

I slightly modified Thorstensen's code to print out the time between evening twilight and morning twilight. For Okie-Tex site (site code = o) near Kenton OK I used same time zone as for Oklahoma City.

W. Romanishin- August 2013 - email: wromanishin at ou.edu - Here is stuff from John T. intro:

***** 2024 Night-time Astronomical Calendar for Anglo-Australian Tel., Siding Spring *****

By John Thorstensen, Dartmouth College

This calendar is designed to provide information useful for the planning of nighttime observations. The format should minimize confusion; each line gives the phenomena for a single (local!) night, and each line is labeled with both evening and morning (local) day and date. Note that all times given are LOCAL CIVIL (zone) times. DAYLIGHT SAVINGS time is used, with a non-USA convention.

The rise/set times printed are the times at which the center of the object is 50 arcminutes below the geometrical horizon. At the given twilight, the center of the sun is 0.0 degrees below the geometrical horizon.

The moon positions (and rise/set times) are generated by an implementation of the Low-Precision formulae in the Astronomical Almanac. The Almanac states that the error seldom exceeds 0.3 degrees. Topocentric corrections are included. Comparisons with tables for Kitt Peak in the NOAO Newsletter indicate that the rise-set times are good to +/- 2 min or so. The moon's RA, Dec, and illuminated fraction are given for local midnight, regardless of whether the moon is actually up at that time. Note that the moonrise and moonset times are not printed if they occur near mid-day.

The LST at evening and morning twilight are tabulated. This gives an accurate idea of the range of RA's accessible during the night.

The JD is given (severely rounded off) for local midnight. Again, this avoids any ambiguity.

Some credits: The sidereal time and Julian date routines were originally coded in PL/I by Steve Maker of Dartmouth College. The algorithms originated in the old American Ephemeris. The routine to convert JD back to calendar date is adapted from Numerical Recipes in C, by Press et al.

CAUTIONS: I believe that the program which generates these tables is reasonably accurate. However, it has not been exhaustively tested, so you should be sure to run 'sanity checks' on the results. Also, in view of the approximations used, the results should not be used when high precision is needed. Extension to dates far from the present (1990) should be done with great caution. The code has not been tested for the eastern or southern hemishpheres. Rise/set times are slightly inaccurate and rather confusing at circumpolar latitudes, where the concept of a 'night' is blurry.

The daylight savings time conventions (if used) are quite specific (to U. S., post-1986) and subject to change. I know that the code has many infelicities; if you should find actual errors, please notify
John.Thorstensen@dartmouth.edu

[This output comes from a (hopefully) portable, completely self-contained program in the c language. It is available from the author and may be used freely for scientific or educational purposes. If you use it for profit, please contact the author to arrange a (modest!) fee.
Source code is copyright John Thorstensen, 1990.]

MOON PHASES FOR 2024, at Anglo-Australian Tel., Siding Spring

Times and dates are given in local time, zone = -10 hr West.
 They are generally better than +- 2 minutes.
 Daylight savings time used.

The end of the previous year and the beginning of the next
 are included for continuity.

NEW	1ST	FULL	LAST
Dec 13 10 32	Dec 20 5 40	Dec 27 11 34	Jan 04 14 33
Jan 11 22 58	Jan 18 14 54	Jan 26 4 55	Feb 03 10 20
Feb 10 10 01	Feb 17 2 02	Feb 24 23 31	Mar 04 2 25
Mar 10 20 03	Mar 17 15 12	Mar 25 18 02	Apr 02 14 16
Apr 09 4 23	Apr 16 5 14	Apr 24 9 51	May 01 21 28
May 08 13 24	May 15 21 50	May 23 23 56	May 31 3 14
Jun 06 22 40	Jun 14 15 20	Jun 22 11 11	Jun 29 7 55
Jul 06 8 59	Jul 14 8 50	Jul 21 20 20	Jul 28 12 54
Aug 04 21 14	Aug 13 1 20	Aug 20 4 29	Aug 26 19 29
Sep 03 11 57	Sep 11 16 07	Sep 18 12 37	Sep 25 4 53
Oct 03 4 51	Oct 11 4 56	Oct 17 21 28	Oct 24 18 05
Nov 01 23 48	Nov 09 16 57	Nov 16 8 30	Nov 23 12 30
Dec 01 17 22	Dec 09 2 28	Dec 15 20 03	Dec 23 9 20
Dec 31 9 28	Jan 07 10 58	Jan 14 9 28	Jan 22 7 32

Calendar for Anglo-Australian Tel., Siding Spring, west longitude (h.m.s) = - 9 56 16, latitude (d.m) = -31 16.6
 Rise/set times in Australian time (-10 hr W), for 670 m above surroundings, DAYLIGHT time used, * shows clock reset.
 Moon info is for local midnight, even if moon is down. Program: John Thorstensen, Dartmouth College.

