

ἌΤΛΑΣ ΟΥΡΑΝΙΟΣ,  
The COELESTIAL ATLAS;

OR, A NEW

E P H E M E R I S

For the YEAR of our LORD 1801.

Being the Fifth after

BISSEXTILE, or LEAP-YEAR,

And the First Year of the 19th Century.

Wherein are contained

The Heliocentrick and Geocentrick Places of the Planets,  
the ECLIPSES of the Luminaries, and other remarkable PHENO-  
MENA 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  
two Catalogues; and, lastly, a correct TABLE of Latitudes  
and Longitudes of the most remarkable Places in the World.

By ROBERT WILKIE,

Teacher of the Mathematicks.

Ἡ πεντηκονταετηρική ἐκδόσις

The FIFTY-SECOND IMPRESSION.

L O N D O N :

PRINTED for the COMPANY of STATIONERS,

By M. Brown, St. John's-square, Clerkenwell;

And sold by G. GREENHILL, at their Hall, near Ludgate street.

[Price EIGHTEEN PENCE stitched.]

## Chronological Notes for the Year 1801.

Golden Number	- - 16	Septuagesima Sund.	Feb.	1
Cycle of the Sun	- - 18	Shrove Sunday	- Feb.	15
The Epact	- - 15	Easter Day	- Apr.	5
Dominical Letter	- D	Whit Sunday	- May	24
Number of Direction	- 15	Trinity Sunday	- May	31
Roman Indiction	- - 4	Advent Sunday	- Nov.	29

## 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 1801.

	d	h	m
THE Spring Quarter begins	- -	March 21	1 44 morn.
The Summer Quarter begins	- -	June 21	11 34 aftern.
The Autumnal Quarter begins	- -	Sept. 23	1 18 aftern.
The Winter Quarter begins	- -	Dec. 22	6 2 morn.

THE beautiful Planet VENUS will be an Evening Star till May the 26th; and after that Time she will be a Morning Star to the Year's End.

JUPITER will be a Morning Star till January the 19th; then an Evening Star till August the 8th; at which Time he becomes a Morning Star, and so continues to the Year's End.

## The NAMES of the Learned JUDGES of the LAW.

I. Right Hon. Alexander Wedderburne Lord Loughborough, Lord High Chancellor of Great Britain.

Right Honourable Sir Richard Pepper Arden, Knt. Master of the Rolls.

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

III. In the } Right Hon. Lord Eldon, L. C. J. Sir Giles Rooke, Knt.  
C. Pleas. } John Heath, Esq. Sir Robert Graham, Knt.

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

Sir John Mitford, Knt. Attor. General; Sir W. Grant, Knt. Solicitor Gen.

## A TABLE of TERMS and Returns for the Year 1801.

Hilary Term begins Jan. 23, ends Feb. 12.

	Returns or Effoign-days.	Exc.	Ret.	Ap.	W. D.
Eight Days of St. Hilary,	- - Jan. 20	21	22	23	Friday
Fifteen Days of St. Hilary	- - - 27	28	29	30	Friday
the Mor. of the Purif. of the Bl. V. M.	Feb. 3	4	5	6	Friday
Eight Days of the Purif. of the Bl. V. M.	9	10	11	12	Thursday

Easter Term begins April 22, ends May 18.

Fifteen Days of Easter	- - April 19	20	21	22	Wedn.
from Easter Day in three Weeks	- - - 26	27	28	29	Wedn.
from Easter Day in one Month	- May 3	4	5	6	Wedn.
from Easter Day in five Weeks	- - - 10	11	12	13	Wedn.
on the Mor. of the Ascension of the Lord	15	16	17	18	Monday

Trinity Term begins June 5, ends June 24.

on the Morrow of the Holy Trinity,	- June 1	2	3	5	Friday.
Eight Days of the Holy Trinity,	- - 7	8	9	10	Wedn.
Fifteen Days of the Holy Trinity,	- - - 14	15	16	17	Wedn.
from the Day of the Holy Trin. in 3 Weeks	21	22	23	24	Wedn.

Michaelmas Term begins Nov. 6, ends Nov. 28.

on the Morrow of All Souls	- - - Nov. 3	4	5	6	Friday
on the Morrow of St. Martin	- - - 12	13	14	16	Mon. ay
Eight Days of St. Martin	- - - 18	19	20	21	Saturday
Fifteen Days of St. Martin	- - - 25	26	27	28	Saturday

N. B. No Sittings 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	Prince Adolph. Fred. 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 Wirtemberg, Sept. 29, 1766	Queen Charlotte, May 19, 1744
Duke of Kent, Nov. 2, - 1767	Duchess of Brunswic, Aug. 11, 1757
Mrs. Augusta Sophia, Nov. 8, 1768	Duke of Gloucester, Nov. 25, 1743
Mrs. Elizabeth, May 22, - 1770	Princess of Wales, May 17, 1765
Duke of Cumberland, June 5, 1771	Duchess of York, May 7, 1767
Prince Aug. Fred. Jan. 27, 1773	

## 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
Russia	Paul I.	Oct. 1, 1754	Nov. 17, 1796
Spain	Charles IV.	Nov. 11, 1748	Dec. , 1788
Portugal	Peter and Mary	Dec. 7, 1734	Feb. 24, 1777
Prussia	Frederic Wm. III.	Aug. 6, 1770	Nov. 16, 1772
Denmark & Norway	Christian VII.	Jan. 29, 1749	Jan. 14, 1783
Sweden	Gustavus IV.	Nov. 1, 1778	Mar. 25, 1792
Germany	Francis II.	Feb. 12, 1767	Mar. 1, 1792
Holland	William V.	March 8, 1748	Oct. 11, 1751
Popedom			
Sardinia	Victor	June 26, 1726	Mar. 20, 1773
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.	
G O L D.	dwt. gr.	dwt. gr.		dwt. gr.
Guinea, - -	5 8	5 9 $\frac{3}{4}$	A Crown, - -	19 3 $\frac{1}{2}$
Half Guinea, -	2 16	2 16 $\frac{1}{2}$	Half Crown, -	9 16
Seven Shillings,	1 19	1 19 $\frac{1}{8}$	Shilling, - -	3 20
			Six Pence, - -	1 22 $\frac{1}{2}$

According to the above proportions it appears, that the value of a *lb.* of silver is 62 s. or 31. 2 s. and of a *lb.* of gold is 44 $\frac{1}{2}$  guineas, or 461. 14 s. 3 d. Also that the *oz.* of silver is 5 s. 2 d. and the *oz.* of gold 31. 17 s. 10 $\frac{1}{2}$  d. 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 Queens	Born A.D.	Began their Reign	Reigned Y. M. D.	Rem. Deaths and Dethroned	Where 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 accidentally.	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		Fonteveraud
Richard I.	1156	1189 July 6	9 9 0 43	Slain with an Arrow.	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		Canterbury
Henry V.	1389	1413 Mar. 20	9 5 11 33		Westminster
Henry VI.	1421	1422 Aug. 31	38 6 4 49	Dep. & murd.	Windfor
Edward IV.	1442	1461 Mar. 4	22 1 5 41		Windfor
Edward V.	1471	1483 April 9	0 2 15 12	Murder'd.	Not known
Richard III.	1443	1483 June 22	2 2 0 42	Slain in Battle.	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		Westminster
Charles I.	1600	1625 Mar. 27	23 10 3 48		Windfor
Charles II.	1630	1649 Jan. 30	36 0 7 54		Westminster
James II.	1633	1685 Feb. 6	4 0 7 67	Abdicated.	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 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, 1801.

BISHOPS.	Sees.	Date.	Succeeded.	DEANS.
Dr. John Moore Arch-Bishop	{ Bangor Canterb. A. B.	1775 1783	Ewer deceas'd Cornwallis dec.	Dr. Powys
Dr. Will. Markham Arch-Bishop	{ Cbeſter York A. B.	1771 1777	Keene tranſlat. Drummond de.	Dr. J. Fountayne
Dr. Beilby Porteus	{ Cbeſter London	1776 1787	Markham tran. Lowth deceas.	Biſhop Prettyman
Ho. Dr. S. Barrington	{ Londaff Salisbury	1769 1782	Shipley tranſl. d Hume dec.	Biſhop Cornwall
Hon. Dr. B. North	{ Durham Litch & Cov.	1791 1771	Thurlow dec. Egerton tranſl.	Dr. Newton Ogle
Dr. Charles Mofs	{ Worceſter Wincheſter	1774 1781	Johnſon deceas. Thomas deceas.	Dr. Geo. W. Lukin
H. Dr. James Yorke	{ St. David's Bath & Wells St. David's	1766 1774 1774	Lowth tranſl. Willes deceas Mofs tranſl.	Dr. Wm. Pearce
Dr. Richard Hurd	{ Glouceſter Ely	1779 1781	Warburton dec. Keene deceas'd	Dr. Onſlow
Dr. John Butler	{ Litch. & Cov. Worceſter	1775 1781	B. North tr. B. North tr.	Dr. N. Wetherſ
Dr. J. Cornwallis	{ Oxford Hereford	1777 1788	Lowth tranſl. Harley deceas.	Dr. Bapt. Proby
Dr. Lewis Bagot	{ Litch. & Cov. Briſtol	1781 1782	Hurd tranſl. Newton dec.	Mr. W. D. Shipley
Dr. Richard Watſon	{ Norwich St. Aſaph	1783 1790	Yonge dec. Hallifax dec.	Dr. R. Price, Pr
Dr. G. Prettyman	Landaff	1782	Barrington tr.	Sir Ri. Kaye, Bt
Dr. John Douglas	Lincoln	1787	Thurlow tran.	
Dr. Samuel Horſley	{ Carlisle Salisbury	1787 1791	Law dec. Barrington tra.	Dr. John Ekins
Dr. Cleaver	{ St. David's Rocheſter	1788 1793	Smalwell tr. Thomas dec.	Dr. T. Dampier
Dr. Richard Beadon	{ Cbeſter Bangor	1788 1800	Porteus tran. Warren dec.	Mr. Warren
Dr. E. V. Vernon	Glouceſter	1789	Hallifax tran.	Dr. Luxmore
Dr. Charles Sutton	Carlisle	1791	Douglas tranſl.	Dr. Iſaac Milner
Dr. Spencer Madan	Norwich	1792	Horne decea.	Dr. Joſeph Turne
Dr. Regi. Courtenay	{ Briſtol Peterborough	1792 1794	Bagot tranſl. Hinchliſſe dec.	Dr. Tho. Kipling
Dr. Cornwall	{ Briſtol Exeter	1794 1797	Madan tranſ. Butler dec.	Dr. C. Harward
Hon. Dr. Wm. Stuart	Briſtol	1797	Courtenay tra.	Dr. Layard
Dr. Buckner	St. David's	1797	Horſley tranſl.	Mr. Wollaſton, P
Dr. John Randolph	Chicheſter	1797	Aſhburnham d.	Mr. Combe Milne
Dr. Majendie	Oxford	1799	Smalwell dec.	Dr. Cyril Jackſon
Dr. Crigan	Cheſter	1800	Cleaver tran.	Dr. G. Cotton
	Westmiſter	1793	Thomas dec.	Biſhop Horſley
	Windſor	1788	Douglas prom.	Biſhop Sutton
	Sodor and Man			

IN the course of this year there will happen no less than six eclipses, four of the Sun, and two of the Moon; of which the two latter only will be partly visible in these parts.

I. *March 14*, the Sun is eclipsed, but not visible here. The conjunction is at 3h 20m, after noon, in longitude  $11^{\circ} 23' 36''$ , the moon's latitude being  $1^{\circ} 24'$  south.

II. *March 30*, the Moon is totally eclipsed, and partly visible here. The beginning is at 3h 27m in the morning; beginning of total darkness 4h 27m; the ecliptic opposition at 5h 19m; the middle of the eclipse 5h 19m; the moon sets 5h 46m; end of total darkness 6h 10m; end of the eclipse 7h 11m in the morning. Digits eclipsed  $22^{\circ} 10'$  from the north side of the earth's shadow.

III. *April 13*, the Sun is eclipsed, invisible, and before sun-rise, the conjunction being at 4h 21m in the morning, in longitude  $0^{\circ} 22' 45''$ , the moon's lat. being  $1^{\circ} 15'$  north.

IV. *September 8*, the Sun is eclipsed, invisible. The conjunction is at 5h 39m in the morning, in longitude  $5^{\circ} 15' 3''$  the moon's latitude being  $1^{\circ} 21'$  north.

V. *September 22*, the Moon is eclipsed, totally, and visibly. The eclipse begins at 5h 36m morning; the moon sets at 5h 53m; beginning of total darkness 6h 36m; ecliptic opposition 7h 24m; middle 7h 25m; end of total darkness 8h 15m; end of eclipse 9h 14m in the morning. Digits eclipsed  $20^{\circ} 1'$  from south side of the earth's shadow.

VI. *October 7*, the Sun is eclipsed, invisibly. The conjunction is at 8h 8m in the evening, in longitude  $6^{\circ} 14' 4''$ , the moon's latitude  $1^{\circ} 17'$  south.

Obliquity of the Ecliptic.	1800.	Equation of Equinoctial Points.
$23^{\circ} 27' 59''$ . 1	- January 1,	- 9". 9
23 28 0. 3	- April 1,	- 8. 7
23 27 59. 6	- July 1,	- 7. 3
23 28 0. 6	- October 1,	- 5. 9
23 27 59. 8	- Decemb. 31,	- 4. 4

The LUNATIONS.

Last quarter the 8th day, at 5 minutes past 1 morning.  
 New Moon the 14th day, at 25 minutes past 4 afternoon.  
 First quarter the 21st day, at 22 minutes past 5 afternoon.  
 Full Moon the 29th day, at 14 minutes past 10 night.

