

ἸΑΤΑΑΣ ΟΥΡΑΝΙΟΣ,
The COELESTIAL ATLAS;

OR, A NEW

E P H E M E R I S

For the YEAR of our LORD 1799.

Being the Third after

BISSEXTILE, or LEAP-YEAR.

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
Catalogue; and, lastly, a correct TABLE of Latitudes and Longi-
tudes of the most remarkable Places in the World.

By ROBERT WHITE,
Teacher of the Mathematicks.

Ὁς ἐγράψεν διηγήσας δεκάτ' ἔτη.

The FIFTIETH IMPRESSION.

L O N D O N:

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street.

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Chronological Notes for the Year 1799.

Golden Number	-	-	14	Septuagesima Sund.	Jan.	20
Cycle of the Sun	-	-	16	Shrove Sunday	Feb.	3
The Epact	-	-	23	Easter Day	Mar.	24
Dominical Letter	-	F		Whit Sunday	May	12
Number of Direction	-	3		Trinity Sunday	May	19
Roman Indiction	-	2		Advent Sunday	Dec.	1

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.		△ Trine when 4 Signs dist.	
□ Quartile when 3 Signs dist.		♌ Opposition when 6 Signs dist.	

Of the Four Quarters of the Year 1799.

	d	h	m
THE Spring Quarter begins	-	-	March 20 2 17 aftern.
The Summer Quarter begins	-	-	June 21 0 3 aftern.
The Autumnal Quarter begins	-	-	Sept. 23 1 49 morn.
The Winter Quarter begins	-	-	Dec. 21 6 33 aftern.

THE beautiful Planet VENUS will be an Evening Star till Octob-
the 16th; and after that Time she will be a Morning Star to
the Year's End.

JUPITER will be an Evening Star till May the 30th; then a Morn-
ing Star till the 17th Day of December, at which Time he becomes an E-
vening 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 W. H. Ashurst, Knt.
K. Bench. } Sir Soulden Lawience, Knt. Sir Nash Grose, Knt.

III. In the } Sir James Eyre, Knt. L. C. J. Sir Giles Rooke, Knt.
C. Pleas. } John Heath, Esq. Sir Francis Buller, Bart.

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

Sir John Scott, Knt. Attor. General; Sir John Mitford, Knt. Solic. Gen.

A TABLE of TERMS and Returns for the Year 1799.

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

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

Easter Term begins April 10, ends May 6.

In fifteen Days of Easter	-	-	April 7	8	9	10	Wedn.
From Easter Day in three Weeks	-	-	14	15	16	17	Wedn.
From Easter Day in one Month	-	-	21	22	23	24	Wedn.
From Easter Day in five Weeks	-	-	28	29	30	31	Wedn.
On the Mor. of the Ascension of the Lord	May 3	4	5	6			Monday

Trinity Term begins May 24, ends June 12.

On the Morrow of the Holy Trinity,	-	May 20	21	22	24	Friday.
In eight Days of the Holy Trinity,	-	26	27	28	29	Wedn.
In fifteen Days of the Holy Trinity,	June 2	3	4	5		Wedn.
From the Day of the Holy Trin. in 3 Weeks	9	10	11	12		Wedn.

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

On the Morrow of All Souls	-	-	Nov. 3	4	5	6	Wednesf.
On the Morrow of St. Martin	-	-	12	13	14	15	Friday
In eight Days of St. Martin	-	-	18	19	20	21	Thursd.
In fifteen Days of St. Martin	-	-	25	26	27	28	Thursd.

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 Aug. Fred. Jan. 27, 1738
Prince of Wales, Aug. 12, 1762	Prince Adolph. Fred. Feb. 24, 1744
Duke of York, August 16, 1763	Princess Mary, April 25, - 1766
Duke of Clarence, Aug. 21, 1765	Princess Sophia, Nov. 3, - 1771
Prs. of Wirtemberg, Sept. 29, 1766	Princess Amelia, Aug. 7, - 1783
Prince Edward, Nov. 2, - 1767	Queen Charlotte, May 19, 1744
Prs. Augusta Sophia, Nov. 8, 1768	Duchess of Bruntwic, Aug. 11, 1733
Prs. Elizabeth, May 22, - 1770	Duke of Gloucester, Nov. 25, 1743
Prince Ernest Augustus, June 5, 1771	

SOVEREIGNS of EUROPE, their Accession, &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	Mary	Dec. 7, 1734	Feb. 24, 1777
Prussia	Frederic Wm. III.	Aug. 6, 1770	Nov. 16, 1797
Denmark & Norway	Christian VII.	Jan. 29, 1749	Jan. 14, 1766
Sweden	Gustavus IV.	Nov. 1, 1778	Mar. 29, 1792
Germany	Francis II.	Feb. 12, 1767	Mar. 1, 1792
Poland	Stanislaus III.	Jan. 17, 1732	Nov. 25, 1764
Holland	William V.	March 8, 1748	Oct. 11, 1751
Papedom	Pius VI.	Dec. 27, 1717	Feb. 18, 1775
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.		Full Wt.
GOLD.	dwt. gr.	dwt. gr.			dwt. gr.
Guinea, - -	5 8	5 9 $\frac{3}{4}$	A Crown, - -	-	19 8 $\frac{1}{4}$
Half Guinea, -	2 16	2 16 $\frac{3}{4}$	Half Crown, -	-	9 16 $\frac{3}{4}$
Quarter Guinea, 1	8	1 8 $\frac{3}{4}$	Shilling, - -	-	3 20 $\frac{3}{4}$
			Six Pence, - -	-	1 22 $\frac{1}{4}$

According to the above proportions it appears, that the value of a *lb.* of silver is 62 s. or 3 l. 2 s. and of a *lb.* of gold is 44 $\frac{1}{2}$ guineas, or 46 l. 14 s. 6 d. Also that the *oz.* of silver is 5 s. 2 d. and the *oz.* of gold 3 l. 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.	Age	Rem. Deaths and Dethroned	Where buried
Will. Conq.	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. 24	34 8 11	55	Slain with an Arrow.	Fonteveraud
Richard I.	1156	1189 July 6	9 9 0	43		Fonteveraud
John	1165	1199 April 6	17 6 13	50		Worcester
Henry III.	1207	1216 Oct. 19	56 0 28	65		Westminster
Edward I.	1239	1272 Nov. 10	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	Dep. & murd.	Westminster
Richard II.	1366	1377 June 21	22 3 8	33		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	Murder'd. Slain in Battle.	Windfor
Edward V.	1471	1483 April 9	0 2 15	12		Not known
Richard III.	1443	1483 June 22	2 2 0	42		Leicester
Henry VII.	1456	1485 Aug. 22	23 8 0	52		Westminster
Henry VIII.	1492	1509 April 22	37 9 6	55		Windfor
Edward VI.	1537	1547 Jan. 28	6 5 8	15		Westminster
Mary I.	1516	1553 July 6	5 4 11	42		Westminster
Elizabeth	1533	1558 Nov. 17	44 4 7	69		Westminster
James I.	1566	1603 Mar. 24	22 0 3	58	Abdicated.	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		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. 22, 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 FATHERS IN GOD,
BISHOPS, BISHOPS AND DEANS, EXERCISING ECCLESIASTICAL JURISDICTION, 1700

BISHOPS.	Sees.	Date.	Succeeded.	Deceased.
Dr. John Moore	<i>Bangor</i>	1775	Lwer deceased	
Arch-Bishop	<i>Carterb. A. B.</i>	1783	Cornwallis dec.	Dr. Prouse
Dr. Will. Markham	<i>Chester</i>	1771	Keene transfr.	
Arch-Bishop	<i>York A. B.</i>	1777	Drummond dec.	Dr. J. Fountain
Dr. Beilby Porteus	<i>Chesr</i>	1776	Markham tran.	
	<i>London</i>	1787	Lowth deced.	Bishop Fretyman
	<i>Landaff</i>	1763	Shpley transfr.	
Hon. Dr. S. Barrington	<i>Salisbury</i>	1782	Hume dec.	
	<i>Durham</i>	1781	Thurlow dec.	Bishop Cornwallis
	<i>Litch & Cov.</i>	1771	Everton tran.	
Hon. Dr. B. North	<i>Worcester</i>	1774	Johnston deced.	
	<i>Winchester</i>	1781	Thomas deced.	Dr. Newton Ogle
Dr. Charles Mofs	<i>St. David's</i>	1766	L. with transfr.	
	<i>Bath & Wells</i>	1774	Willes deced.	Ld. Fr. Seymour
	<i>St. David's</i>	1774	Mofs transfr.	
H. Dr. James Yorke	<i>Gloucester</i>	1779	Waburton dec.	
	<i>Ely</i>	1781	Keene deceased	Dr. Wm. Pearce
Dr. Richard Hurd	<i>Litch. & Cov.</i>	1775	B. North tr.	
	<i>Worcester</i>	1781	B. North tr.	Dr. Onslow
Dr. John Butler	<i>Oxford</i>	1777	Lowth transfr.	
	<i>Hereford</i>	1788	Harley deced.	Dr. N. Wetherell
Dr. John Warren	<i>St. David's</i>	1779	Yorke transfr.	
	<i>Bangor</i>	1783	Moore transfr.	Mr. Warren
Dr. J. Cornwallis	<i>Litch & Cov.</i>	1781	Hurd transfr.	Dr. Bait. Proby
	<i>Bristol</i>	1782	Newton dec.	
Dr. Lewis Bagot	<i>Norwich</i>	1783	Yonge dec.	
	<i>St. Asaph</i>	1780	Hall fax dec.	Mr. W. D. Shipley
Dr. Richard Watson	<i>Landaff</i>	1782	Barrington tr.	Dr. R. Price, Pr.
Dr. Edward Smalwell	<i>St. David's</i>	1783	Warren transfr.	
	<i>Oxford</i>	1788	Butler transfr.	Dr. Cyril Jackson
Dr. G. Pretyman	<i>Lincoln</i>	1787	Thurlow transfr.	Sh. Rl. Kaye, Bt.
Dr. John Douglas	<i>Carlisle</i>	1787	Law dec.	
	<i>Salisbury</i>	1791	Barrington tr.	Dr. John Ekins
Dr. William Cleaver	<i>Chester</i>	1788	Porter's tran.	Dr. G. Cotton
Dr. Samuel Horsley	<i>St. David's</i>	1788	Smalwell tr.	
	<i>Rochester</i>	1793	Thomas dec.	Dr. T. Dampier
Dr. Richard Beadon	<i>Gloucester</i>	1789	Hallifax tran.	Dr. Josiah Tucker
Dr. E. V. Vernon	<i>Carlisle</i>	1791	Douglas transfr.	Dr. Isaac Milner
Dr. Charles Sutton	<i>Norwich</i>	1792	Horne deced.	Dr. Joseph Turner
Dr. Spencer Madan	<i>Bristol</i>	1792	Bagot transfr.	
	<i>Peterborough</i>	1794	Hinchliffe dec.	Dr. Tho. Kipling
Dr. Regi. Courtenay	<i>Bristol</i>	1794	Horsley transfr.	Dr. C. Harward
	<i>Ex ter</i>	1797	Madan transfr.	Dr. John Hallam
Dr. Cornwall	<i>Bristol</i>	1797	Buller dec.	Mr. Wollaston, P.
Hon. Dr. Wm. Stuart	<i>St. David's</i>	1793	Courtenay tra.	
Dr. Buckner	<i>Chichester</i>	1797	Ashburnham d.	Mr. Combe Miller
	<i>W. stminster</i>	1793	Thomas dec.	Bishop Horsley
	<i>Windsor</i>	1788	Douglas prom.	Bishop Sutton
Dr. Crigan	<i>Sodor and Man</i>			

In the course of this year there will happen only two eclipses, and those both of the sun, but neither of them visible in these parts.

I. *May 5*, the Sun is eclipsed, but invisible here. The conjunction is at $45\frac{1}{2}$ minutes before 1 in the morning, in longitude $1^s 14^o 27'$, the moon's latitude being $7'$ south. The Sun will be centrally eclipsed on the meridian, at oh $9\frac{1}{2}$ m, in longitude $177^o 37\frac{1}{2}'$ east, and latitude 8^o north.

II. *October 28*, the Sun is eclipsed, but invisible here. The conjunction is at 5h $35\frac{3}{4}$ m afternoon, in longitude $7^s 5^o 19'$, the moon's latitude being $7\frac{1}{4}'$ north. The Sun will be centrally eclipsed on the meridian, at 5h 31m, in longitude $82^o 3\frac{3}{4}'$ west, and latitude $5\frac{1}{4}'$ south.

There will also happen this year, two remarkable occultations, or eclipses, of Jupiter and Venus by the moon, and a transit or passage of the planet Mercury over the face of the sun. The particulars of all which are as follow :

May 7, the planet Mercury will transit or pass over the sun's disk. The transit begins about half past 8 in the morning, and ends about 3 quarters past 3 afternoon; the planet passing over the lower part of the sun, ending at the very lowest point of the sun's disk, and beginning about 60^o above the same on the left hand side, when looked at directly with the naked eye; but will appear to begin on the contrary side when looked at through a telescope which reverses.

June 16, Jupiter is occulted or eclipsed by the moon. Begins at 1h 49m in the morning, and ends at 2h 41m. The latitude of Jupiter being $5\frac{1}{4}'$ north of the moon's centre.

November 24, Venus is occulted by the moon. The beginning is at 4h $4\frac{1}{2}$ m, and end at 5h $3\frac{1}{2}$ m, in the morning. The latitude of Venus being, at beginning $1\frac{1}{3}'$ south, and at the end $4\frac{1}{3}'$ north of the moon's centre.

