

ἌΤΛΑΣ ΟΥΡΑΝΙΟΣ,  
The COELESTIAL ATLAS;

OR, A NEW

E P H E M E R I S

For the YEAR of our LORD 1803.

Being the Seventh after

BISSEXTILE, or LEAP-YEAR,

Wherein are contained

The Heliocentrick and Geocentrick Places of the Planets,  
the ECLIPSES of the Luminaries, and other remarkable PHENOMENA that will happen this Year.

Carefully computed

From the genuine TABLES of Dr. EDMUND HALLEY,  
those of Professor MAYER, and other the latest and most correct  
ASTRONOMICAL TABLES.

A L S O

A Complete ALMANACK, containing the FEASTS and FASTS  
of the Church of ENGLAND; the Times of the LUNATIONS;  
the Rising and Setting of the Sun, Moon, and Planets, &c.

Adapted to the

Meridian and Latitude of the Royal Observatory of  
GREENWICH.

To which are added

Several useful TABLES: As, a TABLE of the Sun's  
semi-diurnal Arcs, by which the Times of the Sun's Rising and  
Setting may be known by Inspection, on every Day in the Year, and  
in any Part of GREAT-BRITAIN or IRELAND; a TIDE-TABLE,  
and a very correct one of the Eclipses of JUPITER's first Satellite;  
a TABLE of the Sun's Right-Ascension; various exact TABLES of  
the most remarkable fixed Stars, corrected from Mr. FLAMSTEED's  
and other Catalogues; and, lastly, a correct TABLE of Latitudes  
and Longitudes of the most remarkable Places in the World.

By ROBERT WATTE,  
Teacher of the Mathematics.

Ἡ ΕΠΕΤΕΡΙΔΙΣ ΤΗΣ ΕΒΔΟΜΗΣ  
The FIFTY-FOURTH YEAR.

L O N D O N 1803

PRINTED for the COMPANY of STATIONERS,

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## Chronological Notes for the Year 1803.

|                     |          |                    |          |
|---------------------|----------|--------------------|----------|
| Golden Number       | - - - 18 | Septuagesima Sund. | Feb. 6.  |
| Cycle of the Sun    | - - - 20 | Shrove Sunday      | Feb. 20  |
| The Epact           | - - - 7  | Easter Day         | Apr. 10. |
| Dominical Letter    | - - - B  | Whit Sunday        | May 29   |
| Number of Direction | - 20     | Trinity Sunday     | June 5   |
| Roman Indiction     | - - - 6  | Advent Sunday      | Nov. 27  |

## Astronomical CHARACTERS explained.

|          |          |             |             |
|----------|----------|-------------|-------------|
| ♈ Aries  | ♋ Cancer | ♏ Libra     | ♑ Capricorn |
| ♉ Taurus | ♌ Leo    | ♐ Scorpio   | ♒ Aquarius  |
| ♊ Gemini | ♍ Virgo  | ♐ Sagittary | ♓ Pisces    |

|           |                 |                   |                  |
|-----------|-----------------|-------------------|------------------|
| ♄ Saturn  | ☉ Sol (the Sun) | ☾ Luna (the Moon) | ♃ Herschel;      |
| ♃ Jupiter | ♀ Venus         | ♊ Moon's N. Node  | the New or       |
| ♂ Mars    | ☿ Mercury       | ♋ her S. Node     | Georgian Planet. |

♋ Conjunction when Planets are in the same Sign, Deg. Min. &c.

\* Sextile when 2 Signs dist. | Δ Trine when 4 Signs dist.

□ Quartile when 3 Signs dist. | ⚡ Opposition when 6 Signs dist.

## Of the Four Quarters of the YEAR 1803.

|                             | d.       | h. | m.         |
|-----------------------------|----------|----|------------|
| THE Spring Quarter begins   | March 27 | 1  | 20 aftern. |
| The Summer Quarter begins   | June 22  | 11 | 20 morn.   |
| The Autumnal Quarter begins | Sept. 24 | 0  | 50 morn.   |
| The Winter Quarter begins   | Dec. 22  | 5  | 36 aftern. |

THE beautiful Planet VENUS will be a Morning Star till October the 14th; and after that Time she will be an Evening Star to the Year's End.

JUPITER will be a Morning Star till March the 22d; at which Time he becomes an Evening Star till October the 10th; and then a Morning Star to the Year's End.

# The NAMES of the Learned JUDGES of the LAW.

I. Right Hon. Lord Eldon, Lord High Chancellor of Great Britain

Right Hon. Sir William Grant, Knt. Master of the Rolls.

II. In the } Right Hon. Lord Ellenborough, L. C. J. Sir Simon Le Blanc, Kt.  
K. Bench. } Sir Soulden Lawience, Knt. Sir Nash Grose, Knt.

III. In the } Right Hon. Lord Alvanley, L.C. J. Sir Giles Rooke, Knt.  
C. Pleas. } John Heath, Esq. Sir Alan Chambre, Knt.

IV. In the } Sir Arch. Macdonald, Kt. L. C. B. Sir Beaumont Hotham, Kt.  
Exchequer } Sir Alex. Thompson, Knt. Sir Robert Graham, Knt.

Hon. Spencer Percival, Attor. Gen. Sir Thomas Sutton, kt. Solicitor Gen.

## A TABLE of TERMS and Returns for the Year 1803.

Hilary Term begins Jan. 24, ends Feb. 12.

|                                              | Returns or | Exc. | Ret. | Ap. | W. D.    |
|----------------------------------------------|------------|------|------|-----|----------|
| In eight Days of St. Hilary,                 | Jan. 20    | 21   | 22   | 24  | Monday   |
| In fifteen Days of St. Hilary                | 27         | 28   | 29   | 31  | Monday   |
| On the Mor. of the Purif. of the Bl. V. M.   | Feb. 3     | 4    | 5    | 7   | Monday   |
| In eight Days of the Purif. of the Bl. V. M. | 9          | 10   | 11   | 12  | Saturday |

Easter Term begins April 27; ends May 23.

|                                          |          |    |    |    |        |
|------------------------------------------|----------|----|----|----|--------|
| In fifteen Days of Easter                | April 24 | 25 | 26 | 27 | Wedn.  |
| From Easter Day in three Weeks           | May 1    | 2  | 3  | 4  | Wedn.  |
| From Easter Day in one Month             | 8        | 9  | 10 | 11 | Wedn.  |
| From Easter Day in five Weeks            | 15       | 16 | 17 | 18 | Wedn.  |
| On the Mor. of the Ascension of the Lord | 20       | 21 | 22 | 23 | Monday |

Trinity Term begins June 10, ends June 29.

|                                       |        |    |    |    |         |
|---------------------------------------|--------|----|----|----|---------|
| On the Morrow of the Holy Trinity     | June 6 | 7  | 8  | 10 | Friday. |
| In eight Days of the Holy Trinity,    | 12     | 13 | 14 | 15 | Wedn.   |
| In fifteen Days of the Holy Trinity,  | 19     | 20 | 21 | 22 | Wedn.   |
| From the Day of the Holy Trin in 3 W. | 26     | 27 | 28 | 29 | Wedn.   |

Michaelmas Term begins Nov. 7, ends Nov. 28.

|                               |        |    |    |    |         |
|-------------------------------|--------|----|----|----|---------|
| On the Morrow of All Souls    | Nov. 3 | 4  | 5  | 7  | Monday  |
| On the Morrow of St. Martin   | 12     | 13 | 14 | 15 | Tuesday |
| In eight Days of St. Martin   | 18     | 19 | 20 | 21 | Monday  |
| In fifteen Days of St. Martin | 25     | 26 | 27 | 28 | Monday  |

N. B. No Sitings in Westminster-Hall on the Second of February, Ascension-day, and Midsummer-day.

The Exchequer opens eight Days before any Term begins, except Trinity, before which it opens but four Days.

Note, The first and last Days of every Term, are the first and last Days of Appearance.

## BIRTH-DAYS of the ROYAL FAMILY.

|                                    |                                       |
|------------------------------------|---------------------------------------|
| KING GEORGE III. June 4, 1738      | Duke of Cambridge, Feb. 24, 1774      |
| Prince of Wales, Aug. 12, 1762     | Princess Mary, April 25, - 1776       |
| Duke of York, August 16, 1763      | Princess Sophia, Nov. 3, - 1777       |
| Duke of Clarence, Aug. 21, 1765    | Princess Amelia, Aug. 7, - 1783       |
| Ds. of Württemberg, Sept. 29, 1766 | Queen Charlotte, May 19, 1744         |
| Duke of Kent, Nov. 2, - 1767       | Duchess of Brunswick, Aug. 11, 1737   |
| Prs. Augusta Sophia, Nov. 8, 1768  | Duke of Gloucester, Nov. 25, 1743     |
| Prs. Elizabeth, May 22, - 1770     | Princess of Wales, May 17, - 1768     |
| Duke of Cumberland, June 5, 1771   | Duchess of York, May 7, 1767          |
| Duke of Suffolk, Jan. 27, - 1773   | Prs. Charlotte of Wales, Jan. 7, 1795 |

## SOVEREIGNS of EUROPE, their Accession, &amp;c.

| Kingdoms, &c.    | To whom subject.  | When born.    | Began to reign. |
|------------------|-------------------|---------------|-----------------|
| England, &c.     | George III.       | June 4, 1738  | Oct. 25, 1760   |
| France           | Bonaparte, Consul | Aug. 15, 1768 | Dec. 15, 1799   |
| Russia           | Alexander         | Dec. 23, 1777 | Mar. 24, 1801   |
| Spain            | Charles IV.       | Nov. 11, 1748 | Dec. 17, 1788   |
| Portugal         | Peter and Mary    | Dec. 7, 1734  | Feb. 24, 1777   |
| Prussia          | Frederic Wm. III. | Aug. 6, 1770  | Nov. 16, 1797   |
| Denmark & Norway | Christian VII.    | Jan. 29, 1749 | Jan. 14, 1766   |
| Sweden           | Gustavus IV.      | Nov. 1, 1778  | Mar. 25, 1792   |
| Germany          | Francis II.       | Feb. 12, 1767 | Mar. 1, 1792    |
| Papedom          | Pius VII.         | Aug. 11, 1742 | Mar. 14, 1800   |
| Sardinia         | Vicor Emanuel     |               | 1802            |
| Ottoman Empire   | Selim III.        | July 17, 1761 | April 7, 1789   |

## The FULL WEIGHT of the Coins, with the LEAST WEIGHT allowed to pass of the Gold Coin.

| Wt. allowed.     |         | Full Wt. |                                | SILVER.     |     | Full Wt. |                                |
|------------------|---------|----------|--------------------------------|-------------|-----|----------|--------------------------------|
| GOLD.            |         | dwt. gr. | dwt. gr.                       |             |     | dwt. gr. | dwt. gr.                       |
| Guinea,          | - - 5 8 | 5        | 9 <sup>3</sup> / <sub>4</sub>  | A Crown,    | - - | 19       | 8 <sup>1</sup> / <sub>2</sub>  |
| Half Guinea,     | - 2 16  | 2        | 16 <sup>3</sup> / <sub>4</sub> | Half Crown, | - - | 9        | 16 <sup>3</sup> / <sub>4</sub> |
| Seven Shillings, | 1 19    | 1        | 19 <sup>3</sup> / <sub>4</sub> | Shilling,   | - - | 3        | 20 <sup>3</sup> / <sub>4</sub> |
|                  |         |          |                                | Six Pence,  | - - | 1        | 22 <sup>3</sup> / <sub>4</sub> |

According to the above proportions it appears, that the value of a lb. of silver is 62s. or 3l. 2s. and of a lb. of gold is 44½ guineas, or 45l. 14s. 6d. Also that the oz. of silver is 5s. 2d. and the oz. of gold 3l. 17s. 10½d. So that the value of the standard gold is 15 times that of the silver, and 1-14th more.

# A TABLE of the KINGS and QUEENS of ENGLAND since the CONQUEST.

| Kings and<br>Queens | Born<br>A.D. | Began<br>their Reign | Reigned<br>Y. M. D.    | Age | Rem. Deaths<br>and Dethroned | Where<br>buried |
|---------------------|--------------|----------------------|------------------------|-----|------------------------------|-----------------|
| Will. Cong.         | 1027         | 1066 Oct. 14         | 20 10 26               | 60  | Burst by Leap.               | Caen, Norm      |
| Will. Rufus         | 1057         | 1087 Sept. 9         | 12 10 24               | 43  | Slain acciden-<br>tally.     | Winchester      |
| Henry I.            | 1068         | 1100 Aug. 2          | 35 3 29                | 77  |                              | Reading         |
| Stephen             | 1105         | 1135 Dec. 1          | 18 10 24               | 49  |                              | Feverham        |
| Henry II.           | 1133         | 1154 Oct. 25         | 34 8 11                | 55  | Slain with an<br>Arrow.      | Fonteveraud     |
| Richard I.          | 1156         | 1189 July 6          | 9 9 0                  | 43  |                              | Fonteveraud     |
| John                | 1165         | 1199 April 6         | 17 6 13                | 50  |                              | Worcester       |
| Henry III.          | 1207         | 1216 Oct. 19         | 56 0 28                | 65  |                              | Westminster     |
| Edward I.           | 1239         | 1272 Nov. 16         | 34 7 21                | 67  |                              | Westminster     |
| Edward II.          | 1284         | 1307 July 7          | 19 6 18                | 43  |                              | Gloucester      |
| Edward III.         | 1312         | 1327 Jan. 25         | 50 4 27                | 65  |                              | Westminster     |
| Richard II.         | 1366         | 1377 June 21         | 22 3 8                 | 33  | Dep. & murd.                 | Westminster     |
| Henry IV.           | 1367         | 1399 Sept. 29        | 13 5 20                | 46  | Dep. & murd.                 | Canterbury      |
| Henry V.            | 1389         | 1413 Mar. 20         | 9 5 11                 | 33  |                              | Westminster     |
| Henry VI.           | 1421         | 1422 Aug. 31         | 8 6 4                  | 49  |                              | Windfor         |
| Edward IV.          | 1442         | 1461 Mar. 4          | 22 1 5                 | 41  | Murder'd.<br>Slain in Battle | Windfor         |
| Edward V.           | 1471         | 1483 April 9         | 12 2 15                | 12  |                              | Not known       |
| Richard III.        | 1443         | 1483 June 22         | 2 2 0                  | 42  |                              | Leicester       |
| Henry VII.          | 1456         | 1485 Aug. 22         | 23 8 0                 | 52  |                              | Westminster     |
| Henry VIII.         | 1492         | 1509 April 22        | 37 9 6                 | 55  |                              | Windfor         |
| Edward VI.          | 1537         | 1547 Jan. 28         | 6 5 8                  | 15  |                              | Westminster     |
| Mary I.             | 1516         | 1553 July 6          | 5 4 11                 | 42  |                              | Westminster     |
| Elizabeth           | 1533         | 1558 Nov. 17         | 44 4 7                 | 69  |                              | Westminster     |
| James I.            | 1566         | 1603 Mar. 24         | 22 0 3                 | 58  | Beheaded:                    | Westminster     |
| Charles I.          | 1600         | 1625 Mar. 27         | 23 10 3                | 48  |                              | Windfor         |
| Charles II.         | 1630         | 1649 Jan. 30         | 36 0 7                 | 54  | Abdicated,                   | Westminster     |
| James II.           | 1633         | 1685 Feb. 6          | 4 6 7                  | 67  |                              | St. Germain     |
| Mary II.            | 1662         | 1689 Feb. 13         | 5 10 15                | 32  |                              | Westminster     |
| William III.        | 1650         | 1689 Feb. 13         | 13 0 23                | 52  |                              | Westminster     |
| Anne                | 1665         | 1702 Mar. 8          | 12 4 24                | 49  |                              | Westminster     |
| George I.           | 1660         | 1714 Aug. 1          | 12 10 10               | 67  |                              | Hanover         |
| George II.          | 1683         | 1727 June 11         | 33 4 14                | 77  |                              | Westminster     |
| George III.         | 1738         | 1760 Oct. 25         | Crowned Sept. 2, 1761. |     |                              |                 |

Above you view the Rise and Fall of Kings,  
Whose Fate sometimes a useful Lesson brings.  
Well if all Men could profit from the past!  
Each know his Duty, each excel the last,  
And justly execute his stated Task.

A TABLE of the most Reverend, Right Reverend, and Reverend, the ARCH-BISHOPS, BISHOPS and DEANS, exercising Ecclesiastical Jurisdiction, 1803.

| BISHOPS.               | Sees.                    | Date. | Succeeded.      | DEANS.             |
|------------------------|--------------------------|-------|-----------------|--------------------|
| Dr. John Moore         | <i>Bangor</i>            | 1775  | Ewer deceased   |                    |
| Arch-Bishop            | <i>Canterb. A.B.</i>     | 1783  | Cornwallis dec. | Dr. Powys          |
| Dr. Will. Markham      | <i>Chester</i>           | 1771  | Keene translat. |                    |
| Arch-Bishop            | <i>York A. B.</i>        | 1777  | Drummond dec.   | Dr. Markham        |
| Dr. Beilby Porteus     | <i>Chester</i>           | 1776  | Markham tran.   |                    |
|                        | <i>London</i>            | 1787  | Lowth deceas.   | Bishop Pretyman    |
|                        | <i>Lundaff</i>           | 1769  | Shipley transld |                    |
| Hon. Dr. S. Barrington | <i>Salisbury</i>         | 1782  | Hume dec.       |                    |
|                        | <i>Durham</i>            | 1791  | Thurlow dec.    | Bishop Cornwallis  |
|                        | <i>Litch. &amp; Cov.</i> | 1771  | Egerton transl. |                    |
| Hon. Dr. B. North      | <i>Worcester</i>         | 1774  | Johnson deceas. |                    |
|                        | <i>Winchester</i>        | 1781  | Thomas deceas.  | Dr. Newton Ogle    |
|                        | <i>St. David's</i>       | 1774  | Moss transl.    |                    |
| H. Dr. James Yorke     | <i>Gloucester</i>        | 1779  | Warburton dec.  |                    |
|                        | <i>Ely</i>               | 1781  | Keene deceased  | Dr. Wm. Pearce     |
| Dr. Richard Hurd       | <i>Litch. &amp; Cov.</i> | 1775  | B. North tr.    |                    |
|                        | <i>Worcester</i>         | 1781  | B. North tr.    | Dr. Ar. Onslow     |
| Dr. John Butler        | <i>Oxford</i>            | 1777  | Lowth transl.   |                    |
|                        | <i>Hereford</i>          | 1788  | Harley deceas.  | Dr. N. Wetherell   |
| Dr. J. Cornwallis      | <i>Litch. &amp; Cov.</i> | 1781  | Hurd transl.    | Dr. Bact. Proby    |
| Dr. Richard Watson     | <i>Landaff</i>           | 1782  | Barrington tr.  | Mr. S. Gale, Prec. |
| Dr. G. Pretyman        | <i>Lincoln</i>           | 1787  | Thurlow tran.   | Sir Ri. Kaye, Bt.  |
| Dr. John Douglas       | <i>Carlisle</i>          | 1787  | Law dec.        |                    |
|                        | <i>Salisbury</i>         | 1791  | Barrington tra. | Dr. John Ekins     |
|                        | <i>St. David's</i>       | 1788  | Smalwell tr.    |                    |
| Dr. Samuel Horsley     | <i>Rochester</i>         | 1793  | Thomas dec.     |                    |
|                        | <i>St. Asaph</i>         | 1802  | Bagot dec.      | Mr. W. D. Shipley  |
| Dr. Wm. Cleaver        | <i>Chester</i>           | 1788  | Porteus tran.   |                    |
|                        | <i>Bangor</i>            | 1800  | Warren dec.     | Mr. John Warren    |
| Dr. Richard Beadon     | <i>Gloucester</i>        | 1789  | Hallifax tran.  |                    |
|                        | <i>Bath &amp; Wells</i>  | 1802  | Moss deceased   | Dr. Geo. W. Lukin  |
| Dr. E. V. Vernon       | <i>Carlisle</i>          | 1791  | Douglas transl. | Dr. Isaac Milner   |
| Dr. Charles Sutton     | <i>Norwich</i>           | 1792  | Horne decea.    | Dr. Joseph Turner  |
| Dr. Spencer Madan      | <i>Bristol</i>           | 1792  | Bagot transl.   |                    |
|                        | <i>Peterborough</i>      | 1794  | Hinchliffe dec. | Dr. Tho. Kipling   |
|                        | <i>Exeter</i>            | 1794  | Madan trans.    |                    |
| Dr. Regi. Courtenay    | <i>Exeter</i>            | 1797  | Buller dec.     | Dr. C. Harward     |
| Dr. F. H. W. Cornwall  | <i>Bristol</i>           | 1797  | Courtenay tra.  | Dr. C. P. Luyard   |
| Dr. John Buckner       | <i>Chichester</i>        | 1797  | Ashburnham d.   | Mr. Combe Miller   |
| Dr. John Randolph      | <i>Oxford</i>            | 1799  | Smalwell dec.   | Dr. Cyril Jackson  |
| Dr. H. W. Majendie     | <i>Chester</i>           | 1800  | Cleaver tran.   | Dr. G. Cotton      |
| Lord Geo. Murray       | <i>St. David's</i>       | 1800  | Stuart transl.  | Mr. Wollaston, P.  |
| Dr. Thomas Dampier     | <i>Rochester</i>         | 1802  | Horsley transl. | Dr. Goodenough     |
| Dr. I. G. Huntingford  | <i>Gloucester</i>        | 1802  | Beadon transl.  | Dr. John Luxmore   |
|                        | <i>Westminster</i>       | 1802  | Horsley         | Dr. Vincent        |
|                        | <i>Windsor</i>           | 1788  | Douglas prom.   | Bishop Sutton      |
| Dr. Crigan             | <i>Sodor and Man</i>     |       |                 |                    |

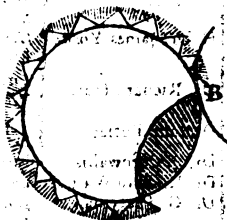
IN the course of this year there will happen only two eclipses, which are both of the Sun, and only one of them will be visible in these parts.

I. *Feb. 22*, the Sun is eclipsed, the conjunction being at 9h 5m, at night, long after the Sun is down. Consequently it is invisible to all Europe, Asia and Africa. But it will be visible, and a very large eclipse, to the inhabitants in the great southern Pacific Ocean, among the Society and Friendly Isles, the Marquesas, &c. Particularly near the latter, in latitude 12 degrees south, and 136½° west longitude from London, where the Sun will be centrally and totally eclipsed on the meridian or their noon.

II. *August 17*, the Sun is eclipsed, and visible here, a little before 7 in the morning. The particulars as below.

|                          | Morn.   |
|--------------------------|---------|
| Beginning of the eclipse | 5h 55m  |
| Greatest obscuration     | 6 41½   |
| Visible conjunction      | 6 44    |
| End of the eclipse       | 7 30½   |
| Digits eclipsed          | 3° 12'. |

The Moon makes the first impression on the Sun's disk at 76° from the Sun's vertex on the right hand, as at the point B in the annexed figure.



### TWO NEW PLANETS.

1. Young as the present century is, it has produced already the discovery of two new primary planets. The first of these, called Ceres, was discovered on the first day of the present century, or the first of January 1801, by M. Piazzi, astronomer at Palermo, in Sicily. It moves in an orbit between Mars and Jupiter; is a very small planet, appearing through the telescope as a star of the 8th magnitude. Its apparent diameter about ¼", and real diameter 200 miles; other elements as follows:

|                             |          |                       |                        |
|-----------------------------|----------|-----------------------|------------------------|
| Place of the ascending node | 252° 58' | Excentricity of orbit | 0.0364                 |
| Inclination of orbit        | 20 47    | Greater semiaxis      | 23 times the earth's   |
| Place of Aphelion           | 2 9 0    | Periodic time         | 4.13 years. [distance. |

2. The second was discovered March 28, 1802, by Dr. Olbert, of Bremen, who has named it Pallas. It is a very small planet, of about 140 miles in diameter; moves between Mars and Ceres, at a distance about 2½ of the earth's distance, and perform its revolution in about 3 years.

| Obliquity of the Ecliptic. | 1803.       | Equation of Equinoctial Points. |
|----------------------------|-------------|---------------------------------|
| 23° 27' 58". 2             | January 1,  | + 7". 6                         |
| 23 27 58. 6                | April 1,    | + 8. 9                          |
| 23 27 57. 2                | July 1,     | + 10. 2                         |
| 23 27 57. 4                | October 1,  | + 11. 4                         |
| 23 27 55. 8                | Decemb. 31, | + 12. 5                         |

## The LUNATIONS.

Full Moon the 7th day, at 0 minutes past 11 night.  
 Last quarter the 16th day, at 52 minutes past 2 morning.  
 New Moon the 23d day, at 59 minutes past 9 morning.  
 First quarter the 30th day, at 1 minute past 2 morning.

| M. D. | Sundays & other<br>remark. days | ☉<br>rises        | ☉<br>sets          | ☉'s<br>declin.     | ☽'s<br>declin.     | ☽ rises<br>& sets  | ☽<br>fourth        | Clock<br>bef. ☉    |            |
|-------|---------------------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|------------|
| 1     | Circumcision                    | 8 5               | 3 55               | 23 3 4             | 11 n 20            | 0 m 45             | 6 39               | 3 41               |            |
| 2     | Son. af. Chr.                   | 8 4               | 3 56               | 22 59              | 17 10              | 2 10               | 7 29               | 4 10               |            |
| 3     |                                 | 8 3               | 3 57               | 22 54              | 21 56              | 3 34               | 8 22               | 4 38               |            |
| 4     |                                 | 8 3               | 3 57               | 22 48              | 25 30              | 4 57               | 9 17               | 5 6                |            |
| 5     |                                 | 8 2               | 3 58               | 22 42              | 27 36              | 6 17               | 10 13              | 5 33               |            |
| 6     | Epiphany:                       | 1w. day           | 3 59               | 22 35              | 28 7               | 7 21               | 11 9               | 6 0                |            |
| 7     | [O. Chr. D.                     | 8 0               | 4 0                | 22 28              | 27 4               | rises              | morn               | 6 26               |            |
| 8     | Lucan                           | 7 59              | 4 1                | 22 20              | 24 38              | 4 a 24             | 0 4                | 6 52               |            |
| 9     | S. aft. Epiph.                  | 7 58              | 4 2                | 22 12              | 21 3               | 5 37               | 0 55               | 7 17               |            |
| 10    | Plow Morday                     | 7 57              | 4 3                | 22 4               | 16 37              | 6 52               | 1 42               | 7 42               |            |
| 11    |                                 | 7 56              | 4 4                | 21 55              | 11 36              | 8 4                | 2 25               | 8 6                |            |
| 12    |                                 | 7 55              | 4 5                | 21 46              | 6 14               | 9 16               | 3 6                | 8 30               |            |
| 13    | Cam. T. b: Hil.                 | O. N. D.          | 4 6                | 21 36              | 0 41               | 10 24              | 3 41               | 8 53               |            |
| 14    | Oxford Ter. b.                  | 7 53              | 4 7                | 21 26              | 4 53               | 11 34              | 4 24               | 9 15               |            |
| 15    |                                 | 7 52              | 4 8                | 21 15              | 10 10              | morn               | 5 3                | 9 37               |            |
| 16    | S. aft. Epiph.                  | 7 51              | 4 9                | 21 4               | 15 27              | 0 40               | 5 44               | 9 58               |            |
| 17    |                                 | 7 49              | 4 11               | 20 53              | 20 5               | 1 59               | 6 28               | 10 19              |            |
| 18    | O. Chr. b. d. k.                | 7 48              | 4 12               | 20 41              | 23 56              | 3 17               | 7 16               | 10 39              |            |
| 19    | [Pris: O. T. d.                 | 7 47              | 4 13               | 20 29              | 26 44              | 4 35               | 8 9                | 10 58              |            |
| 20    | Fabian                          | 7 45              | 4 15               | 20 16              | 28 6               | 5 48               | 9 6                | 11 16              |            |
| 21    | Agnes                           | 7 44              | 4 16               | 20 3               | 27 47              | 6 49               | 10 7               | 11 34              |            |
| 22    | Vincent                         | 7 42              | 4 18               | 19 50              | 25 39              | 7 35               | 11 8               | 11 51              |            |
| 23    | Son. a. Epiph.                  | 7 41              | 4 19               | 19 36              | 21 47              | sets               | 0 a. 8             | 12 7               |            |
| 24    | Hil. Term beg.                  | 7 40              | 4 20               | 19 22              | 16 30              | 5 a 54             | 1 5                | 12 22              |            |
| 25    | Con. of St. Paul                | 7 38              | 4 22               | 19 7               | 10 14              | 7 24               | 1 57               | 12 37              |            |
| 26    |                                 | 7 37              | 4 23               | 18 53              | 3 25               | 8 52               | 2 47               | 12 51              |            |
| 27    | O. of St. Peter                 | 7 35              | 4 25               | 18 37              | 3 n 30             | 10 20              | 3 37               | 13 4               |            |
| 28    |                                 | 7 33              | 4 27               | 18 22              | 10 7               | 11 47              | 4 20               | 13 16              |            |
| 29    |                                 | 7 32              | 4 28               | 18 6               | 16 6               | morn               | 5 16               | 13 27              |            |
| 30    | S. aft. Epiph.                  | 7 30              | 4 30               | 17 50              | 21 9               | 1 13               | 6 9                | 13 38              |            |
| 31    | O. Chr. b. d. k.                | 7 28              | 4 32               | 17 34              | 24 57              | 2 39               | 7 3                | 13 47              |            |
| Day   | Day<br>ncrease.                 | Length<br>of Day. | Helioc.<br>long. ♀ | Helioc.<br>long. ♀ | Helioc.<br>long. ♂ | Helioc.<br>long. ☉ | Helioc.<br>long. ♀ | Helioc.<br>long. ♂ | h<br>rises |
| 1     | 0 7                             | 7 54              | 15 0               | 25 0               | 6 11               | 10 12              | 10 40              | 27 1               | 10 2       |
| 7     | 0 17                            | 8 1               | 15 13              | 25 27              | 9 3                | 16 1               | 20 24              | 14 21              | 9 41       |
| 13    | 0 29                            | 8 13              | 15 25              | 25 51              | 11 53              | 22 2               | 26 9               | 22 59              | 9 17       |
| 19    | 0 43                            | 8 27              | 15 38              | 26 21              | 14 41              | 28 3               | 9 54               | 24 5               | 8 50       |
| 25    | 1 1                             | 8 43              | 15 50              | 26 43              | 17 28              | 4 3                | 19 40              | 18 5               | 8 26       |



| Days | Day lig.<br>begins | Day lig.<br>ends | Durat.<br>twilig. | Pl. D's<br>node | h's<br>latitude | u's<br>latitude | δ's<br>latitude | ♀'s<br>latitude | ♂'s<br>latitude |
|------|--------------------|------------------|-------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| 1    | 5 59               | 6 1              | 2 10              | 5X14            | 2 n 5           | 1 n 10          | 3 n 33          | 4 n 0           | 1 s 29          |
| 7    | 5 56               | 6 4              | 2 9               | 4 54            | 2 7             | 1 21            | 3 36            | 5 11            | 1 53            |
| 13   | 5 52               | 6 8              | 2 7               | 4 35            | 2 8             | 1 23            | 3 36            | 5 58            | 2 5             |
| 19   | 5 46               | 6 14             | 2 5               | 4 16            | 2 10            | 1 24            | 3 34            | 6 19            | 2 2             |
| 25   | 5 39               | 6 21             | 2 3               | 3 57            | 2 12            | 1 26            | 3 29            | 6 20            | 1 41            |
| Days | ☉'s<br>longitude   |                  | D's<br>long.      | D's<br>latitude | h's<br>long.    | u's<br>long.    | δ's<br>long.    | ♀'s<br>long.    | ♂'s<br>long.    |
| 1    | 10 12              | 23               | 20 26             | 3 n 43          | 20 41           | 5 22            | 29 11 46        | 8 15 57         | 6 15 3          |
| B    | 11 13              | 34               | 4 8 18            | 4 27            | 20 40           | 5 26            | 29 23           | 8 19            | 7 39            |
| 3    | 12 14              | 44               | 18 0              | 4 55            | 20 40           | 5 29            | 29 1            | 7 42            | 9 15            |
| 4    | 13 15              | 54               | 1 11 32           | 5 7             | 20 30           | 5 32            | 28 39           | 7 7             | 10 51           |
| 5    | 14 17              | 4                | 14 53             | 5 1             | 20 39           | 5 35            | 28 20           | 6 33            | 12 28           |
| 6    | 15 18              | 13               | 28 2              | 4 40            | 20 38           | 5 38            | 28 2            | 6 0             | 14 5            |
| 7    | 16 19              | 21               | 10 55 57          | 4 4             | 20 38           | 5 41            | 27 45           | 5 29            | 15 42           |
| 8    | 17 20              | 30               | 23 38             | 3 17            | 0 37            | 5 43            | 27 26           | 4 59            | 17 20           |
| B    | 18 21              | 38               | 6 8 4             | 2 21            | 10 36           | 5 45            | 27 8            | 4 31            | 18 59           |
| 10   | 19 22              | 46               | 18 17             | 1 19            | 20 35           | 5 47            | 26 51           | 4 5             | 20 38           |
| 11   | 20 23              | 54               | 0 12 18           | 0 13            | 20 34           | 5 49            | 26 35           | 3 41            | 22 17           |
| 12   | 21 25              | 1                | 12 11             | 0 s 50          | 20 33           | 5 51            | 26 20           | 3 19            | 23 57           |
| 13   | 22 26              | 8                | 23 59             | 1 52            | 20 32           | 5 51            | 26 6            | 2 58            | 25 37           |
| 14   | 23 27              | 15               | 5 47              | 2 4             | 20 30           | 5 54            | 25 52           | 2 41            | 27 18           |
| 15   | 24 28              | 22               | 17 40             | 3 40            | 20 29           | 5 55            | 25 39           | 2 26            | 28 59           |
| B    | 25 29              | 29               | 29 43             | 4 21            | 20 28           | 5 56            | 25 27           | 2 14            | 0 41            |
| 17   | 26 30              | 35               | 12 11             | 4 52            | 20 26           | 5 57            | 25 15           | 2 4             | 2 23            |
| 18   | 27 31              | 41               | 24 38             | 5 9             | 20 24           | 5 58            | 25 4            | 1 56            | 4 5             |
| 19   | 28 32              | 47               | 7 4 39            | 5 11            | 20 22           | 5 58            | 24 54           | 1 50            | 5 48            |
| 20   | 29 33              | 52               | 21 6              | 4 57            | 20 20           | 5 58            | 24 45           | 1 47            | 7 31            |
| 21   | 0 34               | 57               | 4 15 51           | 4 25            | 20 18           | 5 R 58          | 24 37           | 1 D 47          | 9 15            |
| 22   | 1 36               | 1                | 19 13             | 3 36            | 20 16           | 5 58            | 24 29           | 1 49            | 10 59           |
| B    | 2 37               | 4                | 3 44 40           | 2 32            | 20 14           | 5 58            | 24 22           | 1 54            | 12 43           |
| 24   | 3 38               | 6                | 18 31             | 1 1             | 20 11           | 5 58            | 24 16           | 2 1             | 14 26           |
| 25   | 4 39               | 8                | 3 20              | 0 n 4           | 20 8            | 5 57            | 24 11           | 2 11            | 16 9            |
| 26   | 5 40               | 8                | 18 6              | 1 24            | 20 6            | 5 56            | 24 7            | 2 22            | 17 52           |
| 27   | 6 41               | 6                | 2 42              | 2 38            | 20 3            | 5 55            | 24 4            | 2 35            | 19 34           |
| 28   | 7 42               | 4                | 17 5              | 3 41            | 20 0            | 5 54            | 24 1            | 2 50            | 21 16           |
| 29   | 8 43               | 0                | 18 12             | 4 25            | 19 57           | 5 52            | 23 5            | 3 7             | 22 56           |
| B    | 9 43               | 55               | 15 1              | 5 1             | 9 54            | 5 50            | 23 58           | 3 27            | 24 35           |
| 31   | 10 44              | 40               | 28 33             | 5 15            | 19 51           | 5 48            | 23 D 58         | 3 50            | 26 13           |
| Days | u's<br>rises       | δ's<br>sets      | ♀'s<br>rises      | ♂'s<br>sets     | h's<br>declin.  | u's<br>declin.  | δ's<br>declin.  | ♀'s<br>declin.  | ♂'s<br>declin.  |
| 1    | 11 a 39            | 6 m 52           | 7 m 33            | 3 a 27          | 5 n 37          | 0 s 55          | 27 n 1          | 19 s 10         | 24 s 48         |
| 7    | 11 12              | 6 37             | 6 57              | 3 55            | 5 39            | 1 1             | 27 3            | 18 10           | 24 24           |
| 13   | 10 49              | 6 22             | 6 22              | 4 23            | 5 43            | 1 4             | 27 1            | 17 28           | 23 5            |
| 19   | 10 24              | 6 7              | 5 46              | 4 51            | 5 49            | 1 5             | 26 56           | 17 8            | 20 40           |
| 25   | 0 50               | 5 5              | 5 11              | 5 19            | 5 56            | 1 3             | 26 50           | 17 7            | 17 28           |

The LUNATIONS.

