.-r, t	p.-cl
7	8.1	15.1	WSW : W	W : WSW	4.8	0.43	457	0	p.-cl	6, cu, w	7, cu	5, cu, th.-cl, so.-ha	9, th.-cl
8	2.1	15.0	WSW	WSW : SW	6.5	0.55	507	9	10	10, sc, w	9	10	10
9	1.9	15.0	WSW	SW : WSW	2.8	0.35	406	p.-cl	10	9, cu.-s	p.-cl, ci.-cu, cu	10	9
10	7.2	14.9	SW : WSW	WSW : W	3.0	0.19	317	p.-cl	10, r	9, cu, n	8, cu, n	p.-cl, shs.-r	1
11	10.3	14.9	WSW : W	WSW : SW	2.8	0.21	327	0	1	6, cu, n	p.-cl	p.-cl	0
12	4.0	14.8	SW	SW : WSW : W	5.8	0.45	424	2	p.-cl	8	10	p.-cl	p.-cl
13	3.9	14.8	W : WSW	SW : WSW	2.9	0.28	381	p.-cl	p.-cl		9	10	10
14	6.1	14.7	WSW	SW	3.5	0.32	374	p.-cl	p.-cl	7, cu	9, cu	10, sh.-r	9, sh.-r
15	8.1	14.6	SW : W	WSW : W	6.0	0.40	414	10, r	p.-cl	6, cu, n, li.-shs	v, hy.-sh, l, t, w	p.-cl	p.-cl
16	4.4	14.6	WNW : NW	W : WSW : SW	3.1	0.24	324	p.-cl, sc	9, sh.-r	9, cu, n	9	10, sh.-r	10, oc.-shs
17	8.5	14.5	SW : W	W : SW	3.1	0.34	389	10	9	9	8, cu	5, ci.-cu, ci.-s, cu	p.-cl
18	1.5	14.4	SW : WSW	WSW : W	3.3	0.26	326	10, r	10, slt.-r	10, oc.-slt.-r	p.-cl, li.-shs	cu, n	1, li.-cl
19	5.9	14.4	WSW : W	W : NW : WNW	6.1	0.40	409	p.-cl	10	v, slt.-sh	v, sh.-r, t, w	4, cu, li.-cl	0
20	8.6	14.3	W : NW	NW : NNW : WNW	10.6	0.28	348	0, d	li.-cl	v, t.-sm, hy.-sh, li, w	v, hy.-shs, hl, t	6, cu, n	p.-cl
21	2.6	14.3	W : WNW	WNW : NW	2.3	0.13	293	p.-cl, h	p.-cl	10, cu, n	9, n	10	
22	3.3	14.2	WNW : NW	WSW : W	2.0	0.15	289	10	10	8, cu, n	8, cu.-s, s, so.-ha	10	10, slt.-r
23	0.4	14.2	SW : WSW : NW	NW : N	2.0	0.15	276	10, slt.-r	9		10, n	10	
24	2.6	14.1	N : NNE : NE	NE : SSE : S	0.1	0.00	114	10	p.-cl, h	6, cu, h	7, cu, h	6, cu, th.-cl, h	1
25	11.8	14.0	SSW : WSW	WSW : WNW	2.7	0.23	300	1, hy.-d	1	3, cu, th.-cl	p.-cl	p.-cl	
26	0.0	14.0	WSW : Calm	Calm : WSW : SSW	0.6	0.02	166	p.-cl	9, m.-r	10, fq.-th.-r	10, fq.-th.-r	10, th.-r	9, th.-r
27	6.3	13.9	WSW : WNW : W	WSW : SW	0.7	0.03	204	9	p.-cl, h	6, th.-cl	p.-cl	9, n	p.-cl
28	12.2	13.8	NNE : NE : SSE	SSE : ESE : Calm	0.5	0.00	121	p.-cl, h	0		1, cu	1, li.-cl	1
29	10.6	13.8	Calm : SW	SW : WNW : W	1.0	0.05	172	1, m	0, h, m	0, h, m	1, ci, cu	1, ci, ci.-cu, cu	2
30	3.9	13.7	WSW : N : NE	NE : ESE : S	0.3	0.00	139	9, m	9	9, cu, s	9, cu, n	10	
31	3.0	13.7	S : WSW : W	W : WNW : N	1.5	0.08	221	9, m	9	8, cu, n	8, cu	p.-cl	9
Means	5.8	14.6	...	...	...	0.21	296						
Number of Column for Reference	19	20	21	22	23	24	25			26			27

The mean *Temperature of Evaporation* for the month was 56°.0, being 1°.5 lower than
 The mean *Temperature of the Dew Point* for the month was 52°.0, being 2°.0 lower than
 The mean *Degree of Humidity* for the month was 73.8, being 2.5 less than
 The mean *Elastic Force of Vapour* for the month was 0.12388, being 0.00030 less than
 The mean *Weight of Vapour in a Cubic Foot of Air* for the month was 48.74, being 0.872 less than
 The mean *Weight of a Cubic Foot of Air* for the month was 530 grains, being 2 grains greater than
 The mean amount of *Cloud* for the month (a clear sky being represented by 0, and an overcast sky by 10) was 7.2.
 The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0.398. The maximum daily amount of *Sunshine* was 12.2 hours on August 28.
 The highest reading of the *Solar Radiation Thermometer* was 138°.8 on August 11; and the lowest reading of the *Terrestrial Radiation Thermometer* was 30°.9 on August 2.
 The mean daily distribution of *Ozone* for the 12 hours ending 9^h was 1.8; for the 6 hours ending 15^h was 1.3; and for the 6 hours ending 21^h was 0.3.
 The *Proportions of Wind* referred to the cardinal points were N. 3, E. 1, S. 6, and W. 20. One day was calm.
 The *Greatest Pressure of the Wind* in the month was 10.6 lbs. on the square foot on August 20. The mean daily *Horizontal Movement of the Air* for the month was 296 miles; the greatest daily value was 507 miles on August 8; and the least daily value was 97 miles on August 5.
Rain (0.1005 or over) fell on 13 days in the month, amounting to 1.1915, as measured by gauge No. 6 partly sunk below the ground; being 0.1229 less than the average fall for the 65 years, 1841-1905.

} the average for the 65 years, 1841-1905.

DAILY RESULTS OF THE METEOROLOGICAL OBSERVATIONS,

Table with columns: MONTH and DAY, 1907; Phases of the Moon; BAROMETER; TEMPERATURE (Of the Air, Of Evaporation, Of the Dew Point); Difference between the Air Temperature and Dew Point Temperature; TEMPERATURE (Of Radiation); Rain collected in Gauge No. 6; Daily Amount of Ozone; Electricity.

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

* Rainfall (Column 16). Amount entered on September 8 is derived from mist.

The mean reading of the Barometer for the month was 29.947, being 0.136 higher than the average for the 65 years, 1841-1905.

TEMPERATURE OF THE AIR.

The highest in the month was 82.7 on September 25; the lowest in the month was 34.5 on September 23; and the range was 48.2. The mean of all the highest daily readings in the month was 69.5, being 2.2 higher than the average for the 65 years, 1841-1905. The mean of all the lowest daily readings in the month was 48.0, being 1.1 lower than the average for the 65 years, 1841-1905. The mean of the daily ranges was 21.5, being 3.3 greater than the average for the 65 years, 1841-1905. The mean for the month was 57.9, being 0.6 higher than the average for the 65 years, 1841-1905.

MONTH and DAY, 1907.	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.	Miles.	A.M.	P.M.						
Sept. 1	2.9	13.6	N	N : ESE : S	0.8	0.06	153	p.-cl	:	p.-cl	:	10, s	10, s	:	p.-cl, hy.-d
2	2.2	13.5	S : SE : SW	SW : W : WSW	3.8	0.29	303	9	:	10, sh.-r	:	p.-cl, sh.-r	10, sc, fq.-r	:	9, fq.-r : p.-cl
3	3.3	13.5	W : WNW : NNW	NW : N : ENE	1.7	0.14	255	p.-cl	:	p.-cl	:	9, n	9	:	9, r
4	5.1	13.4	Variable : Calm : NE	NE : S : SSW	0.5	0.00	130	10, r	:	p.-cl	:	9, cu, n	v, cu, n	:	9, cu, n : 10, slt.-r
5	1.3	13.3	SSW : SW : W	WSW : SW	3.7	0.31	358	10, r	:	10, sh.-r	:	9, cu, n	10	:	10
6	3.6	13.3	SW : WSW	WSW : SW	1.4	0.14	287	9	:	10, li.-shs	:	10, fq.-r	p.-cl	:	p.-cl : 9
7	0.3	13.2	WSW	WSW : W : Calm	0.6	0.02	196	9	:	10	:	10	10	:	p.-cl : o, hy.-d
8	4.8	13.1	Calm : ENE	ESE : E	1.0	0.04	153	p.-cl, m	:	m	:	10, s	p.-cl	:	o
9	6.5	13.1	E : ENE : ESE	ESE	1.3	0.07	196	o, m	:	p.-cl, m	:	8, cu	2, ci.-s	:	1, ci, ci.-s : o, hy.-d
10	9.1	13.0	E : ESE	ESE	1.0	0.07	175	o, m	:	o, m, f	:	4, cu, h	o	:	o, slt.-m, hy.-d
11	8.8	12.9	E : Calm : ENE	E : ESE : SE	0.2	0.00	106	o, m	:	p.-cl, m	:	3, cu, th.-cl	1, th.-cl	:	o : o, slt.-m
12	6.5	12.9	ESE : Calm	Variable : Calm	0.1	0.00	52	o, m	:	o, m	:	o, h	o, h	:	o, h
13	4.6	12.8	Calm	Calm : Variable : NNE	0.1	0.00	62	h, f	:	f	:	o, m	o, h	:	1, th.-cl, h : p.-cl, h, hy.-d
14	1.6	12.8	NNE : N	N : NNE	1.0	0.03	201	10	:	10	:	8, cu, n	9, cu, n	:	10 : p.-cl
15	6.8	12.7	N : NNE	N : WSW	0.7	0.03	150	p.-cl	:	9	:	6, cu, n	4, cu	:	1 : p.-cl
16	5.8	12.6	SW : WSW : W	W	1.0	0.03	213	1	:	10, m	:	p.-cl	8, cu	:	6, cu, th.-cl : p.-cl, d
17	5.9	12.6	W : N	N : NNE : ESE	0.7	0.02	158	p.-cl	:	9	:	9, cu, n	6, th.-cl, so.-ha	:	1, th.-cl : 1, m, hy.-d
18	8.0	12.5	Calm : ESE	ESE : SE	0.1	0.00	89	p.-cl, m	:	o, m	:	o	1, th.-cl	:	o : o
19	8.7	12.4	SE : Calm : E	E : ESE	0.4	0.01	113	1, th.-cl, m, f	:	o, m, f	:	o	o	:	o, slt.-f, hy.-d
20	7.2	12.4	ESE : Calm	E : ESE : ENE	0.2	0.00	118	10, s, f	:	f	:	p.-cl, f	o	:	o, d : 10
21	3.6	12.3	NE : ENE	ENE : ESE : NE	0.7	0.01	146	10	:	10	:	p.-cl, cu	7, th.-cl	:	9 : 10
22	9.1	12.2	NE : ENE	ENE : SE : ESE	2.0	0.13	253	10	:	p.-cl	:	1, cu	p.-cl	:	1, ci.-s, th.-cl : o
23	9.8	12.2	Calm : ESE	SE : ESE	0.7	0.01	116	o, m	:	o	:	6, ci, li.-cl	3, ci, th.-cl	:	o : o, hy.-d
24	8.1	12.1	Calm : E	SSW : SE	0.2	0.00	103	o, m	:	o, m	:	o	o	:	o : 1
25	6.7	12.0	E : Calm	SSE : S	2.5	0.05	136	th.-cl, f	:	li.-cl, m	:	li.-cl, so.-ha	2, ci.-cu, ci.-s	:	p.-cl, li.-cl : th.-cl
26	4.5	12.0	SSE : S	SSW : SE : E	0.7	0.01	145	10, slt.-r	:	10	:	9	6, cu, n	:	1, ci.-s : th.-cl
27	3.3	11.9	E : ENE	E	3.3	0.14	232	9, m	:	9	:	9, ci	9, ci, ci.-cu	:	6, ci.-s, cu : p.-cl
28	6.2	11.8	ENE : E	E : ENE	3.2	0.24	291	1, m	:	p.-cl	:	5, ci.-cu, ci.-s	2, ci, ci.-s, ci.-cu, th.-cl	:	10
29	0.0	11.8	NE : NNE	Variable : NE	1.4	0.04	179	10	:	10	:	10, s	10, s	:	10, s, slt.-f : 10
30	0.1	11.7	NE : Variable	SE : E	0.1	0.00	88	10, m, slt.-r	:	10	:	10	10, oc.-slt.-r	:	10, sh.-r : p.-cl
Means	5.1	12.7	...	...	...	0.06	172								
Number of Columns for Reference.	19	20	21	22	23	24	25						26		27

The mean *Temperature of Evaporation* for the month was 54°.1, being the same as
 The mean *Temperature of the Dew Point* for the month was 50°.7, being 0°.5 lower than
 The mean *Degree of Humidity* for the month was 77.5, being 2.7 less than
 The mean *Elastic Force of Vapour* for the month was 0.12370, being 0.0007 less than
 The mean *Weight of Vapour in a Cubic Foot of Air* for the month was 4.8751, being 0.871 less than
 The mean *Weight of a Cubic Foot of Air* for the month was 535 grains, being 2 grains greater than
 The mean amount of *Cloud* for the month (a clear sky being represented by 1, and an overcast sky by 10) was 5.3.
 The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0.407. The maximum daily amount of *Sunshine* was 9.8 hours on September 23.
 The highest reading of the *Solar Radiation Thermometer* was 130°.0 on September 25; and the lowest reading of the *Terrestrial Radiation Thermometer* was 24°.7 on September 23.
 The mean daily distribution of *Ozone* for the 12 hours ending 9^h was 0.4; for the 6 hours ending 15^h was 1.7; and for the 6 hours ending 21^h was 0.2.
 The *Proportions of Wind* referred to the cardinal points were N. 5, E. 10, S. 5, and W. 5. Five days were calm.
 The *Greatest Pressure of the Wind* in the month was 3.8 lbs. on the square foot on September 2. The mean daily *Horizontal Movement of the Air* for the month was 172 miles; the greatest daily value was 358 miles on September 5; and the least daily value was 52 miles on September 12.
Rain (0.1005 or over) fell on 6 days in the month, amounting to 0.12623, as measured by gauge No. 6 partly sunk below the ground; being 1.125 less than the average fall for the 65 years, 1841-1905.

} the average for the 65 years, 1841-1905.

DAILY RESULTS OF THE METEOROLOGICAL OBSERVATIONS.

Table with columns: MONTH and DAY 1907, Phases of the Moon, BAROMETER, TEMPERATURE (Of the Air, Of Evaporation, Of the Dew Point), Difference between the Air Temperature and Dew Point Temperature, TEMPERATURE (Of Radiation), Rain collected in Gauge No. 6, Degree of Humidity, Highest in Sun's Rays, Lowest on the Grass, Daily Amount of Ozone, Electricity.

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

* Rainfall (Column 16). Amounts entered on October 24, 26 and 31 are derived from dew or fog.

The mean reading of the Barometer for the month was 29.486, being 0.235 lower than the average for the 65 years, 1841-1905.

TEMPERATURE OF THE AIR.

The highest in the month was 68° on October 1; the lowest in the month was 35.6 on October 25; and the range was 32.4. The mean of all the highest daily readings in the month was 58.7, being 1.2 higher than the average for the 65 years, 1841-1905. The mean of all the lowest daily readings in the month was 43.5, being 0.3 higher than the average for the 65 years, 1841-1905. The mean of the daily ranges was 15.1, being 0.8 greater than the average for the 65 years, 1841-1905. The mean for the month was 51.4, being 1.4 higher than the average for the 65 years, 1841-1905.

MONTH and DAY, 1907.	Daily Duration of Sunshine.	Sun above Horizon.	WIND AS DEDUCED FROM SELF-REGISTERING ANEMOMETERS.						CLOUDS AND WEATHER.									
			OSLER'S.					ROBIN- SON'S.										
			General Direction.				Pressure on the Square Foot.											
			A.M.		P.M.		Greatest.								Mean of 24 Hourly Measures.	Horizontal Movement of the Air.		
								A.M.			P.M.							
Oct. 1	4.8	11.7	SE : S	S : SSE : SW	2.2	0.17	206	9	:	p-cl	:	5, cu, cu-s	9, cu, cu-s :	p-cl, r	:	10, slt-r		
2	5.0	11.6	SW : WSW	SW : WSW : SSW	3.0	0.24	310	p-cl	:	p-cl	:	9, sh-r	v, sh-r :	p-cl	:	0, hy-d		
3	4.8	11.5	SSW : S : SSE	Variable	1.5	0.03	168	0	:	p-cl	:	6, ci, cu, so-ha. prh	8, cu, n, hy-sh, l, t :	10	:	10		
4	4.9	11.5	N	NNE : N	5.0	0.44	311	10, th-r	:	10	:	p-cl	6, ci, s, cu, li-sc, w :	0, d				
5	3.1	11.4	N : WSW : W	W : WSW : SW	0.8	0.02	198	1, m	:	10, f	:	p-cl, s, ci, so-ha	p-cl, ci, cu :	10, li-shs	:	10, li-shs		
6	0.0	11.3	SW	WSW : SW	1.9	0.08	238	10, shs-r	:	10			10	:	p-cl	:	9	
7	1.8	11.2	SW : W	NW : NNW : NE	1.9	0.15	247	10, oc-r	:	10, sh-r			9, cu	:	5, th-cl	:	2	
8	0.0	11.2	E : NE : NNE	NE : SE	0.4	0.01	131	9	:	10	:	10, r	10	:	2, li-cl	:	p-cl, hy-d	
9	1.8	11.1	SE : ESE	SE : ESE	1.3	0.07	157	1, d	:	0	:	p-cl, s	10, slt-r	:	10, slt-r			
10	7.5	11.0	SE : SSE	S	9.4	0.84	365	p-cl	:	p-cl	:	4, cu, w	5, ci, ci-s, cu, w :	7, slt-sh, w :	9, shs-r			
11	7.2	11.0	S : SSW : SW	SW	5.5	0.49	373	9, fq-th-r :	p-cl	:	5, cu, n, w	7, cu, n, l, t, sh-r :	p-cl, sh-r	:	p-cl, slt-sh			
12	6.7	10.9	SW	WSW : SW : SSW	2.8	0.16	297	p-cl, slt-sh :	p-cl	:	8, n	6, cu, n :	2, cu	:	p-cl, d			
13	3.2	10.9	SSW : S : WSW	W : SW : SSW	1.8	0.07	239	p-cl	:	9	:	9	p-cl	:	9, slt-sh			
14	0.0	10.8	S	S : SSE : Variable	4.0	0.22	232	p-cl	:	10, shs-r	:	10, fq-r	10, fq-r	:	10, fq-r	:	9	
15	7.4	10.7	SW : SSE : SSW	SW : SSW : S	5.2	0.28	310	9, shs-r	:	3, ci, cu, n, w			6, cu, n :	3, cu	:	1		
16	0.0	10.7	ENE : E	E : ENE : ESE	4.8	0.30	271	p-cl	:	10	:	10, s	10, r	:	10, oc-r	:	10, r	
17	0.0	10.6	ESE : SE	SE : E : ESE	3.8	0.17	233	9	:	10	:	10	10	:	10, fq-r	:	p-cl	
18	0.9	10.6	Calm : WSW : SSW	SSW	10.5	0.74	427	9, oc-th-r :	p-cl	:	9, w	10, slt-r, w :	10	:	9, sc, shs-r			
19	7.6	10.5	SSW	SSW : S : SSE	6.4	0.63	392	p-cl, sh-r :	p-cl, shs-r	:	7, w	5, cu, n, w :	3, li-cl	:	1, hy-d			
20	3.2	10.4	SE : S : SSW	SSW : S	13.5	0.87	405	p-cl, shs-r	:	p-cl, oc-slt-r, w		p-cl, oc-th-r, w :	p-cl	:	1			
21	5.8	10.4	SSE : SSW : SW	SW : SSW	1.1	0.03	192	p-cl	:	p-cl	:	5, ci-cu, ci-s, cu	6, ci, ci-s, s, so-ha :	p-cl, hy-d, lu-ha :	9, hy-d, lu-ha			
22	7.2	10.3	SSW : SW : WSW	WSW : SW	1.8	0.09	265	1, hy-d	:	p-cl, slt-sh	:	8, cu, n	7, ci-s, cu, cu-s :	4, ci-s, li-cl	:	p-cl, hy-d		
23	0.3	10.2	SSW : S : SW	SW : SSW	1.7	0.01	161	9	:	10, th-r	:	10, r	9, th-r	:	p-cl, cu	:	1	
24	3.2	10.2	NE : SE	Variable : SSW	0.2	0.01	113	p-cl, f	:	tk-f	:	p-cl, f	8, cu, n	:	p-cl, d	:	1, th-cl, hy-d	
25	2.7	10.1	WSW : Calm : S	S	4.2	0.10	190	1, slt-f, hy-d :	slt-f, hy-d	:	7, cu, n	9, sh-r	:	10, oc-shs	:	1, hy-d		
26	0.1	10.0	S : Calm : Variable	N	0.5	0.00	135	p-cl	:	f	:	10, f	10, slt-f	:	10	:	10, slt-m	
27	0.0	10.0	N : SW : W	WSW : SW : SSW	0.1	0.00	131	9, slt-m	:	10			10, slt-f	:	10, slt-f	:	p-cl, hy-d	
28	1.4	9.9	Variable : SE	SSE : SE	2.6	0.10	168	p-cl	:	10, slt-r	:	10, s	8, cu, n, s :	10	:	10		
29	0.4	9.9	E	ESE : E	2.4	0.10	209	9	:	10, slt-r	:	10, oc-slt-r	v, shs-r	:	10, r	:	10, shs-r	
30	0.0	9.8	SE : ESE	SE : SW : S	2.1	0.09	225	p-cl, sh-r :	p-cl	:	10, oc-th-r	10, sc, oc-th-r :	p-cl	:	1			
31	7.6	9.7	S : SW	WSW : SW : Calm	0.1	0.00	144	0	:	p-cl	:	1, cu	5, cu, th-cl :	3, slt-f	:	0, f		
Means	3.2	10.7	0.21	240											
Number of Column for Reference.	19	20	21	22	23	24	25						26					27

The mean *Temperature of Evaporation* for the month was 49°.2, being 1°.3 higher than the mean *Temperature of the Dew Point* for the month was 47°.0, being 1°.3 higher than the mean *Degree of Humidity* for the month was 85.4, being 0.4 greater than the mean *Elastic Force of Vapour* for the month was 0.12323, being 0.016 greater than the mean *Weight of Vapour in a Cubic Foot of Air* for the month was 3.5786, being 0.071 greater than the mean *Weight of a Cubic Foot of Air* for the month was 534 grains, being 6 grains less than 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 0.298. The maximum daily amount of *Sunshine* was 7.6 hours on October 19 and 31. The highest reading of the *Solar Radiation Thermometer* was 121°.6 on October 12; and the lowest reading of the *Terrestrial Radiation Thermometer* was 28°.0 on October 24 and 28. The mean daily distribution of *Ozone* for the 12 hours ending 9^h was 1.5; for the 6 hours ending 15^h was 2.2; and for the 6 hours ending 21^h was 0.8. The *Proportions of Wind* referred to the cardinal points were N. 2, E. 6, S. 14, and W. 7. Two days were calm. The *Greatest Pressure of the Wind* in the month was 13.5 lbs. on the square foot on October 20. The mean daily *Horizontal Movement of the Air* for the month was 240 miles; the greatest daily value was 427 miles on October 18; and the least daily value was 113 miles on October 24. *Rain* (0.1005 or over) fell on 24 days in the month, amounting to 3.1252, as measured by gauge No. 6 partly sunk below the ground; being 0.1470 greater than the average fall for the 65 years, 1841-1905.

the average for the 65 years, 1841-1905.