***** 2024 JANUARY *****

Date (eve/morn)	LMST midn	----- Sun: -----				LST twilight:		----- Moon: -----				Twi-Twi hours	
		set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	
Mon Jan 01/Tue Jan 02	5 39	20 16	21 49	4 25	5 59	3 28	10 05	23 41	.....	73	11 03.1	10 18	6.6
Tue Jan 02/Wed Jan 03	5 43	20 16	21 50	4 26	5 59	3 32	10 09	0 07	.....	65	11 45.4	4 51	6.6
Wed Jan 03/Thu Jan 04	5 47	20 16	21 50	4 27	6 00	3 36	10 14	0 31	.....	55	12 27.3	- 0 44	6.6
Thu Jan 04/Fri Jan 05	5 51	20 16	21 50	4 28	6 01	3 40	10 19	0 57	.....	46	13 09.8	- 6 19	6.6
Fri Jan 05/Sat Jan 06	5 55	20 16	21 50	4 28	6 02	3 44	10 24	1 24	.....	36	13 54.0	-11 45	6.6
Sat Jan 06/Sun Jan 07	5 59	20 16	21 49	4 29	6 03	3 48	10 29	1 55	.....	27	14 41.0	-16 48	6.7
Sun Jan 07/Mon Jan 08	6 03	20 16	21 49	4 30	6 03	3 52	10 34	2 31	.....	18	15 32.0	-21 14	6.7
Mon Jan 08/Tue Jan 09	6 07	20 17	21 49	4 31	6 04	3 55	10 39	3 15	.....	11	16 27.5	-24 42	6.7
Tue Jan 09/Wed Jan 10	6 11	20 17	21 49	4 33	6 05	3 59	10 44	4 08	18 19	5	17 27.5	-26 50	6.7
Wed Jan 10/Thu Jan 11	6 14	20 17	21 49	4 34	6 06	4 03	10 49	5 11	19 24	1	18 30.6	-27 16	6.7
Thu Jan 11/Fri Jan 12	6 18	20 16	21 49	4 35	6 07	4 07	10 54	6 21	20 24	0	19 34.7	-25 51	6.8
Fri Jan 12/Sat Jan 13	6 22	20 16	21 48	4 36	6 08	4 10	10 59	.....	21 16	2	20 37.3	-22 37	6.8
Sat Jan 13/Sun Jan 14	6 26	20 16	21 48	4 37	6 08	4 14	11 04	.....	22 00	6	21 36.8	-17 52	6.8
Sun Jan 14/Mon Jan 15	6 30	20 16	21 47	4 38	6 09	4 17	11 09	.....	22 38	13	22 32.8	-12 00	6.8
Mon Jan 15/Tue Jan 16	6 34	20 16	21 47	4 39	6 10	4 21	11 14	.....	23 12	21	23 25.7	- 5 29	6.9
Tue Jan 16/Wed Jan 17	6 38	20 16	21 47	4 40	6 11	4 24	11 19	.....	23 43	32	0 16.6	1 16	6.9
Wed Jan 17/Thu Jan 18	6 42	20 16	21 46	4 41	6 12	4 28	11 24	.....	0 13	43	1 06.7	7 53	6.9
Thu Jan 18/Fri Jan 19	6 46	20 15	21 46	4 43	6 13	4 31	11 29	.....	0 45	54	1 57.3	14 03	7.0
Fri Jan 19/Sat Jan 20	6 50	20 15	21 45	4 44	6 14	4 35	11 35	.....	1 20	64	2 49.3	19 28	7.0
Sat Jan 20/Sun Jan 21	6 54	20 15	21 44	4 45	6 15	4 38	11 40	.....	1 59	74	3 43.5	23 52	7.0
Sun Jan 21/Mon Jan 22	6 58	20 14	21 44	4 46	6 16	4 41	11 45	.....	2 43	83	4 39.8	27 01	7.0
Mon Jan 22/Tue Jan 23	7 02	20 14	21 43	4 47	6 17	4 45	11 50	17 33	3 34	90	5 37.6	28 43	7.1
Tue Jan 23/Wed Jan 24	7 06	20 14	21 43	4 49	6 18	4 48	11 55	18 30	4 29	95	6 35.6	28 54	7.1
Wed Jan 24/Thu Jan 25	7 10	20 13	21 42	4 50	6 19	4 51	12 00	19 21	5 28	98	7 32.1	27 37	7.1
Thu Jan 25/Fri Jan 26	7 14	20 13	21 41	4 51	6 19	4 54	12 06	20 05	6 27	100	8 26.1	25 01	7.2
Fri Jan 26/Sat Jan 27	7 18	20 12	21 40	4 52	6 20	4 58	12 11	20 42	.....	99	9 16.8	21 20	7.2
Sat Jan 27/Sun Jan 28	7 22	20 12	21 40	4 54	6 21	5 01	12 16	21 14	.....	97	10 04.2	16 50	7.2
Sun Jan 28/Mon Jan 29	7 25	20 11	21 39	4 55	6 22	5 04	12 21	21 43	.....	93	10 49.0	11 46	7.3
Mon Jan 29/Tue Jan 30	7 29	20 11	21 38	4 56	6 23	5 07	12 26	22 09	.....	87	11 32.0	6 21	7.3
Tue Jan 30/Wed Jan 31	7 33	20 10	21 37	4 57	6 24	5 10	12 31	22 33	.....	80	12 14.0	0 45	7.3
Wed Jan 31/Thu Feb 01	7 37	20 09	21 36	4 58	6 25	5 13	12 37	22 58	.....	72	12 56.0	- 4 52	7.4