Full Moon the 6.h day, at 37 minutes past 4 afternoon

Last quarter the 14th day, at 44 minutes past 9 afternoon

New Moon the 21st day, at 5 minutes past 9 afternoon

First quarter the 28th day, at 47 minutes past noon.

| M      | Sundays & other<br>remark. days | ☉<br>rises       | ☉<br>sets          | ☉'s<br>declin.     | ☿'s<br>d. clin.    | ☿ rises<br>& sets. | ☿<br>south         | Clock<br>bef. ☉    |            |
|--------|---------------------------------|------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|------------|
| 1      |                                 | 7 27             | 4 33               | 17 s 17            | 27 n 23            | 3 m 57             | 7 a 59             | 13 56"             |            |
| 2      | Per. or Cand. d.                | 7 25             | 4 35               | 17 0               | 28 14              | 5 6                | 8 55               | 14 4               |            |
| 3      | Blaze                           | 7 23             | 4 37               | 16 42              | 27 33              | 5 59               | 9 50               | 14 11              |            |
| 4      |                                 | 7 22             | 4 38               | 16 25              | 25 27              | 6 38               | 10 42              | 14 17              |            |
| 5      | Agatha                          | 7 20             | 4 40               | 16 7               | 22 11              | 7 4                | 11 30              | 14 22              |            |
| 6      | Septuagesima S.                 | 7 18             | 4 42               | 15 49              | 17 59              | ☿ rises            | morn               | 14 27              |            |
| 7      |                                 | 7 16             | 4 44               | 15 30              | 13 6               | 5 a 46             | 0 15               | 14 31              |            |
| 8      |                                 | 7 14             | 4 46               | 15 13              | 7 43               | 6 57               | 0 57               | 14 34              |            |
| 9      |                                 | 7 13             | 4 47               | 14 52              | 2 15               | 8 6                | 1 37               | 14 36              |            |
| 10     |                                 | 7 11             | 4 49               | 14 33              | 3 s 20             | 9 15               | 2 16               | 14 37              |            |
| 11     |                                 | 7 9              | 4 51               | 14 14              | 8 49               | 10 25              | 2 55               | 14 38              |            |
| 12     | Hilary Ter. ends.               | 7 7              | 4 53               | 13 54              | 14 1               | 11 39              | 3 35               | 14 37              |            |
| 13     | Sexagesima Sun.                 | 7 5              | 4 55               | 13 34              | 18 45              | morn               | 4 18               | 14 37              |            |
| 14     | Valentine: Old                  | 7 3              | 4 57               | 13 14              | 22 49              | 0 53               | 5 3                | 14 35              |            |
| 15     | [Candl.]                        | 7 1              | 4 59               | 12 54              | 25 56              | 2 10               | 5 53               | 14 33              |            |
| 16     |                                 | 7 0              | 5 0                | 12 33              | 27 50              | 3 25               | 6 48               | 14 29              |            |
| 17     |                                 | 6 58             | 5 2                | 12 12              | 28 12              | 4 32               | 7 46               | 14 26              |            |
| 18     |                                 | 6 56             | 5 4                | 11 51              | 26 52              | 5 22               | 8 45               | 14 21              |            |
| 19     |                                 | 6 54             | 5 6                | 11 30              | 25 47              | 6 0                | 9 45               | 14 16              |            |
| 20     | Shrove Sunday                   | 6 52             | 5 8                | 11 9               | 19 47              | 6 27               | 10 44              | 14 10              |            |
| 21     | Ca. 1. civ. n.                  | 6 50             | 5 10               | 10 47              | 13 9               | ☿ sets             | 11 39              | 14 4               |            |
| 22     | Shrove Tue Day                  | 6 48             | 5 12               | 10 25              | 6 22               | 6 a 21             | 0 a 33             | 13 56              |            |
| 23     | 4th Wednesday                   | 6 46             | 5 14               | 10 4               | 0 n 47             | 7 51               | 1 24               | 13 49              |            |
| 24     | St. Matthias: D.                | 6 44             | 5 16               | 9 42               | 7 49               | 9 22               | 2 16               | 13 40              |            |
| 25     | [of Cam. born]                  | 6 42             | 5 18               | 9 19               | 14 18              | 10 53              | 3 8                | 13 31              |            |
| 26     |                                 | 6 4              | 5 20               | 8 57               | 19 50              | morn               | 4 2                | 13 23              |            |
| 27     | 1 Sun. in Lent                  | 6 38             | 5 24               | 8 35               | 24 0               | 0 21               | 4 58               | 13 14              |            |
| 28     |                                 | 6 36             | 5 24               | 8 12               | 26 58              | 1 46               | 5 55               | 12 0               |            |
| D<br>M | Day<br>increas.                 | Length<br>of d y | Helioc.<br>long. ♀ | Helioc.<br>long. ♀ | Helioc.<br>long. ♂ | Helioc.<br>long. ☉ | Helioc.<br>long. ♀ | Helioc.<br>long. ♀ | ☿<br>rises |
| 1      | 1 23                            | 9 6              | 16 5               | 27 12              | 20 42              | 16 46              | 11 3               | 24 7               | 7 a 53     |
| 7      | 1 45                            | 9 28             | 16 17              | 27 48              | 23 27              | 17 50              | 10 48              | 29 8               | 7 26       |
| 13     | 2 7                             | 9 50             | 16 30              | 28 15              | 26 11              | 23 54              | 20 33              | 7 51               | 7 0        |
| 19     | 2 29                            | 10 12            | 16 42              | 28 42              | 28 54              | 29 57              | 0 16               | 12 21              | 6 34       |
| 25     | 2 52                            | 10 36            | 16 54              | 29 1               | 31 37              | 0 0                | 0 58               | 11 59              | 6 9        |

1803.

February.

II

| Days | Day lig.<br>begins | Day lig.<br>ends | Durat.<br>twilig. | Pl. D's<br>node | h's<br>latitude | u's<br>latitude | ♂'s<br>latitude | ♀'s<br>latitude | ♂'s<br>latitude |
|------|--------------------|------------------|-------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| 1    | 5 31               | 6 30             | 2 0               | 3X35            | 2 n 13          | 1 n 28          | 3 n 23          | 6 n 3           | 0 s 40          |
| 7    | 5 22               | 6 39             | 1 59              | 3 16            | 2 14            | 1 29            | 3 16            | 5 38            | 0 n 32          |
| 13   | 5 12               | 6 48             | 1 58              | 2 57            | 2 16            | 1 31            | 3 9             | 5 7             | 2 7             |
| 19   | 5 0                | 7 0              | 1 57              | 2 38            | 2 16            | 1 32            | 3 2             | 4 32            | 3 25            |
| 25   | 4 50               | 7 10             | 1 56              | 2 19            | 2 17            | 1 33            | 2 55            | 3 55            | 3 40            |
| Days | ☉'s<br>longitude   | D's<br>long.     | D's<br>latitude   | h's<br>long.    | u's<br>long.    | ♂'s<br>long.    | ♀'s<br>long.    | ♂'s<br>long.    | ♀'s<br>long.    |
| 1    | 11 45 40           | 11 11 49         | 5 n 11            | 10 11 48        | 5 24 0          | 2 11 1          | 1 11 1          | 1 11 1          | 1 11 1          |
| 2    | 12 46 31           | 24 49            | 4 52              | 19 45           | 5 44 25         | 3 9             | 4 41 27         | 21              |                 |
| 3    | 13 47 20           | 7 33 5           | 4 18              | 19 41           | 5 47 24         | 1               | 5 8 0X          | 30              |                 |
| 4    | 14 48 7            | 20 8             | 3 33              | 19 30           | 5 38 24         | 0               | 5 37 2          | 14              |                 |
| 5    | 15 48 53           | 20 30            | 2 38              | 19 34           | 5 30 24         | 0               | 5 3 34          |                 |                 |
| 6    | 16 49 07           | 14 42            | 1 36              | 19 31           | 5 33 24         | 0               | 5 38 4          | 49              |                 |
| 7    | 17 50 21           | 26 44            | 0 31              | 10 27           | 5 3 24          | 0               | 7 10 5          | 59              |                 |
| 8    | 18 51 2            | 8 39             | 0 6               | 19 24           | 5 27 24         | 0               | 7 45 7          | 2               |                 |
| 9    | 19 51 43           | 10 29            | 1 39              | 19 20           | 5 23 24         | 0               | 8 21 7          | 57              |                 |
| 10   | 20 52 23           | 2 17             | 2 39              | 17 15           | 10 24 24        | 0               | 8 58 8          | 43              |                 |
| 11   | 21 53 1            | 14 6             | 3 32              | 19 12           | 5 1 24          | 0               | 9 36 9          | 20              |                 |
| 12   | 22 53 38           | 25 59            | 4 16              | 19 8            | 5 1 24          | 0               | 10 16 9         | 42              |                 |
| 13   | 23 54 14           | 8 11             | 4 50              | 19 4            | 5 7 24          | 0               | 10 57 10        | 8               |                 |
| 14   | 24 54 48           | 10 16            | 5 11              | 19 0            | 5 3 25          | 0               | 11 30 10        | 17              |                 |
| 15   | 25 55 22           | 2 19             | 5 11              | 18 56           | 4 58 25         | 0               | 12 22 10        | 15              |                 |
| 16   | 26 55 54           | 15 44            | 5 10              | 18 51           | 4 52 25         | 0               | 13 6 10         | 1               |                 |
| 17   | 27 56 25           | 29 4             | 4 44              | 18 47           | 4 48 25         | 0               | 13 51 9         | 38              |                 |
| 18   | 28 56 55           | 2 5              | 4 2               | 18 43           | 4 43 25         | 0               | 14 37 9         | 6               |                 |
| 19   | 29 57 23           | 27 5             | 3 4               | 18 38           | 4 38 20         | 0               | 15 24 8         | 26              |                 |
| 20   | 30 57 50           | 11 43            | 1 53              | 18 34           | 4 33 26         | 0               | 16 16 7         | 38              |                 |
| 21   | 1 58 16            | 26 39            | 0 32              | 18 29           | 4 28 26         | 0               | 17 1 6          | 44              |                 |
| 22   | 2 58 39            | 11 46            | 0 n 52            | 18 25           | 4 22 26         | 0               | 17 51 5         | 42              |                 |
| 23   | 3 59 1             | 26 54            | 2 12              | 18 20           | 4 16 26         | 0               | 18 41 4         | 40              |                 |
| 24   | 4 59 21            | 11 54            | 3 23              | 18 16           | 4 10 27         | 0               | 19 32 3         | 36              |                 |
| 25   | 5 59 38            | 26 39            | 4 18              | 18 11           | 4 4 27          | 0               | 20 23 2         | 32              |                 |
| 26   | 6 59 54            | 11 8             | 4 56              | 18 7            | 3 58 27         | 0               | 21 13 1         | 29              |                 |
| 27   | 8 0 8              | 25 1             | 5 15              | 18 2            | 3 52 27         | 0               | 22 8 0          | 29              |                 |
| 28   | 9 0 20             | 8 11 36          | 5 16              | 17 57           | 3 46 28         | 0               | 23 2 29         | 32              |                 |
| Days | u's<br>rises       | ♂'s<br>rises     | ♀'s<br>rises      | ♂'s<br>rises    | h's<br>declin.  | u's<br>declin.  | ♂'s<br>declin.  | ♀'s<br>declin.  | ♂'s<br>declin.  |
| 1    | 9 25               | 21               | 4 n 51            | 6 0             | 6 n 5           | 0 57            | 26 43           | 17 21           | 12 s 58         |
| 7    | 9 0                | 5 0              | 4 45              | 5 48            | 6 15            | 0 49            | 26 53           | 17 59           | 8 50            |
| 13   | 8 34               | 4 40             | 4 40              | 5 30            | 6 25            | 0 39            | 26 34           | 17 55           | 5 50            |
| 19   | 8 8                | 4 20             | 4 34              | 5 15            | 6 36            | 0 26            | 26 27           | 18 4            | 5 15            |
| 25   | 7 43               | 4 0              | 4 28              | 5 1             | 6 47            | 0 12            | 26 27           | 18 1            | 10              |

## The LUNATIONS.

Full Moon the 8th day, at 22 minutes past 11 morning.

Last quarter the 16th day, at 59 minutes past 12 noon.

New Moon the 23d day, at 55 minutes past 6 morning.

First quarter the 30th day, at 44 minutes past 1 morning.

| M. Sundays & other | ☉      | ☉        | ☉'s     | ☉'s     | Drises  | ☉        | Clock  |
|--------------------|--------|----------|---------|---------|---------|----------|--------|
| D. remark. days    | times  | sets     | declin. | declin. | & sets  | South    | bef. ☉ |
| 1 David Chas       | 6 34   | 5 28     | 7 49    | 23 n 12 | 2 m 58  | 6 2 52   | 12 49  |
| 2 Easter Week      | 6 32   | 5 28     | 7 27    | 27 52   | 3 53    | 7 48     | 12 37  |
| 3                  | 6 31   | 5 31     | 7 4     | 26 6    | 4 42    | 8 40     | 12 24  |
| 4                  | 6 29   | 5 31     | 6 47    | 23 6    | 5 11    | 9 29     | 12 11  |
| 5                  | 6 27   | 5 33     | 6 18    | 19 9    | 5 34    | 10 15    | 11 53  |
| 6 Sun. in Lent     | 6 25   | 5 35     | 5 55    | 14 27   | 5 50    | 10 58    | 11 44  |
| 7 Perpetua         | 6 23   | 5 38     | 5 31    | 9 11    | 6 2     | 11 39    | 11 29  |
| 8                  | 6 21   | 5 39     | 5 8     | 3 47    | Drises  | morn     | 11 15  |
| 9                  | 6 19   | 5 41     | 4 45    | 1 49    | 7 a 7   | 0 18     | 10 59  |
| 10                 | 6 17   | 5 43     | 4 21    | 7 21    | 8 18    | 0 58     | 10 44  |
| 11                 | 6 15   | 5 45     | 3 52    | 12 38   | 9 30    | 1 38     | 10 28  |
| 12 Gregory         | 6 14   | 5 47     | 3 34    | 17 30   | 10 45   | 2 20     | 10 12  |
| 13 Sun. in Lent    | 6 12   | 5 49     | 3 11    | 21 45   | morn    | 3 5      | 9 55   |
| 14                 | 6 9    | 5 51     | 2 47    | 25 6    | 0 1     | 3 53     | 9 37   |
| 15                 | 6 7    | 5 53     | 2 24    | 27 21   | 1 14    | 4 44     | 9 22   |
| 16                 | 6 5    | 5 55     | 2 0     | 28 1    | 2 22    | 5 39     | 9 4    |
| 17 St. Patrick     | 6 3    | 5 57     | 1 36    | 27 31   | 3 19    | 6 37     | 8 47   |
| 18 Edw. K.W.S.     | 6 1    | 5 59     | 1 12    | 25 11   | 4 2     | 7 35     | 8 29   |
| 19                 | 5 59   | 6 1      | 0 49    | 21 16   | 4 32    | 8 32     | 8 12   |
| 20 2d Mid. Sund.   | 5 57   | 6 3      | 0 25    | 15 5    | 4 54    | 9 28     | 7 54   |
| 21 Bened. et       | 5 55   | 6 5      | 0 1     | 9 38    | 5 12    | 10 22    | 7 35   |
| 22                 | 5 53   | 6 7      | 0 n 22  | 2 38    | 5 28    | 11 15    | 7 17   |
| 23                 | 5 51   | 6 9      | 0 46    | 4 n 34  | sets    | 0 a 7    | 6 59   |
| 24                 | 5 49   | 6 11     | 1 10    | 11 25   | 8 a 24  | 1 0      | 6 41   |
| 25 Anna. Lady Day  | 5 47   | 6 13     | 1 33    | 17 38   | 9 59    | 1 55     | 6 22   |
| 26                 | 5 45   | 6 15     | 1 57    | 22 36   | 11 29   | 2 52     | 6 4    |
| 27 Sun. in Lent    | 5 43   | 6 17     | 2 20    | 26 5    | morn    | 3 51     | 5 45   |
| 28                 | 5 41   | 6 19     | 2 44    | 27 54   | 0 51    | 4 51     | 5 26   |
| 29                 | 5 39   | 6 21     | 3 7     | 28 1    | 1 59    | 5 48     | 5 8    |
| 30                 | 5 37   | 6 23     | 3 31    | 26 36   | 2 48    | 6 43     | 4 49   |
| 31                 | 5 35   | 6 25     | 3 54    | 23 53   | 3 23    | 7 34     | 4 31   |
| Day                | Length | Helioc.  | Helioc. | Helioc. | Helioc. | Helioc.  | h      |
| increas.           | of day | long. ♀  | long. ♂ | long. ☉ | long. ♀ | long. ♂  | sets   |
| 1 3 7 10 51        | 17 15  | 29 12 28 | 35 24   | 10 12 0 | 6 26    | 28 12 47 | 7 m 15 |
| 7 3 31 11 15       | 17 15  | 29 5     | 6 5 16  | 1 26    | 5 20    | 35       | 6 51   |
| 13 3 55 11 39      | 17 25  | 30 12    | 8 46    | 22 0    | 5 m 13  | 9 m 34   | 6 27   |
| 19 4 19 12 3       | 17 40  | 9 50     | 11 25   | 27 58   | 15 20   | 26 54    | 6 23   |
| 25 4 25 12 27      | 17 45  | 1 1      | 14 4    | 3 54    | 24 56   | 13 1 28  | 6 38   |

| Days | Day lig.<br>begins | Day lig.<br>ends | Durat.<br>twilig. | Pl. D's<br>node | h's<br>latitude | 24's<br>latitude | ♂'s<br>latitude | ♀'s<br>latitude | ♂'s<br>latitude |
|------|--------------------|------------------|-------------------|-----------------|-----------------|------------------|-----------------|-----------------|-----------------|
| 1    | 4 43               | 7 17             | 1 55              | 2X 6            | 2 n 18          | 1 n 34           | 2 n 51          | 3 n 30          | 3 n 9           |
| 7    | 4 30               | 7 30             | 1 56              | 1 47            | 2 18            | 1 35             | 2 44            | 2 52            | 1 51            |
| 13   | 4 17               | 7 43             | 1 57              | 1 28            | 2 19            | 1 35             | 2 3             | 2 15            | 0 28            |
| 19   | 4 5                | 7 56             | 1 58              | 1 9             | 2 19            | 1 36             | 2 3             | 1 39            | 0 43            |
| 25   | 3 50               | 8 10             | 2 0               | 0 50            | 2 19            | 1 36             | 2 2             | 1 4             | 1 36            |
| Days | ☉'s<br>longitude   |                  | D's<br>long.      | D's<br>latitude | h's<br>long.    | 24's<br>long.    | ♂'s<br>long.    | ♀'s<br>long.    | ♂'s<br>long.    |
| 1    | X 10               | 0 29             | 21 II 47          | 5 n 6           | 17 II 52        | 3 39             | 28 II 13        | 23 V 56         | 28 III 40       |
| 2    | 11                 | 0 36             | 4 II 38           | 4 29            | 17 47           | 3 33             | 28 49           | 24 51           | 27 50           |
| 3    | 12                 | 0 41             | 17 11             | 3 46            | 17 43           | 3 26             | 28 8            | 25 46           | 27 71           |
| 4    | 13                 | 0 44             | 29 29             | 2 53            | 17 58           | 3 19             | 29 26           | 26 42           | 26 42           |
| 5    | 14                 | 0 45             | 11 II 56          | 1 53            | 17 33           | 3 12             | 29 45           | 27 58           | 26 19           |
| 6    | 15                 | 0 43             | 23 35             | 0 49            | 17 28           | 3 5              | 0 II 3          | 28 35           | 26 0            |
| 7    | 16                 | 0 40             | 5 II 28           | 0 17            | 17 24           | 2 54             | 0 22            | 29 32           | 25 44           |
| 8    | 17                 | 0 34             | 17 18             | 1 21            | 17 19           | 2 47             | 0 41            | 0 III 10        | 25 D 16         |
| 9    | 18                 | 0 24             | 29 6              | 2 22            | 17 15           | 2 41             | 1 1             | 1 29            | 25 36           |
| 10   | 19                 | 0 17             | 10 II 55          | 3 17            | 17 10           | 2 36             | 1 21            | 2 28            | 25 45           |
| 11   | 20                 | 0 6              | 22 47             | 4 4             | 17 5            | 2 29             | 1 42            | 3 2             | 25 59           |
| 12   | 20                 | 59 53            | 4 II 45           | 4 40            | 17 0            | 2 22             | 2 3             | 4 2             | 26 17           |
| 13   | 21                 | 59 38            | 16 53             | 5 4             | 16 55           | 2 14             | 2 25            | 5 25            | 26 38           |
| 14   | 22                 | 59 22            | 29 8              | 5 15            | 16 50           | 2 7              | 2 47            | 6 25            | 27 4            |
| 15   | 23                 | 59 4             | 11 I 59           | 5 11            | 16 45           | 1 59             | 3 9             | 7 26            | 27 36           |
| 16   | 24                 | 58 45            | 24 20             | 4 52            | 16 41           | 1 52             | 3 32            | 8 2             | 28 14           |
| 17   | 25                 | 58 23            | 7 II 41           | 4 17            | 16 36           | 1 44             | 3 54            | 9 28            | 28 56           |
| 18   | 26                 | 58 0             | 21 17             | 3 27            | 16 31           | 1 36             | 4 17            | 10 50           | 29 41           |
| 19   | 27                 | 57 36            | 5 III 19          | 2 23            | 16 27           | 1 28             | 4 40            | 11 32           | 0 X 28          |
| 20   | 28                 | 57 0             | 19 46             | 1 8             | 16 22           | 1 21             | 5 4             | 12 34           | 1 19            |
| 21   | 29                 | 56 41            | 4 X 36            | 0 n 13          | 16 18           | 1 13             | 5 28            | 13 37           | 2 13            |
| 22   | Y 0                | 56 11            | 19 42             | 1 34            | 16 13           | 1 5              | 5 52            | 14 40           | 3 11            |
| 23   | 1                  | 55 38            | 4 Y 5             | 2 50            | 16 9            | 0 57             | 6 16            | 15 41           | 4 12            |
| 24   | 2                  | 55 4             | 20 9              | 3 53            | 16 5            | 0 49             | 6 40            | 16 45           | 5 15            |
| 25   | 3                  | 54 28            | 5 X 9             | 4 30            | 6 0             | 0 41             | 7 5             | 17 50           | 6 10            |
| 26   | 4                  | 53 40            | 19 48             | 5 6             | 15 56           | 0 34             | 7 50            | 18 54           | 7 26            |
| 27   | 5                  | 53 8             | 4 II 1            | 5 12            | 15 51           | 0 26             | 7 56            | 19 59           | 8 36            |
| 28   | 6                  | 52 25            | 17 45             | 5 1             | 15 47           | 0 19             | 8 21            | 21 3            | 9 48            |
| 29   | 7                  | 51 39            | 1 II 2            | 4 53            | 15 42           | 0 11             | 8 47            | 22 7            | 11 2            |
| 30   | 8                  | 50 51            | 13 52             | 3 53            | 15 38           | 0 4              | 9 13            | 23 12           | 12 18           |
| 31   | 0                  | 50 1             | 26 22             | 3 21            | 15 34           | 2 II 26          | 9 50            | 24 16           | 13 57           |
| Days | ☿'s<br>rites       | ♂'s<br>rites     | ♀'s<br>rites      | ♂'s<br>rites    | h's<br>declin.  | 24's<br>declin.  | ♂'s<br>declin.  | ♀'s<br>declin.  | ♂'s<br>declin.  |
| 1    | 2 23               | 3 m 47           | 4 n 27            | 5 m 49          | 6 n 55          | 0 s 12           | 26 n 18         | 17 s 54         | 9 s 0           |
| 7    | 6 58               | 3 32             | 4 24              | 5 30            | 7 6             | 0 n 16           | 26 12           | 17 28           | 11 13           |
| 12   | 6 32               | 3 20             | 4 22              | 5 30            | 7 18            | 0 34             | 26 4            | 16 45           | 12 13           |
| 19   | 6 5                | 3 8              | 4 20              | 5 21            | 7 29            | 0 53             | 25 54           | 15 46           | 12 0            |
| 25   | 5 39               | 2 53             | 4 18              | 5 12            | 7 39            | 1 12             | 25 41           | 14 29           | 10 42           |

## The LUNATIONS.

Full Moon the 7th day, at 24 minutes past 5 morning.

Last quarter the 14th day, at 22 minutes past 12 night.

New Moon the 21st day, at 41 minutes past 3 afternoon.