MONTH and DAY, 1907.	Phases of the Moon.	BARO- METER. Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	TEMPERATURE.							Difference between the Air Temperature and Dew Point Temperature.			TEMPERATURE.		Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the ground.	Daily Amount of Ozone.	Electricity.	
			Of the Air.				Of Evapo- ration. Mean of 24 Hourly Values.	Of the Dew Point. De- duced Mean Daily Value.	Mean.	Greatest.	Least.	Of Radiation.						
			Highest.	Lowest.	Daily Range.	Mean of 24 Hourly Values.						Excess above Average of 65 Years.	Degree of Humidity (Saturation=100).	Highest in Sun's Rays.				Lowest on the Grass.
Nov. 1	...	29.777	54.5	37.8	16.7	46.5	- 0.5	45.8	45.0	1.5	4.2	0.2	95	89.8	32.8	0.012*	0.5	wwP : ... : ...
2	...	29.567	56.4	49.3	7.1	52.7	+ 5.9	50.9	49.1	3.6	6.6	1.4	88	78.3	39.8	0.000	1.5	...
3	In Equator	29.498	55.3	48.1	7.2	51.1	+ 4.5	50.0	48.9	2.2	5.1	1.4	92	67.8	42.5	0.024	0.0	...
4	...	29.738	54.1	48.5	5.6	51.4	+ 5.0	50.7	50.0	1.4	4.2	0.6	95	57.0	42.8	0.000	0.0	...
5	New	29.897	54.0	46.1	7.9	50.0	+ 3.9	48.1	46.1	3.9	7.4	2.1	87	73.8	42.4	0.000	0.0	... : ... : wP
6	...	30.003	52.2	43.9	8.3	48.1	+ 2.3	46.5	44.7	3.4	7.8	1.3	89	71.8	37.8	0.000	0.0	wP
7	...	29.902	49.5	43.5	6.0	46.8	+ 1.4	45.8	44.7	2.1	4.0	1.5	93	53.5	36.0	0.000	0.0	wP
8	...	29.667	57.0	45.1	11.9	49.4	+ 4.4	48.1	46.7	2.7	6.0	0.8	91	74.0	42.2	0.002	2.0	wP
9	Perigee	29.654	60.3	41.3	19.0	51.5	+ 6.9	49.6	47.7	3.8	8.2	0.2	87	95.3	33.1	0.005*	0.0	wwP : wwP : wP
10	Greatest Declination S.	29.855	51.0	34.8	16.2	45.9	+ 1.6	44.7	43.3	2.6	12.4	0.2	91	59.0	29.0	0.007*	0.0	wP
11	...	29.831	47.8	33.6	14.2	40.1	- 3.9	39.4	38.5	1.6	4.6	0.0	94	63.0	29.1	0.011*	0.0	mP : wP : mP
12	First Quarter	29.672	49.9	33.6	16.3	43.3	- 0.4	41.5	39.4	3.9	9.9	0.2	86	66.4	31.3	0.006*	0.5	mP
13	...	29.673	52.5	41.6	10.9	48.0	+ 4.5	44.0	39.6	8.4	15.2	4.4	73	74.4	35.0	0.090	1.5	wP, mN : mP : mP
14	...	29.961	53.2	39.3	13.9	47.8	+ 4.5	46.2	44.4	3.4	4.4	0.6	89	63.7	32.8	0.000	0.0	wP
15	...	30.057	51.8	40.7	11.1	47.6	+ 4.5	45.5	43.2	4.4	5.9	0.2	86	53.8	36.1	0.008	0.0	wwP : wP : mP
16	In Equator	30.108	45.0	31.5	13.5	39.1	- 3.7	37.4	35.2	3.9	7.5	0.0	86	53.0	24.7	0.000	0.0	wP : mP : mP
17	...	30.021	53.0	42.4	10.6	48.2	+ 5.6	46.0	43.6	4.6	7.2	3.1	85	61.7	39.3	0.000	0.0	wP
18	...	30.098	48.2	43.2	5.0	46.8	+ 4.4	45.9	44.9	1.9	4.0	0.7	94	51.1	37.1	0.531	2.0	wP, wwN : vN, wwP : wwP, wwN
19	...	30.108	49.3	37.1	12.2	44.5	+ 2.2	44.0	43.4	1.1	4.8	0.2	96	58.2	30.3	0.000	0.0	wP
20	Full	30.069	45.8	37.7	8.1	41.2	- 1.0	40.7	40.1	1.1	5.6	0.0	96	58.2	35.8	0.001*	2.0	wP
21	...	30.181	43.0	29.3	13.7	38.3	- 3.8	36.9	35.0	3.3	4.8	0.0	88	44.2	27.2	0.008*	0.0	wwP : mP : mP
22	...	29.967	45.1	29.1	16.0	38.6	- 3.5	37.9	37.0	1.6	5.8	0.0	95	47.0	30.0	0.000	1.2	mP : wP
23	Greatest Declination N.	29.581	49.0	34.4	14.6	41.9	- 0.1	39.9	37.4	4.5	7.4	0.7	86	74.0	28.6	0.161	3.8	wP, wN : vP, sN : mP
24	...	29.612	44.2	33.6	10.6	38.0	- 4.0	35.4	31.9	6.1	13.2	2.6	78	66.0	28.0	0.001	0.7	mP
25	Apogee	29.343	47.2	30.6	16.6	38.1	- 3.8	36.9	35.2	2.9	5.5	1.6	90	46.1	26.3	0.166	2.3	wP, vN : mP : sP
26	...	29.117	56.1	32.4	23.7	45.5	+ 3.7	44.4	43.1	2.4	3.6	0.2	92	56.2	30.0	0.556	0.7	vP, vN : wwP
27	...	29.243	53.3	45.1	8.2	48.9	+ 7.2	47.1	45.1	3.8	9.2	0.4	87	74.2	39.0	0.520	2.3	wwP, wwN : wP, vN : vP, vN
28	Last Quarter	29.574	54.1	45.3	8.8	49.1	+ 7.6	47.4	45.5	3.6	7.8	2.1	88	78.2	36.5	0.110	0.0	wwP, wN : wP, sN : wP, vN
29	...	30.001	45.3	34.1	11.2	41.8	+ 0.6	41.3	40.7	1.1	3.1	0.0	96	50.2	27.8	0.005*	0.0	wP
30	...	30.240	45.7	32.9	12.8	39.6	- 1.4	38.0	35.9	3.7	6.2	2.2	87	63.8	25.0	0.008*	1.0	wP : mP : wP
Means	...	29.800	50.8	38.9	11.9	45.3	+ 1.8	43.9	42.2	3.1	6.7	1.0	89.3	64.1	33.6	2.232	0.7	...
Number of Column for Reference.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

The results apply to the civil day.

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

* Rainfall (Column 16). Amounts entered on November 1, 9, 10, 11, 12, 20, 21, 29 and 30 are derived from fog, dew or frost.

The mean reading of the Barometer for the month was 29.800, being 0.042 higher than the average for the 65 years, 1841-1905.

TEMPERATURE OF THE AIR.

The highest in the month was 60.3 on November 9; the lowest in the month was 29.1 on November 22; and the range was 31.2. The mean of all the highest daily readings in the month was 50.8, 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 38.9, being 1.0 higher than the average for the 65 years, 1841-1905. The mean of the daily ranges was 11.9, being 0.8 greater than the average for the 65 years, 1841-1905. The mean for the month was 45.3, being 1.8 higher than the average for the 65 years, 1841-1905.

MONTH and DAY, 1907.	Daily Duration of Sunshine.	Sun above Horizon.	WIND AS DEDUCED FROM SELF-REGISTERING ANEMOMETERS.					CLOUDS AND WEATHER.									
			OSLER'S.			ROBIN- SON'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.							
Nov. 1	0.8	9.7	Calm : NNE : NE	E	6.5	0.17	189	tk.-f	:	f	:	f	5, ci.-s, cu, n:	10	:	10, m, w	
2	0.0	9.6	E	ESE : E	4.5	0.19	254	8, m	:	9	:	10, th.-cl, so.-ha	9	:	p.-cl	:	1, th.-cl
3	0.0	9.5	E : ESE	ESE : SSE : Calm	6.7	0.23	228	0, d	:	p.-cl, w	:	10, s	10, s	:	10, sh.-r	:	10, oc.-m.-r
4	0.0	9.5	Calm : NNW : NNE	N : NNE	0.7	0.02	127	9, f	:	f	:	10, slt.-f	10	:	10	:	9
5	1.6	9.4	N : NNE	NNE : NE	1.2	0.06	181	9	:	p.-cl, li.-cl	:	9, s, th.-cl	9, cu, n	:	10	:	p.-cl
6	0.2	9.4	NNE : N : NE	NE : NNE	3.0	0.23	290	p.-cl	:	10	:	10	9	:	10	:	10
7	0.0	9.3	NNE : NE	NE : ENE : E	1.5	0.03	164	9	:	10	:	10, s	10, s	:	9, s, slt.-f	:	10, slt.-m
8	0.5	9.3	E : ESE : SE	S : SSE	2.0	0.09	206	10, m, slt.-r:	10	:	10	p.-cl	:	4, li.-cl	:	1, d	
9	5.8	9.2	SSE : SE	SE : SSW	0.7	0.03	178	p.-cl, hy.-d:	p.-cl	:	2, ci.-cu, ci.-s	1, ci.-s	:	0, slt.-f	:	f	
10	0.0	9.2	WSW : N	N : WSW	0.2	0.00	100	tk.-f	:	f	:	10, slt.-f	slt.-f	:	slt.-f	:	f
11	3.2	9.1	Calm : WSW : SW	SW : WSW	0.1	0.00	103	tk.-f	:	f	:	f	0, slt.-f	:	0, f	:	tk.-f
12	1.1	9.0	SW : WSW : N	N : NW : WSW	7.2	0.20	265	p.-cl, f	:	slt.-f	:	9, slt.-f	9	:	4, th.-cl	:	th.-cl, w
13	5.4	9.0	WSW : W : WNW	NW : WNW : W	13.2	1.43	638	9, hy.-sh, st.-w:	p.-cl, w	:	2, ci.-s, n, w	p.-cl, w	:	0, w	:	1, ci.-s	
14	0.0	8.9	WSW	SW	0.3	0.00	221	1, th.-cl, m:	10, slt.-f	:	10	10, s	:	p.-cl	:	9, lu.-ha	
15	0.0	8.9	SW : N	N	2.8	0.18	281	9, th.-r	:	10	:	10, sc	10, sc, slt.-sh:	p.-cl	:	1, h	
16	1.3	8.8	NNW : W : WSW	WSW : SW	0.1	0.00	190	0, h, d, ho.-fr:	p.-cl, h, ho.-fr:	5, slt.-f	1, ci, ci.-s, slt.-f	:	10				
17	0.0	8.8	SW	SW	0.8	0.01	242	10, slt.-f	:	10	:	10	10, th.-r	:	10	:	10
18	0.0	8.7	SW : SSW	NE : ENE	0.2	0.00	159	10, slt.-sh	:	10, m.-r	:	10, c.-r	10, c.-r, glm:	10, li.-shs	:	10	
19	0.0	8.7	NE : Calm : SW	WSW : SSE : Calm	0.1	0.00	117	10	:	9	:	9, s	8	:	5, slt.-f	:	f
20	0.0	8.6	Calm	SE : SSE : Calm	0.0	0.00	72	9, tk.-f	:	10, f	:	10, slt.-f	10	:	10	:	
21	0.0	8.6	SSE : Calm : SW	Variable : Calm : S	0.0	0.00	98	10	:	10, m	:	10, s	10, s	:	f	:	f
22	0.0	8.5	Calm : SSE	S : SSE	1.1	0.02	161	f	:	10, slt.-f	:	10	10	:	10	:	
23	2.6	8.5	S : SSE : W	W	1.7	0.19	337	10, r	:	10, slt.-r	:	6	v, slt.-sh	:	3	:	0, ho.-fr
24	7.3	8.5	WSW	WSW : SW : S	3.0	0.23	403	0, ho.-fr	:	0	:	0	0	:	p.-cl, slt.-sh	:	
25	0.0	8.4	SW : Variable : N	N : Variable	4.4	0.16	269	10, r	:	10	:	10	p.-cl, th.-cl	:	10, f	:	p.-cl, slt.-f, ho.-fr
26	0.0	8.3	E : ESE : SE	SW : W	8.0	0.33	332	10, th.-r	:	10, r	:	10, sc, r	10, sc, slt.-r, w	:	10, slt.-r, w	:	p.-cl, slt.-sh
27	1.8	8.3	S : SW	SW : SSW	6.3	0.33	392	10, r	:	p.-cl	:	v, shs.-r	v, n, shs.-r, w:	v, hy.-shs, h, l, t:	p.-cl, r	:	
28	2.2	8.3	SW : SSW	SW : SSW	2.3	0.14	301	p.-cl, r	:	p.-cl	:	4, ci.-s, cu, n	6, ci.-s, s	:	p.-cl, shs.-r	:	p.-cl, r
29	0.0	8.2	SSW : Calm : N	NE	1.0	0.02	188	p.-cl	:	1, f	:	tk.-f	10, f	:	10	:	1, d
30	3.6	8.2	ENE : NE	NE : E : ESE	1.3	0.02	210	0, ho.-fr	:	0, ho.-fr	:	0	9	:	9	:	
Means	1.2	8.9	...	...	...	0.14	230										
Number of Column for Reference.	19	20	21	22	23	24	25						26				27

The mean *Temperature of Evaporation* for the month was 43°·9, being 2°·0 higher than
 The mean *Temperature of the Dew Point* for the month was 42°·2, being 2°·2 higher than
 The mean *Degree of Humidity* for the month was 89·3, being 2·0 greater than
 The mean *Elastic Force of Vapour* for the month was 0ⁱⁿ·269, being 0ⁱⁿ·022 greater than
 The mean *Weight of Vapour in a Cubic Foot of Air* for the month was 3^{grs}·1, being 0^{gr}·3 greater than
 The mean *Weight of a Cubic Foot of Air* for the month was 546 grains, being 2 grains less than
 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 0·140. The maximum daily amount of *Sunshine* was 7·3 hours on November 24.
 The highest reading of the *Solar Radiation Thermometer* was 95°·3 on November 9; and the lowest reading of the *Terrestrial Radiation Thermometer* was 24°·7 on November 16.
 The mean daily distribution of *Ozone* for the 12 hours ending 9^h was 0·5; for the 6 hours ending 15^h was 0·2; and for the 6 hours ending 21^h was 0·0.
 The *Proportions of Wind* referred to the cardinal points were N. 5, E. 7, S. 8, and W. 7. Three days were calm.
 The *Greatest Pressure of the Wind* in the month was 13·2 lbs. on the square foot on November 13. The mean daily *Horizontal Movement of the Air* for the month was 230 miles; and the greatest daily value was 638 miles on November 13; and the least daily value was 72 miles on November 20.
Rain (0ⁱⁿ·005 or over) fell on 9 days in the month, amounting to 2ⁱⁿ·232, as measured by gauge No. 6 partly sunk below the ground; being 0ⁱⁿ·012 greater than the average fall for the 65 years, 1841-1905.

} the average for the 65 years, 1841-1905.

MONTH and DAY, 1907.	Phases of the Moon.	BARO- METER. Mean of 24 Hourly Values (corrected and reduced to 32° Fahrenheit).	TEMPERATURE.								Difference between the Air Temperature and Dew Point Temperature.			TEMPERATURE.				Rain collected in Gauge No. 6, whose receiving surface is 5 inches above the ground.	Daily Amount of Ozone.	Electricity.
			Of the Air.					Of Evapo- ration.	Of the Dew Point.	Mean.	Greatest.	Least.	Of Radiation.							
			Highest.	Lowest.	Daily Range.	Mean of 24 Hourly Values.	Excess above Average of 65 Years.	Mean of 24 Hourly Values.	De- duced Mean Daily Value.				Degree of Humidity (Saturation = 100).	Highest in Sun's Rays.	Lowest on the Grass.					
Dec. 1	In Equator	29.962	45.0	38.1	6.9	41.6	+ 0.7	39.5	36.9	4.7	8.8	2.5	84	60.5	30.0	0.001*	3.0	wP : mP : mP		
2	...	29.659	51.1	36.3	14.8	45.5	+ 4.6	43.8	41.8	3.7	4.6	1.7	88	67.0	28.8	0.020	0.0	mP : wP, wN : wP, mN		
3	...	29.283	51.3	37.0	14.3	43.7	+ 2.6	41.2	38.3	5.4	8.8	2.1	81	55.2	30.0	0.235	0.0	wP, vN : mP		
4	...	29.219	51.5	35.1	16.4	43.9	+ 2.6	42.4	40.6	3.3	6.1	1.0	88	57.0	27.3	0.021	2.0	mP : wP		
5	New	29.030	49.9	37.0	12.9	44.0	+ 2.5	41.8	39.2	4.8	8.2	2.3	83	61.4	26.2	0.088	0.0	wwP, wN : mP : mP		
6	...	29.474	42.4	32.1	10.3	37.2	- 4.3	35.8	33.9	3.3	5.7	1.9	88	52.8	19.0	0.001*	0.0	mP		
7	Perigee : Greatest Declination S.	29.500	46.5	32.1	14.4	42.1	+ 0.8	40.3	38.1	4.0	6.4	0.9	86	64.0	23.8	0.379	1.5	mP, wN : mP : vP, wwN		
8	...	29.009	56.7	47.7	9.0	52.1	+ 11.1	49.7	47.3	4.8	7.6	0.8	84	69.0	43.2	0.142	7.5	wwP : wwP, vN : wwP		
9	...	29.254	51.0	45.6	5.4	48.3	+ 7.7	44.6	40.6	7.7	11.5	3.4	75	69.6	40.9	0.215	1.2	wwP : wP : wwP, wwN		
10	...	29.272	49.6	42.3	7.3	46.3	+ 5.9	43.5	40.3	6.0	10.9	2.8	81	73.2	36.5	0.217	3.8	wwP, vN : wP : wwP		
11	...	29.395	47.6	37.6	10.0	42.9	+ 2.7	40.7	38.1	4.8	8.2	2.3	84	64.1	30.3	0.000	1.0	wwP : vP : wwP		
12	First Quarter	29.214	47.0	37.7	9.3	43.1	+ 2.8	42.1	40.9	2.2	4.0	0.7	92	65.7	34.8	0.707	3.0	wwP, wN		
13	In Equator	29.108	49.9	36.3	13.6	41.7	+ 1.2	40.0	37.9	3.8	9.5	0.8	87	65.0	31.9	0.526	2.0	... : mP : vN, vP		
14	...	28.829	43.6	38.5	5.1	40.9	+ 0.2	38.1	34.6	6.3	11.2	4.4	79	45.8	32.5	0.013	0.0	wP : mP, mN : mP		
15	...	29.735	40.3	28.2	12.1	35.5	- 5.3	34.3	32.4	3.1	4.6	0.3	89	51.8	23.6	0.002*	0.0	mP		
16	...	30.093	45.7	28.1	17.6	37.8	- 2.9	36.7	35.2	2.6	6.8	0.0	91	72.3	23.5	0.004*	0.0	... : mP		
17	...	30.151	44.2	33.0	11.2	38.7	- 1.7	37.4	35.6	3.1	6.4	1.5	90	58.0	24.2	0.000	2.0	wP : mP : mP		
18	...	29.958	51.3	33.1	18.2	44.5	+ 4.5	43.7	42.8	1.7	3.6	0.2	94	58.0	24.1	0.006*	0.0	wP		
19	Full	29.820	54.0	50.2	3.8	51.7	+ 12.2	50.6	49.5	2.2	4.6	1.8	92	57.6	44.6	0.027	0.7	wwP		
20	...	29.734	55.3	49.1	6.2	51.4	+ 12.4	49.4	47.4	4.0	6.2	2.2	86	78.0	44.0	0.004	3.0	wwP		
21	Greatest Declination N.	29.640	52.0	45.2	6.8	49.4	+ 10.7	46.5	43.4	6.0	8.6	4.0	80	67.5	40.1	0.000	2.3	wwP : wP		
22	Apogee	29.822	53.6	43.1	10.5	47.9	+ 9.5	45.6	43.1	4.8	9.8	2.3	85	72.6	37.0	0.016	0.0	wP		
23	...	29.990	49.9	39.1	10.8	46.5	+ 8.3	45.7	44.8	1.7	4.0	1.0	94	53.6	34.6	0.102	0.0	wwP, wwN : wP : wP		
24	...	30.145	42.9	35.9	7.0	39.3	+ 1.1	39.0	38.6	0.7	4.6	0.5	98	58.0	31.5	0.000	0.7	mP : wP		
25	...	30.000	42.7	36.2	6.5	40.5	+ 2.1	38.4	35.7	4.8	7.6	3.7	84	56.0	31.9	0.000	4.0	wP		
26	...	29.818	37.0	34.1	2.9	35.6	- 3.0	32.7	28.3	7.3	11.5	5.7	74	48.2	31.2	0.000	6.5	wP		
27	Last Quarter	29.540	35.0	32.3	2.7	33.7	- 5.1	30.6	24.9	8.8	11.3	6.3	69	46.6	29.5	0.000	4.0	wwP : wP : wP		
28	In Equator	29.480	34.9	32.6	2.3	33.7	- 5.2	31.3	26.9	6.8	8.6	5.6	75	37.3	31.1	0.000	0.8	wP		
29	...	29.754	34.8	32.9	1.9	33.4	- 5.6	30.6	25.3	8.1	10.4	6.9	71	36.0	30.3	0.000	0.0	wP : mP : mP		
30	...	29.818	34.2	32.2	2.0	33.5	- 5.4	31.3	27.2	6.3	9.3	2.5	77	37.0	30.6	0.007	0.0	mP : wP : wP		
31	...	29.731	37.1	33.6	3.5	35.2	- 3.5	33.5	30.8	4.4	5.2	2.8	84	38.3	31.5	0.000	0.0	wP : mP : mP		
Means	...	29.595	46.1	37.2	8.9	42.0	+ 2.1	40.0	37.4	4.6	7.6	2.4	84.3	58.0	31.6	Sum 2.733	1.6	...		
Number of Columns 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 values given in Columns 3, 4, 5, 14, and 15 are derived from eye-readings of self-registering thermometers.

* Rainfall (Column 16). Amounts entered on December 1, 6, 15, and 16, and two-thirds of that on December 18 are derived from dew, frost or fog.

The mean reading of the Barometer for the month was 29ⁱⁿ.595, being 0ⁱⁿ.190 lower than the average for the 65 years, 1841-1905.

TEMPERATURE OF THE AIR.

The highest in the month was 56.7 on December 8; the lowest in the month was 28.1 on December 16; and the range was 28.6. The mean of all the highest daily readings in the month was 46.1, being 1.9 higher than the average for the 65 years, 1841-1905. The mean of all the lowest daily readings in the month was 37.2, being 2.2 higher than the average for the 65 years, 1841-1905. The mean of the daily ranges was 8.9, being 0.3 less than the average for the 65 years, 1841-1905. The mean for the month was 42.0, being 2.1 higher than the average for the 65 years, 1841-1905.

MONTH and DAY, 1907.	Daily Duration of Sunshine.		WIND AS DEDUCED FROM SELF-REGISTERING ANEMOMETERS.					CLOUDS AND WEATHER.	
	Sun above Horizon.	hours.	OSLER'S.		ROBIN- SON'S.		A.M. P.M.		
			General Direction.		Pressure on the Square Foot.				
			A.M.	P.M.	Greatest.	Mean of 24 Hourly Measures.			Horizontal Movement of the Air.
Dec. 1	0.1	8.1	ESE	ESE : SE : Calm	4.4	0.22	256	p.-cl, d : 9 : 9, ci, ci-s, s	9, s : 9 : 10
2	1.7	8.1	Variable	SSW : S	6.0	0.14	259	9, m : 10, slt.-m : p.-cl	9 : 10, oc.-slt.-r : 10, oc.-slt.-r, w
3	1.1	8.1	S : SSW : WSW	W : SW	5.9	0.42	427	9, shs.-r, w : 10 : 9, cu.-s, s, se	p.-cl : 0, l : p.-cl, l, ho.-fr
4	0.0	8.1	WSW : SW : SSW	SSW : SW	6.3	0.42	421	0, ho.-fr : p.-cl : 10, oc.-slt.-r	10, sc, w : 10, slt.-r : 9
5	3.2	8.0	SSW : WSW	W : SW : WSW	11.5	0.56	474	p.-cl, w : p.-cl, shs.-r, w : 6, ci.-s, s	4, li.-sc : 0 : p.-cl
6	4.2	8.0	WSW	W : WSW : SSW	0.2	0.00	229	0, ho.-fr : 0, ho.-fr : 0	0 : 0, ho.-fr
7	5.3	8.0	SSW : SW : WSW	WSW : SW : S	3.3	0.09	302	p.-cl : p.-cl, shs.-r : 2, ci.-s	4, li.-cl, s : 10, s, r : 10, c.-r
8	1.0	7.9	SW : WSW	WSW	8.7	1.28	629	10, oc.-r : 10, oc.-slt.-r : 9, oc.-shs, w	v, sh.-r : th.-cl, w : th.-cl, w
9	4.5	7.9	WSW	WSW : SW	8.3	1.53	647	p.-cl, w : p.-cl : 7, li.-sc, cu, n, w	5, sc, s, w : p.-cl, li.-shs : 9, shs.-r, w
10	5.0	7.9	SW : WSW	WSW	7.5	1.05	569	p.-cl, fq.-shs : 1, li.-cl	p.-cl, w : li.-cl, w : li.-cl
11	2.5	7.9	SW : WSW	WSW : SSW : S	2.8	0.25	384	0 : th.-cl : 8, ci, ci.-s	6, ci, ci.-s : 2 : 9
12	0.1	7.9	SE : S	Variable : N : NNW	2.2	0.07	250	10, shs.-r : 10, oc.-shs : 9, u, oc.-slt.-r	10, fq.-r, hl : 10, c.-r : 10, oc.-r
13	3.6	7.8	W : WSW	SW : SSW : W	9.4	0.57	448	10 : 10 : 1, ci.-s	p.-cl, s, slt.-r : 10, c.-r, w : 9, oc.-r, st.-w
14	0.0	7.8	W : NW	NW : NNW : N	22.7	2.22	771	p.-cl, w : 10, w : 10, sc, oc.-r, g	10, sc, st.-w, r : p.-cl, w : 1
15	0.0	7.8	NNW : N : W	Variable : Calm	1.7	0.05	177	0, ho.-fr : 0, slt.-m, ho.-fr : 0, slt.-f	s, f : f, ho.-fr : f, ho.-fr
16	2.6	7.8	Calm : SE : SSE	S	1.3	0.02	174	f, ho.-fr : p.-cl, f, ho.-fr : 6	6, ci, ci.-s : p.-cl, d : 10
17	3.2	7.8	S : SE	SE	0.5	0.00	148	p.-cl : 1, ho.-fr : 7, ci, ci.-s	5, ci, ci.-s, so.-ha : 3, ci, ci.-s, lu.-ha : 2, lu.-ha, ho.-fr
18	0.0	7.8	S : SSW : SW	SW	2.3	0.08	292	p.-cl, ho.-fr : p.-cl, ho.-fr : 10	10, slt.-sh : 10, slt.-sh : 10
19	0.0	7.8	SW	WSW : SW : SSW	2.4	0.22	387	10, th.-r : 10, oc.-th.-r : 10, oc.-th.-r	10 : 10 : 9, slt.-m
20	3.4	7.8	SW : SSW	SW : S : SSW	3.6	0.22	347	9, oc.-th.-r : 10 : 7, ci.-s, cu.-s	p.-cl, li.-shs : 9 : 9
21	1.0	7.8	SW : WSW	W : WSW	5.5	0.59	487	9 : p.-cl : p.-cl	10, n, li.-shs, w : 10 : 9
22	2.7	7.8	SW	SW : SSW	2.2	0.11	313	p.-cl : 9 : 10	p.-cl : p.-cl : 10, r
23	0.0	7.8	SSW : SW	NNE : E : NE	0.4	0.00	185	10, r : 10, r : 10, glm, slt.-sh	10, slt.-sh : 9 : p.-cl, f
24	0.6	7.8	NE : E	E : ESE	1.8	0.06	198	10, f : f : 10, f	p.-cl, f : 10 : 10, m
25	1.2	7.8	ESE	ESE	6.5	0.64	405	9 : 9 : 9, cu, n, w	p.-cl, li.-cl, w : li.-cl : 9
26	0.2	7.8	E : ESE	ESE	3.8	0.28	336	10 : 9 : 9	10 : 10
27	0.1	7.8	ESE : SE	ESE	4.5	0.35	335	10 : 10	10 : 10
28	0.0	7.8	E	E : ENE	6.4	0.84	526	10, w : 10	10 : 10 : 9
29	0.0	7.8	NE	NE : ENE	1.7	0.10	392	10 : 10 : 10, slt.-sn	10, slt.-sn : 10 : 10
30	0.0	7.8	NE : ENE : E	ESE : E	3.2	0.06	300	10 : 10	10, slt.-sn : 10 : 10
31	0.0	7.8	E : ENE	E : ENE : NE	3.2	0.17	382	10 : 10	10 : 10 : 10, slt.-sn, sl
Means	1.5	7.9	...	...	...	0.41	369		
Number of Column for Reference.	19	20	21	22	23	24	25	26	27

