

ἌΤΛΑΣ ΟΥΡΑΝΙΟΣ,
The COELESTIAL ATLAS;

OR, A NEW

E P H E M E R I S

For the YEAR of our LORD 1800.

Being the Fourth after

BISSEXTILE, or LEAP-YEAR,

According to an Act of Parliament, passed in the Year 1751.

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 Rising and
Setting may be known by Inspection, on every Day of the Year, and
in any Part of GREAT-BRITAIN or IRELAND; a TABLE of the Sun's
Azimuth, and a very correct one of the Eclipses of JUPITER'S Satellites;
a TABLE of the Sun's Right-Ascension; various 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.

Ἄς ἑξαυτῶν δινυῦνται δέξαι Θεῶ.

The FIFTY-FIRST IMPRESSION.

L O N D O N,

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Chronological Notes for the Year 1800.

Golden Number	- - 15	Septuagesima Sund.	Feb. 9
Cycle of the Sun	- - 17	Shrove Sunday	- Feb. 23
The Epact	- - - 4	Easter Day	- - Apr. 13
Dominical Letter	- E	Whit Sunday	- June 1
Number of Direction	- 23	Trinity Sunday	- June 8
Roman Indiction	- - 3	Advent Sunday	- Nov. 30

Astronomical CHARACTERS explained.

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

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

♄ Conjunction when Planets are in the same Sign, Deg. Min. &c.
 * Sextile when 2 Signs dist. | Δ Trine when 4 Signs dist.
 □ Quartile when 3 Signs dist. | ♂ Opposition when 6 Signs dist.

Of the Four Quarters of the YEAR 1800.

	d	h	m
THE Spring Quarter begins	- - March 20	8	3 aftern.
The Summer Quarter begins	- - June 21	5	47 aftern.
The Autumnal Quarter begins	- - Sept. 23	7	31 morn.
The Winter Quarter begins	- - Dec. 22	0	15 morn.

THE beautiful Planet VENUS will be a Morning Star till August the 5th; and after that Time she will be an Evening Star to the Year's End.

JUPITER will be an Evening Star till August the 6th; at which Time he becomes a Morning Star, and so continues to the Year's End.

The NAMES of the Learned JUDGES of the LAW.

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

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

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

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

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

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

A TABLE of TERMS and Returns for the Year 1800.

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	Thursday
In fifteen Days of St. Hilary	- - - 27	28	29	30	Thursday
On the Mor. of the Purif. of the Bl. V. M.	Feb. 3	4	5	6	Thursday
In eight Days of the Purif. of the Bl. V. M.	9	10	11	12	Wednesf.

Easter Term begins April 30, ends May 26.

In fifteen Days of Easter	- - April 27	28	29	30	Wedn.
From Easter Day in three Weeks	- - May 4	5	6	7	Wedn.
From Easter Day in one Month	- - - 11	12	13	14	Wedn.
From Easter Day in five Weeks	- - - 18	19	20	21	Wedn.
On the Mor. of the Ascension of the Lord	23	24	25	26	Monday

Trinity Term begins June 13, ends July 2.

On the Morrow of the Holy Trinity,	- June 9	10	11	13	Friday.
In eight Days of the Holy Trinity,	- - - 15	16	17	18	Wedn.
In fifteen Days of the Holy Trinity,	- - - 22	23	24	25	Wedn.
From the Day of the Holy Trin. in 3 Weeks	29	30	J-1	2	Wedn.

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

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

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

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

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

BIRTH-DAYS of the ROYAL FAMILY.

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

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	Peter and Mary	Dec. 7, 1734	Feb. 24, 1777
Prussia	Frederic Wm. III.	Aug. 6, 1770	Nov. 16, 1797
Denmark & Norway	Christian VII.	Jan. 29, 1749	Jan. 14, 1766
Sweden	Gustavus IV.	Nov. 1, 1778	Mar. 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
Popedom	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, 1786

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 $\frac{3}{8}$ $\frac{2}{9}$	A Crown, - -	-	19 8 $\frac{1}{2}$ $\frac{6}{31}$
Half Guinea, -	2 16	2 16 $\frac{6}{8}$ $\frac{4}{9}$	Half Crown, -	-	9 16 $\frac{2}{31}$
Seven Shillings,	1 19	1 19 $\frac{1}{8}$ $\frac{3}{9}$	Shilling, - -	-	3 20 $\frac{2}{31}$
			Six Pence, - -	-	1 22 $\frac{1}{31}$

According to the above proportions it appears, that the value of a *lb.* of silver is 62 s. or 31. 2 s. and of a *lb.* of gold is 44 $\frac{1}{2}$ guineas, or 461. 14 s. 6 d. Also that *1 oz.* of silver is 5 s. 2 d. and the *oz.* of gold 31. 17 s. 10 $\frac{1}{2}$ d. So that the value of the standard gold is 15 times that of the silver, and 1-14th more.

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

Kings and Queens	Born A.D.	Began their Reign	Reigned Y. M. D.	Age	Rem. Deaths and Dethroned	Where buried
Will. Conq.	1027	1066 Oct. 14	20 10 26	60	Burst by Leap. Slain accidentally.	Caen, Norm Winchester Reading Feversham
Will. Rufus	1057	1087 Sept. 9	12 10 24	43		
Henry I.	1068	1100 Aug. 2	35 3 29	77		
Stephen	1105	1135 Dec. 1	18 10 24	49		
Henry II.	1133	1154 Oct. 25	34 8 11	55	Slain with an Arrow.	Fonteveraud Fonteveraud Worcester Westminster Westminster
Richard I.	1156	1189 July 6	9 9 0	43		
John	1165	1199 April 6	17 6 13	50		
Henry III.	1207	1216 Oct. 19	56 0 28	65		
Edward I.	1239	1272 Nov. 16	34 7 21	67		
Edward II.	1284	1307 July 7	19 6 18	43	Dep. & murd.	Gloucester Westminster Westminster
Edward III.	1312	1327 Jan. 25	50 4 27	65		
Richard II.	1366	1377 June 21	22 3 8	33		
Henry IV.	1367	1399 Sept. 29	13 5 20	46	Dep. & murd.	Canterbury Westminster Windsor
Henry V.	1389	1413 Mar. 20	9 5 11	33		
Henry VI.	1421	1422 Aug. 31	38 6 4	49		
Edward IV.	1442	1461 Mar. 4	22 1 5	41	Murder'd. Slain in Battle.	Windsor Not known Leicester
Edward V.	1471	1483 April 9	0 2 15	12		
Richard III.	1443	1483 June 22	2 2 0	42		
Henry VII.	1456	1485 Aug. 22	23 8 0	52	Abdicated.	Westminster Windsor Westminster Westminster Westminster Westminster Westminster Westminster
Henry VIII.	1492	1509 April 22	37 9 6	55		
Edward VI.	1537	1547 Jan. 28	6 5 8	15		
Mary I.	1516	1553 July 6	5 4 11	42		
Elizabeth	1538	1558 Nov. 17	44 4 7	69		
James I.	1566	1603 Mar. 24	22 0 3	58		
Charles I.	1600	1625 Mar. 27	23 10 3	48		
Charles II.	1630	1649 Jan. 30	36 0 7	54		
James II.	1633	1685 Feb. 6	4 0 7	67		
Mary II.	1662	1689 Feb. 13	5 10 15	32	Crowned Sept. 2 2, 1761.	Westminster Westminster Westminster Westminster Westminster
William III.	1650	1689 Feb. 13	13 0 23	52		
Anne	1665	1702 Mar. 8	12 4 24	49		
George I.	1660	1714 Aug. 1	12 10 10	67		
George II.	1683	1727 June 11	33 4 14	77		
George III.	1738	1760 Oct. 25				

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

A TABLE of the most Reverend, Right Reverend, and Reverend, the ARCH-BISHOPS, BISHOPS and DEANS, exercising Ecclesiastical Jurisdiction, 1800.

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

IN the course of this year there will happen four eclipses, two of the Sun, and two of the Moon; but only one of the latter will be visible in these parts.

I. *April 9*, the Moon is eclipsed, but invisible here, the moon being below the horizon. The beginning is at 3h 6m, the ecliptic opposition at 4h 16m, the middle of the eclipse at 4h 23m, and the end at 5h 40 $\frac{1}{2}$ m; also the digits eclipsed 6° 50' on the moon's south limb.

II. *April 24*, the Sun is eclipsed early in the morning before the sun rises, and therefore invisible here. The ecliptic conjunction happens 28 minutes before 1 o'clock in the morning. This will be a central and annular eclipse a little north of Japan, near the eastern coast of the Russian empire; and a very large eclipse to all the parts around that quarter.

III. *October 2*, the Moon is visibly eclipsed in the evening. The beginning is at 9h 1m in the evening, the ecliptic opposition at 9h 46m, middle of the eclipse 9h 56m, and the end at 10h 51m; the digits eclipsed being 2° 43' on the moon's north limb.

IV. *October 18*, the Sun is eclipsed, but invisible. The conjunction is at 9h 12m, in the morning, in longitude 68° 24' 45', the moon's latitude being 35' south. The sun will be centrally eclipsed on the meridian at 9h 37m, in longitude 35 $\frac{1}{4}$ ° east, and latitude 50° south.