Obliquity of the Ecliptic.	1799.	Equation of Equinoctial Points.
23° 27' 58".0 -	January 1,	- 14".3
23 27 58. 4 -	April 1,	- 13. 3
23 27 58. 9 -	July 1,	- 12. 2
23 27 59. 3 -	October 1,	- 11. 1
23 27 59. 6 -	Decemb. 31,	- 9. 9

The LUNATIONS.

New Moon the 6th day, at 14 minutes past 4 morning.
 First quarter the 14th day, at 58 minutes past 3 morning.
 Full Moon the 21st day, at 41 minutes past 5 afternoon.
 Last quarter the 28th day, at 50 minutes past 10 morning.

M D	Sundays & other remark. days	☉ rises	☉ sets	☉'s declin.	☿'s declin.	☿ rises & sets	☿ south	Clock bet. ☉	
1	Circumcision	8 5	3 55	23 s 0	14 s 33	2 m 40	7 n 44	4' 8"	
2		8 4	3 56	22 54	19 30	4 2	8 35	4 36	
3		8 3	3 57	22 48	23 22	5 22	9 30	5 4	
4		8 3	3 57	22 42	25 50	6 48	10 26	5 31	
5	Old Chri. Day	8 2	3 58	22 35	26 46	7 55	11 23	5 58	
6	Epiphany	7 w. day	3 59	22 28	26 9	☿ sets	☉ a 20	6 25	
7	Plough Monday	8 0	4 0	22 21	24 7	5 a 8	1 14	6 51	
8	Lucian	7 50	4 1	22 13	20 54	6 20	2 4	7 16	
9		7 58	4 2	22 4	16 49	7 35	2 50	7 41	
10		7 57	4 3	21 55	12 7	8 46	3 33	8 6	
11		7 56	4 4	21 46	7 3	9 56	4 14	8 30	
12	Old New Yea.d.	7 55	4 5	21 36	1 45	11 5	4 53	8 53	
13	1 S. aft. Epiph.	Ca. T. b.	4 6	21 26	3 n 34	morn	5 32	9 15	
14	Ox. T. b. [Hila.	7 53	4 7	21 15	8 48	0 12	6 13	9 37	
15		7 52	4 8	21 4	13 46	1 23	6 55	9 59	
16		7 51	4 9	20 53	18 17	2 35	7 41	10 19	
17	Old 12th Day	7 49	4 11	20 41	22 8	3 50	8 30	10 39	
18	Q. Char. b. d. k.	7 48	4 12	20 29	24 59	5 3	9 24	10 58	
19	[Prisca	7 47	4 13	20 16	26 35	6 16	10 21	11 16	
20	Septuagesima S.	7 45	4 15	20 3	26 38	7 17	11 21	11 34	
21	Agnes [Fabian	7 44	4 16	19 50	25 0	☿ rises	morn	11 50	
22	Vincent	7 42	4 18	19 36	21 45	5 a 5	0 20	12 6	
23	Hil. Term beg.	7 41	4 19	19 22	17 7	6 32	1 17	12 21	
24		7 40	4 20	19 8	11 27	8 3	2 12	12 36	
25	Conv. of St. Paul	7 38	4 22	18 53	5 11	9 28	3 3	12 49	
26		7 37	4 23	18 38	1 s 20	10 53	3 53	13 2	
27	Sexage. Pr. Au.	7 35	4 25	18 23	7 41	morn	4 42	13 14	
28	[Fred. b.	7 33	4 27	18 7	13 35	0 19	5 32	13 25	
29		7 32	4 28	17 51	18 42	1 43	6 23	13 36	
30	K. Cha. I. mar.	7 30	4 30	17 34	22 45	3 8	7 16	13 46	
31		7 28	4 32	17 17	25 30	4 26	8 11	13 54	
D ays	Day increas.	Length of Day.	Helioc. long. ♀	Helioc. long. ♀	Helioc. long. ♂	Helioc. long. ☉	Helioc. long. ☿	Helioc. long. ☿	h sets
1	0 7	7 51	22 26 17	25 8 48	22 8 12	11 26 11	12 16 17	20 8 6	9 m 22
7	0 17	8 1	22 30	26 20	25 28	17 18	21 46	27 14 5	8 58
13	0 29	8 13	22 43	26 52	28 43	23 25	1 15	3 51	8 25
19	0 43	8 27	22 57	27 24	1 55	☉	10 44	4 56	7 42
25	1 1	8 45	23 10	27 56	5 6	5 38	20 14	0 25	7 0

1799.

January.

9

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 59	6 1	2 10	22 8 32	0 n 1	1 s 2	0 n 10	0 s 40	0 n 12
7	5 56	6 4	2 9	22 13	0 2	1 0	0 18	0 52	2 3
13	5 52	6 8	2 7	21 54	0 2	0 50	0 25	1 3	3 21
19	5 46	6 14	2 5	21 35	0 3	0 57	0 31	1 12	3 16
25	5 39	6 21	2 3	21 16	0 4	0 55	0 3	1 19	2 22
Days	☉'s longitude		D's long.	☽'s latitude	h's long.	u's long.	♂'s long.	♀'s long.	♂'s long.
1	11 11	3	12 11	0 n	23 37	16 8 36	10 46	11 30	28 R 20
2	12 12	15	26 12	0 s 11	21 32	16 34	11 22	12 54	28 V 20
3	13 13	27	9 4 57	1 25	23 27	16 32	11 58	14 1	28 12
4	14 14	39	23 34	2 32	23 22	16 31	12 34	15 25	27 55
5	15 15	52	6 15 59	3 3	23 17	16 30	13 10	16 41	27 26
6	16 17	4	20 12	4 15	23 12	16 29	13 46	17 56	20 43
7	17 18	15	3 10	4 46	23 8	16 28	14 22	19 12	25 46
8	18 19	27	15 52	5 3	23 3	16 28	14 58	20 27	24 42
	19 20	37	28 18	5 4	22 58	16 27	15 34	21 43	23 32
10	20 21	48	10 31	4 51	22 53	16 D 27	16 11	22 58	22 17
11	21 22	57	22 31	4 26	22 48	16 27	16 47	24 14	20 58
12	22 24	6	4 24	3 49	22 43	16 28	17 23	25 29	19 40
F	23 25	14	16 13	3 3	22 38	16 28	18 0	26 45	18 22
14	24 26	21	28 4	2 9	22 33	16 29	18 36	28 0	17 9
15	25 27	27	10 8 3	1 8	22 28	16 30	19 13	20 15	16 3
16	26 28	32	22 13	0 4	22 23	16 31	19 50	0 31	15 4
17	27 29	36	4 142	1 n 3	22 18	16 32	20 27	1 46	14 13
18	28 30	40	17 31	2 7	22 13	16 34	21 4	3 1	13 31
19	29 31	42	0 45	3 7	22 9	16 36	21 41	4 17	12 59
F	0 32	43	14 24	3 58	22 4	16 38	22 18	5 32	12 37
21	1 33	44	28 26	4 36	21 59	16 41	22 55	6 47	12 23
22	2 34	44	12 46	4 58	21 54	16 43	23 32	8 3	12 D 17
23	3 35	42	27 19	5 1	21 49	16 46	24 9	9 18	12 19
24	4 36	41	1 57	4 44	21 44	16 48	24 46	10 33	12 29
25	5 37	38	26 32	4 0	21 40	16 51	25 23	11 49	12 46
26	6 38	35	11 0	3 18	21 35	16 54	26 0	13 4	13 10
F	7 39	31	25 16	2 15	21 31	16 57	26 37	14 19	13 40
28	8 40	26	9 18	1 5	21 26	17 1	27 15	15 35	14 15
29	9 41	21	23 7	0 s 8	21 22	17 5	27 52	16 50	14 55
30	10 42	15	6 42	1 19	21 17	17 9	28 30	18 5	15 39
31	11 43	8	20 5	2 24	21 13	17 13	29 7	19 21	16 26
Days	☽'s fets	♂'s fets	♀'s fets	♂'s fets	h's declin.	u's declin.	♂'s declin.	♀'s declin.	♂'s declin.
1	3 40	0 m 16	3 a 53	5 a 26	21 n 25	15 n 50	4 n 26	23 s 37	20 s 20
7	3 14	0 16	4 6	4 56	21 31	15 49	5 57	22 57	18 59
13	2 48	0 5	4 20	rises	21 36	15 51	7 27	21 52	18 53
19	2 23	0 1	4 35	6 m 31	21 42	15 55	8 56	20 23	19 35
25	1 58	1 a 58	4 51	6 11	21 47	16 0	10 24	18 32	20 30

The LUNATIONS.

New Moon the 4th day, at 14 minutes past 8 night.
First quarter the 13th day, at 10 minutes bef. 1 morning.
Full Moon the 20th day, at 3 minutes past 5 morning.
Last quarter the 26th day, at 22 minutes past 8 night.

M	Sundays & other remark, days	☉ rises	☉ sets	☉'s declin	☾'s declin.	☾'s & sets	☾ south	Clock bet. ☉	
D									
1		7 27	4 33	17 s 0	26 s 47	5 m 37	9 m 7	14 2	
2	Purif. or Candl.	7 25	4 35	16 4	26 33	6 36	10 3	14 10	
3	Quinq. Shro. S. [Blas]	7 23	4 37	15 25	24 53	7 26	10 58	14 16	
4		7 22	4 38	15 10	22 0	☾ sets	11 49	14 22	
5	Shrove Tuesday Agatha	7 20	4 40	15 40	18 8	☾ a 12	12 37	14 26	
6	Ash Wednesday	7 18	4 42	15 3	13 34	6 21	1 22	14 30	
7		7 16	4 44	15 12	8 32	7 36	2 4	14 34	
8		7 14	4 46	14 53	3 15	8 46	2 44	14 36	
9		7 13	4 47	14 34	2 m 7	9 53	3 23	14 37	
10	1. Sun. in Lent	7 11	4 49	14 14	7 23	11 3	4 3	14 38	
11	{ T. oiv. m.	7 9	4 51	13 55	12 26	morn	4 44	14 38	
12	Term ends. Ca.	7 7	4 53	13 35	17 3	0 13	5 28	14 37	
13	Ember Week	7 5	4 55	13 15	21 6	1 26	6 15	14 36	
14	Valen. [Old Ca.]	7 3	4 57	12 52	24 16	2 40	7 6	14 33	
15		7 1	4 59	12 34	26 10	3 51	8 1	14 30	
16		7 0	5 0	12 13	26 58	4 58	8 59	14 26	
17	2. Sund. in Lent	6 58	5 2	11 52	26 2	5 53	9 54	14 21	
18		6 56	5 4	11 31	23 25	6 36	10 59	14 16	
19		6 54	5 6	11 9	19 14	7 6	11 56	14 10	
20		6 52	5 8	10 48	13 47	☾ rises	morn	14 3	
21		6 50	5 10	10 26	7 29	7 a 1	0 50	13 56	
22		6 48	5 12	10 4	0 44	8 31	1 43	13 48	
23		6 46	5 14	9 42	5 s 58	9 5	2 34	13 39	
24	3. Sun. in L. St. Mat.	6 44	5 16	9 20	12 16	11 29	3 25	13 30	
25	[Chl. Pr. A. P. b.]	6 42	5 18	8 58	17 46	morn	4 18	13 20	
26		6 40	5 20	8 36	22 11	0 56	5 12	13 10	
27		6 38	5 22	8 13	25 15	2 19	6 7	12 59	
28		6 36	5 24	7 50	26 51	3 34	7 4	12 48	
Days	Day increas.	Length of d y	Helioc. long. ♀	Helioc. long. ♀	Helioc. long. ♂	Helioc. long. ☉	Helioc. long. ♀	Helioc. long. ♂	h sets
1	1 23	9 7	23 26	28 8 33	8 11 45	12 31 44	1 X 18	25 24	6 m 39
7	1 48	9 29	23 39	29 5	11 5	18 49	10 49	13 m 53	6 11
13	2 7	9 51	23 53	29 37	14 5	24 53	20 20	0 f 57	5 45
19	2 29	10 13	24 6	0 II 6	17 58	0 m 56	29 52	17 28	5 21
25	2 52	10 36	24 19	0 41	20 59	6 57	9 V 25	4 2 11	5 1

1799.

February.

II

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

The LUNATIONS.

New Moon the 6th day, at 34 minutes past 1 afternoon.

First quarter the 14th day, at 22 minutes past 6 afternoon.

Full Moon the 21st day, at 53 minutes past 2 afternoon.

Last quarter the 28th day, at 34 minutes past 7 morning.