M	Sundays & other	☉	☉	☉'s	☽'s	☽ rises	☽	Clock
D	remark. days	rises	sets	declin.	declin.	& sets	south	lef. ☉
1	<b>Circumcision</b>	8 4	3 56	23 s 2	25 n 52	4 a 54	11 45	3' 54'
2		8 4	3 56	22 57	22 50	6 6	1 34	4 22
3		8 3	3 57	22 51	18 46	7 22	2 21	4 50
4	<b>2 Sun. af. Chri.</b>	8 3	3 58	22 45	13 53	8 35	3 5	5 18
5		8 2	3 58	22 39	8 22	9 49	3 48	5 45
6	<b>Epiphany</b>	<i>W. day</i>	3 59	22 32	2 25	11 6	4 50	6 11
7	[O. Chr. D.]	8 0	4 0	22 24	3 s 46	morn	5 13	6 37
8	Lucian	7 58	4 1	22 17	9 58	0 23	5 57	7 3
9		7 57	4 2	22 8	15 52	1 46	6 45	7 28
10		7 56	4 3	22 0	21 8	2 14	7 57	7 53
11	<b>1 S. aft. Epiph.</b>	7 55	4 4	21 51	25 16	4 46	8 35	8 17
12	Plow Monday	7 54	4 5	21 41	27 48	6 14	9 38	8 41
13	Hilary: Ca. T. b	7 52	4 6	21 31	28 18	7 31	10 45	9 4
14	Oxford Ter. b	7 51	4 8	21 22	26 40	☽ sets	11 52	9 26
15		7 50	4 9	21 10	23 7	4 a 57	0 a 55	9 48
16		7 50	4 10	20 59	18 7	6 31	1 52	10 9
17	[Q. Ch. b. d. k.]	7 49	4 11	20 47	12 13	7 59	2 43	10 29
18	<b>2 Sun. a. Epiph.</b>	<i>Prisca</i>	4 13	20 35	5 54	9 23	3 31	10 49
19		7 46	4 14	20 22	0 n 28	10 41	4 15	11 8
20	Fabian	7 45	4 15	20 10	6 37	11 57	4 58	11 26
21	Agnes	7 43	4 17	19 57	12 19	morn	5 41	11 43
22	Vincent	7 42	4 18	19 43	17 24	1 12	6 25	11 59
23	Hil. Term beg.	7 40	4 20	19 29	21 42	2 27	7 10	12 15
24	[Con. of St. Paul]	7 39	4 21	19 15	25 4	3 40	7 58	12 30
25	<b>3 Sun. a. Epiph.</b>	7 37	4 23	19 0	27 21	4 51	8 47	12 44
26		7 36	4 24	18 45	23 22	5 53	9 39	12 57
27	<b>Pr. Au. Fred. b.</b>	7 34	4 26	18 30	28 5	6 45	10 30	13 9
28		7 33	4 27	18 14	26 30	7 24	11 20	13 21
29		7 31	4 29	17 58	23 4	☽ rises	morn	13 32
30	<b>K. Cha. I. mar.</b>	7 29	4 31	17 42	19 46	4 a 58	0 9	13 42
31		7 28	4 32	17 26	14 58	6 11	0 55	13 51
	Day	Length	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.
	increaf.	of Day.	long. ♀	long. ♂	long. ♂	long. ♀	long. ♀	long. ♂
1	0 8	7 52	19 56	28 2	14 11 58	10 52	9 3	7 a 34
7	0 16	8 0	19 19	28 31	18 0	16 49	29 26	7 6
13	0 28	8 12	19 32	29 1	1 22	56	17 32	6 37
19	0 44	8 28	19 45	29 30	24 0	29 2	9 37	4 26
25	1 2	8 46	19 58	29 59	26 58	5 9	19 14	20 56



Days	Day lig. begins	Day lig. ends	Durat. twilight.	Pl. D's node	h's latitude	l's latitude	♂'s latitude	♀'s latitude	♄'s latitude
1	5 50	6 1	2 5	13V 53	1 n 15	0 n 31	1 n 38	1 s 49	1 n 37
7	5 56	6 4	2 4	13 34	1 16	0 32	1 42	1 41	22 46
13	5 52	6 8	2 2	13 15	1 17	0 33	1 45	1 31	0 s 4
19	5 46	6 14	2 0	12 56	1 18	0 34	1 47	1 17	0 47
25	5 30	6 21	1 58	12 37	1 19	0 31	1 49	0 59	1 23
Days	☉'s longitude		☽'s long.	☽'s latitude	h's long.	l's long.	♂'s long.	♀'s long.	♄'s long.
1	10 41	35	25 28	4 n 53	25 16	15 55	11 54	17 9	18 9
2	11 42	45	18 31	4 34	23 13	1 48	12 8	18 22	19 15
3	12 43	54	19 41	4 3	23 10	1 41	12 23	19 35	20 24
D	13 45	4	18 59	3 19	23 7	1 33	12 38	20 40	21 37
5	14 46	14	14 27	2 26	23 4	1 26	12 54	22 1	2 51
6	15 47	24	17 9	1 24	23 1	1 19	13 10	23 14	24 7
7	16 48	35	10 28	0 17	22 57	1 11	13 26	24 26	25 24
8	17 49	45	23 29	0 s 54	22 54	1 4	13 43	25 39	26 42
9	18 50	55	7 13	2 3	22 50	0 56	14 1	26 51	28 2
10	19 52	6	21 24	3 7	22 47	0 48	14 10	28 4	29 23
D	20 53	16	5 59	4 0	22 43	0 40	14 38	29 16	0 545
12	21 54	26	20 55	4 36	22 39	0 32	14 56	0 29	2 8
13	22 55	35	6 6	4 58	22 35	0 24	15 15	1 41	3 32
14	23 56	44	21 20	3 57	22 31	0 16	15 34	2 53	4 57
15	24 57	54	6 27	3 35	22 27	0 8	15 54	4 5	6 23
16	25 59	2	21 17	2 54	22 23	0 0	16 14	5 17	7 50
17	27 0	9	5 41	2 0	22 1	29 52	16 35	6 29	9 17
D	28 1	15	19 36	1 6	22 15	29 44	16 57	7 41	10 45
19	29 2	21	3 1	0 48	22 11	29 36	17 19	8 53	12 14
20	30 3	25	15 58	0 n 21	22 6	29 28	17 41	10 5	13 43
21	1 4	24	28 33	1 27	22 2	29 20	18 4	11 16	15 13
22	2 5	31	10 40	2 27	21 57	29 12	18 27	12 28	16 44
23	3 6	32	22 51	3 19	21 53	29 4	18 50	13 39	18 15
24	4 7	31	4 45	4 2	21 48	28 56	19 13	14 51	19 47
D	5 8	30	16 36	4 34	21 43	28 47	19 36	16 2	21 20
26	6 9	27	28 26	4 55	21 39	28 39	20 0	17 13	22 53
27	7 10	23	10 20	5 2	21 34	28 31	20 24	18 24	24 27
28	8 11	18	22 20	4 57	21 30	28 23	20 48	19 35	26 1
29	9 12	11	4 26	4 38	21 25	28 16	21 13	20 46	27 36
30	10 13	4	10 40	4 6	21 21	28 8	21 38	21 57	29 12
31	11 13	55	20 3	3 22	21 16	28 0	22 3	23 7	0 19
Days	♃'s rifs	♄'s fets	♀'s fts	♄'s rifs	h's declin.	l's declin.	♂'s declin.	♀'s declin.	♄'s declin.
1	5 a 33	3 m 22	7 a 5	6 m 16	14 n 57	20 n 16	16 n 5	17 s 26	21 s 20
7	5 3	3 5	7 21	6 3	15 5	20 26	17 31	14 50	22 37
13	4 33	2 50	7 38	6 43	15 13	20 38	18 6	12 18	22 29
19	4 2	2 37	7 54	6 58	15 22	20 40	18 44	9 26	23 41
25	3 32	2 25	8 11	7 9	15 32	21 0	19 21	6 26	24 8

The LUNATIONS.

Last quarter the 6th day, at 54 minutes past 11 morning  
 New Moon the 13th day, at 22 minutes past 3 morning  
 First quarter the 20th day, at 55 minutes past 0 noon.  
 Full Moon the 28th day, at 6 minutes past 3 afternoon

M	Sundays & other D remark. days	☉ rises	☉ sets	☉'s declin.	☽'s declin.	☽ rises & sets	☽ south	Clock bef. ☉	
D	Septuagesima S.	7 26	4 34	17 <sup>s</sup> 9	9 n 30	7 a 32	1 m 39	13 50	
2	Pur. or Cand. d.	7 24	4 36	16 51	3 35	8 48	2 22	14 6	
3	Blaise	7 23	4 37	16 34	2 s 35	10 6	3 4	14 13	
4		7 21	4 39	16 16	8 45	11 27	3 48	14 19	
5	Agatha	7 19	4 41	15 58	14 40	morn	4 34	14 24	
6		7 17	4 43	15 40	19 59	0 50	5 23	14 28	
7		7 15	4 45	15 21	24 21	2 17	6 17	14 32	
D	Sexagesima Sun.	7 14	4 46	15 2	27 19	3 46	7 17	14 35	
9		7 12	4 48	14 43	28 30	5 7	8 21	14 36	
10		7 10	4 50	14 24	27 41	6 9	9 26	14 38	
11		7 8	4 52	14 4	24 55	6 51	10 30	14 38	
12	Hilary Ter. ends	7 6	4 54	13 44	20 29	7 20	11 30	14 38	
13		7 4	4 56	13 24	14 53	☽ sets	0 a 26	14 36	
14	Valent. O. Cand.	7 3	4 57	13 4	8 35	6 a 48	1 15	14 34	
D	Shrove Sunday	7 1	4 59	12 44	2 2	8 11	2 1	14 32	
16		6 59	5 1	12 23	4 n 25	9 32	2 46	14 28	
17	Shrove. Tues.	6 57	5 3	12 2	10 29	10 50	3 31	14 24	
18	Ash Wednesday	6 55	5 5	11 41	15 57	morn	4 15	14 19	
19	[Ca. T. div. m.]	6 53	5 7	11 20	20 37	0 7	5 2	14 14	
20		6 51	5 9	10 58	24 21	1 24	5 49	14 8	
21		6 49	5 11	10 37	26 58	2 36	6 39	14 1	
D	Sun. in Lent	6 47	5 13	10 15	28 22	3 43	7 31	13 53	
23	[Ad. Fr. born	6 45	5 15	9 53	28 28	4 40	8 23	13 45	
24	Sr. Matthias Pr.	6 43	5 17	9 31	27 14	5 24	9 13	13 36	
25	Ember Week	6 41	5 19	9 9	24 45	5 54	10 3	13 26	
26		6 39	5 21	8 46	21 6	6 19	10 51	13 16	
27		6 38	5 22	8 24	16 29	6 37	11 36	13 6	
28		6 36	5 24	8 1	11 6	☽ rises	morn	12 54	
Days	Day increaf.	Length of day	Helioc. long. ♀	Helioc. long. ♀	Helioc. long. ♂	Helioc. long. ☉	Helioc. long. ♀	Helioc. long. ♂	h rises
1	1 24	9 8	20 14	0 33	0 23	12 15	0 11 28	10 10	5 a 8
7	1 46	9 30	20 27	1 2	3 17	18 19	10 8	28 56	4 41
13	2 8	9 52	20 40	1 31	6 9	24 24	19 48	19 25	4 15
19	2 30	10 14	20 53	2 0	9 1	0 27	29 30	13 19	3 49
25	2 52	10 38	21 6	2 20	11 50	6 29	9 12	11 54	3 23

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

The LUNATIONS.

Last quarter the 7th day, at 2 minutes past 8 night.  
 New Moon the 14th day, at 20 minutes past 3 afternoon.  
 First quarter the 22d day, at 12 minutes past 9 morning.  
 Full Moon the 30th day, at 19 minutes past 5 morning.

M	Sundays & other	☉	☉	☉'s	(☉'s	) rises	(☉	Clock	
D	remark. days	rises	sets	declin.	declin.	& sets	South	bef. ☉	
D 2	<b>Sun. in Lent</b>	6 34	5 26	7 s 31	5 10	6 a 36	om 20	12' 42'	
2	Chad [David]	6 32	5 28	7 16	1 s 6	7 55	1 4	12 30	
3		6 30	5 30	6 53	7 25	9 16	1 48	12 17	
4		6 28	5 32	6 30	13 29	10 39	2 34	12 4	
5		6 26	5 34	6 7	19 1	morn	3 23	11 51	
6		6 24	5 36	5 44	23 7	0 7	4 16	11 36	
7	Perpetua	6 22	5 38	5 20	26 54	1 36	5 13	11 22	
D 3	<b>Sun. in Lent</b>	6 20	5 40	4 57	28 32	3 0	6 15	11 7	
9		6 18	5 42	4 34	28 17	4 6	7 18	10 52	
10		6 16	5 44	4 10	26 8	4 54	8 21	10 36	
11		6 14	5 46	3 47	22 20	5 27	9 21	10 20	
12	Gregory	6 12	5 48	3 23	17 12	5 48	10 16	10 4	
13		6 10	5 50	2 59	11 12	6 6	11 8	9 48	
14		6 8	5 52	2 36	4 45	) sets	11 56	9 31	
D 4	<b>or Midl. Sund.</b>	6 6	5 54	2 12	1 n 49	7 a 12	0 a 42	9 14	
16		6 4	5 56	1 48	8 8	8 30	1 27	8 57	
17	St. Patrick	6 2	5 58	1 25	13 58	9 50	2 12	8 39	
18	Edwa. K. W.S.	6 0	6 0	1 1	19 3	11 9	2 59	8 21	
19		5 58	6 2	0 37	23 14	morn	3 47	8 4	
20		5 56	6 4	0 14	26 18	0 23	4 37	7 45	
21	Benedict	5 54	6 6	0 n 10	28 9	1 37	5 28	7 27	
D 5	<b>Sund. in Lent</b>	5 52	6 8	0 34	28 41	2 37	6 20	7 9	
23		5 50	6 10	0 57	27 54	3 26	7 12	6 50	
24		5 48	6 12	1 21	25 49	4 2	8 2	6 32	
25	<b>Annu. Lady Day</b>	5 46	6 14	1 45	22 34	4 30	8 50	6 13	
26		5 44	6 16	2 8	18 17	4 51	9 36	5 55	
27	Cam. T. ends	5 42	6 18	2 32	13 8	5 6	10 21	5 36	
28	Oxf. T. ends	5 40	6 20	2 55	7 19	5 18	11 5	5 17	
D	<b>Palma Sunday</b>	5 38	6 22	3 19	1 4	5 28	11 50	4 58	
30		5 36	6 24	3 42	5 s 23	) rises	morn	4 40	
31		5 34	6 26	4 5	11 43	8 a 24	0 36	4 21	
Days	Day	Length	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	h
	increaf.	of day	long. ♀	long. ♀	long. ♂	long. ⊖	long. ♀	long. ♂	sets
1	3 8	10 52	21 Ω 14	2 Ω 48	13 Ω 43	10 11 29	15 Ω 41	3 8 56	6 m 13
7	3 32	11 16	21 27	3 17	16 31	16 29	25 25	10 11 35	5 50
13	3 56	11 40	21 40	3 46	19 17	22 28	5 Ω 10	17 Ω 58	5 27
19	4 20	12 4	21 53	4 15	22 3	28 26	14 55	21 Ω 33	5 4
25	4 44	12 28	22 6	4 44	24 47	4 Ω 23	24 41	19 11 23	4 42