First quarter the 28th day, at 47 minutes past 4 afternoon.

| M<br>D | Sundays & other<br>remark. days | ☉<br>rises       | ☉<br>sets          | ☉'s<br>declin.     | ☾'s<br>declin.     | ☾ rises<br>& sets  | ☾<br>South         | Clock<br>bef. ☉    |           |
|--------|---------------------------------|------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-----------|
| 1      | Com. T. ends                    | 5 33             | 6 27               | 4 n 17             | 20 n 8             | 3 m 46             | 8 a 21             | 4 12               |           |
| 2      | Oxf. T. ends                    | 5 31             | 6 29               | 4 40               | 15 38              | 4 5                | 9 5                | 3 54               |           |
| 3      | Palms Sunday                    | Richar.          | 6 31               | 5 3                | 10 35              | 4 18               | 9 46               | 3 36               |           |
| 4      | Ambrose                         | 5 27             | 6 33               | 5 26               | 5 11               | 4 31               | 10 26              | 3 17               |           |
| 5      |                                 | 5 25             | 6 35               | 5 4                | 0 21               | 4 42               | 11 5               | 2 54               |           |
| 6      | Old Lady Day                    | 5 23             | 6 37               | 6 12               | 5 54               | 4 51               | 11 45              | 2 41               |           |
| 7      | Maundy Thurs.                   | 5 21             | 6 38               | 6 35               | 11 16              | (rises morn        |                    | 2 24               |           |
| 8      | Good Friday                     | 5 19             | 6 41               | 6 57               | 16 15              | 8 a 38             | 0 27               | 2 6                |           |
| 9      |                                 | 5 17             | 6 43               | 7 20               | 20 40              | 9 57               | 1 11               | 1 49               |           |
| 10     | Easter Day                      | 5 16             | 6 44               | 7 42               | 24 15              | 11 12              | 1 58               | 1 32               |           |
| 11     | Easter Monday                   | 5 14             | 6 46               | 8 4                | 26 46              | morn               | 2 48               | 1 15               |           |
| 12     | Easter Tuesday                  | 5 12             | 6 48               | 8 26               | 27 58              | 0 22               | 3 42               | 0 59               |           |
| 13     |                                 | 5 10             | 6 50               | 8 48               | 27 42              | 1 22               | 4 38               | 0 43               |           |
| 14     |                                 | 5 8              | 6 52               | 9 10               | 25 53              | 2 8                | 5 34               | 0 27               |           |
| 15     |                                 | 5 6              | 6 54               | 9 31               | 22 34              | 2 41               | 6 30               | 0 12               |           |
| 16     |                                 | 5 4              | 6 56               | 9 53               | 17 54              | 3 5                | 7 25               | 0 4                |           |
| 17     | Low Sunday                      | 5 2              | 6 58               | 10 14              | 12 8               | 3 23               | 8 17               | 0 16               |           |
| 18     |                                 | 5 0              | 7 0                | 10 35              | 5 35               | 3 40               | 9 9                | 0 33               |           |
| 19     | Alphege                         | 4 58             | 7 2                | 10 56              | 1 n 23             | 3 53               | 9 59               | 0 47               |           |
| 20     | Ox. & Ca. T. b.                 | 4 57             | 7 3                | 11 17              | 8 21               | 4 9                | 10 51              | 1 0                |           |
| 21     |                                 | 4 55             | 7 5                | 11 38              | 14 52              | (sets              | 11 45              | 1 12               |           |
| 22     |                                 | 4 52             | 7 7                | 11 58              | 20 27              | 8 a 49             | 0 a 42             | 1 26               |           |
| 23     | St. George                      | 4 51             | 7 9                | 12 18              | 24 40              | 10 28              | 1 41               | 1 38               |           |
| 24     | St. Andrew & Peter              | 4 49             | 7 11               | 12 38              | 27 13              | 11 48              | 2 42               | 1 50               |           |
| 25     | St. Andrew & Peter              | 4 47             | 7 13               | 12 58              | 27 58              | morn               | 3 43               | 2 1                |           |
| 26     | Quincy Barn                     | 4 45             | 7 15               | 13 18              | 27 3               | 0 47               | 4 41               | 2 12               |           |
| 27     | East. Term be.                  | 4 44             | 7 16               | 13 37              | 24 40              | 1 27               | 5 34               | 2 22               |           |
| 28     |                                 | 4 42             | 7 18               | 13 56              | 21 8               | 1 55               | 6 23               | 2 32               |           |
| 29     |                                 | 4 40             | 7 20               | 14 15              | 16 48              | 2 16               | 7 9                | 2 42               |           |
| 30     |                                 | 4 38             | 7 22               | 14 34              | 11 51              | 2 32               | 7 51               | 2 51               |           |
| Days   | Day<br>increas.                 | Length<br>of day | Helioc.<br>long. ♀ | Helioc.<br>long. ♀ | Helioc.<br>long. ♂ | Helioc.<br>long. ⊖ | Helioc.<br>long. ♀ | Helioc.<br>long. ♀ | h<br>fets |
| 1      | 5 11                            | 12 56            | 18 m 7             | 12 49              | 17 9               | 10 4               | 6 3                | 2 m 53             | 5 m 17    |
| 7      | 5 35                            | 13 19            | 18 16              | 2 16               | 19 48              | 16 43              | 15 35              | 20 26              | 4 54      |
| 13     | 5 57                            | 13 41            | 18 32              | 2 43               | 22 25              | 22 36              | 25 5               | 9 46               | 4 31      |
| 19     | 6 21                            | 14 5             | 18 44              | 3 10               | 25 3               | 27 28              | 4 35               | 1 57               | 4 8       |
| 25     | 6 43                            | 14 27            | 18 57              | 3 37               | 27 40              | 4 m 18             | 14 4               | 28 16              | 3 46      |

| Days | Day lig.<br>begins | Day lig.<br>ends | Durat.<br>twilig. | Pl. D's<br>node | h's<br>latitude | 24's<br>latitude | ♂'s<br>latitude | ♀'s<br>latitude | ♂'s<br>latitude |
|------|--------------------|------------------|-------------------|-----------------|-----------------|------------------|-----------------|-----------------|-----------------|
| 1    | 3 33               | 8 27             | 2 3               | 0X28            | 2 n 18          | 1 n 36           | 2 n 18          | 0 n 27          | 2 s 16          |
| 7    | 3 17               | 8 43             | 2 8               | 0 9             | 2 18            | 1 35             | 2 12            | 0 s 2           | 2 30            |
| 13   | 3 2                | 8 58             | 2 11              | 29 49           | 2 17            | 1 35             | 2 7             | 0 28            | 2 26            |
| 19   | 2 47               | 9 13             | 2 15              | 29 30           | 2 17            | 1 34             | 2 1             | 0 51            | 2 4             |
| 25   | 2 26               | 9 34             | 2 25              | 29 11           | 2 16            | 1 33             | 1 56            | 1 11            | 1 24            |
| Days | ☉'s<br>longitude   | D's<br>long.     | D's<br>latitude   | h's<br>long.    | 24's<br>long.   | ♂'s<br>long.     | ♀'s<br>long.    | ♂'s<br>long.    |                 |
| 1    | 10 49 8            | 8 34             | 2 n 4             | 15 30           | 29 48           | 10 5             | 25 21           | 14 57           |                 |
| 2    | 12 48 12           | 20 34            | 1 2               | 15 26           | 29 40           | 10 32            | 26 26           | 16 18           |                 |
| B    | 12 47 15           | 2 26             | 0 s 3             | 15 22           | 29 35           | 10 59            | 27 32           | 17 41           |                 |
| 4    | 13 46 15           | 14 14            | 1 6               | 15 18           | 29 25           | 11 26            | 28 38           | 19 7            |                 |
| 5    | 14 45 13           | 26 1             | 2 7               | 15 14           | 29 18           | 11 53            | 29 44           | 20 34           |                 |
| 6    | 15 44 9            | 7 50             | 3 2               | 15 10           | 29 11           | 12 20            | 0X50            | 22 3            |                 |
| 7    | 16 43 2            | 19 44            | 3 50              | 15 7            | 29 4            | 12 48            | 1 56            | 23 33           |                 |
| 8    | 17 41 54           | 1 43             | 4 27              | 15 3            | 28 57           | 13 16            | 3 3             | 25 5            |                 |
| 9    | 18 40 44           | 13 50            | 4 53              | 15 0            | 28 50           | 13 44            | 4 9             | 26 38           |                 |
| B    | 19 39 32           | 26 5             | 5 6               | 14 56           | 28 43           | 14 12            | 5 16            | 28 13           |                 |
| 11   | 20 38 18           | 8 13             | 5 5               | 14 53           | 28 36           | 14 40            | 6 22            | 29 49           |                 |
| 12   | 21 37 3            | 21 9             | 4 49              | 14 49           | 28 29           | 15 8             | 7 29            | 1 27            |                 |
| 13   | 22 35 46           | 4 1              | 4 18              | 14 46           | 18 23           | 15 37            | 8 36            | 3 7             |                 |
| 14   | 23 34 27           | 17 10            | 3 33              | 14 43           | 28 16           | 16 6             | 9 44            | 4 49            |                 |
| 15   | 24 33 7            | 0 39             | 2 35              | 14 40           | 18 10           | 16 35            | 10 51           | 6 32            |                 |
| 16   | 25 31 45           | 14 29            | 1 27              | 14 37           | 18 4            | 17 4             | 11 59           | 8 17            |                 |
| B    | 26 30 22           | 28 41            | 0 12              | 14 34           | 27 58           | 17 33            | 13 6            | 10 3            |                 |
| 18   | 27 28 57           | 13 14            | 1 6               | 14 31           | 27 52           | 18 2             | 14 14           | 11 51           |                 |
| 19   | 28 27 30           | 28 5             | 2 n 20            | 14 28           | 27 46           | 18 31            | 15 22           | 13 40           |                 |
| 20   | 29 26 1            | 13 8             | 3 26              | 14 26           | 27 40           | 19 1             | 16 30           | 15 31           |                 |
| 21   | 0 24 31            | 28 15            | 4 12              | 14 23           | 27 35           | 19 31            | 17 38           | 17 24           |                 |
| 22   | 1 22 59            | 13 14            | 4 51              | 14 21           | 27 29           | 20 1             | 18 46           | 19 18           |                 |
| 23   | 2 21 25            | 27 57            | 5 4               | 14 18           | 27 24           | 20 31            | 19 54           | 21 14           |                 |
| B    | 3 19 49            | 12 16            | 4 58              | 14 16           | 27 19           | 21 1             | 21 2            | 23 12           |                 |
| 25   | 4 18 11            | 26 8             | 4 34              | 14 14           | 27 14           | 21 31            | 22 11           | 25 11           |                 |
| 26   | 5 16 31            | 9 30             | 3 56              | 14 12           | 27 9            | 22 1             | 23 19           | 27 12           |                 |
| 27   | 6 14 48            | 22 26            | 3 6               | 14 10           | 27 5            | 22 32            | 24 28           | 29 14           |                 |
| 28   | 7 13 4             | 4 57             | 2 9               | 14 8            | 27 0            | 23 3             | 25 3            | 1 18            |                 |
| 29   | 8 11 18            | 17 10            | 1 8               | 14 6            | 26 56           | 23 34            | 26 46           | 3 22            |                 |
| 30   | 9 9 29             | 29 9             | 0 4               | 14 4            | 26 51           | 24 5             | 27 55           | 5 29            |                 |
| Days | ☉<br>sets          | ♂<br>sets        | ♀<br>rises        | ♀<br>rises      | h's<br>declin.  | 24's<br>declin.  | ♂'s<br>declin.  | ♀'s<br>declin.  | ♂'s<br>declin.  |
| 1    | 5 m 35             | 2 m 30           | 4 m 13            | 5 m 7           | 7 n 51          | 2 n 33           | 25 n 23         | 2 s 40          | 8 s 1           |
| 7    | 5 13               | 2 26             | 4 5               | 4 44            | 7 59            | 1 50             | 25 3            | 10 50           | 4 52            |
| 13   | 4 49               | 2 13             | 3 57              | 4 21            | 8 7             | 2 6              | 24 39           | 8 47            | 1 0             |
| 19   | 4 26               | 2 0              | 3 50              | 3 58            | 8 13            | 2 20             | 24 12           | 6 34            | 3 n 30          |
| 25   | 4 5                | 1 47             | 3 43              | 3 34            | 8 18            | 2 32             | 22 40           | 4 11            | 8 27            |

## The LUNATIONS.

Full Moon the 6th day, at 14 minutes past 9 night.  
 Last quarter the 14th day, at 20 minutes past 8 morning.  
 New Moon the 20th day, at 58 minutes past 11 night.  
 First quarter the 28th day, at 23 minutes past 9 morning.

| M<br>D | Sunday, & other<br>remark. days. | ☉<br>rises       | ☉<br>sets          | ☉'s<br>declin.      | ☽'s<br>declin.     | ☽ rises<br>& sets  | ☽<br>South         | Clock<br>aft. ☉    |           |
|--------|----------------------------------|------------------|--------------------|---------------------|--------------------|--------------------|--------------------|--------------------|-----------|
| B      | Sun. aft. Ea. & Se.              | 4 37             | 7 23               | 14 n 52             | 6 n 33             | 2 m 44             | 8 a 31             | 2' 59'             |           |
| 2      | Full ☉ & Jan.                    | 4 35             | 7 25               | 15 10               | 1 3                | 2 55               | 9 10               | 3 7                |           |
| 3      | Inv. of Cross                    | 4 33             | 7 27               | 15 28               | 4 s 28             | 3 5                | 9 50               | 3 14               |           |
| 4      |                                  | 4 31             | 7 29               | 15 46               | 9 52               | 3 17               | 10 30              | 3 21               |           |
| 5      |                                  | 4 30             | 7 30               | 16 4                | 14 58              | 3 28               | 11 13              | 3 27               |           |
| 6      | John Ev. A. P. L.                | 4 28             | 7 32               | 16 21               | 19 32              | 3 mites            | 11 59              | 3 33               |           |
| 7      | De. of York b.                   | 4 26             | 7 34               | 16 38               | 23 21              | 9 a 2              | morn               | 3 38               |           |
| 8      | L. S. af. Easter                 | 4 25             | 7 35               | 16 54               | 26 10              | 10 17              | 0 49               | 3 43               |           |
| 9      |                                  | 4 23             | 7 37               | 17 11               | 27 3               | 11 21              | 1 42               | 3 47               |           |
| 10     |                                  | 4 21             | 7 39               | 17 27               | 27 42              | morn               | 2 28               | 3 50               |           |
| 11     |                                  | 4 20             | 7 40               | 17 42               | 26 13              | 0 10               | 3 34               | 3 53               |           |
| 12     |                                  | 4 18             | 7 42               | 17 58               | 23 16              | 0 47               | 4 30               | 3 56               |           |
| 13     | Old May Day                      | 4 17             | 7 43               | 18 13               | 18 59              | 1 14               | 5 24               | 3 57               |           |
| 14     |                                  | 4 15             | 7 45               | 18 28               | 13 37              | 1 32               | 6 15               | 3 58               |           |
| 15     | 5 or Rog. Sun.                   | 4 14             | 7 46               | 18 42               | 7 20               | 1 48               | 7 5                | 3 59               |           |
| 16     |                                  | 4 12             | 7 48               | 18 57               | 0 51               | 2 a 2              | 7 54               | 3 59               |           |
| 17     | Pro. Wales b.                    | 4 11             | 7 49               | 19 11               | 5 n 54             | 2 16               | 8 43               | 3 58               |           |
| 18     |                                  | 4 9              | 7 51               | 19 24               | 12 26              | 2 32               | 9 34               | 3 57               |           |
| 19     | Ascen. Holy Th.                  | Dunf.            | 7 52               | 19 37               | 18 16              | 2 49               | 10 28              | 3 55               |           |
| 20     | [Q. Chas. b.                     | 4 7              | 7 53               | 19 50               | 23 1               | ☽ sets             | 11 25              | 3 52               |           |
| 21     | [Euz. born                       | 4 5              | 7 55               | 20 3                | 26 15              | 9 a 24             | 0 a 26             | 3 49               |           |
| 22     | Sun. at. Alce. Pres.             | 4 4              | 7 56               | 20 15               | 27 44              | 10 32              | 1 27               | 3 46               |           |
| 23     | Easter Term e.                   | 4 3              | 7 57               | 20 27               | 27 25              | 11 23              | 2 28               | 3 42               |           |
| 24     |                                  | 4 1              | 7 59               | 20 37               | 25 30              | 11 57              | 3 24               | 3 37               |           |
| 25     |                                  | 4 0              | 8 0                | 20 50               | 22 16              | morn               | 4 16               | 3 32               |           |
| 26     | August: O. T. e.                 | 3 59             | 8 1                | 21 1                | 18 5               | 0 20               | 5 4                | 3 26               |           |
| 27     | Venerable Bede                   | 3 58             | 8 2                | 21 11               | 13 14              | 0 38               | 5 47               | 3 20               |           |
| 28     | [In. left.                       | 3 57             | 8 3                | 21 21               | 7 59               | 0 51               | 6 28               | 3 14               |           |
| 29     | Whit S. R. Ch.                   | 3 56             | 8 4                | 21 31               | 2 31               | 1 5                | 7 7                | 3 7                |           |
| 30     | Whit M. day                      | 3 55             | 8 5                | 21 41               | 3 s c              | 1 13               | 7 46               | 2 50               |           |
| 31     | Whit Tuesday                     | 3 54             | 8 6                | 21 50               | 8 26               | 1 23               | 8 26               | 2 51               |           |
| Days   | Day<br>increaf.                  | Length<br>of day | Helioc.<br>long. h | Helioc.<br>long. 11 | Helioc.<br>long. ♂ | Helioc.<br>long. ⊖ | Helioc.<br>long. ♀ | Helioc.<br>long. ♀ | h<br>sets |
| 1      | 6 13                             | 14 47            | 19 m 9             | 4 5                 | om 18              | 10 m 8             | 13 m 33            | 19 8 45            | 3 m 24    |
| 7      | 7 25                             | 15 9             | 19 21              | 4 32                | 2 55               | 15 56              | 3 m 2              | 5 58 59            | 3 c       |
| 13     | 7 43                             | 15 27            | 19 34              | 4 56                | 5 32               | 21 45              | 12 31              | 13 8 34            | 2 37      |
| 19     | 8 1                              | 15 45            | 19 46              | 5 26                | 8 5                | 27 30              | 22 c               | 17 m 47            | 2 13      |
|        | 8 16                             | 16 0             | 19 58              | 5 54                | 10 47              | 3 16               | 1 x 30             | 16 28              | 1 50      |



| M  | Day lig.       | Daylig. | Durat.   | Pl. (C)             | h's      | u's      | s's      | q's      | s's      |
|----|----------------|---------|----------|---------------------|----------|----------|----------|----------|----------|
| D  | begins         | ends    | twilig.  | mode                | latitude | latitude | latitude | latitude | latitude |
| 1  | 2 6            | 9 57    | 2 37     | 28 <sup>55</sup> 52 | 2 n 15   | 1 n 32   | 1 n 51   | 1 s 27   | 0 s 29   |
| 7  | 1 44           | 10 19   | 2 48     | 28 <sup>55</sup> 33 | 2 14     | 1 31     | 1 46     | 1 40     | 0 n 34   |
| 13 | 1 19           | 10 45   | 3 5      | 28 <sup>55</sup> 14 | 2 13     | 1 29     | 1 42     | 1 4      | 1 31     |
| 19 | 0 48           | 11 20   | 3 32     | 27 <sup>55</sup> 55 | 2 12     | 1 28     | 1 37     | 1 35     | 2 7      |
| 25 | All day light. |         |          | 27 <sup>55</sup> 30 | 2 11     | 1 27     | 1 33     | 1 57     | 2 15     |
| M  | ☉'s            | ☌'s     | ☌'s      | h's                 | u's      | s's      | q's      | s's      |          |
| D  | longitude      | long.   | latitude | longit.             | longit.  | longit.  | longit.  | long.    |          |
| B  | 8 10           | 7 30    | 11 12    | 0 s 58              | 14 22    | 26 47    | 24 36    | 29 4     | 7 8 37   |
| 2  | 11             | 5 46    | 22 47    | 1 58                | 13 0     | 26 43    | 25 7     | 0 13     | 9 45     |
| 3  | 12             | 3 51    | 4 35     | 2 53                | 13 59    | 26 40    | 25 38    | 1 22     | 11 54    |
| 4  | 13             | 1 55    | 16 28    | 3 40                | 13 57    | 26 36    | 26 30    | 2 32     | 14 4     |
| 5  | 13             | 59 57   | 28 28    | 4 18                | 13 56    | 26 33    | 26 41    | 3 41     | 16 14    |
| 6  | 14             | 57 57   | 10 17    | 4 45                | 13 55    | 26 29    | 27 22    | 4 50     | 8 25     |
| 7  | 15             | 55 55   | 22 57    | 4 59                | 13 54    | 26 26    | 27 44    | 6 02     | 20 35    |
| B  | 16             | 53 52   | 5 12     | 4 59                | 13 53    | 26 23    | 28 16    | 7 9      | 22 44    |
| 9  | 17             | 51 48   | 18 8     | 4 44                | 13 52    | 26 21    | 28 48    | 8 19     | 24 53    |
| 10 | 18             | 49 42   | 1 5      | 4 15                | 13 51    | 26 18    | 29 20    | 9 29     | 27 1     |
| 11 | 19             | 47 35   | 14 5     | 3 31                | 13 51    | 26 16    | 29 52    | 10 38    | 29 8     |
| 12 | 20             | 45 27   | 27 23    | 2 36                | 13 51    | 26 13    | 0 24     | 11 48    | 1 11 3   |
| 13 | 21             | 43 18   | 10 54    | 1 31                | 13 51    | 26 11    | 0 56     | 12 58    | 3 16     |
| 14 | 22             | 41 7    | 24 39    | 0 20                | 13 51    | 26 9     | 1 28     | 14 8     | 5 17     |
| B  | 23             | 38 56   | 8 41     | 0 n 54              | 13 51    | 26 8     | 2 1      | 15 18    | 7 15     |
| 16 | 24             | 36 43   | 22 59    | 2 6                 | 13 51    | 26 6     | 2 33     | 16 28    | 9 11     |
| 17 | 25             | 34 29   | 7 30     | 3 11                | 13 51    | 26 5     | 3 6      | 17 38    | 11 5     |
| 18 | 26             | 32 15   | 22 12    | 4 4                 | 13 51    | 26 4     | 3 38     | 18 48    | 12 56    |
| 19 | 27             | 29 57   | 6 58     | 4 41                | 13 51    | 26 3     | 4 11     | 19 59    | 14 45    |
| 20 | 28             | 27 42   | 21 41    | 4 50                | 13 51    | 26 2     | 4 44     | 21 9     | 16 31    |
| 21 | 29             | 25 24   | 5 11     | 4 57                | 13 52    | 26 1     | 5 17     | 22 19    | 18 13    |
| B  | 30             | 23 4    | 20 24    | 4 37                | 13 52    | 26 1     | 5 51     | 23 30    | 19 52    |
| 23 | 1 20           | 43      | 4 51     | 4 13                | 13 53    | 26 D     | 6 24     | 24 40    | 21 28    |
| 24 | 2 18           | 21      | 17 34    | 3 13                | 13 53    | 26 1     | 6 57     | 25 30    | 23 1     |
| 25 | 3 15           | 57      | 0 31     | 2 16                | 13 54    | 26 1     | 7 31     | 27 124   | 31       |
| 26 | 4 13           | 32      | 13 5     | 4 14                | 13 55    | 26 1     | 8 4      | 28 11    | 25 58    |
| 27 | 5 11           | 5       | 25 20    | 0 9                 | 13 56    | 26 2     | 8 37     | 29 22    | 27 21    |
| 28 | 6 8            | 38      | 7 20     | 0 s 54              | 13 5     | 26 2     | 9 11     | 0 8 32   | 28 41    |
| B  | 7 6            | 8       | 19 13    | 1 55                | 13 58    | 26 3     | 9 44     | 1 43     | 29 58    |
| 30 | 8 3            | 38      | 1 2      | 2 50                | 13 59    | 26 4     | 10 17    | 2 54     | 1 50 11  |
| 31 | 9 1            | 6       | 12 53    | 3 38                | 14 0     | 26 5     | 10 51    | 4 5      | 2 21     |
| M  | ☌'s            | ☌'s     | ☌'s      | ☌'s                 | h's      | u's      | s's      | q's      | s's      |
| D  | fets           | fets    | rises    | fets                | declin.  | declin.  | declin.  | declin.  | declin.  |
| 1  | 3 m 39         | 1 n 32  | 3 m 43   | 7 4 10              | 8 n 22   | 2 n 41   | 23 n 3   | 1 s 43   | 13 n 37  |
| 7  | 3 16           | 1 17    | 3 30     | 7 52                | 8 24     | 2 49     | 22 22    | 0 n 52   | 18 28    |
| 13 | 2 52           | 1 2     | 3 17     | 8 36                | 8 24     | 2 53     | 21 38    | 3 27     | 22 19    |
| 19 | 2 28           | 0 47    | 3 4      | 9 20                | 8 24     | 2 56     | 20 40    | 6 3      | 24 42    |
| 25 | 2 4            | 0 31    | 2 51     | 10 4                | 8 21     | 2 55     | 19 55    | 8 16     | 25 36    |

## The LUNATIONS.

Full Moon the 5th day, at 24 minutes past 10 morning.  
 Last quarter the 12th day, at 49 minutes past 1 afternoon.  
 New Moon the 19th day, at 46 minutes past 8 morning.  
 First quarter the 27th day, at 40 minutes past 2 morning.

| M<br>D | Sundays & other<br>remark. days. | ☉<br>rises       | ☉<br>sets          | ☉'s<br>declin.     | ☽'s<br>declin.     | ☽-rises<br>& sets  | ☽<br>South         | Clock<br>aft. ☉    |            |
|--------|----------------------------------|------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|------------|
| 1      | [Nicomede]                       | 3 53             | 8 7                | 21 n 58            | 13 s 36            | 1 m 35             | 9 a 8              | 2' 45"             |            |
| 2      |                                  | 3 52             | 8 8                | 22 7               | 18 19              | 1 48               | 9 53               | 2 35               |            |
| 3      |                                  | 3 51             | 8 9                | 22 14              | 22 21              | 2 5                | 10 42              | 2 20               |            |
| 4      |                                  | 3 50             | 8 10               | 22 22              | 25 27              | 2 27               | 11 34              | 2 16               |            |
| 5      | Bonifa.                          | 8                | 11                 | 22 29              | 27 19              | ☽ rises            | morn               | 2 6                |            |
| 6      |                                  | 3 49             | 8 11               | 22 36              | 27 44              | 10 a 5             | 0 29               | 1 56               |            |
| 7      |                                  | 3 48             | 8 12               | 22 42              | 26 35              | 10 46              | 1 26               | 1 46               |            |
| 8      | Oxf. T. begins                   | 3 47             | 8 13               | 22 48              | 23 53              | 11 16              | 2 23               | 1 35               |            |
| 9      | Corpus Christi                   | 3 47             | 8 13               | 22 53              | 19 50              | 11 36              | 3 18               | 1 24               |            |
| 10     | Trin. T. begins                  | 3 46             | 8 14               | 22 58              | 14 40              | 11 53              | 4 10               | 1 12               |            |
| 11     |                                  | 3 45             | 8 15               | 23 3               | 8 42               | morn               | 5 0                | 1 1                |            |
| 12     |                                  | 3 45             | 8 15               | 23 7               | 2 16               | 0 6                | 5 48               | 0 49               |            |
| 13     |                                  | 3 44             | 8 16               | 23 11              | 4 n 20             | 0 19               | 6 35               | 0 37               |            |
| 14     |                                  | 3 44             | 8 16               | 23 15              | 10 46              | 0 32               | 7 24               | 0 24               |            |
| 15     |                                  | 3 44             | 8 16               | 23 18              | 16 37              | 0 48               | 8 15               | 0 12               |            |
| 16     |                                  | 3 44             | 8 16               | 23 21              | 21 38              | 1 8                | 9 9                | 0 b. 1             |            |
| 17     | Alban.                           | 3 43             | 8 17               | 23 23              | 25 18              | 1 34               | 10 7               | 0 14               |            |
| 18     |                                  | 3 43             | 8 17               | 23 25              | 27 22              | 2 10               | 11 6               | 0 27               |            |
| 19     |                                  | 3 43             | 8 17               | 23 26              | 27 41              | ☽ sets             | 0 a 8              | 0 40               |            |
| 20     | Tran. Ed. KWS                    | 3 43             | 8 17               | 23 27              | 26 18              | 9 a 48             | 1 6                | 0 53               |            |
| 21     | Longest Day                      | 3 43             | 8 17               | 23 28              | 23 28              | 10 7               | 2 1                | 1 6                |            |
| 22     |                                  | 3 43             | 8 17               | 23 28              | 19 32              | 10 37              | 2 51               | 1 19               |            |
| 23     |                                  | 3 43             | 8 17               | 23 28              | 14 48              | 10 52              | 3 36               | 1 32               |            |
| 24     |                                  | 3 43             | 8 17               | 23 27              | 9 36               | 11 3               | 4 18               | 1 45               |            |
| 25     | [Midf. day]                      | 3 43             | 8 17               | 23 26              | 4 7                | 11 14              | 4 58               | 1 58               |            |
| 26     |                                  | 3 44             | 8 16               | 23 25              | 1 s 26             | 11 24              | 5 37               | 2 11               |            |
| 27     |                                  | 3 44             | 8 16               | 23 23              | 6 54               | 11 36              | 6 17               | 2 23               |            |
| 28     |                                  | 3 44             | 8 16               | 23 20              | 12 8               | 11 40              | 6 58               | 2 36               |            |
| 29     |                                  | 3 44             | 8 16               | 23 18              | 16 59              | morn               | 7 41               | 2 48               |            |
| 30     | [Trin. T.e.]                     | 3 45             | 8 15               | 23 15              | 21 14              | 0 3                | 8 27               | 3 0                |            |
| M<br>D | Day<br>increaf.                  | Length<br>of day | Helioc.<br>long. ♀ | Helioc.<br>long. ♀ | Helioc.<br>long. ♂ | Helioc.<br>long. ♂ | Helioc.<br>long. ♀ | Helioc.<br>long. ♂ | h<br>f.e.s |
| 1      | 8 30                             | 16 14            | 20 n 13            | 0 25               | 13 n 51            | 9 f 58             | 12 36              | 12 40              | 1 m 22     |
| 7      | 8 40                             | 16 24            | 20 25              | 6 53               | 16 29              | 15 43              | 22 7               | 3 m 33             | 0 56       |
| 13     | 8 44                             | 16 30            | 20 38              | 7 20               | 19 7               | 21 27              | 1 v 39             | 21 19              | 0 30       |
| 19     | 8 50                             | 16 34            | 20 50              | 7 47               | 21 46              | 27 11              | 11 12              | 8 f 3              | 0 4        |
| 25     | 8 50                             | 16 34            | 21 2               | 8 14               | 24 24              | 27 54              | 20 46              | 24 34              | 11 a 38    |

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| M<br>D | Daylig.<br>begins | Daylig.<br>ends | Durat.<br>twilig.    | Pl. D's<br>node    | h's<br>latitude   | u's<br>latitude   | δ's<br>latitude    | ♀'s<br>latitude      | ♂'s<br>latitude   |
|--------|-------------------|-----------------|----------------------|--------------------|-------------------|-------------------|--------------------|----------------------|-------------------|
| 1      |                   |                 |                      | 27 <sup>m</sup> 14 | 2 n 10            | 1 n 25            | 1 n 28             | 1 s 56               | 1 n 48            |
| 7      |                   |                 |                      | 26 55              | 2 9               | 1 23              | 1 24               | 1 52                 | 0 53              |
| 13     | All               | day             | light.               | 26 36              | 2 7               | 1 22              | 1 20               | 1 45                 | 0 s 27            |
| 19     |                   |                 |                      | 26 17              | 2 7               | 1 21              | 1 16               | 1 36                 | 2 3               |
| 25     |                   |                 |                      | 25 58              | 2 6               | 1 19              | 1 12               | 1 24                 | 3 37              |
| M<br>D | ☉'s<br>longitude  |                 | ☾'s<br>long.         | ☾'s<br>latitude    | h's<br>long.      | u's<br>long.      | δ's<br>long.       | ♀'s<br>long.         | ♂'s<br>long.      |
| 1      | II 9              | 58 32           | 24 <sup>m</sup> 30   | 4 s 16             | 14 <sup>m</sup> 2 | 26 <sup>m</sup> 7 | 11 <sup>m</sup> 25 | 5 8 16               | 3 <sup>m</sup> 27 |
| 2      | 10                | 55 58           | 6 <sup>m</sup> 57    | 4 44               | 14 3              | 26 9              | 11 59              | 6 27                 | 4 52              |
| 3      | 11                | 53 22           | 19 16                | 4 59               | 14 5              | 26 11             | 12 33              | 7 38                 | 5 31              |
| 4      | 12                | 50 45           | 1 <sup>m</sup> 49    | 5 9                | 14 7              | 26 13             | 13 7               | 8 49                 | 6 25              |
| 5      | 13                | 48 8            | 14 36                | 4 46               | 14 9              | 26 15             | 13 41              | 10 0                 | 7 16              |
| 6      | 14                | 45 29           | 27 37                | 4 17               | 14 11             | 26 17             | 14 15              | 11 11                | 8 4               |
| 7      | 15                | 42 50           | 10 <sup>m</sup> 50   | 3 34               | 14 13             | 26 20             | 14 50              | 12 22                | 8 49              |
| 8      | 16                | 40 10           | 24 15                | 2 39               | 14 15             | 26 23             | 15 24              | 13 33                | 9 30              |
| 9      | 17                | 37 30           | 7 <sup>m</sup> 52    | 1 33               | 14 17             | 26 26             | 15 58              | 14 44                | 10 6              |
| 10     | 18                | 34 50           | 21 35                | 0 21               | 14 20             | 26 29             | 16 33              | 15 55                | 10 36             |
| 11     | 19                | 32 8            | 5 <sup>m</sup> 20    | 0 n 52             | 14 22             | 26 32             | 17 7               | 17 6                 | 11 2              |
| 12     | 20                | 29 27           | 19 30                | 2 4                | 14 25             | 26 35             | 17 41              | 18 17                | 11 25             |
| 13     | 21                | 26 46           | 3 <sup>m</sup> 40    | 3 8                | 14 28             | 26 38             | 18 16              | 19 29                | 11 44             |
| 14     | 22                | 24 4            | 17 56                | 4 2                | 14 31             | 26 42             | 18 50              | 20 40                | 11 58             |
| 15     | 23                | 21 22           | 2 8 17               | 4 40               | 14 34             | 26 46             | 19 25              | 21 52                | 12 7              |
| 16     | 24                | 18 39           | 16 3                 | 5 1                | 14 37             | 26 50             | 20 0               | 23 4                 | 12 32             |
| 17     | 25                | 15 57           | 0 <sup>m</sup> 11 55 | 5 3                | 14 40             | 26 54             | 20 35              | 24 15                | 12 R 12           |
| 18     | 26                | 13 14           | 15 2                 | 4 46               | 14 43             | 26 58             | 21 10              | 25 27                | 12 8              |
| 19     | 27                | 10 30           | 28 54                | 4 13               | 14 46             | 27 2              | 21 45              | 26 39                | 11 59             |
| 20     | 28                | 7 47            | 12 <sup>m</sup> 28   | 3 26               | 14 49             | 27 7              | 22 20              | 27 50                | 11 46             |
| 21     | 29                | 5 3             | 25 40                | 2 29               | 14 53             | 27 12             | 22 55              | 29 2                 | 11 29             |
| 22     | 30                | 2 18            | 8 <sup>m</sup> 31    | 1 25               | 14 56             | 27 17             | 23 30              | 0 <sup>m</sup> 11 14 | 11 8              |
| 23     | 0                 | 59 33           | 21 2                 | 0 19               | 15 0              | 27 22             | 24 5               | 1 23                 | 10 44             |
| 24     | 1                 | 56 47           | 3 <sup>m</sup> 17    | 0 s 47             | 15 4              | 27 27             | 24 40              | 2 37                 | 10 17             |
| 25     | 2                 | 54 0            | 15 18                | 1 49               | 15 8              | 27 32             | 25 16              | 3 49                 | 9 46              |
| B      | 3                 | 51 14           | 27 12                | 2 46               | 15 12             | 27 37             | 25 51              | 5 0                  | 9 13              |
| 27     | 4                 | 48 26           | 9 <sup>m</sup> 2     | 3 36               | 15 16             | 27 43             | 26 27              | 6 12                 | 8 39              |
| 28     | 5                 | 45 38           | 20 55                | 4 17               | 15 20             | 27 49             | 27 2               | 7 24                 | 8 3               |
| 29     | 6                 | 42 50           | 2 <sup>m</sup> 55    | 4 47               | 15 24             | 27 55             | 27 38              | 8 36                 | 7 26              |
| 30     | 7                 | 40 1            | 15 6                 | 5 4                | 15 28             | 28 1              | 28 13              | 9 48                 | 6 31              |
| M<br>D | u's<br>fets       | δ's<br>fets     | ♀'s<br>rites         | ♂'s<br>fets        | h's<br>declin.    | u's<br>declin.    | δ's<br>declin.     | ♀'s<br>declin.       | ♂'s<br>declin.    |
| 1      | 1 m 35            | 0 m 12          | 2 m 3                | 10 a 12            | 8 n 17            | 2 n 51            | 18 n 47            | 11 n 28              | 25 n 13           |
| 7      | 1 11              | 11 a 54         | 2 31                 | 9 43               | 8 11              | 2 44              | 17 44              | 13 47                | 24 4              |
| 13     | 0 47              | 11 35           | 2 23                 | 9 15               | 8 5               | 2 35              | 16 38              | 15 56                | 22 30             |
| 19     | 0 23              | 11 16           | 2 15                 | 8 47               | 7 57              | 2 25              | 15 28              | 17 53                | 20 53             |
| 25     | 11 a 58           | 10 57           | 2 6                  | 8 19               | 7 48              | 2 18              | 14 14              | 14 19                | 33 19 30          |