The mean *Temperature of Evaporation* for the month was 40° 0, being 1° 5 higher than
 The mean *Temperature of the Dew Point* for the month was 37° 4, being 0° 7 higher than
 The mean *Degree of Humidity* for the month was 84.3, being 4.3 less than
 The mean *Elastic Force of Vapour* for the month was 0.1224, being 0.006 greater than
 The mean *Weight of Vapour in a Cubic Foot of Air* for the month was 2.6786, being the same as
 The mean *Weight of a Cubic Foot of Air* for the month was 547 grains, being 5 grains less than
 The mean amount of *Cloud* for the month (a clear sky being represented by 0, and an overcast sky by 10) was 7.7.
 The mean proportion of *Sunshine* for the month (constant sunshine being represented by 1) was 0.194. The maximum daily amount of *Sunshine* was 5.3 hours on December 7.
 The highest reading of the *Solar Radiation Thermometer* was 78° 0 on December 20; and the lowest reading of the *Terrestrial Radiation Thermometer* was 19° 0 on December 6.
 The mean daily distribution of *Ozone* for the 12 hours ending 9^h was 1.3; for the 6 hours ending 15^h was 0.2; and for the 6 hours ending 21^h was 0.1.
 The *Proportions of Wind* referred to the cardinal points were N. 2, E. 8, S. 10, and W. 10. One day was calm.
 The *Greatest Pressure of the Wind* in the month was 22.7 lbs. on the square foot on December 14. The mean daily *Horizontal Movement of the Air* for the month was 369 miles; the greatest daily value was 771 miles on December 14; and the least daily value was 148 miles on December 17.
Rain (0.1005 or over) fell on 15 days in the month, amounting to 2.1733, as measured by gauge No. 6 partly sunk below the ground; being 0.1906 greater than the average fall for the 65 years, 1841-1905.

the average for the 65 years, 1841-1905.

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

MAXIMA.				MINIMA.				MAXIMA.				MINIMA.							
Greenwich Civil Time, 1907.		Reading.		Greenwich Civil Time, 1907.		Reading.		Greenwich Civil Time, 1907.		Reading.		Greenwich Civil Time, 1907.		Reading.					
	d	h	m	in.		d	h	m	in.		d	h	m	in.					
January	1.	10.	30	29'478	January	2.	8.	10	28'947	April	14.	22.	15	29'510	April	16.	15.	0	29'321
	2.	21.	25	29'184		3.	4.	20	28'978		20.	9.	20	30'038		21.	14.	55	29'758
	4.	23.	25	30'278		6.	1.	0	30'043		22.	22.	15	30'192		27.	3	10	29'641
	7.	10.	30	30'406		10.	6.	10	30'143		28.	11.	0	29'749		30.	14.	50	29'457
	11.	23.	30	30'538		12.	22.	10	30'294	May	1.	15.	30	29'684	May	2.	6.	50	29'219
	13.	10.	0	30'392		14.	15.	0	30'236		3.	10.	55	29'322		3.	23.	15	29'134
	18.	2.	25	30'599		22.	6.	40	30'175		5.	5.	10	29'681		7.	2.	10	29'453
	23.	9.	0	30'641		26.	2.	40	30'164		7.	23.	35	29'772		10.	16.	5	29'616
	26.	20.	0	30'348		30.	3.	15	29'303		11.	23.	20	29'705		12.	11.	20	29'591
February	2.	9.	55	30'380	February	4.	5.	0	30'032		13.	7.	55	29'754		14.	4.	0	29'620
	5.	18.	50	30'262		7.	14.	15	29'735		17.	21.	15	30'072		23.	15.	0	29'471
	8.	11.	0	29'856		9.	15.	0	29'591		25.	7.	10	29'881		25.	19.	10	29'802
	10.	8.	20	29'677		11.	5.	35	29'351		29.	21.	0	30'051					
	11.	19.	15	29'571		12.	17.	5	28'880	June	4.	8.	45	29'841	June	1.	4.	30	29'267
	14.	10.	10	30'051		16.	3.	20	29'770		8.	9.	0	29'797		6.	5.	10	29'497
	16.	21.	5	30'019		17.	12.	5	29'846		11.	11.	5	29'771		9.	19.	5	29'480
	18.	0.	15	29'991		18.	22.	55	29'636		14.	21.	10	29'887		12.	4.	50	29'502
	19.	6.	25	29'714		20.	2.	45	28'865		17.	5.	10	30'035		15.	17.	0	29'740
	28.	11.	0	30'426							19.	12.	50	29'888		18.	20.	5	29'731
March	7.	0.	0	30'205	March	6.	0.	5	29'852		21.	21.	5	29'798		21.	1.	45	29'500
	9.	11.	0	30'119		7.	22.	50	29'792		23.	22.	30	29'841		23.	3.	20	29'627
	12.	0.	30	30'350		10.	16.	35	29'689		25.	14.	5	29'628		25.	4.	10	29'464
	14.	20.	55	29'964		13.	23.	45	29'679		28.	22.	30	29'836		25.	20.	50	29'526
	17.	19.	20	29'621		17.	1.	0	29'266							30.	17.	25	29'684
	21.	9.	35	30'368		18.	6.	10	29'413	July	2.	9.	0	29'816	July	4.	6.	0	29'449
	23.	9.	25	30'259		22.	15.	35	30'163		6.	23.	0	29'826		8.	20.	0	29'680
	27.	6.	35	30'338		24.	17.	5	30'179		11.	9.	10	30'309		13.	17.	55	30'062
April	5.	11.	30	29'480	April	3.	10.	30	29'067		16.	9.	0	30'222		19.	18.	20	29'911
	10.	10.	5	29'667		7.	5.	35	29'112		20.	9.	0	30'000		23.	18.	0	29'727
						13.	3.	35	29'236		28.	10.	35	29'886		30.	4.	0	29'532

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

MAXIMA.		MINIMA.		MAXIMA.		MINIMA.	
Greenwich Civil Time, 1907.	Reading.	Greenwich Civil Time, 1907.	Reading.	Greenwich Civil Time, 1907.	Reading.	Greenwich Civil Time, 1907.	Reading.
d h m	in.	d h m	in.	d h m	in.	d h m	in.
August 2. 9. 0	29.975	August 5. 22. 35	29.618	October 19. 20. 45	29.589	October 20. 7. 5	29.408
7. 21. 25	29.968	10. 16. 10	29.575	22. 18. 35	29.842	26. 4. 0	29.580
11. 21. 45	29.949	12. 18. 0	29.851	27. 0. 10	29.682	30. 5. 0	28.980
13. 9. 0	29.980	15. 3. 10	29.451	November 1. 11. 10	29.840	November 3. 6. 35	29.391
16. 11. 55	29.784	17. 1. 55	29.583	6. 9. 15	30.040	8. 16. 0	29.600
17. 22. 0	29.792	18. 17. 45	29.643	10. 20. 30	29.942	12. 6. 20	29.632
22. 9. 0	30.193	23. 11. 50	29.820	12. 18. 5	29.726	13. 3. 5	29.470
24. 10. 20	29.986	25. 18. 0	29.863	15. 21. 50	30.150	17. 16. 30	29.992
26. 12. 0	29.950	29. 5. 30	29.773	18. 21. 0	30.191	20. 5. 25	30.039
30. 9. 35	29.991	31. 18. 20	29.779	21. 10. 5	30.212	23. 14. 40	29.511
September 1. 13. 10	29.950	September 2. 19. 20	29.388	24. 11. 10	29.643	25. 5. 40	29.250
4. 20. 10	29.865	5. 6. 10	29.666	25. 19. 5	29.376	26. 15. 0	28.963
9. 9. 10	30.300	13. 17. 10	29.871	30. 10. 25	30.291	December 3. 5. 40	29.184
15. 23. 10	30.273	17. 4. 15	30.140	December 4. 3. 25	29.367	5. 5. 30	28.767
18. 10. 10	30.300	21. 16. 10	30.134	6. 20. 45	29.611	8. 14. 15	28.913
22. 10. 0	30.299	27. 6. 0	29.500	9. 15. 20	29.370	10. 3. 25	29.188
28. 21. 0	29.684	October 1. 19. 0	29.297	11. 21. 5	29.451	12. 15. 30	29.126
October 2. 20. 0	29.433	3. 15. 5	29.318	13. 9. 0	29.317	13. 21. 50	28.590
5. 9. 25	29.938	7. 5. 50	29.227	17. 10. 15	30.185	21. 7. 55	29.559
7. 22. 5	29.419	8. 8. 25	29.322	24. 10. 35	30.189	28. 5. 5	29.412
12. 9. 30	29.925	14. 18. 40	29.013	29. 20. 50	29.853	31. 15. 0	29.681
16. 1. 0	29.279	17. 1. 0	28.928				

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 1907.

[Extracted from the preceding Table.]

MONTH, 1907.	Readings of the Barometer.		Range.
	Highest.	Lowest.	
	in.	in.	in.
January	30·641	28·947	1·694
February.....	30·426	28·865	1·561
March	30·368	29·266	1·102
April	30·192	29·067	1·125
May	30·072	29·134	0·938
June.....	30·035	29·267	0·768
July	30·309	29·449	0·860
August.....	30·193	29·451	0·742
September	30·300	29·388	0·912
October.....	29·938	28·928	1·010
November.....	30·291	28·963	1·328
December	30·189	28·590	1·599

The highest reading in the year was 30ⁱⁿ·641 on January 23.The lowest reading in the year was 28ⁱⁿ·590 on December 13.The range of reading in the year was 2ⁱⁿ·051.

MONTHLY RESULTS of METEOROLOGICAL ELEMENTS for the YEAR 1907.

MONTH, 1907.	Mean Reading of the Barometer.	TEMPERATURE OF THE AIR.								Mean Temperature of Evaporation.	Mean Temperature of the Dew Point.	Mean Degree of Humidity. (Saturation = 100.)
		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.			
January	in. 30·146	51·0	22·4	28·6	42·7	33·8	8·9	38·8	+ 0·2	36·6	33·1	80·3
February ...	29·843	51·4	23·5	27·9	42·8	32·3	10·5	37·8	- 1·7	35·5	31·6	78·1
March	30·006	69·4	24·1	45·3	53·6	34·3	19·4	44·3	+ 2·4	40·5	36·1	73·8
April	29·605	72·0	29·1	42·9	56·0	38·8	17·2	46·5	- 0·8	43·1	39·4	77·1
May	29·699	81·5	33·5	48·0	62·3	44·6	17·8	52·6	- 0·5	48·5	44·4	74·2
June	29·701	75·7	43·1	32·6	66·2	49·3	16·9	56·5	- 2·9	52·1	48·0	73·6
July	29·867	79·0	42·8	36·2	69·8	50·3	19·5	58·6	- 4·0	54·1	50·0	73·5
August	29·830	79·0	44·1	34·9	71·2	52·0	19·2	60·5	- 1·1	56·0	52·0	73·8
September...	29·947	82·7	34·5	48·2	69·5	48·0	21·5	57·9	+ 0·6	54·1	50·7	77·5
October	29·486	68·0	35·6	32·4	58·7	43·5	15·1	51·4	+ 1·4	49·2	47·0	85·4
November...	29·800	60·3	29·1	31·2	50·8	38·9	11·9	45·3	+ 1·8	43·9	42·2	89·3
December...	29·595	56·7	28·1	28·6	46·1	37·2	8·9	42·0	+ 2·1	40·0	37·4	84·3
Means	29·794	Highest. 82·7	Lowest. 22·4	Annual Range. 60·3	57·5	41·9	15·6	49·4	- 0·2	46·1	42·7	78·4

MONTH, 1907.	Mean Elastic Force of Vapour.	Mean Weight of Vapour in a Cubic Foot of Air.	Mean Weight of a Cubic Foot of Air.	Mean Amount of Ozone.	Mean Amount of Cloud. (0-10.)	RAIN.		WIND.										From Robin- son's Anemo- meter. Mean Daily Horizontal Movement of the Air.
						Number of Rainy Days.	Amount collected in Gauge No. 6, whose receiving Surface is 5 inches above the Ground.	From Osler's Anemometer.								Number of Calm or nearly Calm Hours.	Mean Daily Pressure on the Square Foot.	
								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.			
January	in. 0·188	grs. 2·2	grs. 560	0·7	7·2	10	in. 1·087	h 73	h 42	h 74	h 20	h 15	h 248	h 155	h 88	h 29	lbs. 0·50	miles. 341
February ...	0·178	2·1	556	2·0	7·1	14	1·274	132	74	19	28	88	118	88	90	35	0·45	318
March	0·213	2·5	552	1·9	4·7	10	0·905	60	34	64	22	64	175	137	69	119	0·48	322
April	0·241	2·8	542	1·3	7·4	16	3·139	111	82	80	40	67	137	88	60	55	0·21	252
May	0·293	3·3	537	3·4	7·4	18	1·474	129	97	102	70	110	108	45	24	59	0·32	267
June	0·335	3·8	532	7·8	7·9	15	2·647	5	19	11	11	68	398	167	23	18	0·40	354
July	0·361	4·1	533	3·8	7·2	13	0·969	84	95	72	29	39	198	91	61	75	...	233
August	0·388	4·4	530	3·4	7·2	13	1·915	31	25	7	9	22	254	300	66	30	0·21	296
September...	0·370	4·1	535	2·3	5·3	6	0·623	59	102	155	95	39	74	62	14	120	0·06	172
October	0·323	3·6	534	4·5	7·3	24	3·252	45	28	66	101	167	236	45	11	45	0·21	240
November...	0·269	3·1	546	0·7	7·4	9	2·232	83	87	72	67	73	167	78	19	74	0·14	230
December...	0·224	2·6	547	1·6	7·7	15	2·733	18	54	117	83	94	238	103	17	20	0·41	369
Sums .....	...	...	...	...	...	163	22·250	830	739	839	575	846	2351	1359	542	679	...	...
Means	0·282	3·2	542	2·8	7·0	...	...	...	...	...	...	...	...	...	...	...	...	283

The greatest recorded pressure of the wind on the square foot in the year was 23·0 lbs. on March 19.
 The greatest recorded daily horizontal movement of the air in the year was 936 miles on February 20.
 The least recorded daily horizontal movement of the air in the year was 52 miles on September 12.

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

Table with columns for Hour, Greenwich Civil Time, 1907 (January-December), and Yearly Means. Rows include hourly barometer readings from Midnight to 24h, and summary rows for means and days employed.

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

Table with columns for Hour, Greenwich Civil Time, 1907 (January-December), and Yearly Means. Rows include hourly air temperature readings from Midnight to 24h, and summary rows for means and days employed.

HUMIDITY, SUNSHINE, AND READINGS OF THERMOMETERS IN A STEVENSON'S SCREEN AND ON THE ROOF OF THE MAGNET HOUSE,

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.

Table with 14 columns: Hour, Greenwich Civil Time.; 1907. (January-December); Yearly Means. Rows include hourly humidity values from Midnight to 24h, and monthly means for 0h-23h and 1h-24h.

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 1907.

Table with 20 columns: Month, 1907.; Registered Duration of Sunshine in the Hour ending (5h-20h); Total registered Duration of Sunshine in each Month; Corresponding aggregate Period during which the Sun was above the Horizon; Proportion of Sunshine; Mean Altitude of the Sun at Noon. Rows include monthly sunshine data for January-December and a summary for the year.

The hours are reckoned from apparent midnight.

READINGS OF DRY-BULB THERMOMETERS IN A STEVENSON'S SCREEN AND ON THE ROOF OF THE MAGNET HOUSE—continued.

FEBRUARY.

Table with columns for 'Days of the Month', 'Readings of Thermometers in a Stevenson's Screen, 4 ft. above the ground.', 'Excess above readings of the Thermometers on the ordinary stand, 4 ft. above the ground.', 'Days of the Month', 'Readings of Thermometers on the Roof of the Magnet House, 20 ft. above the ground.', and 'Excess above readings of the Thermometers on the ordinary stand, 4 ft. above the ground.' Rows include days 1-28 and a 'Means' row.

READINGS of DRY-BULB THERMOMETERS in a STEVENSON'S SCREEN and on the ROOF of the MAGNET HOUSE—*continued.*

AUGUST.

Table with columns for Days of the Month, Readings of Thermometers in a Stevenson's Screen, Excess above readings of the Thermometers on the ordinary stand, Readings of Thermometers on the Roof of the Magnet House, and Excess above readings of the Thermometers on the ordinary stand. Rows include days 1-31 and a Means row.

READINGS of DRY-BULB THERMOMETERS in a STEVENSON'S SCREEN and on the ROOF of the MAGNET HOUSE—continued.

OCTOBER.

Table with columns for Days of the Month, Readings of Thermometers in a Stevenson's Screen, Excess above readings of the Thermometers on the ordinary stand, Readings of Thermometers on the Roof of the Magnet House, and Excess above readings of the Thermometers on the ordinary stand. Rows include days 1-31 and Means.

READINGS of the WET-BULB THERMOMETER in a STEVENSON'S SCREEN in the OBSERVATORY GROUNDS—continued.

Table with columns for Days of the Month, Readings of the Wet-Bulb Thermometer in a Stevenson's Screen, 4 ft. above the ground (9h, Noon, 15h, 21h), Excess above readings of the Thermometer on the ordinary stand, 4 ft. above the ground (9h, Noon, 15h, 21h), and Days of the Month. Rows are organized by month: MAY, JUNE, JULY, and AUGUST, with a 'Means' row at the bottom of each month's data.

READINGS of THERMOMETERS placed in a STEVENSON'S SCREEN near the ORDINARY STAND in the MAGNETIC PAVILION ENCLOSURE; and EXCESS of the READINGS above those of the corresponding THERMOMETERS on the ORDINARY STAND, in the YEAR 1907.

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

[Observations of the maximum and minimum thermometers only have been made on Sundays, Good Friday, Christmas Day and Public Holidays]

JANUARY.

Table with columns for Days of the Month, Readings of Dry-Bulb Thermometers in a Stevenson's Screen, Excess above readings of Thermometers on the ordinary stand, Readings of the Wet-Bulb Thermometer in a Stevenson's Screen, and Excess above readings of the Thermometer on the ordinary stand. Rows represent days 1 through 31, plus a Means row.

READINGS OF THERMOMETERS in a STEVENSON'S SCREEN in the MAGNETIC PAVILION ENCLOSURE—continued.

MAY.

Days of the Month.	Readings of Dry-Bulb Thermometers in a Stevenson's Screen, 4 ft. above the ground.						Excess above readings of Thermometers on the ordinary stand, 4 ft. above the ground.						Readings of the Wet-Bulb Thermometer in a Stevenson's Screen, 4 ft. above the ground.				Excess above readings of the Thermometer on the ordinary stand, 4 ft. above the ground.			
	Maxi-mum.	Mini-mum.	9 ^h	Noon.	15 ^h	21 ^h	Maxi-mum.	Mini-mum.	9 ^h	Noon.	15 ^h	21 ^h	9 ^h	Noon.	15 ^h	21 ^h	9 ^h	Noon.	15 ^h	21 ^h
a	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
1	50.9	40.1	40.5	44.6	47.1	42.6	-1.1	0.0	-0.1	0.0	0.0	+0.8	38.4	40.9	41.3	37.4	-0.2	+0.3	+0.3	+1.2
2	54.5	42.1	51.4	52.8	51.0	46.1	0.0	+0.4	-0.2	+0.2	-0.5	+0.1	46.3	46.8	44.6	41.0	+0.4	+0.9	-0.4	+0.3
3	54.3	42.3	50.2	54.2	51.8	52.5	-1.8	0.0	-0.4	-0.2	-0.4	-0.1	43.9	47.0	47.4	51.0	-0.4	+0.9	+0.7	+0.3
4	58.1	42.7	49.2	53.3	57.7	46.2	-2.3	-0.2	0.0	-0.8	-0.7	+0.6	44.0	46.0	48.0	43.6	-0.1	-0.6	+0.3	+0.7
5	57.6	38.1	...	...	...	...	-1.2	+0.8	...	...	...	...	...	...	...	...	...	...	...	...
6	68.0	47.1	61.5	66.7	67.0	57.3	-1.3	+1.0	-0.3	-0.5	-0.4	+0.2	56.2	59.7	58.8	56.2	-0.5	0.0	-0.2	+0.9
7	57.8	48.0	55.0	49.8	48.0	49.7	0.0	-0.1	-0.1	+0.2	-0.5	+0.3	50.5	49.1	45.2	47.0	+0.6	+0.4	+0.1	+0.3
8	64.2	45.1	61.0	61.5	54.8	49.6	-2.7	+0.9	-0.1	-0.8	-1.4	+0.6	53.2	54.3	51.6	47.2	+0.2	-0.1	-0.9	+0.7
9	61.6	45.5	53.6	54.0	61.1	52.5	-1.4	+1.0	-0.7	-0.7	-1.2	+0.9	50.9	50.0	52.5	49.2	+0.3	-0.9	-0.7	+0.4
10	72.0	49.7	64.0	70.8	70.4	57.8	-2.1	+1.1	-0.6	-1.0	-0.7	+0.4	55.5	59.2	58.8	55.0	-0.4	-1.1	-0.6	+0.6
11	76.8	53.1	71.5	76.0	73.9	62.2	-1.2	+1.0	-0.6	-0.4	-0.3	-0.4	60.0	60.1	61.0	57.7	-0.8	-0.8	-0.7	0.0
12	79.7	58.3	...	...	...	...	-1.8	+1.0	...	...	...	...	...	...	...	...	...	...	...	...
13	64.6	55.0	56.4	61.9	62.9	57.1	+1.4	+0.4	-0.7	-0.6	-0.1	+0.1	55.0	57.6	58.1	56.0	0.0	-0.4	0.0	+0.3
14	57.2	49.1	50.2	50.0	54.0	51.0	0.0	-0.1	-0.2	0.0	-0.3	-0.2	49.2	47.8	50.4	48.0	-0.1	0.0	-0.1	+0.2
15	60.1	44.1	56.7	57.8	57.4	51.7	-1.7	+0.9	-0.2	-0.1	+0.1	+0.1	50.4	50.3	51.3	49.1	-0.4	-0.2	+0.1	0.0
16	57.6	47.5	49.5	54.4	55.2	49.1	-0.9	+0.2	-0.4	-1.1	-0.4	0.0	45.3	48.0	49.0	45.4	+0.1	-0.7	+0.2	+0.3
17	55.0	44.2	48.2	51.9	51.4	45.2	-1.9	+0.1	-1.4	-0.2	-0.2	+0.1	42.0	43.2	43.0	40.4	-0.7	+0.2	+0.3	-0.1
18	51.6	38.4	46.1	47.7	51.0	42.6	-1.4	+0.3	-0.3	-1.1	-0.6	+0.6	40.4	43.0	44.1	38.7	-0.3	-0.7	+0.4	+0.6
19	50.3	37.1	...	...	...	...	-2.3	+0.2	...	...	...	...	...	...	...	...	...	...	...	...
20	51.8	34.4	...	...	...	...	-2.8	+0.9	...	...	...	...	...	...	...	...	...	...	...	...
21	52.8	38.0	48.7	51.8	49.2	42.2	-1.2	+0.7	+0.1	-0.6	-1.7	+0.3	43.6	44.6	43.8	40.3	+0.6	-0.7	-1.4	+0.2
22	59.0	42.1	51.6	52.3	59.0	53.9	-3.0	+0.5	-0.8	+0.1	-0.1	+0.2	46.5	48.0	52.1	49.9	-0.8	+0.3	+0.1	+0.2
23	69.5	50.1	58.8	67.4	68.0	56.9	-2.7	+0.2	-1.0	-0.1	+0.1	+0.4	57.0	60.8	60.4	55.0	-0.8	-0.3	+0.1	+0.3
24	66.1	52.1	58.9	61.9	64.3	54.2	-2.9	+1.1	-1.1	-0.6	-0.9	+0.3	57.8	58.0	57.9	50.0	-0.6	-0.6	+0.2	+0.5
25	69.6	42.2	60.0	68.2	66.5	59.5	-1.4	+1.3	-0.6	-0.3	+0.1	+0.2	54.8	57.3	57.6	52.9	-0.6	-0.3	+0.3	+0.3
26	59.7	53.2	...	...	...	...	-2.3	+0.2	...	...	...	...	...	...	...	...	...	...	...	...
27	67.7	49.6	57.7	60.0	65.3	53.6	-2.1	+0.6	0.0	-0.1	-0.2	+0.8	54.2	56.3	58.0	52.8	-0.5	-0.1	+0.2	+0.5
28	56.6	47.3	55.9	54.5	50.9	47.3	-0.8	+0.3	-0.1	-0.6	+0.2	0.0	53.7	51.6	48.7	43.4	+0.2	-0.3	0.0	+0.3
29	54.3	41.5	50.0	52.1	52.8	46.0	-1.6	+0.4	-0.3	+0.2	-0.5	0.0	44.0	44.9	46.0	42.7	-0.4	+0.3	-0.3	+0.4
30	58.4	42.6	51.2	53.1	58.0	50.2	-1.9	+0.3	-0.9	-0.8	-0.8	-0.3	46.3	47.7	50.0	49.2	-0.9	-0.5	-0.7	-0.3
31	65.2	50.1	56.9	64.1	64.1	55.1	-2.1	+0.2	-0.4	-1.2	-0.3	0.0	54.9	59.6	58.3	54.7	0.0	-0.8	-0.2	0.0
Means	60.7	45.5	54.4	57.4	58.2	51.2	-1.6	+0.5	-0.4	-0.4	-0.4	+0.2	49.8	51.2	51.5	48.2	-0.2	-0.2	-0.1	+0.3

READINGS of THERMOMETERS in a STEVENSON'S SCREEN in the MAGNETIC PAVILION ENCLOSURE—continued.