***** 2024 FEBRUARY *****

Date (eve/morn)	LMST midn	----- Sun: -----				LST twilight:		----- Moon: -----				Twi-Twi hours	
		set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	
Thu Feb 01/Fri Feb 02	7 41	20 09	21 35	5 00	6 26	5 16	12 42	23 24	.....	63	13 39.2	-10 20	7.4
Fri Feb 02/Sat Feb 03	7 45	20 08	21 34	5 01	6 27	5 19	12 47	23 52	.....	54	14 24.6	-15 28	7.4
Sat Feb 03/Sun Feb 04	7 49	20 08	21 33	5 02	6 28	5 22	12 52	0 25	.....	44	15 13.2	-20 03	7.5
Sun Feb 04/Mon Feb 05	7 53	20 07	21 32	5 03	6 29	5 25	12 57	1 04	.....	34	16 06.0	-23 49	7.5
Mon Feb 05/Tue Feb 06	7 57	20 06	21 31	5 04	6 30	5 28	13 02	1 51	.....	24	17 03.1	-26 24	7.6
Tue Feb 06/Wed Feb 07	8 01	20 05	21 30	5 06	6 31	5 31	13 07	2 48	.....	16	18 04.1	-27 30	7.6
Wed Feb 07/Thu Feb 08	8 05	20 05	21 29	5 07	6 31	5 34	13 13	3 54	18 06	8	19 07.4	-26 50	7.6
Thu Feb 08/Fri Feb 09	8 09	20 04	21 28	5 08	6 32	5 36	13 18	5 07	19 01	3	20 10.7	-24 18	7.7
Fri Feb 09/Sat Feb 10	8 13	20 03	21 27	5 09	6 33	5 39	13 23	6 22	19 50	0	21 12.1	-20 03	7.7
Sat Feb 10/Sun Feb 11	8 17	20 02	21 26	5 10	6 34	5 42	13 28	.....	20 31	1	22 10.4	-14 27	7.7
Sun Feb 11/Mon Feb 12	8 21	20 01	21 25	5 11	6 35	5 45	13 33	.....	21 07	4	23 05.7	- 7 55	7.8
Mon Feb 12/Tue Feb 13	8 25	20 00	21 24	5 13	6 36	5 48	13 38	.....	21 40	10	23 58.7	- 0 58	7.8
Tue Feb 13/Wed Feb 14	8 29	19 59	21 22	5 14	6 37	5 51	13 43	.....	22 12	18	0 50.4	5 59	7.9
Wed Feb 14/Thu Feb 15	8 32	19 59	21 21	5 15	6 38	5 53	13 48	.....	22 45	27	1 42.2	12 30	7.9
Thu Feb 15/Fri Feb 16	8 36	19 58	21 20	5 16	6 38	5 56	13 53	.....	23 19	38	2 34.9	18 17	7.9
Fri Feb 16/Sat Feb 17	8 40	19 57	21 19	5 17	6 39	5 59	13 58	.....	23 58	49	3 29.2	23 01	8.0
Sat Feb 17/Sun Feb 18	8 44	19 56	21 18	5 18	6 40	6 02	14 03	.....	0 41	59	4 25.4	26 30	8.0
Sun Feb 18/Mon Feb 19	8 48	19 55	21 16	5 19	6 41	6 04	14 08	.....	1 30	69	5 22.8	28 33	8.0
Mon Feb 19/Tue Feb 20	8 52	19 54	21 15	5 20	6 42	6 07	14 13	.....	2 23	78	6 20.5	29 05	8.1
Tue Feb 20/Wed Feb 21	8 56	19 53	21 14	5 21	6 43	6 10	14 18	17 19	3 21	86	7 17.0	28 09	8.1
Wed Feb 21/Thu Feb 22	9 00	19 52	21 13	5 22	6 43	6 12	14 23	18 04	4 20	92	8 11.2	25 52	8.2
Thu Feb 22/Fri Feb 23	9 04	19 51	21 11	5 23	6 44	6 15	14 28	18 43	5 19	96	9 02.4	22 27	8.2
Fri Feb 23/Sat Feb 24	9 08	19 50	21 10	5 24	6 45	6 18	14 33	19 16	6 16	99	9 50.5	18 08	8.2
Sat Feb 24/Sun Feb 25	9 12	19 49	21 09	5 25	6 46	6 20	14 38	19 46	.....	100	10 35.9	13 11	8.3
Sun Feb 25/Mon Feb 26	9 16	19 47	21 08	5 26	6 47	6 23	14 43	20 12	.....	99	11 19.4	7 47	8.3
Mon Feb 26/Tue Feb 27	9 20	19 46	21 06	5 27	6 47	6 26	14 48	20 37	.....	96	12 01.7	2 09	8.4
Tue Feb 27/Wed Feb 28	9 24	19 45	21 05	5 28	6 48	6 28	14 53	21 01	.....	92	12 43.8	- 3 33	8.4
Wed Feb 28/Thu Feb 29	9 28	19 44	21 04	5 29	6 49	6 31	14 58	21 27	.....	86	13 26.7	- 9 07	8.4
Thu Feb 29/Fri Mar 01	9 32	19 43	21 02	5 30	6 50	6 34	15 03	21 54	.....	79	14 11.3	-14 23	8.5

Calendar for Anglo-Australian Tel., Siding Spring, west longitude (h.m.s) = - 9 56 16, latitude (d.m) = -31 16.6
 Rise/set times in Australian time (-10 hr W), for 670 m above surroundings, DAYLIGHT time used, * shows clock reset.
 Moon info is for local midnight, even if moon is down. Program: John Thorstensen, Dartmouth College.