## THE LUNATIONS.

Full Moon the 4th day, at 19 minutes past 9 afternoon.  
 Last quarter the 11th day, at 10 minutes past 6 afternoon.  
 New Moon the 18th day, at 16 minutes past 7 afternoon.  
 First quarter the 26th day, at 50 minutes past 7 afternoon.

| M  | Sundays & other<br>remark. days | ☉<br>rises       | ☉<br>sets          | ☉'s<br>declin.     | ☾'s<br>declin.     | ☾ rises<br>& sets  | ☾<br>South         | Clock<br>bef. ☉    |           |
|----|---------------------------------|------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-----------|
| 1  |                                 | 3 45             | 8 15               | 23 n 11            | 24 s 38            | 0 m 23             | 9 a 18             | 3' 12'             |           |
| 2  | Visita. of V. M.                | 3 46             | 8 14               | 23 7               | 26 54              | 0 51               | 10 13              | 3 23               |           |
| 3  | Sun. af. Trin.                  | Dogd. b          | 8 14               | 23 3               | 27 47              | 1 33               | 11 10              | 3 35               |           |
| 4  | Transf. St. Mar.                | 3 47             | 8 13               | 22 58              | 27 6               | ☾ rises            | morn               | 3 46               |           |
| 5  | Cam. Commen.                    | 3 48             | 8 12               | 22 53              | 24 47              | 9 a 9              | 0 8                | 3 56               |           |
| 6  | Old Midf. day                   | 3 48             | 8 12               | 22 48              | 20 59              | 9 35               | 1 4                | 4 7                |           |
| 7  | Tho. à Becket                   | 3 49             | 8 11               | 22 42              | 15 57              | 9 52               | 1 59               | 4 17               |           |
| 8  | Camb. T. ends                   | 3 50             | 8 10               | 22 35              | 10 2               | 10 8               | 2 50               | 4 27               |           |
| 9  |                                 | 3 51             | 8 9                | 22 29              | 3 34               | 10 21              | 3 40               | 4 36               |           |
| 10 | 5 Sun. aft. Tri.                | 3 51             | 8 9                | 22 22              | 3 n 4              | 10 34              | 4 28               | 4 45               |           |
| 11 | Oxford A&T                      | 3 52             | 8 8                | 22 14              | 9 32               | 10 48              | 5 16               | 4 54               |           |
| 12 |                                 | 3 53             | 8 7                | 22 6               | 15 31              | 11 6               | 6 6                | 5 2                |           |
| 13 |                                 | 3 54             | 8 6                | 21 58              | 20 38              | 11 32              | 6 58               | 5 10               |           |
| 14 |                                 | 3 55             | 8 5                | 21 49              | 24 34              | morn               | 7 54               | 5 17               |           |
| 15 | Swithun                         | 3 56             | 8 4                | 21 40              | 27 1               | 0 3                | 8 52               | 5 24               |           |
| 16 | Oxford Ter. c.                  | 3 58             | 8 2                | 21 31              | 27 49              | 0 s 47             | 9 51               | 5 31               |           |
| 17 | 6 Sun. aft. Tri.                | 3 59             | 8 1                | 21 21              | 26 57              | 1 47               | 10 50              | 5 37               |           |
| 18 |                                 | 4 0              | 8 0                | 21 11              | 24 34              | ☾ sets             | 11 46              | 5 42               |           |
| 19 |                                 | 4 1              | 7 59               | 21 1               | 20 57              | 8 a 36             | 0 a 38             | 5 47               |           |
| 20 | Margaret                        | 4 2              | 7 58               | 20 50              | 16 25              | 8 52               | 1 25               | 5 51               |           |
| 21 |                                 | 4 4              | 7 56               | 20 39              | 11 18              | 9 7                | 2 9                | 5 55               |           |
| 22 | Magdalen                        | 4 5              | 7 55               | 20 27              | 5 51               | 9 17               | 2 50               | 5 59               |           |
| 23 |                                 | 4 6              | 7 54               | 20 15              | 0 16               | 9 29               | 3 30               | 6 1                |           |
| 24 | 7 Sun. af. Trin.                | 4 7              | 7 53               | 20 3               | 5 s 16             | 9 38               | 4 9                | 6 3                |           |
| 25 | St. James                       | 4 9              | 7 51               | 19 51              | 10 35              | 9 49               | 4 49               | 6 5                |           |
| 26 | St. Anne                        | 4 10             | 7 50               | 19 38              | 15 33              | 10 4               | 5 31               | 6 6                |           |
| 27 |                                 | 4 12             | 7 48               | 19 25              | 19 59              | 10 21              | 6 16               | 6 6                |           |
| 28 |                                 | 4 13             | 7 47               | 19 11              | 23 39              | 10 45              | 7 5                | 6 6                |           |
| 29 |                                 | 4 15             | 7 45               | 18 57              | 26 19              | 11 22              | 7 57               | 6 5                |           |
| 30 |                                 | 4 16             | 7 44               | 18 43              | 27 43              | morn               | 8 53               | 6 4                |           |
| 31 | 8 Sun. af. Trin.                | 4 18             | 7 42               | 18 29              | 27 37              | 0 11               | 9 51               | 6 1                |           |
| M  | Day<br>decreas.                 | Length<br>of day | Helioc.<br>long. ♀ | Helioc.<br>long. ♀ | Helioc.<br>long. ♂ | Helioc.<br>long. ☉ | Helioc.<br>long. ♀ | Helioc.<br>long. ♂ | h<br>fers |
| 1  | 0 5                             | 16 29            | 21 17              | 15 8               | 27 17              | 5 8                | 0 8                | 21 11              | 11 a 9    |
| 7  | 0 12                            | 16 22            | 21 9               | 9 9                | 19 46              | 14 20              | 9 57               | 29 56              | 10 50     |
| 13 | 0 22                            | 16 12            | 21 40              | 9 36               | 2 27               | 20 4               | 19 34              | 20 34              | 10 26     |
| 19 | 0 36                            | 15 58            | 21 52              | 10 3               | 5 9                | 25 47              | 29 12              | 14 40              | 10 3      |
| 25 | 0 52                            | 15 42            | 22 4               | 10 30              | 7 51               | 1 31               | 8 11               | 13 31              | 9 40      |

| M  | Daylig.   | Daylig. | Durat.           | Pl. D's          | h's              | u's              | δ's              | ♀'s             | ♂'s             |
|----|-----------|---------|------------------|------------------|------------------|------------------|------------------|-----------------|-----------------|
| D  | begins    | ends    | twilig.          | node             | latitude         | latitude         | latitude         | latitude        | latitude        |
| 1  | All       | day     | light.           | 25 <sup>38</sup> | 2 n 5            | 1 n 18           | 1 n 8            | 1 s 11          | 4 s 37          |
| 7  |           |         |                  | 25 19            | 2 4              | 1 17             | 1 4              | 0 57            | 4 44            |
| 13 |           |         |                  | 25 0             | 2 3              | 1 15             | 1 0              | 0 42            | 4 1             |
| 19 |           |         |                  | 24 41            | 2 2              | 1 14             | 0 56             | 0 26            | 2 46            |
| 25 |           |         |                  | 24 22            | 2 2              | 1 13             | 0 52             | 0 10            | 1 19            |
| M  | ☉'s       |         | ☾'s              | D's              | h's              | u's              | δ's              | ♀'s             | ♂'s             |
| D  | longitude |         | long.            | latitude         | long.            | long.            | long.            | long.           | long.           |
| 1  | 8         | 37 12   | 27 <sup>33</sup> | 5 s 8            | 15 <sup>33</sup> | 28 <sup>37</sup> | 28 <sup>43</sup> | 11 11 0         | 6 <sup>15</sup> |
| 2  | 9         | 34 23   | 10 <sup>16</sup> | 4 57             | 15 37            | 28 13            | 29 25            | 12 12           | 5 40            |
| B  | 10        | 31 33   | 23 17            | 4 30             | 15 42            | 28 20            | 0 <sup>37</sup>  | 13 24           | 5 8             |
| 4  | 11        | 28 43   | 6 <sup>36</sup>  | 3 48             | 15 46            | 28 27            | 0 37             | 14 36           | 4 38            |
| 5  | 12        | 25 54   | 20 12            | 2 52             | 15 51            | 28 34            | 1 13             | 15 48           | 4 12            |
| 6  | 13        | 23 4    | 4 <sup>1</sup>   | 1 46             | 15 50            | 28 41            | 1 49             | 17 0            | 3 48            |
| 7  | 14        | 20 15   | 18 1             | 0 32             | 16 0             | 28 48            | 2 25             | 18 13           | 3 28            |
| 8  | 15        | 17 26   | 2 <sup>8</sup>   | 0 n 45           | 16 5             | 28 55            | 3 1              | 19 25           | 3 12            |
| 9  | 16        | 14 38   | 16 19            | 1 59             | 16 10            | 29 2             | 3 37             | 20 37           | 3 1             |
| B  | 17        | 11 50   | 5 <sup>32</sup>  | 3 7              | 16 15            | 29 9             | 4 13             | 21 50           | 2 56            |
| 11 | 18        | 9 3     | 14 45            | 4 2              | 16 20            | 29 16            | 4 49             | 23 2            | 2 D 56          |
| 12 | 19        | 6 16    | 28 56            | 4 43             | 16 25            | 29 24            | 5 25             | 24 14           | 3 0             |
| 13 | 20        | 3 30    | 13 8             | 5 7              | 16 30            | 29 32            | 6 2              | 25 27           | 3 9             |
| 14 | 21        | 0 45    | 27 2             | 5 12             | 16 35            | 29 40            | 6 38             | 26 39           | 3 23            |
| 15 | 21        | 58 0    | 10 <sup>53</sup> | 4 58             | 16 40            | 29 48            | 7 15             | 27 52           | 3 43            |
| 16 | 22        | 55 16   | 44 33            | 4 28             | 16 46            | 29 56            | 7 51             | 29 5            | 4 10            |
| B  | 23        | 52 33   | 7 <sup>59</sup>  | 3 44             | 16 51            | 0 <sup>4</sup>   | 8 28             | 0 <sup>17</sup> | 4 42            |
| 18 | 24        | 49 50   | 21 11            | 2 48             | 16 56            | 0 12             | 9 4              | 1 30            | 5 19            |
| 19 | 25        | 47 8    | 4 <sup>6</sup>   | 1 44             | 17 2             | 0 21             | 9 41             | 2 43            | 6 2             |
| 20 | 26        | 44 26   | 16 44            | 0 37             | 17 7             | 0 30             | 10 17            | 3 55            | 6 50            |
| 21 | 27        | 41 45   | 29 8             | 0 8              | 17 13            | 0 39             | 10 54            | 5 8             | 7 43            |
| 22 | 28        | 39 4    | 11 <sup>17</sup> | 1 37             | 17 19            | 0 48             | 11 31            | 6 21            | 8 42            |
| 23 | 29        | 36 24   | 23 17            | 2 37             | 17 25            | 0 57             | 12 8             | 7 33            | 9 47            |
| B  | 30        | 33 44   | 5 <sup>16</sup>  | 3 30             | 17 31            | 1 6              | 12 45            | 8 46            | 10 56           |
| 25 | 1         | 31 4    | 17 c             | 4 14             | 17 37            | 1 15             | 13 22            | 9 59            | 12 10           |
| 26 | 2         | 28 25   | 28 53            | 4 47             | 17 43            | 1 24             | 13 59            | 11 12           | 13 29           |
| 27 | 3         | 25 46   | 10 <sup>53</sup> | 5 8              | 17 49            | 1 34             | 14 36            | 12 25           | 14 53           |
| 28 | 4         | 23 7    | 23 5             | 5 16             | 17 55            | 1 43             | 15 13            | 13 38           | 16 21           |
| 29 | 5         | 20 29   | 5 <sup>33</sup>  | 5 9              | 18 1             | 1 53             | 15 50            | 14 51           | 17 55           |
| 30 | 6         | 17 52   | 18 20            | 4 47             | 18 7             | 2 2              | 16 27            | 16 4            | 19 32           |
| B  | 7         | 15 15   | 1 <sup>28</sup>  | 4 9              | 18 13            | 2 12             | 17 4             | 17 17           | 21 12           |
| M  | u's       |         | δ                | ♀                | ♂                | h's              | u's              | δ's             | ♀'s             |
| D  | fets      |         | fets             | rises            | rises            | declin.          | declin.          | declin.         | declin.         |
| 1  | 11 a 30   | 10 a 39 | 2 m 2            | 3 m 57           | 7 n 37           | 1 n 56           | 12 n 57          | 10 n 57         | 18 n 43         |
| 7  | 11 7      | 10 28   | 2 5              | 3 37             | 7 26             | 1 39             | 11 37            | 22 0            | 18 42           |
| 13 | 10 43     | 10 18   | 2 9              | 3 16             | 7 13             | 1 20             | 10 15            | 22 42           | 19 25           |
| 19 | 10 21     | 10 8    | 2 13             | 2 56             | 7 0              | 1 0              | 8 49             | 23 1            | 20 34           |
| 25 | 9 58      | 9 58    | 2 17             | 2 35             | 6 46             | 0 27             | 7 21             | 22 56           | 21 36           |

## The LUNATIONS.

Full Moon the 3d day, at 46 minutes past 6 morning.

Last quarter the 9th day, at 0 minutes past 11 night.

New Moon the 17th day, at 19 minutes past 8 morning.

First quarter the 25th day, at 15 minutes past noon.

| M<br>D | Sundays & other<br>remark. days | ☉<br>rises       | ☉<br>sets          | ☉'s<br>declin.     | ☾'s<br>declin.     | ☾ rises<br>& sets  | ☾<br>South         | Clock<br>bef. ☉    |           |
|--------|---------------------------------|------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-----------|
| 1      | Lammas Day                      | 4 19             | 7 41               | 18 n 14            | 25 s 53            | 1 m 17             | 10 a 49            | 5 59               |           |
| 2      |                                 | 4 21             | 7 39               | 17 59              | 22 34              | 2 38               | 11 46              | 5 55               |           |
| 3      |                                 | 4 22             | 7 38               | 17 44              | 17 50              | ☾ rises            | morn               | 5 51               |           |
| 4      |                                 | 4 24             | 7 36               | 17 28              | 12 1               | 8 a 13             | 0 40               | 5 47               |           |
| 5      |                                 | 4 26             | 7 34               | 17 12              | 5 30               | 8 27               | 1 32               | 5 42               |           |
| 6      | Transfiguration                 | 4 27             | 7 33               | 16 56              | 1 n 19             | 8 40               | 2 22               | 5 36               |           |
| 7      | St. Peter & Paul                | Na of J.         | 7 31               | 16 39              | 8 2                | 8 56               | 3 11               | 5 29               |           |
| 8      |                                 | 4 31             | 7 29               | 16 23              | 14 16              | 9 12               | 4 2                | 5 23               |           |
| 9      |                                 | 4 32             | 7 28               | 16 6               | 19 39              | 9 35               | 4 54               | 5 15               |           |
| 10     | St. Lawrence                    | 4 34             | 7 26               | 15 48              | 23 53              | 10 4               | 5 49               | 5 7                |           |
| 11     | St. John Baptist                | Do. d. e.        | 7 24               | 15 31              | 26 40              | 10 43              | 6 47               | 4 58               |           |
| 12     | St. John the Evangelist         | 4 37             | 7 23               | 15 13              | 27 50              | 11 38              | 7 45               | 4 49               |           |
| 13     | Old Lammas                      | 4 39             | 7 22               | 14 55              | 27 23              | morn               | 8 44               | 4 40               |           |
| 14     | St. Thomas the Apostle          | 4 41             | 7 19               | 14 37              | 25 24              | 0 48               | 9 40               | 4 29               |           |
| 15     | Assumption                      | 4 43             | 7 17               | 14 19              | 22 8               | 2 4                | 10 33              | 4 19               |           |
| 16     | St. Mary of York                | 4 45             | 7 15               | 14 0               | 17 53              | 3 22               | 11 22              | 4 8                |           |
| 17     | ☉ eclips. visible               | 4 46             | 7 14               | 13 41              | 12 56              | ☾ sets             | 0 a 7              | 3 56               |           |
| 18     |                                 | 4 48             | 7 12               | 13 22              | 7 34               | 7 a 22             | 0 49               | 3 44               |           |
| 19     |                                 | 4 50             | 7 10               | 13 2               | 2 0                | 7 37               | 1 29               | 3 31               |           |
| 20     |                                 | 4 52             | 7 8                | 12 43              | 3 s 35             | 7 49               | 2 9                | 3 17               |           |
| 21     | St. Peter & Paul                | 4 54             | 7 6                | 12 23              | 9 0                | 8 1                | 2 49               | 3 4                |           |
| 22     |                                 | 4 55             | 7 5                | 12 3               | 14 5               | 8 14               | 3 30               | 2 49               |           |
| 23     |                                 | 4 57             | 7 3                | 11 43              | 18 40              | 8 30               | 4 14               | 2 35               |           |
| 24     | St. Bartholomew                 | 4 59             | 7 1                | 11 23              | 22 33              | 8 50               | 5 0                | 2 19               |           |
| 25     |                                 | 5 1              | 6 59               | 11 2               | 25 32              | 9 20               | 5 50               | 2 4                |           |
| 26     |                                 | 5 3              | 6 57               | 10 41              | 27 23              | 10 3               | 6 44               | 1 48               |           |
| 27     | [St. Augustin]                  | 5 5              | 6 55               | 10 20              | 27 51              | 10 59              | 7 40               | 1 31               |           |
| 28     | St. Andrew the Apostle          | 5 7              | 6 53               | 9 59               | 26 48              | morn               | 8 38               | 1 14               |           |
| 29     | J. Bap. behead.                 | 5 9              | 6 51               | 9 38               | 24 9               | 0 14               | 9 35               | 0 57               |           |
| 30     |                                 | 5 10             | 6 50               | 9 17               | 20 1               | 1 40               | 10 30              | 0 39               |           |
| 31     |                                 | 5 12             | 6 48               | 8 55               | 14 36              | 3 9                | 11 24              | 0 21               |           |
| M<br>D | Day<br>decreas.                 | Length<br>of day | Helioc.<br>long. ♀ | Helioc.<br>long. ♀ | Helioc.<br>long. ♂ | Helioc.<br>long. ☉ | Helioc.<br>long. ♀ | Helioc.<br>long. ♂ | h<br>fers |
| 1      | 1 12                            | 15 22            | 22 10              | 11 2               | 11 2               | 8 13               | 20 11              | 23 8 45            | 9 a 14    |
| 7      | 1 31                            | 15 32            | 22 31              | 11 29              | 13 47              | 13 57              | 29 50              | 1 2                | 8 52      |
| 13     | 1 51                            | 14 43            | 22 43              | 11 56              | 16 33              | 19 43              | 9 33               | 7 8 10             | 8 30      |
| 19     | 2 13                            | 14 21            | 22 56              | 12 23              | 19 20              | 25 2               | 19 16              | 7 12 41            | 8 8       |
| 25     | 2 35                            | 13 59            | 23 8               | 12 51              | 22 8               | 1 17               | 20 1               | 2 53               | 7 48      |

| M<br>D | Day-lig<br>begins | Day-lig<br>ends | Durat.<br>twilig.   | Pl. (C's<br>node   | h's<br>latitude     | U's<br>latitude | ♂'s<br>latitude     | ♀'s<br>latitude     | ♂'s<br>latitude     |
|--------|-------------------|-----------------|---------------------|--------------------|---------------------|-----------------|---------------------|---------------------|---------------------|
| 1      | 1 23              | 10 34           | 2 58                | 24 <sup>44</sup> 0 | 2 n 1               | 1 n 12          | 0 n 48              | 0 n 8               | 0 n 16              |
| 7      | 1 47              | 10 13           | 2 46                | 23 41              | 2 1                 | 1 11            | 0 44                | 0 24                | 1 14                |
| 13     | 2 9               | 9 51            | 2 34                | 23 22              | 2 0                 | 1 10            | 0 40                | 0 37                | 1 42                |
| 19     | 2 29              | 9 30            | 2 25                | 23 3               | 2 0                 | 1 10            | 0 37                | 0 50                | 1 43                |
| 25     | 2 47              | 9 13            | 2 18                | 22 44              | 2 0                 | 1 9             | 0 33                | 1 1                 | 1 24                |
| M<br>D | ☉'s<br>longitude  |                 | C's<br>long.        | C's<br>latitude    | h's<br>long.        | U's<br>long.    | ♂'s<br>long.        | ♀'s<br>long.        | ♂'s<br>long.        |
| 1      | Ω 8               | 12 39           | 14 <sup>15</sup> 59 | 3 s 17             | 18 <sup>12</sup> 20 | 2 21            | 17 <sup>12</sup> 42 | 18 <sup>00</sup> 30 | 22 <sup>00</sup> 57 |
| 2      | 9                 | 10 3            | 28 51               | 2 12               | 18 26               | 2 31            | 18 59               | 19 43               | 24 42               |
| 3      | 10                | 7 23            | 13 <sup>44</sup> 2  | 0 57               | 18 33               | 2 41            | 18 57               | 20 56               | 26 33               |
| 4      | 11                | 4 55            | 27 27               | 0 n 23             | 18 39               | 2 51            | 19 34               | 22 10               | 28 30               |
| 5      | 12                | 2 23            | 12 <sup>44</sup> 0  | 1 42               | 18 46               | 3 1             | 20 12               | 23 23               | 0 Ω 27              |
| 6      | 12                | 59 51           | 26 37               | 2 54               | 18 52               | 3 11            | 20 49               | 24 36               | 2 25                |
| B      | 13                | 57 22           | 11 <sup>44</sup> 10 | 3 55               | 18 59               | 3 22            | 21 27               | 25 50               | 4 25                |
| 8      | 14                | 54 53           | 25 36               | 4 41               | 19 5                | 3 33            | 22 4                | 27 3                | 6 26                |
| 9      | 15                | 52 26           | 9 <sup>44</sup> 51  | 5 8                | 19 12               | 3 43            | 22 42               | 28 17               | 8 28                |
| 10     | 16                | 50 1            | 23 53               | 5 17               | 19 19               | 3 54            | 23 20               | 29 30               | 10 31               |
| 11     | 17                | 47 37           | 7 <sup>11</sup> 40  | 5 7                | 19 25               | 4 5             | 23 58               | 0 Ω 44              | 12 34               |
| 12     | 18                | 45 14           | 21 12               | 4 41               | 19 32               | 4 15            | 24 36               | 1 57                | 14 37               |
| 13     | 19                | 42 53           | 4 <sup>00</sup> 29  | 3 59               | 19 39               | 4 26            | 25 14               | 3 11                | 16 40               |
| B      | 20                | 40 34           | 17 32               | 3 6                | 19 46               | 4 37            | 25 52               | 4 24                | 18 42               |
| 15     | 21                | 38 16           | 0 Ω 20              | 2 5                | 19 53               | 4 48            | 26 30               | 5 38                | 20 43               |
| 16     | 22                | 36 0            | 12 55               | 0 58               | 20 0                | 4 59            | 27 8                | 6 52                | 22 44               |
| 17     | 23                | 33 45           | 25 18               | 0 s 11             | 20 7                | 5 10            | 27 46               | 8 5                 | 24 44               |
| 18     | 24                | 31 31           | 7 <sup>12</sup> 30  | 1 18               | 20 14               | 5 21            | 28 24               | 9 19                | 26 43               |
| 19     | 25                | 29 19           | 19 33               | 2 20               | 20 21               | 5 32            | 29 3                | 10 33               | 28 41               |
| 20     | 26                | 27 8            | 1 <sup>12</sup> 28  | 3 16               | 20 28               | 5 43            | 29 41               | 11 47               | 0 n 38              |
| B      | 27                | 24 58           | 13 20               | 4 3                | 20 35               | 5 55            | 0 Ω 20              | 13 1                | 2 33                |
| 22     | 28                | 22 49           | 25 9                | 4 40               | 20 42               | 6 6             | 0 58                | 14 15               | 4 26                |
| 23     | 29                | 20 42           | 7 <sup>12</sup> 1   | 5 4                | 20 49               | 6 18            | 1 37                | 15 29               | 6 18                |
| 24     | 30                | 18 36           | 19 0                | 5 16               | 20 56               | 6 29            | 2 15                | 16 43               | 8 9                 |
| 25     | 1                 | 16 31           | 1 <sup>12</sup> 9   | 5 14               | 21 3                | 6 41            | 2 54                | 17 57               | 10 0                |
| 26     | 2                 | 14 27           | 13 34               | 4 58               | 21 10               | 6 52            | 3 32                | 19 11               | 11 49               |
| 27     | 3                 | 12 24           | 26 18               | 4 26               | 21 17               | 7 4             | 4 11                | 20 25               | 13 37               |
| B      | 4                 | 10 23           | 9 <sup>12</sup> 25  | 3 40               | 21 24               | 7 16            | 4 50                | 21 39               | 15 23               |
| 29     | 5                 | 8 22            | 22 57               | 2 41               | 21 31               | 7 28            | 5 28                | 22 53               | 17 8                |
| 30     | 6                 | 6 24            | 6 <sup>44</sup> 55  | 1 30               | 21 39               | 7 40            | 6 7                 | 24 7                | 18 52               |
| 31     | 7                 | 4 27            | 21 18               | 0 12               | 21 46               | 7 52            | 6 46                | 25 21               | 20 34               |
| M<br>D | U's<br>sets       | ♂'s<br>sets     | ♀'s<br>rises        | ♂'s<br>rises       | h's<br>declin.      | U's<br>declin.  | ♂'s<br>declin.      | ♀'s<br>declin.      | ♂'s<br>declin.      |
| 1      | 9 a 32            | 9 a 5           | 2 m 32              | 2 m 56             | 6 n 29              | 0 n 10          | 5 n 30              | 22 n 20             | 21 n 46             |
| 7      | 9 10 8 48         | 2 49            | 3 38                | 6 13               | 0 s 15              | 4 4             | 21 23               | 20 22               |                     |
| 13     | 8 49 8 31         | 3 6             | 4 20                | 5 57               | 0 41                | 2 31            | 20 3                | 17 29               |                     |
| 19     | 8 29 8 14         | 3 23            | 5 2                 | 5 40               | 1 8                 | 0 56            | 16 25               | 13 34               |                     |
| 25     | 8 0 7 58          | 3 40            | 5 45                | 5 23               | 1 36                | 0 s 39          | 16 26               | 9 7                 |                     |

## The LUNATIONS.

Full Moon the 1st day, at 31 minutes past 3 afternoon.  
 Last quarter the 8th day, at 54 minutes past 5 morning.  
 New Moon the 15th day, at 56 minutes past 11 night.  
 First quarter the 24th day, at 28 minutes past 3 morning.  
 Full Moon the 30th day, at 11 minutes past 12 night.

| M D | Sundays & other<br>remark. days | ☉<br>rises       | ☉<br>sets          | ☉'s<br>declin.     | ☽'s<br>declin.     | ☽ rises<br>& sets  | ☽<br>South         | Clock<br>bef. ☉    |           |
|-----|---------------------------------|------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-----------|
| 1   | Giles                           | 5 14             | 6 46               | 8 n 34             | 8 15               | (☽ rises           | morn               | 0' 3"              |           |
| 2   | Lon. burnt 1666                 | 5 16             | 6 44               | 8 12               | 1 21               | 6 a 52             | 0 16               | 0 a. 16            |           |
| 3   |                                 | 5 18             | 6 42               | 7 50               | 5 n 39             | 7 7                | 1 8                | 0 35               |           |
| 4   | 13 Sun. af. Tri.                | 5 20             | 6 40               | 7 28               | 12 17              | 7 25               | 2 0                | 0 54               |           |
| 5   |                                 | 5 22             | 6 38               | 7 6                | 18 9               | 7 46               | 2 53               | 1 14               |           |
| 6   |                                 | 5 24             | 6 36               | 6 44               | 22 51              | 8 12               | 3 49               | 1 34               |           |
| 7   | Enurhus                         | 5 26             | 6 34               | 6 21               | 26 6               | 8 50               | 4 47               | 1 53               |           |
| 8   | Nativity V.M.                   | 5 28             | 6 32               | 5 59               | 27 41              | 9 41               | 5 47               | 2 14               |           |
| 9   |                                 | 5 30             | 6 30               | 5 36               | 27 36              | 10 55              | 6 46               | 2 34               |           |
| 10  |                                 | 5 32             | 6 28               | 5 14               | 25 57              | morn               | 7 43               | 2 54               |           |
| 11  | 14 Sun. af. Tri.                | 5 34             | 6 26               | 4 51               | 23 0               | 0 1                | 8 37               | 3 15               |           |
| 12  |                                 | 5 35             | 6 25               | 4 28               | 19 1               | 1 18               | 9 27               | 3 35               |           |
| 13  |                                 | 5 37             | 6 23               | 4 5                | 14 18              | 2 38               | 10 12              | 3 56               |           |
| 14  | Holy Cross                      | 5 39             | 6 21               | 3 42               | 9 4                | 3 48               | 10 55              | 4 17               |           |
| 15  |                                 | 5 41             | 6 19               | 3 10               | 3 35               | ☽ sets             | 11 36              | 4 38               |           |
| 16  |                                 | 5 43             | 6 17               | 2 56               | 15 59              | 6 a 6              | 0 a 16             | 4 59               |           |
| 17  | Lambert                         | 5 45             | 6 15               | 2 33               | 7 27               | 6 18               | 0 56               | 5 20               |           |
| 18  | 15 Sun. af. Tri.                | 5 47             | 6 13               | 2 9                | 12 38              | 6 30               | 1 37               | 5 40               |           |
| 19  |                                 | 5 49             | 6 11               | 1 46               | 17 21              | 6 45               | 2 19               | 6 1                |           |
| 20  | [Week]                          | 5 51             | 6 9                | 1 23               | 21 26              | 7 3                | 3 4                | 6 22               |           |
| 21  | St. Matthew: E.                 | 5 53             | 6 7                | 0 59               | 24 39              | 7 31               | 3 53               | 6 43               |           |
| 22  | K. Geo. III. cr.                | 5 55             | 6 5                | 0 36               | 26 50              | 8 7                | 4 44               | 7 4                |           |
| 23  |                                 | 5 57             | 6 3                | 0 13               | 27 45              | 8 57               | 5 38               | 7 23               |           |
| 24  |                                 | 5 59             | 6 1                | 0 8                | 11 27              | 10 2               | 6 34               | 7 46               |           |
| 25  | 6 Sun. a. Trin.                 | 6 1              | 5 59               | 0 34               | 25 16              | 11 20              | 7 29               | 8 6                |           |
| 26  | Cypri: Old Holy                 | 6 3              | 5 57               | 0 58               | 21 49              | morn               | 8 24               | 8 27               |           |
| 27  | [Rood]                          | 6 5              | 5 55               | 1 21               | 17 3               | 0 44               | 9 18               | 8 47               |           |
| 28  | [Wierem. b.]                    | 6 7              | 5 53               | 1 45               | 11 12              | 2 15               | 10 10              | 9 7                |           |
| 29  | St. Michael: Ds.                | 6 9              | 5 51               | 2 8                | 4 34               | 3 44               | 11 1               | 9 27               |           |
| 30  | St. Jerome                      | 6 11             | 5 49               | 2 31               | 2 n 27             | ☽ rises            | 11 54              | 9 47               |           |
| M D | Day<br>decreaf.                 | Length<br>of day | Helioc.<br>long. ♀ | Helioc.<br>long. ♀ | Helioc.<br>long. ♂ | Helioc.<br>long. ☉ | Helioc.<br>long. ♀ | Helioc.<br>long. ♂ | h<br>sets |
| 1   | 3                               | 13 32            | 23 22              | 13 22              | 25 25              | 8 X 3              | 10 23              | 27 20              | 7 a 23    |
| 7   | 3                               | 13 9             | 23 35              | 13 50              | 28 16              | 13 52              | 20 8               | 15 13              | 7 4       |
| 13  | 3                               | 12 46            | 23 47              | 14 17              | 1 m 9              | 19 42              | 29 54              | 2 37               | 6 43      |
| 19  | 4                               | 12 22            | 23 57              | 14 44              | 4 2                | 25 34              | 9 m 39             | 19 7               | 6 20      |
| 25  | 4                               | 11 58            | 24 11              | 15 11              | 6 57               | 19 26              | 19 23              | 5 53               | 6 59      |