Days	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. D's node	H's latitude	U's latitude	♂'s latitude	♀'s latitude	♁'s latitude
1	4 43	7 18	1 52	10 ♀ 45	1 n 22	0 n 37	1 n 49	1 n 31	0 s 23
7	4 30	7 31	1 53	10 26	1 22	0 37	1 48	2 2	0 n 50
13	4 17	7 44	1 54	10 7	1 22	0 37	1 47	2 33	2 9
19	4 4	7 57	1 55	9 48	1 22	0 37	1 46	3 4	3 10
25	3 50	8 11	2 57	9 29	1 22	0 37	1 45	3 34	3 25
Days	☉'s longitude		D's long.	D's latitude	H's long.	U's long.	♂'s long.	♀'s long.	♁'s long.
D	10	29 16	20 49	1 n 39	18 58	25 28	5 11 49	25 57	22 47
2	11	29 21	3 52	0 29	18 53	25 4	6 20	27 1	24 37
3	12	29 24	17 8	0 s 44	18 49	25 1	6 51	28 5	26 24
4	13	29 26	cm 36	1 55	18 45	24 58	7 22	29 9	28 9
5	14	29 26	14 15	3 1	18 41	24 55	7 53	0 8 13	29 51
6	15	29 24	28 5	3 57	18 37	24 52	8 24	1 17	1 30
7	16	29 21	12 6	4 40	18 33	24 49	8 56	2 20	3 6
D	17	29 17	26 16	5 7	18 29	24 47	9 28	3 23	4 37
9	18	29 10	10 33	5 15	18 25	24 44	10 0	4 25	6 2
10	19	29 2	24 55	5 3	18 21	24 42	10 32	5 27	7 22
11	20	28 53	9 18	4 33	18 17	24 40	11 4	6 29	8 36
12	21	28 41	23 36	3 45	18 13	24 38	11 36	7 31	9 44
13	22	28 28	7 46	2 44	18 10	24 36	12 8	8 32	10 46
14	23	28 13	21 42	1 34	18 6	24 35	12 40	9 33	11 41
D	24	27 56	5 20	0 20	18 3	24 34	13 12	10 33	12 27
16	25	27 37	18 39	0 n 53	18 0	24 33	13 45	11 32	13 5
17	26	27 16	1 38	2 2	17 56	24 32	14 17	12 31	13 35
18	27	26 52	14 18	3 3	17 53	24 31	14 49	13 30	13 57
19	28	26 26	26 40	3 54	17 50	24 31	15 22	14 29	14 12
20	29	25 58	8 149	4 34	17 47	24 31	15 55	15 27	14 R 19
21	♀ 0	25 28	20 47	5 1	17 44	24 D 31	16 28	16 24	14 18
D	1	24 55	20 41	5 15	17 42	24 31	17 1	17 21	14 8
23	2	24 20	14 34	5 15	17 39	24 31	17 34	18 17	13 51
24	3	23 42	26 31	5 2	17 36	24 32	18 7	19 13	13 28
25	4	23 2	8 36	4 36	17 34	24 32	18 40	20 8	12 59
26	5	22 20	20 54	3 57	17 32	24 33	19 13	21 3	12 24
27	6	21 35	3 20	3 5	17 30	24 34	19 46	21 57	11 44
28	7	20 48	16 16	2 3	17 27	24 35	20 20	22 50	11 0
D	8	19 59	29 23	0 54	17 25	24 36	20 53	23 42	10 14
30	9	19 8	12 40	0 s 21	17 22	24 38	21 27	4 33	9 26
31	10	18 14	26 30	1 30	17 20	24 40	22 0	25 25	8 36
Days	♃ sets	♄ sets	♀ sets	♁ sets	H's declin.	U's declin.	♂'s declin.	♀'s declin.	♁'s declin.
1	5 m 8	1 m 41	9 a 49	6 a 33	16 n 27	21 n 45	23 n 6	11 n 27	3 s 14
7	4 45	1 36	10 5	7 14	16 35	21 48	23 36	14 13	2 n 0
13	4 22	1 31	0 12	7 39	16 42	21 50	24 3	16 47	6 15
19	4 5	1 26	10 38	7 40	16 48	21 51	24 25	19 8	8 32
25	3 39	1 21	10 52	7 12	16 53	21 51	24 43	21 14	8 17

The LUNATIONS.

Last quarter the 6th day, at 26 minutes past 2 morning.  
 New Moon the 13th day, at 21 minutes past 4 morning.  
 First quarter the 21st day, at 30 minutes past 4 morning.  
 Full Moon the 28th day, at 31 minutes past 4 afternoon.

M	Sundays & other	☉	☉	☉'s	☽'s	☽ rises	☽	Clock
D	remark. days	rises	sets	declin.	declin.	& sets	South	bef. ☉
1		5 32	6 28	4 n 28	17 s 35	9 a 58	1 m 25	4 3
2	Maundy Thurs.	5 30	6 30	4 51	22 35	11 28	2 18	3 44
3	Good Friday	Richa.	6 32	5 14	26 17	morn	3 15	3 26
4	Ambrose	5 26	6 34	5 37	28 21	0 57	4 17	3 8
D	Easter Day	5 24	6 36	6 0	28 32	2 9	5 20	2 50
6	Easter Monday	O.L.D.	6 38	6 23	26 51	3 2	6 23	2 32
7	Easter Tuesday	5 20	6 40	6 45	23 28	3 38	7 23	2 15
8		5 18	6 42	7 8	18 46	4 3	8 18	1 57
9		5 17	6 43	7 30	13 7	4 21	9 10	1 40
10		5 15	6 45	7 53	6 55	4 33	9 57	1 24
11		5 13	6 47	8 15	0 29	4 46	10 43	1 7
D	Low Sunday	5 11	6 49	8 37	5 n 53	5 2	11 28	0 51
13		5 9	6 51	8 59	11 53	(sets	0 a 12	0 35
14		5 7	6 53	9 20	17 16	8 a 50	0 58	0 20
15	Ox. & Ca. T. b.	5 5	6 55	9 42	21 49	10 12	1 46	0 5
16		5 3	6 57	10 3	25 19	11 28	2 36	0 a 10
17		5 1	6 59	10 24	27 38	morn	3 27	0 25
18		4 59	7 1	10 46	28 37	0 34	4 19	0 39
D	2 Su. aft. Easter	4 57	7 3	11 6	28 17	1 29	5 11	0 50
	[Alphege]	4 56	7 4	11 27	26 38	2 10	6 1	1 6
21		4 54	7 6	11 48	23 48	2 40	6 49	1 19
22	East. Term be.	4 52	7 8	12 8	19 55	3 1	7 36	1 32
23	St. George	4 50	7 10	12 28	15 8	2 18	8 21	1 44
24	[M. b.]	4 48	7 12	12 48	9 37	3 32	9 4	1 56
25	St. Marks. Prs.	4 46	7 14	13 8	3 33	3 43	9 48	2 7
D	3 Su. aft. Easter	4 45	7 15	13 27	2 50	3 54	10 34	2 18
27		4 43	7 17	13 46	9 17	4 7	11 22	2 28
28		4 41	7 19	14 5	15 27	(rises	morn	2 38
29		4 39	7 21	14 24	20 54	9 a 10	0 14	2 47
30		4 37	7 23	14 43	25 12	11 43	1 10	2 56
Day	Day	Length	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	☽
	increas.	of day	long. ♀	long. ♀	long. ♂	long. ☉	long. ♀	sets
1	5 12	12 56	22 21	5 18	27 58	11 17	6 3	4 m 16
7	5 36	13 20	22 34	5 47	0 40	17 11	15 48	3 54
13	5 58	13 42	22 47	6 16	3 22	23 4	25 32	3 32
19	6 22	14 6	23 0	6 44	6 3	28 56	5 15	3 10
25	6 44	14 28	23 13	7 13	8 43	4 47	14 56	2 48

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

The LUNATIONS.

Last quarter the 5th day, at 22 minutes past 8 morning.  
 New Moon the 12th day, at 10 minutes past 6 afternoon.  
 First quarter the 20th day, at 34 minutes past 9 afternoon.  
 Full Moon the 28th day, at 3 minutes past 1 morning.

M	Sundays & other	☉	☉	☉'s	☽'s	☽ rises	☽	Clock
D	remark. days	rises	sets	declin.	declin.	& sets	South	aft. ☉
1	St. Phil. & Jan.	4 36	7 24	15 n 1	27 s 52	morn	2 m 12	5 4
2		4 34	7 26	15 19	28 36	0 2	3 26	3 12
4	D 4 S. af. Easter	4 32	7 28	15 37	27 20	I 4	4 21	3 19
	[Inv. of Crofs]	4 31	7 29	15 54	24 18	I 47	5 23	3 25
5		4 29	7 31	16 12	19 51	2 14	6 20	3 31
6	John Ev. A.P.L.	4 27	7 33	16 29	14 25	2 33	7 12	3 37
7		4 25	7 35	16 46	8 23	2 47	8 0	3 42
8		4 24	7 36	17 2	2 5	2 59	8 46	3 46
9		4 22	7 38	17 18	4 n 11	3 10	9 29	3 49
	D 5 or Reg. Sun.	4 21	7 39	17 34	10 12	3 21	10 13	3 52
11		4 19	7 41	17 50	15 42	3 35	10 58	3 55
12		4 18	7 42	18 5	20 28	(sets)	11 44	3 57
13	Old May Day	4 16	7 44	18 20	24 17	9 a 14	0 a 32	3 58
14	Aforn. Holy's	4 14	7 46	18 35	26 57	10 24	1 22	3 59
15		4 13	7 47	18 49	28 21	11 23	2 14	3 59
16	[Pr. Wales b.]	4 12	7 48	19 3	28 24	morn	3 6	3 58
	D Sun. of. Alfen.	4 10	7 50	19 17	27 9	0 9	3 57	3 57
18	Easter Term e.	4 9	7 51	19 31	24 41	0 41	4 46	3 56
19	Queen Char. b.	4 7	7 53	19 44	21 8	1 8	5 32	3 54
20	[Dunstan]	4 6	7 54	19 57	16 42	1 25	6 16	3 51
21	Oxf. T. ends.	4 5	7 55	20 6	11 31	1 34	6 59	3 48
22	Pal. Elev. born	4 3	7 57	20 21	5 46	1 51	7 41	3 44
23		4 2	7 5	20 33	0 s 23	2 2	8 25	3 40
	D White Sunday	4 1	7 59	20 44	6 43	2 12	9 10	3 36
25	Went Monday	4 0	8 0	20 55	12 58	2 24	10 0	3 30
26	White Friday	Augul.	8 2	21 6	18 44	2 39	10 54	3 25
27	Ember Week	Ve. Be.	8 3	21 16	23 35	2 59	11 54	3 19
28	Cam. T. div. m.	3 56	8 4	21 26	26 58	(rises)	morn	3 12
29	K. Char. 2 rest.	3 55	8 5	21 36	28 27	10 a 53	0 59	3 5
30		3 54	8 6	21 45	27 50	11 43	2 6	2 57
	D Trinity Sunday	3 53	8 7	21 54	25 13	morn	3 11	2 49
Days	Day	Length	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.
	increaf.	of day	long. ♀	long. ♂	long. ♀	long. ☉	long. ♀	long. ☽
1	7 4	14 48	23 26	7 42	11 23	10 m 35	24 36	13 40
7	7 26	15 10	23 39	8 10	14 2	16 24	4 m 15	2 13
13	7 44	15 28	23 52	8 38	16 41	22 11	13 51	23 12
19	8 9	15 46	24 5	9 8	19 19	27 58	23 26	17 49
25	8 16	16 0	24 17	9 37	21 57	3 43	3 0	17 18



M	Day	lig.	Day	g.	Durat.	Pl. (C's	h's	U's	♂'s	♀'s	♃'s	
D	begins		ends		twilig.	node	latitude	latitude	latitude	latitud	latitude	
1	2	4	9	58	2	34	7 <sup>v</sup> 32	1 n 20	0 n 37	1 n 35	5 n 3	2 s 58
7	1	46	10	16	2	41	7 13	1 20	0 37	1 33	4 4'	2 56
13	1	19	10	44	3	0	6 54	1 10	0 37	1 31	4 2	2 32
19	0	43	11	24	4	29	6 35	1 19	0 37	1 29	3	1 50
25	No real night.						6 15	1 15	0 37	1 27	1 46	0 53

M	♃'s		♄'s		♅'s		♆'s		♇'s		♈'s									
D	longitude		long.		latitude		longit.		longit.		long.									
1	8	10	35	17	18	4	47	4 s 53	17	11	27	20	3	9	12	11	48	14	7	8
2	11	33	23	3	15	27	10	5 11	17	12	27	10	10	23	12	54	15	18		
D	12	31	28	17	59	5	8	17	14	27	17	10	58	12	59	16	31			
4	13	29	31	2	20	4	46	17	15	27	25	11	33	13	R	2	17	48		
5	14	27	34	16	26	4	6	17	17	27	32	12	8	13	2	19	7			
6	15	25	34	0	15	3	14	17	19	27	39	12	43	13	1	20	27			
7	16	23	34	13	49	2	11	17	20	27	47	13	18	12	59	21	49			
8	17	21	33	27	8	1	2	17	22	27	55	13	53	12	54	23	13			
9	18	19	30	10	13	0	9	17	24	28	3	14	29	12	46	24	40			
D	19	17	26	23	6	1	18	17	26	28	11	15	4	12	34	26	10			

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

M	♃	♄	♅	♆	h's	U's	♂'s	♀'s	♃'s
D	fets	fets	fets	rites	declin.	declin.	declin.	declin.	declin.
1	1m 20	om 37	10 a 58	4 m 7	16 n 53	21 n 23	24 n 41	27 n 22	2 n 50
7	1 9	0 28	10 3	3 58	16 55	21 14	24 21	27 2	5 48
13	0 47	0 16	9 58	3 48	16 51	21 4	23 54	26 12	9 24
19	0 26	0 3	9 12	3 41	16 45	20 53	23 23	24 50	13 27
25	0 6	11 a 50	8 20	3 38	16 38	20 41	22 46	22 59	17 37

The LUNATIONS.

Lastquarter the 3d day, at 7 minutes past 3 afternoon.  
 New Moon the 11 h day, at 32 minutes past 8 morning.  
 First quarter the 19th day, at 45 minutes past 11 morning.  
 Full Moon the 26th day, at 54 minutes past 7 morning.