M	Sundays & other D remark. days	☉ rises	☉ sets	☉'s declin.	☾'s declin.	☾ rises & sets	☾ South	Clock bef. ☉	
1	David	6 34	5 26	7 s 28	26 ° 55	4 m 36	8 m 1	12' 36"	
2	Chad	6 32	5 28	7 3	25 33	5 24	8 56	12 23	
3	F 4 or Midl. Sund.	6 30	5 30	6 42	22 56	5 56	9 48	12 11	
4		6 29	5 31	6 19	19 18	6 21	10 36	11 57	
5		6 27	5 33	5 56	14 52	6 40	11 22	11 44	
6		6 25	5 35	5 32	9 57	☾ sets	0 a 4	11 29	
7	Perpetua	6 23	5 37	5 9	4 41	6 a 36	0 45	11 15	
8		6 21	5 39	4 46	0 n 43	7 46	1 25	11 0	
9		6 19	5 41	4 22	6 4	8 54	2 4	10 44	
10	F 5 Sund. in Lent	6 17	5 43	3 56	11 13	10 5	2 45	10 29	
11		6 15	5 45	3 35	15 59	11 18	3 28	10 13	
12	Gregory	6 13	5 47	3 12	20 11	morn	4 13	9 56	
13		6 11	5 49	2 48	23 36	0 30	5 2	9 40	
14		6 9	5 51	2 24	26 0	1 42	5 55	9 23	
15	Cam. Ter. ends	6 7	5 53	2 1	27 9	2 51	6 50	9 5	
16	Oxf. Ter. ends	6 5	5 55	1 37	26 49	3 48	7 48	8 48	
17	F 6 or Palm Sun.	Patrick	5 57	1 13	24 54	4 34	8 47	8 30	
18	Edwa. K. W. S.	6 1	5 59	0 50	21 25	5 10	9 44	8 12	
19		5 59	6 1	0 26	16 31	5 35	10 39	7 54	
20		5 57	6 3	0 2	10 31	5 56	11 33	7 36	
21	Bene. Maun. T.	5 55	6 5	0 n 21	3 48	☾ rises	morn	7 17	
22	Good Friday	5 53	6 7	0 45	3 s 10	7 a 33	0 26	6 59	
23		5 51	6 9	1 9	9 56	9 6	1 19	6 40	
24	F Easter Day	5 49	6 11	1 32	16 2	10 39	2 13	6 22	
25	Lady D. East. M.	5 47	6 13	1 56	21 4	morn	3 8	6 3	
26	Easter Tuesday	5 45	6 15	2 19	24 43	0 8	4 5	5 44	
27		5 43	6 17	2 43	26 47	1 30	5 4	5 25	
28		5 41	6 19	3 6	27 15	2 38	6 2	5 7	
29		5 39	6 21	3 30	26 12	3 31	6 59	4 48	
30		5 37	6 23	3 53	23 50	4 9	7 53	4 30	
31	F Low Sunday	5 35	6 25	4 16	20 23	4 35	8 42	4 11	
D ays	Day increaf.	Length of day	Helioc. long. ♀	Helioc. long. ♀	Helioc. long. ♂	Helioc. long. ☉	Helioc. long. ♀	Helioc. long. ♂	☾ sets
1	3 7	10 51	24 20 28	1 11 3	22 11 50	10 11 54	15 1 47	15 1 18	4 m 46
7	3 31	11 15	24 42	1 35	25 57	16 58	25 22	4 36	4 24
13	3 55	11 39	24 55	2 6	28 53	22 57	4 57	25 57	4 1
19	4 19	12 3	25 8	2 38	1 54 8	28 55	14 33	21 6	3 39
25	4 43	12 27	25 22	3 10	4 41	4 51	24 10	21 13	3 16

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

The LUNATIONS.

New Moon the 5th day, at 21 minutes past 7 morning.
 First quarter the 13th day, at 47 minutes past 7 morning.
 Full Moon the 19th day, at 40 minutes past 11 night.
 Last quarter the 26th day, at 30 minutes past 8 night.

M ^d	Sundays & other D ^y remark days	☉ rises	☉ sets	☉'s declin.	☾'s declin.	☾ rises & sets	☾ South	Clarke bef. ☉	
1		5 33	6 27	4 n 39	16 s 8	4 m 56	9 m 29	3' 53"	
2	[Richard	5 31	6 29	5 2	11 18	5 11	10 11	3 35	
3	Ox. & Ca. T. beg.	5 29	6 31	5 25	6 5	5 23	10 52	3 17	
4	Ambrose	5 27	6 33	5 48	0 42	5 35	11 32	2 59	
5	Old Lady day	5 25	6 35	6 11	4 n 43	(☉ sets)	0 a 12	2 41	
6		5 23	6 37	6 34	9 5	8 a 0	0 52	2 24	
7	2 Su. af. Easter	5 21	6 39	6 56	14 54	9 12	1 34	2 6	
8		5 19	6 41	7 19	19 17	10 28	2 19	1 49	
9		5 17	6 43	7 41	22 57	11 42	3 6	1 32	
10	Ferm begins	5 16	6 44	8 3	25 38	morn	3 57	1 16	
11		5 14	6 46	8 25	27 8	0 50	4 51	0 59	
12		5 12	6 48	8 47	27 15	1 51	5 46	0 43	
13		5 10	6 50	9 9	25 53	2 40	6 43	0 28	
14	3 S. af. Easter	5 8	6 52	9 31	23 1	3 18	7 38	0 12	
15		5 6	6 54	9 52	18 45	3 44	8 33	0 a f. 3	
16		5 4	6 56	10 13	13 19	4 7	9 26	0 18	
17		5 2	6 58	10 35	6 59	4 26	10 18	0 33	
18		5 0	7 0	10 55	0 7	4 41	11 10	0 47	
19	Alphege	4 58	7 2	11 16	6 s 49	(☉ rises)	morn	1 0	
20		4 57	7 3	11 37	13 23	8 a 10	0 3	1 14	
21	4 Sun. af. East.	4 55	7 5	11 57	19 5	9 46	0 59	1 27	
22		4 53	7 7	12 17	23 30	11 14	1 57	1 39	
23	St. George	4 51	7 9	12 37	26 19	morn	2 57	1 51	
24	[Ma. b.	4 49	7 11	12 57	27 24	0 32	3 57	2 2	
25	St. Mark. Prr.	4 47	7 13	13 17	26 48	1 34	4 57	2 13	
26		4 45	7 15	13 36	24 44	2 17	5 53	2 24	
27		4 44	7 16	13 55	21 30	2 47	6 45	2 34	
28	5 or Roga. Sun.	4 42	7 18	14 14	17 23	3 9	7 32	2 43	
29		4 40	7 20	14 33	12 39	3 25	8 17	2 52	
30		4 38	7 22	14 51	7 30	3 39	8 58	3 1	
Days	Day increaf.	Length of day	Helioc. long. ♀	Helioc. long. ♀	Helioc. long. ♂	Helioc. long. ☉	Helioc. long. ♀	Helioc. long. ♂	h sets
1	5 11	12 55	25 37	3 11 47	8 26 1	11 46	5 11 26	2 11 41	2 m 52
7	5 35	13 19	25 51	4 19	10 51	17 40	15 5	10 20	2 30
13	5 57	13 41	26 4	4 51	13 40	23 32	24 46	14 57	2 9
19	6 21	14 5	26 17	5 23	16 28	19 24	4 28	14 12 8	1 48
25	6 43	14 27	26 31	5 54	19 15	5 m 14	14 11	8 14	1 37

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	3 3	8 27	2 3	17 8 46	0 n 10	0 s 40	1 n 10	0 s 16	0 n 31
7	3 17	8 43	2 8	17 27	0 10	0 39	1 11	0 0	1 38
13	3 2	8 58	2 11	17 8	0 11	0 39	1 12	0 n 17	2 31
19	2 47	9 13	2 15	16 49	0 11	0 38	1 13	0 34	2 53
25	2 26	9 34	2 25	16 30	0 12	0 37	1 14	0 50	2 34
Days	☉'s longitude	☽'s long.	☽'s latitude	h's long.	u's long.	♂'s long.	♀'s long.	♂'s long.	
1	VI 45 35	CX 10	5 s 2	19 20 20	25 8 51	7 II 2	3 8 54	23 V 5	
2	12 44 40	12 12	4 40	19 21	26 3	7 40	5 8	25 3	
3	13 43 43	24 8	4 6	19 23	26 15	8 18	6 21	26 58	
4	14 42 44	5 V 59	3 21	19 24	26 27	8 56	7 35	28 51	
5	15 41 43	17 48	2 27	19 26	26 39	9 34	8 48	0 8 41	
6	16 40 40	29 36	1 28	19 27	26 51	10 12	10 2	2 27	
F	17 39 35	11 8 25	0 24	19 29	27 4	10 50	11 15	4 10	
8	18 38 28	23 19	0 n 41	19 31	27 16	11 28	12 28	5 49	
9	19 37 18	5 II 19	1 45	19 33	27 29	12 6	13 42	7 24	
10	20 36 6	17 30	2 46	19 35	27 41	12 44	14 55	8 55	
11	21 34 52	29 54	3 40	19 38	27 54	13 22	16 9	10 21	
12	22 33 36	12 25 37	4 24	19 40	28 7	14 0	17 22	11 42	
13	23 32 17	25 41	4 56	19 43	28 20	14 38	18 35	12 58	
F	24 30 56	9 Ω 11	5 13	19 45	28 32	15 16	19 48	14 9	
15	25 29 33	23 6	5 13	19 48	28 45	15 54	21 1	15 14	
16	26 28 8	7 III 29	4 53	19 51	28 58	16 32	22 14	16 14	
17	27 26 40	22 14	4 14	19 54	29 11	17 10	23 27	17 9	
18	28 25 10	7 Δ 17	3 17	19 57	29 24	17 48	24 40	17 58	
19	29 23 38	22 29	2 5	20 0	29 37	18 25	25 53	18 41	
20	8 0 22	7 III 40	0 44	20 3	29 50	19 3	27 6	19 18	
F	1 20 29	22 41	0 s 39	20 6	0 II 3	19 41	28 19	19 50	
22	2 18 52	7 ↑ 24	1 57	20 9	0 16	20 19	29 31	20 16	
23	3 17 13	21 43	3 7	20 13	0 29	20 57	0 II 44	20 86	
24	4 15 33	5 ♄ 35	4 3	20 16	0 42	21 35	1 57	20 50	
25	5 13 51	19 1	4 44	20 20	0 56	22 13	3 9	20 59	
26	6 12 7	2 2	5 8	20 24	1 9	22 51	4 22	21 R 2	
27	7 10 23	14 41	5 17	20 28	1 23	23 29	5 34	21 0	
F	8 8 37	27 2	5 11	20 32	1 36	24 7	6 47	20 52	
29	9 6 49	9 X 9	4 51	20 36	1 50	24 45	7 59	20 40	
30	10 5 0	21 6	4 19	20 40	2 3	25 23	9 12	20 23	
Days	♂'s sets	♂'s sets	♀'s sets	♀'s sets	h's declin.	u's declin.	♂'s declin.	♀'s declin.	♂'s declin.
1	10 a 35	11 a 48	8 a 33	7 a 32	22 n 14	18 n 35	22 n 40	12 n 35	9 n 28
7	10 20	11 47	8 54	8 20	22 13	18 53	23 16	15 14	14 28
13	10 5	11 45	9 15	8 54	22 12	19 11	23 47	17 39	18 9
19	9 50	11 42	9 36	9 6	22 10	19 29	24 11	19 48	20 10
25	9 26	11 28	9 56	8 56	22 7	19 46	24 28	21 38	20 30

The LUNATIONS.

New Moon the 4th day, at 1 minutes past 12 night.

First quarter the 12th day, at 9 minutes past 5 afternoon.

Full Moon the 19th day, at 51 minutes past 7 morning.

Last quarter the 26th day, at 5 minutes past 11 morning.

M	Sundays & other remark. days	☉ rises	☉ sets	☉'s declin.	☽'s declin.	☽ rises & sets	☽ South	Clock aft. ☉	
1	St. Phil. & Jam.	4 37	7 23	15 n 10	2 s 8	3 m 51	9 38	3 8	
2	Afcen. Holy Th.	4 35	7 25	15 n 28	3 n 18	4 1	10 17	3 16	
3	Inven. of Crofs	4 33	7 27	15 45	8 37	4 13	10 5	3 22	
4		4 31	7 29	16 3	13 40	☾ sets	11 38	3 28	
F	Sun. af. Afcen.	4 30	7 30	16 20	18 15	8 a 23	0 a 22	3 34	
6	Term e. J. Eva.	4 28	7 32	16 37	22 9	9 30	1 8	3 39	
7	[A.P.L]	4 26	7 34	16 54	25 7	10 46	1 58	3 43	
8		4 25	7 35	17 10	26 55	11 50	2 51	3 47	
9	Oxford T. ends	4 23	7 37	17 26	27 23	morn	3 46	3 51	
10		4 21	7 39	17 42	26 25	0 43	4 41	3 53	
11	[Old May D]	4 20	7 40	17 57	23 58	1 23	5 36	3 55	
F	Whit Sunday	4 18	7 42	18 12	20 10	1 53	6 29	3 57	
13	Whit Monday	4 17	7 43	18 27	15 13	2 16	7 20	3 58	
14	Whit Tuesday	4 15	7 45	18 42	9 21	2 34	8 10	3 59	
15	Ember Week	4 14	7 46	18 56	2 51	2 42	9 0	3 59	
16		4 12	7 48	19 10	3 s 55	3 4	9 51	3 58	
17	Prs. Wales b.	4 11	7 49	19 24	10 34	3 19	10 44	3 57	
18		4 9	7 51	19 37	16 39	3 36	11 40	3 55	
F	Tri.S. Q.Ch.b.	Dunſt.	7 52	19 50	21 42	☾ rises	morn	3 53	
20	[Ca.T.di.m.]	4 7	7 53	20 2	25 17	10 a 9	0 40	3 51	
21		4 5	7 55	20 15	27 9	11 20	1 41	3 47	
22	Prs. Elizab. bo.	Ox.T.b	7 56	20 27	27 12	morn	2 42	3 43	
23	Corpus Chriſti	4 3	7 57	20 38	25 37	0 12	3 41	3 39	
24	Term begins	4 1	7 59	20 49	22 41	0 49	4 37	3 34	
25		4 0	8 0	21 0	18 44	1 14	5 27	3 29	
F	1 Sun. af. Trin.	3 59	8 1	21 11	14 5	1 32	6 13	3 23	
7	Ven. Be. [Aug.]	3 58	8 2	21 21	8 58	1 46	6 56	3 16	
28		3 57	8 3	21 31	3 37	1 59	7 37	3 9	
29	K. Char. 2 reſt.	3 56	8 4	21 40	1 n 49	2 10	8 16	3 2	
30		3 55	8 5	21 49	7 11	2 20	8 55	2 54	
31		3 54	8 6	21 58	12 1	2 33	9 37	2 45	
Days	Day increaf.	Length of day	Helioc. long. ♀	Helioc. long. ♀	Helioc. long. ♂	Helioc. long. ☉	Helioc. long. ♀	Helioc. long. ♂	h ſe s
1	6 13	14 27	26 44	6 11 26	22 20	11 m 3	23 55	28 42	1 m 6
7	7 25	15 9	26 57	6 58	24 45	16 52	30 40	19 m 52	0 43
13	7 43	15 27	27 11	7 29	27 28	22 39	13 25	3 47	0 20
19	8 1	15 45	27 24	8 1	0 11	28 25	23 11	20 16	11 a 57
25	8 16	16 0	27 37	8 33	2 53	4 11	2 m 56	7 56	11 34

1799.