| M<br>D | Day lig.<br>begins | Day lig.<br>ends. | Durat.<br>twilig. | Pl. (° 's<br>node | h's<br>latitude | ♂'s<br>latitude | ♂'s<br>latitude | ♀'s<br>latitude | ♀'s<br>latitude |
|--------|--------------------|-------------------|-------------------|-------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| 1      | 3 7                | 8 50              | 2 11              | 22 21             | 2 n 0           | 1 n 8           | 0 n 29          | 1 n 12          | 0 n 44          |
| 7      | 3 24               | 8 36              | 2 7               | 22 2              | 2 n 0           | 1 8             | 0 25            | 1 19            | 0 1             |
| 13     | 3 37               | 8 27              | 2 4               | 21 43             | 2 n 0           | 1 7             | 0 21            | 1 23            | 0 46            |
| 19     | 3 52               | 8 8               | 2 2               | 21 24             | 2 n 0           | 1 7             | 0 18            | 1 25            | 1 33            |
| 25     | 4 5                | 7 52              | 2 0               | 21 5              | 2 n 0           | 1 7             | 0 14            | 1 25            | 2 18            |
| M<br>D | ☉'s<br>longitude   |                   | ☉'s<br>long.      | ☉'s<br>latitude   | h's<br>long.    | ♂'s<br>long.    | ♂'s<br>long.    | ♀'s<br>long.    | ♀'s<br>long.    |
| 1      | 12 8               | 2 31              | 6 20              | 1 n 9             | 21 54           | 8 24            | 7 25            | 26 36           | 22 15           |
| 2      | 9 0                | 37                | 20 56             | 2 27              | 22 1            | 8 16            | 8 4             | 27 50           | 23 55           |
| 3      | 9 58               | 45                | 5 57              | 3 34              | 22 9            | 8 28            | 8 43            | 29 4            | 25 34           |
| B      | 10 56              | 55                | 20 55             | 4 27              | 22 16           | 8 40            | 9 2             | 0 18            | 27 11           |
| 5      | 11 55              | 7                 | 5 41              | 5 1               | 22 24           | 8 42            | 10 1            | 1 32            | 28 47           |
| 6      | 12 53              | 21                | 20 10             | 5 15              | 22 31           | 9 4             | 10 40           | 2 40            | 0 22            |
| 7      | 13 51              | 37                | 4 11 18           | 5 10              | 22 39           | 9 17            | 11 20           | 4 1             | 1 56            |
| 8      | 14 49              | 54                | 18 3              | 4 46              | 22 46           | 9 29            | 11 59           | 5 15            | 3 29            |
| 9      | 15 48              | 15                | 1 26              | 4 8               | 22 5            | 9 41            | 12 38           | 6 30            | 5 1             |
| 10     | 16 46              | 37                | 14 23             | 3 18              | 23 1            | 9 54            | 13 18           | 7 44            | 6 31            |
| B      | 17 45              | 2                 | 27 13             | 2 19              | 23 8            | 10 6            | 13 57           | 8 59            | 8 0             |
| 12     | 18 43              | 26                | 9 44              | 1 14              | 23 16           | 10 18           | 14 36           | 10 13           | 9 28            |
| 13     | 19 41              | 57                | 22 2              | 0 7               | 23 23           | 10 31           | 15 16           | 11 28           | 10 55           |
| 14     | 20 40              | 28                | 4 10              | 0 5               | 23 31           | 10 47           | 15 55           | 12 42           | 12 21           |
| 15     | 21 39              | 1                 | 16 12             | 2 2               | 23 38           | 10 50           | 16 35           | 13 57           | 13 46           |
| 16     | 22 37              | 36                | 28 7              | 2 5               | 23 46           | 11 8            | 17 13           | 15 12           | 15 9            |
| 17     | 23 36              | 13                | 9 59              | 3 48              | 23 53           | 11 21           | 17 55           | 16 26           | 16 31           |
| B      | 24 34              | 52                | 21 49             | 4 27              | 24 1            | 11 34           | 18 35           | 17 41           | 17 52           |
| 19     | 25 33              | 33                | 3 39              | 4 54              | 24 8            | 11 47           | 19 15           | 18 56           | 19 12           |
| 20     | 26 32              | 15                | 15 32             | 5 9               | 24 16           | 11 59           | 19 55           | 20 10           | 20 30           |
| 21     | 27 30              | 59                | 27 31             | 5 10              | 24 23           | 12 12           | 20 35           | 21 25           | 21 47           |
| 22     | 28 29              | 45                | 9 39              | 4 58              | 24 31           | 12 25           | 21 15           | 22 40           | 23 2            |
| 23     | 29 28              | 32                | 22 0              | 4 32              | 24 38           | 12 38           | 21 55           | 23 55           | 24 16           |
| 24     | 0 27               | 21                | 4 38              | 3 52              | 24 46           | 12 51           | 22 35           | 25 10           | 25 28           |
| B      | 1 26               | 12                | 17 38             | 2 59              | 24 53           | 13 4            | 23 10           | 26 25           | 26 30           |
| 26     | 2 25               | 4                 | 1 3               | 1 55              | 25 0            | 13 16           | 23 56           | 27 39           | 27 48           |
| 27     | 3 23               | 58                | 14 5              | 0 42              | 25 8            | 13 29           | 24 36           | 28 54           | 28 54           |
| 28     | 4 22               | 54                | 29 16             | 0 35              | 25 15           | 13 42           | 25 17           | 0 9             | 29 58           |
| 29     | 5 21               | 53                | 14 1              | 1 53              | 25 23           | 13 55           | 25 57           | 1 24            | 2 0             |
| 30     | 6 20               | 51                | 29 6              | 3 4               | 25 30           | 14 8            | 26 37           | 2 39            | 2 0             |
| M<br>D | ♂'s<br>fets        | ♂'s<br>fets       | ♀'s<br>fets       | ♀'s<br>fets       | h's<br>declin.  | ♂'s<br>declin.  | ♂'s<br>declin.  | ♀'s<br>declin.  | ♀'s<br>declin.  |
| 1      | 7 a 42             | 7 a 40            | 4 m 3             | 7 a 16            | 5 n 3           | 2 a 9           | 2 s 30          | 13 n 49         | 3 n 45          |
| 7      | 7 25               | 7 25              | 4 24              | 7 4               | 4 45            | 2 39            | 4 6             | 11 16           | 0 s 45          |
| 13     | 7 6                | 7 10              | 4 45              | 6 52              | 4 28            | 3 8             | 5 42            | 8 33            | 5 2             |
| 19     | 6 46               | 6 55              | 5 6               | 6 40              | 4 10            | 3 38            | 7 16            | 5 41            | 8 58            |
| 25     | 6 27               | 6 40              | 5 28              | 6 29              | 3 53            | 4 1             | 8 5             | 2 44            | 12 26           |

## The LUNATIONS.

Last quarter the 7th day, at 12 minutes past 4 afternoon.  
 New Moon the 15th day, at 22 minutes past 5 afternoon.  
 First quarter the 23d day, at 1 minute past 5 afternoon.  
 Full Moon the 30th day, at 18 minutes past 9 morning.

| M. | Sundays & other<br>D. remark. days | ☉<br>rises | ☉<br>sets | ☉'s<br>declin. | ☽'s<br>declin. | ☽ rises<br>& sets | ☽<br>South | Clock<br>aft. ☉ |
|----|------------------------------------|------------|-----------|----------------|----------------|-------------------|------------|-----------------|
| 1  | Remigius                           | 6 13       | 5 47      | 2 55           | 9 24           | 5 a 38            | morn       | 10' 6"          |
| 2  | 1 <sup>st</sup> Sun. af. Tr.       | 6 15       | 5 45      | 3 18           | 15 47          | 5 56              | 0 48       | 10 25           |
| 3  |                                    | 6 17       | 5 43      | 3 41           | 21 8           | 6 22              | 1 45       | 10 44           |
| 4  |                                    | 6 19       | 5 41      | 4 5            | 25 2           | 6 57              | 2 44       | 11 3            |
| 5  |                                    | 6 21       | 5 39      | 4 28           | 27 13          | 7 44              | 3 45       | 11 21           |
| 6  | Faith                              | 6 23       | 5 37      | 4 51           | 27 37          | 8 46              | 4 47       | 11 39           |
| 7  |                                    | 6 25       | 5 35      | 5 14           | 26 22          | 9 59              | 5 46       | 11 56           |
| 8  | [Denys]                            | 6 27       | 5 33      | 5 37           | 23 42          | 11 15             | 6 42       | 12 13           |
| 9  | 2 <sup>nd</sup> Sun. af. Tr.       | 6 28       | 5 31      | 6 0            | 19 56          | morn              | 7 33       | 12 29           |
| 10 | Ox & Cam T.b                       | 6 30       | 5 29      | 6 23           | 15 23          | 0 33              | 8 20       | 12 46           |
| 11 | St. Martin. day                    | 6 32       | 5 28      | 6 46           | 10 18          | 1 47              | 9 3        | 13 1            |
| 12 |                                    | 6 34       | 5 26      | 7 9            | 4 55           | 2 59              | 9 44       | 13 16           |
| 13 | Tru. K. Edw. C.                    | 6 36       | 5 24      | 7 32           | 0 35           | 4 9               | 10 24      | 13 31           |
| 14 |                                    | 6 38       | 5 22      | 7 54           | 6 3            | 5 19              | 11 4       | 13 45           |
| 15 |                                    | 6 40       | 5 20      | 8 16           | 11 17          | ☽ sets            | 11 44      | 13 59           |
| 16 | 3 <sup>rd</sup> Sun. af. Tr.       | 6 42       | 5 18      | 8 38           | 16 7           | 5 a 0             | 0 a 26     | 14 12           |
| 17 | Etheldreda                         | 6 44       | 5 16      | 9 1            | 20 21          | 5 18              | 1 10       | 14 24           |
| 18 | St. Luke                           | 6 46       | 5 14      | 9 23           | 23 47          | 5 43              | 1 57       | 14 36           |
| 19 |                                    | 6 48       | 5 12      | 9 45           | 26 13          | 6 16              | 2 48       | 14 47           |
| 20 |                                    | 6 50       | 5 10      | 10 6           | 27 26          | 7 0               | 3 40       | 14 58           |
| 21 |                                    | 6 52       | 5 8       | 10 28          | 27 19          | 7 59              | 4 34       | 15 8            |
| 22 |                                    | 6 54       | 5 6       | 10 49          | 25 48          | 9 11              | 5 28       | 15 17           |
| 23 | 4 <sup>th</sup> Sun. af. Tr.       | 6 55       | 5 5       | 11 11          | 22 53          | 10 30             | 6 21       | 15 26           |
| 24 |                                    | 6 57       | 5 3       | 11 32          | 18 43          | 11 54             | 7 13       | 15 34           |
| 25 | K. Geo. 3. sec.                    | Crifain    | 5 1       | 11 53          | 13 26          | morn              | 8 3        | 15 42           |
| 26 | K. Geo. 3. sec.                    | 7 1        | 4 59      | 12 14          | 7 19           | 1 20              | 8 53       | 15 48           |
| 27 |                                    | 7 3        | 4 57      | 12 34          | 0 38           | 2 47              | 9 44       | 15 54           |
| 28 | St. Simon & Tr.                    | 7 5        | 4 55      | 12 54          | 6 n 14         | 4 17              | 10 36      | 16 0            |
| 29 |                                    | 7 7        | 4 53      | 13 15          | 12 51          | 5 46              | 11 31      | 16 4            |
| 30 | 5 <sup>th</sup> Sun. af. Tr.       | 7 9        | 4 51      | 13 35          | 18 44          | ☽ rises           | morn       | 16 8            |
| 31 |                                    | 7 10       | 4 50      | 13 54          | 23 22          | 4 a 57            | 0 30       | 16 11           |
| M. | Day                                | Length     | Helioc.   | Helioc.        | Helioc.        | Helioc.           | Helioc.    | ☽<br>rites      |
| D. | decreas.                           | of day     | long. ♀   | long. ♀        | long. ♂        | long. ☉           | long. ♀    |                 |
| 1  | 4 48                               | 11 35      | 24 12     | 24 15          | 38 0           | 154 7             | 20 2       | 7 23            |
| 7  | 5 21                               | 11 11      | 24 36     | 16 5           | 12 53          | 13 15             | 8 49       | 13 26           |
| 13 | 5 48                               | 10 48      | 24 48     | 16 33          | 15 53          | 19 11             | 18 30      | 6 15            |
| 19 | 6 9                                | 10 25      | 25 1      | 17 0           | 18 55          | 24 9              | 28 9       | 3 24            |
| 25 | 6 22                               | 10 2       | 25 12     | 17 27          | 21 58          | 18 8              | 7 47       | 5 42            |

| M<br>D | Daylig.<br>begins | Daylig.<br>ends | Durat.<br>twilig. | Pl. C's<br>node | h's<br>latitude | u's<br>latitude | ♂'s<br>latitude | ♀'s<br>latitude | ♀'s<br>latitude |
|--------|-------------------|-----------------|-------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| 1      | 4 18              | 7 42            | 1 50              | 20 46           | 2 n 1           | 1 n 7           | 0 n 10          | 1 n 23          | 2 s 56          |
| 7      | 4 31              | 7 29            | 1 58              | 20 27           | 2 1             | 1 6             | 0 6             | 1 18            | 3 20            |
| 13     | 4 43              | 7 17            | 1 57              | 20 8            | 2 2             | 1 6             | 0 3             | 1 11            | 3 17            |
| 19     | 4 55              | 7 5             | 1 57              | 19 49           | 2 3             | 1 6             | 0 s 1           | 1 2             | 0 25            |
| 25     | 5 6               | 6 54            | 1 5               | 19 30           | 2 4             | 1 7             | 0 4             | 0 52            | 0 35            |
| M<br>D | ☉'s<br>longitude  |                 | ☉'s<br>long.      | ☉'s<br>latitude | h's<br>long.    | u's<br>long.    | ♂'s<br>long.    | ♀'s<br>long.    | ♀'s<br>long.    |
| 1      | 7 19              | 53              | 14 22             | 4 n 3           | 25 38           | 14 21           | 27 18           | 3 54            | 2 57            |
| B      | 8 13              | 57              | 29 38             | 4 44            | 25 45           | 14 34           | 27 58           | 5 9             | 3 54            |
| 3      | 9 18              | 3               | 14 44             | 5 5             | 25 52           | 14 4            | 28 39           | 6 24            | 4 45            |
| 4      | 10 17             | 11              | 29 30             | 5 5             | 26 0            | 15 0            | 29 22           | 7 33            | 5 29            |
| 5      | 11 16             | 21              | 13 11             | 4 46            | 26 7            | 15 13           | cm 1            | 8 54            | 6 11            |
| 6      | 12 15             | 34              | 27 43             | 4 11            | 26 14           | 15 26           | 0 42            | 10 5            | 6 50            |
| 7      | 13 14             | 49              | 11 57             | 3 22            | 26 22           | 15 3            | 1 23            | 11 24           | 7 27            |
| 8      | 14 14             | 7               | 24 6              | 2 2             | 26 29           | 15 52           | 2 4             | 12 35           | 7 58            |
| B      | 15 13             | 27              | 6 43              | 1 22            | 26 36           | 16 5            | 2 45            | 13 54           | 3 23            |
| 10     | 16 12             | 49              | 19 4              | 0 16            | 26 44           | 16 18           | 3 26            | 15 5            | 8 42            |
| 11     | 17 12             | 14              | 11 11             | 0 s 49          | 26 51           | 16 31           | 4 7             | 16 2            | 8 54            |
| 12     | 18 11             | 42              | 13 10             | 1 50            | 26 58           | 16 44           | 4 48            | 17 34           | 9 R 0           |
| 13     | 19 11             | 11              | 25 4              | 2 47            | 27 5            | 16 57           | 5 25            | 18 54           | 8 56            |
| 14     | 20 10             | 43              | 6 54              | 3 36            | 27 12           | 17 10           | 6 10            | 20 9            | 8 5             |
| 15     | 21 10             | 17              | 18 45             | 4 15            | 27 19           | 17 23           | 6 52            | 21 24           | 8 32            |
| B      | 22 9              | 53              | cm 36             | 4 43            | 27 26           | 17 36           | 7 33            | 22 39           | 8 6             |
| 17     | 23 9              | 31              | 12 30             | 4 5             | 27 33           | 17 49           | 8 15            | 23 54           | 7 32            |
| 18     | 24 9              | 11              | 24 28             | 5 2             | 27 40           | 18 2            | 8 56            | 25 5            | 6 45            |
| 19     | 25 8              | 52              | 6 32              | 4 52            | 27 47           | 18 15           | 9 38            | 26 25           | 5 57            |
| 20     | 26 8              | 36              | 18 43             | 4 28            | 27 54           | 18 28           | 10 19           | 27 40           | 4 50            |
| 21     | 27 8              | 21              | 10 5              | 3 52            | 28 1            | 18 41           | 11 1            | 28 55           | 3 51            |
| 22     | 28 8              | 8               | 13 42             | 3 3             | 28 8            | 18 54           | 11 43           | cm 10           | 2 42            |
| B      | 29 7              | 57              | 26 36             | 2 4             | 28 15           | 19 7            | 12 25           | 1 25            | 1 2             |
| 24     | m 0               | 7 47            | 5 52              | 0 57            | 28 22           | 19 20           | 13 7            | 2 40            | 0 11            |
| 25     | 1                 | 7 32            | 23 33             | 0 n 15          | 28 28           | 19 33           | 13 40           | 3 50            | 2 35            |
| 26     | 2                 | 7 33            | 7 41              | 1 29            | 28 35           | 19 46           | 14 31           | 5 11            | 27 43           |
| 27     | 3                 | 7 28            | 22 15             | 2 39            | 28 41           | 19 59           | 15 13           | 6 26            | 2 3             |
| 28     | 4                 | 7 25            | 7 12              | 3 40            | 28 47           | 20 12           | 15 55           | 7 41            | 25 36           |
| 29     | 5                 | 7 23            | 22 23             | 4 27            | 28 54           | 20 24           | 16 37           | 8 57            | 24 44           |
| 30     | 6                 | 7 24            | 7 44              | 4 54            | 29 0            | 20 37           | 17 19           | 10 12           | 24 4            |
| 31     | 7                 | 7 26            | 2 5               | 5 12            | 29 7            | 20 50           | 18 1            | 11 27           | 23 3            |
| M<br>D | u's<br>declin.    | ♂'s<br>declin.  | ♀'s<br>declin.    | ♀'s<br>declin.  | h's<br>declin.  | u's<br>declin.  | ♂'s<br>declin.  | ♀'s<br>declin.  | ♀'s<br>declin.  |
| 1      | 6 s 8             | 6 s 25          | 5 n 49            | 6 s 16          | 3 n 35          | 4 s 3           | 10 s 22         | 0 s 17          | 15 s 15         |
| 7      | 5 40              | 6 10            | 6 9               | 5 53            | 3 18            | 5 9             | 11 52           | 3 19            | 17 10           |
| 13     | 5 26              | 5 56            | 6 29              | 5 31            | 3 2             | 5 39            | 13 1            | 6 19            | 17 3            |
| 19     | 5 6               | 5 42            | 6 49              | 5 0             | 2 45            | 6 8             | 14 44           | 9 14            | 15 48           |
| 25     | 4 44              | 5 28            | 7 10              | 4 47            | 2 30            | 6 38            | 16 4            | 12 21           | 11 29           |

## The LUNATIONS.

Last quarter the 6th day, at 39 minutes past 6 morning.  
 New Moon the 14th day, at 25 minutes past 11 morning.  
 First quarter the 22d day, at 29 minutes past 4 morning.  
 Full Moon the 28th day, at 25 minutes past 7 afternoon.

| M<br>D | Sundays & other<br>remark. days | ☉<br>rises       | ☉<br>sets          | ☉'s<br>declin.     | ☾'s<br>declin.     | ☾ rises<br>& sets  | ☾<br>South         | Clock<br>aft. ☉    |            |
|--------|---------------------------------|------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|------------|
| 1      | All Souls                       | 7 12             | 4 48               | 14 14              | 26 21              | 5 2 39             | 1 m 32             | 16' 14"            |            |
| 2      | St. Andrew                      | All Souls        | 4 46               | 14 33              | 27 28              | 6 37               | 2 35               | 16 15              |            |
| 3      | St. Andrew                      | 7 16             | 4 44               | 14 52              | 26 45              | 7 45               | 3 37               | 16 16              |            |
| 4      | St. Andrew                      | 7 18             | 4 42               | 15 11              | 24 26              | 9 3                | 4 36               | 16 16              |            |
| 5      | St. Andrew                      | 7 19             | 4 41               | 15 30              | 20 53              | 10 23              | 5 30               | 16 15              |            |
| 6      | St. Andrew                      | 7 21             | 4 39               | 15 48              | 16 28              | 11 39              | 6 20               | 16 13              |            |
| 7      | Mic. T. b. [Leon.               | 7 23             | 4 37               | 16 6               | 11 28              | morn               | 7 4                | 16 10              |            |
| 8      | St. Andrew                      | 7 24             | 4 36               | 16 24              | 6 8                | 0 52               | 7 46               | 16 7               |            |
| 9      | Lord Mayor's d.                 | 7 26             | 4 34               | 16 41              | 0 40               | 2 2                | 8 26               | 16 2               |            |
| 10     |                                 | 7 28             | 4 32               | 16 59              | 4 46               | 3 11               | 9 5                | 15 57              |            |
| 11     | St. Martin                      | 7 30             | 4 30               | 17 16              | 19 2               | 4 21               | 9 45               | 15 51              |            |
| 12     | Cam. T. div. n.                 | 7 31             | 4 29               | 17 32              | 14 57              | 5 31               | 10 26              | 15 44              |            |
| 13     | St. Andrew                      | 7 33             | 4 27               | 17 49              | 19 19              | 6 42               | 11 9               | 15 36              |            |
| 14     | [Britius                        | 7 34             | 4 26               | 18 5               | 22 57              | ☾ sets             | 11 55              | 15 27              |            |
| 15     | Machutus                        | 7 35             | 4 24               | 18 20              | 25 37              | 4 a 18             | 0 a 45             | 15 17              |            |
| 16     |                                 | 7 37             | 4 23               | 18 36              | 27 6               | 5 0                | 1 37               | 15 7               |            |
| 17     | Hugh                            | 7 39             | 4 21               | 18 51              | 27 16              | 5 54               | 2 30               | 14 56              |            |
| 18     |                                 | 7 40             | 4 20               | 19 6               | 26 3               | 7 3                | 3 24               | 14 44              |            |
| 19     | [Edmund                         | 7 42             | 4 18               | 19 20              | 23 27              | 8 19               | 4 16               | 14 31              |            |
| 20     | St. Andrew                      | 7 43             | 4 17               | 19 34              | 19 38              | 9 39               | 5 7                | 14 17              |            |
| 21     |                                 | 7 45             | 4 15               | 19 48              | 14 45              | 11 1               | 5 56               | 14 3               |            |
| 22     | Cecilia                         | 7 46             | 4 14               | 20 1               | 9 3                | morn               | 6 43               | 13 47              |            |
| 23     | Clem: Old Mart.                 | 7 47             | 4 13               | 20 14              | 2 46               | 0 23               | 7 31               | 13 31              |            |
| 24     |                                 | 7 49             | 4 11               | 20 27              | 3 n 47             | 1 46               | 8 20               | 13 14              |            |
| 25     | St. Andrew                      | 7 50             | 4 10               | 20 39              | 10 18              | 3 12               | 9 11               | 12 57              |            |
| 26     | [Cather.                        | 7 51             | 4 9                | 20 51              | 16 21              | 4 41               | 10 6               | 12 39              |            |
| 27     | St. Andrew                      | 7 52             | 4 8                | 21 2               | 21 27              | 6 13               | 11 6               | 12 20              |            |
| 28     | Mich. Term e.                   | 7 54             | 4 6                | 21 13              | 25 9               | ☾ rises            | morn               | 12 0               |            |
| 29     |                                 | 7 55             | 4 5                | 21 24              | 27 5               | 4 a 12             | 0 8                | 11 39              |            |
| 30     | St. Andrew                      | 7 56             | 4 4                | 21 34              | 27 6               | 5 17               | 1 12               | 11 18              |            |
| M<br>D | Day<br>decreaf.                 | Length<br>of day | Helioc.<br>long. ♀ | Helioc.<br>long. ♀ | Helioc.<br>long. ♂ | Helioc.<br>long. ☉ | Helioc.<br>long. ♀ | Helioc.<br>long. ♂ | h<br>rises |
| 1      | 6 57                            | 9 36             | 25 27              | 17 50              | 25 11              | 35 8 8             | 18 11              | 59                 | 3 a 22     |
| 7      | 7 20                            | 9 14             | 25 39              | 18 26              | 28 43              | 14 9               | 28 33              | 25 50              | 3 1        |
| 13     | 7 39                            | 8 55             | 25 51              | 18 53              | 1 52               | 20 11              | 8 5                | 28 14              | 2 40       |
| 19     | 7 58                            | 8 36             | 26 4               | 19 21              | 5 4                | 26 15              | 17 38              | 25 5               | 2 19       |
| 25     | 8 14                            | 8 20             | 26 16              | 19 48              | 8 18               | 2 11               | 19 27              | 8 17               | 1 58       |

| M  | Daylig. | Daylig. | Durat.  | Pl. Q's           | h's      | u's      | δ's      | ♀'s      | ♂'s      |
|----|---------|---------|---------|-------------------|----------|----------|----------|----------|----------|
| D  | begins  | ends    | twilig. | node              | latitude | latitude | latitude | latitude | latitude |
| 1  | 5 27    | 6 43    | 1 59    | 19 <sup>m</sup> 8 | 2 n 5    | 1 n 7    | 0 s 9    | 0 n 38   | 1 n 30   |
| 7  | 5 25    | 6 35    | 2 0     | 18 49             | 2 6      | 1 7      | 0 12     | 0 24     | 2 14     |
| 13 | 5 34    | 6 26    | 2 2     | 18 30             | 2 7      | 1 7      | 0 16     | 0 10     | 2 11     |
| 19 | 5 41    | 6 18    | 2 4     | 18 10             | 2 8      | 1 8      | 0 19     | 0 s 4    | 1 43     |
| 25 | 5 48    | 6 12    | 2 6     | 17 51             | 2 9      | 1 8      | 0 23     | 0 19     | 1 4      |

| M  | ☉'s       |       | ☾'s     | ☾'s      | h's      | u's     | δ's     | ♀'s      | ♂'s     |
|----|-----------|-------|---------|----------|----------|---------|---------|----------|---------|
| D  | longitude |       | long.   | latitude | long.    | long.   | long.   | long.    | long.   |
| 1  | 11 8      | 7 31  | 7 11 54 | 4 n 46   | 29 11 13 | 21 11 2 | 18 m 43 | 12 m 43  | 23 11 9 |
| 2  | 9         | 7 37  | 22 26   | 4 14     | 29 20    | 21 15   | 19 26   | 13 58    | 23 D 7  |
| 3  | 10        | 7 45  | 6 28    | 3 27     | 29 26    | 21 28   | 20 9    | 15 13    | 23 13   |
| 4  | 11        | 7 56  | 20 0    | 2 29     | 29 32    | 21 40   | 20 51   | 16 28    | 23 36   |
| 5  | 12        | 8 9   | 3 4     | 1 26     | 29 39    | 21 53   | 21 34   | 17 43    | 24 6    |
| 6  | 13        | 8 24  | 15 42   | 0 20     | 29 45    | 22 6    | 22 16   | 18 58    | 24 41   |
| 7  | 14        | 8 41  | 28 1    | 0 s 45   | 29 51    | 22 18   | 22 59   | 20 14    | 25 21   |
| 8  | 15        | 9 0   | 10 11 6 | 1 47     | 29 57    | 22 31   | 23 42   | 21 29    | 26 10   |
| 9  | 16        | 9 21  | 22 1    | 2 43     | 0 3 22   | 43 24   | 25 22   | 22 44    | 27 8    |
| 10 | 17        | 9 44  | 3 51    | 3 32     | 0 9 22   | 56 25   | 7 23    | 23 59    | 28 13   |
| 11 | 18        | 10 9  | 15 41   | 4 11     | 0 15 23  | 8 25    | 50 25   | 14 29    | 29 22   |
| 12 | 19        | 10 37 | 27 32   | 4 39     | 0 21 23  | 21 26   | 32 26   | 29 om 34 |         |
| 13 | 20        | 11 6  | 9 m 27  | 4 55     | 0 26 23  | 33 27   | 15 27   | 45 1     | 49      |
| 14 | 21        | 11 36 | 21 28   | 4 59     | 0 32 23  | 46 27   | 58 29   | 0 3      | 8       |
| 15 | 22        | 12 9  | 3 35    | 4 49     | 0 37 23  | 58 28   | 41 0    | 15 4     | 30      |
| 16 | 23        | 12 43 | 15 50   | 4 25     | 0 43 24  | 10 29   | 24 1    | 31 5     | 54      |
| 17 | 24        | 13 18 | 28 13   | 3 49     | 0 48 24  | 23 0    | 1 7     | 2 46     | 7 19    |
| 18 | 25        | 13 55 | 10 14 5 | 3 1      | 0 54 24  | 35 1    | 0 4     | 1 8      | 46      |
| 19 | 26        | 14 33 | 23 29   | 2 4      | 0 59 24  | 47 1    | 34 5    | 17 10    | 16      |
| 20 | 27        | 15 12 | 6 27    | 0 59     | 1 5 24   | 59 2    | 17 6    | 32 11    | 46      |
| 21 | 28        | 15 52 | 19 41   | 0 n 11   | 1 10 25  | 11 3    | 1 7     | 47 13    | 17      |
| 22 | 29        | 16 33 | 3 15    | 1 22     | 1 15 25  | 23 3    | 44 9    | 3 14     | 48      |
| 23 | 0         | 17 15 | 17 10   | 2 30     | 1 20 25  | 34 4    | 28 10   | 18 16    | 20      |
| 24 | 1         | 17 50 | 1 27    | 3 30     | 1 25 25  | 46 5    | 11 11   | 33 17    | 52      |
| 25 | 2         | 18 43 | 16 5    | 4 18     | 1 30 25  | 57 5    | 55 12   | 49 19    | 25      |
| 26 | 3         | 19 28 | 0 8 59  | 4 50     | 1 35 26  | 9 6     | 38 14   | 4 20     | 58      |
| 27 | 4         | 20 15 | 16 1    | 5 1      | 1 39 26  | 20 7    | 22 15   | 19 22    | 31      |
| 28 | 5         | 21 3  | 1 11 3  | 4 52     | 1 44 26  | 32 8    | 6 16    | 35 24    | 4       |
| 29 | 6         | 21 52 | 15 54   | 4 24     | 1 49 26  | 43 8    | 50 17   | 50 25    | 37      |
| 30 | 7         | 22 41 | 0 25    | 3 38     | 1 53 26  | 55 9    | 34 19   | 5 27     | 10      |

| M  | ☿'s    | ♂'s    | ♀'s   | ♂'s    | h's     | u's     | δ's     | ♀'s     | ♂'s     |
|----|--------|--------|-------|--------|---------|---------|---------|---------|---------|
| D  | rises  | fets   | fets  | rises  | declin. | declin. | declin. | declin. | declin. |
| 1  | 5 m 29 | 5 a 15 | 5 a 4 | 5 m 37 | 2 n 13  | 7 s 11  | 17 s 33 | 15 s 4  | 7 s 40  |
| 7  | 5 11   | 4 58   | 4 58  | 5 52   | 1 59    | 7 39    | 18 44   | 17 26   | 7 44    |
| 13 | 4 57   | 4 48   | 4 53  | 6 7    | 1 46    | 8 7     | 19 50   | 19 31   | 10 4    |
| 19 | 4 30   | 4 32   | 4 47  | 6 21   | 1 34    | 8 33    | 20 49   | 1 16    | 13 17   |
| 25 | 4 19   | 4 19   | 4 42  | 6 35   | 1 23    | 8 59    | 21 42   | 22 40   | 16 35   |

## The LUNATIONS.

Last quarter the 6th day, at 4 minutes bef. 1 morning.  
 New Moon the 14th day, at 56 minutes past 4 morning.  
 First quarter the 21st day, at 52 minutes past 1 afternoon.  
 Full Moon the 28th day, at 10 minutes past 7 morning.