M	Sundays & other	☉	☉	☉'s	D's	D rises	D	Clock	
D	remark. days.	rises	sets	declin.	declin.	& sets	South	aft. ☉	
1	Nicomese	3 52	8 8	22 n 20	20 s 59	0 m 15	4 m 2	2' 41'	
2		3 51	8 9	22 10	15 38	0 38	5 7	2 32	
3	Oxf. T. begins	3 51	8 9	22 18	9 38	0 54	5 57	2 23	
4	K. Geo. 3 born	Corp.C.	8 10	22 25	3 20	1 6	6 43	2 13	
5	Duke of Camb.	Bonifa.	8 11	22 32	2 n 56	1 17	7 27	2 3	
6	[1 r. T. b	3 48	8 12	22 39	8 58	1 27	8 10	1 52	
7	D 1 Sun. af. Trin.	3 48	8 12	22 45	14 31	1 39	8 54	1 42	
8		3 47	8 13	22 51	19 24	1 53	9 39	1 30	
9		3 46	8 14	22 56	23 24	2 11	10 26	1 19	
10		3 46	8 14	23	1 26 20	2 34	11 15	1 7	
11	St. Barnabas	3 45	8 15	23 5	28 2	D sets	0 a 6	0 55	
12		3 45	8 15	23 9	28 25	10 a 3	0 57	0 43	
13		3 44	8 16	23 13	27 29	10 40	1 48	0 31	
14	D 2 Sun. af. Trin.	3 44	8 16	23 16	25 18	11 5	2 37	0 18	
15		3 44	8 16	23 19	22 1	11 27	3 24	0 6	
16		3 43	8 17	23 22	17 50	11 42	4 9	0 b. 7	
17	St. Alban	3 43	8 17	23 24	12 54	11 54	4 51	0 20	
18		3 43	8 17	23 26	7 24	morn	5 32	0 33	
19		3 43	8 17	23 27	1 29	0 4	6 14	0 46	
20	Tra. Edw. KWS	3 43	8 17	23 28	4 s 38	0 15	6 57	0 59	
21	D 3 Sun. af. Trin.	3 43	8 17	23 28	10 46	0 25	7 43	1 12	
22	[Long. Day	3 43	8 17	23 28	16 36	0 38	8 33	1 24	
23		3 43	8 17	23 28	21 46	0 54	9 30	1 37	
24	W. St. J. Bapt.	3 43	8 17	23 27	25 45	1 19	10 32	1 50	
25	[Midf. Tr. T. e.	3 43	8 17	23 26	28 4	1 55	11 38	2 3	
26		3 43	8 16	23 24	28 17	D rises	morn	2 15	
27		3 44	8 16	23 22	26 22	10 a 10	0 46	2 28	
28	D 4 Sun. af. Trin.	3 44	8 16	23 19	22 33	10 33	1 51	2 40	
29	St. Peter	3 44	8 15	23 16	17 21	10 53	2 50	2 52	
30		3 45	8 15	23 13	11 18	11 7	3 44	3 4	
M	Day	Length	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	h
D	increaf.	of day	long. ♀	long. ♀	long. ♂	long. ☉	long. ♀	long. ♀	sets
1	8 32	16 16	24Ω 33	10Ω 10	25Ω 1	10 ♀ 26	14 ♀ 7	28 8 10	0 m 20
7	8 40	16 24	24 46	10 39	27 38	16 10	23 38	5 53	11 a 57
13	8 48	16 32	24 59	11 7	27 15	21 54	3 8	11 Ω 6	11 34
19	8 50	16 34	25 12	11 36	2 53	27 38	12 38	10 57	11 10
25	8 50	16 34	25 25	12 4	5 29	3 52	12 7	5 35	10 46

M	Daylig. begins	Daylig. ends	Durat. twilig.	Pl. ( 's node	h's latitude	u's latitude	♂'s latitude	♀'s latitude	♃'s latitude
1				5V33	1 n 18	0 n 37	1 n 25	0 n 7	0 n 21
7				5 34	1 18	0 37	1 23	1 s 13	1 16
13	No	real	night.	5 15	1 18	0 37	1 20	2 19	1 51
19				4 56	1 18	0 37	1 18	3 8	1 58
25				4 37	1 17	0 37	1 16	3 42	1 41
M	☉'s longitude		☾'s long.	☾'s latitude	h's long.	u's long.	♂'s long.	♀'s long.	♃'s long.
1	Π	10 25 46	12 37	4 s 7	18 41	1 37	28 11	1 16	7 35
2	11	23 12 26	5 1	3 16	18 45	1 47	28 47	0 41	9 48
3	12	20 37 10	✕ 42	2 14	18 49	1 58	29 23	0 8	12 0
4	13	18 2 24	10	1 7	18 54	2 8	29 59	29 8 38	14 11
5	14	15 25 7	V 18	0 n 3	18 58	2 13	0 35	29 11	16 22
6	15	12 49 20	8	1 10	19 2	2 29	1 11	28 46	18 33
12	16	10 12 2	8 45	2 13	19 7	2 40	1 47	28 24	20 44
8	17	7 35 15	10	3 9	19 12	2 51	2 23	28 3	22 54
9	18	4 56 27	25	3 54	19 17	3 2	2 59	27 44	25 3
10	19	2 18 9	Π 33	4 29	19 22	3 13	3 36	27 27	27 11
11	19	59 39 21	3 8	4 51	19 27	3 24	4 12	27 12	29 17
12	20	56 59 3	3 32	5 0	19 32	3 35	4 48	26 59	1 21
13	21	54 19 15	25 4 56	4 56	19 37	3 47	5 25	26 49	3 23
D	22	51 37 27	16 4 40	4 40	19 42	3 58	6 1	26 45	5 23
15	23	48 55 9	8 8	4 11	19 48	4 10	6 38	26 41	7 21
16	24	46 12 21	2 3 31	3 31	19 53	4 21	7 14	26 38	9 18
17	25	43 29 3	4 4	2 41	19 59	4 33	7 51	26 38	11 12
18	26	40 44 15	16 1 43	1 43	20 4	4 45	8 27	26 39	13 4
19	27	37 59 27	45 0 39	0 39	20 10	4 57	9 4	26 39	14 53
20	28	35 14 10	35 0 s 29	0 s 29	20 15	5 8	9 40	26 42	16 40
D	29	32 27 23	49 1 37	1 37	20 21	5 20	10 16	26 48	18 25
22	30	29 39 7	33 3 42	2 42	20 27	5 32	10 53	26 58	20 9
23	1	26 52 21	46 3 40	3 40	20 33	5 44	11 29	27 12	21 50
24	2	24 3 6	27 4 25	4 25	20 39	5 56	12 5	27 20	23 28
25	3	21 15 21	30 21 4 53	4 53	20 45	6 8	12 42	27 49	25 3
26	4	18 26 6	46 5 0	5 0	20 51	6 20	13 18	28 10	26 36
27	5	15 36 22	4 4 46	4 46	20 57	6 32	13 55	28 32	28 7
D	6	12 47 7	14 4 13	4 13	21 3	6 44	14 32	28 54	29 37
29	7	9 58 22	4 3 22	3 22	21 9	6 57	15 9	29 17	1 4
30	8	7 9 6	30 2 20	2 20	21 15	7 9	15 46	29 41	2 27
M	u's fets	♂'s fets	♀'s rites	♃'s rites	h's declin.	u's declin.	♂'s declin.	♀'s declin.	♃'s declin.
1	11 a 36	11 a 33	3 m 24	3 m 44	16 n 29	20 n 25	21 n 56	20 n 33	21 n 57
7	11 16	11 18	3 1	fets	16 21	20 11	21 7	18 39	24 25
13	10 53	11 3	2 40	9 a 21	16 11	19 56	20 14	17 13	25 16
19	10 31	10 47	2 21	9 41	16 0	19 39	19 16	16 22	24 36
25	10 9	10 29	2 2	9 47	15 49	19 22	18 14	16 5	22 48

## The LUNATIONS.

Last quarter the 2d day, at 49 minutes past 11 night.

New Moon the 10th day, at 21 minutes past 11 night.

First quarter the 18th day, at 0 minutes past 11 night.

Full Moon the 25th day, at 24 minutes past 2 afternoon.

M D	Sundays & other remark. days	☉ rises	☉ sets	☉'s declin.	☽'s declin.	☽ rises & sets	☽ South	Clock bef. ☉	
1		3 46	8 14	23 n 9	4 51	11 a 19	4 m 53	3' 16"	
2	Visita. of V. M.	3 46	8 14	23 5	1 n 35	11 30	5 19	3 27	
3	Dog days begin	3 47	8 13	23 1	7 47	11 41	6 3	3 39	
4	Transf. St. Mar.	3 47	8 13	22 56	13 30	11 55	6 47	3 50	
5	<i>5 Sun. aft. Trin</i>	2 48	8 12	22 51	18 32	morn	7 32	4 0	
6	Old Midtum.	3 49	8 11	22 45	22 43	0 10	8 18	4 11	
7	Tho. à Becket	3 49	8 11	22 39	25 52	0 31	9 6	4 21	
8	[Cam. Com.]	3 50	8 10	22 32	27 49	1 1	9 57	4 31	
9		3 51	8 9	22 25	28 28	1 40	10 48	4 40	
10	Camb. T. ends	3 52	8 8	22 18	27 48	☽ sets	11 39	4 49	
11		3 53	8 7	22 10	25 52	9 a 6	0 a 29	4 58	
12	<i>6 Sun. aft. Trin</i>	3 54	8 6	22 2	22 48	9 26	1 16	5 6	
13	Oxford Act	3 55	8 5	21 54	18 46	9 42	2 1	5 14	
14		3 56	8 4	21 45	13 59	9 55	2 44	5 21	
15	Swithin	3 57	8 3	21 36	8 37	10 7	3 26	5 27	
16		3 58	8 2	21 26	2 51	10 17	4 7	5 34	
17		3 59	8 1	21 16	3 s 8	10 27	4 48	5 39	
18	Oxford Ter. e.	4 0	8 0	21 6	9 9	10 30	5 32	5 45	
19	<i>7 Sun. aft. Trin</i>	4 2	7 58	20 56	14 56	10 5	6 19	5 49	
20	Margaret	4 3	7 57	20 45	20 12	11 14	7 12	5 53	
21		4 4	7 56	20 33	24 32	11 42	8 9	5 57	
22	Magdalen	4 5	7 55	20 22	27 27	morn	9 13	5 59	
23		4 7	7 53	20 10	28 32	0 27	10 19	6 2	
24		4 8	7 52	19 57	27 30	1 34	11 25	6 3	
25	<i>8 Sun. aft. Trin</i>	4 10	7 50	19 45	24 24	☽ rises	morn	6 5	
26		4 11	7 49	19 32	19 37	8 a 52	0 28	6 5	
27	[St. Anne]	4 12	7 48	19 18	13 41	9 7	1 26	6 5	
28		4 14	7 46	19 5	7 8	9 21	2 19	6 4	
29		4 15	7 45	18 51	0 25	9 34	3 8	6 3	
30		4 17	7 43	18 36	6 n 6	9 45	3 55	6 1	
31		4 18	7 42	18 22	12 8	9 57	4 40	5 59	
M D	Day deceas	Length of day	Helioc. long. ♀	Helioc. long. ♀	Helioc. long. ♂	Helioc. long. ⊖	Helioc. long. ♀	Helioc. long. ♂	☽ sets
1	0 6	16 28	25 53	12 33	8 17	7 9	1 36	26 25	10 a 23
7	0 12	16 22	25 51	13 2	10 45	14 48	11 5	14 49	10 0
13	0 24	16 10	26 3	13 30	13 22	20 31	20 34	1 50	9 37
19	0 38	15 56	26 16	13 59	16 0	26 15	0 X 4	18 20	9 14
25	0 54	15 40	26 26	14 27	18 39	1 58	9 34	5 5	8 51

M	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. D's node	H's latitude	U's latitude	S's latitude	F's latitude	G's latitude
1				4V18	1 n 17	0 n 37	1 n 14	4 s 3	1 n 2
7	No	real	night.	3 59	1 17	0 38	1 11	4 13	0 4
13				3 40	1 17	0 38	1 9	4 13	1 s 7
19				3 21	1 17	0 38	1 7	4 7	2 28
25	o 45	II 7	3 17	3 2	1 17	0 39	1 4	3 55	3 47
M	☉'s longitude		☾'s long.	D's latitude	H's long.	U's long.	S's long.	F's long.	G's long.
1	9	4 21	20X28	1 s 11	21Ω22	7Ω22	16Ω23	0 11 6	3Ω49
2	10	1 32	3V59	0 0 21	21 28	7 34	16 59	0 33 5	5 9
3	10	58 44	17 6	1 n 9	21 35	7 46	17 36	1 3 6	6 26
4	11	55 56	29 52	2 12	21 41	7 58	18 13	1 34 7	7 39
D	12	53 9	12 8 20	3 8	21 48	8 11	18 50	2 7 8	8 50
6	13	50 22	24 36	3 54	21 54	8 23	19 27	2 42 9	9 59
7	14	47 36	6 11 42	4 28	22 1	8 36	20 4	3 19 11	11 5
8	15	44 50	18 42	4 51	22 7	8 48	20 41	3 56 12	12 8
9	16	42 4	0 23 37	5 0	22 14	9 1	21 18	4 34 13	13 8
10	17	39 19	12 30	4 56	22 21	9 14	21 55	5 13 14	14 5
11	18	30 34	24 21	4 40	22 27	9 27	22 32	5 53 14	14 59
D	19	33 49	6 13 13	4 11	22 34	9 40	23 9	6 34 15	15 50
13	20	31 5	18 8	3 32	22 41	9 53	23 47	7 15 16	16 37
14	21	28 20	0 11 6	2 42	22 48	10 5	24 24	7 57 17	17 20
15	22	25 36	12 11	1 45	22 55	10 18	25 1	8 41 18	18 0
16	23	22 52	24 27	0 42	23 2	10 31	25 38	9 26 18	18 37
17	24	20 9	6 56	0 s 25	23 9	10 44	26 15	10 12 19	19 10
18	25	17 25	19 44	1 32	23 16	10 57	26 52	10 59 19	19 38
D	26	14 41	2 11 55	2 35	23 23	11 10	27 30	11 46 20	20 2
20	27	11 58	16 32	3 33	23 30	11 23	28 7	12 34 20	20 21
21	28	9 14	0 1 36	4 19	23 37	11 36	28 44	13 23 20	20 35
22	29	6 32	15 8	4 51	23 44	11 49	29 22	14 13 20	20 45
23	Ω 0	3 49	0 1 3	5 4	23 51	12 2	29 59	15 3 20	20 50
24	1	1 7	15 15	4 56	23 58	12 15	0 11 36	15 54 20	R 50
25	1	58 26	0 11 32	4 27	24 6	12 28	1 14	16 45 20	20 45
D	2	55 45	15 45	3 39	24 13	12 41	1 52	17 37 20	20 35
27	3	53 5	0 11 42	2 37	24 21	12 54	2 29	18 30 20	20 20
28	4	50 26	15 16	1 26	24 28	13 7	3 7	19 24 20	20 0
29	5	47 48	29 23	0 11	24 35	13 20	3 44	20 18 19	19 35
30	6	45 11	13 1 1	1 n 2	24 43	13 33	4 22	21 12 19	19 6
31	7	42 36	26 12	2 9	24 50	13 46	4 59	22 7 18	18 32
M	U's fets	S's fets	F's rifles	G's fets	H's declin.	U's declin.	S's declin.	F's declin.	G's declin.
1	9 a 47	10 a 12	1 m 46	9 a 41	15 n 37	19 n 4	17 n 7	16 n 14	20 n 20
7	9 25	9 55	1 31	9 28	15 24	18 44	15 56	16 43	17 33
13	9 4	9 38	1 16	9 8	15 11	18 24	14 42	17 23	14 48
19	8 43	9 21	1 9	8 41	14 57	18 4	13 24	18 9	12 29
25	8 22	0 4	1 1	8 11	14 43	17 42	12 2	18 51	11 1

The LUNATIONS.

Last quarter the 1st day, at 20 minutes past 11 morning.  
 New Moon the 9th day, at 31 minutes past 2 afternoon.  
 First quarter the 17th day, at 45 minutes past 7 morning.  
 Full Moon the 23d day, at 55 minutes past 9 night.  
 Last quarter the 31st day, at 3 minutes past 2 morning.