Obliquity of the Ecliptic.	1800.	Equation of Equinoctial Points.
23° 27' 59".1	- January 1,	- 9".9
23 28 0.3	- April 1,	- 8.7
23 27 59.6	- July 1,	- 7.3
23 28 0.6	- October 1,	- 5.9
23 27 59.8	- Decemb. 31,	- 4.4

The LUNATIONS.

First quarter the 2d day, at 51 minutes past 10 night.
 Full Moon the 11th day, at 10 minutes past 2 morning.
 Last quarter the 18th day, at 42 minutes past 7 morning.
 New Moon the 25th day, at 8 minutes past 3 morning.

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

Days	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. D's node	h's latitude	☿'s latitude	♁'s latitude	♂'s latitude	♀'s latitude	♃'s latitude
1	5 59	6 1	2 19	38 13	0 n 40	0 s 19	0 n 7	3 n 16	3 n 14	
7	5 56	6 4	2 9	2 54	0 41	0 18	0 3	3 12	2 50	
13	5 52	6 8	2 7	2 35	0 41	0 17	0 s 1	3 3	1 58	
19	5 46	6 14	2 5	2 15	0 42	0 16	0 5	2 50	0 59	
25	5 39	6 21	2 3	1 51	0 43	0 15	0 10	2 34	0 5	

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

Days	☿'s fets	♁'s rif's	♂'s r fets	♀'s rites	h's declin.	☿'s declin.	♁'s declin.	♂'s declin.	♀'s declin.	♃'s declin.
1	7 m 6	5 m 14	4 m 2	6 m 48	18 n 45	23 n 2	20 s 5	15 s 40	20 s 14	
7	6 40	5 11	4 12	6 18	18 53	23 1	21 45	17 10	20 35	
13	6 15	5 7	4 21	5 42	19 1	23 1	22 25	18 31	21 31	
19	5 50	5 3	4 29	6 18	19 9	23 0	22 57	19 41	22 23	
25	5 26	4 59	4 37	6 28	19 17	22 59	23 22	20 35	22 48	

The LUNATIONS.

First quarter the 1st day, at 24 minutes past 8 night.
 Full Moon the 9th day, at 10 minutes past 5 afternoon.
 Last quarter the 16th day, at 35 minutes past 3 afternoon.
 New Moon the 23d day, at 54 minutes past 4 afternoon.

M	Sundays & other	☉	☉	☉'s	☾'s	☾ rises	☾	Clock
D	remark. days	rises	sets	declin.	declin.	& sets	south	bef. ☉
1		7 27	4 33	17 ^s 5	15 n 4	0 m 7	5 a 34	14' 2"
2	E S. a. Epi: Cand.	7 25	4 35	16 47	19 32	1 20	6 18	14 9
3	Blaise	7 24	4 36	16 30	23 14	2 32	7 5	14 16
4		7 22	4 38	16 12	26 0	3 44	7 55	14 21
5	Agatha	7 20	4 40	15 54	27 35	4 53	8 47	14 26
6		7 19	4 41	15 35	27 50	5 51	9 41	14 30
7		7 17	4 43	15 17	26 39	6 38	10 36	14 33
8		7 15	4 45	14 58	24 0	☾ rises	11 29	14 36
9	E Septuagesima S.	7 13	4 47	14 39	20 2	4 a 21	morn	14 37
10		7 11	4 49	14 19	14 58	5 41	0 21	14 38
11		7 9	4 51	14 0	9 3	7 10	1 10	14 38
12	Hilary Ter. ends	7 8	4 52	13 40	2 38	8 33	1 58	14 37
13	Old Candlem. d.	7 6	4 54	13 20	3 ^s 58	9 57	2 46	14 36
14	Valentine	7 4	4 56	12 59	10 25	11 25	3 34	14 33
15		7 2	4 58	12 39	16 21	morn	4 24	14 30
16	E Sexagesima Sun.	7 0	5 0	12 18	21 24	0 55	5 18	14 27
17		6 58	5 2	11 57	25 12	2 22	6 14	14 22
18		6 56	5 4	11 36	27 27	3 47	7 14	14 17
19		6 54	5 6	11 15	27 58	4 59	8 15	14 12
20		6 52	5 8	10 53	26 41	5 49	9 15	14 5
21		6 51	5 9	10 31	23 50	6 27	10 13	13 58
22	Cam. T. div. m.	6 49	5 11	10 10	19 42	6 53	11 7	13 50
23	E Quinq. Shro. S.	6 47	5 13	9 48	14 39	☾ sets	11 56	13 42
24	St. Matthias: Pr.	6 45	5 15	9 26	9 3	6 a 9	0 a 42	13 33
25	Shr. T. [A.F.b.]	6 45	5 17	9 3	3 11	7 26	1 25	13 24
26	Ash Wednesday	6 41	5 29	8 41	2 n 40	8 40	2 7	13 14
27		6 39	5 21	8 18	8 20	9 53	2 48	13 3
28		6 37	5 23	7 56	13 36	11 5	3 30	12 52
	Day	Length	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	h
	infrac.	of d y	long. ♀	long. ♂	long. ♂	long. ☉	long. ♀	sets
1	1 24	9 8	6Ω56	♁♂19	28♏39	12Ω30	17♌12	4 ♀ 5
7	1 45	9 26	7 9	0 50	1 ♀ 49	18 34	26 52	20 35
13	2 7	9 45	7 22	1 20	5 0	24 38	6♏30	7♊25
19	2 29	10 10	7 35	1 51	8 14	1♏0	16 6	25 22
25	2 51	10 34	7 49	2 21	11 30	6 43	25 41	15♏21

Days	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. D's node	h's latitude	∩'s latitude	♁'s latitude	♀'s latitude	♄'s latitude
1	5 30	6 30	2 0	1834	0 n 44	0 s 14	0 s 15	2 n 12	0 s 49
7	5 21	6 39	1 59	1 15	0 44	0 13	0 20	1 51	1 26
13	5 12	6 40	1 58	0 56	0 45	0 12	0 25	1 29	1 52
19	5 0	7 0	1 57	0 37	0 45	0 11	0 30	1 6	2 6
25	4 50	7 10	1 56	0 18	0 45	0 10	0 35	0 44	2 5

Days	☉'s longitude		♃'s long.	♄'s latitude	h's long.	∩'s long.	♁'s long.	♀'s long.	♄'s long.
1	12	29 38	8843	0 n 41	6Ω15	21Π47	26 ♀ 28	28 ♀ 39	22♃ 1
E	13	30 29	20 31	1 42	6 10	21 44	27 11	29 48	23 27
3	14	31 17	2Π21	2 38	6 5	21 42	27 53	0♃58	24 54
4	15	32 5	14 17	3 29	6 0	21 40	28 36	2 7	26 22
5	16	32 50	26 26	4 10	5 55	21 38	29 10	3 17	27 51
6	17	33 34	8Ω51	4 41	5 50	21 36	0♃ 1	4 27	29 21
7	18	34 16	21 33	4 58	5 46	21 34	0 44	5 37	0♃51
8	19	34 57	4Ω34	5 1	5 41	21 33	1 27	6 47	2 22
E	20	35 37	17 54	4 48	5 37	21 32	2 10	7 57	3 54
10	21	36 15	1η30	4 18	5 32	21 31	2 53	9 7	5 27
11	22	36 51	15 19	3 32	5 28	21 30	3 36	10 18	7 1
12	23	37 27	29 17	2 34	5 23	21 29	4 19	11 28	8 36
13	24	38 1	13=21	1 25	5 19	21 28	5 2	12 39	10 11
14	25	38 34	27 28	0 11	5 15	21 28	5 45	13 50	11 47
15	26	39 5	11M36	1 s 4	5 10	21 D28	6 28	15 0	13 25
E	27	39 35	25 42	2 15	5 6	21 28	7 11	16 11	15 4
17	28	40 5	9 ♀ 48	3 18	5 1	21 28	7 54	17 22	16 43
18	29	40 32	23 50	4 8	4 57	21 29	8 37	18 33	18 28
19	30	40 59	7♃49	4 44	4 53	21 30	9 20	19 44	20 4
20	1	41 24	21 41	5 2	4 49	21 31	10 3	20 55	21 46
21	2	41 48	5♃24	5 3	4 45	21 32	10 46	22 6	23 29
22	3	42 10	18 56	4 47	4 41	21 33	11 29	23 17	25 13
E	4	42 30	2X14	4 15	4 37	21 34	12 12	24 29	26 58
24	5	42 49	15 15	3 31	4 33	21 36	12 55	25 40	28 44
25	6	43 6	27 59	2 36	4 29	21 38	13 39	26 52	0X31
26	7	43 41	10♃26	1 36	4 25	21 40	14 22	28 3	2 19
27	8	43 34	22 38	0 31	4 21	21 42	15 5	29 15	4 8
28	9	43 45	4838	0 s 33	4 17	21 45	15 48	0♃26	5 58

Days	∩'s fets	♁'s rifles	♀'s rites	♄'s rifles	h's declin.	∩'s declin.	♁'s declin.	♀'s declin.	♄'s declin.
1	4 m 41	4 m 55	4 m 48	6 m 38	19 n 26	22 n 59	23 s 41	21 s 16	23 s 29
7	4 17	4 51	4 56	6 46	19 34	22 59	23 48	21 30	21 24
13	3 53	4 47	5 4	6 50	19 41	23 0	23 47	21 24	19 31
19	3 30	4 42	5 11	6 50	19 48	23 1	23 38	20 55	16 48
25	3 7	4 36	5 18	6 43	19 54	23 2	23 21	20 6	13 15

The LUNATIONS.