***** 2024 MARCH *****

Date (eve/morn)	LMST midn	----- Sun: -----				LST twilight:		----- Moon: -----				Twilight	
		set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Fri Mar 01/Sat Mar 02	9 36	19 42	21 01	5 31	6 51	6 36	15 08	22 24	.....	70	14 58.6	-19 07	8.5
Sat Mar 02/Sun Mar 03	9 40	19 41	21 00	5 32	6 51	6 39	15 13	22 59	.....	61	15 49.4	-23 06	8.5
Sun Mar 03/Mon Mar 04	9 43	19 39	20 58	5 33	6 52	6 41	15 17	23 42	.....	50	16 44.0	-26 02	8.6
Mon Mar 04/Tue Mar 05	9 47	19 38	20 57	5 34	6 53	6 44	15 22	0 33	.....	40	17 42.4	-27 37	8.6
Tue Mar 05/Wed Mar 06	9 51	19 37	20 56	5 35	6 53	6 47	15 27	1 33	.....	30	18 43.4	-27 36	8.7
Wed Mar 06/Thu Mar 07	9 55	19 36	20 54	5 36	6 54	6 49	15 32	2 41	.....	20	19 45.3	-25 49	8.7
Thu Mar 07/Fri Mar 08	9 59	19 35	20 53	5 37	6 55	6 52	15 37	3 54	17 38	11	20 46.3	-22 17	8.7
Fri Mar 08/Sat Mar 09	10 03	19 34	20 52	5 37	6 56	6 54	15 42	5 08	18 21	5	21 45.1	-17 15	8.8
Sat Mar 09/Sun Mar 10	10 07	19 32	20 50	5 38	6 56	6 57	15 46	6 21	19 00	1	22 41.4	-11 03	8.8
Sun Mar 10/Mon Mar 11	10 11	19 31	20 49	5 39	6 57	7 00	15 51	.....	19 34	0	23 35.6	- 4 08	8.8
Mon Mar 11/Tue Mar 12	10 15	19 30	20 48	5 40	6 58	7 02	15 56	.....	20 07	2	0 28.6	3 01	8.9
Tue Mar 12/Wed Mar 13	10 19	19 29	20 46	5 41	6 58	7 05	16 01	.....	20 40	7	1 21.5	9 57	8.9
Wed Mar 13/Thu Mar 14	10 23	19 27	20 45	5 42	6 59	7 07	16 05	.....	21 15	14	2 15.3	16 16	8.9
Thu Mar 14/Fri Mar 15	10 27	19 26	20 44	5 42	7 00	7 10	16 10	.....	21 53	23	3 10.6	21 34	9.0
Fri Mar 15/Sat Mar 16	10 31	19 25	20 42	5 43	7 01	7 12	16 15	.....	22 35	32	4 07.7	25 36	9.0
Sat Mar 16/Sun Mar 17	10 35	19 24	20 41	5 44	7 01	7 15	16 20	.....	23 24	43	5 06.1	28 08	9.0
Sun Mar 17/Mon Mar 18	10 39	19 22	20 40	5 45	7 02	7 18	16 24	.....	0 17	53	6 04.7	29 06	9.1
Mon Mar 18/Tue Mar 19	10 43	19 21	20 38	5 45	7 03	7 20	16 29	.....	1 14	63	7 02.0	28 32	9.1
Tue Mar 19/Wed Mar 20	10 47	19 20	20 37	5 46	7 03	7 23	16 34	.....	2 13	72	7 56.9	26 34	9.2
Wed Mar 20/Thu Mar 21	10 50	19 19	20 36	5 47	7 04	7 26	16 38	16 44	3 12	81	8 48.7	23 26	9.2
Thu Mar 21/Fri Mar 22	10 54	19 17	20 34	5 48	7 05	7 28	16 43	17 19	4 10	88	9 37.3	19 20	9.2
Fri Mar 22/Sat Mar 23	10 58	19 16	20 33	5 48	7 05	7 31	16 48	17 49	5 06	93	10 23.2	14 32	9.3
Sat Mar 23/Sun Mar 24	11 02	19 15	20 32	5 49	7 06	7 33	16 52	18 16	6 00	97	11 07.0	9 14	9.3
Sun Mar 24/Mon Mar 25	11 06	19 14	20 30	5 50	7 06	7 36	16 57	18 41	6 54	99	11 49.6	3 37	9.3
Mon Mar 25/Tue Mar 26	11 10	19 12	20 29	5 50	7 07	7 39	17 02	19 06	.....	100	12 31.9	- 2 08	9.4
Tue Mar 26/Wed Mar 27	11 14	19 11	20 28	5 51	7 08	7 41	17 06	19 31	.....	99	13 14.8	- 7 49	9.4
Wed Mar 27/Thu Mar 28	11 18	19 10	20 26	5 52	7 08	7 44	17 11	19 57	.....	95	13 59.2	-13 15	9.4
Thu Mar 28/Fri Mar 29	11 22	19 09	20 25	5 52	7 09	7 47	17 15	20 26	.....	90	14 46.1	-18 12	9.5
Fri Mar 29/Sat Mar 30	11 26	19 07	20 24	5 53	7 10	7 49	17 20	21 00	.....	84	15 36.1	-22 26	9.5
Sat Mar 30/Sun Mar 31	11 30	19 06	20 23	5 54	7 10	7 52	17 25	21 39	.....	75	16 29.6	-25 39	9.5
Sun Mar 31/Mon Apr 01	11 34	19 05	20 21	5 54	7 11	7 55	17 29	22 26	.....	66	17 26.6	-27 36	9.6