M D	Sundays & other remark. days	☉ rises	☉ sets	☉'s declin.	☽'s declin.	☽ rises & sets	☽ South	Clock bef. ☉	
1	Lammas Day	4 20	7 40	18 n 7	17 n 28	10 a 14	5 10 25	5' 56"	
2	9 Sun. af. Trin.	4 22	7 38	17 52	21 56	10 33	6 13	5 53	
3		4 23	7 37	17 39	25 22	11 0	7 1	5 48	
4		4 25	7 35	17 20	27 36	11 37	7 51	5 44	
5		4 26	7 33	17 4	28 33	morn	8 43	5 38	
6	Transfiguration	4 28	7 32	16 48	28 10	0 25	9 34	5 33	
7	Fe. Amelia bor.	4 29	7 30	16 31	26 30	1 26	10 25	5 26	
8	[Na. of] Jesus	4 30	7 29	16 15	23 40	2 36	11 13	5 19	
9	10 Sun. af. Trin.	4 33	7 27	15 57	19 48	☽ sets	12 0	5 12	
10	St. Lawrence	4 35	7 25	15 40	15 7	8 a 3	0 a 44	5 3	
11	Doch. Bruf. b.	Do. d. e.	7 23	15 s 22	9 49	x 15	1 26	4 55	
12	D. of Walet b.	4 38	7 22	15 5	4 5	8 26	2 7	4 45	
13	Old Lammas	4 40	7 20	14 46	1 s 53	8 37	2 49	4 35	
14		4 42	7 18	14 28	7 53	8 49	3 32	4 25	
15	Affumption	4 44	7 16	14 9	13 41	9 1	4 17	4 14	
16	11 Sun. a. Trin.	4 46	7 15	13 51	19 0	9 18	5 6	4 2	
17	[D. of York.	4 47	7 13	13 32	23 31	9 44	6 1	3 50	
18		4 48	7 11	13 12	26 50	10 19	7 0	3 38	
19		4 51	7 9	12 53	28 31	11 14	8 3	3 25	
20		4 53	7 7	12 33	28 16	morn	9 8	3 11	
21	D. of Claren. b.	4 54	7 6	12 13	26 1	0 31	10 12	2 57	
22		4 56	7 4	11 53	21 55	2 3	11 12	2 42	
23	12 Sun. a. Trin.	4 58	7 2	11 33	16 25	☽ rises	morn	2 27	
24	St. Bartholom.	5 0	6 0	11 13	10 0	7 a 29	0 8	2 11	
25		5 2	6 58	10 52	3 11	7 42	0 59	1 55	
26		5 4	6 56	10 31	3 n 37	7 56	1 48	1 39	
27		5 6	6 54	10 10	10 3	8 9	2 36	1 22	
28	A guffine	5 8	6 52	9 49	15 50	8 23	3 23	1 5	
29	John Bap. beh.	5 9	6 51	9 28	20 45	8 41	4 10	0 48	
30	13 Sun. af. Trin.	5 11	6 49	9 7	24 35	9 5	5 0	0 30	
31		5 13	6 47	8 45	27 14	0 38	5 50	0 12	
M D	Day decreaf.	Length of day	Helioc. long. ♀	Helioc. long. ☿	Helioc. long. ♂	Helioc. long. ☾	Helioc. long. ♀	Helioc. long. ♂	☽ sets
1	1 14	15 20	26 44	15 1	2 11 44	8 40	20 40	25 57	8 a. 25
7	1 34	15 0	26 57	15 29	24 23	14 25	0 12	16 0	8 4
13	1 54	14 40	27 10	15 58	27 3	20 11	9 45	9 17	7 43
19	2 16	14 18	27 23	16 26	29 43	25 57	19 19	7 3	7 22
25	2 38	13 56	27 36	16 54	2 24	1 44	28 54	10 8	7 2

M	Day-lig D begins	Day-lig ends.	Durat. twilig.	Pl. (C's node	h's latitude	u's latitude	δ's latitude	♀'s latitude	♄'s latitude
1	1 24	10 34	2 55	2 ♀ 39	1 n 18	0 n 39	1 n 1	3 s 36	4 s 48
7	1 47	10 11	2 42	2 20	1 18	0 39	0 59	3 16	4 44
13	2 9	9 49	2 30	2 1	1 18	0 40	0 56	2 53	3 37
19	2 29	9 30	2 21	1 42	1 19	0 40	0 54	2 28	1 56
25	2 47	9 12	2 14	1 23	1 19	0 41	0 51	2 2	0 15

M	☉'s longitude		☾'s long.	☽'s latitude	♁'s long.	♂'s long.	♀'s long.	♄'s long.
1	Ω	8 40	1 9 8 0	3 n 8	24 Ω 58	14 Ω 0	5 ♀ 37	23 II 2
D		9 37 28	21 28	3 56 25	5 14 13	6 15	23 58	17 15
3		10 34 56	3 II 41	4 32 25	13 14 26	6 52	24 55	16 31
4		11 32 26	15 43	4 56 25	20 14 39	7 30	25 52	15 43
5		12 29 57	27 39	5 6 25	28 14 52	8 8	26 49	14 54

6		13 27 29	9 Ω 31	5 4 25	35 15 5	8 45	27 47	14 7
7		14 25 2	21 22	4 48 25	43 15 1	9 23	28 45	13 21
D		15 22 37	3 Ω 15	4 20 25	50 15 32	10 1	29 44	12 36
8		16 20 13	15 11	3 40 25	58 15 45	10 39	0 Ω 44	11 53
10		17 17 50	27 12	2 50 26	6 15 58	11 17	1 43	11 11
11		18 15 28	9 ♀ 19	1 52 26	13 16 11	11 55	2 43	10 34
12		19 13 8	21 34	0 48 26	21 16 24	12 33	3 42	10 2
13		20 10 48	4 Ω 0	0 s 19	26 29 16	38 13 11	4 42	9 35
14		21 8 29	16 38	1 27 26	36 16 51	13 49	5 43	9 14
15		22 6 11	29 32	2 32 26	44 17 4	14 27	6 45	9 0

D		23 3 55	12 m 44	3 30 26	51 17 17	15 5	7 46	8 54
17		24 1 39	26 17	4 18 26	59 17 30	15 43	8 48	8 D 54
18		24 59 24	10 ♀ 13	4 53 27	6 17 43	16 21	9 49	9 1
19		25 57 11	24 31	5 10 27	14 17 57	16 59	10 51	9 17
20		26 54 58	9 ♀ 10	5 8 27	21 18 10	17 37	11 54	9 39
21		27 52 46	24 3	4 46 27	29 18 23	18 15	12 57	10 10
22		28 50 36	9 m 4	4 4 27	37 18 36	18 54	14 1	10 50
D		29 48 28	24 3	3 5 27	44 18 49	19 32	15 4	11 37
24	♄	0 46 20	8 ♀ 53	1 54 27	52 19 2	20 10	16 7	12 30
25		1 44 14	23 25	0 37 28	0 19 15	20 49	17 11	13 29

26		2 42 10	7 ♀ 33	0 n 41	28 7 19	28 21	27 18	16 14	35
27		3 40 8	21 16	1 54 28	15 19 41	22 6	19 21	15 148	
28		4 38 7	4 8 32	2 58 28	23 19 54	22 44	20 26	17 8	
29		5 36 8	17 25	3 51 28	30 20 7	23 23	21 31	18 33	
D		6 34 12	29 56	4 32 28	38 20 20	24 1	22 36	20 3	
31		7 32 17	12 II 1	4 59 28	46 20 33	24 40	23 41	21 37	

M	♁'s fets	♂'s fets	♀'s rises	♄'s rises	♁'s declin.	♂'s declin.	♀'s declin.	♄'s declin.
1	7 a 58	8 a 44	0 m 55	5 m 37	14 n 26	17 n 16	10 n 25	19 n 41
7	7 38	8 28	0 52	4 46	14 11	16 54	8 58	20 12
13	7 18	8 11	0 53	3 55	13 56	16 30	7 29	20 30
19	6 59	7 55	0 57	3 23	13 41	16 7	5 58	20 34
25	6 40	7 39	1 31	3 18	13 25	15 43	4 26	20 21

The LUNATIONS.

New Moon the 8th day, at 39 minutes past 5 morning.  
 First quarter the 15th day, at 48 minutes past 2 afternoon.  
 Full Moon the 22d day, at 24 minutes past 7 morning.  
 Last quarter the 29th day, at 49 minutes past 7 afternoon.

M	Sundays & other	☉	☽	☉'s	☽'s	☽ rises	☽	Clock	
D	remark. days	rises	sets	declin.	declin.	& sets	South	aft. ☉	
1	Gales	5 15	6 45	8 n 23	28 n 33	10 a 23	6 m 42	0' 7"	
2	Lon. burnt 1666	5 17	6 43	8 2	28 32	11 21	7 34	0 25	
3		5 19	6 41	7 40	27 12	morn	8 26	0 44	
4		5 21	6 39	7 17	24 39	0 28	9 15	1 4	
5		5 23	6 37	6 55	21 7	1 42	10 3	1 23	
7	<b>D</b> 14 Sun. af. Tri.	5 25	6 35	6 35	16 31	2 57	10 48	1 43	
8	Enurchus	5 27	6 33	6 10	11 19	4 12	11 31	2 2	
8	Nativity V.M.	5 29	6 31	5 48	5 36	☽ sets	0 a 13	2 22	
9		5 31	6 29	5 25	0 s 25	6 a 51	0 55	2 43	
10		5 32	6 28	5 3	6 3	7 3	1 38	3 3	
11		5 34	6 26	4 40	12 26	7 16	2 23	3 24	
12		5 36	6 24	4 17	17 55	7 33	3 11	3 44	
14	<b>D</b> 15 Sun. af. Tri.	5 38	6 22	3 54	22 38	7 53	4 3	4 5	
14	Holy Cross	5 40	6 20	3 31	26 14	8 26	5 0	4 26	
15		5 42	6 18	3 8	28 20	9 12	6 2	4 47	
16	<b>Ember Week</b>	5 44	6 16	2 45	28 39	10 19	7 5	5 8	
17	Lambert	5 46	6 14	2 21	7 3	11 44	8 7	5 29	
18		5 48	6 12	1 58	23 39	morn	9 7	5 50	
19		5 50	6 10	1 35	18 45	1 17	10 3	6 11	
19	<b>D</b> 16 Su. aft. Tri.	5 52	6 8	1 11	12 46	2 51	10 55	6 32	
21	<b>St. Matthew</b>	5 54	6 6	0 48	6 8	4 22	11 45	6 53	
22	<b>K. Geo. III. cr.</b>	5 56	6 4	0 25	0 n 44	(☉ rises	morn	7 14	
23		5 58	6 2	0 1	7 25	6 a 23	0 33	7 35	
24		6 0	6 0	0 s 22	13 35	6 37	1 21	7 56	
25		6 2	5 58	0 46	18 58	6 54	2 9	8 16	
26	Cyp. O. Holyr.	6 4	5 56	1 9	23 20	7 18	2 59	8 37	
27	<b>D</b> 17 Sun. a. Tri.	6 6	5 54	1 32	26 29	7 46	3 50	8 57	
28	[Wistern. b.]	6 8	5 52	1 56	28 18	8 26	4 42	9 17	
29	<b>St. Michael. Dr.</b>	6 10	5 50	2 19	28 44	9 18	5 35	9 37	
30	Jerome	6 12	5 48	2 43	27 48	10 23	6 27	9 56	
M	Day	Length	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	☽
D	decreas.	of day	long. ♀	long. ♀	long. ♂	long. ☉	long. ♀	long. ♂	rises
1	3 4	13 30	27 51	17 21	5 33	8 30	10 5	23 33	4 m 15
7	3 28	13 6	28 4	17 55	8 16	14 20	19 42	0 24	3 57
13	3 50	12 44	28 16	18 20	11 0	20 10	29 20	1 46	3 39
19	4 14	12 20	28 29	18 52	13 48	26 4	8 59	27 59	3 21
25	4 38	11 56	28 42	19 20	16 30	11 54	18 39	19 53	3 4



M	Day	lig.	Day	Durat.	Pl.	☾'s	☽'s	♃'s	♄'s	♅'s	♀'s	♁'s
D	begins	ends.	twilig.	node	latitude	latitude	latitude	latitude	latitude	latitude	latitude	latitude
1	3	7	8 52	2 7	1 ♀ 1	1 n 20	0 n 42	0 n 48	1 s 31	1 m 10		
7	3	23	8 36	2 3	0 42	1 20	0 42	0 45	1 5	1 44		
13	3	30	8 21	1 59	0 23	1 21	0 43	0 42	0 39	1 46		
19	3	52	8 7	1 57	0 4	1 22	0 44	0 39	0 14	1 27		
25	4	5	7 54	1 56	29 ♀ 5	1 22	0 45	0 36	0 n 9	0 55		
M	☽'s longitude		☾'s long.	☾'s latitude	☽'s long.	♃'s long.	♄'s long.	♅'s long.	♀'s long.	♁'s long.		
1	8	30 24	24 II 14	5 n 13	28 S 54	20 S 45	25 n 18	24 S 46	23 S 15			
2	9	28 34	6 S 9	5 13	29 1 20	58	25 56	25 52	24 55			
3	10	26 45	18 I	5 0	29 9 21	11	26 35	26 5	26 40			
4	11	24 58	29 53	4 33	26 16 21	24	27 14	28 5	28 29			
5	12	23 14	11 S 48	3 55	29 24 21	37	27 53	29 12	0 n 19			
D	13	21 31	23 50	3 6	29 31 21	50	28 32	0 S 18	2 10			
7	14	19 51	6 n 0	2 8	29 39 22	2	29 11	1 25	4 2			
8	15	18 12	18 20	1 4	29 46 22	15	29 50	2 32	5 55			
9	16	16 35	0 S 51	0 s 5	29 54 22	27	0 S 29	3 40	7 49			
10	17	14 59	13 34	1 15	0 n 1	4	1 8	4 47	9 44			
11	18	13 26	26 29	2 22	0 8	22 52	1 47	5 55	11 38			
12	19	11 54	9 n 39	3 23	0 16	23 5	2 26	7 2	13 32			
D	20	10 23	23 3	4 14	0 23	23 17	3 5	8 10	15 26			
14	21	8 54	6 ♀ 42	4 51	0 30	23 30	3 44	9 18	17 19			
15	22	7 27	20 36	5 13	0 30	23 42	4 23	10 27	19 12			
16	23	6 1	4 S 44	5 16	0 45	23 54	5 2	11 35	21 4			
17	24	4 37	19 5	5 0	0 52	24 6	5 41	12 44	22 55			
18	25	3 14	3 S 35	4 24	1 0	24 18	6 20	13 52	24 45			
19	26	1 54	18 11	3 32	1 7	24 30	7 0	15 1	26 34			
D	27	0 35	2 ♀ 45	2 25	1 14	24 42	7 39	16 10	28 22			
21	27	59 17	17 14	1 10	1 21	24 54	8 18	17 19	0 n 10			
22	28	58 2	1 ♀ 30	0 n 9	1 28	25 6	8 58	18 29	1 57			
23	29	56 48	15 29	1 25	1 35	25 18	9 37	19 38	3 43			
24	0	55 37	29 7	2 35	1 42	25 30	10 16	20 47	5 28			
25	1	54 27	12 8 24	3 35	1 49	25 42	10 56	21 57	7 12			
26	2	53 20	25 18	4 21	1 56	25 54	11 36	23 7	8 55			
D	3	52 15	7 II 53	4 54	2 3	26 5	12 15	24 17	10 37			
28	4	51 13	20 11	5 13	2 10	26 17	12 55	25 28	12 18			
29	5	50 13	2 S 15	5 17	2 17	26 28	13 34	26 38	13 58			
30	6	49 15	14 11	5 7	2 24	26 40	14 14	27 48	15 37			
M	♃ rises	♄ sets	♀ rises	♁ rises	☽'s declin.	♃'s declin.	♄'s declin.	♀'s declin.	♁'s declin.			
1	3 m 29	7 a 20	1 m 14	3 m 42	13 n 7	15 n 15	2 n 36	19 n 42	14 n 53			
7	3 15	7 5	1 25	4 20	12 52	14 51	1 18	18 49	11 39			
13	3 1	6 49	1 40	5 10	12 37	14 27	0 35	17 37	7 23			
19	2 46	6 34	1 55	sets	12 22	14 4	2 11	16 7	2 42			
25	2 28	6 19	2 11	6 a 14	12 7	13 40	3 47	14 2	2 s 1			

The LUNATIONS.