First quarter the 3d day, at 46 minutes past 5 afternoon.
 Full Moon the 11th day, at 49 minutes past 5 morning.
 Last quarter the 17th day, at 7 minutes past 11 night.
 New Moon the 25th day, at 15 minutes past 8 morning.

M	Sundays & other	☉	☉	☉'s	☉'s	Drises	☉	Clock		
D	remark. days	rises	sets	declin.	declin.	& sets	South	bef. ☉		
1	David	6 33	5 27	7 s 33	18 n 19	morn	4 a 13	12' 40"		
E 1	Sun. in Lent	6 31	5 29	7 10	22 19	0 17	4 59	12 28		
3	[Chau]	6 29	5 31	6 47	25 24	1 31	5 47	12 15		
4		6 27	5 33	6 24	27 23	2 40	6 38	12 2		
5	Ember Week	6 25	5 35	6 1	28 7	3 43	7 32	11 48		
6		6 23	5 37	5 38	27 27	4 35	8 26	11 34		
7	Perpetua	6 21	5 39	5 15	25 21	5 15	9 20	11 19		
8		6 19	5 41	4 51	21 51	5 48	10 13	11 4		
E 2	Sund. in Lent	6 17	5 43	4 28	17 8	6 7	11 5	10 49		
10		6 15	5 45	4 4	11 25	Drises	11 53	10 33		
11		6 13	5 47	3 41	4 50	6 a 14	morn	10 17		
12	Gregory	6 11	5 49	3 17	1 3 49	7 33	0 42	10 0		
13		6 9	5 51	2 54	8 34	9 10	1 32	9 43		
14		6 7	5 53	2 30	14 54	10 41	2 23	9 26		
15		6 5	5 55	2 6	20 23	morn	3 16	9 9		
E 3	Sun. in Lent	6 3	5 57	1 43	24 38	0 13	4 13	8 52		
17	St. Patrick	6 1	5 59	1 19	27 17	1 42	5 14	8 34		
18	Edwa. K. W. S.	5 59	6 1	0 55	23 11	2 58	6 15	8 16		
19		5 57	6 3	0 32	27 18	3 56	7 16	7 58		
20		5 55	6 5	0 8	24 49	4 37	8 14	7 40		
21	Benedict	5 53	6 7	0 n 16	21 1	5 6	9 9	7 22		
22		5 51	6 9	0 39	16 15	5 26	9 59	7 4		
E 4	or Midl. Sund.	5 49	6 11	1 3	10 50	5 41	10 45	6 45		
24		5 47	6 13	1 27	5 4	Drises	11 28	6 27		
25	Annu. Lady Day	5 45	6 15	1 50	0 n 48	6 a 33	0 a 10	6 8		
26		5 43	6 17	2 14	6 34	7 44	0 51	5 50		
27		5 41	6 19	2 37	12 1	8 56	1 32	5 31		
28		5 39	6 21	3 1	16 58	10 8	2 15	5 13		
29		5 37	6 23	3 24	21 14	11 22	3 0	4 54		
E 5	Sund. in Lent	5 36	6 24	3 47	24 38	morn	3 48	4 36		
31		4 34	6 26	4 11	27 0	0 36	4 37	4 17		
D	Days	Day increaf.	Length of day	Helioc. long. ♀	Helioc. long. ♀	Helioc. long. ♂	Helioc. long. ☉	Helioc. long. ♀	Helioc. long. ♂	h sets
1	3	11	10 55	7 57	2 57	13 41	10 44	2 3	0 21	5 m 34
7	3	35	11 19	8 11	3 12	17 0	16 44	11 35	26 21	5 11
13	3	59	11 43	8 24	3 42	20 22	22 43	21 6	27 29	4 48
19	4	33	12 7	8 37	4 13	23 45	28 41	0 36	3 11	4 26
25	4	47	12 31	8 50	4 43	27 10	4 37	10 5	11 26	4 4

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

The LUNATIONS.

First quarter the 2d day, at 43 minutes past noon.
 Full Moon the 9th day, at 16 minutes past 4 afternoon.
 Last quarter the 16th day, at 9 minutes past 7 morning.
 New Moon the 24th day, at 28 minutes bef. 1 morning.

M	Sundays & other D remark. days	☉ rises	☉ sets	☉'s declin.	☽'s declin.	☽ rises & sets	☽ South	Clock bef. ☉	
1		5 32	6 22	4 n 34	28 n 9	1 m 40	5 a 29	3' 59"	
2		5 30	6 30	4 57	27 59	2 36	6 23	3 41	
3	Richard Bp.	5 28	6 32	5 20	26 25	3 20	7 16	3 22	
4	Ambr. Ca. T. e.	5 26	6 34	5 43	23 30	3 52	8 8	3 4	
5	Ox. T. e: O. L. d.	5 24	6 36	6 6	19 19	4 18	8 59	2 47	
6	6 or Palm Sun	5 22	6 38	6 28	14 3	4 36	9 49	2 29	
7		5 20	6 40	6 51	7 54	4 51	10 37	2 11	
8		5 18	6 42	7 13	1 11	(rises	11 27	1 54	
9		5 16	6 44	7 36	5 s 45	6 a 50	morn	1 37	
10	Maundy Thurs.	5 14	6 46	7 58	12 30	8 21	0 18	1 20	
11	Good Friday	5 12	6 48	8 20	18 33	9 55	1 12	1 3	
12		5 10	6 50	8 42	23 27	11 29	2 10	0 47	
13	Easter Day	5 8	6 52	9 4	26 45	morn	3 10	0 31	
14	Easter Monday	5 6	6 54	9 25	28 12	0 55	4 14	0 16	
15	Easter Tuesday	5 5	6 55	9 47	27 46	2 1	5 17	0 0	
16		5 3	6 57	10 8	25 36	2 49	6 18	0 a f. 15	
17		5 1	6 59	10 29	22 4	3 20	7 13	0 29	
18		4 50	7 1	10 50	17 30	3 43	8 5	0 43	
19	Alphege	4 57	7 3	11 11	12 14	3 57	8 51	0 57	
20	Low Sunday	4 55	7 5	11 32	6 35	4 10	9 35	1 10	
21		4 53	7 7	11 52	0 47	4 20	10 16	1 23	
22	[Ox. & Ca. T. b.	4 51	7 9	12 13	4 n 59	4 31	10 57	1 35	
23	St. George	4 50	7 10	12 33	10 31	(sets	11 37	1 47	
24	[Ma. b.	4 48	7 12	12 53	15 37	8 a 0	0 a 19	1 59	
25	St. Marks. Prs.	4 46	7 14	13 12	20 6	9 15	1 3	2 10	
26	2a Su. aft. Easter	4 44	7 16	13 32	23 47	10 28	1 50	2 20	
27		4 42	7 18	13 51	26 27	11 37	2 39	2 30	
28		4 40	7 20	14 10	27 58	morn	3 30	2 40	
29		4 39	7 21	14 29	28 11	0 37	4 22	2 49	
30	Eaft. Term be.	4 37	7 23	14 47	27 3	1 24	5 14	2 57	
Days	Day increaf.	Length of day	Helioc. long. ♀	Helioc. long. ♀	Helioc. long. ♂	Helioc. long. ☉	Helioc. long. ♀	Helioc. long. ♀	☽ sets
1	5 15	12 59	9Ω 6	5Ω 18	1 1/2 12	11 = 32	21 1/2 9	20Ω 54	3 m 38
7	5 39	13 23	9 19	5 49	4 42	17 26	19 38	19 1/2 1	3 16
13	6 1	13 45	9 32	6 19	8 14	23 18	10 6	12 = 19	2 54
19	6 23	14 7	9 45	6 49	11 47	29 10	19 36	2 1/2 15	2 32
25	6 45	14 29	9 58	7 19	15 23	5 1/2 0	29 5	20 7	2 11

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

The LUNATIONS.

First quarter the 2d day, at 6 minutes past 4 morning.
 Full Moon the 9th day, at 11 minutes bef. 1 morning.
 Last quarter the 15th day, at 32 minutes past 4 afternoon.
 New Moon the 23d day, at 43 minutes past 4 afternoon.
 First quarter the 31st day, at 45 minutes past 3 afternoon.