| M<br>D | Sundays & other<br>remark. days | ☉<br>rises       | ☉<br>sets          | ☉'s<br>declin.     | ☽'s<br>declin.     | ☽ rises<br>& sets  | ☽<br>South         | Clock<br>aft. ☉    |            |
|--------|---------------------------------|------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|------------|
| 1      |                                 | 7 57             | 4 3                | 21 44              | 25 n 20            | 6 a 34             | 2 m 14             | 10 56"             |            |
| 2      |                                 | 7 58             | 4 2                | 21 53              | 22 7               | 7 54               | 3 12               | 10 34              |            |
| 3      |                                 | 7 59             | 4 1                | 22 2               | 17 50              | 9 15               | 4 5                | 10 11              |            |
| 4      | Sun. in Adven                   | 8 0              | 4 0                | 22 11              | 12 53              | 10 30              | 4 52               | 9 47               |            |
| 5      |                                 | 8 1              | 3 59               | 22 19              | 7 32               | 11 42              | 5 35               | 9 22               |            |
| 6      | Nicholas                        | 8 2              | 3 58               | 22 27              | 2 2                | morn               | 6 16               | 8 57               |            |
| 7      |                                 | 8 2              | 3 58               | 22 34              | 3 s 27             | 0 52               | 6 56               | 8 32               |            |
| 8      | Concept. V.M.                   | 8 3              | 3 57               | 22 41              | 8 46               | 2 1                | 7 35               | 8 6                |            |
| 9      |                                 | 8 4              | 3 56               | 22 47              | 13 45              | 3 10               | 8 15               | 7 39               |            |
| 10     |                                 | 8 4              | 3 56               | 22 53              | 18 16              | 4 21               | 8 57               | 7 12               |            |
| 11     | Su. in Advent                   | 8 5              | 3 55               | 22 58              | 22 5               | 5 34               | 9 42               | 6 44               |            |
| 12     |                                 | 8 5              | 3 55               | 23 3               | 25 1               | 6 45               | 10 30              | 6 17               |            |
| 13     | Lucy                            | 8 6              | 3 54               | 23 8               | 26 49              | 7 52               | 11 21              | 5 48               |            |
| 14     | Printer Week                    | 8 6              | 3 54               | 23 12              | 27 17              | ☽ sets             | 0 a 15             | 5 19               |            |
| 15     |                                 | 8 7              | 3 53               | 23 16              | 26 21              | 4 a 42             | 1 9                | 4 51               |            |
| 16     | Cam. T. e. O. Sa.               | 8 7              | 3 53               | 23 19              | 24 0               | 5 57               | 2 2                | 4 21               |            |
| 17     | Oxf. Term ends                  | 8 7              | 3 53               | 23 21              | 20 23              | 7 18               | 2 54               | 3 52               |            |
| 18     | Su. in Advent                   | 8 8              | 3 52               | 23 24              | 15 40              | 8 38               | 3 43               | 3 22               |            |
| 19     |                                 | 8 8              | 3 52               | 23 25              | 10 9               | 10 0               | 4 30               | 2 52               |            |
| 20     |                                 | 8 8              | 3 51               | 23 27              | 4 4                | 11 21              | 5 16               | 2 23               |            |
| 21     | St. Thomas                      | Shor. d.         | 3 52               | 23 28              | 2 n 18             | morn               | 6 3                | 1 53               |            |
| 22     |                                 | 8 8              | 3 52               | 23 28              | 8 39               | 0 43               | 6 52               | 1 23               |            |
| 23     |                                 | 8 8              | 3 52               | 23 28              | 14 39              | 2 8                | 7 43               | 0 53               |            |
| 24     |                                 | 8 8              | 3 52               | 23 27              | 19 54              | 3 35               | 8 38               | 0 23               |            |
| 25     | Christmas Day                   | 8 8              | 3 52               | 23 26              | 24 0               | 5 4                | 9 37               | ob. 7              |            |
| 26     | St. Stephen                     | 8 7              | 3 53               | 23 25              | 26 34              | 6 27               | 10 40              | 0 37               |            |
| 27     | St. John, Ev.                   | 8 7              | 3 53               | 23 23              | 27 19              | 7 41               | 11 42              | 1 7                |            |
| 28     | Innocents                       | 8 7              | 3 53               | 23 20              | 26 14              | ☽ rises            | morn               | 1 37               |            |
| 29     |                                 | 8 6              | 3 54               | 23 17              | 23 31              | 5 a 15             | 0 42               | 2 6                |            |
| 30     |                                 | 8 6              | 3 54               | 23 14              | 19 32              | 6 36               | 1 38               | 2 35               |            |
| 31     | Silvester                       | 8 5              | 3 55               | 23 10              | 14 42              | 7 55               | 2 25               | 3 4                |            |
| M<br>D | Day<br>decreaf.                 | Length<br>of day | Helioc.<br>long. ♀ | Helioc.<br>long. ♀ | Helioc.<br>long. ♂ | Helioc.<br>long. ☉ | Helioc.<br>long. ♀ | Helioc.<br>long. ♂ | h<br>rises |
| 1      | 8 28                            | 8 6              | 26 17 28           | 20 15              | 11 34              | 8 11 24            | 6 53 38            | 6 14 8             | 1 m 35     |
| 7      | 8 38                            | 7 56             | 26 40              | 20 42              | 14 51              | 14 20              | 16 7               | 24 10              | 1 11       |
| 13     | 8 46                            | 7 48             | 26 53              | 21 9               | 18 11              | 20 36              | 25 36              | 10 1 58            | 0 45       |
| 19     | 8 50                            | 7 44             | 27 5               | 21 37              | 21 35              | 26 42              | 5 55               | 27 31              | 0 20       |
|        | 8 50                            | 7 44             | 27 17              | 22 4               | 24 57              | 26 49              | 14 35              | 14 43              | 11 a 56    |

| M<br>D | Daylig.<br>begins | Daylig.<br>ends | Durat.<br>twilig. | Pl. (C's<br>node | h's<br>latitude | u's<br>latitude | ♂'s<br>latitude | ♀'s<br>latitude | ♂'s<br>latitude |
|--------|-------------------|-----------------|-------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| 1      | 5 54              | 6 6             | 2 8               | 17 32            | 2 n 11          | 1 n 9           | 0 s 26          | 0 s 33          | 0 n 22          |
| 7      | 5 57              | 6 3             | 2 10              | 17 13            | 2 12            | 1 9             | 0 30            | 0 47            | 0 s 20          |
| 13     | 5 59              | 6 1             | 2 12              | 16 54            | 2 14            | 1 10            | 0 33            | 0 59            | 0 57            |
| 19     | 6 1               | 5 59            | 2 11              | 16 35            | 2 16            | 1 11            | 0 37            | 1 10            | 1 29            |
| 25     | 6 1               | 5 59            | 2 11              | 16 16            | 2 17            | 1 12            | 0 40            | 1 20            | 1 53            |
| M<br>D | ☉'s<br>longitude  |                 | ☌'s<br>long.      | ☌'s<br>latitude  | h's<br>long.    | u's<br>long.    | ♂'s<br>long.    | ♀'s<br>long.    | ♂'s<br>long.    |
| 1      | ♂ 8               | 23 33           | 14 31             | 2 n 41           | 1 57            | 27 6            | 10 ♀ 18         | 20 ♀ 21         | 28 14 44        |
| 2      | 9                 | 24 26           | 28 9              | 1 35             | 2 17            | 27 17           | 11 21           | 21 36           | 0 ♀ 17          |
| 3      | 10                | 25 19           | 11 19             | 0 27             | 2 57            | 27 28           | 11 46           | 22 51           | 1 51            |
| B      | 11                | 26 15           | 24 3              | 0 s 41           | 2 97            | 27 39           | 12 30           | 24 6            | 3 25            |
| 5      | 12                | 27 12           | 6 26              | 1 45             | 2 13            | 27 50           | 13 14           | 25 21           | 4 58            |
| 6      | 13                | 28 10           | 18 33             | 2 43             | 2 17            | 28 1            | 13 58           | 26 36           | 6 32            |
| 7      | 14                | 29 9            | 0 30              | 3 33             | 2 21            | 28 12           | 14 43           | 27 52           | 8 6             |
| 8      | 15                | 30 10           | 12 21             | 4 13             | 2 25            | 28 23           | 15 27           | 29 7            | 9 40            |
| 9      | 16                | 31 12           | 24 11             | 4 42             | 2 28            | 28 34           | 16 11           | 0 22            | 11 14           |
| 10     | 17                | 32 15           | 6 4               | 5 c              | 2 32            | 28 44           | 16 56           | 1 38            | 12 48           |
| B      | 18                | 33 19           | 18 4              | 5 4              | 2 36            | 28 55           | 17 40           | 2 53            | 14 22           |
| 12     | 19                | 34 24           | 0 ♀ 12            | 4 55             | 2 39            | 29 5            | 18 24           | 4 8             | 15 56           |
| 13     | 20                | 35 30           | 12 31             | 4 32             | 2 43            | 29 16           | 19 9            | 5 24            | 17 30           |
| 14     | 21                | 36 37           | 25 0              | 3 55             | 2 46            | 29 26           | 19 53           | 6 39            | 19 4            |
| 16     | 22                | 37 45           | 7 41              | 3 7              | 2 49            | 29 36           | 20 38           | 7 54            | 20 38           |
| 16     | 23                | 38 52           | 20 32             | 2 8              | 2 52            | 29 46           | 21 23           | 9 9             | 22 13           |
| 17     | 24                | 40 1            | 3 34              | 1 1              | 2 55            | 29 56           | 22 7            | 10 24           | 23 48           |
| F      | 25                | 41 9            | 16 47             | 0 n 9            | 2 58            | 30 6            | 22 52           | 11 39           | 25 23           |
| 19     | 26                | 42 18           | 0 13              | 1 21             | 3 1             | 30 16           | 23 37           | 12 55           | 26 58           |
| 20     | 27                | 43 27           | 13 52             | 2 29             | 3 4             | 30 25           | 24 22           | 14 10           | 28 33           |
| 21     | 28                | 44 36           | 27 44             | 3 30             | 3 6             | 30 35           | 25 7            | 15 25           | 0 8             |
| 22     | 29                | 45 45           | 11 50             | 4 19             | 3 9             | 30 44           | 25 52           | 16 40           | 1 44            |
| 23     | 30                | 46 54           | 26 10             | 4 52             | 3 11            | 30 54           | 26 37           | 17 55           | 3 20            |
| 24     | 1                 | 48 4            | 10 39             | 5 8              | 3 13            | 31 3            | 27 22           | 19 10           | 4 56            |
| B      | 2                 | 49 13           | 25 14             | 5 4              | 3 15            | 31 12           | 28 8            | 20 26           | 6 32            |
| 26     | 3                 | 50 22           | 9 14              | 4 40             | 3 17            | 31 21           | 28 53           | 21 41           | 8 9             |
| 27     | 4                 | 51 31           | 24 17             | 3 59             | 3 19            | 31 30           | 29 31           | 22 56           | 9 46            |
| 28     | 5                 | 52 40           | 8 31              | 3 3              | 3 21            | 31 39           | 30 22           | 24 11           | 11 23           |
| 29     | 6                 | 53 50           | 22 26             | 1 57             | 3 23            | 31 48           | 31 8            | 25 26           | 13 c            |
| 30     | 7                 | 54 59           | 5 50              | 0 46             | 3 25            | 31 56           | 31 53           | 26 41           | 14 38           |
| 31     | 8                 | 55 9            | 19 8              | 0 s 26           | 3 26            | 32 c            | 32 38           | 27 56           | 16 16           |
| M<br>D | ☌'s<br>rises      | ♂'s<br>sets     | ♀'s<br>sets       | ♂'s<br>rises     | h's<br>declin.  | u's<br>declin.  | ♂'s<br>declin.  | ♀'s<br>declin.  | ♂'s<br>declin.  |
| 1      | 3 m 59            | 4 a 7           | 4 a 47            | 7 m 4            | 1 n 13          | 9 s 23          | 22 s 27         | 23 s 40         | 19 s 33         |
| 7      | 3 39              | 3 56            | 4 50              | 7 27             | 1 5             | 9 46            | 23 5            | 24 13           | 22 0            |
| 13     | 3 18              | 3 45            | 4 57              | 7 50             | 0 58            | 10 8            | 23 35           | 24 20           | 23 50           |
| 19     | 2 58              | 3 35            | 5 4               | 8 14             | 0 52            | 10 28           | 23 55           | 24 c            | 24 55           |
| 25     | 2 37              | 3 25            | 5 11              | 8 38             | 0 42            | 10 47           | 24 7            | 24 25           | 25 11           |

| Dates     |      | Heliocentric |          | Geocentric |          | Declina- | South- |
|-----------|------|--------------|----------|------------|----------|----------|--------|
| Months    | Days | longitude    | latitude | longitude  | latitude | nation.  | ing.   |
|           |      | ° ' "        | ° ' "    | ° ' "      | ° ' "    | ° ' "    | h m    |
| January   | 1    | 8 43         | 0 42     | 11 49      | 0 42     | 4 2      | 17 57  |
|           | 11   | 8 51         | 0 42     | 11 55      | 0 42     | 4 4      | 17 14  |
|           | 21   | 8 59         | 0 42     | 11 55      | 0 42     | 4 4      | 16 31  |
| February  | 1    | 9 7          | 0 42     | 11 49      | 0 43     | 4 1      | 15 45  |
|           | 11   | 9 15         | 0 41     | 11 37      | 0 43     | 3 57     | 15 4   |
|           | 21   | 9 23         | 0 41     | 11 22      | 0 43     | 3 50     | 14 25  |
| March     | 1    | 9 29         | 0 41     | 11 6       | 0 43     | 3 44     | 13 54  |
|           | 11   | 9 37         | 0 41     | 10 43      | 0 44     | 3 35     | 13 15  |
|           | 21   | 9 45         | 0 41     | 10 19      | 0 44     | 3 25     | 12 37  |
| April     | 1    | 9 53         | 0 41     | 9 50       | 0 44     | 3 14     | 11 55  |
|           | 11   | 10 1         | 0 41     | 9 24       | 0 44     | 3 4      | 11 17  |
|           | 21   | 10 9         | 0 41     | 9 0        | 0 43     | 2 54     | 10 39  |
| May       | 1    | 10 17        | 0 41     | 8 37       | 0 43     | 2 46     | 10 0   |
|           | 11   | 10 25        | 0 41     | 8 18       | 0 43     | 2 38     | 9 21   |
|           | 21   | 10 32        | 0 41     | 8 3        | 0 43     | 2 33     | 8 40   |
| June      | 1    | 10 41        | 0 41     | 7 51       | 0 42     | 2 28     | 7 55   |
|           | 11   | 10 49        | 0 41     | 7 47       | 0 42     | 2 27     | 7 14   |
|           | 21   | 10 57        | 0 41     | 7 47       | 0 41     | 2 27     | 6 33   |
| July      | 1    | 11 4         | 0 41     | 7 52       | 0 41     | 2 30     | 5 51   |
|           | 11   | 11 12        | 0 41     | 8 3        | 0 40     | 2 35     | 5 11   |
|           | 21   | 11 20        | 0 41     | 8 19       | 0 40     | 2 41     | 4 32   |
| August    | 1    | 11 29        | 0 41     | 8 42       | 0 40     | 2 51     | 3 50   |
|           | 11   | 11 36        | 0 41     | 9 7        | 0 39     | 3 1      | 3 13   |
|           | 21   | 11 44        | 0 41     | 9 36       | 0 39     | 3 13     | 2 37   |
| September | 1    | 11 53        | 0 41     | 10 11      | 0 39     | 3 27     | 1 59   |
|           | 11   | 12 1         | 0 40     | 10 46      | 0 39     | 3 41     | 1 25   |
|           | 21   | 12 8         | 0 40     | 11 23      | 0 38     | 3 55     | 0 52   |
| October   | 1    | 12 16        | 0 40     | 12 1       | 0 38     | 4 10     | 0 18   |
|           | 11   | 12 24        | 0 40     | 12 39      | 0 38     | 4 25     | 23 41  |
|           | 21   | 12 32        | 0 40     | 13 17      | 0 38     | 4 40     | 23 6   |
| November  | 1    | 12 40        | 0 40     | 13 57      | 0 38     | 4 55     | 22 26  |
|           | 11   | 12 48        | 0 40     | 14 32      | 0 38     | 5 8      | 21 48  |
|           | 21   | 12 56        | 0 40     | 15 4       | 0 39     | 5 21     | 21 9   |
| December  | 1    | 13 4         | 0 40     | 15 32      | 0 39     | 5 32     | 20 28  |
|           | 11   | 13 11        | 0 40     | 15 56      | 0 39     | 5 41     | 19 46  |
|           | 21   | 13 19        | 0 40     | 16 16      | 0 39     | 5 48     | 19 3   |
|           | 31   | 13 27        | 0 40     | 16 31      | 0 40     | 5 53     | 18 20  |



Time of High-Water at LONDON in the morning and afternoon of every day in the year.

| Mo. Days | JANUARY |    |         |    | FEBRUARY |    |         |    | MARCH |    |         |    | APRIL |    |         |    | Mo. Days |
|----------|---------|----|---------|----|----------|----|---------|----|-------|----|---------|----|-------|----|---------|----|----------|
|          | morn.   |    | aftern. |    | morn.    |    | aftern. |    | morn. |    | aftern. |    | morn. |    | aftern. |    |          |
|          | h       | m  | h       | m  | h        | m  | h       | m  | h     | m  | h       | m  | h     | m  | h       | m  |          |
| 1        | 7       | 33 | 8       | 2  | 9        | 10 | 9       | 48 | 7     | 43 | 8       | 18 | 9     | 45 | 10      | 16 | 1        |
| 2        | 8       | 34 | 9       | 7  | 10       | 24 | 10      | 59 | 8     | 54 | 9       | 32 | 10    | 45 | 11      | 12 | 2        |
| 3        | 9       | 42 | 10      | 17 | 11       | 34 |         |    | 10    | 7  | 10      | 40 | 11    | 39 |         |    | 3        |
| 4        | 10      | 52 | 11      | 28 | 0        | 9  | 0       | 39 | 11    | 13 | 11      | 44 | 0     | 4  | 0       | 27 | 4        |
| 5        |         |    | 0       | 2  | 1        | 5  | 1       | 30 |       |    | 0       | 12 | 0     | 48 | 1       | 10 | 5        |
| 6        | 0       | 34 | 1       | 4  | 1        | 54 | 2       | 16 | 0     | 36 | 1       | 0  | 1     | 29 | 1       | 50 | 6        |
| 7        | 1       | 33 | 2       | 1  | 2        | 38 | 2       | 54 | 1     | 22 | 1       | 43 | 2     | 10 | 2       | 30 | 7        |
| 8        | 2       | 29 | 2       | 49 | 3        | 9  | 3       | 22 | 2     | 4  | 2       | 22 | 2     | 48 | 3       | 4  | 8        |
| 9        | 3       | 7  | 3       | 2  | 3        | 34 | 3       | 46 | 2     | 40 | 2       | 55 | 3     | 18 | 3       | 33 | 9        |
| 10       | 3       | 18 | 3       | 52 | 3        | 59 | 4       | 13 | 3     | 9  | 3       | 22 | 3     | 48 | 4       | 4  | 10       |
| 11       | 4       | 4  | 4       | 19 | 4        | 26 | 4       | 41 | 3     | 35 | 3       | 48 | 4     | 20 | 4       | 40 | 11       |
| 12       | 4       | 35 | 4       | 50 | 4        | 57 | 5       | 13 | 4     | 1  | 4       | 17 | 5     | 3  | 6       | 25 | 12       |
| 13       | 5       | 5  | 5       | 20 | 5        | 31 | 5       | 52 | 4     | 34 | 4       | 51 | 5     | 49 | 6       | 16 | 13       |
| 14       | 5       | 16 | 5       | 54 | 6        | 14 | 6       | 40 | 5     | 10 | 5       | 32 | 6     | 47 | 7       | 17 | 14       |
| 15       | 6       | 4  | 6       | 35 | 7        | 7  | 7       | 38 | 5     | 55 | 6       | 23 | 7     | 50 | 8       | 24 | 15       |
| 16       | 6       | 58 | 7       | 22 | 8        | 12 | 8       | 49 | 6     | 52 | 7       | 25 | 9     | 1  | 9       | 36 | 16       |
| 17       | 7       | 48 | 8       | 18 | 9        | 29 | 10      | 8  | 8     | 0  | 8       | 37 | 10    | 11 | 10      | 45 | 17       |
| 18       | 8       | 49 | 9       | 24 | 10       | 47 | 11      | 25 | 9     | 15 | 9       | 53 | 11    | 18 | 11      | 49 | 18       |
| 19       | 10      | 1  | 10      | 37 |          |    | 0       | 3  | 10    | 31 | 11      | 7  |       | 0  |         | 19 | 19       |
| 20       | 11      | 12 | 11      | 50 | 0        | 36 | 1       | 7  | 11    | 42 |         |    | 0     | 48 | 1       | 15 | 20       |
| 21       |         |    | 0       | 27 | 1        | 36 | 2       | 4  | 0     | 13 | 0       | 44 | 1     | 43 | 2       | 10 | 21       |
| 22       | 1       | 0  | 1       | 32 | 2        | 29 | 2       | 52 | 1     | 12 | 1       | 39 | 2     | 35 | 2       | 58 | 22       |
| 23       | 2       | 2  | 2       | 32 | 3        | 10 | 3       | 26 | 2     | 6  | 2       | 32 | 3     | 18 | 3       | 37 | 23       |
| 24       | 2       | 54 | 3       | 14 | 3        | 43 | 3       | 59 | 2     | 52 | 3       | 10 | 3     | 56 | 4       | 16 | 24       |
| 25       | 3       | 32 | 3       | 48 | 4        | 17 | 4       | 35 | 3     | 28 | 3       | 46 | 4     | 49 | 5       | 3  | 25       |
| 26       | 4       | 4  | 4       | 20 | 4        | 56 | 5       | 18 | 4     | 5  | 4       | 24 | 5     | 27 | 5       | 52 | 26       |
| 27       | 4       | 39 | 4       | 59 | 5        | 40 | 6       | 3  | 4     | 46 | 5       | 9  | 6     | 19 | 6       | 47 | 27       |
| 28       | 5       | 19 | 5       | 38 | 6        | 35 | 7       | 10 | 5     | 34 | 6       | 2  | 7     | 15 | 7       | 41 | 28       |
| 29       | 6       | 3  | 6       | 28 |          |    |         |    | 6     | 31 | 7       | 2  | 8     | 10 | 8       | 40 | 29       |
| 30       | 6       | 56 | 7       | 25 |          |    |         |    | 7     | 33 | 8       | 6  | 9     | 8  | 9       | 36 | 30       |
| 31       | 7       | 58 | 8       | 32 |          |    |         |    | 8     | 39 | 9       | 14 |       |    |         |    | 31       |

This Table may serve the following Places, by adding

|                                                | h | m  |
|------------------------------------------------|---|----|
| For Tinmouth Haven, Hartle-pool, and Amsterdam | 0 | 30 |
| Brest — — — — —                                | 1 | 0  |
| Scilly — — — — —                               | 1 | 45 |
| Mount's Bay — — — — —                          | 1 | 55 |
| Bridlington Pier and Humber — — — — —          | 2 | 0  |

Time of High-Water at LONDON in the morning and afternoon of every day in the year.

| M. Days | MAY   |    |         |    | JUNE  |    |         |    | JULY  |    |         |    | AUGUST |    |         |    | M. Days |
|---------|-------|----|---------|----|-------|----|---------|----|-------|----|---------|----|--------|----|---------|----|---------|
|         | morn. |    | aftern. |    | morn. |    | aftern. |    | morn. |    | aftern. |    | morn.  |    | aftern. |    |         |
|         | h     | m  | h       | m  | h     | m  | h       | m  | h     | m  | h       | m  | h      | m  | h       | m  |         |
| 1       | 10    | 2  | 10      | 27 | 10    | 4  | 11      | 16 | 10    | 56 | 11      | 29 | 0      | 10 | 0       | 42 | 1       |
| 2       | 10    | 54 | 11      | 15 | 11    | 44 |         |    |       | 0  | 3       |    | 1      | 13 | 1       | 42 | 2       |
| 3       | 11    | 45 |         |    | 0     | 12 | 0       | 39 | 0     | 34 | 1       | 4  | 2      | 11 | 2       | 35 | 3       |
| 4       | 0     | 9  | 0       | 32 | 1     | 5  | 1       | 32 | 1     | 34 | 2       | 3  | 2      | 57 | 3       | 15 | 4       |
| 5       | 0     | 53 | 1       | 15 | 1     | 50 | 2       | 25 | 2     | 32 | 2       | 58 | 3      | 31 | 3       | 47 | 5       |
| 6       | 1     | 37 | 2       | 0  | 2     | 49 | 3       | 9  | 3     | 13 | 3       | 31 | 4      | 2  | 4       | 20 | 6       |
| 7       | 2     | 24 | 2       | 44 | 3     | 28 | 3       | 46 | 3     | 48 | 4       | 6  | 4      | 39 | 4       | 58 | 7       |
| 8       | 3     | 3  | 3       | 21 | 4     | 3  | 4       | 25 | 4     | 22 | 4       | 41 | 5      | 18 | 5       | 41 | 8       |
| 9       | 3     | 38 | 3       | 50 | 4     | 44 | 5       | 4  | 5     | 1  | 5       | 20 | 6      | 5  | 6       | 33 | 9       |
| 10      | 4     | 12 | 4       | 33 | 5     | 24 | 5       | 48 | 5     | 40 | 6       | 3  | 7      | 3  | 7       | 26 | 10      |
| 11      | 4     | 56 | 5       | 18 | 6     | 11 | 6       | 36 | 6     | 28 | 6       | 53 | 8      | 12 | 8       | 48 | 11      |
| 12      | 5     | 42 | 6       | 9  | 7     | 2  | 7       | 29 | 7     | 21 | 7       | 53 | 9      | 28 | 10      | 7  | 12      |
| 13      | 6     | 36 | 7       | 3  | 7     | 57 | 8       | 27 | 8     | 26 | 9       | 2  | 10     | 46 | 11      | 22 | 13      |
| 14      | 7     | 32 | 8       | 3  | 9     | 0  | 9       | 33 | 9     | 41 | 10      | 19 | 11     | 57 |         |    | 14      |
| 15      | 8     | 35 | 9       | 7  | 10    | 8  | 10      | 43 | 10    | 56 | 11      | 33 | 0      | 27 | 0       | 56 | 15      |
| 16      | 9     | 41 | 10      | 13 | 11    | 18 | 11      | 53 |       |    | 0       | 10 | 1      | 22 | 1       | 46 | 16      |
| 17      | 10    | 44 | 11      | 17 |       |    | 0       | 28 | 0     | 43 | 1       | 14 | 2      | 10 | 2       | 32 | 17      |
| 18      | 11    | 50 |         |    | 1     | 0  | 1       | 30 | 1     | 43 | 2       | 11 | 2      | 45 | 3       | 3  | 18      |
| 19      | 0     | 20 | 0       | 50 | 2     | 1  | 2       | 32 | 2     | 34 | 2       | 55 | 3      | 17 | 3       | 29 | 19      |
| 20      | 1     | 20 | 1       | 49 | 2     | 55 | 3       | 15 | 3     | 12 | 3       | 27 | 3      | 41 | 3       | 54 | 20      |
| 21      | 2     | 18 | 2       | 47 | 3     | 34 | 3       | 50 | 3     | 41 | 3       | 54 | 4      | 7  | 4       | 21 | 21      |
| 22      | 3     | 0  | 3       | 28 | 4     | 7  | 4       | 23 | 4     | 8  | 4       | 22 | 4      | 35 | 4       | 56 | 22      |
| 23      | 3     | 48 | 4       | 0  | 4     | 41 | 4       | 58 | 4     | 35 | 4       | 53 | 5      | 7  | 5       | 27 | 23      |
| 24      | 4     | 20 | 4       | 48 | 5     | 15 | 5       | 31 | 5     | 8  | 5       | 23 | 5      | 47 | 6       | 11 | 24      |
| 25      | 5     | 0  | 5       | 20 | 5     | 40 | 6       | 0  | 5     | 41 | 6       | 0  | 6      | 36 | 7       | 4  | 25      |
| 26      | 5     | 52 | 6       | 15 | 6     | 29 | 6       | 50 | 6     | 22 | 6       | 44 | 7      | 35 | 8       | 8  | 26      |
| 27      | 6     | 38 | 7       | 1  | 7     | 12 | 7       | 35 | 7     | 12 | 7       | 33 | 8      | 43 | 9       | 21 | 27      |
| 28      | 7     | 24 | 7       | 47 | 8     | 0  | 8       | 26 | 8     | 4  | 8       | 35 | 9      | 57 | 10      | 37 | 28      |
| 29      | 8     | 12 | 8       | 38 | 8     | 54 | 9       | 22 | 9     | 9  | 9       | 43 | 11     | 14 | 11      | 51 | 29      |
| 30      | 9     | 3  | 9       | 20 | 9     | 52 | 10      | 24 | 10    | 10 | 10      | 56 |        | 0  | 0       | 21 | 30      |
| 31      | 9     | 34 | 10      | 22 |       |    |         |    | 11    | 3  |         |    | 0      | 53 | 1       | 21 | 31      |

|                               | Adding |   |   |   | h | m  |
|-------------------------------|--------|---|---|---|---|----|
| For Fowey, Loo and Plymouth   | —      | — | — | — | 3 | 10 |
| Dartmouth, Harbrough and Hull | —      | — | — | — | 3 | 30 |
| Torbay and Tinmouth           | —      | — | — | — | 3 | 40 |
| Exmouth, Topsham and Lyme     | —      | — | — | — | 3 | 50 |
| Bristol and Weymouth          | —      | — | — | — | 4 | 20 |
| Bridgewater and Texel         | —      | — | — | — | 4 | 40 |
| Portland and Hartlew          | —      | — | — | — | 5 | 50 |

Time of High-Water at LONDON in the morning and afternoon of every day in the year.

| Mo. Days | SEPTEMBER |    |         |    | OCTOBER |    |         |    | NOVEMBER |    |         |    | DECEMBER |    |         |    | Mo. Days |
|----------|-----------|----|---------|----|---------|----|---------|----|----------|----|---------|----|----------|----|---------|----|----------|
|          | morn.     |    | aftern. |    | morn.   |    | aftern. |    | morn.    |    | aftern. |    | morn.    |    | aftern. |    |          |
|          | h         | m  | h       | m  | h       | m  | h       | m  | h        | m  | h       | m  | h        | m  | h       | m  |          |
| 1        | 1         | 48 | 2       | 14 | 2       | 19 | 2       | 41 | 3        | 31 | 3       | 51 | 3        | 57 | 4       | 20 | 1        |
| 2        | 2         | 39 | 2       | 58 | 3       | 2  | 3       | 22 | 4        | 10 | 4       | 34 | 4        | 40 | 5       | 0  | 2        |
| 3        | 3         | 16 | 3       | 34 | 3       | 40 | 3       | 59 | 4        | 59 | 5       | 23 | 5        | 20 | 5       | 41 | 3        |
| 4        | 3         | 49 | 4       | 7  | 4       | 17 | 4       | 40 | 5        | 47 | 6       | 15 | 6        | 3  | 6       | 26 | 4        |
| 5        | 4         | 24 | 4       | 45 | 5       | 5  | 5       | 31 | 6        | 43 | 7       | 10 | 6        | 48 | 7       | 10 | 5        |
| 6        | 5         | 7  | 5       | 32 | 5       | 58 | 6       | 28 | 7        | 38 | 8       | 6  | 7        | 33 | 7       | 58 | 6        |
| 7        | 5         | 58 | 6       | 28 | 7       | 0  | 7       | 33 | 8        | 34 | 9       | 2  | 8        | 23 | 8       | 49 | 7        |
| 8        | 7         | 1  | 7       | 35 | 8       | 6  | 8       | 38 | 9        | 29 | 9       | 56 | 9        | 15 | 9       | 37 | 8        |
| 9        | 8         | 10 | 8       | 46 | 9       | 11 | 9       | 43 | 10       | 22 | 10      | 48 | 10       | 8  | 10      | 35 | 9        |
| 10       | 9         | 24 | 10      | 1  | 10      | 15 | 10      | 43 | 11       | 12 | 11      | 38 | 11       | 2  | 11      | 30 | 10       |
| 11       | 10        | 37 | 11      | 9  | 11      | 9  | 11      | 36 |          | 0  | 3       |    | 11       | 59 | 0       | 51 | 11       |
| 12       | 11        | 41 |         |    |         |    | 0       | 2  | 0        | 27 | 0       | 48 | 0        | 26 | 1       | 45 | 12       |
| 13       | 0         | 8  | 0       | 33 | 0       | 25 | 0       | 46 | 1        | 11 | 1       | 33 | 1        | 19 | 2       | 38 | 13       |
| 14       | 0         | 57 | 1       | 19 | 1       | 7  | 1       | 28 | 1        | 56 | 2       | 20 | 2        | 11 | 3       | 16 | 14       |
| 15       | 1         | 41 | 2       | 1  | 1       | 50 | 2       | 9  | 2        | 40 | 3       | 0  | 2        | 58 | 3       | 51 | 15       |
| 16       | 2         | 21 | 2       | 39 | 2       | 29 | 2       | 47 | 3        | 18 | 3       | 34 | 3        | 34 | 4       | 25 | 16       |
| 17       | 2         | 54 | 3       | 8  | 3       | 3  | 3       | 17 | 3        | 51 | 4       | 7  | 4        | 9  | 5       | 3  | 17       |
| 18       | 3         | 21 | 3       | 34 | 3       | 32 | 3       | 47 | 4        | 27 | 4       | 48 | 4        | 44 | 5       | 42 | 18       |
| 19       | 3         | 47 | 4       | 0  | 4       | 3  | 4       | 20 | 5        | 9  | 5       | 29 | 5        | 23 | 6       | 28 | 19       |
| 20       | 4         | 16 | 4       | 33 | 4       | 40 | 5       | 1  | 5        | 54 | 6       | 19 | 6        | 5  | 7       | 18 | 20       |
| 21       | 4         | 51 | 5       | 10 | 5       | 23 | 5       | 45 | 6        | 45 | 7       | 11 | 6        | 53 | 8       | 18 | 21       |
| 22       | 5         | 32 | 5       | 55 | 6       | 12 | 6       | 40 | 7        | 38 | 8       | 6  | 7        | 48 | 9       | 31 | 22       |
| 23       | 6         | 22 | 6       | 51 | 7       | 9  | 7       | 39 | 8        | 37 | 9       | 9  | 8        | 53 | 10      | 37 | 23       |
| 24       | 7         | 23 | 7       | 56 | 8       | 11 | 8       | 45 | 9        | 42 | 10      | 15 | 10       | 4  | 11      | 54 | 24       |
| 25       | 8         | 31 | 9       | 7  | 9       | 19 | 9       | 53 | 10       | 47 | 11      | 20 | 11       | 15 |         |    | 25       |
| 26       | 9         | 43 | 10      | 20 | 10      | 26 | 10      | 56 | 11       | 53 |         |    |          | 0  | 29      |    | 26       |
| 27       | 10        | 55 | 11      | 30 | 11      | 29 |         |    | 0        | 26 | 0       | 58 | 1        | 3  | 1       | 35 | 27       |
| 28       |           |    | 0       | 1  | 0       | 2  | 0       | 32 | 1        | 30 | 2       | 0  | 2        | 7  | 2       | 34 | 28       |
| 29       | 0         | 31 | 0       | 59 | 0       | 59 | 1       | 27 | 2        | 28 | 2       | 54 | 2        | 58 | 3       | 18 | 29       |
| 30       | 1         | 25 | 1       | 53 | 1       | 55 | 2       | 22 | 3        | 19 | 3       | 39 | 3        | 35 | 3       | 51 | 30       |
| 31       |           |    |         |    | 2       | 50 | 3       | 12 |          |    |         |    | 4        | 6  | 4       | 24 | 31       |