New Moon the 7th day, at 8 minutes past 8 night.  
 First quarter the 14th day, at 13 minutes past 9 night.  
 Full Moon the 21st day, at 25 minutes past 7 night.  
 Last quarter the 29th day, at 54 minutes past 3 afternoon.

M	Sundays & other	☉	☽	☉'s	☽'s	☽ rises	☽	Clock	
D	remark. days	rises	sets	declin.	declin.	& sets	South	aft. ☉	
1	Remigius	6 14	5 46	3 <sup>s</sup> 6	25 13	II a 34	7 <sup>m</sup> 18	10 <sup>o</sup> 15 <sup>"</sup>	
2		6 16	5 44	3 29	22 20	morn	8 6	10 34	
3		6 18	5 42	3 53	18 6	0 47	8 52	10 53	
4	<b>18 Sun. af. Tri.</b>	6 20	5 40	4 16	13 6	2 5	9 36	11 11	
5		6 22	5 38	4 39	7 30	3 21	10 18	11 29	
6	Faith	6 24	5 36	5 2	1 31	4 34	11 0	11 46	
7		6 26	5 34	5 25	4 <sup>s</sup> 39	☽ sets	11 43	12 3	
8		6 28	5 32	5 48	10 45	5 a 33	0 a 28	12 20	
9	Denys	6 29	5 31	6 11	16 29	5 47	1 15	12 36	
10	Ox. & Cam. T. b	6 31	5 29	6 34	21 32	6 7	2 7	12 52	
11	<b>19 Sun. af. Tri.</b>	6 33	5 27	6 57	25 29	6 38	3 4	13 7	
12	[Old Mic.	6 35	5 25	7 20	27 58	7 18	4 4	13 22	
13	Tra. K. Edw. C.	6 37	5 23	7 42	28 42	8 19	5 7	13 37	
14		6 39	5 21	8 5	27 34	9 38	6 9	13 50	
15		6 41	5 19	8 27	24 40	11 7	7 8	14 4	
16		6 43	5 17	8 49	20 16	morn	8 4	14 17	
17	Etheldred	6 45	5 15	9 11	14 43	0 37	8 56	14 29	
18	<b>20 Sun. af. Tri.</b>	6 47	5 13	9 33	8 26	2 7	9 44	14 41	
19	[St. Luke	6 49	5 11	9 55	1 47	3 32	10 32	14 52	
20		6 51	5 9	10 17	4 <sup>n</sup> 52	4 57	11 18	15 2	
21		6 53	5 7	10 38	11 12	☽ rises	morn	15 12	
22		6 55	5 5	11 0	16 55	5 a 4	0 6	15 21	
23		6 56	5 4	11 21	21 43	5 23	0 54	15 30	
24	[K. G. g. acc.	6 58	5 2	11 42	25 22	5 51	1 45	15 38	
25	<b>21 Sun. af. Tri.</b>	Crispin	5 0	12 3	27 43	6 26	2 38	15 45	
26	<b>K. Leo. 3. proc.</b>	7 2	4 58	12 23	28 39	7 14	3 31	15 51	
27		7 4	4 56	12 44	28 11	8 15	4 24	15 57	
28	<b>St. Sim. &amp; Jude</b>	7 6	4 54	13 4	26 24	9 22	5 15	16 2	
29		7 8	4 52	13 24	23 28	10 34	6 4	16 6	
30		7 9	4 51	13 44	19 34	11 49	6 50	16 10	
31		7 11	4 49	14 4	14 53	morn	7 34	16 12	
M	Day	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	h	
D	decreaf.	long. ♀	long. ♀	long. ♂	long. ☉	long. ♀	long. ♂	rises	
1	5 2	11 32	28 Ω 55	19 Ω 49	19 = 17	7 ♀ 48	28 II 20	8 II 57	2 m 45
7	5 26	11 8	29 8	20 17	22 5	13 44	8 Ω 3	26 19	2 26
13	5 48	10 46	29 21	20 45	24 55	19 40	17 46	12 † 54	2 7
19	6 12	10 22	29 34	21 13	27 45	25 38	27 31	29 29	1 48
25	6 33	10 0	29 46	21 42	0 III 37	1 8 36	7 Ω 16	16 ♀ 48	1 29

M.	Daylig. begins	Daylig. ends	Durat. twilig.	Pl. ☾'s node	☽'s latitude	♄'s latitude	♃'s latitude	♀'s latitude	♁'s latitude
1	4 18	7 41	I 55	29 26	I n 23	o n 46	o n 33	o n 30	o n 16
7	4 31	7 28	I 54	29 7	I 24	o 46	o 30	o 49	o s 25
13	4 43	7 16	I 53	28 47	I 25	o 47	o 27	I 6	I 7
19	4 55	7 4	I 53	28 28	I 26	o 49	o 24	I 19	I 46
25	5 6	6 53	I 53	28 9	I 27	o 50	o 21	I 30	2 18
M.	☉'s longitude		☾'s long.	☾'s latitude	☽'s long.	♄'s long.	♃'s long.	♀'s long.	♁'s long.
1	7 48	20	26 3	4 n 45	2 m 30	26 51	14 54	28 59	17 16
2	8 47	28	7 56	4 10	2 37	27 3	15 33	o 10	18 54
3	9 46	37	19 53	3 24	2 44	27 14	16 13	I 21	20 31
D	10 45	49	1 m 59	2 29	2 50	27 25	16 53	2 32	22 7
5	11 45	3	14 18	I 26	2 57	27 36	17 33	3 43	23 42
6	12 44	20	26 51	o 17	3 4	27 47	18 13	4 54	25 17
7	13 43	38	9 40	o s 53	3 10	27 58	18 53	6 5	26 51
8	14 42	59	22 44	2 2	3 16	28 9	19 33	7 17	28 24
9	15 42	21	6 m 5	3 6	3 23	28 20	20 13	8 28	29 56
10	16 41	46	19 40	4 1	3 29	28 31	20 53	9 40	1 m 28
D	17 41	12	3 f 27	4 42	3 35	28 41	21 34	10 51	2 59
12	18 40	40	17 23	5 8	3 41	28 52	22 14	12 3	4 29
13	19 40	10	1 h 27	5 15	3 47	29 2	22 54	13 15	5 59
14	20 39	42	15 36	5 3	3 53	29 12	23 34	14 27	7 27
15	21 39	15	29 47	4 33	3 59	29 22	24 14	15 39	8 55
16	22 38	51	17 59	3 46	4 5	29 32	24 55	16 51	10 23
17	23 38	27	28 10	2 46	4 11	29 42	25 35	18 3	11 50
D	24 38	6	12 16	I 35	4 17	29 52	26 16	19 15	13 16
19	25 37	46	26 16	o 20	4 23	o m 2	26 56	20 28	14 41
20	26 37	28	10 7	o n 56	4 29	o 12	27 37	21 40	16 5
21	27 37	12	23 46	2 7	4 35	o 22	28 17	22 53	17 28
22	28 36	58	7 8 10	3 10	4 40	o 31	28 58	24 6	18 51
23	29 36	46	20 17	4 2	4 46	o 41	29 39	25 19	20 13
24	m 0 36	36	3 II 7	4 39	4 51	o 51	o m 19	26 32	21 34
D	I 36	28	15 40	5 3	4 56	I 0	I 0	27 45	22 53
26	2 36	22	27 58	5 12	5 1	I 9	I 40	28 58	24 11
27	3 36	18	10 3	5 6	5 6	I 18	2 21	o 11	25 28
28	4 36	17	21 59	4 48	5 11	I 27	3 2	I 24	26 45
29	5 36	18	3 51	4 17	5 16	I 36	3 43	2 38	28 0
30	6 36	22	15 42	3 35	5 21	I 44	4 24	3 51	29 13
31	7 36	27	27 40	2 44	5 26	I 53	5 5	5 4	o 23
M.	♄ rises	♃ fets	♀ rises	♁ fets	☽ declin.	♄ declin.	♃ declin.	♀ declin.	♁ declin.
1	2 m 16	6 a 3	2 m 28	6 a 5	II n 53	13 n 18	5 s 22	12 n 19	6 s 32
7	2 1	5 48	2 47	5 57	II 40	12 55	6 56	10 3	10 45
13	I 45	5 33	3 5	5 48	II 27	12 34	8 30	7 36	14 35
19	I 28	5 18	3 25	5 40	II 15	12 14	10 1	5 0	17 57
25	I 11	5 2	3 43	5 32	II 4	II 55	II 31	2 17	20 45

The LUNATIONS.

New Moon the 6th day, at 24 minutes past 9 morning.  
 First quarter the 13<sup>th</sup> day, at 13 minutes past 4 morning.  
 Full Moon the 20th day, at 3 minutes past 10 morning.  
 Last quarter the 28th day, at 44 minutes past 12 noon.

M	Sundays & other	☉	☽	☉'s	☽'s	☽ rises	☽	Clock	
D	remark. days	rises	sets	declin.	declin.	& sets	South	aft. ☉	
1	2 S. af. Tri. All	7 13	4 47	14 s 23	9 n 31	1 m 4	8 n 17	16' 14"	
2	Du. of K. b. [Sai]	All Sou	4 45	14 43	3 43	2 18	8 58	16 15	
3	Prs. Sophia born	7 17	4 43	15 1	2 s 22	3 33	9 40	16 15	
4	K. William lan.	7 18	4 42	15 20	8 32	4 50	10 24	16 14	
5	Powder Plot	7 20	4 40	15 39	14 30	6 10	11 10	16 13	
6	Leon: Mic. 1. o.	7 22	4 35	15 57	19 53	☽ sets	o a 1	16 10	
7	[An. So. b.]	7 24	4 36	16 15	24 19	4 a 41	0 57	16 7	
8	23 S. af. T: Pre	7 25	4 35	16 31	27 20	5 16	1 57	16 3	
9	Lord Mayor's d.	7 27	4 33	16 50	28 34	6 12	3 15	15 58	
10		7 29	4 31	17 7	27 57	7 28	4 4	15 52	
11	St. Martin	7 30	4 3	17 24	25 19	8 55	5 5	15 46	
12	Cam. T. div. m	7 31	4 29	17 40	21 12	10 26	6 1	15 38	
13	Britius	7 33	4 27	17 57	15 55	11 53	6 53	15 30	
14		7 35	4 25	18 12	9 53	morn	7 42	15 21	
15	24 Sun. a. Tris	7 37	4 23	18 28	3 27	1 19	8 28	15 11	
16	[Machutus]	7 38	4 22	18 43	3 n 4	2 40	9 13	15 1	
17	Hugh	7 40	4 20	18 58	9 22	4 1	9 59	14 49	
18		7 41	4 19	19 13	15 9	5 22	10 46	14 37	
19		7 42	4 18	19 27	20 11	6 42	11 35	14 24	
20	Edmund	7 44	4 16	19 41	24 11	☽ rises	morn	14 10	
21	[Cecilia]	7 45	4 15	19 54	26 57	4 a 19	0 26	13 55	
22	25 Sun. af. Tri.	7 47	4 13	20 7	28 21	5 3	1 19	13 40	
23	Clement: Old	7 48	4 12	20 20	28 20	5 58	2 12	13 23	
24	[Mart.]	7 49	4 11	20 33	26 57	7 4	3 3	13 6	
25	Duke of Glo. b.	Cather.	4 9	20 45	24 21	8 16	3 53	12 48	
26		7 52	4 8	20 56	20 45	9 29	4 40	12 29	
27		7 53	4 7	21 7	16 20	10 41	5 24	12 10	
28	Mic. Term ends	7 54	4 6	21 18	11 15	11 53	6 6	11 50	
29	Advent Sunday	7 55	4 5	21 29	5 42	morn	6 47	11 29	
30	St. Andrew	7 56	4 4	21 39	0 s 11	1 6	7 28	11 7	
M	Day	Length	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	☽
D	decreaf.	of day	long. ♀	long. ♀	long. ♂	long. ☉	long. ♀	long. ♂	rises
1	7 0	9 34	0 17	22 14	4 m 0	8 8 37	18 3 38	9 5	1 m 8
7	7 22	9 12	0 14	22 43	6 55	14 38	28 24	1 9	0 45
13	7 40	8 54	0 27	23 11	9 52	20 41	8 17	9 27	0 22
19	7 58	8 36	0 40	23 39	12 50	26 44	17 54	28 38	11 a 58
25	8 16	8 18	0 53	24 7	15 50	2 11 48	27 38	4 11 46	11 34

M	Daylig. begins	Daylig. ends	Durat. twilig.	Pl. ☾'s node	☽'s latitude	☾'s latitude	♂'s latitude	♀'s latitude	♃'s latitude
1	5 17	6 42	1 55	27 47	1 n 29	0 n 51	0 n 17	1 n 39	2 s 43
7	5 25	6 35	1 59	27 28	1 30	0 52	0 13	1 43	2 45
13	5 33	6 27	2 0	27 9	1 31	0 54	0 10	1 45	2 15
19	5 41	6 19	2 1	26 50	1 33	0 55	0 6	1 43	0 57
25	5 48	6 12	2 5	26 31	1 34	0 57	0 3	1 39	1 n 2

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

M	☾'s rises	♂'s rises	♀'s rises	♃'s sets	☽'s declin.	☾'s declin.	♂'s declin.	♀'s declin.	♃'s declin.
1	0 m 50	6 m 54	4 m 1	5 a 24	10 n 53	11 n 34	13 s 12	0 s 59	23 s 9
7	0 30	6 54	4 20	5 18	10 44	11 18	14 35	3 49	24 18
13	0 10	6 53	4 37	5 7	10 36	11 3	15 55	6 37	24 10
19	11 a 46	6 52	4 55	4 40	10 30	10 51	17 10	9 21	22 46
25	11 23	6 52	5 12	4 7	10 25	10 41	18 2	11 58	19 54

The LUNATIONS.

New Moon the 5th day, at 16 minutes past 9 night.  
 First quarter the 12th day, at 53 minutes past 12 noon.  
 Full Moon the 20th day, at 2 minutes past 3 morning.  
 Last quarter the 28th day, at 19 minutes past 8 morning.