M	Sundays & other	☉	☉	☉'s	☽'s	☽ rises	☽	Clock
D	remark. days	rises	sets	declin.	declin.	& sets	South	aft. ☉
1	St. Phil. & Jam	4 35	7 25	15 n 5	24 n 37	2 m 0	6 a 5	3' 5"
2		4 34	7 26	15 23	20 56	2 25	6 55	3 12
3	Inven. of Crofs	4 32	7 28	15 41	16 10	2 46	7 44	3 10
4	3 S. af. Easter	4 30	7 30	15 59	10 30	3 2	8 31	3 26
5		4 28	7 32	16 16	4 8	3 16	9 19	3 32
6	John Ev. A.P.L.	4 27	7 33	16 33	2 s 38	3 28	10 8	3 37
7		4 25	7 35	16 50	9 28	3 41	11 0	3 42
8		4 23	7 37	17 6	15 55	(rises	11 56	3 46
9		4 22	7 38	17 22	21 28	8 a 57	morn	3 50
10		4 20	7 40	17 38	25 35	10 32	0 57	3 53
11	4 Sun. af. East	4 19	7 41	17 54	27 51	11 52	2 1	3 55
12	Old May Day	4 17	7 43	18 9	28 4	morn	3 7	3 57
13		4 15	7 44	18 24	26 23	0 48	4 11	3 59
14		4 14	7 45	18 38	23 7	1 25	5 10	3 59
15		4 13	7 47	18 53	18 41	1 50	6 4	3 59
16		4 11	7 49	19 7	13 31	2 8	6 52	3 59
17	Prs. Wales b.	4 10	7 50	19 20	7 54	2 22	7 37	3 58
18	5 or Roga. Sun.	4 8	7 52	19 34	2 7	2 33	8 19	3 56
19	Queen Char. b.	4 7	7 53	19 47	3 n 39	2 43	8 59	3 54
20	[Dunstan]	4 6	7 54	20 0	9 13	2 52	9 39	3 51
21		4 4	7 56	20 12	14 24	3 4	10 20	3 48
22	Ascen. Holy The	4 3	7 57	20 24	19 1	3 17	11 3	3 44
23	[Prs. Eliz. b.]	4 2	7 58	20 36	22 54	(sets	11 48	3 39
24		4 0	8 0	20 47	25 50	9 a 27	0 a 36	3 34
25	3 Sun. af. Ascen.	3 59	8 1	20 58	27 38	10 30	1 26	3 29
26	Easter Term e.	3 58	8 2	21 8	28 10	11 22	2 18	3 23
27	Ven. Be: [Au.]	3 57	8 3	21 19	27 22	morn	3 10	3 16
28		3 56	8 4	21 29	25 15	0 1	4 1	3 9
29	K. Char. 2 rest.	3 56	8 5	21 38	21 56	0 29	4 50	3 2
30	[Ca. T. di. m.]	3 54	8 6	21 47	17 31	0 51	5 37	2 54
31		3 53	8 7	21 56	12 16	1 7	6 23	2 46
☽	Day	Length	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	H ₂
	increaf.	of day	long. ♀	long. ♀	long. ♂	long. ☉	long. ♀	long. ♀
1	7 7	14 51	10 Ω 12	7 26 50	19 15 0	10 n 150	8 36	6 4 54
7	7 27	15 11	10 25	8 20	22 38	16 38	18 6	23 24
13	7 45	15 27	10 38	8 50	26 19	22 25	27 38	10 1/2 21
19	8 4	15 47	10 51	9 20	30 11	28 11	7 11	28 35
25	8 19	16 3	11 4	9 50	3 44	3 4 57	16 45	19 1 0

M D	Day lig. begins	Daylig. ends	Durat. twilig.	Pi. (C's) node	h's latitude	U's latitude	♂'s latitude	♀'s latitude	♃'s latitude
1	2 6	9 57	2 37	26 ♀ 51	0 n 47	0 s 2	1 s 38	1 s 38	1 s 52
7	1 44	10 19	2 48	26 32	0 47	0 1	1 44	1 37	2 51
13	1 19	10 45	3 5	26 13	0 47	0 0	1 49	1 33	3 18
19	0 48	11 20	3 32	25 54	0 47	0 0	1 55	1 27	3 17
25	All dayli. h.			25 35	0 47	0 n 1	2 0	1 18	2 52

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

M D	U's fets	♂'s rifles	♀'s rifles	♃'s rifles	h's declin.	U's declin.	♂'s declin.	♀'s declin.	♃'s declin.
1	11 a 40	2 m 43	4 m 0	4 m 9	20 n 4	23 n 27	12 s 39	4 n 31	6 n 45
7	11 22	2 30	3 49	3 56	19 59	23 27	11 9	7 18	6 21
13	11 4	2 15	3 39	3 44	19 54	23 27	9 37	10 0	6 21
19	10 46	1 59	3 30	3 33	19 48	23 27	8 2	12 34	9 27
25	10 27	1 42	3 21	3 23	19 41	23 25	6 25	14 58	12 21

The LUNATIONS.

Full Moon the 7th day, at 2 minutes past 8 morning.
 Last quarter the 14th day, at 2 minutes past 4 morning.
 New Moon the 22d day, at 53 minutes past 7 morning.
 First quarter the 29th day, at 17 minutes past 12 night.

M	Sundays & other	☉	☽	☉'s	☽'s	☽ rises	☽	Clock
D	remark. days.	rises	sets	declin.	declin.	& sets	South	aft. ☉
1	Whit Sunday	Nicom.	8 8	22 n 4	6 n 17	1 m 20	7 a 9	2' 37"
2	Whit Monday	3 51	8 9	22 12	0 s 9	1 32	7 56	2 28
3	Whit Tue. (W)	3 50	8 10	22 20	6 4	1 45	8 44	2 19
4	K. Geo. 3b. Em.	3 49	8 11	22 27	13 16	1 59	9 37	2 9
5	Duke of Cum. b	Bonif. a.	8 11	22 34	19 10	2 15	10 34	1 50
6		3 48	8 12	22 40	23 55	☽ rises	11 37	1 49
7		3 47	8 13	22 46	27 2	9 a 22	morn	1 38
8	Trinity Sunday	3 47	8 13	22 52	28 8	10 31	0 42	1 27
9		3 46	8 14	22 57	27 10	11 18	1 49	1 16
10		3 46	8 14	23 2	24 20	11 48	2 52	1 4
11	St. Barnabas	Ox. l. b	8 15	23 6	20 8	morn	3 50	0 53
12	Corpus Christi	3 45	8 15	23 10	15 0	0 9	4 42	0 41
13	Trin. Term b.	3 44	8 16	23 14	9 21	0 25	5 29	0 28
14		3 44	8 16	23 17	3 30	0 36	6 13	0 16
15	1 Sun. af. Trin.	3 44	8 16	23 20	2 n 11	0 47	6 54	0 3
16		3 43	8 17	23 22	7 50	0 58	7 34	0 b. 10
17	St. Alban	3 43	8 17	23 24	13 16	1 8	8 15	0 22
18		3 43	8 17	23 26	18 1	1 21	8 57	0 35
19		3 43	8 17	23 27	22 4	1 37	9 41	0 40
20	Tra. Edw. KWS	3 43	8 17	23 28	25 13	1 58	10 28	1 2
21	Longest Day	3 43	8 17	23 28	27 17	☽ sets	11 18	1 15
22	2 Sun. af. Trin.	3 43	8 17	23 28	28 6	9 a 14	0 a 9	1 28
23		3 43	8 17	23 27	27 35	9 57	1 1	1 41
24	Nati. St. J. Bapt.	3 43	8 17	23 26	25 44	10 27	1 53	1 54
25	[Midf.]	3 43	8 17	23 25	22 38	10 50	2 42	2 7
26		3 44	8 16	23 23	18 28	11 8	3 30	2 19
27		3 44	8 16	23 21	13 24	11 22	4 16	2 32
28		3 44	8 16	23 19	7 40	11 34	5 0	2 44
29	3 S. af. Tri. St.	3 45	8 15	23 16	1 28	11 46	5 45	2 56
30	[Peter]	3 45	8 15	23 12	4 s 57	11 59	6 31	3 8
M	Day	Helioe.	Helioe.	Helioe.	Helioe.	Helioe.	Helioe.	h
D	increaf.	of day	long. ♀	long. ♂	long. ♂	long. ♀	long. ♀	fers
1	8 32	16 7	11 20	10 26	8 6	10 40	27 55	17 15
7	8 42	16 26	11 33	10 56	11 52	16 24	7 31	16 38
13	8 46	16 30	11 46	11 26	15 38	22 8	17 7	21 8
19	8 50	16 34	11 59	11 56	19 26	27 52	26 45	28 52
25	odec. 2	16 32	12 12	12 26	23 13	3 35	6 24	4 53

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

The LUNATIONS.

Full Moon the 6th day, at 52 minutes past 2 afternoon.
 Last quarter the 13th day, at 7 minutes past 6 afternoon.
 New Moon the 21st day, at 40 minutes past 9 afternoon.
 First quarter the 29th day, at 39 minutes past 6 morning.