May.

17

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

The LUNATIONS.

New Moon the 3d day, at 5 minutes past 3 afternoon.

First quarter the 10th day, at 28 minutes past 11 night.

Full Moon the 17th day, at 5 minutes past 4 afternoon.

Last quarter the 25th day, at 14 minutes past 3 morning.

M	Sundays & other remark. days.	☉ rises	☉ sets	☉'s declin.	☽'s declin.	☽ rises & sets	☽ South	Clock aft. ☉	
1	Nicomede	3 53	8 7	22 n 6	17 n 3	2 n 45	10 m 17	2' 36"	
F 2	Sun. af. Trin.	3 52	8 8	22 14	21 10	3 3	11 2	2 27	
3		3 51	8 9	22 22	24 26	☽ sets	11 52	2 17	
4	K. Geo. III. b.	3 50	8 10	22 29	26 33	9 a 42	o a 45	2 3	
5	Pr. Ern. Aug. b.	Bonifa.	8 11	22 35	27 22	10 39	1 39	1 57	
6		3 49	8 11	22 42	26 42	11 22	2 35	1 46	
7		3 48	8 12	22 48	24 34	11 56	3 30	1 35	
8		3 47	8 13	22 53	21 3	morn	4 23	1 24	
F 3	Sun. af. Trin.	3 47	8 13	22 58	16 23	o 19	5 14	1 13	
10		3 46	8 14	23 3	10 49	o 38	6 3	1 8	
11	St. Barnabas	3 45	8 15	23 7	4 37	o 53	6 51	o 49	
12	Term ends	3 45	8 15	23 11	11 s 54	1 7	7 40	o 37	
13		3 44	8 16	23 15	8 25	1 21	8 30	o 25	
14		3 44	8 16	23 18	14 33	1 37	9 23	o 12	
15		3 44	8 16	23 21	19 53	1 56	10 19	o b. c	
F 4	Sun. af. Tri.	3 44	8 16	23 23	24 1	2 2	11 18	o 13	
17	St. Alban	3 43	8 17	23 25	26 34	☽ rises	morn	o 26	
18		3 43	8 17	23 26	27 20	9 a 55	o 20	o 39	
19		3 43	8 17	23 27	26 22	10 40	1 20	o 51	
20	Tra. Edw. KWS	3 43	8 17	23 28	23 51	11 10	2 19	1 4	
21	Longest Day	3 43	8 17	23 28	20 10	11 31	3 12	1 17	
22		3 43	8 17	23 28	15 38	11 48	4 1	1 30	
F 5	Sun. aft. Tri.	3 43	8 17	23 27	10 34	morn	4 46	1 43	
24	Nativ. J. Bapt.	3 43	8 17	23 26	15 11	o c	5 27	1 56	
25	[Midf.]	3 43	8 17	23 25	o n 16	o 12	6 7	2 8	
26		3 44	8 16	23 23	5 41	o 23	6 47	2 21	
27		3 44	8 16	23 21	10 54	o 34	7 27	2 34	
28		3 44	8 16	23 18	15 45	o 47	8 8	2 46	
29	St. Peter	3 44	8 16	23 15	20 4	1 3	8 53	2 58	
F 6	Sun. aft. Tri.	3 45	8 15	23 11	23 34	1 23	9 40	3 10	
M	Day	Length	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	h
D	increaf.	of day	long. ♀	long. ♀	long. ♂	long. ☉	long. ♀	long. ♂	sets
1	8 30	16 14	27 53	9 11	10 6	10 54	14 19	28 11	11 a 8
7	8 40	16 24	28 6	9 41	8 41	16 38	24 3	18 34	10 45
13	8 44	16 30	28 20	10 13	11 21	22 22	3 46	12 19	10 23
19	8 50	16 34	28 33	10 44	14 0	28 51	13 28	10 43	10 0
25	8 50	16 34	28 46	11 16	16 39	35 49	23 8	14 8	9 38

1799.

June.

19

M	Daylig. begins	Daylig. ends	Durat. twilig.	Pt. Q's node	h's latitude	u's latitude	♂'s latitude	♀'s latitude	♂'s latitude
1				14 8 33	on 14	os 33	in 15	2n 1	3s 40
7				14 14	o 15	o 32	1 15	2 4	3 9
13	All	day	light.	13 55	o 15	o 32	1 15	2 3	2 18
19				13 35	o 16	o 32	1 14	1 59	1 12
25				13 16	o 16	o 31	1 14	1 52	on 3
M	O's longitude		D's long.	D's latitude	h's long.	u's long.	♂'s long.	♀'s long.	♂'s long.
1	Π 10	53 30	17 8 1	on 7	23 32	9 11 27	15 31	17 51 18	17 8 7
F	11	50 58	29 5	1 13	23 38	9 41	16 9	18 28	17 58
3	12	48 25	11 11 20	2 17	23 45	9 55	16 47	19 38	18 54
4	13	45 51	23 48	3 14	23 51	10 9	17 25	20 48	19 56
5	14	43 16	6 52 28	4 3	23 58	10 23	18 3	21 58	21 0
6	15	40 40	19 23	4 41	24 4	10 37	18 40	23 8	22 6
7	16	38 3	2 31	5 5	24 11	10 51	19 18	24 18	23 15
8	17	35 25	15 53	5 12	24 17	11 5	19 56	25 28	24 28
F	18	32 46	29 28	5 3	24 24	11 19	20 34	26 38	25 44
10	19	30 6	13 17	4 36	24 31	11 33	21 11	27 47	27 3
11	20	27 25	27 19	3 52	24 38	11 47	21 49	28 57	28 25
12	21	24 43	11 32	2 54	24 35	12 12	22 27	29 7	29 50
13	22	22 0	25 55	1 44	24 52	12 14	23 4	1 16	1 19
14	23	19 16	10 26	0 26	24 59	12 28	23 42	2 25	2 51
15	24	16 31	24 59	os 51	25 6	12 42	24 20	3 34	4 26
F	25	13 46	9 31	2 8	25 13	12 56	24 57	4 43	6 3
17	26	11 0	23 55	3 15	25 20	13 10	25 35	5 52	7 43
18	27	8 14	8 5	4 8	25 27	13 24	26 13	7 1	9 26
19	28	5 27	21 57	4 45	25 35	13 37	26 50	8 9	11 12
20	29	2 40	5 27	5 5	25 42	13 51	27 28	9 18	13 1
21	29	59 52	18 34	5 8	25 49	14 5	28 6	10 26	14 53
22	30	57 5	1 19	4 56	25 56	14 18	28 43	11 34	16 47
F	1	54 18	13 43	4 30	26 4	14 32	29 21	12 43	18 44
24	2	51 30	25 52	3 53	26 11	14 46	29 59	13 51	20 43
25	3	48 43	7 49	3 5	26 19	14 59	30 36	14 59	22 45
26	4	45 56	19 39	2 11	26 26	15 13	1 14	16 7	24 49
27	5	43 9	1 28	1 10	26 33	15 26	1 52	17 14	26 54
28	6	40 23	13 20	0 7	26 41	15 39	2 29	18 22	29 0
29	7	37 36	25 21	on 58	26 48	15 53	3 7	19 29	1 8
F	8	34 50	7 33	2 0	26 53	16 6	3 45	20 37	3 17
M	u's rites	♂'s sets	♀'s sets	♂'s rites	h's declin.	u's declin.	♂'s declin.	♀'s declin.	♂'s declin.
1	3 m 52	10 a 51	11 a 5	3 m 14	21 n 39	21 n 21	23 n 49	24 n 21	13 n 27
7	3 34	10 39	11 1	3 2	21 33	21 34	23 19	23 19	15 33
13	3 15	10 26	10 55	3 56	21 26	21 46	22 43	21 55	18 12
19	2 54	10 12	10 47	2 51	21 19	21 57	22 2	20 10	20 57
25	2 31	9 58	10 37	2 59	21 11	22 6	21 15	18 8	23 13

The LUNATIONS.

New Moon the 3d day, at 27 minutes past 3 morning.

First quarter the 10th day, at 12 minutes past 4 morning.

Full Moon the 17th day, at 17 minutes past 1 morning.

Last quarter the 24th day, at 36 minutes past 8 night.

M.	Sundays & other D	remark. days	☉ rises	☉ sets	☉'s declin.	☾'s declin.	☾ rises & sets	☾ South	Clock bef. ☉
1			3 45	8 15	23 n 7	26 n 3	1 m 50	10 31	3 23
2		Visita. Cam. Co.	3 46	8 14	23 3	27 15	2 29	11 26	3 34
3		Dog days begin	3 46	8 14	22 58	26 59	☾ sets	0 a 22	3 45
4		Transf. St. Mar.	3 47	8 13	22 53	25 10	9 a 52	1 18	3 56
5		Cam. T. e. Old	3 48	8 12	22 48	21 55	10 17	2 13	4 7
6		[Midf.]	3 48	8 12	22 42	17 25	10 38	3 5	4 17
7		7 Sun. af. Trin.	3 49	8 11	22 36	11 57	10 54	3 55	4 27
8		Ox. A. & [T. à Be.]	3 50	8 10	22 29	5 51	11 9	4 44	4 36
9			3 51	8 9	22 22	0 s 35	11 22	5 31	4 46
10			3 51	8 9	22 14	7 1	11 37	6 26	4 54
11			3 52	8 8	22 6	13 8	11 55	7 11	5 2
12			3 53	8 7	21 58	18 35	morn	8 4	5 10
13		Oxfo. Ter. e.	3 54	8 6	21 50	22 58	0 15	9 1	5 18
14		8 Sun. af. Trin.	3 55	8 5	21 41	25 57	0 45	10 1	5 24
15		Swithin	3 56	8 4	21 31	27 17	1 28	11 1	5 31
16			3 58	8 2	21 22	26 53	2 25	morn	5 36
17			3 59	8 1	21 12	24 53	☾ rises	0 0	5 42
18			4 0	8 0	21 1	21 33	9 a 37	0 56	5 47
19			4 1	7 59	20 50	17 13	9 47	1 47	5 51
20		Margaret	4 2	7 58	20 39	12 14	10 2	2 34	5 54
21		9 Sun. af. Trin.	4 4	7 56	20 28	6 53	10 14	3 18	5 58
22		Magdalen	4 5	7 55	20 16	1 22	10 25	3 59	6 0
23			4 6	7 54	20 4	4 n 7	10 37	4 39	6 2
24			4 7	7 53	19 51	9 26	10 48	5 19	6 4
25		St. James	4 9	7 51	19 38	14 25	11 2	5 59	6 5
26		S. Anne	4 10	7 50	19 25	18 53	11 20	6 42	6 5
27			4 12	7 48	19 12	22 39	11 45	7 28	6 5
28		10 Sun. af. Trin.	4 13	7 47	18 58	25 28	morn	8 18	6 4
29			4 15	7 45	18 44	27 6	0 20	9 11	6 3
30			4 16	7 44	18 29	27 18	1 7	10 8	6 1
31			4 18	7 42	18 15	25 57	2 10	11 5	5 58
M	Day	Length	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	h
D	deceaf.	of day	long. ♀	long. ♀	long. ♂	long. ☉	long. ♀	long. ♂	sets
1	0 5	16 29	29 26 0	11 11 47	19 17	9 32	2 m 47	21 11 48	9 a 15
7	0 12	16 22	29 13	12 19	21 55	15 15	12 24	28 26 28	8 52
13	0 22	16 12	29 26	12 50	24 32	20 59	22 0	0 m 26	8 29
19	0 36	15 58	29 40	13 21	27 10	26 42	1 33	26 53	8 6
25	0 52	15 42	29 53	13 54	29 47	2 26	11 6	18 57	7 43

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

The LUNATIONS.

New Moon the 1st day, at 46 minutes past 1 afternoon.
 First quarter the 8th day, at 55 minutes past 8 morning.
 Full Moon the 15th day, at 29 minutes past noon.
 Last quarter the 23d day, at 21 minutes past 2 afternoon.
 New Moon the 30th day, at 0 minutes past 11 night.