## Subtracting

|                                                      | h | m  |
|------------------------------------------------------|---|----|
| For Leigh, Maes, and Gouries Gut                     | 0 | 5  |
| Gravesend, Rochester, and Rammekins                  | 1 | 20 |
| Buoy of the Nore and Flushing                        | 1 | 30 |
| Portsmouth, Ostend, Shoe-Beacon, and Red-Sand        | 2 | 0  |
| Harwich, Dover, Spithead, and Calais                 | 3 | 0  |
| Gunfleet, Hastings, Shoreham, Orfordness, and Dieppe | 4 | 0  |
| Yarmouth Pier and Needle                             | 4 | 40 |
| St. Helen's and Havre-de-Grace                       | 5 | 30 |

## The Eclipses of Jupiter's

| JANUARY            |    |    |    | FEBRUARY           |    |    |    | MARCH              |    |    |    | APRIL              |    |    |    |
|--------------------|----|----|----|--------------------|----|----|----|--------------------|----|----|----|--------------------|----|----|----|
| Immersion.         |    |    |    | Immersion          |    |    |    | Immersion          |    |    |    | Emerfions          |    |    |    |
| d                  | h  | m  | s  | d                  | h  | m  | s  | 1 <sup>h</sup> 13  | 24 | 29 |    | d                  | h  | m  | s  |
| 2                  | 3  | 55 | 56 | 1                  | 5  | 48 | 34 | 3                  | 7  | 53 | 19 | 2 <sup>h</sup> 12  | 17 | 43 |    |
| 3                  | 22 | 23 | 28 | 3                  | 0  | 16 | 46 | 5                  | 2  | 22 | 9  | 4                  | 6  | 46 | 45 |
| 5 <sup>h</sup> 16  | 51 | 9  |    | 4                  | 18 | 44 | 59 | 6                  | 20 | 51 | 3  | 6                  | 1  | 15 | 52 |
| 7                  | 11 | 18 | 40 | 6 <sup>h</sup> 13  | 13 | 14 |    | 8 <sup>h</sup> 15  | 19 | 57 |    | 7                  | 19 | 44 | 54 |
| 9                  | 5  | 46 | 17 | 8                  | 7  | 41 | 32 | 10 <sup>h</sup> 9  | 48 | 54 |    | 9 <sup>h</sup> 14  | 14 | 0  |    |
| 11                 | 0  | 13 | 52 | 10                 | 2  | 9  | 52 | 12                 | 4  | 17 | 50 | 11 <sup>h</sup> 8  | 43 | 1  |    |
| 12 <sup>h</sup> 18 | 41 | 36 |    | 11                 | 20 | 38 | 16 | 13                 | 22 | 46 | 50 | 13                 | 3  | 12 | 6  |
| 14 <sup>h</sup> 13 | 9  | 15 |    | 13 <sup>h</sup> 15 | 6  | 42 |    | 15 <sup>h</sup> 17 | 15 | 48 |    | 14                 | 21 | 41 | 6  |
| 16                 | 7  | 37 | 1  | 15 <sup>h</sup> 9  | 35 | 11 |    | 17 <sup>h</sup> 11 | 44 | 51 |    | 16                 | 16 | 10 | 9  |
| 18                 | 2  | 4  | 48 | 17                 | 4  | 3  | 40 | 19                 | 6  | 13 | 51 | 18 <sup>h</sup> 10 | 39 | 6  |    |
| 19                 | 20 | 32 | 38 | 18                 | 22 | 32 | 17 | 21                 | 0  | 42 | 55 | 20                 | 5  | 8  | 8  |
| 21 <sup>h</sup> 15 | 0  | 28 |    | 20 <sup>h</sup> 17 | 0  | 50 |    | Emerfions          |    |    |    | 21                 | 23 | 37 | 3  |
| 23                 | 9  | 28 | 23 | 22 <sup>h</sup> 11 | 29 | 31 |    | 22                 | 21 | 23 | 17 | 23                 | 18 | 6  | 1  |
| 25                 | 3  | 56 | 20 | 24                 | 5  | 58 | 10 | 24 <sup>h</sup> 15 | 52 | 22 |    | 25 <sup>h</sup> 12 | 34 | 55 |    |
| 26                 | 22 | 24 | 20 | 26                 | 0  | 26 | 56 | 26 <sup>h</sup> 10 | 21 | 24 |    | 27                 | 7  | 3  | 51 |
| 28 <sup>h</sup> 16 | 52 | 21 |    | 27                 | 18 | 55 | 40 | 28                 | 4  | 50 | 30 | 29                 | 1  | 32 | 42 |
| 30 <sup>h</sup> 11 | 20 | 27 |    |                    |    |    |    | 29                 | 23 | 19 | 31 | 30                 | 20 | 1  | 36 |
| MAY                |    |    |    | JUNE               |    |    |    | JULY               |    |    |    | AUGUST             |    |    |    |
| Emerfions          |    |    |    | Emerfions          |    |    |    | Emerfions          |    |    |    | Emerfions          |    |    |    |
| 2 <sup>h</sup> 14  | 30 | 24 |    | 1                  | 16 | 36 | 34 | 1                  | 18 | 37 | 24 | 2                  | 15 | 9  | 5  |
| 4 <sup>h</sup> 8   | 59 | 16 |    | 3 <sup>h</sup> 11  | 4  | 56 |    | 3                  | 13 | 5  | 44 | 4                  | 9  | 38 | 33 |
| 6                  | 3  | 28 | 1  | 5                  | 5  | 33 | 20 | 5                  | 7  | 34 | 2  | 6                  | 4  | 7  | 19 |
| 7                  | 21 | 56 | 49 | 7                  | 0  | 1  | 37 | 7                  | 2  | 2  | 23 | 7                  | 22 | 36 | 3  |
| 9                  | 16 | 25 | 39 | 8                  | 18 | 29 | 57 | 8                  | 20 | 30 | 40 | 9                  | 17 | 4  | 55 |
| 11 <sup>h</sup> 10 | 54 | 18 |    | 10                 | 12 | 58 | 11 | 10                 | 14 | 59 | 2  | 11                 | 11 | 33 | 46 |
| 13                 | 5  | 22 | 59 | 12                 | 7  | 26 | 33 | 12 <sup>h</sup> 9  | 27 | 27 |    | 13                 | 6  | 2  | 34 |
| 14                 | 23 | 51 | 37 | 14                 | 1  | 54 | 47 | 14                 | 3  | 55 | 43 | 15                 | 0  | 31 | 30 |
| 16                 | 18 | 20 | 16 | 15                 | 20 | 23 | 5  | 15                 | 22 | 24 | 16 | 16                 | 19 | 0  | 21 |
| 18 <sup>h</sup> 12 | 48 | 48 |    | 17                 | 14 | 51 | 19 | 17                 | 16 | 52 | 41 | 18                 | 13 | 29 | 18 |
| 20                 | 7  | 17 | 24 | 19                 | 9  | 19 | 36 | 19                 | 11 | 21 | 9  | 20                 | 7  | 58 | 15 |
| 22                 | 1  | 45 | 54 | 21                 | 3  | 47 | 48 | 21                 | 5  | 49 | 36 | 22                 | 2  | 27 | 1  |
| 23                 | 20 | 14 | 20 | 22                 | 22 | 16 | 5  | 23                 | 0  | 18 | 10 | 23                 | 20 | 56 | 11 |
| 25                 | 14 | 42 | 53 | 24                 | 16 | 44 | 24 | 24                 | 18 | 46 | 40 | 25                 | 15 | 25 | 15 |
| 27 <sup>h</sup> 9  | 11 | 20 |    | 26                 | 11 | 12 | 35 | 26                 | 13 | 15 | 14 | 27                 | 9  | 54 | 15 |
| 29                 | 3  | 39 | 44 | 28                 | 5  | 40 | 49 | 28                 | 7  | 43 | 48 | 29                 | 4  | 23 | 20 |
| 30                 | 22 | 8  | 11 | 30                 | 0  | 9  | 10 | 30                 | 2  | 12 | 30 | 30                 | 22 | 52 | 21 |
|                    |    |    |    |                    |    |    |    | 31                 | 20 | 41 | 7  |                    |    |    |    |

first Satellite for the Year 1803.

| SEPTEMBER  |    |    |    |  | OCTOBER                                                                                          |  |  |  |  | NOVEMBER        |    |    |    |  | DECEMBER        |    |    |    |  |
|------------|----|----|----|--|--------------------------------------------------------------------------------------------------|--|--|--|--|-----------------|----|----|----|--|-----------------|----|----|----|--|
| Emeritions |    |    |    |  |                                                                                                  |  |  |  |  | Immersion       |    |    |    |  | Immersion       |    |    |    |  |
| d          | h  | m  | s  |  |                                                                                                  |  |  |  |  | d               | h  | m  | s  |  | d               | h  | m  | s  |  |
| 1          | 17 | 21 | 29 |  |                                                                                                  |  |  |  |  | 11              | 10 | 26 | 54 |  | 2               | 16 | 2  | 20 |  |
| 3          | 11 | 50 | 36 |  |                                                                                                  |  |  |  |  | 13              | 4  | 55 | 7  |  | 4               | 10 | 30 | 0  |  |
| 5          | 6  | 19 | 41 |  | The eclipses of Jupiter's Satellites are not visible this Month, Jupiter being too near the Sun. |  |  |  |  | 14              | 23 | 23 | 16 |  | 6               | 4  | 57 | 39 |  |
| 7          | 0  | 48 | 50 |  |                                                                                                  |  |  |  |  | 16 <sup>*</sup> | 17 | 51 | 22 |  | 7               | 23 | 25 | 15 |  |
| 8          | 19 | 17 | 55 |  |                                                                                                  |  |  |  |  | 18              | 12 | 19 | 25 |  | 9 <sup>*</sup>  | 17 | 52 | 53 |  |
| 10         | 13 | 47 | 5  |  |                                                                                                  |  |  |  |  | 20              | 6  | 47 | 20 |  | 11              | 12 | 20 | 25 |  |
|            |    |    |    |  |                                                                                                  |  |  |  |  | 22              | 1  | 15 | 23 |  | 13              | 6  | 48 | 0  |  |
|            |    |    |    |  |                                                                                                  |  |  |  |  | 23              | 19 | 43 | 19 |  | 15              | 1  | 15 | 27 |  |
|            |    |    |    |  |                                                                                                  |  |  |  |  | 25              | 14 | 11 | 13 |  | 16              | 19 | 43 | 1  |  |
|            |    |    |    |  |                                                                                                  |  |  |  |  | 27              | 8  | 39 | 2  |  | 8               | 14 | 10 | 29 |  |
|            |    |    |    |  |                                                                                                  |  |  |  |  | 29              | 3  | 6  | 50 |  | 20              | 8  | 37 | 58 |  |
|            |    |    |    |  |                                                                                                  |  |  |  |  | 30              | 21 | 34 | 36 |  | 22              | 3  | 5  | 26 |  |
|            |    |    |    |  |                                                                                                  |  |  |  |  |                 |    |    |    |  | 23              | 21 | 32 | 58 |  |
|            |    |    |    |  |                                                                                                  |  |  |  |  |                 |    |    |    |  | 25 <sup>*</sup> | 16 | 0  | 29 |  |
|            |    |    |    |  |                                                                                                  |  |  |  |  |                 |    |    |    |  | 27              | 10 | 27 | 57 |  |
|            |    |    |    |  |                                                                                                  |  |  |  |  |                 |    |    |    |  | 29              | 4  | 55 | 25 |  |
|            |    |    |    |  |                                                                                                  |  |  |  |  |                 |    |    |    |  | 30              | 23 | 22 | 7  |  |

The Times of the Eclipses contained in this Table are adapted to the Meridian of the Royal Observatory at Greenwich, and afford an excellent Method to discover the Longitude, or Difference of Meridians, between that and any other Place; which I shall illustrate by an EXAMPLE:

Suppose on the 5th Day of September of this Year, the Time of the Immersion of Jupiter's first Satellite be observed (by a Telescope) in an unknown Meridian, to happen at 8 h. 8 min. 1 sec.; I find by the Table, that the Time of this Immersion will happen at the British Observatory, at 6 h. 19 min. 41 sec. the same day: The Difference of the Times is 1 hour 48 min. 20 sec. which being converted into Degrees and Minutes of the Equator, will make 27 deg. 5 min. the Longitude of the Place of Observation, to the East, because the Time is more than that at the British Observatory.

N. B. Those marked with an Asterisk are visible at Greenwich.

Note, also, that the times of the above eclipses are set down according to mean or clock time.

## Speculum Phænomenorum

| JANUARY                                                                                                                                                                                                                                                                                                 | FEBRUARY                                                                                                                                                                                                                                                                                                                                                   | MARCH                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>2 ☐ ☉ ♀ 14h<br/> 6 ☉ ☉ ♂ 0h.<br/> 8 ☉ ☉ ♂ 0h.<br/> 12 ☉ ☉ ♀ 16½h.<br/> 13 ☉ in apoge<br/> 14 ☉ ☉ ♀ 0h.<br/> 15 ☉ ☉ ♀ 18h.<br/> 16 ☉ stationary<br/> 20 ☉ in ☉ 10h. 16m.<br/> 20 ☉ ☉ ♀ 18h.<br/> 21 ☉ stationary<br/> 21 ♀ stationary<br/> 23 ☉ ☉ ♂ 17h.<br/> 24 ☉ in perige<br/> 31 ☉ stationary</p> | <p>1 ☉ ☉ ♂ 23h.<br/> 8 ☉ ☉ ♀ 22h.<br/> 8 ☉ elong. max.<br/> 9 ☉ in apoge<br/> 10 ☉ ☉ ♀ 6h.<br/> 10 ☉ ☉ ♀ 13½h.<br/> 14 ☉ stationary<br/> 18 ☉ ☉ ♀ 3h.<br/> 19 ☉ in ☉ 1h. 2m.<br/> 21 ☉ ☉ ♂ 15h.<br/> 21 ☉ eclipsed invis.<br/> 22 ☉ in perige<br/> 23 ☉ ☉ ♂ 7½h.</p>                                                                                       | <p>1 ☉ ☉ ♂ 12h.<br/> 8 ☉ ☉ ♀ 0h.<br/> 8 ☉ stationary<br/> 8 ☉ ☉ ♀ 7h.<br/> 8 ☉ in apoge<br/> 9 ☉ ☉ ♀ 7½h.<br/> 9 ☉ ☉ ♀ 22h.<br/> 12 ♀ elong. max.<br/> 18 ♀ in aphelion<br/> 19 ☉ ☉ ♀ 11h.<br/> 20 ☉ ☉ ♂ 20h.<br/> 21 ☉ in ☉ 1h. 20m.<br/> 22 ☉ elong. max.<br/> 22 ☉ ☉ ♀ 3h.<br/> 22 ☉ in perige<br/> 29 ☉ ☉ ♂ 15h.<br/> 30 ☐ ☉ ♂ 16h.<br/> 31 ☉ ☉ ♀ 1h.</p> |
| APRIL                                                                                                                                                                                                                                                                                                   | MAY                                                                                                                                                                                                                                                                                                                                                        | JUNE                                                                                                                                                                                                                                                                                                                                                          |
| <p>4 ☉ ☉ ♀ 2h.<br/> 5 ☉ ☉ ♀ 6½h.<br/> 5 ☉ in apoge<br/> 6 ☉ ☉ ♀ 4h.<br/> 18 ☉ ☉ ♀ 1h.<br/> 20 ☉ ☉ ♀ 4h.<br/> 20 ☉ in ☉ 13h. 57m.<br/> 20 ☉ in perige<br/> 27 ☉ ☉ ♂ 0h.</p>                                                                                                                              | <p>1 ☉ ☉ ♀ 6h.<br/> 2 ☉ ☉ ♀ 8h.<br/> 2 ☉ in apoge<br/> 3 ☉ ☉ ♀ 12h.<br/> 3 ☉ ☉ ♂ 3h.<br/> 4 ☉ in ☉<br/> 16 ♀ stationary<br/> 17 ☉ ☉ ♀ 18h.<br/> 18 ☉ in perige<br/> 19 ☉ in perihelion<br/> 21 ☉ ☉ ♀ 12h.<br/> 21 ☉ in ☉ 14h. 24m.<br/> 23 ☉ stationary<br/> 25 ☉ ☉ ♂ 14h.<br/> 28 ☉ ☉ ♀ 13h.<br/> 29 ☉ ☉ ♀ 14h.<br/> 30 ☉ ☉ ♀ 18h.<br/> 30 ☉ in apoge</p> | <p>1 ☉ elong. max.<br/> 5 ☐ ☉ ♀ 9½h.<br/> 14 ☉ in perige<br/> 16 ☉ ☉ ♀ 12h.<br/> 16 ☉ stationary<br/> 17 ☉ stationary<br/> 18 ☐ ☉ ♀ 20h.<br/> 19 ☉ ☉ ♂ 23h.<br/> 21 ☉ in ☉ 23h. 2m.<br/> 21 ☉ ☉ ♂ 6h.<br/> 25 ☉ ☉ ♀ 0h.<br/> 26 ☉ ☉ ♀ 1h.<br/> 26 ☉ in apoge<br/> 27 ☉ ☉ ♀ 4h.<br/> 29 ☉ ☉ ♂ 11½h.<br/> 30 ☐ ☉ ♀ 4½h.</p>                                     |

ad Annum 1803.

## JULY

|    |                 |
|----|-----------------|
| 1  | ☉ in aphelion   |
| 3  | ♀ in ☉          |
| 4  | ♂ in aphelion   |
| 11 | ☉ in perige     |
| 11 | ☉ stationary    |
| 16 | ☉ ♀ 9h.         |
| 16 | ♂ ☉ 21h.        |
| 21 | ♂ elong. max.   |
| 22 | ♂ ☉ ♂ 1h.       |
| 22 | ♂ ☉ ♀ 12h.      |
| 23 | ☉ in ♍ 9h. 53m. |
| 23 | ♂ ☉ ♀ 15½h.     |
| 24 | ♂ ☉ ♀ 12h.      |
| 24 | ☉ in apoge      |

## AUGUST

|    |                    |
|----|--------------------|
| 5  | ☉ in perige        |
| 15 | ♂ ☉ ♀ 11h.         |
| 15 | ♂ ☉ ♂ 22h.         |
| 16 | ♂ ☉ ♂ 23h.         |
| 16 | ☉ eclipsed visible |
| 19 | ♂ ☉ ♀ 1½h.         |
| 19 | ♂ ☉ ♂ 20h.         |
| 20 | ♂ ☉ ♀ 8½h.         |
| 20 | ♂ ☉ ♀ 20½h.        |
| 21 | ☉ in apoge         |
| 23 | ☉ in ♍ 16h. 19m.   |

## SEPTEMBER

|    |                  |
|----|------------------|
| 2  | ☉ in perige      |
| 14 | ♂ ☉ ♀ 19h.       |
| 15 | ♂ ☉ ♀ 15h.       |
| 17 | ☉ in aphelion    |
| 17 | ♂ ☉ ♀ 24 3h.     |
| 17 | ♂ ☉ ♀ 4n.        |
| 17 | ♂ ☉ ♂ 17h.       |
| 17 | ♂ ☉ ♂ 15h.       |
| 17 | ♂ ☉ ♀ 8h.        |
| 17 | ☉ in apoge       |
| 23 | ☉ in ♍ 12h. 50m. |
| 30 | ♂ elong. max.    |

## OCTOBER

|    |                  |
|----|------------------|
| 1  | ☉ in perige      |
| 6  | ♂ ☉ ♀ 1½h.       |
| 10 | ♂ ☉ ♀ 2½h.       |
| 12 | ☉ stationary     |
| 13 | ♂ ☉ ♀ 4h.        |
| 14 | ♂ ☉ ♀ 2½h.       |
| 14 | ♂ ☉ ♀ 11h.       |
| 14 | ♂ ☉ ♀ 20½h.      |
| 15 | ♂ ☉ ♀ 5h.        |
| 16 | ☉ in apoge       |
| 16 | ♂ ☉ ♂ 14h.       |
| 16 | ♂ ☉ ♂ 15h.       |
| 23 | ☉ in ♍ 20h. 53m. |
| 24 | ♂ ☉ ♂ 1n.        |
| 29 | ☉ in perige      |
| 29 | ♂ in ☉           |

## NOVEMBER

|    |                  |
|----|------------------|
| 1  | ☉ stationary     |
| 9  | ♂ ☉ ♀ 16h.       |
| 10 | ♂ ☉ ♀ 18h.       |
| 10 | ♂ elong. max.    |
| 11 | ♂ ☉ ♀ 14½h.      |
| 11 | ☉ in apoge       |
| 12 | ♂ ☉ ♂ 7h.        |
| 14 | ♂ ☉ ♂ 14h.       |
| 14 | ♂ ☉ ♀ 16n.       |
| 20 | ☉ in ♍ 17h. 11m. |
| 22 | ♂ in ☉           |
| 26 | ♀ in ☉           |
| 27 | ☉ in perige      |

## DECEMBER

|    |                  |
|----|------------------|
| 7  | ♂ ☉ ♀ 4h.        |
| 7  | ♂ ☉ ♂ 19½h.      |
| 8  | ♂ ☉ ♀ 1½h.       |
| 9  | ♂ ☉ ♀ 9h.        |
| 9  | ☉ in apoge       |
| 11 | ☉ in aphelion    |
| 13 | ♂ ☉ ♂ 10h.       |
| 13 | ♂ ☉ ♂ 13½h.      |
| 15 | ♂ ☉ ♀ on.        |
| 16 | ♂ ☉ ♂ 13h.       |
| 22 | ☉ in ♍ 17h. 36m. |
| 25 | ☉ ☉ ♀ 10½h.      |
| 25 | ☉ in perige      |
| 31 | ☉ in perihelion  |

## A Table of the Sun's semi-diurnal Arches, or Times

## The SUN's Declination North.

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

By these Tables the Times of the Sun's Rising and Setting may be found, in any Part of the Kingdom of *Great-Britain* or *Ireland*, after the following Manner: Where the Latitude of the Place is known, take the Sun's Declination out of the Table, on the Noon of the Day you desire to know the Time of his Rising and Setting; and with it, according as it is either North or South, enter these Tables in the

Left.



of his visible half Duration above the Horizon.

The Sun's Declination South.

| Degr. | Lat. 49 |    | Lat. 50 |    | Lat. 51 |    | Lat. 52 |    | Lat. 53 |    | Lat. 54 |    |
|-------|---------|----|---------|----|---------|----|---------|----|---------|----|---------|----|
|       | h       | m  | h       | m  | h       | m  | h       | m  | h       | m  | h       | m  |
| 0     | 6       | 4  | 6       | 4  | 6       | 4  | 6       | 4  | 6       | 4  | 6       | 4  |
| 1     | 5       | 5  | 5       | 57 | 5       | 58 | 5       | 58 | 5       | 58 | 5       | 58 |
| 2     | 5       | 54 | 5       | 54 | 5       | 53 | 5       | 53 | 5       | 53 | 5       | 53 |
| 3     | 5       | 49 | 5       | 49 | 5       | 49 | 5       | 48 | 5       | 48 | 5       | 47 |
| 4     | 5       | 45 | 5       | 44 | 5       | 44 | 5       | 41 | 5       | 42 | 5       | 42 |
| 5     | 5       | 40 | 5       | 39 | 5       | 39 | 5       | 38 | 5       | 37 | 5       | 36 |
| 6     | 5       | 35 | 5       | 35 | 5       | 34 | 5       | 33 | 5       | 31 | 5       | 30 |
| 7     | 5       | 31 | 5       | 30 | 5       | 29 | 5       | 27 | 5       | 26 | 5       | 25 |
| 8     | 5       | 26 | 5       | 25 | 5       | 23 | 5       | 22 | 5       | 21 | 5       | 19 |
| 9     | 5       | 21 | 5       | 20 | 5       | 18 | 5       | 17 | 5       | 16 | 5       | 13 |
| 10    | 5       | 17 | 5       | 15 | 5       | 13 | 5       | 11 | 5       | 10 | 5       | 8  |
| 11    | 5       | 12 | 5       | 10 | 5       | 8  | 5       | 6  | 5       | 4  | 5       | 2  |
| 12    | 5       | 7  | 5       | 5  | 5       | 3  | 5       | 0  | 4       | 58 | 4       | 56 |
| 13    | 5       | 2  | 5       | 0  | 4       | 57 | 4       | 55 | 4       | 52 | 4       | 50 |
| 14    | 4       | 57 | 4       | 54 | 4       | 52 | 4       | 49 | 4       | 47 | 4       | 44 |
| 15    | 4       | 5  | 4       | 49 | 4       | 46 | 4       | 44 | 4       | 41 | 4       | 37 |
| 16    | 4       | 46 | 4       | 45 | 4       | 41 | 4       | 38 | 4       | 34 | 4       | 31 |
| 17    | 4       | 41 | 4       | 38 | 4       | 35 | 4       | 32 | 4       | 28 | 4       | 23 |
| 18    | 4       | 36 | 4       | 33 | 4       | 29 | 4       | 26 | 4       | 22 | 4       | 18 |
| 19    | 4       | 30 | 4       | 27 | 4       | 23 | 4       | 19 | 4       | 15 | 4       | 11 |
| 20    | 4       | 25 | 4       | 21 | 4       | 17 | 4       | 13 | 4       | 9  | 4       | 4  |
| 21    | 4       | 19 | 4       | 15 | 4       | 11 | 4       | 6  | 4       | 2  | 3       | 57 |
| 22    | 4       | 13 | 4       | 9  | 4       | 4  | 4       | 0  | 3       | 55 | 3       | 50 |
| 23    | 4       | 7  | 4       | 3  | 3       | 58 | 3       | 53 | 3       | 47 | 3       | 42 |
| 24    | 4       | 1  | 3       | 56 | 3       | 51 | 3       | 46 | 3       | 40 | 3       | 34 |

Left-hand Column, under the Word Degrees; then look for the Latitude of the Place in the Top of the Table; and in that Column, against the Sun's Declination, will be found the Time of his visible half Duration above the Horizon, or Time of his Setting, correct by Refraction; then subtract the Time of his Setting from 12 Hours, the Remainder will be the Time of his Rising; double the Time of his Setting, the

## A Table of the Sun's semi-diurnal Arches, or Times

The Sun's Declination North.

| De <sup>gr</sup> | Lat. 55 |    | Lat. 56 |    | Lat. 57 |    | Lat. 58 |    | Lat. 59 |    | Lat. 60 |    |
|------------------|---------|----|---------|----|---------|----|---------|----|---------|----|---------|----|
|                  | h       | m  | h       | m  | h       | m  | h       | m  | h       | m  | h       | m  |
| 0                | 6       | 4  | 6       | 4  | 6       | 4  | 6       | 4  | 6       | 4  | 6       | 4  |
| 1                | 6       | 9  | 6       | 10 | 6       | 10 | 6       | 10 | 6       | 11 | 6       | 11 |
| 2                | 6       | 15 | 6       | 16 | 6       | 16 | 6       | 17 | 6       | 17 | 6       | 18 |
| 3                | 6       | 21 | 6       | 22 | 6       | 22 | 6       | 23 | 6       | 24 | 6       | 25 |
| 4                | 6       | 27 | 6       | 28 | 6       | 29 | 6       | 30 | 6       | 31 | 6       | 32 |
| 5                | 6       | 32 | 6       | 34 | 6       | 35 | 6       | 36 | 6       | 38 | 6       | 39 |
| 6                | 6       | 38 | 6       | 40 | 6       | 41 | 6       | 43 | 6       | 44 | 6       | 46 |
| 7                | 6       | 44 | 6       | 46 | 6       | 48 | 6       | 49 | 6       | 51 | 6       | 53 |
| 8                | 6       | 50 | 6       | 52 | 6       | 54 | 6       | 56 | 6       | 58 | 7       | 1  |
| 9                | 6       | 56 | 6       | 58 | 7       | 1  | 7       | 3  | 7       | 5  | 7       | 8  |
| 10               | 7       | 2  | 7       | 5  | 7       | 7  | 7       | 10 | 7       | 13 | 7       | 16 |
| 11               | 7       | 8  | 7       | 10 | 7       | 14 | 7       | 17 | 7       | 20 | 7       | 23 |
| 12               | 7       | 15 | 7       | 18 | 7       | 21 | 7       | 34 | 7       | 27 | 7       | 31 |
| 13               | 7       | 21 | 7       | 24 | 7       | 28 | 7       | 31 | 7       | 35 | 7       | 39 |
| 14               | 7       | 28 | 7       | 31 | 7       | 35 | 7       | 39 | 7       | 43 | 7       | 47 |
| 15               | 7       | 34 | 7       | 39 | 7       | 42 | 7       | 46 | 7       | 51 | 7       | 56 |
| 16               | 7       | 41 | 7       | 45 | 7       | 49 | 7       | 54 | 7       | 59 | 8       | 4  |
| 17               | 7       | 48 | 7       | 52 | 7       | 57 | 8       | 1  | 8       | 7  | 8       | 13 |
| 18               | 7       | 55 | 8       | 0  | 8       | 5  | 8       | 10 | 8       | 16 | 8       | 22 |
| 19               | 8       | 2  | 8       | 7  | 8       | 13 | 8       | 19 | 8       | 25 | 8       | 32 |
| 20               | 8       | 10 | 8       | 15 | 8       | 21 | 8       | 28 | 8       | 35 | 8       | 42 |
| 21               | 8       | 18 | 8       | 24 | 8       | 30 | 8       | 37 | 8       | 45 | 8       | 53 |
| 22               | 8       | 26 | 8       | 32 | 8       | 39 | 8       | 47 | 8       | 55 | 9       | 4  |
| 23               | 8       | 34 | 8       | 41 | 8       | 49 | 8       | 57 | 9       | 6  | 9       | 16 |
| 24               | 8       | 43 | 8       | 51 | 8       | 59 | 9       | 8  | 9       | 18 | 9       | 29 |

the Sum will be the Length of the Day; and double the Time of his Rising, the Sum will be the Length of the Night. But if the Latitude of the Place, and Declination of the Sun, consist of Degrees and Minutes, then a small Allowance must be made for the Minutes in both Cases, which may be done by a Person of an ordinary Capacity by a mental Proportion only. Thus, to find the Time of the Sun's Rising and Setting at

of his visible half Duration above the Horizon.

The Sun's Declination South.

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

at Aberdeen in Scotland, on the Longest Day; the Latitude of that Place is accounted 57 Degr 7 Min. North, and the Sun's Declination 23 Deg. 28 Min. likewise North. By these you will find by the Table, that 5 Min. for the Sun's Declination, and 1 Min. for the Latitude of the Place, are both, to be added to 8 Hours 49 Min. the Time belonging to 57 Degr. of Latitude and 23 Degr. of North Declination, and the Sum will be 8 Hours 55 Min. the Time of his apparent Setting at Aberdeen, on the longest Day, whose Complement to 12 Hours, viz. 3 Hours 5 Min. will be the Time of his Rising, &c.