M	Sundays & other	☉	☉	☉'s	☽'s	☽ rises	☽	Clock	
D	remark. days	rises	sets	declin.	declin.	& sets	South	bef. ☉	
1	Camb. Com.	3 46	8 14	23 n 8	11 s 18	morn	7 a 20	3' 20	
2	Visita. Term e.	3 46	8 14	23 4	17 14	o 13	8 13	3 32	
3	Dog days begin	3 47	8 13	23 c	22 18	o 31	9 11	3 43	
4	Transf. St. Mar.	3 48	8 12	22 55	26 1	o 58	10 14	3 54	
5	OMidf. [CaT.e.	3 48	8 12	22 45	27 56	☽ rises	11 21	4 4	
6	4 Sun. af. Trī.	3 49	8 11	22 43	27 47	9 a 2	morn	4 14	
7	Tho. à Becket	3 50	8 10	22 37	25 39	9 41	o 27	4 24	
8		3 50	8 10	22 31	21 51	10 6	1 29	4 34	
9		3 51	8 9	22 24	16 53	10 24	2 25	4 43	
10		3 52	8 8	22 16	11 13	10 38	3 16	4 51	
11		3 53	8 7	22 8	5 15	10 50	4 1	5 0	
12		3 54	8 6	22 0	on 46	11 0	4 45	5 7	
13	5 Sun. af. Trī	3 55	8 5	21 52	6 35	11 11	5 26	5 15	
14	Oxford Act	3 56	8 4	21 43	12 2	11 22	6 7	5 22	
15	Swathin	3 57	8 3	21 34	16 58	11 37	6 41	5 28	
16		3 58	8 2	21 24	21 13	11 56	7 33	5 35	
17		4 0	8 0	21 14	24 36	morn	8 19	5 40	
18		4 1	7 59	21 4	26 56	o 21	9 7	5 45	
19	Oxfo. Ter. e.	4 2	7 58	20 53	28 4	o 57	9 59	5 50	
20	6 Sun. af. Trī. Marga.	4 2	7 57	20 42	27 52	1 46	10 51	5 54	
21		4 5	7 55	20 31	26 18	☽ sets	11 44	5 57	
22	Magdalen	4 6	7 54	20 19	23 26	8 a 51	o a 34	6 0	
23		4 7	7 53	20 7	19 25	9 9	1 24	6 3	
24		4 9	7 51	19 54	14 28	9 26	2 11	6 4	
25	St. James	4 10	7 50	19 41	8 48	9 39	2 56	6 6	
26	S. Anne	4 11	7 49	19 28	2 40	9 50	3 41	6 6	
27	7 Sun. af. Trin.	4 13	7 47	19 15	3 s 42	10 3	4 26	6 6	
28		4 14	7 46	19 1	9 59	10 16	5 13	6 5	
29		4 16	7 44	18 47	15 55	10 33	6 3	6 4	
30		4 17	7 43	18 33	21 7	10 55	6 58	6 2	
31		4 18	7 41	18 18	25 9	11 28	7 58	6 0	
M	Day	Length	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	h
D	decreas	of day	long. ♀	long. ♀	long. ♂	long. ☉	long. ♀	long. ♂	sets
1	o 4	16 30	12 25	12 55	27 2	5 18	16 11 4	5 12 47	9 a 52
7	o 12	16 22	12 38	13 25	o 55	15 2	25 45	1 18	9 29
13	o 24	16 10	12 51	13 55	4 39	20 4	5 28	22 44	9 7
19	o 38	15 56	13 5	14 25	8 27	26 28	15 11	11 29	8 44
25	o 54	15 40	13 18	14 55	12 16	2 12	24 55	28 42	8 22

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

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

The LUNATIONS.

Full Moon the 3d day, at 40 minutes past 8 morning.
 Last quarter the 11th day, at 7 minutes past 5 morning.
 New Moon the 18th day, at 3 minutes past 10 night.
 First quarter the 25th day, at 38 minutes past 5 afternoon.

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

M	Daylig. begins	Daylig. ends.	Durat. twilig.	Pl. (C's node	h's latitude	U's latitude	♂'s latitude	♀'s latitude	♄'s latitude
1	3 7	8 57	2 11	20 ♀ 21	0 n 53	0 n 11	2 s 32	1 n 24	2 s 8
7	3 24	8 30	2 6	20 2	0 53	0 12	2 28	1 20	0 18
13	3 37	8 23	2 4	19 42	0 54	0 12	2 23	1 14	1 4
19	3 52	8 8	2 1	19 23	0 55	0 13	2 16	1 7	1 45
25	4 5	7 55	2 0	19 4	0 56	0 14	2 8	0 57	1 51

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

M	U rises	♂ rises	♀ sets	♄ rises	h's declin.	U's declin.	♂'s declin.	♀'s declin.	♄'s declin.
1	1 m 9	9 a 2	7 a 8	4 m 5	16 n 36	21 n 13	14 n 56	6 n 4	10 n 52
7	0 54	8 45	6 59	3 47	16 23	21 1	15 33	3 46	12 13
13	0 38	8 27	6 49	3 57	16 10	20 49	16 5	0 43	11 22
19	0 22	8 8	6 39	4 28	15 58	20 38	16 32	2 s 22	8 30
25	0 5	7 47	6 29	5 8	15 47	20 27	16 53	5 26	4 23

The LUNATIONS.

Full Moon the 2d day, at 46 minutes past 9 night.
 Last quarter the 10th day, at 11 minutes past 12 night.
 New Moon the 18th day, at 12 minutes past 9 morning.
 First quarter the 25th day, at 11 minutes bef. 1 morning.

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

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

The LUNATIONS.

Full Moon the 1st day, at 59 minutes past 1 afternoon.
 1st quarter the 9th day, at 38 minutes past 6 afternoon.
 New Moon the 16th day, at 50 minutes past 7 afternoon.
 First quarter the 23d day, at 45 minutes past 10 morning.

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

M	Daylig.	Daylig.	Durat.	Pl. (s	h's	u's	♂'s	♀'s	♃'s
D	begins	end	twilig.	node	latitude	latitude	latitude	latitude	latitude
1	5 17	6 45	1 59	17 ♀ 7	1 n 2	0 n 20	0 s 35	0 s 32	1 s 40
7	5 25	6 35	2 2	16 48	1 3	0 21	0 15	0 48	2 9
13	5 34	6 26	2 3	16 29	1 5	0 22	0 n 4	1 2	2 29
19	5 41	6 19	2 5	16 10	1 6	0 23	0 23	1 16	2 33
25	5 48	6 12	2 7	15 51	1 7	0 24	0 40	1 28	2 11
M	☉'s		☾'s	☾'s	h's	u's	♂'s	♀'s	♃'s
D	longitude		long.	latitude	long.	long.	long.	long.	long.
1	8 50	58	7 8 56	1 n 45	22 2 56	35 56	19 8 11	1 ♀ 55	24 11 16
E	9 51	6	20 2	2 45	23 59	4 0	18 50	3 10	25 14
3	10 51	15	2 11 2	3 37	23 3	4 3	18 28	4 24	27 12
4	11 51	26	13 56	4 19	23 6	4 6	18 7	5 39	28 39
5	12 51	40	25 48	4 50	23 10	4 9	17 45	6 53	0 ♀ 5
6	13 51	55	7 5 39	5 8	23 13	4 12	17 24	8 8	1 31
7	14 52	13	19 32	5 13	23 16	4 15	17 2	9 22	2 57
8	15 52	32	1 23 33	5 5	23 19	4 17	16 41	10 37	4 22
E	16 52	54	13 45	4 43	23 22	4 20	16 19	11 51	5 46
10	17 53	18	26 12	4 7	23 25	4 22	15 58	13 5	7 8
11	18 53	44	9 12 0	3 18	23 27	4 24	15 37	14 20	8 30
12	19 54	11	22 11	2 17	23 30	4 26	15 16	15 34	9 51
13	20 54	41	5 50	1 7	23 32	4 28	14 55	16 48	11 11
14	21 55	13	19 56	0 s 10	23 34	4 30	14 35	18 3	12 30
15	22 55	46	4 11 28	1 28	23 36	4 31	14 16	19 17	13 47
E	23 56	21	19 21	2 42	23 38	4 32	13 56	20 31	15 3
17	24 56	58	4 ♀ 28	3 46	23 40	4 33	13 37	21 46	16 17
18	25 57	36	19 39	4 31	23 42	4 34	13 18	23 0	17 29
19	26 58	16	4 5 44	5 2	23 44	4 34	12 59	24 14	18 38
20	27 58	57	10 33	5 10	23 46	4 34	12 41	25 28	19 45
21	28 59	39	4 33 1	4 58	23 47	4 34	12 24	26 43	20 49
22	♂ 0 0	22	18 3	4 28	23 48	4 34	12 08	27 57	21 49
E	1 1	6	1 16 4	3 43	23 50	4 34	11 53	29 12	22 45
24	2 1	51	14 53	2 48	23 51	4 33	11 49	0 ♀ 26	23 37
25	3 2	37	27 44	1 46	23 52	4 32	11 25	1 40	24 24
26	4 3	24	10 16	0 40	23 53	4 31	11 11	2 55	25 3
27	5 4	12	22 40	0 n 27	23 54	4 30	10 58	4 9	25 37
28	6 5	1	4 8 50	1 31	23 55	4 28	10 46	5 23	26 7
29	7 5	52	16 53	2 31	23 56	4 27	10 35	6 37	26 27
E	8 6	43	28 51	3 23	23 57	4 25	10 25	7 51	26 R 37
M	u	♂	♀	♃	h's	u's	♂'s	♀'s	♃'s
D	rises	fers	fers	fers	declin.	declin.	de lin.	declin.	declin.
1	10 a 6	8 m 18	5 a 41	5 a 12	14 n 52	19 n 37	16 n 59	21 s 6	20 s 28
7	9 44	7 46	5 36	5 8	14 47	19 33	16 42	22 40	22 53
13	9 21	7 12	5 33	5 3	14 41	19 31	16 24	23 51	24 37
19	8 56	6 36	5 36	5 7	14 40	19 31	16 7	24 36	25 34
25	8 31	6 2	5 44	5 7	14 28	19 22	15 54	24 55	25 32

The LUNATIONS.