M	Sundays & other	☉	☽	☉'s	☽'s	☽ rises	☽	Clock
D	remark. days	rises	sets	declin.	declin.	& sets	South	bef. ☉
1	Lammas Day	4 19	7 41	18 n 0	23 n 4	☽ sets	0 a 3	5 55
2		4 21	7 39	17 44	18 48	8 a 39	0 56	5 52
3		4 22	7 38	17 29	13 26	8 59	1 4	5 47
4	F 11 Sun. a. Tri.	4 24	7 36	17 13	7 18	9 14	2 30	5 42
5		4 26	7 3	16 57	0 46	9 20	3 28	5 37
6	Transfiguration	4 27	7 33	16 40	5 s 48	9 43	4 17	5 31
7	Prs. Amelia bor	4 29	7 31	16 23	12 3	9 59	5 7	5 24
8	[Na. of Jesus]	4 31	7 29	16 6	17 39	10 10	5 54	5 16
9		4 32	7 28	15 49	22 15	10 46	6 55	5 9
10	Lawrence	4 34	7 26	15 32	25 31	11 23	7 54	5 0
11	F 12 S. a. Tr. Duc.	Do. d. e.	7 24	15 14	27 14	morn	8 53	4 51
12	Pr. Wa. b. [Br. b.]	O. Lam	7 23	14 56	27 17	0 15	9 52	4 41
13		4 39	7 21	14 38	25 44	1 20	10 48	4 31
14		4 41	7 19	14 19	22 46	2 36	11 41	4 20
15	Assumption	4 43	7 17	14 0	18 47	☽ rises	morn	4 8
16	Du. of York b.	4 45	7 15	13 42	13 54	8 a 10	0 30	3 56
17		4 46	7 14	13 22	8 35	8 22	1 15	3 44
18	F 13 Sun. a. Tri.	4 48	7 12	13 3	3 3	8 34	1 57	3 31
19		4 50	7 10	12 44	2 n 31	8 46	2 37	3 17
20		4 52	7 8	12 24	7 57	8 50	3 17	3 4
21	O. of Claren. b.	4 54	7 6	12 4	13 4	9 12	3 58	2 45
22		4 55	7 5	11 44	17 42	9 27	4 40	2 34
23		4 57	7 5	11 23	21 41	9 49	5 25	2 19
24	St. Bartholomew	4 59	7 1	11 3	24 49	10 19	6 12	2 5
25	F 14 Sun. af. Tri.	5 1	6 59	10 42	26 51	10 50	7 4	1 47
26		5 3	6 57	10 21	27 35	11 54	7 59	1 31
27		5 5	6 55	10 0	26 48	morn	8 55	1 14
28	Augustine	5 7	6 53	9 39	24 29	1 6	9 52	0 57
29	John Bap. beh.	5 9	6 51	9 18	20 40	2 25	10 49	0 40
30		5 10	6 50	8 56	15 34	☽ sets	11 43	0 22
31		5 12	6 48	8 35	9 31	7 a 25	0 a 30	0 a 4
M	Day	Length	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.
D	decreas.	of day	long. h	long. 1	long. 3	long. 4	long. 5	long. 6
1	1 12	15 22	0 8	14 11	29 21	51 9	22 12	11 6
7	1 31	15 3	0 22	15 1	5 28	14 53	15 42	28 20
13	1 51	14 43	0 35	15 32	8 52	30 39	11 11	14 53
19	2 13	14 21	0 48	16 3	10 43	26 25	20 40	15 31
25	2 25	13 59	1 2	16 25	13 20	22 12	0 0	18 50

M	Day-lig D begins	Day-lig ends	Durat. twilig.	Pl. D's node	h's latitude	u's latitude	♂'s latitude	♀'s latitude	♂'s latitude
1	1 23	10 34	2 58	II 8 19	0 n 19	0 s 29	1 n 8	0 s 25	0 n 15
7	1 47	10 13	2 46	II 0	0 20	0 29	1 7	1 2	0 s 41
13	2 9	9 51	2 34	10 41	0 20	0 29	1 6	1 42	1 43
19	2 29	9 30	2 25	10 22	0 21	0 29	1 4	2 25	2 45
25	2 47	9 13	2 18	10 3	0 22	0 28	1 3	3 11	3 42

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

M	u's rises	♂'s sets	♀'s sets	♂'s sets	h's declin.	u's declin.	♂'s declin.	♀'s declin.	♂'s declin.
1	0 m 32	8 a 21	9 a 6	8 a 33	20 n 16	22 n 47	14 n 38	1 n 40	10 n 34
7	0 11	8 6	8 49	8 18	20 6 22	51 13 20	1 s 14	6 43	
13	1 a 49	7 53	8 31	8 1	19 57 22	54 11 59	4 5	3 10	
19	11 28	7 34	8 13	7 41	19 47 22	56 10 34	6 51	0 12	
25	11 6	7 18	7 55	7 17	19 37 22	58 9 7	9 30	1 s 49	

The LUNATIONS.

First quarter the 6th day, at 59 minutes past 2 afternoon.
 Full Moon the 14th day, at 31 minutes past 2 morning.
 Last quarter the 22d day, at 32 minutes past 7 morning.
 New Moon the 29th day, at 4 minutes past 8 morning.

M	Sundays & other D remark. days	☉ rises	☉ sets	☉'s declin.	☽'s declin.	☽ rises & sets	☽ South	Clock aft. ☉	
1	15 Sun. af. Tri. [Giles]	5 14	6 46	8 n 13	2 n 5	7 a 38	1 a 26	0' 15'	
2		5 16	6 44	7 51	3 s 58	7 54	2 17	0 34	
3		5 18	6 42	7 29	10 34	8 11	3 8	0 53	
4		5 20	6 40	7 7	16 32	8 30	4 1	1 12	
5		5 22	6 38	6 44	21 29	8 55	4 57	1 32	
6		5 24	6 36	6 22	25 8	9 28	5 55	1 52	
7	Enurchus	5 26	6 34	6 0	27 12	10 14	6 54	2 12	
8	16 Sun. af. Tri. [Nativ. V.M.]	5 28	6 32	5 37	27 37	11 18	7 54	2 32	
9		5 30	6 30	5 14	26 24	morn	8 51	2 52	
10		5 32	6 28	4 52	23 47	0 31	9 44	3 13	
11		5 34	6 26	4 29	20 1	1 55	10 33	3 34	
12		5 35	6 25	4 6	15 23	3 7	11 19	3 55	
13		5 37	6 23	3 43	10 12	4 25	morn	4 16	
14	Holy Cross	5 39	6 21	3 20	4 42	☽ rises	0 2	4 37	
15	17 Sun. af. Tri.	5 41	6 19	2 57	0 n 55	7 a 1	0 43	4 58	
16		5 43	6 17	2 33	6 26	7 13	1 23	5 19	
17	Lambert	5 45	6 15	2 10	11 41	7 25	2 3	5 40	
18	Ember Week	5 47	6 13	1 47	16 31	7 40	2 45	6 1	
19		5 49	6 11	1 24	20 43	7 59	3 28	6 22	
20		5 51	6 9	1 0	24 8	8 25	4 14	6 43	
21	St. Matthew	5 53	6 7	0 37	26 31	9 0	5 4	7 4	
22	18 S. a. Tri. K. [Geo. III. cr.]	5 55	6 5	0 13	27 42	9 46	5 57	7 25	
23		5 57	6 3	0 s 10	27 28	10 51	6 51	7 46	
24		5 59	6 1	0 33	25 46	morn	7 47	8 6	
25	Old Holyrood	6 1	5 59	0 57	22 34	0 7	8 42	8 26	
26	St. Cyprian	6 3	5 57	1 20	18 1	1 31	9 37	8 47	
27		6 5	5 55	1 44	12 20	3 0	10 30	9 7	
28		6 7	5 53	2 7	5 49	4 29	11 22	9 26	
29	19 S. af. Tri. St. [Mi. Pr. Wir. b.]	6 9	5 51	2 31	1 s 8	☽ sets	0 a 13	9 46	
30		St. Jer.	5 49	2 54	8 5	6 a 24	1 5	10 5	
M	Day	Length	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	☽ rises
D	decreas.	of day	long. ♀	long. ♀	long. ♂	long. ☉	long. ♀	long. ♂	
1	3 2	13 32	17 17	17 11	16 24	8 50	11 12	11 34	1 m 57
7	3 25	13 0	1 30	17 42	19 3	14 48	20 42	4 4	1 39
13	3 48	12 46	1 44	18 13	21 42	20 38	0 11	0 44	1 21
19	4 12	12 22	1 57	18 4	24 21	26 37	9 41	2 8	1 3
25	4 36	11 58	2 10	19 16	27 0	27 23	10 12	0 11	0 46

M D	Day begins	Day ends.	Durat. twilig.	Pl. D's node	h's latitude	l's latitude	♂'s latitude	♀'s latitude	♂'s latitude
1	3 7	8 50	2 11	98 40	0 n 22	0 s 28	1 n 1	4 s 7	4 s 20
7	3 24	8 36	2 6	9 21	0 23	0 28	0 59	4 57	4 1
13	3 37	8 27	2 4	9 2	0 24	0 28	0 58	5 46	2 37
19	3 52	8 8	2 1	8 43	0 24	0 26	0 56	6 33	0 40
25	4 5	7 52	2 0	8 24	0 25	0 28	0 54	7 13	0 n 55
M D	☉'s longitude		D's long.	D's latitude	h's long.	l's long.	♂'s long.	♀'s long.	♂'s long.
F	8 58	35	0 5	3 n 10	4 52	27 11	59 13	21 54	25 33
2	9 56	46	14 49	2 2	4 59	28 7	14 14	22 35	25 7
3	10 54	59	29 28	0 47	5 6	28 15	14 53	23 15	24 32
4	11 53	13	13 57	0 s 31	5 13	28 23	15 31	23 53	23 48
5	12 51	28	23 12	1 45	5 19	28 31	16 10	24 30	23 0
6	13 49	45	12 13	2 52	5 26	28 39	16 48	25 6	22 9
7	14 48	4	25 59	3 48	5 32	28 46	17 27	25 41	21 15
F	15 46	24	9 30	4 30	5 39	28 53	18 5	26 15	20 17
9	16 44	45	22 48	4 56	5 45	29 0	18 44	26 48	19 16
10	17 43	8	5 51	5 7	5 52	29 7	19 22	27 20	18 13
11	18 41	32	18 43	5 2	5 58	29 14	20 1	27 50	17 12
12	19 39	58	1 21	4 42	6 5	29 21	20 30	28 18	16 14
13	20 38	26	13 48	4 9	6 11	29 28	21 18	28 44	15 19
14	21 36	55	26 3	3 24	6 17	29 34	21 56	29 8	14 28
F	22 35	27	8 8	2 31	6 23	29 41	22 35	29 31	13 44
16	23 34	1	20 4	1 32	6 29	29 47	23 14	29 53	13 8
17	24 32	36	1 54	0 29	6 35	29 53	23 52	0 m 13	12 39
18	25 31	14	13 41	0 n 35	6 41	29 59	24 31	0 31	12 20
19	26 29	54	25 28	1 37	6 47	0 0	25 10	0 47	12 10
20	27 28	36	7 18	2 36	6 53	0 11	25 49	1 1	12 D 10
21	28 27	21	19 21	3 29	6 59	0 16	26 27	1 13	12 20
F	29 26	8	1 38	4 14	7 5	0 21	27 6	1 23	12 40
23	0 24	57	14 14	4 48	7 11	0 26	27 45	1 31	13 10
24	1 23	49	27 13	5 8	7 17	0 31	28 23	1 36	13 49
25	2 22	43	10 40	5 12	7 22	0 36	29 2	1 39	14 36
26	3 21	40	24 35	4 5	7 28	0 40	29 40	1 R 40	15 31
27	4 20	38	8 56	4 26	7 33	0 44	0 19	1 38	16 33
28	5 19	39	23 39	3 35	7 38	0 48	0 58	1 34	17 43
F	6 18	42	8 37	2 29	7 43	0 52	1 37	1 28	18 58
30	7 17	47	23 41	1 12	7 48	0 56	2 16	1 20	20 20
M D	☿'s rises	♂'s sets	♀'s sets	♂'s sets	h's declin.	l's declin.	♂'s declin.	♀'s declin.	♂'s declin.
1	10 a 52	7 a 0	7 a 32	6 a 46	19 n 26	12 n 59	7 n 24	12 s 27	2 s 13
7	10 33	6 44	7 11	6 20	19 17	22 59	5 52	14 33	0 14
13	10 14	6 29	6 49	rises	19 8	23 0	4 21	16 26	3 n 23
19	9 55	6 13	6 26	4 m 33	19 0	23 0	2 46	17 53	6 23
25	9 37	5 58	6 2	4 18	18 52	23 0	1 13	18 49	6 56

The LUNATIONS.

First quarter the 5th day, at 34 minutes past 11 night.

Full Moon the 13th day, at 24 minutes past 7 afternoon.

Last quarter the 21st day, at 44 minutes past 10 night.

New Moon the 28th day, at 30 minutes past 5 afternoon.