JUNE.

Days of the Month.	Readings of Dry-Bulb Thermometers in a Stevenson's Screen, 4 ft. above the ground.						Excess above readings of Thermometers on the ordinary stand, 4 ft. above the ground.						Readings of the Wet-Bulb Thermometer in a Stevenson's Screen, 4 ft. above the ground.				Excess above readings of the Thermometer on the ordinary stand, 4 ft. above the ground.			
	Maxi-mum.	Mini-mum.	9 ^h	Noon.	15 ^h	21 ^h	Maxi-mum.	Mini-mum.	9 ^h	Noon.	15 ^h	21 ^h	9 ^h	Noon.	15 ^h	21 ^h	9 ^h	Noon.	15 ^h	21 ^h
1	63.9	52.1	55.0	61.0	58.7	54.9	-3.0	+0.1	+0.1	-0.6	+0.1	+0.2	54.3	56.8	55.0	54.0	-0.3	0.0	-0.2	-0.3
2	57.4	51.6	...	...	...	...	-1.1	0.0	...	...	...	...	...	...	...	...	...	...	...	...
3	54.2	45.8	50.0	52.1	53.3	53.0	-0.1	+0.6	0.0	-0.3	-0.1	+0.1	43.2	44.8	47.3	48.3	0.0	+0.1	+0.1	+0.3
4	60.6	49.6	55.8	60.2	58.9	53.0	-3.5	+0.2	-1.0	-0.6	-1.0	-0.1	50.8	52.1	52.9	52.1	-0.1	-0.2	-0.8	-0.1
5	65.6	52.7	56.3	57.0	64.0	53.0	-3.2	+0.5	-0.3	-0.7	-0.6	+0.4	54.4	54.7	57.0	51.0	0.0	-0.8	-0.1	+0.3
6	58.8	50.4	55.3	56.0	51.3	50.7	-2.2	+0.1	-1.3	-1.2	-0.6	+0.4	51.0	51.4	46.5	47.4	-0.8	-1.0	-0.4	+0.4
7	66.2	46.6	56.7	62.7	60.8	55.8	-2.8	+0.5	-0.9	-0.7	+0.2	+0.2	51.8	55.6	55.1	52.7	-0.4	+0.1	-0.5	0.0
8	67.6	53.1	59.6	64.9	67.2	56.0	-1.9	+0.2	-0.6	-1.1	-2.1	+0.4	54.6	57.2	57.9	53.8	-0.2	-1.5	-1.7	+0.1
9	74.4	50.5	...	...	...	...	-1.3	+1.0	...	...	...	...	...	...	...	...	...	...	...	...
10	65.7	54.1	63.0	64.5	64.6	55.1	-2.4	+0.9	-0.8	-1.2	-1.0	+0.5	55.7	56.8	57.0	51.5	-0.9	-0.9	-0.7	0.0
11	65.7	51.1	60.1	62.6	65.0	57.5	-2.3	+0.9	-0.6	-1.3	-1.0	+0.1	53.1	54.5	55.0	53.0	-0.4	-1.0	-1.1	+0.1
12	64.4	54.3	61.0	63.5	63.1	54.3	-2.4	+0.2	-0.7	-1.4	-1.4	+0.1	54.0	54.2	54.2	50.8	-0.6	-1.2	-1.1	+0.1
13	65.6	52.1	57.8	61.5	60.9	56.0	-2.4	+0.4	-1.1	-1.6	-0.7	+0.4	53.2	57.1	55.1	51.2	-0.7	-0.9	-0.6	-0.1
14	66.4	47.7	55.2	59.0	63.8	58.0	-1.3	+0.6	-0.5	-0.7	0.0	0.0	53.0	56.0	59.0	55.0	-0.4	-0.7	-0.1	+0.2
15	60.4	54.2	59.9	56.5	56.7	54.6	-0.8	+0.5	+0.1	-0.2	-0.4	0.0	56.8	55.1	54.6	51.2	+0.1	-0.1	-0.3	-0.2
16	62.8	48.1	...	...	...	...	-1.6	+0.7	...	...	...	...	...	...	...	...	...	...	...	...
17	64.6	44.1	55.2	61.7	62.1	54.4	-2.9	+1.0	-0.4	-1.8	-0.5	+1.3	48.7	51.9	52.3	50.0	-0.1	-1.3	+0.2	+0.4
18	62.1	50.0	59.0	58.9	60.5	55.0	-3.4	+0.9	-1.3	-0.7	-1.1	+0.2	51.0	51.9	53.2	53.8	-0.8	-0.7	-0.8	-0.1
19	65.2	48.5	57.8	61.1	63.2	57.1	-1.8	+0.4	-0.5	-0.4	-1.1	+0.7	50.0	52.7	53.4	51.6	+0.1	0.0	-1.0	+0.5
20	67.7	50.1	56.7	66.2	66.1	56.9	-2.6	+0.5	-0.2	-1.7	-1.2	+0.3	54.0	58.5	56.8	50.9	+0.2	-1.2	-1.0	+0.2
21	65.8	51.5	58.5	61.0	64.9	56.8	-3.0	+0.3	-1.2	-1.0	-0.4	+0.2	50.0	51.9	53.0	52.5	-0.7	-0.7	-0.2	+0.1
22	66.1	51.6	56.5	64.7	66.1	52.9	-2.4	+0.7	-0.7	-2.0	-0.9	+0.3	53.6	55.7	53.0	49.0	-0.4	-1.2	+0.3	+0.2
23	63.6	50.1	...	...	...	...	-2.2	+0.8	...	...	...	...	...	...	...	...	...	...	...	...
24	61.1	48.8	53.9	57.7	58.0	48.8	-1.1	+0.2	-0.5	-1.0	-1.3	-0.1	52.1	55.0	55.4	47.0	-0.6	-0.7	-1.0	+0.1
25	58.6	48.1	55.8	57.8	54.3	55.4	-1.6	+0.2	-1.1	-0.3	-1.3	-0.2	48.2	50.4	52.2	53.7	-0.3	-0.3	-1.0	0.0
26	68.6	54.1	56.3	63.1	66.5	58.2	-2.4	+0.8	-0.4	-1.5	-0.3	-0.1	52.3	56.2	59.0	55.8	-0.4	-1.3	-0.7	+0.1
27	68.1	56.3	59.1	65.7	66.0	59.7	-2.1	+0.2	-0.8	-1.4	-1.1	+0.1	56.9	60.0	59.2	58.0	-0.5	-0.7	-0.9	0.0
28	65.0	51.1	...	...	...	...	-3.0	+0.5	...	...	...	...	...	...	...	...	...	...	...	...
29	64.2	45.6	58.2	58.5	63.0	51.0	-1.3	+1.3	-0.9	-0.1	-1.6	0.0	53.2	52.5	52.7	50.4	-0.6	-0.1	-1.1	-0.1
30	61.6	47.0	...	...	...	...	-1.4	+1.0	...	...	...	...	...	...	...	...	...	...	...	...
Means	64.1	50.4	57.2	60.7	61.6	54.9	-2.1	+0.5	-0.7	-1.0	-0.8	+0.2	52.3	54.3	54.5	51.9	-0.4	-0.7	-0.6	+0.1

READINGS of THERMOMETERS in a STEVENSON'S SCREEN in the MAGNETIC PAVILION ENCLOSURE—*continued.*

JULY.

Days of the Month.	Readings of Dry-Bulb Thermometers in a Stevenson's Screen, 4 ft. above the ground.						Excess above readings of Thermometers on the ordinary stand, 4 ft. above the ground.						Readings of the Wet-Bulb Thermometer in a Stevenson's Screen, 4 ft. above the ground.				Excess above readings of the Thermometer on the ordinary stand, 4 ft. above the ground.			
	Maxim.	Minim.	9 ^h	Noon.	15 ^h	21 ^h	Maxim.	Minim.	9 ^h	Noon.	15 ^h	21 ^h	9 ^h	Noon.	15 ^h	21 ^h	9 ^h	Noon.	15 ^h	21 ^h
d	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
1	59·6	48·1	54·5	59·2	58·8	50·0	-1·4	+0·1	0·0	-0·4	-0·8	+1·2	48·8	50·0	50·9	48·0	0·0	-0·3	-0·3	+0·8
2	61·5	46·8	56·3	56·0	57·3	51·0	-2·3	+1·2	-0·6	-0·6	-0·2	+0·5	50·8	51·6	51·0	48·2	-0·4	-0·1	-0·3	+0·2
3	57·9	45·0	57·5	53·0	54·5	53·9	-2·6	+1·4	-1·3	-0·6	-0·6	+0·3	50·2	49·6	52·0	51·8	-1·4	-0·3	-0·5	+0·1
4	62·6	49·9	56·8	61·5	61·0	53·4	-2·5	+0·8	-0·6	-1·1	-1·2	+0·5	52·5	55·1	54·1	50·2	-0·5	-0·8	-1·2	+0·2
5	65·7	49·7	56·1	61·8	63·7	54·9	-2·3	+0·6	-0·5	-1·4	-0·4	+0·3	54·0	54·7	54·5	52·0	0·0	-0·6	-0·5	+0·3
6	65·6	49·1	59·0	65·1	62·1	55·0	-2·8	+0·6	-0·9	-3·3	-0·7	+0·3	52·2	53·9	52·5	49·0	-0·5	-2·7	-0·5	+0·2
7	64·7	49·6	...	...	...	...	-2·4	+0·5	...	...	...	...	...	...	...	...	...	...	...	...
8	61·6	48·1	58·0	60·0	57·7	55·3	-2·9	+0·7	-0·7	-0·6	-0·4	0·0	52·0	52·2	52·0	53·5	-0·5	-0·7	-0·6	0·0
9	65·1	53·3	60·9	60·9	61·9	53·3	-2·1	+0·2	-0·7	-0·7	-1·5	+0·2	54·4	54·9	54·8	51·2	-0·4	-0·6	-1·2	+0·1
10	63·5	48·9	58·3	52·3	50·8	50·9	-2·7	-0·2	-1·2	-1·0	+0·1	+0·2	54·0	51·0	47·0	49·0	-0·9	-0·5	+0·1	+0·2
11	66·6	44·1	55·7	62·1	64·4	56·5	-2·3	+1·3	-0·6	-1·4	-1·3	+0·4	50·1	52·7	54·3	52·5	-0·4	-1·2	-0·6	+0·3
12	68·0	45·9	59·5	64·5	64·7	55·3	-2·3	+1·3	-0·4	-0·9	-0·3	+0·7	51·0	54·0	54·1	51·8	0·0	-0·5	-0·1	+0·3
13	69·7	49·4	63·3	68·2	67·4	61·0	-2·9	+0·3	-1·3	-1·8	-0·6	+0·4	55·0	55·3	55·0	57·9	-0·2	-1·4	+0·2	+0·5
14	68·6	57·4	...	...	...	...	-3·4	+0·1	...	...	...	...	...	...	...	...	...	...	...	...
15	77·8	54·0	66·9	74·2	76·8	63·0	-0·7	+0·9	-1·0	-0·4	-0·2	+0·2	57·5	62·7	63·0	57·5	-0·9	-0·3	+0·2	+0·3
16	75·8	54·9	62·6	72·0	74·6	64·0	-1·2	+0·3	-0·7	-1·1	-0·6	+0·3	57·8	62·6	65·0	59·0	-0·3	-1·0	-0·4	+0·3
17	70·1	54·1	57·1	59·1	68·7	59·1	-2·0	0·0	0·0	-0·8	-0·9	+0·3	54·3	55·2	58·2	55·2	-0·3	-0·5	-0·5	+0·1
18	74·8	53·1	56·0	65·6	73·4	59·2	-0·9	+0·5	-0·6	-0·9	-0·7	+0·5	52·8	57·8	61·2	56·2	-0·1	+0·1	+0·3	+0·2
19	76·9	49·1	56·8	71·0	76·9	59·1	-2·1	+0·4	-1·8	-0·5	-1·4	+1·2	54·2	61·0	64·0	57·1	-1·5	-0·7	-0·8	+0·6
20	71·8	51·8	64·3	69·1	71·3	58·2	-1·5	+0·9	+0·1	-0·4	-0·6	0·0	58·0	61·1	63·5	55·0	-0·7	-0·3	-0·4	0·0
21	69·2	54·1	...	...	...	...	-1·8	0·0	...	...	...	...	...	...	...	...	...	...	...	...
22	69·2	56·6	57·8	66·8	67·3	57·6	-1·4	+1·0	-0·4	-0·9	-0·1	-0·1	57·2	60·9	60·2	57·4	-0·3	-1·5	-0·8	0·0
23	62·6	50·1	52·0	56·9	60·4	56·9	-1·9	+0·1	-0·6	-0·4	0·0	+0·9	50·0	53·5	56·0	55·0	-0·7	-0·1	0·0	+0·2
24	66·2	46·6	59·2	64·5	65·8	54·5	-1·8	+0·8	-0·4	-0·6	-0·9	+0·4	54·6	57·0	57·5	52·3	-0·9	-0·2	-1·1	+0·1
25	65·1	45·4	60·7	63·0	63·3	56·0	-1·4	+0·9	0·0	-1·6	-0·3	+0·2	53·7	55·3	55·5	53·8	-0·1	-1·0	+0·1	+0·1
26	71·5	52·2	63·9	65·8	70·8	62·1	-3·1	+0·4	-0·7	-0·8	-1·7	+0·4	56·2	59·9	62·0	59·1	-0·1	-0·4	-1·5	-0·1
27	72·8	60·5	60·7	67·2	70·8	62·9	-3·2	+0·4	-0·3	-1·1	-0·6	+0·5	59·4	60·9	61·2	56·8	-0·3	-0·6	-0·2	+0·4
28	68·4	59·2	...	...	...	...	-2·2	+0·9	...	...	...	...	...	...	...	...	...	...	...	...
29	73·6	57·8	64·0	71·8	70·7	57·8	-2·5	+0·2	-0·2	-0·8	-0·9	+0·1	58·0	59·2	59·6	56·2	-0·4	-0·8	-0·5	-0·4
30	66·8	56·0	62·1	63·9	60·1	56·0	-1·4	+0·9	-1·0	0·0	-0·4	+0·4	56·8	58·3	55·5	50·0	-0·6	0·0	-0·2	+0·6
31	63·8	49·1	56·7	60·6	62·0	56·0	-1·7	+0·7	-0·8	-0·4	-0·6	+0·8	50·3	52·0	52·3	49·5	-0·4	0·0	-0·1	+0·6
Means	67·6	51·3	59·1	63·6	65·1	56·8	-2·1	+0·6	-0·6	-0·9	-0·7	+0·4	53·9	56·0	56·6	53·5	-0·5	-0·6	-0·4	+0·2

READINGS of THERMOMETERS in a STEVENSON'S SCREEN in the MAGNETIC PAVILION ENCLOSURE—*continued.*

AUGUST.

Days of the Month.	Readings of Dry-Bulb Thermometers in a Stevenson's Screen, 4 ft. above the ground.						Excess above readings of Thermometers on the ordinary stand, 4 ft. above the ground.						Readings of the Wet-Bulb Thermometer in a Stevenson's Screen, 4 ft. above the ground.				Excess above readings of the Thermometer on the ordinary stand, 4 ft. above the ground.			
	Maxi-mum.	Mini-mum.	9 ^h	Noon.	15 ^h	21 ^h	Maxi-mum.	Mini-mum.	9 ^h	Noon.	15 ^h	21 ^h	9 ^h	Noon.	15 ^h	21 ^h	9 ^h	Noon.	15 ^h	21 ^h
d	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
1	63.5	46.6	58.5	59.9	61.7	56.2	-1.7	+0.8	-0.5	-0.3	-0.1	+0.6	51.6	51.3	52.1	52.0	0.0	-0.1	+0.1	+0.6
2	73.4	45.3	62.1	70.7	69.0	58.4	-3.1	+1.2	-0.7	-0.7	-1.2	0.0	53.1	58.3	58.0	53.3	-0.6	-0.3	-0.7	+0.2
3	73.3	52.1	60.1	64.6	72.7	63.0	-2.6	0.0	-0.5	-0.5	-1.6	+0.4	59.3	62.5	66.0	61.2	-0.4	-0.4	-1.4	0.0
4	77.3	61.0	...	...	...	...	-1.7	+0.9	...	...	...	...	...	...	...	...	...	...	...	...
5	73.8	53.3	...	...	...	...	-2.2	+1.2	...	...	...	...	...	...	...	...	...	...	...	...
6	69.8	54.2	63.6	67.6	57.4	55.1	-2.2	+0.1	-0.4	-1.5	-0.2	+0.4	55.1	56.4	53.2	52.5	-0.5	-1.0	+0.5	+0.2
7	64.8	50.3	59.3	60.6	63.5	57.6	-2.1	+0.4	-0.4	-0.6	-0.9	+0.2	53.2	51.7	53.2	51.0	+0.3	-0.2	-0.5	+0.3
8	69.6	55.2	61.9	67.6	66.4	61.7	-2.6	+0.2	0.0	-1.0	-0.8	-0.1	58.2	61.7	62.4	60.1	-0.3	-0.9	-0.5	-0.3
9	72.1	60.3	63.5	65.9	71.7	62.4	-2.4	+0.2	-0.4	-1.1	-1.9	0.0	59.8	61.9	64.2	60.0	0.0	-0.8	-1.4	+0.2
10	72.1	56.8	59.7	65.6	70.2	58.8	-2.4	+0.2	-0.4	-0.7	-0.6	+0.7	57.0	58.0	59.6	54.2	-0.5	-0.3	-0.1	+0.5
11	72.1	52.1	...	...	...	...	-2.2	+1.0	...	...	...	...	...	...	...	...	...	...	...	...
12	67.8	53.9	64.7	65.2	64.2	63.4	-1.0	+0.8	-0.7	+0.3	-0.7	+0.1	58.0	58.2	61.1	61.1	-0.2	-0.1	-0.6	+0.1
13	71.6	54.8	65.0	68.8	69.4	64.9	-2.4	+0.6	-1.0	-0.6	-0.6	-0.1	58.7	62.0	64.0	62.5	-0.4	-0.5	-0.6	-0.2
14	73.6	60.0	66.0	72.8	67.5	64.0	-2.4	+0.8	-0.6	-0.5	-0.9	-0.1	60.3	63.7	64.3	62.2	-0.4	0.0	-0.4	-0.1
15	69.0	56.0	62.0	63.9	56.7	58.0	-2.3	+0.2	-0.1	-1.7	-0.3	+0.2	56.0	55.7	54.8	53.0	-0.1	-1.0	0.0	0.0
16	65.9	51.6	55.7	61.0	63.2	55.1	-2.4	+0.7	-0.6	-0.3	-0.7	+0.1	51.3	51.5	52.7	53.3	-0.3	0.0	-0.1	-0.1
17	71.8	54.4	61.0	64.5	70.8	60.6	-1.8	-0.2	-0.4	-0.6	-1.5	+0.2	55.1	56.6	59.8	55.4	-0.3	-0.3	-0.7	+0.2
18	70.6	57.1	...	...	...	...	-1.5	+0.2	...	...	...	...	...	...	...	...	...	...	...	...
19	66.2	52.8	56.7	62.0	60.9	55.0	-1.8	+0.7	0.0	-0.4	-0.1	+0.6	53.2	55.3	56.2	48.7	-0.4	-0.3	+0.1	+0.5
20	59.9	47.6	56.7	56.0	54.0	54.5	-1.2	+0.5	-0.5	-1.1	-0.1	+0.7	50.8	50.4	48.1	49.7	-0.3	-0.1	-0.3	+0.2
21	63.8	46.6	55.5	59.9	62.0	57.5	-1.0	+0.5	-0.8	-0.5	-0.6	-0.1	51.7	52.3	53.5	53.0	0.0	-0.4	-0.1	+0.5
22	65.0	54.6	56.8	61.9	63.4	57.7	-2.7	+0.5	-0.1	-1.2	-0.9	+0.1	51.2	53.8	54.8	53.1	0.0	-0.1	-0.8	-0.2
23	65.0	54.6	59.0	61.5	62.0	56.5	-1.1	+1.0	-0.5	-0.2	-0.3	+0.2	56.9	56.0	56.8	51.8	-0.1	0.0	-0.2	+0.3
24	61.8	51.6	56.0	60.8	61.1	53.0	-1.0	+0.3	-0.6	-0.1	-0.5	+0.4	51.3	53.0	53.7	51.2	-0.9	-0.4	-0.5	0.0
25	71.0	47.2	...	...	...	...	-1.8	+0.9	...	...	...	...	...	...	...	...	...	...	...	...
26	65.6	56.1	58.7	60.2	63.9	60.0	-1.8	+0.6	+0.1	-0.5	-1.4	-0.2	58.0	59.5	61.8	59.1	-0.1	-0.5	-1.0	-0.5
27	69.6	53.1	58.4	66.0	68.1	60.0	-1.6	+0.2	-0.2	-0.6	-2.0	+0.4	53.0	56.2	59.2	57.1	-0.6	-0.5	-1.2	+0.1
28	73.6	47.4	62.3	71.1	72.9	58.0	-1.1	+1.5	+0.2	-1.1	+0.2	+0.9	56.1	58.6	59.6	55.0	-0.6	-1.3	-0.3	+0.7
29	76.2	47.8	64.0	71.7	75.0	63.5	-1.3	+0.8	-0.6	-0.2	-0.6	+0.6	58.7	61.1	59.6	57.5	0.0	-1.2	-0.6	+0.4
30	69.3	53.5	59.2	66.0	66.8	61.2	-1.2	+0.4	+0.1	-1.5	+0.2	+0.1	56.8	59.8	60.9	58.2	+0.3	-0.9	+0.2	0.0
31	70.8	54.4	61.8	69.2	68.8	62.0	-1.1	+1.0	-1.1	-0.9	-1.4	+0.4	59.0	61.2	58.0	56.9	-0.3	-0.6	-0.6	+0.2
Means	69.4	53.0	60.3	64.8	65.5	59.2	-1.9	+0.6	-0.4	-0.7	-0.7	+0.3	55.5	57.2	58.0	55.5	-0.3	-0.5	-0.5	+0.1

READINGS of THERMOMETERS in a STEVENSON'S SCREEN in the MAGNETIC PAVILION ENCLOSURE—continued.

SEPTEMBER.