***** 2024 APRIL *****

Date (eve/morn)	LMST midn	----- Sun: -----				LST twilight:		----- Moon: -----				Twilight	
		set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Mon Apr 01/Tue Apr 02	11 38	19 04	20 20	5 55	7 12	7 57	17 34	23 22	.....	56	18 26.0	-28 02	9.6
Tue Apr 02/Wed Apr 03	11 42	19 02	20 19	5 56	7 12	8 00	17 38	0 25	.....	45	19 26.3	-26 48	9.6
Wed Apr 03/Thu Apr 04	11 46	19 01	20 18	5 56	7 13	8 03	17 43	1 34	.....	34	20 26.0	-23 55	9.6
Thu Apr 04/Fri Apr 05	11 50	19 00	20 17	5 57	7 14	8 06	17 48	2 45	.....	24	21 23.8	-19 30	9.7
Fri Apr 05/Sat Apr 06	11 54	18 59	20 15	5 58	7 14	8 08	17 52	3 56	16 53	14	22 19.4	-13 52	9.7
Sat Apr 06/Sun Apr 07*	12 58	18 58	20 14	4 58	6 15	8 11	17 57	4 07	17 29	7	23 16.2	- 7 03	9.7
Sun Apr 07/Mon Apr 08	13 02	17 56	19 13	4 59	6 16	8 14	18 01	5 17	17 01	2	0 08.8	- 0 00	9.8
Mon Apr 08/Tue Apr 09	13 06	17 55	19 12	4 59	6 16	8 17	18 06	6 27	17 34	0	1 01.4	7 04	9.8
Tue Apr 09/Wed Apr 10	13 09	17 54	19 11	5 00	6 17	8 19	18 10	7 38	18 08	1	1 55.1	13 43	9.8
Wed Apr 10/Thu Apr 11	13 13	17 53	19 09	5 01	6 17	8 22	18 15	.....	18 44	5	2 50.5	19 31	9.9
Thu Apr 11/Fri Apr 12	13 17	17 52	19 08	5 01	6 18	8 25	18 19	.....	19 26	11	3 48.1	24 08	9.9
Fri Apr 12/Sat Apr 13	13 21	17 50	19 07	5 02	6 19	8 28	18 24	.....	20 13	18	4 47.5	27 15	9.9
Sat Apr 13/Sun Apr 14	13 25	17 49	19 06	5 02	6 19	8 31	18 29	.....	21 06	27	5 47.3	28 44	9.9
Sun Apr 14/Mon Apr 15	13 29	17 48	19 05	5 03	6 20	8 33	18 33	.....	22 04	37	6 46.1	28 35	10.0
Mon Apr 15/Tue Apr 16	13 33	17 47	19 04	5 04	6 21	8 36	18 38	.....	23 04	47	7 42.3	26 58	10.0
Tue Apr 16/Wed Apr 17	13 37	17 46	19 03	5 04	6 21	8 39	18 42	.....	0 04	57	8 35.2	24 06	10.0
Wed Apr 17/Thu Apr 18	13 41	17 45	19 02	5 05	6 22	8 42	18 47	.....	1 03	66	9 24.6	20 14	10.0
Thu Apr 18/Fri Apr 19	13 45	17 44	19 01	5 05	6 23	8 45	18 51	.....	1 59	75	10 11.0	15 37	10.1
Fri Apr 19/Sat Apr 20	13 49	17 43	19 00	5 06	6 23	8 48	18 56	.....	2 54	83	10 55.0	10 27	10.1
Sat Apr 20/Sun Apr 21	13 53	17 42	18 59	5 07	6 24	8 51	19 00	.....	3 48	89	11 37.7	4 55	10.1
Sun Apr 21/Mon Apr 22	13 57	17 41	18 58	5 07	6 25	8 54	19 05	16 10	4 41	95	12 19.9	- 0 49	10.2
Mon Apr 22/Tue Apr 23	14 01	17 40	18 57	5 08	6 25	8 57	19 09	16 35	5 36	98	13 02.7	- 6 33	10.2
Tue Apr 23/Wed Apr 24	14 05	17 38	18 56	5 08	6 26	9 00	19 14	17 00	6 32	100	13 47.0	-12 06	10.2
Wed Apr 24/Thu Apr 25	14 09	17 37	18 55	5 09	6 27	9 03	19 18	17 29	7 31	100	14 33.8	-17 16	10.2
Thu Apr 25/Fri Apr 26	14 13	17 36	18 54	5 09	6 27	9 06	19 23	18 01	.....	97	15 23.8	-21 45	10.3
Fri Apr 26/Sat Apr 27	14 17	17 35	18 53	5 10	6 28	9 09	19 27	18 39	.....	93	16 17.4	-25 17	10.3
Sat Apr 27/Sun Apr 28	14 20	17 35	18 52	5 11	6 29	9 12	19 32	19 24	.....	87	17 14.5	-27 33	10.3
Sun Apr 28/Mon Apr 29	14 24	17 34	18 51	5 11	6 29	9 15	19 36	20 17	.....	79	18 14.0	-28 18	10.3
Mon Apr 29/Tue Apr 30	14 28	17 33	18 51	5 12	6 30	9 18	19 41	21 17	.....	70	19 14.4	-27 24	10.4
Tue Apr 30/Wed May 01	14 32	17 32	18 50	5 12	6 31	9 21	19 45	22 23	.....	59	20 13.9	-24 51	10.4

Calendar for Anglo-Australian Tel., Siding Spring, west longitude (h.m.s) = - 9 56 16, latitude (d.m) = -31 16.6
 Rise/set times in Australian time (-10 hr W), for 670 m above surroundings, DAYLIGHT time used, * shows clock reset.
 Moon info is for local midnight, even if moon is down. Program: John Thorstensen, Dartmouth College.