A Table of the Sun's Right-Ascension in Time, the greatest

| h  | I |    |    | II |    |    | III |    |    | IV |    |    | V  |    |    | VI |    |    |
|----|---|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|
|    | h | m  | s  | h  | m  | s  | h   | m  | s  | h  | m  | s  | h  | m  | s  | h  | m  | s  |
| 0  | 0 | 0  | 0  | 1  | 51 | 37 | 3   | 51 | 15 | 6  | 0  | 0  | 8  | 8  | 45 | 10 | 8  | 23 |
| 1  | 0 | 3  | 40 | 1  | 55 | 27 | 3   | 55 | 25 | 6  | 4  | 22 | 8  | 12 | 54 | 10 | 12 | 12 |
| 2  | 0 | 7  | 20 | 1  | 59 | 17 | 3   | 59 | 36 | 6  | 8  | 43 | 8  | 17 | 3  | 10 | 16 | 0  |
| 3  | 0 | 11 | 0  | 2  | 3  | 8  | 4   | 3  | 48 | 6  | 13 | 5  | 8  | 21 | 13 | 10 | 19 | 48 |
| 4  | 0 | 14 | 41 | 2  | 6  | 59 | 4   | 8  | 0  | 6  | 17 | 26 | 8  | 25 | 19 | 10 | 23 | 35 |
| 5  | 0 | 18 | 21 | 2  | 10 | 51 | 4   | 12 | 13 | 6  | 21 | 48 | 8  | 29 | 26 | 10 | 27 | 22 |
| 6  | 0 | 22 | 2  | 2  | 14 | 44 | 4   | 16 | 26 | 6  | 26 | 9  | 8  | 33 | 31 | 10 | 31 | 8  |
| 7  | 0 | 25 | 42 | 2  | 18 | 37 | 4   | 20 | 40 | 6  | 30 | 30 | 8  | 37 | 37 | 10 | 34 | 54 |
| 8  | 0 | 29 | 23 | 2  | 22 | 3  | 4   | 24 | 55 | 6  | 34 | 51 | 8  | 41 | 41 | 10 | 38 | 40 |
| 9  | 0 | 33 | 4  | 2  | 26 | 25 | 4   | 29 | 10 | 6  | 39 | 41 | 8  | 45 | 45 | 10 | 42 | 25 |
| 10 | 0 | 36 | 45 | 2  | 30 | 20 | 4   | 33 | 26 | 6  | 43 | 31 | 8  | 49 | 48 | 10 | 46 | 9  |
| 11 | 0 | 40 | 26 | 2  | 34 | 16 | 4   | 37 | 42 | 6  | 47 | 51 | 8  | 53 | 51 | 10 | 49 | 53 |
| 12 | 0 | 44 | 8  | 2  | 38 | 13 | 4   | 41 | 59 | 6  | 52 | 11 | 8  | 57 | 52 | 10 | 53 | 37 |
| 13 | 0 | 47 | 50 | 2  | 42 | 10 | 4   | 46 | 16 | 6  | 56 | 31 | 9  | 1  | 53 | 10 | 57 | 20 |
| 14 | 0 | 51 | 32 | 2  | 46 | 8  | 4   | 50 | 34 | 7  | 0  | 50 | 9  | 5  | 53 | 11 | 1  | 3  |
| 15 | 0 | 55 | 14 | 2  | 50 | 7  | 4   | 54 | 52 | 7  | 5  | 8  | 9  | 9  | 53 | 11 | 4  | 46 |
| 16 | 0 | 58 | 5  | 2  | 54 | 7  | 4   | 59 | 10 | 7  | 9  | 26 | 9  | 13 | 52 | 11 | 8  | 28 |
| 17 | 1 | 2  | 40 | 2  | 58 | 7  | 5   | 3  | 29 | 7  | 13 | 44 | 9  | 17 | 50 | 11 | 12 | 10 |
| 18 | 1 | 6  | 23 | 3  | 2  | 8  | 5   | 7  | 49 | 7  | 18 | 1  | 9  | 21 | 47 | 11 | 15 | 52 |
| 19 | 1 | 10 | 7  | 3  | 6  | 9  | 5   | 12 | 9  | 7  | 22 | 18 | 9  | 25 | 44 | 11 | 19 | 34 |
| 20 | 1 | 13 | 51 | 3  | 10 | 12 | 5   | 16 | 29 | 7  | 26 | 34 | 9  | 29 | 40 | 11 | 23 | 15 |
| 21 | 1 | 17 | 35 | 3  | 14 | 15 | 5   | 20 | 49 | 7  | 30 | 50 | 9  | 33 | 35 | 11 | 26 | 56 |
| 22 | 1 | 21 | 20 | 3  | 18 | 19 | 5   | 25 | 9  | 7  | 35 | 5  | 9  | 37 | 29 | 11 | 30 | 37 |
| 23 | 1 | 25 | 6  | 3  | 22 | 23 | 5   | 29 | 30 | 7  | 39 | 20 | 9  | 41 | 23 | 11 | 34 | 18 |
| 24 | 1 | 28 | 52 | 3  | 26 | 25 | 5   | 33 | 51 | 7  | 43 | 34 | 9  | 45 | 16 | 11 | 37 | 58 |
| 25 | 1 | 32 | 38 | 3  | 30 | 25 | 5   | 38 | 12 | 7  | 47 | 47 | 9  | 49 | 9  | 11 | 41 | 39 |
| 26 | 1 | 36 | 25 | 3  | 34 | 41 | 5   | 42 | 34 | 7  | 52 | 0  | 9  | 53 | 1  | 11 | 45 | 19 |
| 27 | 1 | 40 | 12 | 3  | 38 | 49 | 5   | 46 | 55 | 7  | 56 | 12 | 9  | 56 | 52 | 11 | 49 | 0  |
| 28 | 1 | 44 | 0  | 3  | 42 | 57 | 5   | 51 | 17 | 8  | 0  | 24 | 10 | 0  | 43 | 11 | 52 | 40 |
| 29 | 1 | 47 | 48 | 3  | 47 | 6  | 5   | 55 | 38 | 8  | 4  | 35 | 10 | 4  | 33 | 11 | 56 | 20 |
| 30 | 1 | 51 | 37 | 3  | 51 | 15 | 6   | 0  | 0  | 8  | 8  | 45 | 10 | 8  | 23 | 12 | 0  | 0  |

The time of the southing or meridian transits of the fixed stars in pa. 46, may be found thus. On the noon of the day, preceding the night in which you want to know the time of the southing of any of those stars, find the Sun's place in the Ephemeris, and with it take out of the above table his right ascension in time; this you may do by inspection to a minute, which will be sufficient for your present purpose: Then from the right-ascension of the star in pa. 46, corrected to the proposed time, by means of the numbers in the column of ann. 1 differences, subtract the right-ascension of the Sun, the remainder will be the estimate time of the star's southing, and will not differ from the true time above 2 or 3 minutes at most, which may be near enough for ordinary uses. But when great exactness is required, reduce the Sun's place to this estimate time, and with it find in the above table his right ascension to the same, which being subtracted from that of the star, the remainder will be

Obliquity of the Ecliptic being  $23^{\circ} 28'$ .

| Degr. | $\alpha$ |    |    | $\eta$ |    |    | $\zeta$ |    |    | $\nu$ |    |    | $\mu$ |    |    | $\chi$ |    |    |
|-------|----------|----|----|--------|----|----|---------|----|----|-------|----|----|-------|----|----|--------|----|----|
|       | h        | m  | s  | h      | m  | s  | h       | m  | s  | h     | m  | s  | h     | m  | s  | h      | m  | s  |
| 0     | 12       | 0  | 0  | 13     | 51 | 37 | 15      | 51 | 15 | 18    | 0  | 0  | 20    | 8  | 45 | 22     | 8  | 23 |
| 1     | 12       | 3  | 40 | 13     | 55 | 27 | 15      | 55 | 25 | 18    | 4  | 22 | 20    | 12 | 54 | 22     | 12 | 12 |
| 2     | 12       | 7  | 20 | 13     | 59 | 17 | 15      | 59 | 36 | 18    | 8  | 43 | 20    | 17 | 3  | 22     | 16 | 0  |
| 3     | 12       | 11 | 0  | 14     | 3  | 8  | 16      | 3  | 48 | 18    | 13 | 5  | 20    | 21 | 11 | 22     | 19 | 48 |
| 4     | 12       | 14 | 41 | 14     | 6  | 59 | 16      | 7  | 0  | 18    | 17 | 26 | 20    | 25 | 19 | 22     | 23 | 35 |
| 5     | 12       | 18 | 21 | 14     | 10 | 51 | 16      | 12 | 13 | 18    | 21 | 48 | 20    | 29 | 26 | 22     | 27 | 22 |
| 6     | 12       | 22 | 2  | 14     | 14 | 44 | 16      | 16 | 26 | 18    | 26 | 9  | 20    | 33 | 31 | 22     | 31 | 8  |
| 7     | 12       | 25 | 42 | 14     | 18 | 37 | 16      | 20 | 40 | 18    | 30 | 30 | 20    | 37 | 37 | 22     | 34 | 54 |
| 8     | 12       | 29 | 23 | 14     | 22 | 31 | 16      | 24 | 55 | 18    | 34 | 51 | 20    | 41 | 41 | 22     | 38 | 40 |
| 9     | 12       | 33 | 4  | 14     | 26 | 25 | 16      | 29 | 10 | 18    | 39 | 11 | 20    | 45 | 45 | 22     | 42 | 25 |
| 10    | 12       | 36 | 45 | 14     | 30 | 20 | 16      | 33 | 26 | 18    | 43 | 31 | 20    | 49 | 48 | 22     | 46 | 9  |
| 11    | 12       | 40 | 26 | 14     | 34 | 16 | 16      | 37 | 42 | 18    | 47 | 51 | 20    | 53 | 51 | 22     | 49 | 53 |
| 12    | 12       | 44 | 8  | 14     | 38 | 13 | 16      | 41 | 59 | 18    | 52 | 11 | 20    | 57 | 52 | 22     | 53 | 37 |
| 13    | 12       | 47 | 50 | 14     | 42 | 10 | 16      | 46 | 16 | 18    | 56 | 31 | 21    | 1  | 53 | 22     | 57 | 20 |
| 14    | 12       | 51 | 32 | 14     | 46 | 8  | 16      | 50 | 34 | 19    | 0  | 50 | 21    | 5  | 53 | 23     | 1  | 3  |
| 15    | 12       | 55 | 14 | 14     | 50 | 7  | 16      | 54 | 52 | 19    | 5  | 8  | 21    | 9  | 53 | 23     | 4  | 46 |
| 16    | 12       | 58 | 57 | 14     | 54 | 7  | 16      | 59 | 10 | 19    | 9  | 26 | 21    | 13 | 52 | 23     | 8  | 28 |
| 17    | 13       | 2  | 40 | 14     | 58 | 7  | 17      | 3  | 29 | 19    | 13 | 44 | 21    | 17 | 50 | 23     | 12 | 10 |
| 18    | 13       | 6  | 23 | 15     | 2  | 8  | 17      | 7  | 49 | 19    | 18 | 1  | 21    | 21 | 47 | 23     | 15 | 52 |
| 19    | 13       | 10 | 7  | 15     | 6  | 9  | 17      | 12 | 9  | 19    | 22 | 18 | 21    | 25 | 44 | 23     | 19 | 34 |
| 20    | 13       | 13 | 51 | 15     | 10 | 12 | 17      | 16 | 29 | 19    | 26 | 34 | 21    | 29 | 40 | 23     | 23 | 15 |
| 21    | 13       | 17 | 35 | 15     | 14 | 15 | 17      | 20 | 49 | 19    | 30 | 50 | 21    | 33 | 35 | 23     | 26 | 56 |
| 22    | 13       | 21 | 20 | 15     | 18 | 19 | 17      | 25 | 9  | 19    | 35 | 5  | 21    | 37 | 29 | 23     | 30 | 37 |
| 23    | 13       | 25 | 6  | 15     | 22 | 23 | 17      | 29 | 30 | 19    | 39 | 20 | 21    | 41 | 23 | 23     | 34 | 18 |
| 24    | 13       | 28 | 52 | 15     | 26 | 26 | 17      | 33 | 51 | 19    | 43 | 34 | 21    | 45 | 16 | 23     | 37 | 58 |
| 25    | 13       | 32 | 38 | 15     | 30 | 35 | 17      | 38 | 12 | 19    | 47 | 47 | 21    | 49 | 9  | 23     | 41 | 39 |
| 26    | 13       | 36 | 25 | 15     | 34 | 41 | 17      | 42 | 34 | 19    | 52 | 0  | 21    | 53 | 1  | 23     | 45 | 19 |
| 27    | 13       | 40 | 12 | 15     | 38 | 49 | 17      | 46 | 55 | 19    | 56 | 12 | 21    | 56 | 52 | 23     | 49 | 0  |
| 28    | 13       | 44 | 0  | 15     | 42 | 57 | 17      | 51 | 17 | 20    | 0  | 24 | 22    | 0  | 43 | 23     | 52 | 40 |
| 29    | 13       | 47 | 48 | 15     | 47 | 6  | 17      | 55 | 38 | 20    | 4  | 35 | 22    | 4  | 33 | 23     | 56 | 20 |
| 30    | 13       | 51 | 37 | 15     | 51 | 15 | 18      | 0  | 0  | 20    | 8  | 45 | 22    | 8  | 23 | 24     | 0  | 0  |

the true time of the star's culminating or southing. And if from the time of the star's southing you subtract the semidiurnal arc belonging to it, the remainder will be the time of the star's rising; and being added to it, the sum will be the time of its setting.

Annexed is an Ex. of SIRIUS for Jan. 31, 1803.

|                                |                  |    |    |    |
|--------------------------------|------------------|----|----|----|
| ☉'s place at noon              | $10^{\circ} 45'$ | h  | m  | s  |
| Rt. Asc. of SIRIUS             | -                | 6  | 36 | 28 |
| ☉'s rt. asc. subtract          | -                | 20 | 52 | 50 |
| *'s estimate southing          | -                | 9  | 43 | 38 |
| ☉'s rt. asc. at that time sub. | -                | 20 | 54 | 31 |
| *'s true southing              | -                | 9  | 41 | 5  |
| Semid. arc sub. & add.         | -                | 4  | 36 | 55 |
| *'s rising aftern.             | -                | 5  | 5  | 2  |
| *'s setting                    | -                | 14 | 18 | 52 |

A Table of the mean Right-Ascensions in time, and Declinations, and their Annual Difference; also the Semidiurnal-Arcs, and Magnitudes, of 40 remarkable fixed Stars, with their Names, and Bayer's Literal Characters, for January 1, 1800.

| Names of the Stars      | Ch.        | Rt. Asc. |    |    | A. Di. | Declination |    |    | A. Diff. | Semid. Ar. |         |          | M  |   |
|-------------------------|------------|----------|----|----|--------|-------------|----|----|----------|------------|---------|----------|----|---|
|                         |            | h        | m  | s  |        | sec.        | °  | '  |          | "          | seconds | h        |    | m |
| Polestar, Alruccabah    | $\alpha$   | 0        | 52 | 2  | 12.53  | 88          | 14 | 25 | n        | +19.6      |         | sets not | 2  |   |
| Androgird. Mirach       | $\beta$    | 0        | 58 | 34 | 3.30   | 34          | 33 | 29 | n        | +13.4      | 10      | 7        | 32 | 2 |
| Androgird, Almach       | $\gamma$   | 1        | 51 | 4  | 3.62   | 41          | 21 | 50 | n        | +17.7      |         | sets not | 2  |   |
| Ram's follow. horn      | $\alpha$   | 1        | 55 | 55 | 3.34   | 22          | 30 | 47 | n        | +17.5      | 8       | 9        | 35 | 2 |
| Whale's jaw. Menkar     | $\alpha$   | 2        | 51 | 50 | 3.12   | 3           | 18 | 8  | n        | +15.2      | 6       | 19       | 48 | 2 |
| Medusa's head. Algol    | $\beta$    | 2        | 55 | 12 | 3.85   | 40          | 10 | 29 | n        | +14.5      |         | sets not | 2  |   |
| Pegasus' h. Algenib     | $\alpha$   | 3        | 10 | 7  | 4.20   | 49          | 8  | 15 | n        | +13.6      |         | sets not | 2  |   |
| Brightest of the 7ft    | $\eta$     | 3        | 35 | 37 | 3.54   | 23          | 28 | 36 | n        | +11.9      | 8       | 16       | 40 | 3 |
| Bull's eye, Aldebar.    | $\alpha$   | 4        | 24 | 27 | 3.42   | 16          | 5  | 43 | n        | +8.0       | 7       | 28       | 51 | 1 |
| Auriga's sh. Capella    | $\alpha$   | 5        | 1  | 56 | 4.41   | 45          | 46 | 40 | n        | +4.5       |         | sets not | 1  |   |
| Orion's l. foot, Rigel  | $\beta$    | 5        | 4  | 56 | 2.87   | 8           | 26 | 24 | s        | -5.1       | 5       | 20       | 28 | 1 |
| Bull's north horn       | $\beta$    | 5        | 13 | 40 | 3.78   | 28          | 25 | 37 | n        | +4.1       | 8       | 57       | 12 | 2 |
| Orion's l. sh. Bellat.  | $\gamma$   | 5        | 14 | 25 | 3.21   | 6           | 9  | 21 | n        | +4.0       | 6       | 34       | 41 | 2 |
| Orion's girdle          | $\epsilon$ | 5        | 26 | 4  | 3.04   | 1           | 20 | 27 | s        | -3.0       | 5       | 56       | 42 | 2 |
| Orion's sh. Betelg.     | $\alpha$   | 5        | 44 | 21 | 3.24   | 7           | 21 | 41 | n        | +1.7       | 6       | 40       | 58 | 1 |
| Great Dog, Sirius       | $\alpha$   | 6        | 36 | 20 | 2.65   | 16          | 27 | 2  | s        | +4.4       | 4       | 36       | 55 | 1 |
| 1st Twin, Castor        | $\alpha$   | 7        | 21 | 49 | 3.86   | 32          | 18 | 59 | n        | -6.8       | 9       | 38       | 21 | 1 |
| Little Dog, Procyon     | $\alpha$   | 7        | 28 | 49 | 3.14   | 5           | 43 | 45 | n        | -8.7       | 6       | 32       | 50 | 1 |
| 2d Twin, Pollux         | $\beta$    | 7        | 33 | 3  | 3.69   | 28          | 29 | 59 | n        | -7.6       | 8       | 58       | 13 | 2 |
| Hydra's heart, Alp      | $\alpha$   | 9        | 17 | 45 | 2.94   | 7           | 46 | 45 | s        | +14.8      | 5       | 24       | 20 | 2 |
| Lion's heart, Regu.     | $\alpha$   | 9        | 57 | 42 | 3.20   | 12          | 56 | 29 | n        | -16.9      | 7       | 11       | 28 | 1 |
| Gr. Bear, L. Pointer    | $\beta$    | 10       | 49 | 40 | 3.71   | 57          | 27 | 3  | n        | -19.1      |         | sets not | 2  |   |
| Gr. Bear, U. Pointer    | $\alpha$   | 10       | 51 | 16 | 3.85   | 62          | 49 | 45 | n        | -19.1      |         | sets not | 2  |   |
| Lion's tail, Deneb      | $\beta$    | 11       | 38 | 50 | 3.01   | 15          | 41 | 36 | n        | -19.8      | 7       | 27       | 18 | 2 |
| G. Bear's tail, Aliath  | $\epsilon$ | 12       | 45 | 13 | 2.75   | 57          | 2  | 57 | n        | -19.7      |         | sets not | 2  |   |
| Virgins' spike          | $\alpha$   | 13       | 14 | 40 | 3.14   | 10          | 6  | 37 | s        | +18.8      | 5       | 12       | 20 | 1 |
| Dragon's tail           | $\alpha$   | 13       | 58 | 59 | 1.63   | 65          | 20 | 8  | n        | -17.4      |         | sets not | 2  |   |
| Bootes, Arcturus        | $\alpha$   | 14       | 6  | 32 | 2.72   | 20          | 13 | 43 | n        | -19.1      | 7       | 55       | 26 | 1 |
| Libra, South. Scale     | $\alpha$   | 14       | 39 | 39 | 3.30   | 15          | 11 | 54 | s        | +15.3      | 4       | 44       | 23 | 2 |
| Libra, North Scale      | $\beta$    | 15       | 6  | 16 | 3.22   | 8           | 38 | 3  | s        | +13.8      | 5       | 19       | 57 | 2 |
| North Crown             | $\alpha$   | 15       | 25 | 58 | 2.53   | 27          | 23 | 58 | n        | -12.3      | 8       | 48       | 36 | 2 |
| Scor. heart, Antares    | $\alpha$   | 16       | 17 | 10 | 3.65   | 25          | 58 | 21 | s        | +8.6       | 3       | 34       | 61 |   |
| Lier-head, R. Alget.    | $\alpha$   | 17       | 5  | 32 | 2.73   | 14          | 37 | 48 | n        | -4.7       | 7       | 20       | 41 | 2 |
| Head of Serpentarius    | $\alpha$   | 17       | 25 | 39 | 2.77   | 12          | 43 | 9  | n        | -3.0       | 7       | 9        | 50 | 2 |
| Dragon's head, Rastaban | $\gamma$   | 17       | 51 | 58 | 1.39   | 51          | 31 | 5  | n        | -0.7       |         | sets not | 2  |   |
| The Harp, Lyra          | $\alpha$   | 18       | 30 | 10 | 1.99   | 38          | 36 | 26 | n        | +3.1       |         | sets not | 1  |   |
| The Eagle, Atair        | $\alpha$   | 19       | 41 | 1  | 2.92   | 8           | 21 | 11 | n        | +9.1       | 6       | 45       | 57 | 2 |
| S. Fish, Fomalhaut      | $\alpha$   | 22       | 46 | 34 | 3.33   | 30          | 40 | 31 | s        | -17.1      | 2       | 52       | 61 |   |
| Pegasus' w. Markab      | $\alpha$   | 22       | 54 | 48 | 2.96   | 14          | 7  | 56 | n        | +19.7      | 7       | 17       | 10 | 2 |
| Andromeda's head        | $\alpha$   | 23       | 58 | 4  | 3.07   | 27          | 59 | 34 | n        | +20.8      | 8       | 52       | 19 | 2 |

A Table of the Longitudes, Latitudes, and Magnitudes of the most remarkable fixed Stars that the Moon can Eclipse, or make a near Appulse unto; exactly rectified to the beginning of the year 1800.

| Con. | Cha. | Long. |    |    | Lat. |    |      | Mag. | Con. | Cha. | Long. |    |    | Lat. |    |      | Mag. |
|------|------|-------|----|----|------|----|------|------|------|------|-------|----|----|------|----|------|------|
|      |      | °     | '  | "  | °    | '  | "    |      |      |      | °     | '  | "  | °    | '  | "    |      |
| X    | ♈    | 11    | 21 | 34 | 2    | 9  | 44 n | 4    | 51   | ♏    | 12    | 17 | 52 | 0    | 21 | 48 n | 2    |
|      | ♉    | 14    | 44 | 33 | 1    | 5  | 37 n | 4    |      | ♐    | 18    | 13 | 0  | 1    | 49 | 14 s | 3    |
|      | ♊    | 17    | 4  | 48 | 0    | 13 | 11 s | 4    |      | ♑    | 22    | 20 | 32 | 4    | 24 | 41 n | 3    |
| Y    | ♋    | 18    | 3  | 7  | 1    | 48 | 7 n  | 4    | m    | ♒    | 24    | 34 | 56 | 4    | 2  | 52 n | 4    |
|      | ♌    | 27    | 12 | 7  | 4    | 1  | 36 n | 3    |      | ♓    | 24    | 58 | 10 | 0    | 1  | 1 n  | 4    |
|      | ♍    | 3     | 0  | 23 | 5    | 45 | 30 s | 3    |      | ♈    | 27    | 4  | 35 | 3    | 29 | 24 n | 4    |
| Z    | ♎    | 5     | 40 | 0  | 2    | 35 | 37 s | 3    | n    | ♉    | 27    | 41 | 9  | 0    | 6  | 53 n | 4    |
|      | ♏    | 6     | 52 | 43 | 5    | 29 | 2 s  | 1    |      | ♊    | 29    | 46 | 51 | 1    | 57 | 17 s | 3    |
|      | ♐    | 19    | 47 | 0  | 5    | 21 | 59 n | 2    |      | ♋    | 0     | 8  | 58 | 5    | 26 | 15 s | 3    |
| II   | ♑    | 21    | 59 | 38 | 2    | 13 | 29 s | 3    | f    | ♌    | 0     | 23 | 56 | 1    | 2  | 18 n | 2    |
|      | ♒    | 0     | 39 | 0  | 0    | 55 | 4 s  | 4    |      | ♍    | 1     | 51 | 13 | 1    | 39 | 52 n | 4    |
|      | ♓    | 2     | 30 | 25 | 0    | 50 | 34 s | 3    |      | ♎    | 5     | 0  | 36 | 4    | 0  | 23 s | 4    |
| III  | ♈    | 5     | 18 | 43 | 6    | 46 | 12 s | 2    | t    | ♏    | 6     | 58 | 21 | 4    | 32 | 17 s | 1    |
|      | ♉    | 7     | 8  | 53 | 2    | 2  | 28 n | 3    |      | ♐    | 8     | 40 | 5  | 6    | 5  | 21 s | 4    |
|      | ♊    | 15    | 43 | 52 | 0    | 12 | 19 s | 3    |      | ♑    | 28    | 28 | 26 | 6    | 56 | 48 s | 3    |
| IV   | ♋    | 20    | 27 | 57 | 6    | 40 | 4 n  | 1    | b    | ♒    | 0     | 25 | 21 | 2    | 22 | 24 n | 4    |
|      | ♌    | 4     | 15 | 14 | 3    | 10 | 22 n | 4    |      | ♓    | 3     | 31 | 54 | 2    | 5  | 31 s | 4    |
|      | ♍    | 5     | 55 | 32 | 0    | 4  | 13 n | 4    |      | ♈    | 7     | 33 | 11 | 3    | 55 | 22 s | 3    |
| V    | ♎    | 18    | 51 | 46 | 3    | 1  | 57 s | 4    | c    | ♉    | 9     | 35 | 40 | 3    | 24 | 55 s | 3    |
|      | ♏    | 21    | 28 | 1  | 3    | 46 | 1 s  | 4    |      | ♊    | 12    | 2  | 55 | 5    | 2  | 33 s | 3    |
|      | ♐    | 25    | 6  | 46 | 4    | 51 | 9 n  | 4    |      | ♋    | 12    | 11 | 59 | 0    | 53 | 36 n | 3    |
| VI   | ♑    | 27    | 3  | 12 | 0    | 27 | 27 n | 1    | d    | ♌    | 13    | 27 | 44 | 1    | 28 | 7 n  | 4    |
|      | ♒    | 3     | 35 | 48 | 0    | 8  | 29 n | 4    |      | ♍    | 1     | 15 | 18 | 4    | 36 | 46 n | 3    |
|      | ♓    | 18    | 43 | 10 | 0    | 31 | 21 s | 4    |      | ♎    | 17    | 24 | 23 | 4    | 57 | 31 s | 4    |
| VII  | ♈    | 22    | 14 | 55 | 3    | 2  | 51 s | 4    | e    | ♏    | 18    | 59 | 16 | 2    | 32 | 6 s  | 4    |
|      | ♉    | 24    | 19 | 10 | 0    | 41 | 36 n | 3    |      | ♐    | 20    | 44 | 28 | 2    | 33 | 40 s | 3    |
|      | ♊    | 0     | 34 | 33 | 5    | 4  | 42 n | 3    |      | ♑    | 25    | 55 | 40 | 2    | 3  | 47 s | 4    |
| VIII | ♋    | 2     | 2  | 39 | 1    | 22 | 24 n | 3    | f    | ♒    | 0     | 28 | 5  | 2    | 43 | 22 n | 4    |
|      | ♌    | 7     | 23 | 4  | 2    | 48 | 57 n | 3    |      | ♓    | 8     | 47 | 6  | 0    | 22 | 57 s | 4    |
|      | ♍    | 21    | 3  | 13 | 2    | 2  | 11 s | 1    |      | ♈    | 14    | 20 | 58 | 1    | 2  | 8 s  | 4    |

This table shewing the mean longitudes of 60 stars to the beginning of the year 1800, their mean longitudes for any other time may be found if  $50\frac{1}{2}$  seconds be added for each succeeding, and subtracted for each preceding year, and proportionably for a part of a year. Thus, to find the longitude of the first star X ♈, or ♈ piscium, for Feb. 15, 1802, or 2 years and one eighth after the tabular time; here  $2\frac{1}{8}$  times  $50\frac{1}{2}$  sec. make  $1^{\circ} 47''$ , which being added to the tabular longitude, gives ♈  $11^{\circ} 23' 21''$  for the longitude required at the proposed time. — The latitudes vary not.

## The Latitudes and Longitudes of Ninety remarkable Places.

|                   | Lat.    | Long.    |                    | Lat.    | Long.    |
|-------------------|---------|----------|--------------------|---------|----------|
| Alexandria, Egypt | 31 11 n | 30 17 e  | Isfahan            | 32 25 n | 52 55 e  |
| Amsterdam, Hol.   | 52 23 n | 4 52 e   | Land's end         | 50 6 n  | 5 50 w   |
| Archangel, Ruf.   | 64 34 n | 38 30 e  | Leghorn            | 43 33 n | 10 25 e  |
| Athens            | 37 40 n | 23 52 e  | Leostoff           | 52 38 n | 1 54 e   |
| Babelmandel       | 12 50 n | 43 50 e  | Liverpool          | 53 22 n | 3 10 w   |
| Batavia           | 6 12 s  | 106 45 e | Lima               | 12 1 s  | 76 50 w  |
| Bengal            | 22 0 n  | 92 45 e  | Lisbon             | 38 42 n | 9 4 w    |
| Berlin            | 52 33 n | 13 26 e  | Lizard             | 49 57 n | 5 21 w   |
| Bombay Isle       | 19 42 n | 73 3 e   | London             | 51 31 n | 0 0      |
| Boston, Amer.     | 42 25 n | 70 37 w  | Madras             | 13 8 n  | 80 7 e   |
| Breslau           | 51 3 n  | 17 13 e  | Madrid             | 40 25 n | 3 45 w   |
| Brest             | 48 23 n | 4 30 w   | Manilla            | 14 30 n | 120 25 e |
| Bristol           | 51 28 n | 2 30 w   | Marseilles         | 43 18 n | 5 21 e   |
| Buenos Ayres      | 34 35 s | 58 0 w   | Mexico             | 19 54 n | 100 5 w  |
| Cadiz             | 36 31 n | 6 7 w    | Mississipi, mouth  | 29 0 n  | 89 17 w  |
| Calais            | 50 58 n | 1 51 e   | Moscow             | 55 25 n | 37 51 e  |
| Cairo, Egypt      | 30 2 n  | 31 26 e  | Naples             | 40 51 n | 14 19 e  |
| Cambridge         | 52 13 n | 0 4 e    | Newcastle          | 55 0 n  | 1 18 w   |
| Canaria Islands   | 28 1 n  | 15 0 w   | Oporto             | 40 53 n | 8 35 w   |
| Canton            | 23 8 n  | 113 2 e  | Orkney I. northend | 59 24 n | 3 23 w   |
| Cape of Goodhope  | 34 29 s | 18 23 e  | Oxford             | 51 45 n | 1 16 w   |
| Cape Horn         | 55 59 s | 67 26 w  | Paris              | 48 50 n | 2 25 e   |
| Carthegena        | 10 27 n | 75 26 w  | Pekin              | 39 55 n | 116 22 e |
| Charles Town Am.  | 33 22 n | 79 50 w  | Petersburg         | 59 56 n | 30 19 e  |
| Constantinople    | 41 0 n  | 28 53 e  | Philadelphia       | 39 57 n | 75 18 w  |
| Copenhagen        | 55 41 n | 12 50 e  | Plymouth           | 50 24 n | 4 15 w   |
| Corinth           | 37 30 n | 23 0 e   | Port Mahon         | 39 51 n | 3 53 e   |
| Corke             | 51 54 n | 8 30 w   | Port Royal, Jam.   | 17 40 n | 76 37 w  |
| Dantzic           | 54 22 n | 18 36 e  | Portsmouth         | 50 48 n | 1 1 w    |
| Dover             | 51 7 n  | 1 19 e   | Prague             | 50 5 n  | 14 15 e  |
| Dublin            | 53 20 n | 6 55 w   | Quebec             | 46 55 n | 71 12 w  |
| Edinburgh         | 55 58 n | 3 1 w    | Rome               | 41 54 n | 12 32 e  |
| Ferro, Isle       | 27 48 n | 18 6 w   | Scilly Isles       | 50 0 n  | 6 45 w   |
| Finisterre, Cape  | 42 57 n | 9 36 w   | Smyrna             | 38 28 n | 27 25 e  |
| Genoa             | 44 25 n | 8 41 e   | Stockholm          | 59 22 n | 18 12 e  |
| Gibraltar         | 36 5 n  | 4 46 w   | Syracuse           | 37 4 n  | 15 20 e  |
| Glasgow           | 55 52 n | 4 5 w    | Tangier            | 35 55 n | 5 45 w   |
| Goa               | 15 31 n | 73 50 e  | Teneriff           | 28 16 n | 16 32 w  |
| Göttingen         | 51 32 n | 9 58 e   | Tunis              | 36 47 n | 10 16 e  |
| Greenwich         | 51 29 n | 0 5 e    | Turin              | 45 5 n  | 7 45 e   |
| H. Cluit's Head.  | 79 55 n | 12 0 e   | Venice             | 45 27 n | 12 24 e  |
| Halifax, America  | 44 46 n | 63 20 w  | Verd, Cape         | 14 47 n | 17 28 w  |
| Havanna           | 23 12 n | 81 11 w  | Vienna             | 48 11 n | 16 28 e  |
| Heiena, I. St.    | 15 55 s | 5 49 w   | Upsal              | 59 52 n | 17 43 e  |
| Jerusalem         | 31 50 n | 35 25 e  | Uraniberg          | 55 54 n | 12 52 e  |