Days of the Month.	Readings of Dry-Bulb Thermometers in a Stevenson's Screen, 4 ft. above the ground.						Excess above readings of Thermometers on the ordinary stand, 4 ft. above the ground.						Readings of the Wet-Bulb Thermometer in a Stevenson's Screen, 4 ft. above the ground.				Excess above readings of the Thermometer on the ordinary stand, 4 ft. above the ground.			
	Maxi- mum.	Mini- mum.	9 ^h	Noon.	15 ^h	21 ^h	Maxi- mum.	Mini- mum.	9 ^h	Noon.	15 ^h	21 ^h	9 ^h	Noon.	15 ^h	21 ^h	9 ^h	Noon.	15 ^h	21 ^h
d	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
1	62.6	49.0	...	...	...	...	+0.6	+0.9	...	...	...	...	...	...	...	...	...	...	...	...
2	64.6	48.1	62.0	59.5	59.2	54.5	-1.4	+1.0	-0.6	-0.9	-0.7	+0.6	55.0	56.0	55.8	53.0	-0.9	-0.7	-0.5	+0.2
3	57.7	46.1	52.5	53.0	56.0	46.2	-2.1	+0.7	-0.6	-0.1	-0.3	+0.3	47.0	47.1	48.3	45.8	-0.3	0.0	-0.1	+0.3
4	59.6	45.1	49.6	57.6	59.0	53.2	-1.3	+1.0	-0.6	-0.4	+0.1	0.0	45.7	50.2	50.7	50.0	-0.1	-0.5	0.0	+0.2
5	68.9	50.1	64.9	66.7	66.4	61.9	-1.9	+0.1	-0.4	-0.5	-0.4	+0.3	59.9	60.0	61.3	60.4	+0.1	+0.2	-0.2	+0.3
6	72.6	60.1	62.7	65.2	70.4	62.7	-1.4	+0.3	-0.9	-0.5	-0.9	+0.1	62.4	63.0	65.0	61.0	-0.3	-0.4	-0.3	+0.1
7	69.1	58.3	64.1	64.5	68.0	58.3	-1.9	+0.7	-0.4	-0.3	-0.7	+0.7	62.0	62.1	63.0	58.0	+0.1	-0.1	-0.4	+0.6
8	72.6	54.8	...	...	...	...	-1.5	+0.9	...	...	...	...	...	...	...	...	...	...	...	...
9	69.4	52.1	59.3	64.9	68.0	55.5	0.0	+1.0	-0.6	+0.3	+0.1	+0.4	57.0	59.6	58.2	54.3	-0.4	+0.1	+0.2	+0.3
10	68.6	51.0	59.0	66.3	66.0	51.0	-0.1	+0.5	-1.5	-0.3	+0.1	+0.3	57.0	58.2	57.0	49.0	-1.0	-0.4	0.0	+0.2
11	71.3	37.2	54.0	67.2	70.5	54.0	-0.4	+0.3	+0.1	-0.7	+0.2	+0.3	52.0	60.1	60.0	53.2	-0.7	-0.6	-0.1	+0.3
12	75.8	44.8	56.2	73.6	74.0	57.5	-0.8	+0.7	-0.4	-0.3	+0.4	+0.3	55.2	64.0	65.0	57.0	-0.7	-0.2	+0.3	+0.9
13	74.8	48.3	55.1	71.7	72.6	61.0	-0.2	+0.1	-0.7	-0.3	+0.3	+0.4	55.1	62.8	64.3	59.1	-0.7	-0.2	+0.6	+0.4
14	65.1	53.1	57.5	61.3	63.5	56.2	-1.4	+0.2	-0.5	-0.6	-0.6	+0.3	52.1	54.9	56.0	51.2	-0.6	-0.1	+0.1	+0.5
15	62.6	43.3	...	...	...	...	-0.9	+0.2	...	...	...	...	...	...	...	...	...	...	...	...
16	69.8	43.2	57.1	65.5	68.3	59.0	-1.2	+1.1	-0.6	-0.6	-0.3	+0.5	51.8	57.7	58.4	54.5	0.0	+0.1	-0.3	+0.3
17	68.4	53.3	61.0	65.5	67.5	53.9	-0.9	+0.4	-0.4	-0.7	-0.1	+0.3	56.0	57.9	58.0	52.5	-0.4	+0.2	+0.7	+0.1
18	68.0	44.9	55.0	64.2	68.0	50.0	+0.1	+0.8	-0.9	+0.3	+1.3	+1.0	52.8	55.6	58.0	48.8	-0.5	-0.3	+1.0	+0.9
19	72.3	43.1	52.6	67.7	71.2	52.0	+0.3	0.0	-0.8	+0.1	+0.5	+1.0	52.3	57.9	55.1	51.0	-0.4	+0.2	+0.4	+0.8
20	73.3	46.7	54.1	67.6	71.7	56.2	+1.4	+1.0	-0.5	+0.7	+0.4	-0.1	53.9	58.0	60.2	55.1	-0.7	-0.1	+0.2	-0.2
21	67.9	54.1	56.0	66.5	65.2	58.9	-0.2	+0.5	-0.6	+0.1	-0.4	-0.2	54.3	59.2	59.1	56.0	-0.2	-0.8	-0.3	-0.1
22	62.5	47.1	...	...	...	...	-0.8	+0.7	...	...	...	...	...	...	...	...	...	...	...	...
23	64.4	35.6	53.0	61.9	63.3	45.8	+0.4	+1.1	+2.4	+0.5	+0.7	+0.7	47.9	52.3	53.5	44.5	+0.4	-0.1	+0.2	+0.5
24	72.1	39.3	46.6	69.1	70.6	50.0	+0.1	+1.2	-0.8	+0.5	+0.1	+1.5	46.3	58.3	58.7	49.0	-0.9	+0.1	-0.3	+1.3
25	82.6	48.1	59.7	80.5	74.0	62.0	-0.1	+1.8	-0.8	-0.8	0.0	0.0	58.0	64.6	61.9	57.0	-0.5	-0.1	+0.1	+0.2
26	72.6	57.5	62.5	65.0	69.2	57.5	-0.4	+1.2	-0.2	-0.5	-0.1	+0.4	60.0	60.8	61.3	56.6	-0.5	-0.3	-0.4	+0.2
27	73.6	57.1	63.0	69.0	71.9	64.7	-0.2	+0.9	-0.1	-0.4	+1.2	+0.4	60.4	62.8	63.0	60.2	-0.1	-0.5	+0.3	+0.1
28	73.6	57.1	65.0	72.1	70.1	58.0	-0.4	+0.8	0.0	+0.5	-0.2	+0.2	60.4	60.1	58.1	55.0	-0.3	+0.4	+0.3	+0.2
29	62.9	55.1	...	...	...	...	-0.9	+0.2	...	...	...	...	...	...	...	...	...	...	...	...
30	64.6	55.3	58.2	61.7	61.7	55.3	-2.1	+0.2	-0.4	0.0	+0.1	+0.2	56.6	58.0	58.8	55.2	-0.6	-0.3	+0.1	+0.3
Means	68.8	49.3	57.6	65.9	67.5	55.8	-0.7	+0.7	-0.4	-0.2	0.0	+0.4	54.8	58.4	58.7	53.9	-0.4	-0.2	+0.1	+0.4

READINGS of THERMOMETERS in a STEVENSON'S SCREEN in the MAGNETIC PAVILION ENCLOSURE—continued.

OCTOBER.

Days of the Month.	Readings of Dry-Bulb Thermometers in a Stevenson's Screen, 4 ft. above the ground.						Excess above readings of Thermometers on the ordinary stand, 4 ft. above the ground.						Readings of the Wet-Bulb Thermometer in a Stevenson's Screen, 4 ft. above the ground.				Excess above readings of the Thermometer on the ordinary stand, 4 ft. above the ground.				
	Maxi-mum.	Mini-mum.	9 ^h	Noon.	1 ⁵ ^h	21 ^h	Maxi-mum.	Mini-mum.	9 ^h	Noon.	1 ⁵ ^h	21 ^h	9 ^h	Noon.	1 ⁵ ^h	21 ^h	9 ^h	Noon.	1 ⁵ ^h	21 ^h	
d	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
1	67.6	53.1	62.2	64.0	61.9	56.0	-0.4	+1.0	0.0	0.0	0.0	-0.1	57.7	57.9	57.0	55.1	-0.2	0.0	+0.1	-0.1	
2	63.3	50.3	56.0	56.7	60.8	50.8	-0.4	+0.6	-0.1	-0.5	-0.3	+0.6	51.2	51.4	52.5	48.0	-0.4	-0.4	-0.3	+0.3	
3	62.4	44.9	57.8	60.0	56.1	52.0	-0.6	+1.5	0.0	-0.8	+0.3	0.0	53.5	52.5	52.0	50.1	-0.4	-0.4	+0.3	+0.1	
4	61.7	50.2	52.0	57.2	60.3	51.6	-0.3	+0.3	+0.1	-0.3	-0.3	+0.5	50.1	52.3	51.9	49.2	+0.2	-0.1	+0.2	+0.5	
5	63.0	42.0	47.7	58.0	60.0	55.0	-0.2	+1.2	+0.1	+0.9	-0.3	+0.2	47.0	52.2	52.8	53.0	-0.1	+0.5	0.0	+0.3	
6	62.4	54.6	...	...	...	...	-0.4	+0.3	...	...	...	...	...	...	...	...	...	...	...	...
7	59.8	45.5	55.8	55.1	55.0	45.8	+0.7	+0.5	-0.1	-0.5	-0.3	+0.4	53.7	50.1	47.7	43.7	+0.1	-0.1	0.0	+0.6	
8	50.8	41.6	47.0	47.6	50.0	43.0	-0.2	+0.8	-0.2	-0.7	-0.3	+0.2	45.0	46.7	47.8	43.0	+0.2	-0.3	-0.3	+0.2	
9	57.2	41.1	54.7	56.1	55.7	52.0	-0.2	+1.0	-0.2	-0.2	+0.1	+0.2	51.5	52.1	52.2	51.8	-0.5	-0.5	-0.2	+0.1	
10	61.5	47.1	56.1	59.1	61.1	53.0	-0.5	+1.0	-0.1	0.0	0.0	-0.3	52.1	52.9	53.7	51.7	-0.5	-0.1	0.0	-0.1	
11	62.9	50.1	58.1	60.1	54.5	53.0	-0.7	0.0	+0.7	-0.6	-0.4	+0.4	53.9	54.0	52.5	51.5	+0.2	-0.7	-0.2	+0.3	
12	63.8	48.0	55.5	61.2	61.2	48.0	-0.7	+0.9	-0.3	-0.4	-0.1	+0.7	52.6	54.1	54.2	47.2	-0.3	-0.7	-0.1	+0.4	
13	62.6	44.9	...	...	...	...	-0.4	+1.2	...	...	...	...	...	...	...	...	...	...	...	...
14	57.0	50.7	55.8	55.2	55.0	50.7	0.0	+0.1	0.0	-0.2	-0.2	-0.2	53.1	53.9	54.5	49.6	-0.6	-0.2	-0.2	-0.1	
15	57.3	43.0	53.5	54.7	55.0	43.0	+0.1	+0.9	+0.4	+0.1	+0.1	+0.4	49.8	46.8	46.8	42.0	+0.1	0.0	-0.2	+0.3	
16	54.0	40.1	47.9	51.1	49.9	53.5	+0.3	+1.0	0.0	-0.2	+0.2	-0.2	47.0	49.0	48.9	51.7	0.0	-0.2	0.0	-0.2	
17	54.3	48.2	51.7	51.7	52.3	49.2	+0.3	+0.1	0.0	0.0	-0.2	-0.3	48.0	48.1	48.5	48.7	-0.1	-0.4	-0.2	-0.1	
18	55.4	44.6	53.2	54.2	50.7	54.0	-0.2	+0.7	0.0	-0.3	+0.1	-0.1	49.0	49.2	49.1	52.5	-0.4	-0.6	-0.6	-0.2	
19	62.7	52.9	58.0	61.6	59.5	53.0	-0.1	+0.8	-0.1	+0.2	-0.1	+0.4	54.0	55.0	53.7	51.1	-0.2	-0.3	-0.5	+0.1	
20	60.1	49.6	...	...	...	...	+0.1	+1.5	...	...	...	...	...	...	...	...	...	...	...	...
21	64.8	48.1	58.5	62.2	60.0	49.5	+0.8	+1.5	+1.0	+0.4	-0.3	+0.8	54.6	55.0	53.7	49.0	+0.4	+0.2	-0.3	+0.4	
22	59.4	44.1	53.0	55.7	58.2	44.1	+0.4	+0.9	-0.1	+0.1	+0.1	+0.3	50.8	49.2	50.9	43.8	-0.1	-0.2	+0.2	+0.3	
23	51.6	41.6	47.9	49.5	50.9	41.7	-0.6	+1.0	+0.1	-0.5	-0.1	+0.4	46.9	47.1	48.0	41.2	0.0	-0.6	-0.2	+0.2	
24	57.7	36.2	41.4	53.9	53.1	42.7	-0.2	+0.4	-0.6	+0.3	-0.4	+1.0	41.2	49.0	48.0	42.0	-0.7	+0.2	-0.2	+0.5	
25	55.8	35.6	46.0	52.0	52.1	47.0	0.0	0.0	+1.0	-0.6	-0.4	+0.4	45.0	48.4	48.9	46.3	+0.3	-0.8	0.0	+0.3	
26	52.1	36.7	42.0	48.0	51.3	45.2	+0.1	+0.5	-0.1	-0.5	-0.2	-0.4	41.8	47.1	48.5	44.2	0.0	-0.2	-0.2	-0.3	
27	48.0	41.5	...	...	...	...	0.0	+1.3	...	...	...	...	...	...	...	...	...	...	...	...
28	56.7	37.3	46.0	53.0	51.6	47.8	+0.4	+0.4	-0.4	-0.4	0.0	0.0	45.2	48.1	47.2	46.5	-0.5	-0.6	-0.2	0.0	
29	55.2	46.4	48.0	50.7	53.0	50.3	-0.2	+0.6	-0.2	-0.4	+0.1	-0.1	47.5	50.0	51.1	50.0	-0.2	-0.4	-0.5	0.0	
30	56.1	45.5	53.0	53.9	53.1	45.5	+0.1	+0.6	-0.3	0.0	0.0	+0.4	51.4	51.6	51.0	44.7	-0.3	-0.1	-0.3	0.0	
31	60.0	42.9	51.5	56.5	57.8	43.9	+0.9	+1.5	+0.9	+0.9	+1.0	+0.1	49.0	51.3	52.0	43.9	+0.3	+0.1	+0.3	+0.2	
Means	58.6	45.1	52.2	55.5	55.6	48.9	-0.1	+0.8	+0.1	-0.2	-0.1	+0.2	49.7	50.9	50.9	47.8	-0.1	-0.3	-0.1	+0.1	

READINGS of THERMOMETERS in a STEVENSON'S SCREEN in the MAGNETIC PAVILION ENCLOSURE—*continued.*

NOVEMBER.

Days of the Month.	Readings of Dry-Bulb Thermometers in a Stevenson's Screen, 4 ft. above the ground.						Excess above readings of Thermometers on the ordinary stand, 4 ft. above the ground.						Readings of the Wet-Bulb Thermometer in a Stevenson's Screen, 4 ft. above the ground.				Excess above readings of the Thermometer on the ordinary stand, 4 ft. above the ground.				
	Maxi- mum.	Mini- mum.	9 ^h	Noon.	15 ^h	21 ^h	Maxi- mum.	Mini- mum.	9 ^h	Noon.	15 ^h	21 ^h	9 ^h	Noon.	15 ^h	21 ^h	9 ^h	Noon.	15 ^h	21 ^h	
d	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
1	54.4	38.1	39.2	45.8	53.5	53.6	-0.1	+0.3	-0.2	0.0	-0.1	-0.1	39.1	45.6	51.5	52.2	-0.3	-0.1	0.0	0.0	
2	56.2	49.9	51.6	55.5	56.2	51.0	-0.2	+0.6	-0.2	-0.6	+0.7	+0.1	49.8	52.5	53.0	50.3	-0.2	-0.5	+0.6	-0.1	
3	55.7	48.6	...	...	...	...	+0.4	+0.5	...	...	...	...	...	...	...	...	...	...	...	...
4	54.5	49.6	51.0	53.1	52.2	50.0	+0.4	+0.8	0.0	-0.5	-0.3	+0.2	50.8	51.8	51.3	48.6	-0.1	-0.1	-0.3	-0.1	
5	54.4	46.3	49.0	52.1	53.8	50.9	+0.4	+0.2	-0.1	-0.4	+0.2	+0.1	48.1	49.9	50.4	48.3	0.0	+0.2	+0.1	+0.1	
6	52.6	44.2	46.8	51.3	51.9	48.0	+0.4	+0.3	+0.1	-0.2	+0.2	+0.3	45.5	48.2	48.2	46.5	-0.1	-0.1	-0.1	0.0	
7	49.5	44.1	47.0	47.2	49.0	46.7	0.0	+0.6	+0.1	-0.2	+0.3	-0.3	45.9	46.3	48.0	46.3	+0.1	-0.3	+0.3	0.0	
8	56.6	45.4	46.8	51.7	55.2	50.9	-0.4	+0.3	-0.3	0.0	+0.4	+0.3	46.5	50.4	52.4	49.8	-0.1	-0.3	+0.1	+0.1	
9	61.3	44.6	53.9	61.0	59.6	45.1	+1.0	+0.7	+0.7	+1.2	+1.1	+1.1	52.0	55.2	55.0	44.9	+0.3	+0.7	+0.7	+1.1	
10	51.4	42.1	...	...	...	...	+0.4	+0.8	...	...	...	...	...	...	...	...	...	...	...	...
11	48.4	34.3	38.6	43.5	47.9	36.7	+0.6	+0.7	+0.1	+0.5	+0.5	+0.1	38.2	43.0	45.0	36.5	-0.1	0.0	+0.3	0.0	
12	50.5	34.1	43.4	49.5	50.0	43.0	+0.6	+0.5	-0.1	-0.3	+0.4	+0.4	43.1	45.0	45.8	41.0	-0.2	0.0	+0.2	+0.5	
13	52.9	41.8	48.0	51.3	51.0	44.8	+0.4	-0.3	+0.4	-0.1	+0.1	+0.5	43.7	46.0	44.5	42.3	+0.2	+0.3	+0.5	+0.4	
14	53.3	40.1	45.8	52.8	52.8	51.0	+0.1	+0.8	-0.3	0.0	+0.2	+0.4	44.7	51.0	50.9	49.9	-0.1	0.0	+0.2	+0.3	
15	52.6	43.3	46.2	46.8	48.6	43.3	+0.8	+0.7	-0.1	-0.3	0.0	+0.4	44.5	44.5	45.1	41.0	-0.2	0.0	+0.2	+0.3	
16	46.2	32.6	34.7	40.0	45.9	40.0	+1.2	+1.1	+0.1	+0.4	+0.9	+0.2	34.0	38.5	41.1	38.4	-0.1	+0.3	+0.4	+0.1	
17	52.4	39.9	...	...	...	...	-0.6	+0.8	...	...	...	...	...	...	...	...	...	...	...	...
18	50.1	45.1	46.8	47.5	46.2	45.2	+0.8	0.0	-0.1	-0.1	-0.1	-0.2	46.5	46.7	45.9	45.0	-0.2	0.0	+0.2	+0.2	
19	49.4	37.3	46.0	48.0	47.6	39.7	+0.1	+0.2	+0.1	-0.3	+0.5	+0.1	45.6	46.0	46.0	39.3	0.0	-0.3	+0.3	0.0	
20	45.6	38.8	42.2	44.8	43.2	38.8	-0.2	+0.6	+0.1	-0.2	+0.4	+0.2	42.0	43.1	41.5	37.8	-0.1	-0.6	+0.2	+0.2	
21	42.9	31.3	41.1	41.7	41.7	32.0	-0.1	0.0	-0.6	+0.8	+0.4	+0.4	39.6	39.6	40.4	31.9	0.0	+0.6	+0.7	+0.3	
22	44.7	29.6	39.0	44.5	44.0	42.0	-0.4	+0.5	-0.1	+0.9	+0.3	+0.4	38.5	42.6	42.6	39.2	-0.2	0.0	+0.1	+0.2	
23	49.6	37.5	44.3	47.3	44.8	37.5	+0.6	+0.6	+0.3	0.0	0.0	+0.6	44.0	44.8	42.9	35.5	+0.3	+0.1	+0.2	+0.5	
24	45.1	34.2	...	...	...	...	+0.9	+0.6	...	...	...	...	...	...	...	...	...	...	...	...
25	47.7	31.6	39.1	36.7	37.4	31.7	+0.5	+0.2	-0.2	+0.1	+0.3	+0.3	37.9	35.2	35.4	31.3	+0.3	+0.2	+0.4	+0.2	
26	56.6	31.3	43.0	48.5	56.1	48.9	+0.5	+0.7	-0.1	-0.1	+0.1	+0.6	43.0	48.3	54.1	47.3	+0.3	+0.1	-0.2	+0.4	
27	54.1	47.1	49.2	50.2	51.3	47.9	+0.8	+0.8	-0.1	+0.1	+0.1	0.0	47.1	47.2	48.7	46.8	0.0	0.0	+0.1	+0.1	
28	55.6	45.9	49.5	53.5	51.0	48.9	+1.5	+0.8	+0.5	+0.9	+0.2	+0.3	47.5	49.6	48.1	48.0	+0.3	+0.3	-0.2	+0.3	
29	49.4	34.3	39.2	39.7	42.7	41.5	+0.4	+0.2	-0.2	0.0	-0.1	+0.4	39.1	39.3	42.2	40.2	0.0	-0.1	0.0	+0.2	
30	45.1	33.4	34.9	41.3	42.6	44.9	+0.4	+0.5	+0.3	+0.2	0.0	+0.2	34.0	38.7	40.6	44.0	+0.3	+0.2	+0.2	+0.2	
Means	51.3	39.9	44.5	47.9	49.1	44.4	+0.4	+0.5	0.0	+0.1	+0.3	+0.3	43.5	45.7	46.6	43.2	0.0	0.0	+0.2	+0.2	

READINGS OF THERMOMETERS in a STEVENSON'S SCREEN in the MAGNETIC PAVILION ENCLOSURE—concluded.

DECEMBER.

Days of the Month.	Readings of Dry-Bulb Thermometers in a Stevenson's Screen, 4 ft. above the ground.						Excess above readings of Thermometers on the ordinary stand, 4 ft. above the ground.						Readings of the Wet-Bulb Thermometer in a Stevenson's Screen, 4 ft. above the ground.				Excess above readings of the Thermometer on the ordinary stand, 4 ft. above the ground.				
	Maxi-mum.	Mini-mum.	9 ^h	Noon.	15 ^h	21 ^h	Maxi-mum.	Mini-mum.	9 ^h	Noon.	15 ^h	21 ^h	9 ^h	Noon.	15 ^h	21 ^h	9 ^h	Noon.	15 ^h	21 ^h	
d	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
1	46·4	38·6	...	...	...	...	+0·7	+0·5	...	...	...	...	...	...	...	...	...	...	...	...	...
2	51·5	37·3	41·5	48·7	50·9	50·7	+0·5	+1·0	-0·1	+0·1	+0·3	+0·1	40·2	46·2	48·8	49·9	0·0	+0·2	+0·6	+0·5	
3	52·4	37·9	45·0	44·0	43·1	37·9	+1·1	+0·8	+0·1	+0·1	+0·5	+0·8	43·0	41·1	39·2	35·8	+0·5	+0·3	+0·8	+1·1	
4	52·2	36·1	42·7	47·0	49·2	51·3	+0·7	+1·0	+0·3	+0·1	+0·1	+0·2	40·8	45·4	47·0	49·7	+0·5	+0·3	-0·1	+0·2	
5	52·2	40·2	42·0	44·0	44·9	40·2	+1·0	+0·6	+0·3	-0·1	+0·3	+0·4	40·7	42·0	41·3	38·5	+0·3	+0·2	+0·6	+0·4	
6	43·6	35·1	36·3	42·0	42·6	35·1	+1·2	+1·0	+0·4	+0·6	+0·9	+1·5	35·3	39·5	40·1	34·7	+0·4	+0·8	+0·9	+1·2	
7	47·2	33·1	41·6	46·1	44·1	43·5	+0·7	+1·0	+0·5	+0·5	+0·5	+0·1	40·5	43·1	41·6	43·0	+0·6	+0·3	+0·5	+0·1	
8	57·6	43·2	...	...	...	...	+0·9	+0·1	...	...	...	...	...	...	...	...	...	...	...	...
9	51·2	46·1	46·5	49·4	49·8	49·5	+0·2	0·0	+0·1	0·0	+0·9	-0·1	43·2	45·0	44·8	48·0	+0·4	+0·6	+0·7	+0·5	
10	50·9	42·6	44·1	49·0	48·9	46·1	+0·4	+0·3	+0·3	+0·9	+0·2	+0·5	41·5	44·3	44·9	43·7	+0·6	+1·1	+0·7	+0·8	
11	48·1	39·7	44·0	45·5	46·0	39·7	+0·5	+0·9	0·0	0·0	+0·3	+0·9	42·0	42·7	42·2	38·5	+0·4	+0·2	+0·2	+0·5	
12	46·1	38·6	45·5	45·6	43·6	40·0	-0·9	+1·0	+0·1	-0·2	-0·2	+0·3	44·1	44·0	42·6	39·1	-0·1	-0·4	0·0	+0·1	
13	49·1	36·8	38·2	44·9	44·0	48·5	+0·6	+0·5	+0·5	+1·0	+0·1	0·0	37·2	41·0	41·0	47·5	+0·3	+0·6	+0·1	+0·1	
14	50·6	39·0	41·4	40·9	42·2	40·9	+0·7	+0·5	+0·2	+0·3	-0·6	+0·6	37·2	38·3	40·2	38·2	+0·3	+0·2	0·0	+0·2	
15	41·6	31·1	...	...	...	...	+0·6	+0·7	...	...	...	...	...	...	...	...	...	...	...	...
16	46·6	28·3	36·3	46·0	44·4	42·2	+0·9	+0·2	+0·2	+0·8	+0·5	+0·1	36·1	42·7	41·6	40·5	+0·4	+0·2	+0·3	0·0	
17	44·7	34·3	36·1	44·7	42·5	36·2	+0·5	+1·3	+0·9	+1·1	+0·7	+0·5	35·4	41·0	39·5	35·5	+0·7	+0·5	+0·3	+0·6	
18	51·0	34·4	43·5	47·0	49·3	50·8	+0·6	+1·3	+0·1	0·0	-0·1	+0·4	43·0	46·4	48·5	49·1	-0·1	-0·3	+0·2	+0·2	
19	54·6	50·6	52·1	53·5	54·0	50·8	+0·6	+0·4	+0·2	-0·1	+0·2	+0·2	51·0	52·0	52·0	49·4	-0·3	+0·1	+0·1	-0·1	
20	56·6	49·5	50·6	55·9	52·8	50·7	+1·3	+0·4	+0·1	+1·1	+0·2	+0·1	48·6	51·9	50·4	48·0	-0·1	+0·2	-0·1	+0·1	
21	52·6	47·0	50·6	51·0	50·0	47·0	+0·6	+0·3	-0·1	-0·2	+0·4	+0·2	48·1	47·8	46·0	43·3	-0·1	+0·1	+0·2	-0·2	
22	53·6	44·1	...	...	...	...	0·0	+1·0	...	...	...	...	...	...	...	...	...	...	...	...
23	50·1	44·2	48·4	47·0	46·7	44·2	+0·2	+0·3	-0·1	+0·2	-0·1	+0·3	48·0	46·3	46·0	42·8	+0·1	+0·1	-0·1	+0·2	
24	44·4	36·1	36·4	39·6	41·9	42·3	+0·1	+0·2	+0·1	0·0	+0·5	0·0	36·3	39·5	41·2	40·8	0·0	-0·1	+0·1	+0·3	
25	43·6	38·6	...	...	...	...	+0·8	+0·4	...	...	...	...	...	...	...	...	...	...	...	...
26	40·2	34·1	...	...	...	...	+0·4	0·0	...	...	...	...	...	...	...	...	...	...	...	...
27	37·4	32·9	33·5	34·5	33·9	33·0	+0·9	+0·2	+0·2	-0·1	+0·3	+0·3	30·8	31·0	30·2	30·1	+0·4	+0·3	+0·1	+0·1	
28	34·9	32·6	33·8	34·0	33·8	34·8	+0·1	+0·3	+0·2	-0·1	0·0	+0·2	31·9	31·0	31·4	31·9	+0·2	0·0	+0·2	+0·1	
29	34·9	33·0	...	...	...	...	0·0	+0·1	...	...	...	...	...	...	...	...	...	...	...	...
30	34·6	32·2	34·0	33·8	32·9	34·2	+0·4	0·0	-0·1	+0·2	+0·1	0·0	31·9	32·0	31·9	32·1	+0·2	+0·3	+0·2	0·0	
31	37·0	33·6	34·8	35·5	37·0	36·1	-0·1	0·0	+0·2	-0·1	+0·3	-0·1	33·0	34·0	34·7	34·9	+0·2	+0·3	+0·1	-0·1	
Means	47·0	38·1	41·6	44·6	44·5	42·7	+0·5	+0·5	+0·2	+0·3	+0·3	+0·3	40·0	42·0	42·0	41·0	+0·2	+0·3	+0·3	+0·3	

(I.)—Readings of a Thermometer whose bulb is sunk to the depth of 25.6 feet (24 French feet) below the surface of the soil, at Noon on every Day of the Year.