Full Moon the 1st day, at 24 minutes past 8 morning.
 Last quarter the 9th day, at 14 minutes past 11 morning.
 New Moon the 16th day, at 5 minutes past 6 morning.
 First quarter the 22d day, at 17 minutes past 12 night.
 Full Moon the 31st day, at 37 minutes past 3 morning.

M	Sundays & other	☉	☾	☉'s	☾'s	☾'s	☾	☾	☾
D	remark. days	rises	sets	declin.	declin.	& sets	South	☉	☉
1		7 57	4 2	21 s 51	25 n 8	☾ rises	morn	10 40	
2		7 58	4 1	22 0	27 53	4 a 16	0 30	10 17	
3		8 0	4 0	22 8	28 21	5 5	1 20	9 51	
4		8 0	4 0	22 17	27 30	6 5	2 11	9 29	
5		8 1	3 59	22 24	25 23	7 13	3 1	9 4	
6	Nicholas	8 2	3 58	22 32	22 8	8 29	3 49	8 39	
7	E 2 Sun. in Adv.	8 3	3 57	22 39	17 54	9 44	4 36	8 13	
8	Concept. V.M.	8 4	3 56	22 45	12 51	11 0	5 20	7 47	
9		8 4	3 56	22 51	7 9	morn	6 3	7 20	
10		8 5	3 55	22 57	0 59	0 16	6 47	6 52	
11		8 5	3 55	23 2	5 s 25	1 35	7 31	6 25	
12		8 6	3 54	23 7	11 47	2 57	8 18	5 56	
13	Lucy	8 6	3 54	23 11	17 45	4 25	9 10	5 28	
14	E 3 Su. in Advent	8 7	3 53	23 15	22 50	5 59	10 7	4 59	
15		8 7	3 53	23 18	26 30	☾ sets	11 0	4 30	
16	Ca. T.e. O. Sap.	8 7	3 53	23 21	28 14	3 a 31	0 a 16	4 0	
17	Ember Week	8 8	3 52	23 23	27 49	4 45	1 23	3 31	
18	[Oxf. T.e.]	8 8	3 52	23 25	25 19	6 14	2 27	3 1	
19		8 8	3 52	23 27	21 11	7 45	3 25	2 31	
20		8 8	3 52	23 27	15 55	9 14	4 18	2 1	
21	E 4 S. in Adv. St.	Shor. d.	3 52	23 28	10 2	10 37	5 0	1 3-	
22	[Thomas]	8 8	3 52	23 28	3 53	11 56	5 50	1 1	
23		8 8	3 52	23 27	2 n 14	morn	6 30	0 31	
24		8 7	3 53	23 27	8 7	1 9	7 13	0 1	
25	Christmas Day	8 7	3 53	23 25	13 31	2 22	7 56	ob. 29	
26	St. Stephen	8 7	3 53	23 23	18 24	3 37	8 39	0 59	
27	St. John Ev.	8 7	3 53	23 21	22 28	4 50	9 25	1 29	
28	E 1 Sun. af. Chri.	8 6	3 54	23 18	25 35	6 3	10 13	1 58	
29	[Innocents]	8 6	3 54	23 15	27 35	7 10	11 3	2 28	
30		8 5	3 55	23 11	28 19	☾ rises	11 54	2 57	
31	Silvester	8 5	3 55	23 7	27 44	3 a 46	morn	3 26	
M	Day	Length	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	h
D	decreaf.	of day	long. ♀	long. ♂	long. ♂	long. ☉	long. ♀	long. ♂	rises
1	8 28	8 6	17 59	25 31	28 45	9 11 8	21 39	22 22	9 a 53
7	8 40	7 54	18 12	26 0	11 57	15 13	1 9	27 45	9 27
13	8 46	7 48	18 25	26 30	5 8	21 20	10 39	5 29	9 0
19	8 50	7 44	18 38	26 59	8 16	27 26	20 11	10 45	8 32
25	oinc. 2	7 46	18 51	27 27	11 23	3 33	29 43	10 40	8 5

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

Dates		Heliocentric		Geocentric		Declin. South.	
Months	Days	longitude	latitude	longitude	latitude		
January	I	24 ^o 26 [']	0 ^o 45 [']	27 ^o 27 [']	0 ^o 46 [']	1 ^o 43 [']	17 1
	II	24 34	0 45	27 24	0 46	1 45	16 17
	2I	24 42	0 45	27 16	0 47	1 48	15 34
February	I	24 50	0 45	27 1	0 47	1 54	14 48
	II	24 58	0 45	26 43	0 47	2 2	14 7
	2I	25 6	0 45	26 21	0 48	2 11	13 27
March	I	25 12	0 45	26 2	0 48	2 16	12 56
	II	25 20	0 45	25 31	0 48	2 29	12 17
	2I	25 28	0 45	25 1	0 48	2 39	11 39
April	I	25 37	0 45	24 42	0 48	2 50	10 58
	II	25 44	0 45	24 18	0 47	3 0	10 20
	2I	25 52	0 45	23 57	0 47	3 8	9 42
May	I	26 0	0 45	23 40	0 47	3 14	9 3
	II	26 8	0 45	23 27	0 46	3 19	8 24
	2I	26 16	0 45	23 20	0 46	3 21	7 44
June	I	26 24	0 45	23 ^D 17	0 46	3 22	6 59
	II	26 32	0 45	23 20	0 45	3 20	6 18
	2I	26 40	0 45	23 20	0 45	3 17	5 37
July	I	26 48	0 45	23 42	0 44	3 11	4 57
	II	26 56	0 45	24 1	0 44	3 3	4 17
	2I	27 3	0 45	24 24	0 44	2 54	3 38
August	I	27 12	0 45	24 54	0 43	2 41	2 56
	II	27 20	0 45	25 25	0 43	2 29	2 29
	2I	27 28	0 45	25 58	0 43	2 15	1 45
September	I	27 36	0 45	26 38	0 43	1 59	1 7
	II	27 44	0 45	27 15	0 42	1 45	0 33
	2I	27 52	0 45	27 53	0 42	1 29	23 56
October	I	28 0	0 45	28 31	0 42	1 14	23 23
	II	28 8	0 45	29 8	0 42	1 0	22 49
	2I	28 16	0 45	29 44	0 43	0 45	22 13
November	I	28 24	0 45	0 [≈] 21	0 43	0 31	21 33
	II	28 32	0 45	0 51	0 43	0 19	20 55
	2I	28 40	0 45	1 18	0 43	0 9	20 15
December	I	28 48	0 45	1 40	0 44	0 0	19 34
	II	28 56	0 44	1 57	0 44	0 5 6	18 52
	2I	29 3	0 44	2 9	0 44	0 11	18 8

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

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

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

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

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

Subtracting

h m

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

The Eclipses of Jupiter's

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

first Satellite for the Year 1800.

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

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 24th 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 4 h. 55 min. 17 sec.; I find by the Table, that the Time of this Immersion will happen at the British Observatory, at 3 h. 6 min. 57 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	1	☾ in apoge	1	☾ in apoge
5	☾ in apoge	4	♂ ☾ ♃ 15h.	4	♂ ☾ ♃ 0h.
6	♀ stationary	5	♀ in aphelion	4	♂ ☉ ♀ 6½h.
8	♂ ☾ ♃ 10h.	8	♂ ☾ ♃ 2h.	7	♂ ☾ ♃ 8h.
9	♂ in ☉	15	☾ in perige	8	♀ in ☉
12	♂ ☾ ♃ 0h.	15	♃ stationary	9	♃ in ☉
17	♀ elong. max.	18	☉ in ☿ 7h. 44m.	12	☾ ☉ ♃ 20½h.
19	☉ in ♃ 16h. 58m.	19	♂ ☾ ♂ 3h.	13	☾ in perige
20	☾ in perige	20	♂ ☾ ♀ 0h.	15	♂ ☉ ♁ 16½h.
21	♂ ☾ ♀ 6h.	22	♂ ☾ ♀ 12h.	16	♀ in ☉
21	♂ ☾ ♂ 11h.			19	♂ ☾ ♂ 21h.
22	♂ ☾ ♀ 20h.			20	☉ in ♃ 8h. 3m.
25	♀ in ☉			20	♀ in perihelion
26	♂ ☉ ♃ 7½h			21	♂ ☾ ♀ 21h.
				26	♂ ☾ ♀ 11h.
				29	☾ in apoge
				31	♂ ☾ ♃ 12h.
				31	♀ elong. max.
APRIL		MAY		JUNE	
3	♂ ☾ ♃ 16h.	1	♂ ☾ ♃ 1h.	6	☾ in perige
4	♃ stationary	1	♀ stationary	11	♀ in ☉
7	♀ stationary	4	♀ in aphelion	14	♂ ☾ ♂ 11h.
9	☾ eclipsed invis.	9	☾ in perige	14	☐ ☉ ♁ 17½h.
10	☾ in perige	15	♀ elong. max.	17	♀ in perihelion
13	♀ in aphelion	16	♂ ☾ ♂ 14h.	18	♂ ☉ ♀ 19½h.
17	♂ ☉ ♀ 14h.	20	♂ ☾ ♀ 22h.	19	☾ in apoge
17	♂ ☾ ♂ 16h.	20	☉ in ♀ 21h. 9m.	20	♂ ☾ ♀ 16h.
19	☉ in ☿ 20h. 41m.	21	♂ ☾ ♀ 8h.	21	☉ in ☉ 5h. 47m.
21	♂ ☾ ♀ 0h.	23	☾ in apoge	22	♂ ☾ ♀ 5h.
22	♂ ☾ ♀ 18h.	25	♂ ☾ ♃ 21h.	22	♂ ☾ ♃ 15h.
23	☉ eclipsed invis.	28	♂ ☾ ♃ 12h.	24	♂ ☾ ♃ 22h.
23	☐ ☉ ♃ 13h.	31	♁ stationary	30	♀ in ☉
23	♀ in ☉				
26	☾ in apoge				
28	♂ ☾ ♃ 4h				

ad Annum 1799.