M	Sundays & other	☉	☉	☉'s	☉'s	☉ rises	☉	Clock
D	remark. days	rises	sets	declin.	declin.	& sets	South	aft. ☉
1	Remigius	6 13	5 47	3 s 17	14 s 34	6 a 41	1 a 59	10' 24"
2		6 15	5 45	3 41	20 8	7 4	2 56	10 43
3		6 17	5 43	4 4	24 22	7 35	3 55	11 1
4		6 19	5 41	4 27	26 59	8 18	4 56	11 19
5		6 21	5 39	4 50	27 50	9 17	5 57	11 37
F	20 Sun. af. Tri.	6 23	5 37	5 13	26 59	10 28	6 55	11 54
7	[Faith]	6 25	5 35	5 36	24 39	11 46	7 50	12 11
8		6 27	5 33	5 59	21 7	morn	8 40	12 28
9	Denys	6 28	5 32	6 22	16 41	1 5	9 26	12 44
10	Ox. & Cam. T. b	6 30	5 30	6 45	11 38	2 21	10 9	13 0
11	[Old Mic.	6 32	5 28	7 8	6 13	3 35	10 50	13 15
12		6 34	5 26	7 30	0 37	4 47	11 30	13 30
F	21 Sun. a. Trin.	6 36	5 24	7 53	4 11 57	☉ rises	morn	13 44
14	[Tr. K. Edw. C.	6 38	5 22	8 15	10 19	5 a 40	0 11	13 58
15		6 40	5 20	8 38	18 18	5 56	0 51	14 11
16		6 42	5 18	9 0	19 43	6 12	1 34	14 24
17	Etheldred	6 44	5 16	9 22	23 22	6 34	2 19	14 36
18	St. Luke	6 46	5 14	9 44	26 4	7 4	3 6	14 47
19		6 48	5 12	10 5	27 35	7 47	3 57	14 58
F	22 Sun. af. Tri.	6 50	5 10	10 27	27 48	8 43	4 50	15 8
21		6 52	5 8	10 49	26 36	9 52	5 41	15 19
22		6 54	5 6	11 10	23 59	11 11	6 38	15 27
23		6 55	5 5	11 31	20 3	morn	7 31	15 35
24		6 57	5 3	11 52	14 56	0 34	8 23	15 42
25	K. Geo. 3. acc. Crispin	5	1 12	12 8	52	2 0	9 13	15 49
26	K. Geo. 3. proc.	7 1	4 59	12 33	2 9	3 29	10 4	15 55
F	23 Sun. af. Tri.	7 3	4 57	12 54	4 s 50	4 57	10 55	16 0
28	St. Sim. & Jude	7 5	4 55	13 14	11 40	☉ sets	11 48	16 4
29		7 7	4 53	13 34	17 50	5 a 11	0 a 44	16 8
30		7 9	4 51	13 54	22 50	5 35	1 43	16 11
31		7 10	4 50	14 13	26 14	6 15	2 46	16 13
M	Day	Length	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	H ₂
D	decreas.	of day	long. ♀	long. ♀	long. ♂	long. ☉	long. ♀	rites
1	4 48	11 35	2 Ω 23	19 11 47	29 24 1	8 ♀ 17	28 7 44	16 50 45 0 m 28
7	5 23	11 11	2 37	20 18	2 22 2	14 12	8 ♀ 17	20 Ω 31 0 6
13	5 46	10 48	2 50	20 49	5 4 30	9 17	50 18 2 42	11 a 45
19	6 9	10 25	3 3	21 20	7 47 26	6 27	25 12 3 11	24
25	6 32	10 2	3 17	21 51	10 30	2 8 5	7 8 0	2 m 1 11 3

1799.

October.

27

M D	Daylig. begins	Daylig. ends	Durat. twilig.	Pl. D's node	h's latitude	u's latitude	♂'s latitude	♀'s latitude	♂'s latitude
1	4 18	7 42	1 59	88 5	on 26	os 27	on 52	7 s 41	1 n 46
7	4 31	7 29	1 58	7 46	o 27	o 27	o 50	7 49	1 56
13	4 43	7 17	1 57	7 27	o 28	o 27	o 48	7 28	1 40
19	4 55	7 5	1 57	7 8	o 28	o 27	o 45	6 37	1 9
25	5 6	6 54	1 58	6 49	o 20	o 26	o 45	5 22	o 31

M D	☉'s longitude		D's long.	D's latitude	h's long.	u's long.	♂'s long.	♀'s long.	♂'s long.
1	8	16 54	8m 42	os 10	7 53	100 0	2 55	1m 11	2m 41
2	9	16 3	23 32	1 30	7 58	1 3	3 34	o 50	23 12
3	10	15 13	8 46	2 43	8 3	1 6	4 13	o 44	24 14
4	11	14 25	22 19	3 45	8 8	1 9	4 52	o 27	25 22
5	12	13 40	6 59	4 31	8 13	1 12	5 31	o 7	26 1
F	13	12 55	19 39	5 1	8 18	1 15	6 10	29 44	29 41
7	14	12 13	2 48	5 14	8 22	1 18	6 5	29 18	1 22
8	15	11 32	15 39	5 12	8 27	1 20	7 29	28 59	8 4
9	16	10 53	28 15	4 54	8 31	1 22	8 8	28 21	4 47
10	17	10 16	10 37	4 22	8 36	1 24	8 48	27 16	6 30
11	18	9 41	22 49	3 39	8 40	1 2	9 2	27 20	8 14
12	19	9 8	4 52	2 47	8 44	1 28	10 6	26 48	9 58
F	20	8 36	16 47	1 48	8 48	1 29	10 46	26 14	11 43
14	21	8 6	28 38	o 44	8 52	1 30	11 25	25 38	13 27
15	22	7 39	10 26	on 21	8 56	1 31	12 4	25 2	15 11
16	23	7 15	22 13	1 25	9 0	1 32	12 43	24 25	16 55
17	24	6 50	4 11	2 26	9 4	1 33	13 23	23 48	18 38
18	25	6 30	15 56	3 21	9 8	1 33	14 23	23 12	20 20
19	26	6 11	28 0	4 8	9 11	1R 33	14 41	22 37	22 2
F	27	5 55	10 16	4 45	9 15	1 33	15 21	22 2	23 43
21	28	5 41	22 49	5 9	9 18	1 33	16 0	21 27	25 24
22	29	5 30	5 43	5 18	9 22	1 32	16 40	20 53	27 5
23	m 0	5 21	19 2	5 11	9 25	1 31	17 19	20 20	28 45
24	1	5 14	2m 48	4 46	9 28	1 30	17 59	19 48	qm 25
25	2	5 10	17 0	4 3	9 31	1 29	18 39	19 17	2 4
26	3	5 8	1 38	3 3	9 34	1 28	19 18	18 48	3 43
F	4	5 7	16 36	1 50	9 36	1 26	19 58	18 21	5 21
28	5	5 9	1m 46	o 28	9 39	1 24	20 38	17 57	6 58
29	6	5 13	16 59	os 57	9 41	1 22	21 17	17 35	8 35
30	7	5 19	2 46	2 17	9 44	1 20	21 57	17 16	10 12
31	8	5 26	16 58	3 26	9 46	1 18	22 37	16 58	11 48

M D	☿ rises	♂ rises	♀ sets	♂ rises	h's declin.	u's declin.	♂'s declin.	♀'s declin.	♂'s declin.
1	9 a 17	5 m 39	5 a 35	4 m 30	18 n 44	23 n 1	os 22	19 s 5	4 n 54
7	8 56	5 39	5 11	5 3	18 38	23 1	1 57	18 32	1 14
13	8 34	5 39	4 46	5 40	18 32	23 1	3 32	17 6	3 s 7
19	8 12	5 39	4 21	6 18	18 26	23 1	5 6	14 56	7 32
25	7 50	5 40	3 57	sets	18 22	23 1	6 39	12 31	11 43

The LUNATIONS.

First quarter the 4th day, at 34 minutes past 11 morning.
 Full Moon the 12th day, at 8 minutes past 2 afternoon.
 Last quarter the 20th day, at 50 minutes past 11 morning.
 New Moon the 27th day, at 50 minutes past 3 morning.

M	Sundays & other remark. days	☉ rises	☉ sets	☉'s declin.	☽'s declin.	☽ rises & sets	☽ South	Clock aft. ☉	
1	All Saints	7 12	4 48	14 s 33	27 s 47	7 a 9	3 a 50	16' 14"	
2	Pr. Edward born	All Sou	4 46	14 52	27 29	8 16	4 50	16 15	
3	24 S. a. T. Pra. S.	7 16	4 44	15 11	25 30	9 34	5 47	16 15	
4	King W. lan. [b.	7 18	4 42	15 29	22 11	10 54	6 40	16 14	
5	Powder Plot	7 19	4 41	15 47	17 54	morn	7 27	16 12	
6	Leonard Ter. b.	7 21	4 39	16 6	12 57	0 12	8 11	16 9	
7		7 23	4 37	16 23	7 35	1 27	8 52	16 6	
8	Pra. An. Sep. b.	7 24	4 36	16 41	2 3	2 38	9 32	16 1	
9	Lord Mayor's d.	7 26	4 34	16 58	3 n 32	3 49	10 12	15 56	
10	25 Sun. a. Trin.	7 28	4 32	17 15	8 57	4 59	10 52	15 50	
11	St. Martin	7 30	4 30	17 32	14 3	6 11	11 34	15 43	
12	Cam. T. div. m.	7 31	4 29	17 48	18 38	☽ rises	morn	15 36	
13	Britius	7 33	4 27	18 4	22 31	4 a 40	0 18	15 27	
14		7 34	4 26	18 20	25 29	5 8	1 4	15 18	
15	Machutus	7 36	4 24	18 35	27 19	5 46	1 54	15 8	
16		7 37	4 23	18 50	27 51	6 36	2 46	14 57	
17	26 Sun. af. Tri.	7 39	4 21	19 5	27 1	7 41	3 39	14 45	
18	[Hugh	7 40	4 20	19 19	24 48	8 54	4 32	14 32	
19		7 42	4 18	19 34	21 18	10 13	5 23	14 19	
20	Edmund	7 43	4 17	19 47	16 3	11 36	6 13	14 4	
21		7 45	4 15	20 1	11 5	morn	7 2	13 49	
22	Cecilia. O. Mart.	7 46	4 14	20 14	4 48	0 59	7 50	13 33	
23	Clement	7 47	4 13	20 26	1 s 53	2 23	8 38	13 16	
24	27 Sun. af. Tri.	7 49	4 11	20 38	8 39	3 51	9 28	12 58	
25	Duke of Glo. b.	Cather.	4 10	20 50	15 4	5 21	10 21	12 40	
26		7 51	4 9	21 2	20 39	6 55	11 18	12 20	
27		7 52	4 8	21 13	24 51	☽ sets	0 a 20	12 0	
28	Mic. Term ends	7 54	4 6	21 23	27 18	4 a 45	1 24	11 40	
29		7 55	4 5	21 34	27 46	5 49	2 28	11 18	
30	St. Andrew	7 56	4 4	21 43	26 21	7 6	3 29	10 56	
M	Day	Length	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	h
D	decreaf.	of day	long. ♀	long. ♂	long. ♂	long. ☉	long. ♀	long. ☿	rises
1	6 57	9 36	38 32	22 11 27	13 42	9 8 6	18 8 13	22 11 45	10 a 38
7	7 20	9 14	3 43	22 58	16 28	15 7	27 51	9 4 27	10 14
13	7 39	8 55	3 59	23 29	19 15	21 9	7 11 30	25 58	9 50
19	7 58	8 36	4 12	24 0	22 3	27 13	17 10	13 4	9 26
25	8 14	8 20	4 25	24 31	24 52	3 11 17	26 52	1 35	9 1

1799.

November.

29

M	Daylig.	Daylig.	Durat.	Pl. D's	h's	u's	δ's	♀'s	♂'s
D	begins	ends	twilig.	node	latitude	latitude	latitude	latitude	latitude
1	5 17	6 43	1 59	68 27	0 n 30	0 s 26	0 n 40	3 s 39	0 s 16
7	5 25	6 35	2 30	6 7	0 31	0 26	0 37	2 11	0 55
13	5 34	6 26	2 10	5 48	0 32	0 25	0 35	0 52	1 30
19	5 41	6 12	2 51	5 29	0 33	0 25	0 32	0 n 15	1 59
25	5 48	6 12	2 32	5 10	0 34	0 24	0 29	1 10	2 18

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

M	u	δ	♀	♂	h's	u's	δ's	♀'s	♂'s
D	rises	rises	rises	sets	declin.	declin.	declin.	declin.	declin.
1	7 a 22	5 m 39	5 m 16	4 a 56	13 n 18	23 n 2	8 s 26	9 s 57	16 s 8
7	6 55	5 37	4 51	4 49	18 16	23 2	9 56	8 20	19 23
13	6 29	5 56	4 28	4 46	18 15	23 3	11 24	7 25	22 5
19	6 3	5 35	4 8	4 45	18 15	23 3	12 45	7 9	24 6
25	5 36	5 24	3 51	4 48	18 16	22 4	14 10	7 12	25 24

The LUNATIONS.

First quarter the 4th day, at 26 minutes past 3 morning.

Full Moon the 12th day, at 55 minutes past 8 morning.

Last quarter the 19th day, at 41 minutes past 10 night.

New Moon the 26th day, at 54 minutes past 2 afternoon.