M D	Sundays & other remark. days	☉ rises	☉ sets	☉'s declin.	☽'s declin.	☽ rises & sets	☽ South	Clock aft. ☉	
1		7 57	4 3	21 s 48	6 s 14	2m 19	3 n. 9	10' 45"	
2		7 58	4 2	21 58	12 12	3 36	8 52	10 22	
3		7 59	4 1	22 6	17 48	4 59	9 41	9 58	
4		8 0	4 0	22 15	22 40	6 27	10 34	9 34	
5		8 1	3 59	22 23	26 18	☽ sets	11 32	9 9	
6	<i>1<sup>st</sup> Sun. in Adv.</i>	8 2	3 58	22 3	28 14	3 a 52	0 a 37	8 44	
7	[Nicholas	8 3	3 57	22 37	28 11	5 1	1 42	8 18	
8	Concept. V.M.	8 3	3 57	22 44	26 6	6 27	2 46	7 51	
9		8 4	3 56	22 50	22 15	8 1	3 47	7 24	
10		8 5	3 55	22 56	17 5	9 32	4 41	6 57	
11		8 5	3 55	23 1	11 4	10 58	5 31	6 29	
12		8 6	3 54	23 6	4 38	morn	6 17	6 1	
13	<i>2<sup>nd</sup> Sun. in Advent</i>	8 6	3 54	23 10	1 n 52	0 20	7 2	5 33	
14	[Lucy	8 7	3 53	23 14	8 9	1 40	7 47	5 4	
15		8 7	3 53	23 17	13 59	2 59	8 32	4 35	
16	<i>Ember Week</i>	C.T.e.	3 53	23 20	19 6	4 10	9 19	4 6	
17	Ox.T.e. [O.Sa.	8 8	3 52	23 23	23 17	5 37	10 9	3 37	
18		8 8	3 52	23 25	26 20	6 54	11 0	3 7	
19		8 8	3 52	23 26	28 3	8 3	11 53	2 38	
20	<i>3<sup>rd</sup> Sun. in Advent</i>	8 8	3 52	23 27	28 24	☽ rises	morn	2 8	
21	<i>St. Thomas</i>	Shor. d.	3 52	23 28	27 21	4 a 41	0 45	1 38	
22		8 8	3 52	23 28	25 4	5 51	1 36	1 8	
23		8 8	3 52	23 28	21 42	7 4	2 24	0 38	
24		8 8	3 5	23 27	17 28	8 16	3 8	0 8	
25	<i>Christmas Day</i>	8 7	3 53	23 26	12 35	9 27	3 51	ob. 22	
26	<i>St. Stephen</i>	8 7	3 53	23 24	7 13	10 38	4 31	0 52	
27	<i>1<sup>st</sup> Sun. at. Chri.</i>	8 7	3 53	23 22	1 31	11 49	5 10	1 21	
28	<i>Innoc. [St. John</i>	8 6	3 54	23 10	4 s 21	morn	5 50	1 51	
29		8 6	3 54	23 16	10 12	1 3	6 32	2 21	
30		8 6	3 54	23 12	15 49	2 19	7 16	2 50	
31	Silvester	8 5	3 55	23 8	20 53	3 42	8 5	3 19	
M D	Day decreaf.	Length of day	Helioc. long. ♀	Helioc. long. ♂	Helioc. long. ♀	Helioc. long. ☉	Helioc. long. ♀	Helioc. long. ♀	☽ rises
1	8 28	8 6	18 5	24 35	18 52	8 53	7 21	12 23	11 a 9
7	8 40	7 54	1 18	25 3	21 56	14 59	17 2	16 47	10 44
13	8 46	7 48	1 31	25 31	25 21	21 5	26 42	15 38	10 18
19	8 50	7 44	1 44	25 59	28 9	27 12	6 20	9 30	9 51
25	oinc.2	7 46	1 56	26 27	1 19	3 19	15 57	29 49	9 25

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

Dates		Heliocentric		Geocentric		Declin.		South.	
Months	Days	longitude	latitude	longitude	latitude			h	m
January	I	29 $\text{m}\kappa$ 12	o n 44	2 $\text{m}$ 16	o n 45	o s 13		17	20
	II	29 21	o 44	2 R 16	o 45	o 13		16	36
	2I	29 28	o 44	2 11	o 46	o 10		15	53
February	I	29 36	o 44	I 59	o 46	o 9		15	6
	II	29 44	o 44	I 42	o 46	o n 2		14	26
	2I	29 52	o 44	I 22	o 46	o 10		13	46
March	I	29 58	o 44	I 4	o 47	o 17		13	15
	II	o $\text{m}$ 6	o 44	o 38	o 47	o 27		12	37
	2I	o 14	o 44	o 13	o 47	o 38		11	59
April	I	o 22	o 44	29 $\text{m}\kappa$ 45	o 47	o 49		11	17
	II	o 30	o 44	29 20	o 46	o 59		10	39
	2I	o 38	o 44	28 58	o 46	I 7		10	1
May	I	o 46	o 44	28 38	o 46	I 15		9	22
	II	o 54	o 44	28 23	o 46	I 20		8	43
	2I	I 2	o 44	28 13	o 45	I 24		8	3
June	I	I 10	o 44	28 D 7	o 45	I 26		7	18
	II	I 18	o 44	28 8	o 44	I 25		6	37
	2I	I 26	o 44	28 14	o 44	I 23		5	56
July	I	I 34	o 44	28 25	o 44	I 18		5	15
	II	I 42	o 44	28 41	o 43	I 11		4	35
	2I	I 49	o 44	29 2	o 43	I 2		3	56
August	I	I 58	o 44	29 29	o 42	o 51		3	14
	II	2 7	o 44	29 $\text{m}$ 58	o 42	o 39		2	38
	2I	2 14	o 44	o $\text{m}$ 31	o 42	o 26		2	2
September	I	2 22	o 44	I 9	o 42	o 11		1	25
	II	2 30	o 44	I 46	o 41	o s 4		0	51
	2I	2 38	o 44	2 23	o 41	o 19		0	17
October	I	2 46	o 44	3 1	o 41	o 34		23	40
	II	2 54	o 44	3 39	o 41	o 49		23	6
	2I	3 1	o 43	4 16	o 41	I 4		22	31
November	I	3 10	o 43	4 54	o 42	I 19		21	51
	II	3 18	o 43	5 26	o 42	I 31		21	13
	2I	3 26	o 43	5 54	o 42	I 42		20	33
December	I	3 31	o 43	6 19	o 42	I 52		19	52
	II	3 41	o 43	6 30	o 43	I 59		19	10
	2I	3 49	o 43	6 53	o 43	2 5		18	26



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	3	0	3	16	3	36	3	49	2	42	2	57	3	27	3	43	1
2	3	32	3	47	4	2	4	18	3	13	3	29	4	0	4	21	2
3	4	1	4	17	4	33	4	50	3	42	3	56	4	42	5	6	3
4	4	34	4	50	5	7	5	26	4	9	4	28	5	30	6	1	4
5	5	7	5	24	5	45	6	10	4	47	5	8	6	32	7	6	5
6	5	42	6	4	6	35	7	5	5	29	5	57	7	41	8	15	6
7	6	25	6	48	7	35	8	12	6	25	6	58	8	58	9	35	7
8	7	12	7	40	8	51	9	34	7	3	8	11	10	12	10	46	8
9	8	9	8	43	10	16	10	58	8	51	9	34	11	15	11	48	9
10	9	18	9	56	11	39			10	16	10	55			0	17	10
11	10	34	11	14	0	16	0	53	11	33			0	42	1	0	11
12	11	54			1	24	1	54	0	5	0	3	1	29	1	52	12
13	0	31	1	8	2	21	2	47	1	4	1	32	2	12	2	32	13
14	1	43	2	17	3	4	3	21	1	57	2	21	2	51	3	9	14
15	2	42	3	7	3	36	3	50	2	40	2	58	3	25	3	41	15
16	3	26	3	44	4	5	4	19	3	13	3	28	3	56	4	11	16
17	4	0	4	16	4	38	4	57	3	42	3	56	4	31	4	51	17
18	4	35	4	54	5	13	5	28	4	12	4	29	5	11	5	32	18
19	5	11	5	28	5	50	6	13	4	47	5	6	5	57	6	23	19
20	5	48	6	9	6	38	7	3	5	27	5	48	6	50	7	16	20
21	6	31	6	54	7	32	8	2	0	14	6	40	7	44	8	14	21
22	7	10	7	44	8	35	9	9	7	9	7	38	8	45	9	16	22
23	8	12	8	41	9	43	10	18	8	11	8	44	9	46	10	16	23
24	9	13	9	46	10	50	11	23	9	17	9	51	10	44	11	1	24
25	10	18	10	50	11	53			10	22	10	53	11	59			25
26	11	23	11	56	0	23	0	50	11	28	11	52	0	6	0	32	26
27			0	25	1	15	1	38			0	18	0	57	1	22	27
28	0	53	1	19	2	1	2	21	0	43	1	7	1	40	2	12	28
29	1	44	2	9					1	29	1	51	2	37	2	57	29
30	2	33	2	50					2	15	2	34	3	17	3	37	30
31	3	7	3	22					2	54	3	11					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				No. 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	3	56	4	10	5	18	5	48	5	44	6	8	6	37	7	3	1	
2	4	43	5	8	6	19	6	46	6	31	6	55	7	29	7	59	2	
3	5	34	6	4	7	12	7	39	7	18	7	48	8	30	9	3	3	
4	6	35	7	6	8	6	8	35	8	18	8	45	9	36	10	10	4	
5	7	38	8	9	9	4	9	33	9	11	9	41	10	44	11	17	5	
6	8	41	9	15	10	2	10	30	10	12	10	42	11	50			6	
7	9	49	10	19	10	58	11	27	11	13	11	45	0	10	0	47	7	
8	10	48	11	10	11	56						0	17	1	12	1	37	8
9	11	44			0	22	0	48	0	44	1	11	2	1	2	25	9	
10	0	9	0	34	1	13	1	39	1	37	2	4	2	42	2	59	10	
11	0	58	1	22	2	5	2	31	2	26	2	49	3	14	3	28	11	
12	1	46	2	9	2	50	3	8	3	6	3	22	3	41	3	53	12	
13	2	30	2	51	3	26	3	44	3	36	3	50	4	7	4	21	13	
14	3	8	3	25	3	58	4	12	4	4	4	17	4	37	4	53	14	
15	3	41	3	57	4	30	4	48	4	33	4	50	5	11	5	30	15	
16	4	16	4	35	5	5	5	23	5	6	5	22	5	53	6	17	16	
17	4	54	5	14	5	42	6	2	5	40	5	59	6	46	7	16	17	
18	5	35	5	57	6	23	6	45	6	22	6	45	7	52	8	29	18	
19	6	21	6	45	7	8	7	31	7	11	7	37	9	11	9	53	19	
20	7	c	7	33	7	58	8	25	8	10	8	44	10	34	11	15	20	
21	8	c	8	28	8	54	9	24	9	22	10	1	11	54			21	
22	8	55	9	22	9	57	10	31	10	42	11	23	0	33	1	5	22	
23	9	51	10	21	11	8	11	45			0	2	1	36	2	4	23	
24	10	50	11	19			0	20	0	41	1	15	2	32	2	51	24	
25	11	49			0	55	1	20	1	49	2	10	3	9	3	26	25	
26	0	20	0	49	2	3	2	33	2	48	3	8	3	42	3	57	26	
27	1	18	1	48	3	1	3	23	3	28	3	44	4	11	4	29	27	
28	2	19	2	45	3	44	4	3	4	0	4	18	4	47	5	5	28	
29	3	9	3	31	4	22	4	43	4	36	4	54	5	24	5	47	29	
30	3	53	4	16	5	4	5	24	5	12	5	31	6	11	6	37	30	
31	4	39	4	59					5	51	6	14	7	4	7	35	31	

	Adding		h	m
For Fowey, Loo and Plymouth	—	—	—	3 10
Dartmouth, Harborough and Hull	—	—	—	3 30
Torbay and Tinmouth	—	—	—	3 40
Exmouth, Topsham and Lime	—	—	—	3 50
Bristol and Weymouth	—	—	—	4 20
Bridgewater and Texel	—	—	—	4 40
Portland and Hartflew	—	—	—	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	8	6	8	40	8	51	9	24	10	11	10	37	10		10	28	
2	9	14	9	48	9	57	10	27	11	3	11	30	10	56	11	27	
3	10	22	10	54	10	56	11	24	11	57			11	58			
4	11	26	11	55	11	52			0	22	0	46	0	28	0	57	
5			0	23	0	16	0	39	1	10	1	34	1	27	1	57	
6	0	47	1	11	1	2	1	24	2	0	2	26	2	20	2	55	
7	1	33	1	55	1	40	2	8	2	47	3	8	3	17	3	38	
8	2	15	2	36	2	28	2	48	3	23	3	47	3	5	4	19	
9	2	52	3	7	3	5	3	21	4	9	4	31	4	43	5	6	
10	3	21	3	35	3	37	3	53	4	55	5	19	5	20	5	52	
11	3	49	4	3	4	13	4	33	5	47	0	16	6	18	0	44	
12	4	21	4	39	4	56	5	19	6	46	7	16	7	9	7	35	
13	4	58	5	18	5	49	6	19	7	47	8	19	8	3	8	32	
14	5	44	6	11	6	52	7	25	8	51	9	24	9	1	9	31	
15	6	44	7	17	8	1	8	37	9	55	10	25	10	1	10	31	
16	7	56	8	35	9	16	9	55	10	54	11	23	11		11	31	
17	9	17	9	59	10	28	11	0	11	51			0	0	0	17	
18	10	37	11	15	11	31			0	19	0	43	0	30	0	58	
19	11	49			0	2	0	29	1	7	1	33	1	24	1	51	
20	0	23	0	51	0	55	1	10	2	0	2	23	2	18	2	40	
21	1	19	1	45	1	42	2	6	2	47	3	5	3	0	3	17	
22	2	10	2	31	2	31	2	49	3	23	3	40	3	34	3	49	
23	2	52	3	8	3	6	3	24	3	56	4	14	4		4	20	
24	3	25	3	40	3	40	3	56	4	32	4	51	4	36	4	53	
25	3	54	4	11	4	12	4	33	5	10	5	30	5	0	5	26	
26	4	29	4	48	4	54	5	15	5	51	6	14	5	43	6	2	
27	5	8	5	30	5	36	6	1	6	36	6	58	6	22	6	43	
28	5	53	6	20	6	27	6	53	7	21	7	46	7	4	7	29	
29	6	48	7	17	7	19	7	47	8	12	8	38	7	53	8	21	
30	7	47	8	19	8	15	8	44	9	5	9	33	8	49	9	22	
31					9	14	9	43					9	56	10	27	

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, Haffings, 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.				Emerfions				Emerfions				Emerfions			
	d	h	m	d	h	m	s	d	h	m	s	d	h	m	s
1	5	23	19	2*	4	14	36	2*	11	52	24	1*	14	0	20
2	23	55	36	3	22	43	10	4	6	21	4	3*	8	29	6
4*	18	24	0	5*	17	11	14	6	0	49	45	5	2	57	48
6*	12	52	28	7*	11	40	18	7	19	18	25	6	21	26	34
8*	7	20	54	9*	6	8	53	9*	13	47	7	8	15	55	17
10	1	49	23	11	0	37	29	11*	8	15	46	10*	10	24	3
11	20	17	49	12	19	6	5	13	2	24	49	12	4	52	46
13*	14	46	18	14*	13	34	40	14	21	13	9	13	23	21	33
15*	9	14	45	16*	8	3	18	16	15	41	53	15	17	50	15
17	3	43	16	18	2	31	54	18*	10	10	34	17*	12	19	2
18	22	11	44	19	21	0	32	20	4	39	18	19	6	47	45
Emerfions				21*	15	29	10	21	23	7	59	21	1	16	33
20*	18	54	53	23*	9	57	48	23	17	36	44	22	19	45	16
22*	13	23	23	25	4	25	26	25*	12	5	25	24	14	14	4
24*	7	51	55	26	22	55	5	27	6	34	10	26*	8	42	47
26	2	20	25	28	17	23	44	29	1	2	52	28	3	11	41
27	20	48	58					30	19	31	38	29	21	40	18
29*	15	17	23												
31*	9	46	3												
MAY				JUNE				JULY				AUGUST			
Emerfions				Emerfions				Emerfions				The eclipses of Jupiter's Satellites are not visible this Month, Jupiter being too near the Sun.			
1	16	9	6	2	12	46	36	2	14	54	50				
3*	10	37	49	4	7	15	19	4	9	23	34				
5	5	6	36	6	1	44	5	6	3	52	13				
6	23	35	19	7	20	12	47	7	22	20	56				
8	18	4	7	9	14	41	33	9	16	49	35				
10	12	32	50	11	9	10	15								
12	7	1	37	13	3	39	1								
14	1	30	20	14	22	7	42								
15	19	59	7	16	16	36	27								
17	14	27	51	18	11	5	9								
19*	8	56	38	20	5	33	54								
21	3	25	21	22	0	2	35								
22	21	54	8	23	18	31	20								
24	16	22	51	25	13	0	0								
26*	10	51	37	27	7	28	45								
28	5	20	20	29	1	57	25								
29	23	49	7	30	20	26	10								

first Satellite for the Year 1801.