1907.												
Days of the Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	53.23	52.47	51.62	50.57	49.78	49.54	49.82	50.55	51.64	53.03	54.15	54.38
2	53.22	52.45	51.55	50.57	49.76	49.55	49.83	50.62	51.68	53.05	54.21	54.39
3	53.18	52.42	51.54	50.53	49.77	49.53	49.85	50.63	51.70	53.08	54.23	54.40
4	53.17	52.39	51.49	50.50	49.76	49.57	49.87	50.67	51.76	53.13	54.25	54.34
5	53.15	52.33	51.47	50.47	49.76	49.55	49.88	50.70	51.83	53.16	54.27	54.27
6	53.17	52.35	51.43	50.42	49.75	49.58	49.92	50.72	51.90	53.20	54.30	54.21
7	53.13	52.28	51.42	50.39	49.73	49.55	49.94	50.75	51.95	53.21	54.32	54.17
8	53.14	52.27	51.38	50.35	49.70	49.56	49.95	50.81	52.01	53.26	54.35	54.16
9	53.11	52.26	51.34	50.32	49.73	49.55	49.97	50.86	52.05	53.33	54.39	54.12
10	53.09	52.23	51.27	50.30	49.72	49.56	49.97	50.87	52.10	53.38	54.35	54.08
11	53.06	52.20	51.23	50.27	49.73	49.57	50.00	50.91	52.15	53.42	54.38	54.06
12	53.06	52.15	51.21	50.24	49.70	49.58	50.02	50.94	52.20	53.46	54.45	54.02
13	53.05	52.12	51.15	50.23	49.67	49.58	50.07	50.97	52.24	53.52	54.46	54.00
14	53.00	52.07	51.13	50.20	49.62	49.58	50.07	51.02	52.28	53.54	54.46	53.95
15	52.98	52.06	51.08	50.17	49.63	49.58	50.13	51.03	52.31	53.56	54.42	53.93
16	52.96	52.03	51.06	50.16	49.62	49.62	50.15	51.07	52.38	53.60	54.44	53.92
17	52.94	52.02	51.03	50.12	49.62	49.63	50.17	51.12	52.43	53.64	54.48	53.90
18	52.87	51.99	51.05	50.09	49.55	49.63	50.17	51.15	52.47	53.67	54.47	53.90
19	52.83	51.97	50.99	50.07	49.56	49.62	50.23	51.17	52.51	53.74	54.48	53.90
20	52.81	51.90	50.98	50.07	49.60	49.65	50.25	51.21	52.56	53.76	54.47	53.87
21	52.81	51.83	50.93	50.03	49.58	49.66	50.27	51.25	52.61	53.80	54.47	53.84
22	52.77	51.83	50.91	49.96	49.57	49.67	50.29	51.28	52.65	53.85	54.47	53.77
23	52.74	51.80	50.87	49.96	49.57	49.67	50.31	51.33	52.67	53.86	54.47	53.76
24	52.71	51.74	50.82	49.96	49.58	49.69	50.30	51.35	52.72	53.91	54.46	53.75
25	52.67	51.73	50.77	49.92	49.58	49.72	50.35	51.36	52.79	53.94	54.45	53.72
26	52.66	51.70	50.77	49.90	49.57	49.73	50.37	51.42	52.82	53.96	54.47	53.67
27	52.64	51.69	50.76	49.88	49.55	49.75	50.38	51.45	52.86	54.00	54.45	53.65
28	52.62	51.63	50.72	49.87	49.54	49.75	50.43	51.50	52.92	54.05	54.46	53.60
29	52.57	51.71	50.71	49.85	49.55	49.80	50.47	51.53	52.93	54.07	54.40	53.59
30	52.57	51.71	50.67	49.82	49.53	49.80	50.50	51.57	52.98	54.11	54.40	53.56
31	52.52	51.71	50.62	49.82	49.52	49.80	50.50	51.61	53.03	54.14	54.40	53.52
Means	52.92	52.07	51.10	50.17	49.64	49.63	50.14	51.08	52.34	53.59	54.39	53.95

The mean of the twelve monthly values is 51°75.

(II.)—Readings of a Thermometer whose bulb is sunk to the depth of 12.8 feet (12 French feet) below the surface of the soil, at Noon on every Day of the Year.

1907.												
Days of the Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	51.74	49.12	47.18	46.52	47.22	48.95	51.31	53.54	55.39	56.12	55.81	54.25
2	51.63	49.07	47.17	46.59	47.31	49.02	51.38	53.62	55.41	56.09	55.80	54.15
3	51.52	49.04	47.13	46.54	47.29	49.08	51.45	53.68	55.40	56.10	55.73	54.08
4	51.38	48.91	47.08	46.54	47.34	49.17	51.56	53.78	55.46	56.10	55.70	54.02
5	51.32	48.84	47.04	46.59	47.41	49.22	51.62	53.83	55.55	56.10	55.63	53.92
6	51.22	48.77	46.94	46.58	47.45	49.30	51.73	53.91	55.58	56.08	55.60	53.80
7	51.06	48.74	46.98	46.59	47.45	49.40	51.80	53.93	55.60	56.12	55.53	53.75
8	51.01	48.64	46.94	46.60	47.52	49.49	51.86	54.03	55.63	56.08	55.55	53.72
9	50.91	48.59	46.94	46.65	47.50	49.60	51.95	54.15	55.65	56.14	55.50	53.61
10	50.78	48.52	46.83	46.65	47.60	49.58	51.97	54.20	55.68	56.16	55.40	53.51

(II.)—Readings of a Thermometer whose bulb is sunk to the depth of 12·8 feet (12 French feet) below the surface of the soil, at Noon on every Day of the Year—concluded.

1907.												
Days of the Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
11	50·68	48·40	46·77	46·67	47·65	49·67	52·03	54·26	55·71	56·19	55·32	53·41
12	50·59	48·24	46·78	46·67	47·67	49·78	52·13	54·31	55·75	56·20	55·32	53·31
13	50·50	48·16	46·72	46·67	47·65	49·79	52·23	54·41	55·76	56·21	55·28	53·21
14	50·41	48·09	46·74	46·77	47·67	49·92	52·31	54·48	55·76	56·20	55·24	53·07
15	50·33	48·05	46·68	46·78	47·78	50·02	52·38	54·50	55·79	56·14	55·17	52·97
16	50·21	47·97	46·62	46·83	47·83	50·06	52·42	54·55	55·84	56·15	55·09	52·93
17	50·16	47·90	46·57	46·84	47·88	50·11	52·43	54·63	55·87	56·15	55·10	52·85
18	50·04	47·87	46·59	46·85	47·92	50·20	52·48	54·70	55·87	56·14	55·05	52·80
19	50·02	47·79	46·55	46·92	48·04	50·26	52·58	54·75	55·90	56·18	55·00	52·78
20	49·97	47·67	46·54	46·93	48·03	50·35	52·66	54·79	55·94	56·16	54·90	52·65
21	49·88	47·57	46·60	46·91	48·15	50·44	52·70	54·84	55·97	56·15	54·85	52·57
22	49·83	47·54	46·53	46·97	48·20	50·45	52·72	54·90	55·95	56·10	54·80	52·43
23	49·74	47·43	46·52	46·95	48·30	50·58	52·84	55·00	55·95	56·03	54·76	52·41
24	49·64	47·40	46·48	47·05	48·41	50·70	52·87	55·03	56·00	56·03	54·68	52·31
25	49·62	47·31	46·52	47·10	48·50	50·77	52·96	55·13	56·07	55·99	54·61	52·18
26	49·55	47·22	46·51	47·05	48·56	50·88	53·02	55·16	56·03	55·97	54·59	52·12
27	49·52	47·21	46·54	47·10	48·61	51·04	53·15	55·21	56·07	55·92	54·50	52·02
28	49·47	47·18	46·48	47·17	48·71	51·07	53·17	55·28	56·10	55·93	54·48	51·92
29	49·39		46·52	47·19	48·77	51·15	53·21	55·31	56·06	55·93	54·33	51·85
30	49·36		46·50	47·18	48·82	51·25	53·32	55·34	56·10	55·90	54·26	51·82
31	49·22		46·56		48·91		53·43	55·38		55·82		51·78
Means	50·35	48·12	46·73	46·82	47·94	50·04	52·38	54·54	55·79	56·08	55·12	52·97
The mean of the twelve monthly values is 51°·41.												

(III.)—Readings of a Thermometer whose bulb is sunk to the depth of 6·4 feet (6 French feet) below the surface of the soil, at Noon on every Day of the Year.

1907.												
Days of the Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	47·85	45·58	44·46	45·61	48·13	51·88	55·42	58·16	58·90	58·39	55·44	51·97
2	47·43	45·52	44·42	45·80	48·18	51·97	55·45	58·28	58·94	58·35	55·39	51·90
3	47·23	45·44	44·46	45·92	48·21	52·05	55·52	58·29	58·90	58·38	55·25	51·77
4	47·11	45·30	44·45	46·02	48·22	52·22	55·60	58·39	58·95	58·40	55·16	51·65
5	47·17	45·13	44·50	46·19	48·22	52·25	55·62	58·39	59·00	58·35	55·05	51·51
6	47·21	45·04	44·42	46·33	48·32	52·35	55·68	58·40	58·95	58·35	54·97	51·40
7	47·14	44·90	44·47	46·43	48·39	52·45	55·70	58·42	58·90	58·20	54·90	51·30
8	47·13	44·78	44·50	46·53	48·45	52·56	55·70	58·52	58·87	58·07	54·90	51·20
9	47·12	44·68	44·49	46·60	48·60	52·70	55·75	58·64	58·83	58·05	54·82	51·03
10	47·10	44·61	44·42	46·70	48·70	52·75	55·84	58·66	58·86	58·00	54·70	50·82
11	47·12	44·49	44·48	46·72	48·93	52·84	55·88	58·70	58·88	57·90	54·63	50·73
12	47·09	44·37	44·49	46·74	49·10	53·12	56·00	58·80	58·92	57·80	54·58	50·62
13	47·14	44·30	44·53	46·80	49·28	53·28	56·06	58·88	58·90	57·67	54·53	50·55
14	47·11	44·22	44·53	46·89	49·47	53·53	56·13	58·92	58·85	57·57	54·41	50·42
15	47·15	44·21	44·57	46·92	49·88	53·70	56·18	58·92	58·81	57·40	54·21	50·28

(III.)—Readings of a Thermometer whose bulb is sunk to the depth of 6·4 feet (6 French feet) below the surface of the soil, at Noon on every Day of the Year—concluded.

1907.												
Days of the Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
16	47·10	44·25	44·57	47·01	50·07	53·89	56·28	58·97	58·85	57·33	54·02	50·20
17	47·12	44·23	44·61	47·10	50·34	54·08	56·31	59·10	58·85	57·24	54·00	50·12
18	47·13	44·30	44·65	47·13	50·54	54·20	56·48	59·15	58·79	57·12	53·88	50·00
19	47·12	44·33	44·77	47·23	50·72	54·30	56·68	59·17	58·75	57·08	53·75	49·91
20	47·12	44·42	44·89	47·25	50·81	54·45	56·85	59·15	58·71	56·91	53·60	49·78
21	47·23	44·49	44·95	47·32	50·88	54·50	56·95	59·19	58·70	56·82	53·47	49·70
22	47·16	44·62	45·07	47·30	50·92	54·66	57·08	59·20	58·60	56·70	53·35	49·57
23	47·03	44·66	45·24	47·30	50·97	54·77	57·23	59·19	58·54	56·56	53·26	49·63
24	46·93	44·70	45·17	47·35	50·98	54·87	57·41	59·10	58·55	56·50	53·12	49·70
25	46·80	44·68	45·29	47·44	51·05	54·98	57·52	59·09	58·58	56·39	52·93	49·71
26	46·63	44·53	45·32	47·58	51·11	55·10	57·66	59·00	58·48	56·28	52·82	49·70
27	46·51	44·48	45·46	47·72	51·22	55·17	57·74	58·98	58·43	56·13	52·61	49·61
28	46·33	44·47	45·48	47·90	51·39	55·20	57·77	59·00	58·41	56·02	52·37	49·53
29	46·18		45·53	48·04	51·53	55·29	57·90	58·96	58·32	55·92	52·08	49·53
30	45·94		45·55	48·07	51·63	55·36	57·94	58·95	58·37	55·73	52·02	49·45
31	45·71		45·60		51·83		58·02	58·95		55·61		49·29
Means	46·97	44·67	44·82	46·93	49·87	53·68	56·53	58·82	58·75	57·27	54·01	50·41
The mean of the twelve monthly values is 51·89.												

(IV.)—Readings of a Thermometer whose bulb is sunk to the depth of 3·2 feet (3 French feet) below the surface of the soil, at Noon on every Day of the Year.

1907.												
Days of the Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	41·66	40·36	40·93	44·12	46·85	52·80	56·80	60·19	59·85	58·67	52·78	48·00
2	41·78	40·09	40·78	44·59	46·78	53·00	56·70	60·03	59·90	58·58	52·61	47·70
3	42·37	40·06	40·99	44·83	46·72	53·15	56·70	59·82	59·65	58·43	52·58	47·60
4	42·53	39·87	41·10	45·22	46·82	53·07	56·66	59·92	59·40	58·05	52·60	47·70
5	42·36	39·71	41·13	45·40	47·09	53·00	56·53	60·20	59·13	57·69	52·65	47·45
6	42·39	39·63	40·99	45·56	47·46	53·21	56·60	60·42	59·00	57·44	52·65	47·40
7	42·63	39·62	41·02	45·54	47·90	53·40	56·66	60·52	59·20	57·30	52·52	47·12
8	42·76	39·43	41·12	45·39	48·45	53·53	56·87	60·42	59·48	57·23	52·45	46·72
9	42·96	39·37	41·18	45·21	48·65	54·00	57·02	60·40	59·65	56·96	52·38	46·77
10	43·18	39·23	41·27	45·21	48·95	54·48	57·13	60·52	59·70	56·60	52·26	47·00
11	43·40	39·32	41·63	45·20	49·50	55·03	57·18	60·70	59·60	56·35	52·15	47·08
12	43·46	39·38	41·77	45·12	50·30	55·44	57·02	60·68	59·35	56·30	51·80	47·05
13	43·10	39·63	41·57	45·17	51·04	55·72	57·15	60·72	59·18	56·12	51·47	46·56
14	43·48	39·62	41·46	45·42	51·68	56·00	57·38	60·85	59·07	55·95	51·18	46·23
15	43·73	39·77	41·58	45·67	51·94	56·05	57·90	60·95	59·04	55·85	50·83	46·20
16	43·78	39·98	41·70	45·79	51·98	56·16	58·28	61·05	59·01	55·71	50·77	45·90
17	44·13	40·41	42·23	45·92	52·02	56·10	58·60	60·90	58·85	55·37	50·70	45·50
18	44·08	40·89	42·41	46·01	51·92	56·07	59·00	60·85	58·79	55·15	50·40	45·30
19	43·70	41·35	42·81	45·89	51·64	56·20	59·20	60·82	58·72	55·00	50·40	45·22
20	43·44	41·63	43·08	45·57	51·19	56·37	59·37	60·63	58·55	54·93	50·36	45·60

(IV.)—Readings of a Thermometer whose bulb is sunk to the depth of 3·2 feet (3 French feet) below the surface of the soil, at Noon on every Day of the Year—*concluded*.

1907.												
Days of the Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
21	43·25	41·62	43·29	45·38	50·90	56·45	59·53	60·25	58·45	54·95	50·20	46·10
22	42·99	41·69	43·34	45·60	50·62	56·66	59·76	59·90	58·44	54·90	49·85	46·50
23	42·76	41·23	43·39	45·85	50·60	56·72	59·78	59·76	58·45	54·70	49·50	46·60
24	42·23	40·82	43·27	46·30	51·10	56·80	59·86	59·62	58·20	54·45	49·10	46·85
25	41·61	40·33	43·17	46·90	51·65	56·70	59·60	59·62	57·95	54·09	48·70	46·63
26	41·19	40·32	43·17	47·40	52·00	56·56	59·51	59·53	57·80	53·70	48·41	46·50
27	40·80	40·50	43·18	47·57	52·46	56·50	59·62	59·65	58·00	53·42	48·17	46·02
28	40·52	40·79	43·13	47·35	52·62	56·70	59·78	59·73	58·25	53·20	48·21	45·53
29	40·37		43·40	47·08	52·81	56·93	60·17	59·70	58·40	53·00	48·23	45·06
30	40·53		43·52	47·04	52·78	56·99	60·37	59·66	58·57	52·86	48·31	44·63
31	40·46		43·90		52·69		60·33	59·77		52·90		44·24
Means	42·50	40·24	42·18	45·78	50·29	55·33	58·29	60·25	58·92	55·67	50·81	46·41

The mean of the twelve monthly values is 50°·56.

(V.)—Readings of a Thermometer whose bulb is sunk to the depth of 1 inch below the surface of the soil, at Noon on every Day of the Year.

1907.												
<p>The readings of this thermometer are not given, as they were found to be quite inaccurate owing to a crack in the upper part of the tube. This defect was caused by thermometer No. 6 accidentally falling upon No. 5, in consequence of the perishing of its string support on 1906 May 30, after which date it is considered advisable to reject the readings already published in the Volume for 1906, a note to that effect being inserted among the Errata at the beginning of the present Volume.</p>												

(VI.)—Readings of a Thermometer within the case covering the deep-sunk Thermometers, whose bulb is placed on a level with their scales, at Noon on every Day of the Year.

1907.												
Days of the Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	.	.	.	.	.	.	.	.	.	.	.	.
1	44.8	35.6	43.7	58.3	43.7	60.5	60.0	63.0	59.5	63.4	45.0	44.0
2	44.1	33.9	42.3	61.9	53.7	55.5	57.5	68.2	62.5	56.7	53.9	45.5
3	39.3	32.0	41.5	55.9	52.7	51.8	57.2	64.8	53.9	58.0	51.0	44.5
4	38.3	35.4	39.7	52.3	53.8	61.8	61.5	72.3	56.8	56.5	53.0	46.5
5	45.9	35.0	37.4	51.6	57.6	57.5	60.5	69.9	66.4	53.9	50.5	43.3
6	43.2	36.0	43.0	54.1	65.0	57.2	64.3	67.2	64.5	61.2	50.0	38.3
7	39.0	33.2	43.8	42.8	53.5	61.5	60.5	60.1	65.9	55.5	48.0	42.5
8	44.2	33.9	42.8	48.5	63.0	59.2	60.8	68.0	66.5	48.5	50.7	54.8
9	42.3	39.2	43.6	48.5	54.1	72.4	62.6	68.0	62.7	55.0	54.8	48.3
10	45.0	38.7	53.4	48.5	69.0	66.5	62.8	66.5	64.5	58.0	49.0	46.0
11	41.6	39.7	37.8	45.5	72.8	64.0	61.7	66.0	63.7	59.0	41.5	43.7
12	42.2	41.3	39.8	48.2	76.8	66.3	63.8	67.5	65.5	58.8	46.5	44.6
13	43.7	38.3	44.8	53.3	64.3	63.8	69.2	70.5	64.2	56.2	48.9	42.1
14	44.3	40.7	42.7	49.7	51.9	60.2	68.9	70.8	61.8	56.3	51.7	41.2
15	44.6	44.7	50.8	51.9	59.2	59.2	73.0	65.0	59.7	51.5	47.7	36.0
16	44.8	44.7	49.4	45.4	55.5	60.4	72.0	61.2	63.7	51.7	37.8	41.5
17	43.9	49.9	47.2	49.2	54.8	63.5	61.7	64.0	64.0	51.5	50.6	40.0
18	35.7	47.9	53.8	43.6	50.6	62.0	66.5	67.9	60.7	53.0	48.5	46.2
19	33.1	46.2	48.1	45.4	48.2	61.8	68.5	63.0	62.0	58.9	48.0	52.6
20	36.2	39.1	50.8	51.1	47.1	65.8	69.7	55.8	62.5	56.7	45.0	51.0
21	39.9	37.3	50.2	50.4	51.0	61.5	66.0	58.8	63.5	58.0	42.0	51.0
22	34.2	34.8	51.8	53.5	56.0	64.0	65.0	61.7	58.7	54.5	42.2	48.8
23	27.0	33.1	48.6	57.2	65.8	59.5	57.0	63.0	58.0	51.0	45.0	48.3
24	26.9	34.4	48.7	64.5	64.5	59.0	64.7	60.9	59.5	50.0	39.1	40.4
25	30.1	46.2	45.6	53.9	66.2	59.6	64.8	66.6	68.2	50.0	39.8	41.8
26	30.1	42.6	51.8	44.6	57.0	63.6	67.2	61.5	64.5	46.5	46.1	36.5
27	33.0	45.2	53.0	48.0	52.3	65.0	64.9	63.0	66.0	46.8	49.4	35.2
28	43.2	46.9	53.0	46.2	55.2	62.0	65.3	67.5	68.3	50.2	50.2	35.8
29	40.1		58.9	51.7	54.6	60.5	71.7	66.0	60.5	52.1	42.1	34.0
30	39.7		57.0	52.1	54.7	59.7	65.1	65.3	62.9	53.8	38.3	34.7
31	35.3		59.0		65.6		62.6	67.0		52.6		36.0
Means	39.2	39.5	47.5	50.9	57.7	61.5	64.4	65.2	62.7	54.4	46.9	43.1

The mean of the twelve monthly values is 52.75.

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

Table with columns: Greenwich Civil Time (From, To), Change of Direction (From, To), Amount of Motion (Direct, Retrograde). Rows are organized by month: Feb.—cont., March, and Mar.—cont. Each row includes time, direction changes, and motion amounts.

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

Table with columns: Greenwich Civil Time (From, To), Change of Direction (From, To), Amount of Motion (Direct, Retrograde), Greenwich Civil Time (From, To), Change of Direction (From, To), Amount of Motion (Direct, Retrograde), Greenwich Civil Time (From, To), Change of Direction (From, To), Amount of Motion (Direct, Retrograde). Rows include dates from May to June with wind direction changes and motion amounts.

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

Table with columns for Greenwich Civil Time, Change of Direction, Amount of Motion, and Date. It is divided into sections for July and August, each with 'cont.' (continued) sub-sections. The table tracks wind direction changes and motion amounts from various starting and ending directions.

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

Table with columns for Greenwich Civil Time, Change of Direction, Amount of Motion, and Date (December). It contains wind direction data for each hour of the month, including 'From' and 'To' directions and 'Direct' or 'Retrograde' motion. A summary row at the bottom shows 'Sums' for the month.

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

Excess of Motion in each Month.

	Direct.	Retrograde.		Direct.	Retrograde.
1907.			1907.		
January	472½	•	July	2385	•
February	832½		August	1170	
March	1485		September	1620	
April		225	October	45	
May	2700		November	1687½	
June		427½	December		67½

The whole excess of direct motion for the year was 11677½°.