M D	Sundays & other remark. days	☉ rises	☉ sets	☉'s declin.	☽'s declin.	☽ rises & sets	☽ South	Clock aft. ☉	
F	Advent Sunday	7 57	4 3	21 s 53	23 s 22	8 a 27	4 a 2	10 34"	
2		7 58	4 2	22 2	19 15	9 49	5 16	10 10	
3		7 59	4 1	22 10	14 21	11 7	6 1	9 46	
4		8 0	4 0	22 10	9 0	morn	6 44	9 22	
5		8 1	3 59	22 26	3 27	0 22	7 24	8 57	
6	Nicholas	8 2	3 58	22 34	2 n 9	1 32	8 3	8 31	
7		8 2	3 58	22 40	7 37	2 41	8 42	8 5	
F	2 Sun. in Adve.	8 3	3 57	22 47	12 47	3 49	9 23	7 39	
9	[Concept.]	8 4	3 56	22 53	17 31	5 0	10 6	7 12	
10		8 4	3 56	22 58	21 35	6 12	10 51	6 45	
11		8 5	3 55	23 3	24 48	7 23	11 40	6 17	
12		8 5	3 55	23 8	26 55	☽ rises	morn	5 49	
13	Lucy	8 6	3 54	23 12	27 46	4 a 22	0 32	5 21	
14		8 6	3 54	23 16	27 14	5 22	1 25	4 52	
F	3 Su. in Advent	8 7	3 53	23 19	25 17	6 35	2 18	4 23	
16	Ca. f.e. O.Sap.	8 7	3 53	23 21	22 2	7 53	3 10	3 54	
17	Oxford Term e.	8 7	3 53	23 24	17 40	9 12	4 0	3 24	
18	Ember Week	8 8	3 52	23 25	12 22	10 33	4 48	2 54	
19		8 8	3 52	23 27	6 24	11 54	5 34	2 25	
20		8 8	3 52	23 28	0 0	morn	6 21	1 55	
21	St. Thomas	Shor. d.	3 52	23 28	6 s 32	1 16	7 8	1 25	
F	4 Sun. in Adve.	8 8	3 52	23 28	12 52	2 40	7 57	0 54	
23		8 8	3 52	23 27	18 36	4 10	8 50	0 24	
24		8 8	3 52	23 26	23 17	5 43	9 47	ob. 6	
25	Christmas Day	8 8	3 52	23 25	26 26	7 11	10 49	0 36	
26	St. Stephen	8 7	3 53	23 23	27 45	☽ sets	11 53	1 6	
27	St. John Ev.	8 7	3 53	23 20	27 6	4 a 26	0 a 57	1 36	
28	Innocents	8 7	3 53	23 17	24 40	5 45	1 56	2 6	
F	1 Sun. af. Chri.	8 6	3 54	23 14	20 51	7 13	2 51	2 35	
30		8 6	3 54	23 10	16 4	8 32	3 40	3 4	
31	Silvester	8 5	3 55	23 6	10 42	9 49	4 25	3 33	
M D	Day decreasf.	Length of day	Helioc. long. ♀	Helioc. long. ♂	Helioc. long. ♂	Helioc. long. ☉	Helioc. long. ♀	Helioc. long. ♀	h rises
1	8 28	8 6	4 38	25 11	27 43	9 11	6 34	22 28	8 a 34
7	8 38	7 56	4 52	25 33	om 35	15 28	16 18	16 57	8 8
13	8 46	7 48	5 5	26 3	3 29	21 34	26 2	16 17	7 41
19	8 50	7 44	5 18	26 34	6 24	27 41	5 47	20 50	7 13
25	8 50	7 44	5 31	27 5	9 20	3 48	15 33	28 29	6 43

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

Dates		Heliocentric		Geocentric		Declin. South.	
Months	Days	longitude	altitude	longitude	latitude		
January	I	0 19 17 40	0 n 46	22 17 36	0 n 47	3 n 39	16 42
	II	19 48	0 46	22 31	0 47	3 42	15 58
	2I	19 56	0 46	22 20	0 48	3 46	15 15
February	I	20 4	0 46	22 2	0 48	3 54	14 29
	II	20 12	0 46	21 42	0 48	4 2	13 48
	2I	20 20	0 46	21 19	0 48	4 11	13 8
March	I	20 26	0 46	20 59	0 48	4 19	12 16
	II	20 34	0 46	20 30	0 48	4 30	11 58
	2I	20 42	0 46	20 6	0 48	4 45	11 20
April	I	20 51	0 46	19 39	0 48	4 50	10 38
	II	20 58	0 46	19 17	0 48	4 59	10 1
	2I	21 6	0 46	18 58	0 48	5 0	9 22
May	I	21 14	0 46	18 43	0 47	5 12	8 44
	II	21 22	0 46	18 33	0 47	5 15	8 5
	2I	21 30	0 46	18 28	0 47	5 17	7 25
June	I	21 38	0 46	18 28	0 46	5 17	6 40
	II	21 46	0 46	18 34	0 46	5 14	6 0
	2I	21 54	0 46	18 45	0 45	5 9	5 10
July	I	22 2	0 46	19 2	0 45	5 2	4 39
	II	22 10	0 46	19 23	0 44	4 54	3 59
	2I	22 18	0 46	19 48	0 44	4 43	3 20
August	I	22 26	0 46	20 20	0 44	4 30	2 39
	II	22 34	0 46	20 52	0 44	4 18	2 3
	2I	22 42	0 46	21 27	0 43	4 5	1 27
September	I	22 50	0 46	22 7	0 43	3 47	0 50
	II	22 58	0 46	22 45	0 43	3 32	0 16
	2I	23 6	0 46	23 23	0 43	3 17	23 39
October	I	23 14	0 45	24 1	0 43	3 3	23 6
	II	23 22	0 45	24 37	0 42	2 48	22 51
	2I	23 30	0 45	25 12	0 42	2 34	21 56
November	I	23 38	0 46	25 47	0 44	2 21	21 16
	II	23 46	0 46	26 15	0 44	2 10	20 37
	2I	23 54	0 46	26 40	0 45	2 1	19 57
December	I	24 2	0 45	26 59	0 45	1 53	19 16
	II	24 10	0 45	27 14	0 45	1 47	18 33
	2I	24 17	0 45	27 23	0 45	1 44	17 50

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

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

Adding

					h	m
For Fowey, Loo and Plymouth	—	—	—	—	3	10
Dartmouth, Harbrough and Hull	—	—	—	—	3	30
Torbay and Tinmouth	—	—	—	—	3	40
Exmouth, Topsham and 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. h m	aftern. h m	morn. h m	aftern. h m	morn. h m	aftern. h m	morn. h m	aftern. h m	
1	3 11	3 28	3 31	3 49	4 44	5 8	5 15	5 37	1
2	3 44	3 59	4 8	4 27	5 34	6 1	6 2	6 28	2
3	4 18	4 36	4 50	5 12	6 31	7 1	6 52	7 16	3
4	4 56	5 17	5 40	6 7	7 32	8 3	7 42	8 8	4
5	5 42	6 8	6 40	7 12	8 34	9 4	8 34	9 0	5
6	6 39	7 10	7 47	8 22	9 3-	10 3	9 26	9 53	6
7	7 45	8 21	8 58	9 35	10 30	10 56	10 18	10 43	7
8	9 0	9 41	10 8	10 40	11 22	11 48	11 9	11 35	8
9	10 18	10 54	11 10	11 39	0 11	0 11	11 59	0 11	9
10	11 28		0 5	0 5	0 33	0 5	0 26	0 51	10
11	0 2	0 29	0 30	0 52	1 16	1 38	1 15	1 40	11
12	0 55	1 19	1 14	1 34	1 59	2 19	2 5	2 28	12
13	1 43	2 5	1 54	2 14	2 40	2 57	2 51	3 9	13
14	2 27	2 43	2 34	2 50	3 13	3 20	3 27	3 44	14
15	2 59	3 13	3 5	3 19	3 45	4 2	4 0	4 19	15
16	3 26	3 39	3 32	3 46	4 19	4 39	4 38	4 57	16
17	3 51	4 5	4 0	4 17	5 0	5 22	5 16	5 38	17
18	4 18	4 34	4 35	4 54	5 44	6 9	5 59	6 23	18
19	4 51	5 8	5 14	5 37	6 35	7 2	6 47	7 13	19
20	5 27	5 51	6 1	6 29	7 29	8 0	7 30	8 8	20
21	6 15	6 43	6 58	7 29	8 32	9 3	8 38	9 11	21
22	7 12	7 44	8 0	8 34	9 35	10 6	9 45	10 19	22
23	8 16	8 53	9 9	9 43	10 37	11 9	10 53	11 29	23
24	9 31	10 7	10 18	10 5	11 42		0	0 6	24
25	10 43	11 19	11 22	11 53	0 13	0 43	0 40	1 13	25
26	11 54		0 24	0 24	1 13	1 42	1 43	2 13	26
27	0 24	0 53	0 52	1 19	2 12	2 43	2 36	3 8	27
28	1 20	1 46	1 46	2 13	3 4	3 26	3 28	3 47	28
29	2 11	2 36	2 36	2 59	3 46	4 6	4 5	4 23	29
30	2 55	3 14	3 19	3 38	4 30	4 52	4 42	5 1	30
31			3 58	4 19			5 10	5 37	31

Subtracting

h m

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

The Eclipses of Jupiter's

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

first Satellite for the Year 1799.

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

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 29th 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 22 h. 4 min. 32 sec.; I find by the Table, that the Time of this Immersion will happen at the British Observatory, at 20 h. 16 min. 12 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.

Speculum Phænomenorum

JANUARY	FEBRUARY	MARCH
1 ♂ stationary 5 ♂ ☾ ♀ 12h. 6 ♂ ☾ ♀ 11h. 10 ♀ stationary 10 ♂ ☉ ♀ 20h. 12 ♂ ☉ ♀ 7h 12 ☾ in apoge 13 ♂ ☾ ♂ 4h. 15 ♂ ☾ ♀ 14h. occul. 19 ☉ in ♀ 11h. 8m. 20 ♂ ☾ ♀ 13h. 22 ♀ stationary 23 ♀ in aphelion 24 ☾ in perige	1 ♀ in ☉ 2 ♂ ☾ ♀ 4h. 4 ♀ elong. max. 5 ♂ ☾ ♀ 3n. 5 ☐ ☉ ♀ 21h. 9 ☾ in apoge 11 ♂ ☾ ♂ 0h. 12 ♂ ☾ ♀ 1h. 16 ♂ ☾ ♀ 20h. 18 ☉ in ♀ 1h 56m. 21 ☾ in perige 28 ♂ in ☉	4 ♂ ☾ ♀ 19h. 7 ♂ ☾ ♀ 12h. 8 ☾ in apoge 10 ♂ ☉ ♀ 14h. 11 ♂ ☾ ♀ 15h. 11 ♂ ☾ ♂ 22h. 16 ♂ ☾ ♀ 4h. 20 ☉ in ♀ 2h. 17m. 21 ♀ stationary 21 ♂ ☉ ♀ 2h. 21 ☾ in perige
APRIL	MAY	JUNE
5 ☾ in apoge 6 ♂ ☾ ♀ 7h. 7 ♂ ☾ ♀ 0h. 8 ♂ ☾ ♀ 8h. 8 ☐ ☉ ♀ 22h. 9 ♂ ☾ ♂ 14h. 12 ♂ ☾ ♀ 13h. 14 ♀ in ☉ 16 ♀ elong. max. 19 ☉ in ♂ 14h. 56m. 19 ☾ in perige 26 ♀ stationary	1 ☾ in apoge 4 ♂ ☾ ♀ 20h. 4 ♀ in ☉ 6 ♂ ☾ ♀ 2h. 6 ♀ in ☉ 7 ♂ ☾ ♀ 6h. 7 ♀ transits ☉ 8 ♂ ☾ ♂ 8h. 9 ♂ ☾ ♀ 22h. 11 ♀ in ☉ 17 ☾ in perige 20 ☉ in ♀ 15h. 25m. 20 ♀ stationary 26 ♀ stationary 28 ♀ in ☉ 29 ☾ in apoge 30 ♂ ☉ ♀ 0h.	1 ♂ ☾ ♀ 0h. 2 ♂ ☾ ♀ 21h. 3 ♀ elong. max. 5 ♂ ☾ ♂ 22h. 6 ♂ ☾ ♀ 8h. 6 ♂ ☾ ♀ 9h. 9 ☐ ☉ ♀ 0h. 14 ♀ in perige 20 ♀ in perihelion 20 ♀ in perihelion 21 ☉ in ☉ 0h. 3m. 26 ☾ in apoge 30 ♂ ☾ ♀ 16h.

ad Annum 1799.

JULY

AUGUST

SEPTEMBER

2 ☉ ☾ ☿ 11h.
 3 ☉ ☾ ☿ 20h.
 4 ☉ ☾ ☿ 9h.
 4 ☉ ☾ ☿ 13h.
 6 ☉ ☾ ♀ 2h.
 10 ☿ in aphelion
 11 ☾ in perige
 22 ☉ ☾ ☿ 5h.
 22 ☉ in ☿ 10h. 53m.
 24 ☾ in apoge
 28 ☉ ☾ ☿ 14h.
 31 ☉ ☾ ☿ 11h.

2 ☉ ☾ ☿ 4h.
 3 ☉ ☾ ☿ 0h.
 4 ☉ ☾ ♀ 13h.
 5 ☾ in perige
 8 ♀ elong. max.
 14 ☿ elong. max.
 20 ☾ in apoge
 22 ☉ in ☿ 17h. 17m.
 25 ☉ ☾ ☿ 7h.
 27 ☿ stationary
 28 ☉ ☾ ☿ 3h.
 30 ☉ ☾ ☿ 20h.
 31 ☉ ☾ ☿ 17h.

1 ☾ in perige
 2 ☉ ☾ ♀ 13h.
 10 ☉ ☾ ☿ 6h.
 15 ☉ ☾ ☿ 0h.
 15 ☉ ☾ ☿ 11h.
 17 ☾ in apoge
 20 ☿ stationary
 21 ☉ ☾ ☿ 22h.
 22 ☉ in ☿ 13h. 49m.
 23 ☉ ☾ ☿ 0h.
 24 ☉ ☾ ☿ 18h.
 26 ♀ stationary
 26 ☿ elong. max.
 27 ☉ ☾ ☿ 12h.
 28 ☉ ☾ ☿ 12h.
 29 ☾ in perige
 30 ☉ ☾ ♀ 12h.