***** 2024 MAY *****

Date (eve/morn)	LMST midn	----- Sun: -----				LST twilight:		----- Moon: -----				Twilight	
		set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Wed May 01/Thu May 02	14 36	17 31	18 49	5 13	6 31	9 24	19 50	23 32	.....	48	21 11.3	-20 49	10.4
Thu May 02/Fri May 03	14 40	17 30	18 48	5 13	6 32	9 28	19 54	0 41	.....	37	22 06.2	-15 34	10.4
Fri May 03/Sat May 04	14 44	17 29	18 48	5 14	6 32	9 31	19 59	1 49	.....	26	22 58.9	- 9 24	10.4
Sat May 04/Sun May 05	14 48	17 28	18 47	5 14	6 33	9 34	20 03	2 57	.....	16	23 50.3	- 2 40	10.5
Sun May 05/Mon May 06	14 52	17 27	18 46	5 15	6 34	9 37	20 08	4 05	.....	9	0 41.5	4 15	10.5
Mon May 06/Tue May 07	14 56	17 27	18 45	5 16	6 34	9 40	20 12	5 14	16 03	3	1 33.6	10 58	10.5
Tue May 07/Wed May 08	15 00	17 26	18 45	5 16	6 35	9 44	20 17	6 25	16 37	0	2 27.8	17 06	10.5
Wed May 08/Thu May 09	15 04	17 25	18 44	5 17	6 36	9 47	20 21	7 36	17 16	0	3 24.5	22 13	10.5
Thu May 09/Fri May 10	15 08	17 24	18 43	5 17	6 36	9 50	20 26	.....	18 00	3	4 23.6	25 58	10.6
Fri May 10/Sat May 11	15 12	17 24	18 43	5 18	6 37	9 54	20 30	.....	18 52	8	5 24.2	28 07	10.6
Sat May 11/Sun May 12	15 16	17 23	18 42	5 18	6 38	9 57	20 35	.....	19 49	14	6 24.5	28 35	10.6
Sun May 12/Mon May 13	15 20	17 22	18 42	5 19	6 38	10 00	20 39	.....	20 50	22	7 22.8	27 27	10.6
Mon May 13/Tue May 14	15 24	17 21	18 41	5 19	6 39	10 04	20 44	.....	21 52	31	8 17.6	24 56	10.6
Tue May 14/Wed May 15	15 27	17 21	18 40	5 20	6 40	10 07	20 48	.....	22 52	40	9 08.7	21 20	10.7
Wed May 15/Thu May 16	15 31	17 20	18 40	5 20	6 40	10 11	20 53	.....	23 50	50	9 56.2	16 55	10.7
Thu May 16/Fri May 17	15 35	17 20	18 39	5 21	6 41	10 14	20 57	.....	0 46	60	10 40.9	11 54	10.7
Fri May 17/Sat May 18	15 39	17 19	18 39	5 22	6 42	10 17	21 02	.....	1 40	69	11 23.8	6 29	10.7
Sat May 18/Sun May 19	15 43	17 18	18 39	5 22	6 42	10 21	21 06	.....	2 33	77	12 05.9	0 51	10.7
Sun May 19/Mon May 20	15 47	17 18	18 38	5 23	6 43	10 24	21 11	.....	3 27	85	12 48.3	- 4 52	10.7
Mon May 20/Tue May 21	15 51	17 17	18 38	5 23	6 44	10 28	21 15	.....	4 23	91	13 32.0	-10 28	10.8
Tue May 21/Wed May 22	15 55	17 17	18 37	5 24	6 44	10 32	21 20	.....	5 21	96	14 18.0	-15 47	10.8
Wed May 22/Thu May 23	15 59	17 16	18 37	5 24	6 45	10 35	21 24	16 01	6 22	99	15 07.3	-20 31	10.8
Thu May 23/Fri May 24	16 03	17 16	18 37	5 25	6 45	10 39	21 28	16 37	7 24	100	16 00.5	-24 24	10.8
Fri May 24/Sat May 25	16 07	17 16	18 36	5 25	6 46	10 42	21 33	17 20	.....	99	16 57.6	-27 05	10.8
Sat May 25/Sun May 26	16 11	17 15	18 36	5 26	6 47	10 46	21 37	18 11	.....	95	17 57.7	-28 17	10.8
Sun May 26/Mon May 27	16 15	17 15	18 36	5 26	6 47	10 50	21 42	19 11	.....	90	18 59.1	-27 47	10.8
Mon May 27/Tue May 28	16 19	17 14	18 36	5 27	6 48	10 53	21 46	20 16	.....	82	19 59.8	-25 35	10.9
Tue May 28/Wed May 29	16 23	17 14	18 35	5 27	6 48	10 57	21 51	21 24	.....	73	20 58.2	-21 50	10.9
Wed May 29/Thu May 30	16 27	17 14	18 35	5 28	6 49	11 01	21 55	22 33	.....	62	21 53.6	-16 50	10.9
Thu May 30/Fri May 31	16 31	17 14	18 35	5 28	6 49	11 05	21 59	23 40	.....	51	22 46.2	-10 54	10.9
Fri May 31/Sat Jun 01	16 35	17 13	18 35	5 28	6 50	11 08	22 04	0 46	.....	39	23 37.0	- 4 24	10.9