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	1907.												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	13·9	11·5	11·7	8·7	9·5	12·4	8·1	10·9	6·8	7·7	9·0	14·4	10·4
2	14·6	12·8	11·8	9·0	10·3	12·3	7·8	10·8	6·5	7·9	8·7	15·1	10·6
3	13·6	12·6	11·6	9·8	9·6	12·7	8·0	10·5	6·2	8·5	8·6	14·9	10·5
4	13·4	12·2	12·4	9·6	10·2	12·4	7·7	10·3	6·2	8·8	9·2	14·7	10·6
5	13·6	12·0	11·8	8·5	9·4	12·5	7·6	9·5	5·7	8·9	8·6	14·7	10·2
6	13·7	12·7	11·5	9·4	9·3	13·2	7·6	9·8	5·9	8·6	9·0	15·2	10·5
7	12·9	12·2	11·9	8·8	9·9	13·3	8·3	10·7	5·9	9·3	9·1	14·5	10·6
8	13·1	12·7	11·7	9·1	10·6	13·7	8·7	11·6	5·9	9·2	8·9	14·2	10·8
9	13·5	13·5	12·4	8·8	11·4	15·0	9·0	12·2	6·1	9·7	8·8	14·6	11·3
10	15·1	14·4	13·6	9·9	11·5	15·1	9·7	12·8	7·2	10·4	9·1	15·6	12·0
11	14·9	14·1	13·9	10·5	12·1	15·8	10·1	13·5	7·3	11·8	9·0	15·9	12·4
Noon	14·5	14·9	15·3	10·7	12·7	16·8	10·8	14·0	7·5	12·2	9·5	16·4	12·9
13 ^h	14·9	15·1	15·5	11·8	14·5	17·4	11·3	15·1	8·6	13·4	11·1	18·6	13·9
14	15·5	15·3	16·5	12·1	14·5	18·5	12·1	15·3	8·8	13·6	10·7	17·8	14·2
15	14·9	16·1	16·1	12·7	14·8	18·4	12·3	15·1	8·9	13·3	10·7	17·0	14·2
16	15·2	14·8	16·1	12·7	13·6	17·6	12·6	14·2	8·9	12·3	11·3	15·8	13·8
17	14·7	13·4	16·4	12·8	13·3	17·9	12·6	14·2	8·6	10·6	10·4	15·5	13·4
18	14·2	13·0	15·1	12·7	12·4	16·6	12·4	13·8	7·6	10·1	10·2	14·8	12·7
19	14·5	13·0	13·3	12·2	10·8	15·4	11·6	13·4	7·7	10·0	10·4	14·5	12·2
20	14·7	13·2	12·6	11·6	10·1	14·9	10·0	12·6	7·9	9·6	10·6	14·5	11·9
21	14·3	12·2	12·8	10·5	9·4	13·4	9·3	11·8	7·2	8·9	9·8	14·9	11·2
22	13·4	12·0	12·9	10·4	8·9	12·7	8·8	11·2	6·8	8·9	9·4	14·9	10·9
23	13·8	12·4	13·0	10·0	9·4	13·0	8·5	11·8	7·0	8·3	9·0	15·6	11·0
Midnight.	14·1	12·1	12·0	9·8	9·0	12·7	8·4	11·2	6·8	7·8	8·9	15·0	10·6
Means.....	14·2	13·3	13·4	10·5	11·1	14·7	9·7	12·3	7·2	10·0	9·6	15·4	11·8
Greatest Hourly Measures.....	40	50	47	30	40	32	28	28	23	36	39	46	...
Least Hourly Measures.....	1	0	0	0	0	0	0	0	0	1	0	0	...

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.)

1907.

Day of Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d												
1	+ 398	+1465	+1335	+ 528	+ 986	+ 157	+ 737	+ 889	+ 628	+ 92	...	+ 559
2	+ 415	+1751	+1307	+ 598	+ 546	+ 200	+ 759	+ 603	+ 354	+ 258	...	+ 432
3	+ 893	+1371	+ 795	+ 560	+ 474	+ 466	+ 580	+ 361	+ 662	+ 237	...	+ 440
4	+1489	+1523	+ 906	+ 944	+ 580	+ 435	+ 395	+ 263	+ 495	+ 323	...	+ 441
5	+ 684	+1305	+1219	+1107	+ 494	+ 169	+ 372	+ 320	+ 178	+ 402	...	+ 559
6	+ 570	+1483	+1636	+ 822	+ 402	+ 414	+ 570	+ 397	...	+ 36	+ 316	+ 910
7	+ 948	+1347	+ 907	+ 687	+ 318	+ 408	+ 584	+ 709	...	+ 318	+ 355	+ 656
8	+ 737	+1276	+1085	+ 669	+ 317	+ 307	+ 479	+ 327	+ 48	+ 301	+ 204	...
9	+ 863	+ 798	+1060	+ 880	+ 299	+ 226	+ 470	+ 255	+ 91	+ 253	+ 145	+ 212
10	+ 762	+1493	+ 485	+ 929	+ 312	+ 277	+ 560	+ 344	+ 199	+ 142	+ 297	...
11	+ 873	+1097	+1139	+ 877	+ 282	+ 353	+ 895	+ 312	+ 286	+ 148	+ 554	+ 187
12	+ 779	+ 292	+1186	+ 51	+ 233	+ 248	+ 774	+ 287	+ 260	+ 271	+ 654	...
13	+ 528	+ 889	+ 660	+ 243	+ 276	+ 421	+ 723	+ 282	+ 189	+ 313	+ 564	...
14	+ 665	+1464	+1397	+ 489	+ 418	+ 377	...	+ 215	+ 384	+ 139	+ 429	+ 580
15	+1045	+ 819	+ 545	+ 905	+ 439	+ 293	...	+ 288	+ 461	+ 361	+ 444	+ 861
16	+1003	+ 881	+ 341	+ 719	+ 628	+ 432	...	+ 534	+ 406	+ 218	+ 766	...
17	+ 669	+ 497	...	+ 717	+ 860	+ 723	+ 542	+ 536	+ 397	+ 98	+ 475	+ 674
18	+ 879	+ 589	...	+1124	+ 988	+ 479	...	+ 185	+ 267	+ 195	+ 42	+ 395
19	+1020	+ 520	+ 780	+ 572	+ 653	+ 739	...	+ 509	+ 379	+ 145	+ 343	+ 113
20	+ 796	+ 870	+1020	+ 541	+ 627	+ 440	+ 193	+ 516	+ 336	+ 164	+ 380	+ 163
21	+ 725	+1464	+1085	+ 323	+ 583	+ 641	+ 209	+ 743	+ 243	+ 180	+ 575	+ 296
22	+ 586	+1756	+1289	+ 916	+ 532	+ 513	+ 137	+ 666	+ 276	+ 266	+ 738	+ 338
23	...	+1979	+1284	+ 608	+ 121	+ 458	+ 333	+ 596	+ 420	+ 309	+ 539	+ 208
24	...	+1251	+ 662	+ 602	+ 344	+ 357	+ 297	+ 418	+ 396	+ 404	+ 852	+ 505
25	+1445	+1080	+ 936	+ 616	+ 535	+ 420	+ 550	+ 350	+ 287	+ 376	+ 722	+ 290
26	+1577	+1070	+1085	- 48	+ 312	+ 281	+ 398	+ 198	+ 216	+ 351	+ 316	+ 282
27	+1174	+1189	+1209	+ 693	+ 386	+ 260	+ 333	+ 291	+ 166	+ 365	+ 148	+ 362
28	+ 311	+1209	+1050	+ 922	+ 315	+ 508	+ 303	+ 324	+ 182	+ 249	+ 123	+ 458
29	+1298		+ 490	+ 801	+ 562	+ 482	+ 263	+ 488	+ 193	+ 71	+ 308	+ 632
30	+1480		+ 846	+ 902	+ 379	+ 353	+ 407	+ 320	+ 114	...	+ 462	+ 570
31	+1545		+ 695		+ 248		+ 819	+ 360		...		+ 676
Means	+ 902	+1169	+ 980	+ 677	+ 466	+ 395	+ 488	+ 416	+ 304	+ 241	+ 430	+ 454

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 arbitrary :
the sign + indicates positive potential.)

Hour, Greenwich Civil Time.	1907.												Yearly Means.	
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.		
Midnight	+ 855	+ 1225	+ 938	+ 721	+ 519	+ 411	+ 492	+ 470	+ 313	+ 296	+ 514	+ 408	+ 597	
1 ^h	+ 804	+ 1128	+ 823	+ 648	+ 482	+ 389	+ 450	+ 408	+ 276	+ 260	+ 463	+ 359	+ 541	
2	+ 680	+ 1026	+ 718	+ 611	+ 446	+ 342	+ 412	+ 352	+ 259	+ 221	+ 402	+ 313	+ 482	
3	+ 574	+ 913	+ 783	+ 612	+ 400	+ 306	+ 394	+ 326	+ 259	+ 190	+ 346	+ 326	+ 452	
4	+ 578	+ 883	+ 767	+ 514	+ 416	+ 280	+ 386	+ 306	+ 269	+ 160	+ 297	+ 292	+ 429	
5	+ 608	+ 897	+ 767	+ 477	+ 446	+ 287	+ 385	+ 313	+ 268	+ 143	+ 314	+ 311	+ 435	
6	+ 645	+ 929	+ 812	+ 548	+ 447	+ 342	+ 393	+ 325	+ 266	+ 146	+ 315	+ 340	+ 459	
7	+ 688	+ 962	+ 925	+ 638	+ 471	+ 383	+ 400	+ 345	+ 274	+ 146	+ 310	+ 388	+ 494	
8	+ 750	+ 1047	+ 1034	+ 741	+ 490	+ 413	+ 419	+ 372	+ 292	+ 156	+ 308	+ 421	+ 537	
9	+ 857	+ 1158	+ 1148	+ 750	+ 481	+ 440	+ 460	+ 427	+ 328	+ 189	+ 345	+ 437	+ 585	
10	+ 964	+ 1235	+ 1240	+ 836	+ 481	+ 449	+ 520	+ 408	+ 385	+ 239	+ 424	+ 508	+ 648	
11	+ 1066	+ 1259	+ 1228	+ 878	+ 498	+ 445	+ 494	+ 498	+ 391	+ 261	+ 481	+ 552	+ 671	
Noon	+ 1026	+ 1241	+ 1147	+ 764	+ 431	+ 380	+ 531	+ 463	+ 318	+ 246	+ 445	+ 483	+ 623	
13 ^h	+ 1038	+ 1257	+ 1063	+ 720	+ 411	+ 400	+ 524	+ 384	+ 294	+ 261	+ 427	+ 525	+ 609	
14	+ 1044	+ 1223	+ 970	+ 718	+ 467	+ 345	+ 473	+ 315	+ 281	+ 239	+ 415	+ 531	+ 585	
15	+ 1068	+ 1162	+ 964	+ 628	+ 437	+ 308	+ 494	+ 316	+ 269	+ 216	+ 462	+ 542	+ 572	
16	+ 1103	+ 1174	+ 973	+ 538	+ 459	+ 360	+ 478	+ 390	+ 276	+ 266	+ 514	+ 572	+ 592	
17	+ 1118	+ 1311	+ 960	+ 528	+ 404	+ 347	+ 535	+ 461	+ 307	+ 306	+ 488	+ 575	+ 612	
18	+ 1102	+ 1369	+ 1011	+ 708	+ 480	+ 407	+ 560	+ 488	+ 325	+ 309	+ 532	+ 555	+ 654	
19	+ 1082	+ 1389	+ 1043	+ 825	+ 528	+ 495	+ 545	+ 501	+ 334	+ 289	+ 510	+ 546	+ 674	
20	+ 1049	+ 1359	+ 1055	+ 806	+ 512	+ 466	+ 582	+ 500	+ 344	+ 293	+ 487	+ 515	+ 664	
21	+ 1020	+ 1318	+ 1064	+ 680	+ 494	+ 485	+ 614	+ 500	+ 340	+ 291	+ 488	+ 478	+ 648	
22	+ 989	+ 1291	+ 1078	+ 662	+ 492	+ 506	+ 600	+ 519	+ 320	+ 334	+ 504	+ 455	+ 646	
23	+ 941	+ 1296	+ 1020	+ 688	+ 496	+ 483	+ 568	+ 497	+ 308	+ 323	+ 530	+ 457	+ 634	
24	+ 849	+ 1258	+ 858	+ 729	+ 487	+ 431	+ 522	+ 469	+ 279	+ 292	+ 517	+ 428	+ 593	
Means	0 ^h .-23 ^h .	+ 902	+ 1169	+ 980	+ 677	+ 466	+ 395	+ 488	+ 416	+ 304	+ 241	+ 430	+ 454	+ 577
	1 ^h .-24 ^h .	+ 902	+ 1170	+ 977	+ 677	+ 465	+ 395	+ 489	+ 416	+ 303	+ 241	+ 430	+ 455	+ 577
Number of Days employed.	29	28	29	30	31	30	26	31	28	29	25	26	...	

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 0ⁱⁿ.020. The scale employed is arbitrary: the sign + indicates positive potential.)

Hour, Greenwich Civil Time.	1907.												Yearly Means.	
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.		
Midnight.	+ 423	+ 828	+ 704	+ 605	+ 557	+ 318	+ 430	+ 494	+ 260	+ 263	+ 469	+ 394	+ 479	
1 ^h	+ 417	+ 738	+ 526	+ 523	+ 481	+ 360	+ 386	+ 403	+ 192	+ 231	+ 344	+ 314	+ 410	
2	+ 108	+ 703	+ 362	+ 491	+ 429	+ 309	+ 374	+ 337	+ 158	+ 181	+ 234	+ 252	+ 328	
3	- 107	+ 509	+ 670	+ 518	+ 340	+ 278	+ 353	+ 315	+ 186	+ 151	+ 87	+ 279	+ 298	
4	+ 88	+ 457	+ 713	+ 357	+ 369	+ 232	+ 329	+ 283	+ 216	+ 121	+ 30	+ 190	+ 282	
5	+ 290	+ 489	+ 659	+ 280	+ 417	+ 218	+ 297	+ 279	+ 182	+ 101	+ 177	+ 174	+ 297	
6	+ 385	+ 532	+ 637	+ 343	+ 409	+ 295	+ 293	+ 316	+ 180	+ 103	+ 226	+ 211	+ 327	
7	+ 442	+ 568	+ 911	+ 475	+ 468	+ 311	+ 282	+ 365	+ 220	+ 111	+ 199	+ 294	+ 387	
8	+ 520	+ 666	+ 1113	+ 624	+ 515	+ 340	+ 296	+ 397	+ 296	+ 129	+ 173	+ 344	+ 451	
9	+ 680	+ 836	+ 1331	+ 574	+ 500	+ 345	+ 336	+ 448	+ 334	+ 159	+ 204	+ 380	+ 511	
10	+ 807	+ 886	+ 1494	+ 675	+ 545	+ 355	+ 418	+ 498	+ 416	+ 189	+ 293	+ 509	+ 590	
11	+ 788	+ 862	+ 1476	+ 785	+ 561	+ 365	+ 392	+ 538	+ 414	+ 211	+ 413	+ 508	+ 609	
Noon.	+ 733	+ 946	+ 1246	+ 690	+ 453	+ 334	+ 512	+ 467	+ 394	+ 205	+ 387	+ 471	+ 570	
13 ^h	+ 828	+ 1051	+ 1049	+ 655	+ 397	+ 430	+ 501	+ 367	+ 354	+ 228	+ 399	+ 462	+ 560	
14	+ 825	+ 1087	+ 1021	+ 689	+ 507	+ 316	+ 487	+ 237	+ 296	+ 199	+ 321	+ 455	+ 537	
15	+ 778	+ 1000	+ 1076	+ 509	+ 457	+ 183	+ 465	+ 236	+ 236	+ 160	+ 397	+ 473	+ 498	
16	+ 818	+ 928	+ 1065	+ 289	+ 525	+ 286	+ 358	+ 382	+ 168	+ 218	+ 529	+ 484	+ 504	
17	+ 885	+ 1188	+ 1061	+ 263	+ 364	+ 249	+ 442	+ 537	+ 230	+ 270	+ 534	+ 529	+ 546	
18	+ 887	+ 1277	+ 1111	+ 621	+ 492	+ 348	+ 505	+ 610	+ 278	+ 291	+ 521	+ 509	+ 621	
19	+ 873	+ 1255	+ 1094	+ 843	+ 568	+ 486	+ 451	+ 628	+ 270	+ 277	+ 473	+ 485	+ 642	
20	+ 828	+ 1147	+ 1112	+ 797	+ 550	+ 375	+ 465	+ 572	+ 314	+ 288	+ 440	+ 444	+ 611	
21	+ 785	+ 1058	+ 1151	+ 658	+ 469	+ 412	+ 517	+ 545	+ 340	+ 277	+ 449	+ 355	+ 585	
22	+ 697	+ 1000	+ 1161	+ 685	+ 486	+ 452	+ 491	+ 575	+ 302	+ 346	+ 527	+ 334	+ 588	
23	+ 682	+ 1023	+ 1099	+ 743	+ 513	+ 437	+ 480	+ 564	+ 276	+ 333	+ 594	+ 338	+ 590	
24	+ 748	+ 987	+ 1009	+ 863	+ 439	+ 365	+ 476	+ 510	+ 230	+ 297	+ 564	+ 326	+ 568	
Means	0 ^h .-23 ^h .	+ 603	+ 876	+ 993	+ 570	+ 474	+ 335	+ 411	+ 433	+ 271	+ 210	+ 351	+ 383	+ 493
	1 ^h .-24 ^h .	+ 616	+ 883	+ 1006	+ 581	+ 469	+ 337	+ 413	+ 434	+ 270	+ 212	+ 355	+ 380	+ 496
Number of Days employed.	6	10	8	15	15	13	10	12	5	18	7	8	...	

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

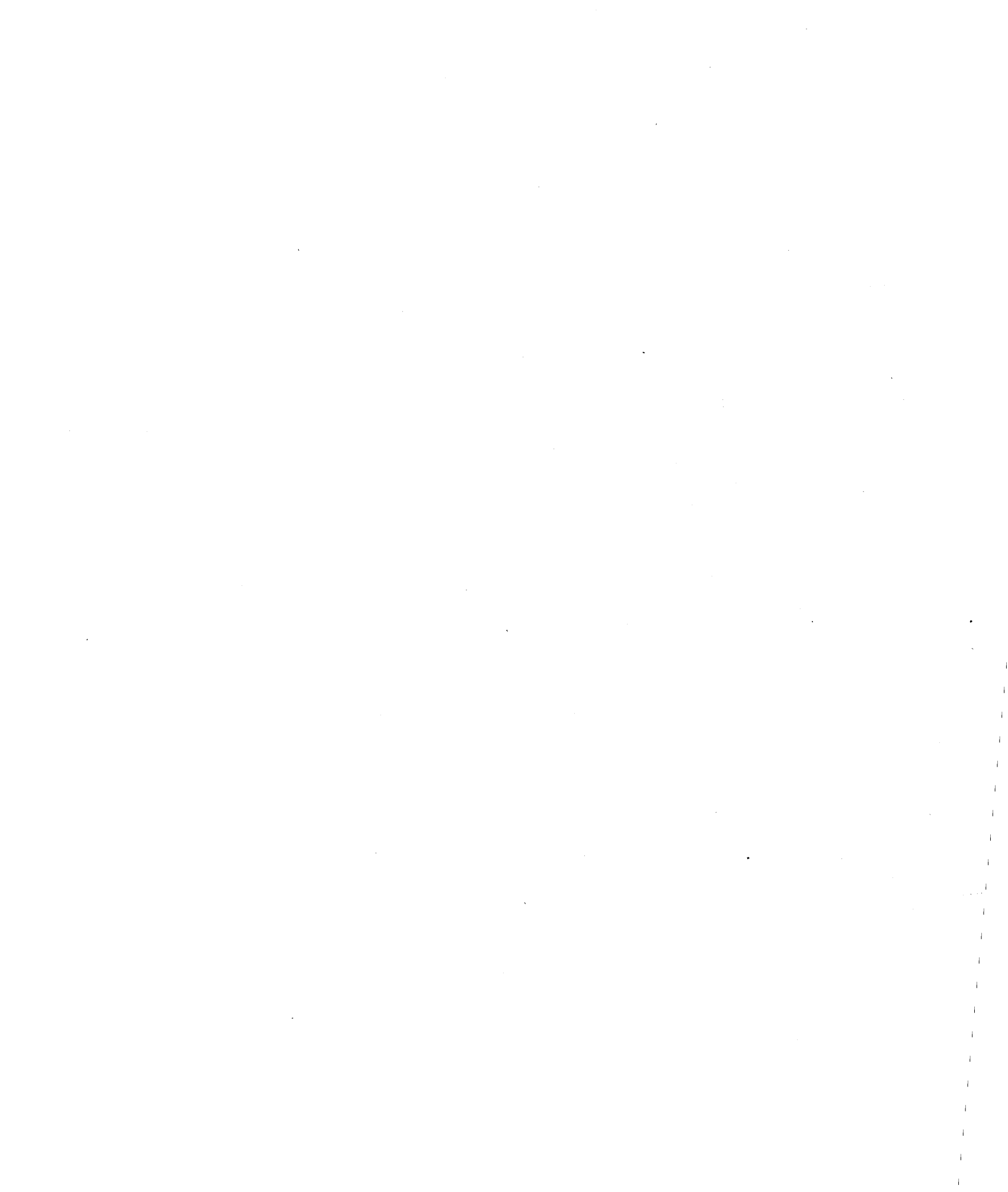
(The results depend on the Photographic Register, using only those days on which no rainfall was recorded. The scale employed is arbitrary: the sign + indicates positive potential.)

Hour, Greenwich Civil Time.	1907.												Yearly Means.	
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.		
Midnight.	+ 944	+ 1547	+ 1058	+ 861	+ 316	+ 501	+ 513	+ 471	+ 324	+ 415	+ 543	+ 414	+ 659	
1 ^h	+ 895	+ 1457	+ 969	+ 799	+ 354	+ 428	+ 491	+ 423	+ 295	+ 332	+ 522	+ 389	+ 613	
2	+ 826	+ 1282	+ 885	+ 762	+ 343	+ 377	+ 445	+ 369	+ 281	+ 308	+ 477	+ 354	+ 559	
3	+ 747	+ 1194	+ 857	+ 749	+ 356	+ 331	+ 435	+ 339	+ 275	+ 275	+ 459	+ 346	+ 530	
4	+ 695	+ 1173	+ 817	+ 715	+ 384	+ 325	+ 438	+ 327	+ 280	+ 245	+ 411	+ 339	+ 512	
5	+ 674	+ 1174	+ 839	+ 717	+ 425	+ 356	+ 458	+ 339	+ 287	+ 250	+ 379	+ 371	+ 522	
6	+ 696	+ 1207	+ 912	+ 811	+ 452	+ 395	+ 478	+ 334	+ 285	+ 275	+ 354	+ 383	+ 548	
7	+ 739	+ 1239	+ 967	+ 862	+ 444	+ 452	+ 508	+ 337	+ 286	+ 270	+ 351	+ 417	+ 573	
8	+ 794	+ 1337	+ 1040	+ 919	+ 436	+ 495	+ 535	+ 362	+ 291	+ 225	+ 349	+ 456	+ 603	
9	+ 893	+ 1430	+ 1114	+ 992	+ 448	+ 542	+ 568	+ 423	+ 327	+ 190	+ 383	+ 489	+ 650	
10	+ 1003	+ 1537	+ 1183	+ 1077	+ 486	+ 550	+ 612	+ 510	+ 378	+ 307	+ 459	+ 526	+ 719	
11	+ 1128	+ 1612	+ 1174	+ 1055	+ 500	+ 518	+ 576	+ 481	+ 386	+ 313	+ 486	+ 581	+ 734	
Noon.	+ 1081	+ 1586	+ 1148	+ 915	+ 466	+ 438	+ 570	+ 469	+ 301	+ 287	+ 451	+ 569	+ 690	
13 ^h	+ 1071	+ 1533	+ 1101	+ 847	+ 456	+ 395	+ 575	+ 404	+ 281	+ 328	+ 421	+ 599	+ 668	
14	+ 1091	+ 1417	+ 973	+ 802	+ 446	+ 374	+ 488	+ 376	+ 278	+ 307	+ 433	+ 594	+ 632	
15	+ 1147	+ 1344	+ 938	+ 791	+ 475	+ 408	+ 533	+ 381	+ 276	+ 330	+ 477	+ 606	+ 642	
16	+ 1184	+ 1437	+ 957	+ 828	+ 509	+ 431	+ 579	+ 411	+ 300	+ 383	+ 510	+ 663	+ 683	
17	+ 1183	+ 1540	+ 945	+ 825	+ 521	+ 433	+ 632	+ 428	+ 324	+ 395	+ 457	+ 641	+ 694	
18	+ 1161	+ 1573	+ 999	+ 822	+ 521	+ 476	+ 632	+ 425	+ 336	+ 382	+ 532	+ 612	+ 706	
19	+ 1140	+ 1611	+ 1051	+ 845	+ 507	+ 548	+ 634	+ 433	+ 348	+ 393	+ 510	+ 598	+ 718	
20	+ 1105	+ 1607	+ 1060	+ 863	+ 483	+ 595	+ 684	+ 467	+ 351	+ 397	+ 481	+ 567	+ 722	
21	+ 1080	+ 1563	+ 1063	+ 738	+ 514	+ 594	+ 689	+ 486	+ 340	+ 415	+ 479	+ 558	+ 710	
22	+ 1065	+ 1548	+ 1086	+ 671	+ 464	+ 584	+ 676	+ 500	+ 323	+ 395	+ 467	+ 536	+ 693	
23	+ 1017	+ 1552	+ 1038	+ 707	+ 426	+ 562	+ 635	+ 472	+ 315	+ 380	+ 482	+ 537	+ 677	
24	+ 931	+ 1511	+ 844	+ 693	+ 464	+ 512	+ 565	+ 464	+ 293	+ 345	+ 489	+ 537	+ 637	
Means {	0 ^h .-23 ^h .	+ 973	+ 1437	+ 1007	+ 832	+ 447	+ 463	+ 558	+ 415	+ 311	+ 325	+ 453	+ 506	+ 644
	1 ^h .-24 ^h .	+ 973	+ 1436	+ 998	+ 825	+ 453	+ 463	+ 560	+ 415	+ 310	+ 322	+ 451	+ 511	+ 643
Number of Days employed.	19	12	20	12	8	13	13	18	23	4	15	14	...	