JULY

4	☾ in perige
5	♂ ☉ ♃ 3 $\frac{3}{4}$ h.
11	♂ in perihelion
13	♂ ☾ ♂ 8h.
16	☐ ☉ ♂ 23h.
17	☾ in apoge
20	♂ ☾ ♃ 10h.
20	♂ in ☿
21	♂ ☾ ♀ 1h.
22	♂ ☾ ♃ 11h.
22	☉ in ♍ 16h. 35m.
23	♂ ☾ ♀ 16h.
27	♂ elong. max.
31	♂ in aphelion

AUGUST

1	☾ in perige
3	♀ in perihelion
4	♂ ☉ ♀ 21 $\frac{1}{2}$ h.
6	♂ ☉ ♃ 1h.
10	♂ stationary
11	♂ ☾ ♂ 2h.
13	☾ in apoge
17	♂ ☾ ♃ 6h.
19	♂ ☾ ♃ 0h.
20	♂ ☾ ♀ 6h.
20	♂ ☾ ♀ 12h.
22	☉ in ♎ 22h. 59m.
24	♂ ☉ ♀ 3 $\frac{1}{2}$ h.
28	☾ in perige

SEPTEMBER

3	♂ stationary
8	♂ ☾ ♂ 10h.
8	♂ in ☿
10	♂ elong. max.
10	☾ in apoge
12	♂ in perihelion
14	♂ ☾ ♃ 0h.
15	♂ ☾ ♃ 16h.
18	♂ ☾ ♀ 5h.
19	♂ ☾ ♀ 9h.
20	♂ ☉ ♃ 15h.
22	☉ in ♏ 19h. 31m.
22	☾ in perige

OCTOBER

2	☾ eclipsed visible
3	♂ stationary
6	♂ ☾ ♂ 2h.
6	♂ ☉ ♀ 4 $\frac{3}{4}$ h.
8	☾ in apoge
11	♂ ☾ ♃ 17h.
13	♂ ☾ ♃ 6h.
16	♂ in ☿
17	☉ eclipsed invis.
18	♂ ☾ ♀ 12h.
19	♂ ☾ ♀ 9h.
19	♀ in ☿
20	☾ in perige
23	☉ in ♏ 3h. 34m.
26	☐ ☉ ♃ 16 $\frac{1}{2}$ h.
27	♂ in aphelion

NOVEMBER

1	♂ ☾ ♂ 22h.
5	☾ in apoge
8	♂ ☾ ♃ 5h.
8	♂ ☉ ♂ 14 $\frac{1}{2}$ h.
9	♂ ☾ ♃ 19h.
10	♂ in ☿
15	☐ ☉ ♃ 16 $\frac{1}{2}$ h.
17	♂ ☾ ♀ 20h.
17	☾ in perige
18	♂ ☾ ♀ 6h.
21	☉ in ♏ 23h. 51m.
21	♃ stationary
21	♂ elong. max.
24	♀ in aphelion
28	♂ ☾ ♂ 12h.
30	♂ stationary

DECEMBER

2	☾ in apoge
4	♃ stationary
5	♂ ☾ ♃ 12h.
5	♂ in ☿
7	♂ ☾ ♃ 3h.
10	♂ ☉ ♀ 7 $\frac{1}{2}$ h.
11	♂ stationary
15	♂ ☾ ♀ 0h.
15	☾ in perige
18	♂ ☾ ♀ 2h.
20	♂ stationary
21	☉ in ♏ 12h. 15m.
23	☐ ☉ ♃ 15 $\frac{1}{2}$ h.
25	♂ ☾ ♂ 17h.
30	♂ elong. max.

A Table of the Sun's semi diurnal Arcs, or Times

The Sun's Declination North.

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

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

Left.

of his visible half Duration above the Horizon

The Sun's Declination South.

Degt.	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	50	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	4	5	42	5	42
5	5	40	5	39	5	39	5	30	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	20	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	40	4	44	4	41	4	37
16	4	46	4	45	4	41	4	38	4	34	4	31
17	4	41	4	38	4	35	4	32	4	28	4	23
18	4	36	4	33	4	29	4	26	4	22	4	18
19	4	30	4	27	4	23	4	19	4	15	4	11
20	4	25	4	21	4	17	4	13	4	9	4	4
21	4	19	4	15	4	11	4	6	4	2	3	57
22	4	13	4	9	4	4	4	0	3	55	3	50
23	4	7	4	3	3	58	3	53	3	47	3	42
24	4	1	3	56	3	51	3	46	3	40	3	34

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

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

The Sun's Declination North.

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

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

of his visible half Duration above the Horizon.

The Sun's Declination South.

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

at Aberdeen in Scotland, on the Longest Day; the Latitude of that Place is accounted 57 Degr. 7 Min. North, and the Sun's Declination 23 Degr. 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 year 1700

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

The time of the southing or meridian transits of the fixed stars in pa. 26 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. 26, corrected to the proposed time, by means of the tables in the column of annual differences, subtract the right-ascension of the Sun, the remainder will be the estimate time of the star's southing, and will not differ from the true time above 2 or 3 minutes at most, which may be near enough for ordinary uses. But when a 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

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

Degt.	♈			♉			♊			♋			♌					
	h	m	s	h	m	s	h	m	s	h	m	s	h	m	s			
0	12	0	0	13	51	37	15	51	15	18	0	0	20	8	45	22	8	23
1	12	3	40	13	55	27	15	55	25	18	4	22	20	12	54	22	12	12
2	12	7	20	13	59	17	15	59	36	18	8	43	20	17	3	22	16	0
3	12	11	0	14	3	8	16	3	48	18	13	5	20	21	11	22	19	48
4	12	14	41	14	6	59	16	7	0	18	17	26	20	25	19	22	23	35
5	12	18	21	14	10	51	16	12	13	18	21	48	20	29	26	22	27	22
6	12	22	2	14	14	44	16	16	26	18	26	9	20	33	31	22	31	8
7	12	25	42	14	18	37	16	20	40	18	30	30	20	37	37	22	34	54
8	12	29	23	14	22	31	16	24	55	18	34	51	20	41	41	22	38	40
9	12	33	4	14	26	25	16	29	10	18	39	11	20	45	45	22	42	25
10	12	36	45	14	30	20	16	33	26	18	43	31	20	49	48	22	46	9
11	12	40	26	14	34	16	16	37	42	18	47	51	20	53	51	22	49	53
12	12	44	8	14	38	13	16	41	59	18	52	11	20	57	52	22	53	37
13	12	47	50	14	42	10	16	46	16	18	56	31	21	1	53	22	57	20
14	12	51	32	14	46	8	16	50	34	19	0	50	21	5	53	23	1	3
15	12	55	14	14	50	7	16	54	52	19	5	8	21	9	53	23	4	46
16	12	58	57	14	54	7	16	59	10	19	9	26	21	13	52	23	8	28
17	13	2	40	14	58	7	17	3	29	19	13	44	21	17	50	23	12	10
18	13	6	23	15	2	8	17	7	49	19	18	1	21	21	47	23	15	52
19	13	10	7	15	6	9	17	12	9	19	22	18	21	25	44	23	19	34
20	13	13	51	15	10	12	17	16	29	19	26	34	21	29	40	23	23	15
21	13	17	35	15	14	15	17	20	49	19	30	50	21	33	35	23	26	56
22	13	21	20	15	18	19	17	25	9	19	35	5	21	37	29	23	30	37
23	13	25	6	15	22	23	17	29	30	19	39	20	21	41	23	23	34	18
24	13	28	52	15	26	29	17	33	51	19	43	34	21	45	16	23	37	58
25	13	32	38	15	30	35	17	38	12	19	47	47	21	49	9	23	41	39
26	13	36	25	15	34	41	17	42	34	19	52	0	21	53	1	23	45	19
27	13	40	12	15	38	40	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 semidurnal 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, 1800.