***** 2024 JUNE *****

Date (eve/morn)	LMST midn	----- Sun: -----				LST twilight:		----- Moon: -----				Twilight	
		set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Sat Jun 01/Sun Jun 02	16 38	17 13	18 35	5 29	6 51	11 12	22 08	1 52	.....	28	0 27.1	2 20	10.9
Sun Jun 02/Mon Jun 03	16 42	17 13	18 34	5 29	6 51	11 16	22 13	2 58	.....	19	1 17.6	8 58	10.9
Mon Jun 03/Tue Jun 04	16 46	17 13	18 34	5 30	6 52	11 20	22 17	4 06	.....	11	2 09.8	15 09	10.9
Tue Jun 04/Wed Jun 05	16 50	17 13	18 34	5 30	6 52	11 24	22 21	5 16	.....	5	3 04.6	20 30	10.9
Wed Jun 05/Thu Jun 06	16 54	17 12	18 34	5 31	6 53	11 28	22 26	6 26	15 51	1	4 02.1	24 41	10.9
Thu Jun 06/Fri Jun 07	16 58	17 12	18 34	5 31	6 53	11 31	22 30	7 33	16 39	0	5 01.9	27 23	10.9
Fri Jun 07/Sat Jun 08	17 02	17 12	18 34	5 31	6 53	11 35	22 34	.....	17 34	2	6 02.4	28 25	11.0
Sat Jun 08/Sun Jun 09	17 06	17 12	18 34	5 32	6 54	11 39	22 39	.....	18 34	5	7 01.8	27 49	11.0
Sun Jun 09/Mon Jun 10	17 10	17 12	18 34	5 32	6 54	11 43	22 43	.....	19 36	10	7 58.4	25 44	11.0
Mon Jun 10/Tue Jun 11	17 14	17 12	18 34	5 33	6 55	11 47	22 47	.....	20 38	17	8 51.2	22 26	11.0
Tue Jun 11/Wed Jun 12	17 18	17 12	18 34	5 33	6 55	11 51	22 52	.....	21 38	25	9 40.2	18 13	11.0
Wed Jun 12/Thu Jun 13	17 22	17 12	18 34	5 33	6 55	11 55	22 56	.....	22 36	34	10 25.9	13 21	11.0
Thu Jun 13/Fri Jun 14	17 26	17 12	18 34	5 34	6 56	11 59	23 00	.....	23 31	43	11 09.3	8 03	11.0
Fri Jun 14/Sat Jun 15	17 30	17 12	18 34	5 34	6 56	12 03	23 04	.....	0 24	53	11 51.4	2 30	11.0
Sat Jun 15/Sun Jun 16	17 34	17 12	18 35	5 34	6 57	12 07	23 09	.....	1 18	62	12 33.3	- 3 09	11.0
Sun Jun 16/Mon Jun 17	17 38	17 12	18 35	5 34	6 57	12 11	23 13	.....	2 12	71	13 16.0	- 8 45	11.0
Mon Jun 17/Tue Jun 18	17 42	17 13	18 35	5 35	6 57	12 16	23 17	.....	3 09	79	14 00.8	-14 07	11.0
Tue Jun 18/Wed Jun 19	17 45	17 13	18 35	5 35	6 57	12 20	23 21	.....	4 08	87	14 48.6	-19 02	11.0
Wed Jun 19/Thu Jun 20	17 49	17 13	18 35	5 35	6 58	12 24	23 26	.....	5 11	93	15 40.4	-23 13	11.0
Thu Jun 20/Fri Jun 21	17 53	17 13	18 35	5 35	6 58	12 28	23 30	.....	6 14	97	16 36.5	-26 21	11.0
Fri Jun 21/Sat Jun 22	17 57	17 13	18 36	5 36	6 58	12 32	23 34	16 02	7 17	100	17 36.4	-28 04	11.0
Sat Jun 22/Sun Jun 23	18 01	17 14	18 36	5 36	6 58	12 36	23 38	17 00	8 15	99	18 38.8	-28 06	11.0
Sun Jun 23/Mon Jun 24	18 05	17 14	18 36	5 36	6 58	12 40	23 42	18 04	.....	97	19 41.4	-26 21	11.0
Mon Jun 24/Tue Jun 25	18 09	17 14	18 36	5 36	6 59	12 45	23 46	19 14	.....	92	20 42.0	-22 54	11.0
Tue Jun 25/Wed Jun 26	18 13	17 14	18 37	5 36	6 59	12 49	23 50	20 24	.....	84	21 39.5	-18 04	11.0
Wed Jun 26/Thu Jun 27	18 17	17 15	18 37	5 36	6 59	12 53	23 54	21 32	.....	75	22 33.7	-12 12	11.0
Thu Jun 27/Fri Jun 28	18 21	17 15	18 37	5 37	6 59	12 57	23 58	22 39	.....	64	23 25.4	- 5 42	11.0
Fri Jun 28/Sat Jun 29	18 25	17 15	18 38	5 37	6 59	13 02	0 02	23 45	.....	53	0 15.7	1 02	11.0
Sat Jun 29/Sun Jun 30	18 29	17 16	18 38	5 37	6 59	13 06	0 07	0 50	.....	42	1 05.8	7 40	11.0
Sun Jun 30/Mon Jul 01	18 33	17 16	18 38	5 37	6 59	13 10	0 10	1 56	.....	31	1 56.9	13 54	11.0

Calendar for Anglo-Australian Tel., Siding Spring, west longitude (h.m.s) = - 9 56 16, latitude (d.m) = -31 16.6
 Rise/set times in Australian time (-10 hr W), for 670 m above surroundings, DAYLIGHT time used, * shows clock reset.
 Moon info is for local midnight, even if moon is down. Program: John Thorstensen, Dartmouth College.