AMOUNT of RAIN COLLECTED in each MONTH of the YEAR 1907.

MONTH, 1907.	Number of Rainy Days.	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.	
		No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	In Magnetic Pavilion Enclosure. No. 6.	In Observatory Grounds. No. 7.
January	10	in. 0·496	in. 0·505	in. 0·812	in. 0·817	in. 1·005	in. 1·087	in. 1·041
February	14	0·566	0·511	0·805	0·963	1·165	1·274	1·193
March	10	0·316	0·281	0·649	0·685	0·836	0·905	0·861
April	16	2·221	2·385	2·737	2·909	3·118	3·139	3·087
May	18	0·763	0·833	1·221	1·276	1·394	1·474	1·445
June	15	1·634	1·698	2·176	2·424	2·565	2·647	2·574
July	13	...	...	0·827	0·908	0·970	0·969	0·980
August	13	...	...	1·522	1·719	1·862	1·915	1·862
September	6	...	...	0·520	0·597	0·650	0·623	0·623
October	24	2·171	2·218	2·667	2·907	3·137	3·252	3·093
November	9	1·447	1·517	1·841	1·910	2·144	2·232	2·157
December	15	1·627	1·623	2·022	2·283	2·626	2·733	2·659
Sums	163	...	...	17·799	19·398	21·472	22·250	21·575
Height of receiving Surface	{ above the ground } ... { above mean sea level } ...	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. 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

From July 9 to September 21. Gauges Nos. 1 and 2 were partially screened by scaffolding and platform erected for fitting and adjusting new springs to the Osler Anemometer. It has not been considered advisable to attempt to allow for this.
The height of receiving surface of gauge No. 6 above the Ordnance Survey datum was determined by Mr. H. A. H. Christie in 1908.



ROYAL OBSERVATORY, GREENWICH.

OBSERVATIONS

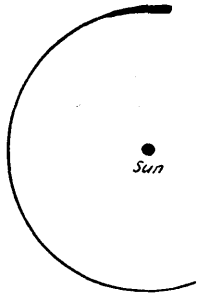
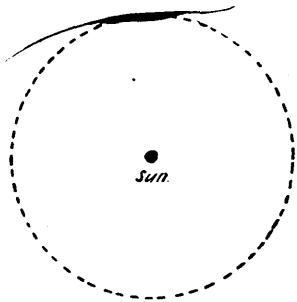
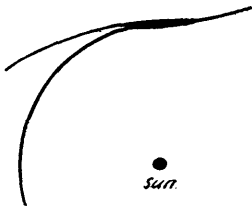
OF

P A R H E L I A.

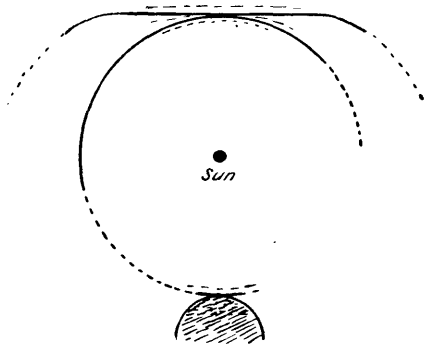
1907.

OBSERVATIONS OF PARHELIA MADE AT THE ROYAL OBSERVATORY, GREENWICH,
IN THE YEAR 1907.

THE PARHELION OF 1907 OCTOBER 3.

AT 9^h.AT 9^h 27^m.AT 10^h.

DAVID J. R. EDNEY.



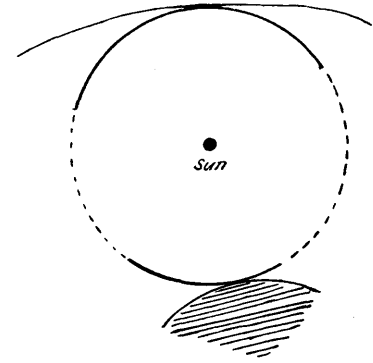
- | h | m | |
|----|-----|---|
| 10 | 5. | Cumulus and haze being prevalent in the direction of the sun, a bright patch was noticed rather more than 20° below the sun, of an apparently oval shape, the greatest diameter being horizontal and the dimensions about 8° by 6°. |
| 10 | 8. | Bright partial solar halo is now conspicuous, with a horizontal contact-arch at the vertex, curving downwards at the Eastern extremity. |
| 10 | 10. | The upper edge of the bright patch now shows coloured, as if forming portion of solar halo. |
| 10 | 15. | Contact-arch very bright, curving downwards both East and West, and patch now reappears semi-circular, about 6° radius. (See Figure.) |
| 10 | 25. | Halo hardly visible. Arch bright. Masses of cumulus beginning to cover that region of the sky. |
| 10 | 35. | Sun and halo covered. |
| 11 | 0. | Horizontal portion of arch visible. |

WALTER W. BRYANT.

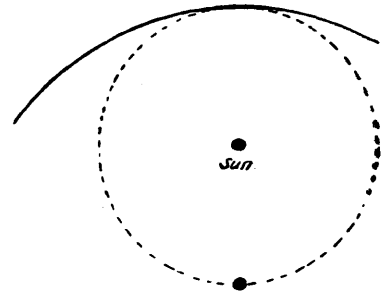
THE PARHELION OF 1907 OCTOBER 3—*continued.*

A partial halo with contact-arch seen at 10^h 10^m. The contact-arch, and that portion of the halo immediately below it, were very bright. In the opposite quadrant appeared a small arc of a halo, and below this was a bright glow in the sky. The dotted portions in the diagram became visible, but were very faint. At 10^h 20^m the colours were faint, and disappeared five minutes later.

P. MELOTTE

AT 11^h 15^m.

W. C. PARKINSON.



ROYAL OBSERVATORY, GREENWICH.

OBSERVATIONS

OF

LUMINOUS METEORS.

1907.

OBSERVATIONS OF LUMINOUS METEORS,

Month and Day, 1907.	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	21. 25. 34	HB	2	White	0.5	None	13	266 + 54 to 247 + 62
"	21. 36. 36	HB	3	White	0.5	None	7	240 + 25 to 241 + 18
"	21. 41. 31	P & HB	2	...	0.3	None	11	266 + 52 to 265 + 63
"	21. 55. 15	P & HB	2	Bluish-white	0.7	None	13	185 + 12 to 191 + 24
"	21. 59. 59	HB	3	...	0.3	None	9	232 + 31 to 221 + 29
"	22. 1. 4	P & HB	2	Bluish-white	0.5	None	12	264 + 27 to 255 + 18
"	22. 9. 25	HB	3	...	0.4	None	10	232 + 27 to 237 + 18
"	22. 19. 19	P & HB	3	...	0.5	Slight	7	197 + 64 to 178 + 67
"	22. 35. 52	P	3	...	0.4	None	15	246 + 24 to 237 + 12
"	22. 39. 42	P & HB	3	...	0.5	Slight	8	205 + 54 to 191 + 57
"	22. 47. 26	HB	3	...	0.3	None	11	263 + 55 to 255 + 45
"	22. 49. 2	HB	1	White	0.5	Bright	8	255 + 5 to 263 + 6
"	22. 58. 42	P	2	...	0.7	Slight	10	222 + 33 to 210 + 31
"	23. 1. 4	HB	3	...	0.5	None	11	287 + 52 to 300 + 60
"	23. 13. 17	P & HB	3	...	0.5	None	9	217 + 15 to 212 + 23
"	23. 16. 19	HB	2	White	0.5	Slight	11	284 + 27 to 296 + 24
"	23. 23. 41	P & HB	3	...	0.4	None	9	300 + 46 to 313 + 49
"	23. 29. 33	P & HB	3	...	0.5	None	7	259 + 15 to 256 + 7
April 23	1. 57. 43	P & HB	2	White	0.8	Slight	7	270 + 62 to 272 + 69
"	2. 2. 1	HB	2	White	0.5	Slight	10	287 + 19 to 294 + 11
"	2. 7. 58	P	3	White	0.5	None	7	252 + 24 to 247 + 18
"	2. 14. 32	P & HB	3	...	0.4	None	9	302 + 63 to 317 + 69
"	2. 19. 17	HB	3	...	0.5	None	7	225 + 33 to 219 + 27
"	2. 26. 14	P & HB	2	Bluish-white	0.8	Slight	12	297 + 39 to 312 + 43
"	2. 33. 39	P	2	White	0.8	Slight	11	282 + 16 to 289 + 8
"	2. 38. 42	P	3	...	0.4	None	9	239 + 53 to 225 + 57
"	2. 41. 19	HB	4	...	0.4	None	7	293 + 51 to 304 + 57
"	2. 52. 51	P & HB	2	White	0.5	None	10	301 + 32 to 312 + 31
"	3. 0. 19	HB	2	White	0.8	None	10	225 + 9 to 220 ± 0
"	3. 2. 14	P & HB	3	White	0.5	None	6	315 + 51 to 323 + 54
"	3. 9. 17	HB	2	Bluish-white	0.8	None	9	280 + 61 to 287 + 69
"	3. 18. 24	P	3	...	0.5	Slight	12	254 + 18 to 243 + 12
"	3. 26. 39	P & HB	3	...	0.5	None	7	238 + 52 to 227 + 54
"	3. 33. 17	P	2	...	0.8	None	3	282 + 68 to 287 + 71
"	3. 39. 19	HB	2	White	0.5	None	7	317 + 53 to 325 + 59
"	3. 47. 25	P & HB	3	...	0.4	None	6	254 + 42 to 246 + 44
"	3. 53. 17	P & HB	3	...	0.4	Slight	9	287 + 19 to 291 + 11
"	3. 59. 59	P & HB	4	...	0.4	None	12	297 + 22 to 307 + 15
"	4. 7. 9	HB	3	...	0.7	None	13	227 + 5 to 221 + 17
"	4. 12. 15	P	2	Bluish-white	0.7	Slight	6	284 + 62 to 289 + 68
August 10	23. 55. 25	B	0	Bluish-white	0.7	...	8	198 + 55 to 201 + 47
"	23. 59. 35	B	1	White	1.0	...	10	140 + 67 to 154 + 59
August 11	0. 11. 26	K	...	...	...	...	10	238 + 85 to 222 + 76
"	0. 25. 13	K	...	Yellow	0.3	...	2	69 + 65 to 71 + 65
"	0. 38. 8	B	1	White	0.5	...	5	353 - 3 to 349 - 6
"	0. 42. 29	B	3	White	0.3	Very slight	4	30 + 38 to 31 + 34
"	0. 46. 23	B	1	White	1.0	2 secs.	12	21 + 14 to 18 + 2
"	1. 0. 2	B	2	White	1.0	...	8	76 + 24 to 78 + 16
"	1. 1. 13	K	...	...	0.2	...	6	83 + 42 to 88 + 37
"	1. 23. 49	B	1	White	2.0	Trail	15	143 + 82 to 187 + 71
"	1. 24. 5	B	2	White	...	...	5	71 + 47 to 74 + 43
"	1. 33. 30	B	2	White	...	...	5	65 + 32 to 70 + 30
"	1. 49. 23	B	2	White	0.7	Slight	7	15 + 26 to 12 + 22
"	1. 54. 13	K	...	Yellow	0.2	...	3	83 + 45 to 80 + 47
"	2. 6. 41	B	1	White	0.7	...	6	64 + 16 to 68 + 12

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

Month and Day, 1907.	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.
August	h m s				s		°	° ° ° ° °
11	2. 9. 38	K	...	Yellow	0.2	...	6	156 + 63 to 162 + 58
"	2. 14. 29	B	0	White	1.0	Bright trail	12	59 + 11 to 65 ± 0
"	2. 21. 43	K	1	Yellow	0.2	...	3	159 + 59 to 158 + 62
"	2. 39. 22	B	2	White	0.7	...	10	341 + 23 to 336 + 14
"	2. 44. 23	B	1	White	1.0	...	11	325 + 17 to 316 + 10
"	2. 47. 20	B	1	White	1.0	...	8	38 + 2 to 36 - 6
"	2. 54. 10	B	2	White	1.5	Slight trail	13	24 + 17 to 22 + 4
"	2. 58. 56	B	2	White	0.7	...	6	4 + 13 to 9 + 9
"	3. 1. 23	K	2	Yellow	0.3	...	5	1 - 6 to 356 - 9
"	3. 2. 23	B	2	White	0.5	...	7	355 - 3 to 350 - 8
"	3. 3. 8	B	1	White	0.5	...	4	4 - 11 to 1 - 13
"	3. 12. 23	B	2	White	0.5	...	6	299 + 13 to 297 + 8
"	21. 20. 53	B	0	White	1.5	2 secs.	15	301 - 1 to 291 - 13
"	21. 41. 29	B	0	White	2.0	3 secs.	25	339 + 30 to 325 + 8
"	22. 1. 46	B	2	White	0.5	2 secs.	6	34 + 66 to 19 + 67
"	22. 12. 22	F	2	White	1.0	Trail	8	38 + 38 to 34 + 31
"	22. 12. 22	K	2	Yellow	0.7	...	6	187 + 70 to 189 + 64
"	22. 15. 3	F	2	White	1.0	...	5	47 + 45 to 45 + 40
"	22. 15. 43	PM	2	Yellow	2.0	...	7	23 + 39 to 26 + 33
"	22. 16. 7	F	3	Bluish-white	0.5	...	2	8 + 56 to 6 + 55
"	22. 21. 12	PM	2	Yellow	2.0	Trail	10	225 + 85 to 218 + 75
"	22. 21. 49	F	...	...	0.5	Trail	15	1 + 28 to 353 + 15
"	22. 25. 45	F	4	White	0.5	...	3	345 + 14 to 342 + 12
"	22. 32. 0	B	1	White	1.0	3 secs.	20	325 + 10 to 311 - 4
"	22. 33. 27	F & K	2	White	...	...	3	45 + 40 to 48 + 38
"	22. 35. 45	F	2	Bluish-white	1.0	...	3	83 + 42 to 84 + 39
"	22. 35. 57	K	2	Yellow	0.5	...	5	18 + 57 to 9 + 56
"	22. 48. 56	B	2	White	1.0	Trail	7	331 + 1 to 332 - 6
"	22. 53. 5	B	1	White	1.0	3 secs.	15	301 - 1 to 288 - 9
"	22. 56. 15	K	2	Yellow	0.5	...	7	177 + 54 to 182 + 49
"	23. 2. 52	B	2	White	1.0	Trail	7	317 + 30 to 312 + 25
"	23. 5. 2	K	2	Yellow	0.3	...	8	146 + 70 to 158 + 66
"	23. 10. 15	B	1	White	1.0	Trail	10	33 + 35 to 40 + 27
"	23. 11. 54	K	2	White	0.5	...	5	35 + 67 to 34 + 72
"	23. 14. 59	F	1.5	White	3.0	6 secs.	15	32 + 78 to 300 + 87
"	23. 17. 31	K & F	2	Yellow	0.3	...	10	147 + 63 to 164 + 61
"	23. 20. 55	F	2	Bluish-white	2.0	4 secs.	10	337 + 57 to 323 + 51
"	23. 25. 52	K	2	Bluish-white	0.3	...	5	13 + 38 to 11 + 34
"	23. 33. 2	B	2	White	1.0	3 secs.	12	313 + 4 to 303 - 3
"	23. 39. 29	B	1	White	1.0	2 secs.	15	320 + 50 to 305 + 39
"	23. 41. 19	B	1	White	1.5	2 secs.	15	324 + 40 to 310 + 30
"	23. 44. 52	B	2	White	1.0	2 secs.	7	13 + 38 to 10 + 32
"	23. 47. 44	K	3	Yellow	0.2	...	6	142 + 82 to 157 + 76
"	23. 48. 5	B	2	White	1.0	2 secs.	10	341 + 24 to 346 + 15
"	23. 50. 39	B	1	White	1.0	3 secs.	10	349 + 32 to 344 + 23
"	23. 55. 31	K	2	Bluish-white	0.3	...	8	29 + 42 to 31 + 34
August	o. 6. 15	B	2	White	1.0	2 secs.	7	22 + 14 to 16 + 9
"	o. 10. 54	K	2	Yellow	0.5	...	23	240 + 83 to 231 + 60
"	o. 20. 49	B	2	White	0.5	...	4	50 + 49 to 54 + 47
"	o. 23. 32	B	0.5	White	1.5	3 secs.	15	300 + 23 to 296 + 9
"	o. 23. 49	K	1	Bluish-white	0.5	...	10	54 + 43 to 52 + 33
"	o. 26. 17	B	1	White	1.0	2 secs.	6	12 + 46 to 9 + 41
"	o. 29. 12	B	2	White	0.5	3 secs.	8	24 + 22 to 21 + 15
"	o. 39. 0	F	2	Bluish-white	1.0	4 secs.	8	31 + 25 to 33 + 18
"	o. 43. 19	B & F	1	White	1.0	3 secs.	5	72 + 33 to 73 + 28
"	o. 48. 57	K	3	Yellow	0.3	...	6	272 + 87 to 150 + 85
"	o. 53. 34	K	3	Yellow	0.3	3 secs.	12	20 + 88 to 45 + 77
"	1. 1. 20	K	3	White	0.5	...	10	126 + 61 to 140 + 53
"	1. 2. 34	WS	3	White	0.5	...	24	16 + 35 to 2 + 15
"	1. 4. 55	WS	3	White	0.5	...	9	339 + 10 to 331 + 6
"	1. 10. 48	WS	2	White	0.5	...	6	345 + 15 to 340 + 11

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

OBSERVATIONS OF LUMINOUS METEORS,

Month and Day, 1907.	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		°	° ° ° °
August 12	1. 13. 38	WS	1	White	0.5	...	7	1 + 33 to 354 + 31
"	1. 15. 59	WS	> 2	Bluish-white	1.5	Very bright, burst midway: then 3rd mag.	25	326 + 26 to 304 + 14
"	1. 20. 22	K	4	Yellow	0.5	...	12	100 + 77 to 141 + 70
"	1. 31. 7	K	2	Yellow	0.5	...	10	286 + 36 to 282 + 26
"	1. 37. 40	K	1	White	0.7	...	12	77 + 42 to 80 + 31
"	2. 6. 22	K	2	White	0.5	...	6	83 + 50 to 90 + 47
"	2. 13. 12	B	1	Yellow	0.7	...	10	150 + 55 to 159 + 47
"	2. 20. 54	B	0	White	0.5	...	6	94 + 22 to 98 + 17
"	2. 38. 23	B	0.5	White	0.5	...	5	315 - 17. Fell vertically and disappeared behind trees.
"	2. 45. 24	B	1.5	White	1.0	Slight trail	8	68 + 6 to 70 - 2
"	2. 48. 52	B	2	White	1.0	...	11	65 + 22 to 68 + 11
"	2. 54. 52	B	2	White	0.7	...	11	79 + 29 to 83 + 19
"	23. 43. 7	K	2	White	0.3	...	10	62 + 46 to 77 + 46
"	23. 48. 2	E	3	White	0.3	Slight	5	157 + 63 to 165 + 59
"	23. 53. 51	E	...	White	0.3	Slight	10	141 + 68 to 156 + 61
August 13	0. 13. 13	E	2	Bluish-white	...	Slight	6	225 + 70 to 228 + 64
"	0. 24. 59	E	1	Bluish-white	...	None	4	57 + 27 to 57 + 23
"	1. 35. 32	K	3	Yellow	0.3	Slight	10	47 + 20 to 40 + 12
"	1. 47. 23	K	1	Yellow	0.5	Slight	18	15 + 7 to 5 - 9
"	1. 52. 5	E	3	White	0.3	None	4	270 + 72 to 265 + 68
September 11	19. 35. 55	P	3	...	0.5	Slight	14	0 + 45 to 0 + 31
"	20. 13. 33	P	1	Yellow	1.0	Bright	37	33 + 67 to 142 + 69
"	20. 24. 51	P	3	...	0.5	Slight	24	332 + 32 to 324 + 11
"	20. 56. 30	K	3	Yellow	0.5	None	4	39 + 40 to 42 + 37
"	21. 35. 7	K	3	Yellow	0.5	None	11	354 + 20 to 356 + 10
"	22. 7. 21	K	3	Yellow	0.5	None	17	4 + 43 to 357 + 27
"	22. 18. 42	P	2	White	1.0	Bright	26	2 + 21 to 338 + 16
"	22. 34. 58	P	3	...	0.5	Slight	23	8 + 63 to 10 + 85
"	22. 42. 57	P	3	White	0.5	Slight	16	330 + 55 to 304 + 58
"	22. 46. 25	P	2	Bluish-white.	1.0	Bright	18	4 + 52 to 338 + 63
"	22. 57. 46	P	3	...	0.5	None	13	2 + 46 to 345 + 53
"	23. 14. 33	P	2	White	0.5	Bright	27	4 + 15 to 15 + 40
"	23. 26. 33	P	3	...	1.0	Slight	17	22 + 22 to 36 + 35
"	23. 33. 38	K	1	White	0.5	None	5	158 + 63 to 160 + 58
"	23. 41. 46	P	2	White	0.5	Slight	10	65 + 46 to 80 + 50
"	23. 57. 30	P	1	White	1.0	Bright	24	354 - 17 to 336 - 23
September 12	0. 28. 6	P	3	White	0.5	None	22	0 + 5 to 8 + 23
"	0. 36. 12	K	3	...	0.5	None	7	30 + 40 to 22 + 38
"	1. 5. 42	P & K	3	...	0.5	Slight	9	33 + 28 to 42 + 25
"	1. 28. 41	P	3	White	0.5	Slight	18	26 + 15 to 36 + 24
"	1. 42. 4	P	1	White	1.0	Bright	23	36 + 6 to 40 + 23
"	2. 1. 24	P	3	...	0.5	Slight	15	24 + 14 to 33 + 21
"	2. 8. 36	P	3	White	0.5	Slight	24	27 + 23 to 38 + 40
"	2. 14. 43	P & K	2	White	0.3	Slight	17	13 - 7 to 0 - 6
"	2. 18. 23	P	2	White	1.0	Slight	35	36 + 4 to 52 + 22
"	2. 30. 46	P	2	...	0.5	Slight	13	342 + 27 to 327 + 33
"	2. 39. 2	K	3	Yellow	0.5	Slight	13	19 + 63 to 15 + 75
"	2. 44. 17	P	2	White	1.0	Bright: long	30	51 + 26 to 51 - 4
"	2. 57. 46	K	2	Yellow	0.5	None	28	57 + 33 to 68 + 37
"	3. 18. 35	P	3	White	0.5	Slight	13	6 + 8 to 356 + 3
"	3. 24. 42	K	3	Yellow	0.3	None	7	66 + 22 to 60 + 24
"	3. 42. 34	P	2	...	0.5	Slight	12	28 + 23 to 34 + 31

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Sept. 12	h m s 3. 50. 8	P	2	White	s 1.0	Slight	18	27 + 19 to 40 + 22
"	3. 51. 39	P	3	...	0.5	None	16	27 + 28 to 40 + 34
"	4. 10. 33	P	2	White	0.5	Slight	22	33 + 18 to 42 ± 0
"	19. 42. 26	P	2	White	0.3	Slight	16	34 + 63 to 72 + 64
"	19. 48. 50	P	3	...	0.5	None	20	9 + 31 to 25 + 45
"	19. 53. 4	P	1	White	1.0	Bright	26	15 + 51 to 52 + 69
"	20. 13. 48	P	2	Bluish-white	0.5	Slight	22	6 + 31 to 340 + 41
"	20. 24. 31	P	1	Yellow	0.3	Slight	35	356 + 52 to 333 + 84
"	21. 37. 59	P	2	Bluish-white	0.5	Slight	15	27 + 55 to 48 + 61
"	22. 10. 30	P & K	2	White	0.5	Slight	14	352 + 40 to 345 + 28
"	22. 24. 10	K	3	White	0.5	None	17	354 + 46 to 342 + 33
"	22. 35. 49	P & K	2	White	1.0	Slight	26	343 + 66 to 280 + 81
"	23. 31. 51	K	2	Yellow	0.5	None	12	312 - 4 to 309 - 13
Sept. 13	0. 21. 14	P	2	White	0.5	Slight	25	10 + 22 to 3 + 42
Nov. 16	1. 24. 8	L	3	White	0.5	None	12	180 + 53 to 202 + 53
"	2. 28. 29	P & K	3	Yellow	0.5	Bright	5	110 + 32 to 110 + 27
"	2. 38. 44	K	3	Yellow	0.5	Bright	5	103 + 25 to 98 + 23
"	3. 16. 20	K	2	Yellow	0.5	None	6	115 + 26 to 100 + 22
"	3. 23. 41	K	2	Yellow	0.5	Slight	10	129 + 23 to 136 + 15

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