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

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 20th 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 5 h. 54 min. 10 sec.; I find by the Table, that the Time of this Immersion will happen at the British Observatory, at 4 h. 5 min. 50 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	
1	♂ ☾ 24 13h.	2	♂ ☾ ♃ 14h.	1	♂ ☾ ♃ 18h.
3	♂ ☾ ♃ 7n.	9	♂ ☉ ♃ 4h.	3	♂ ☾ in ☿
6	♂ ☾ ☽ 10h.	10	☾ ☾ in perige	10	♂ ☾ in perige
6	♃ ☽ stationary	10	♀ in ☿	13	♂ ☾ elong. max.
12	♂ ☾ ☽ 20h.	12	♂ ☾ ☽ 15h.	14	☉ eclipsed invis.
12	♂ ☾ in ☿	14	♂ ☉ ☽ 1, 1/4h.	15	♂ ☾ ☽ 13h.
13	☾ in perige	16	♂ ☾ ☽ 1h.	16	♀ ☾ elong. max.
13	☉ in perihelion	18	☉ in ♃ 13h. 25m.	16	♀ ☾ in perihelion
17	♂ ☾ ☽ 2h.	19	☐ ☉ ♂ 16 1/2h.	17	♂ ☾ ☽ 22h.
19	☉ in ♃ 22h. 39m.	20	♂ ☾ in ♂ oh.	20	☉ in ♃ 13h. 14m.
19	♂ ☾ ☽ 11 1/4h. *	23	☾ in apoge	20	♂ ☾ stationary
22	♂ ☾ ☽ 16n.	24	♂ ☾ ☽ 14h.	20	♂ ☾ ☽ 15h.
23	♂ ☾ in aphelion	26	♂ ☾ ☽ 12h.	20	♂ ☾ ☽ 19 1/4h.
26	☾ in apoge			21	♃ ☽ stationary
28	♂ ☾ ☽ 12h.			22	☾ in apoge
30	♂ ☾ ☽ 11h.			23	♂ ☾ ☽ 20h.
				25	♂ ☾ ☽ 17h.
				29	♂ ☾ ☽ 1h.
				29	☾ eclips. partly vi.
				30	♂ ☉ ☽ 1h.
APRIL		MAY		JUNE	
4	☾ in perige	1	☾ in perige	1	♀ in ☿
10	♂ in ☿	4	♀ stationary	3	♂ ☉ ☽ 7 1/4h.
11	♂ ☾ ☽ 3h.	8	☐ ☉ ♃ c 1/2h.	3	♂ ☾ in perihelion
12	☽ stationary	10	♂ ☾ ☽ 6h.	5	♃ ☽ stationary
12	☉ eclipsed invis.	13	♂ ☾ ☽ 23h.	9	♂ ☾ ☽ 1h.
15	☐ ☉ ♃ 13h.	16	☾ in apoge	11	♂ ☾ ☽ 16h.
16	♂ ☾ ☽ 5h.	17	♂ ☾ ☽ 1h.	13	☾ in apoge
18	♃ ☽ stationary	17	♂ ☾ ☽ 22h.	14	♂ ☾ ☽ 12h.
18	♂ ☾ ☽ 8h.	19	♂ ☾ ☽ 11h.	14	♂ ☾ ☽ 18h.
19	☾ in apoge	21	☉ in ♃ 2h. 53m.	15	♂ ☾ ☽ 20h.
20	☉ in ♃ 2h. 23m.	22	♂ ☾ ☽ 17h.	16	♀ ☽ stationary
20	♂ ☾ in ♃ 7h.	26	♂ ☾ ☽ 4h.	18	♂ ☾ in aphelion
20	♂ ☾ in aphelion	29	☾ in perige	19	♂ ☾ ☽ 1h.
22	♂ ☾ ☽ 1h.	29	♂ in ☿	19	☐ ☉ ♃ 14 3/4h.
25	♂ ☾ ☽ 8h.			21	☉ in ♃ 11h. 34m.
27	♂ elong. max.			26	☾ in perige

\* See Harriot's *works of voyages*, vol. ii. p. 13.

ad Annum 1801.

JULY

6 ☉ ☾ ♀ 17h.  
 6 ☽ ♀ in aphelion  
 7 ☽ ♀ in ☿  
 9 ☽ ♀ elong. max.  
 10 ☾ ☾ in apoge  
 12 ☉ ☾ ☽ 2h. 8h.  
 12 ☉ ☾ ☽ 2oh.  
 13 ☉ ☾ ☽ 9h.  
 13 ☉ ☾ ☽ 12h.  
 16 ☉ ☽ ☽ 9h.  
 16 ☽ ☽ in aphelion  
 17 ☽ ☽ in aphelion  
 22 ☉ in ♄ 22h. 24m.  
 23 ☽ ☽ stationary  
 24 ☾ ☾ in perige

AUGUST

4 ☉ ☾ ♀ 22h.  
 5 ♀ elong. max.  
 6 ☉ ☽ ☽ 9 $\frac{1}{3}$ h.  
 7 ☾ ☾ in apoge  
 8 ☉ ☽ ☽ 2h. 5h.  
 8 ☉ ☾ ☽ 18h.  
 9 ☉ ☾ ☽ 1h.  
 9 ☉ ☾ ☽ 22h.  
 11 ☉ ☾ ☽ 5h.  
 12 ☉ ☾ ☽ 16h.  
 17 ☽ ☽ stationary  
 20 ☉ ☽ ☽ 13h.  
 22 ☾ ☾ in perige  
 23 ☉ in ♃ 4h. 47m.  
 24 ☽ ☽ elong. max.  
 26 ☽ ☽ in ☿  
 30 ☽ ☽ in perihelion

SEPTEMBER

3 ☾ ☾ in apoge  
 4 ☉ ☾ ♀ oh.  
 5 ☉ ☾ ☽ 2oh.  
 6 ☉ ☾ ☽ 11h.  
 6 ☉ ☾ ☽ 19h.  
 7 ☽ ☽ eclipsed invis.  
 8 ☉ ☾ ☽ 23h.  
 9 ☉ ☾ ☽ oh.  
 18 ☉ ☽ ☽ 8 $\frac{1}{2}$ h.  
 19 ☾ ☾ in perige  
 21 ☾ ☽ eclipsed visible  
 22 ♀ in ☿  
 23 ☉ in ♄ 1h. 18m.  
 25 ☉ ☽ ☽ 19 $\frac{1}{4}$ h.

OCTOBER

1 ☾ ☾ in apoge  
 3 ☉ ☾ ☽ 15h.  
 3 ☽ ☽ in ☿  
 4 ☉ ☾ ♀ 1h.  
 4 ☉ ☾ ☽ 2h.  
 6 ☉ ☾ ☽ 11h.  
 7 ☽ ☽ eclipsed invis.  
 7 ☉ ☾ ☽ 17h.  
 8 ☉ ☾ ☽ 12h.  
 13 ☽ ☽ in aphelion  
 15 ☽ ☽ in perige  
 23 ☉ ☽ ☽ 2 $\frac{1}{2}$ h.  
 23 ☉ in ♃ 9h. 19m.  
 27 ♀ in perihelion  
 29 ☾ ☾ in apoge  
 31 ☉ ☾ ☽ 8h.  
 31 ☉ ☾ ☽ 15h.

NOVEMBER

3 ☉ ☾ ☽ oh.  
 3 ☉ ☾ ☽ ♀ 8h.  
 4 ☽ ☽ elong. max.  
 5 ☉ ☾ ☽ 13h.  
 7 ☉ ☾ ☽ 15h.  
 10 ☾ ☾ in perige  
 21 ☽ ☽ in ☿  
 22 ☉ in ♃ 5h. 37m.  
 24 ☉ ☽ ☽ 14 $\frac{3}{4}$ h.  
 25 ☾ ☾ in apoge  
 26 ☽ ☽ in per helion  
 27 ☽ ☽ ☽ 0 $\frac{2}{3}$ h.  
 27 ☉ ☾ ☽ 22h.  
 28 ☉ ☾ ☽ 3h.  
 28 ☽ ☽ in ☿  
 29 ☽ ☽ ☽ 6 $\frac{1}{4}$ h.  
 30 ☉ ☾ ☽ 1oh.

DECEMBER

3 ☽ ☽ stationary  
 3 ☉ ☾ ♀ 12h.  
 4 ☉ ☾ ☽ 2h.  
 4 ☉ ☾ ☽ 11h.  
 7 ☾ ☾ in perige  
 13 ☽ ☽ elong. max.  
 17 ☽ ☽ stationary  
 21 ☉ in ♃ 18h. 2m.  
 22 ☽ ☽ stationary  
 23 ☾ ☾ in apoge  
 25 ☉ ☾ ☽ 8h.  
 25 ☉ ☾ ☽ 11h.  
 27 ☉ ☾ ☽ 22h.  
 28 ☽ ☽ ☽ 15 $\frac{1}{2}$ h.  
 30 ☽ ☽ in ☿

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

The SUN's Declination North.

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	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	29
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	59	5	59	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	43	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	52	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.

Degr.	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.

Degr.	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	58	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	41	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

Degr.	♈			♉			♊			♋			♌		
	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	11	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	31	4 24	55	6 34	51	8 41	41	10 38	40		
9	0	33	4	2 26	25	4 29	10	6 39	11	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	29	5 33	51	7 43	34	9 45	16	11 37	58		
25	1	32	38	3 30	35	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 annual 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 seconds, which being subtracted from that of the star, the remainder will be

Obliquity of the Ecliptic being 23° 28'.

Degr.	♈			♉			♊			♋			♌					
	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	29	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 fouthing. And if from the time of the star's fouthing 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, 1801.

	♋ 11° 14'	h	m	s
☉'s place at noon	♋ 11° 14'			
Rt. Asc. of Sirius	-	6	36	23
☉'s rt. asc. subtract	-	20	54	0
*'s estimate fouthing	-	9	42	23
☉'s rt. asc. at that time sub.	-	20	54	51
*'s true fouthing	-	9	41	32
Semid. arc sub. & add	-	4	36	55
*'s rising aftern.	-	5	4	37
*'s setting	-	14	18	27

A Table of the mean Right-Ascensions in time, and Declinations, and their Annual Differences; also the Semidiurnal-Arcs, and Magnitudes, of 40 remarkable fixed Stars, with their Names, and Bayer's Literal Characters, for January 1, 1801.

Names of the Stars	Ch.	Rt. Asc.			A.Di.	Declination			A.Diff.	Semid. Arc.			M	
		h	m	s	sec.	°	'	"	seconds	h	m	s		
Polestar, Alruccabah	$\alpha$	0	52	20	12.53	88	14	25	n	+19.6	fets	not	2	
Andro gird. Mirach	$\beta$	0	58	34	3.30	34	33	29	n	+19.4	10	7	32	2
Andro.root, Almach	$\gamma$	1	51	41	3.62	41	21	50	n	+17.7	fets	not	2	
Ram's follow.horn	$\alpha$	1	55	55	3.34	22	30	47	n	+17.5	8	9	35	2
Whale's ja. 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	fets	not	2	
Percus's ft. Algenib	$\alpha$	3	10	7	4.20	49	8	15	n	+13.6	fets	not	2	
Brightest of the 7ft	$n$	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	36	40	n	+ 4.5	fets	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	1	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 r. 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	46	s	+14.8	5	24	20	2
Lyon'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	fets	not	2	
Gr. Bear, U. Pointer	$\alpha$	10	51	16	3.85	62	49	45	n	-19.1	fets	not	2	
Lion's tail, Deneb	$\beta$	11	38	50	3.06	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	fets	not	2	
Virgius' 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	fets	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	53	n	-12.3	8	48	36	2
Scor. heart, Antares	$\alpha$	16	17	10	3.65	25	58	21	s	+ 8.6	3	34	6	1
Her. 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
Drag. head, Rastaban	$\gamma$	17	51	58	1.39	51	31	5	n	- 0.7	fets	not	2	
The Harp, Lyra	$\alpha$	18	30	10	1.99	38	36	26	n	+ 3.1	fets	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	-19.1	2	52	6	1
Pegasus' w. Markab	$\alpha$	22	54	48	2.90	14	7	56	n	+19.7	7	17	10	2
Andromeda's head	$\alpha$	23	58	4	3.07	127	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 1801.

Con.	Cha.	Long.			Lat.			Mag.	Con.	Cha.	Long.			Lat.			Mag.	
		°	'	"	°	'	"				°	'	"	°	'	"		
♋	♄	11	21	34	2	9	44	n	4	♄	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
♌	♁	18	3	7	1	48	7	n	4	♁	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
	♄	5	40	0	2	35	37	s	3	♄	27	41	9	0	6	53	n	4
	♃	6	59	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
	♄	21	59	38	2	13	29	s	3	♄	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
	♄	5	18	43	6	46	12	s	2	♄	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
	♂	20	27	57	6	40	4	n	1	♂	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
	♃	18	51	46	3	1	57	s	4	♃	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
	♃	27	3	12	0	27	27	n	1	♃	13	27	44	1	28	7	n	4
	♄	3	35	48	0	8	29	n	4	♄	13	27	44	1	28	7	n	4
♓	♂	18	43	10	0	31	21	s	4	♂	17	24	23	4	57	31	s	4
	♄	22	14	55	3	2	51	s	4	♄	18	59	16	2	32	6	s	4
	♃	24	19	10	0	41	36	n	3	♃	20	44	28	7	33	40	s	3
♈	♂	0	34	33	5	4	42	n	3	♂	25	55	40	2	3	47	s	4
	♃	2	2	39	1	22	24	n	3	♃	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  $50\frac{1}{3}$  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 ♋♄, or ♄ picium, for Feb. 15, 1802, or 2 years and one eighth after the tabular time; here  $2\frac{1}{8}$  times  $50\frac{1}{3}$  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 Places.

	Lat.		Long.			Lat.		Long.	
	°	'	°	'		°	'	°	'
Alexandria, Egypt	31	11 n	30	17 e	Ispahan	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
Gottingen	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
Hacluit'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
Helena, 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

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