OCTOBER

NOVEMBER

DECEMBER

14 ☾ in apoge
 15 ☉ ☾ ☿ 19h.
 19 ☉ ☾ ☿ 7h.
 19 ☿ stationary
 22 ☉ ☾ ☿ 7h.
 22 ☉ in ☿ 21h. 51m.
 25 ☉ ☾ ☿ 1h.
 27 ☉ ☾ ♀ 3h.
 27 ☉ ☾ ☿ 6h.
 28 ☉ ☾ ☿ 9h.
 28 ☉ eclipsed invis.
 28 ☾ in perige

1 ☉ ☾ ☿ 17h.
 1 ☿ in ☿
 6 ♀ stationary
 10 ☾ in apoge
 15 ☉ ☾ ☿ 11h.
 18 ☉ ☾ ☿ 15h.
 21 ☉ in ☿ 18h. 9m.
 21 ☿ stationary
 21 ☿ in aphelion
 23 ☉ ☾ ♀ 16h. occul.
 25 ☉ ☾ ☿ 0h.
 25 ☾ in perige
 27 ☉ ☾ ☿ 23h.

8 ☾ in apoge
 9 ☿ elong. max.
 12 ☉ ☾ ☿ 10h.
 15 ☉ ☾ ☿ 19h.
 17 ☿ stationary
 17 ☉ ☾ ☿ 19h.
 18 ☉ ☾ ☿ 16h.
 21 ☉ in ☿ 6h. 33m.
 22 ☉ ☾ ♀ 17h.
 23 ☉ ☾ ☿ 17h.
 24 ☾ in perige
 25 ☿ in ☿
 26 ☉ ☾ ☿ 0h.
 26 ☉ ☾ ☿ 2h.
 28 ♀ elong. max.

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	23	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.

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

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

of his visible half Duration above the Horizon.

The Sun's Declination South.

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

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

Degr.	$\cap$			$\cap$			$\uparrow$			$\downarrow$			$\sim$			$\times$		
	h	m	s	h	m	s	h	m	s	h	m	s	h	m	s	h	m	s
0	12	0	0	13	51	37	15	51	15	18	0	0	20	8	45	22	8	23
1	12	3	40	13	55	27	15	55	25	18	4	22	20	12	54	22	12	12
2	12	7	20	13	59	17	15	59	36	18	8	43	20	17	3	22	16	0
3	12	11	0	14	3	8	16	3	48	18	13	5	20	21	11	22	19	48
4	12	14	41	14	6	59	16	7	0	18	17	26	20	25	19	22	23	35
5	12	18	21	14	10	51	16	12	13	18	21	48	20	29	26	22	27	22
6	12	22	2	14	14	44	16	16	26	18	26	9	20	33	31	22	31	8
7	12	25	42	14	18	37	16	20	40	18	30	30	20	37	37	22	34	54
8	12	29	23	14	22	31	16	24	55	18	34	51	20	41	41	22	38	40
9	12	33	4	14	26	25	16	29	10	18	39	11	20	45	45	22	42	25
10	12	36	45	14	30	20	16	33	26	18	43	31	20	49	48	22	46	9
11	12	40	26	14	34	16	16	37	42	18	47	51	20	53	51	22	49	53
12	12	44	8	14	38	13	16	41	59	18	52	11	20	57	52	22	53	37
13	12	47	50	14	42	10	16	46	16	18	56	31	21	1	53	22	57	20
14	12	51	32	14	46	8	16	50	34	19	0	50	21	5	53	23	1	3
15	12	55	14	14	50	7	16	54	52	19	5	8	21	9	53	23	4	46
16	12	58	57	14	54	7	16	59	10	19	9	26	21	13	52	23	8	28
17	13	2	40	14	58	7	17	3	29	19	13	44	21	17	50	23	12	10
18	13	6	23	15	2	8	17	7	49	19	18	1	21	21	47	23	15	52
19	13	10	7	15	6	0	17	12	9	19	22	18	21	25	44	23	19	34
20	13	14	51	15	10	12	17	16	29	19	26	34	21	29	40	23	23	15
21	13	17	37	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 southing. And if from the time of the star's southing you subtract the semidiurnal arc belonging to it, the remainder will be the time of the star's rising; and being added to it, the sum will be the time of its setting.

Annexed is an Ex. of SIRIUS for Jan. 31, 1799.

☉'s place at noon $\sim 11^{\circ} 43'$	h	m	s
Rt. Asc. of Sirius - -	6	35	58
☉'s rt. asc. subtract - -	20	56	43
*'s estimate southing - -	9	39	15
☉'s rt. asc. at that time sub.	20	58	22
*'s true southing - -	9	37	3
Semid. arc sub. & add - -	4	36	55
*'s rising aftern. - -	5	0	41
*'s setting - -	14	14	31

A Table of the mean Right-Ascensions in time, Semidurnal-Arcs, Declinations, and Magnitudes of 40 remarkable fixed Stars, with their Names, and Bayer's Literal Characters, for January 1, 1790.

Names of the Stars	Ch	Rt. Asc.			Declination		Semid Ar.			Ma
		h	m	s	°	'	h	m	s	
Pole star, Alruccabah -	α	0	48	57	88	11 34 n	sets not			2
Andromeda's girdle, Mirach -	β	0	57	4	34	29 47 n	10	7	32	2
Andromeda's left foot, Almach	γ	1	51	10	41	18 41 n	sets not			2
Ram's following horn -	α	1	55	18	22	27 43 n	8	9	35	2
Whale's jaw, Menkar -	α	2	51	19	3	15 11 n	6	19	48	2
Medusa's head, Algol -	β	2	54	32	40	7 41 n	sets not			2
Perseus's right side, Algenib	α	3	9	26	49	7 6 n	sets not			2
Brightest of the 7 stars -	η	3	35	23	26	22 n	8	16	40	3
Bull's south eye, Aldebaran	α	4	23	51	16	4 19 n	7	28	51	1
Auriga's left shoulder, Capella	α	5	1	11	45	46 57 n	sets not			1
Orion's left foot, Rigel -	β	5	4	27	8	27 38 s	5	20	28	1
Bull's north horn -	β	5	12	57	28	25 12 n	8	57	1	2
Orion's left shoulder, Bellatrix	γ	5	13	54	6	8 50 n	6	34	41	2
Orion's girdle -	ϵ	5	25	32	1	21 22 s	5	56	42	2
Orion's right shoulder, Betelgeuse	α	5	43	46	7	21 2 n	6	40	58	1
In the great Dog's mouth, Sirius	α	6	35	58	16	25 8 s	4	36	55	1
Head of the 1st Twin, Castor	α	7	21	11	32	19 57 n	9	38	21	1
In the left Dog's thigh, Procyon	α	7	28	21	5	46 33 n	6	32	50	1
Head of the 2d Twin, Pollux	β	7	32	30	28	31 19 n	8	58	13	2
Hydra's heart, Alphard -	α	9	17	15	7	45 30 s	5	24	20	2
Lyon's heart, Regulus -	α	9	57	11	12	58 43 n	7	11	28	1
Great Bear, Lower Pointer	β	10	49	4	57	30 19 n	sets not			2
Great Bear, Upper Pointer -	α	10	50	3	62	53 25 n	sets not			2
Lion's tail, Deneb -	β	11	38	24	15	44 22 n	7	27	18	2
Great Bear, 1st in the tail, Aliath	ϵ	12	45	5	57	7 0 n	sets not			2
Virgius's spike -	α	13	14	10	10	3 38 s	5	12	20	1
Dragon's tail -	α	13	58	42	65	20 53 n	sets not			2
Bootes, Arcturus -	α	14	6	11	20	20 20 n	7	55	26	1
Libra, Southern Scale -	α	14	39	22	15	9 30 s	4	44	23	2
Libra, Northern Scale -	β	15	5	47	8	36 4 s	5	19	57	2
Bright star in the North Crown	α	15	25	49	27	25 35 n	8	48	36	2
Scorpion's heart, Antares	α	16	16	35	25	56 54 s	3	34	6	1
Hercules's head, Raf. Algethi	α	17	5	7	14	38 4 n	7	20	41	2
Head of Serpentarius -	α	17	25	8	12	43 20 n	7	9	50	2
Dragon's head, Rastaben -	γ	17	51	51	51	31 28 n	sets not			2
Bright star in the Harp, Lyra	α	18	29	45	38	35 39 n	sets not			1
Bright star in the Eagle, Atair	α	19	40	25	8	18 55 n	6	45	57	2
Mouth of south Fish, Fomalhaut	α	22	45	53	30	43 12 s	2	52	6	1
Pegasus's wing, Markab -	α	22	54	15	14	4 11 n	7	17	10	2
Andromeda's head -	α	23	57	29	27	55 38 n	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 1790.

Con.	Cha.	Long.			Lat.			Mag.	Con.	Cha.	Long.			Lat.			Mag.	
		°	'	"	°	'	"				°	'	"	°	'	"		
X	♄	11	13	11	2	9	44 n	4	♄	α	12	9	29	0	21	48 n	2	
	♅	14	36	25	1	5	37 n	4		ι2	18	4	37	1	49	14 s	3	
	♆	16	56	25	0	13	11 s	4		γ	22	12	9	4	24	41 n	3	
	♇	17	54	44	1	48	7 n	4		η	24	26	33	4	52	n	4	
Y	♈	27	3	44	4	1	36 n	3	η	κ	24	49	47	0	1	1 n	4	
	♉	2	52	0	5	45	30 s	3		θ	26	56	12	3	29	24 n	4	
	♊	5	31	37	2	35	37 s	3		λ	27	32	46	0	6	53 n	4	
	♋	6	51	20	5	29	2 s	1		δ	29	38	28	1	57	17 s	3	
Z	♌	19	38	37	5	21	59 n	2	δ	π	↑	0	0	35	5	26	15 s	3
	♍	21	51	15	2	13	29 s	3		β	0	15	33	1	2	18 n	2	
	♎	0	30	37	0	55	4 s	4		ν	1	42	50	1	39	52 n	4	
	♏	2	22	2	0	50	34 s	3		σ	4	52	13	4	0	23 s	4	
II	♐	5	10	20	6	46	12 s	2	σ	α	6	49	58	4	32	17 s	1	
	♑	7	0	30	2	2	28 n	3		τ	8	31	42	6	5	21 s	4	
	♒	15	35	29	0	12	19 s	3		γ	28	20	3	6	56	48 s	3	
	♓	20	19	34	6	40	4 n	1		μ	♄	0	16	58	2	22	24 n	4
III	♈	4	36	51	3	10	22 n	4	♄	λ	3	23	31	2	5	31 s	4	
	♉	5	47	9	0	4	13 n	4		φ	7	14	48	3	55	22 s	3	
	♊	18	43	23	3	1	57 s	4		σ	9	27	17	3	24	55 s	3	
	♋	21	19	38	3	46	1 s	4		τ	11	54	32	5	2	33 s	3	
IV	♌	24	58	23	4	51	9 n	4	τ	ο	12	3	36	0	53	36 n	3	
	♍	26	54	49	0	27	27 n	1		π	13	19	21	1	28	7 n	4	
	♎	3	27	25	0	8	29 n	4		β	♄	1	6	55	4	36	46 n	3
	♏	18	34	47	0	31	21 s	4		ε	17	16	0	4	57	31 s	4	
V	♐	22	6	32	3	2	51 s	4	ε	γ	18	50	53	2	32	6 s	4	
	♑	24	10	47	0	41	36 n	3		δ	20	36	5	2	33	40 s	3	
	♒	0	26	10	5	4	42 n	3		ι	25	47	17	2	3	47 s	4	
	♓	1	54	16	1	22	24 n	3		θ	♄	0	19	42	2	43	22 n	4
VI	♈	7	14	41	2	48	57 n	3	♄	λ	8	38	43	0	22	57 s	4	
	♉	20	54	50	2	2	11 s	1		φ	14	12	39	1	2	8 s	4	

This table shewing the mean longitudes of 60 stars to the beginning of the year 1790, 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 ♄ piscium, for Feb. 15, 1792, or 2 years and one eighth after the tabular time; here $2\frac{1}{8}$ times $50\frac{1}{3}$ sec. make $1' 47''$, which being added to the tabular longitude, gives ♄ 11° 14' 58" for the longitude required at the given time. — The latitudes vary not.

The Latitudes and Longitudes of Ninety Places.

	Lat.		Long.			Lat.		Long.	
	°	'	°	'		°	'	°	'
Alexandria, Egypt	31	11 n	30	17 e	Isfahan	32	25 n	52	55 e
Amsterdam, Hol.	52	23 n	4	52 e	Land's end	50	0 n	5	32 w
Archangel, Ruf.	64	34 n	38	30 e	Leghorn	43	33 n	10	25 e
Athens	37	40 n	23	52 e	Leostaff	52	35 n	1	50 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	30 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	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
Breſtan	51	3 n	17	13 e	Madrid	40	35 n	3	45 w
Breit	48	23 n	4	30 w	Manilla	14	30 n	120	25 e
Bristol	51	28 n	2	30 w	Marseilles	45	15 n	5	21 e
Buenos Ayres	34	35 s	58	0 w	Mexico	19	50 n	100	5 w
Cadiz	36	31 n	6	7 w	Mulhigi, mouth	39	0 n	17	17 w
Calais	50	58 n	1	51 e	Moscow	55	25 n	37	51 e
Canton	30	2 n	31	26 e	Naples	40	51 n	14	19 e
Canbridge	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	13	2 e	Orkney I. northend	59	34 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	53 n	116	21 e
Charles Town Am.	33	22 n	79	50 w	Petersburg	59	50 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
Cooke	51	54 n	8	30 w	Port Royal, J.m.	17	40 n	76	37 w
Dantzic	54	22 n	10	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	10 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
Hadlitt'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

F I N I S.

MS. 3614