☉'s place at noon	♋ 11° 29'	h	m	s	
alt. Asc. of Sirius	-	-	6	36	20
☉'s rt. asc. subtract	-	-	20	55	51
*'s estimate southing	-	-	9	40	29
☉'s rt. asc. at that time sub.	-	-	20	57	22
*'s true southing	-	-	9	38	58
Semid. arc sub. & add	-	-	4	36	55
*'s rising aftern.	-	-	5	2	3
*'s setting	-	-	14	15	53

A Table of the mean Right-Ascensions in time, and Declinations, and their Annual Differences; also the Semidiurnal-Arcs, and Magnitudes, of 20 remarkable fixed Stars, with their Names, and Bayer's Literal Characters, for January 1, 1800.

Names of the Stars	Ch.	Rt. Asc.			A.Di.	Declination			A.Diff.	Semid. Ar.			M
		h	m	s		sec.	°	'		"	seconds	h	
Polestar, Alruccabah	α	0	52	20	12.53	88	14	25	n	+19.6	fets	not	2
Andro.gird. Mirach	β	0	58	34	3.30	34	33	29	n	+14.4	10	7	32
Andro.root, Almach	γ	1	51	41	3.62	41	21	50	n	+17.7	fets	not	2
Ram's follow-horn	α	1	55	55	3.34	22	30	47	n	+17.5	8	9	35
Whale's ja. Menkar	α	2	51	50	3.12	3	18	8	n	+15.2	6	19	48
Medusa's head, Algol	β	2	55	12	3.85	40	10	29	n	+14.5	fets	not	2
Perseus' ft. Algol-b	α	3	10	7	4.20	49	8	15	n	+13.6	fets	not	2
Brightest of the 7ft	η	3	35	37	3.54	23	28	36	n	+11.9	8	16	40
Bull's eye, Aldebar	α	4	24	27	3.42	16	5	43	n	+8.0	7	28	51
Auriga's ft. Capella	α	5	1	56	4.41	45	46	40	n	+4.5	fets	not	1
Orion's l. foot, Rigel	β	5	4	56	2.87	8	26	24	s	-5.1	5	20	28
Bull's north horn	β	5	13	40	3.78	28	25	37	n	+4.1	8	57	12
Orion's l. ft. Bellat.	γ	5	14	25	3.21	6	9	21	n	+4.0	6	34	41
Orion's girdle	ϵ	5	26	4	3.04	1	20	27	s	-3.0	5	56	42
Orion's r. ft. Betelg.	α	5	44	21	3.24	7	21	41	n	+1.7	6	40	58
Great Dog, Sirius	α	6	36	20	2.65	16	27	2	s	+4.4	4	36	55
1ft Twin, Castor	α	7	21	49	3.86	32	18	59	n	-6.8	9	38	21
Little Dog, Procyon	α	7	28	49	3.14	5	43	45	n	-8.7	6	32	50
2d Twin, Pollux	β	7	33	3	3.69	28	20	59	n	-7.6	8	58	13
Hydra's heart, Alp	α	9	17	45	2.94	7	46	46	s	+14.8	5	24	20
Lyon's heart, Regu.	α	9	57	42	3.20	12	56	29	n	-16.9	7	11	28
Gr. Bear, L Pointer	β	10	49	40	3.71	57	27	3	n	-19.1	fets	not	2
Gr. Bear, U. Pointer	α	10	51	16	3.85	62	49	45	n	-19.1	fets	not	2
Lion's tail, Deneb	β	11	38	50	3.05	15	41	36	n	-19.8	7	27	18
G. Bear's tail, Aiiath	ϵ	12	45	13	2.75	57	2	57	n	-19.7	fets	not	2
Virgius' spike	α	13	14	40	3.14	10	6	37	s	+18.8	5	12	20
Dragon's tail	α	13	58	59	1.63	65	20	8	n	-17.4	fets	not	2
Bootes, Arcturus	α	14	6	32	2.72	20	13	43	n	-19.1	7	55	26
Libra, South. Scale	α	14	39	39	3.30	15	11	54	s	+15.3	4	44	23
Libra, North Scale	β	15	6	16	3.22	8	38	3	s	+13.8	5	19	57
North Crown	α	15	25	58	2.53	27	23	58	n	-12.2	8	48	36
Scor. heart, Antares	α	16	17	10	3.65	25	58	21	s	+8.6	3	34	6
Her head, R. Alget.	α	17	5	32	2.73	14	37	48	n	-4.7	7	20	41
Head of Serpentarius	α	17	25	39	2.77	12	43	9	n	-3.7	7	9	50
Drag. head, Rastaben.	γ	17	51	58	1.39	51	31	5	n	-0.7	fets	not	2
The Harp, Lyra	α	18	30	10	1.99	38	36	26	n	+3.1	fets	not	1
The Eagle, Atair	α	19	41	7	2.92	8	21	11	n	+9.1	6	45	57
S. Fish, Fomalhaut	α	22	46	34	3.33	30	40	31	s	-11.1	2	52	6
Pegasus' w. Markab	α	22	54	48	2.90	14	7	56	n	+19.7	7	17	10
Andromeda's head	α	23	58	4	3.07	27	59	34	n	+20.8	8	52	19

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

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

This table shewing the mean longitudes of 60 stars to the beginning of the year 1800, their mean longitudes for any other time may be found if $50\frac{1}{3}$ seconds be added for each succeeding, and subtracted for each preceding year; and proportionably for a part of a year. Thus, to find the longitude of the first star ♋ δ, or δ piscium, for Feb. 15, 1802, or 2 years and one eighth after the tabular time; here $2\frac{1}{8}$ times $50\frac{1}{3}$ sec. make $1' 47''$, which being added to the tabular longitude, gives $\Upsilon 11^{\circ} 23' 21''$ for the longitude required at the proposed time.—The latitudes vary not.

The Latitudes and Longitudes of Ninety Places.

	Lat	Long		Lat	Long
	° /	° /		° /	° /
Alexandria, Egypt	31 11 n	30 17 e	Isfahan	32 25 n	52 55 e
Amsterdam, Hol.	52 23 n	4 52 e	Land's end	50 0 n	5 50 w
Archangel, Ruf.	64 34 n	38 30 e	L-ghorn	43 37 n	10 25 e
Athens	37 40 n	23 52 e	Leoffhoff	52 38 n	1 34 e
Babelmandel	12 50 s	43 50 e	Liverpool	53 22 n	3 10 w
Batavia	6 12 s	106 45 e	Lima	12 1 s	76 50 w
Bergal	22 0 n	92 45 e	Lisbon	38 42 n	9 4 w
Berlin	52 33 n	13 26 e	Lizard	49 57 n	5 21 w
Bombay Isle	19 42 n	73 3 e	London	51 31 n	0 0
Boston, Amer.	42 25 n	70 37 w	Madras	13 2 n	80 9 e
Breslau	51 3 n	17 13 e	Madrid	40 25 n	3 45 w
Brest	48 23 n	4 30 w	Manilla	14 3 n	120 25 e
Bristol	51 28 n	2 30 w	Marseilles	43 18 n	5 21 e
Buenos Ayres	34 35 s	58 0 w	Mexico	19 54 n	100 5 w
Cacuz	36 31 n	6 7 w	Mississipi, mouth	29 0 n	89 17 w
Calais	50 58 n	1 51 e	Moscow	55 23 n	37 51 e
Cairo, Egypt	30 2 n	31 26 e	Naples	40 51 n	14 19 e
Cambridge	52 13 n	0 4 e	Newcastle	55 0 n	1 18 w
Canaria Islands	28 1 n	15 0 w	Oporto	40 53 n	8 35 w
Canton	23 8 n	113 2 e	Orkney I. northend	59 24 n	3 23 w
Cape of Goodhope	34 29 s	18 23 e	Oxford	51 45 n	1 10 w
Cape Horn	55 59 s	67 26 w	Paris	48 50 n	2 25 e
Carthage	10 27 n	75 26 w	Pekin	39 55 n	116 23 e
Charles Town Am.	33 22 n	79 50 w	Petersburg	59 56 n	30 19 e
Constantinople	41 0 n	28 53 e	Philadelphia	59 57 n	75 18 w
Copenhagen	55 41 n	12 50 e	Plymouth	50 24 n	4 15 w
Corinth	37 30 n	23 0 e	Port Mahon	39 51 n	3 53 e
Corke	51 54 n	8 30 w	Port Royal, Jam.	17 40 n	76 37 w
Dantzic	54 22 n	18 36 e	Portsmouth	50 48 n	1 11 w
Dever	51 7 n	1 19 e	Prague	50 56 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 51 n	5 45 w
Goa	15 31 n	73 50 e	Teneriff	28 18 n	16 32 w
Gottingen	51 32 n	9 58 e	Tunis	36 27 n	10 10 e
Greenwich	51 29 n	0 5 e	Turin	45 5 n	7 45 e
Hacluit s Head.	79 55 n	12 0 e	Venice	45 27 n	12 33 e
Halifax, America	44 16 n	63 20 w	Verd, Cape	14 37 n	17 28 w
Havanna	23 12 n	81 11 w	Vienna	48 11 n	16 21 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 52 n	13 52 e

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