***** 2024 JULY *****

Date (eve/morn)		LMST	----- Sun: -----				LST twilight:		----- Moon: -----				Twilight	
		midn	set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Mon Jul 01/Tue Jul 02		18 37	17 16	18 39	5 37	6 59	13 14	0 14	3 04	.....	21	2 50.1	19 22	11.0
Tue Jul 02/Wed Jul 03		18 41	17 17	18 39	5 37	6 59	13 19	0 18	4 12	.....	13	3 45.9	23 46	11.0
Wed Jul 03/Thu Jul 04		18 45	17 17	18 39	5 37	6 59	13 23	0 22	5 19	.....	6	4 44.1	26 48	11.0
Thu Jul 04/Fri Jul 05		18 49	17 18	18 40	5 37	6 59	13 27	0 26	6 22	.....	2	5 43.7	28 17	11.0
Fri Jul 05/Sat Jul 06		18 52	17 18	18 40	5 37	6 59	13 32	0 30	7 18	16 20	0	6 43.1	28 08	10.9
Sat Jul 06/Sun Jul 07		18 56	17 19	18 40	5 37	6 58	13 36	0 34	8 05	17 22	1	7 40.3	26 28	10.9
Sun Jul 07/Mon Jul 08		19 00	17 19	18 41	5 37	6 58	13 40	0 38	.....	18 24	3	8 34.2	23 29	10.9
Mon Jul 08/Tue Jul 09		19 04	17 20	18 41	5 36	6 58	13 45	0 42	.....	19 26	7	9 24.4	19 30	10.9
Tue Jul 09/Wed Jul 10		19 08	17 20	18 42	5 36	6 58	13 49	0 46	.....	20 25	13	10 11.2	14 47	10.9
Wed Jul 10/Thu Jul 11		19 12	17 21	18 42	5 36	6 58	13 53	0 49	.....	21 21	20	10 55.2	9 35	10.9
Thu Jul 11/Fri Jul 12		19 16	17 21	18 43	5 36	6 57	13 58	0 53	.....	22 15	28	11 37.5	4 05	10.9
Fri Jul 12/Sat Jul 13		19 20	17 22	18 43	5 36	6 57	14 02	0 57	.....	23 08	36	12 19.1	- 1 31	10.9
Sat Jul 13/Sun Jul 14		19 24	17 22	18 43	5 36	6 57	14 07	1 01	.....	0 02	46	13 01.0	- 7 05	10.9
Sun Jul 14/Mon Jul 15		19 28	17 23	18 44	5 35	6 57	14 11	1 04	.....	0 57	55	13 44.3	-12 28	10.9
Mon Jul 15/Tue Jul 16		19 32	17 23	18 44	5 35	6 56	14 15	1 08	.....	1 55	65	14 30.2	-17 28	10.8
Tue Jul 16/Wed Jul 17		19 36	17 24	18 45	5 35	6 56	14 20	1 12	.....	2 55	74	15 19.7	-21 52	10.8
Wed Jul 17/Thu Jul 18		19 40	17 24	18 45	5 35	6 55	14 24	1 15	.....	3 58	82	16 13.5	-25 22	10.8
Thu Jul 18/Fri Jul 19		19 44	17 25	18 46	5 34	6 55	14 29	1 19	.....	5 01	90	17 11.7	-27 38	10.8
Fri Jul 19/Sat Jul 20		19 48	17 25	18 46	5 34	6 55	14 33	1 22	.....	6 02	95	18 13.4	-28 19	10.8
Sat Jul 20/Sun Jul 21		19 52	17 26	18 47	5 33	6 54	14 37	1 26	15 47	6 57	99	19 16.7	-27 13	10.8
Sun Jul 21/Mon Jul 22		19 56	17 27	18 47	5 33	6 54	14 42	1 30	16 56	7 45	100	20 19.3	-24 17	10.8
Mon Jul 22/Tue Jul 23		20 00	17 27	18 48	5 33	6 53	14 46	1 33	18 08	.....	98	21 19.4	-19 45	10.8
Tue Jul 23/Wed Jul 24		20 03	17 28	18 48	5 32	6 52	14 51	1 37	19 19	.....	93	22 16.3	-13 58	10.7
Wed Jul 24/Thu Jul 25		20 07	17 28	18 49	5 32	6 52	14 55	1 40	20 29	.....	86	23 10.3	- 7 23	10.7
Thu Jul 25/Fri Jul 26		20 11	17 29	18 49	5 31	6 51	15 00	1 44	21 36	.....	77	0 02.3	- 0 27	10.7
Fri Jul 26/Sat Jul 27		20 15	17 30	18 50	5 31	6 51	15 04	1 47	22 43	.....	67	0 53.5	6 25	10.7
Sat Jul 27/Sun Jul 28		20 19	17 30	18 50	5 30	6 50	15 08	1 50	23 49	.....	55	1 45.1	12 52	10.7
Sun Jul 28/Mon Jul 29		20 23	17 31	18 51	5 30	6 49	15 13	1 54	0 56	.....	44	2 38.2	18 33	10.7
Mon Jul 29/Tue Jul 30		20 27	17 31	18 51	5 29	6 49	15 17	1 57	2 04	.....	33	3 33.4	23 11	10.6
Tue Jul 30/Wed Jul 31		20 31	17 32	18 52	5 29	6 48	15 22	2 01	3 11	.....	23	4 30.8	26 29	10.6
Wed Jul 31/Thu Aug 01		20 35	17 33	18 52	5 28	6 47	15 26	2 04	4 14	.....	15	5 29.6	28 17	10.6

***** 2024 AUGUST *****

Date (eve/morn)		LMST	----- Sun: -----				LST twilight:		----- Moon: -----				Twilight	
		midn	set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Thu Aug 01/Fri Aug 02		20 39	17 33	18 53	5 27	6 47	15 31	2 07	5 11	.....	8	6 28.4	28 29	10.6
Fri Aug 02/Sat Aug 03		20 43	17 34	18 53	5 27	6 46	15 35	2 10	6 01	.....	4	7 25.6	27 09	10.6
Sat Aug 03/Sun Aug 04		20 47	17 34	18 54	5 26	6 45	15 40	2 14	6 43	16 13	1	8 19.9	24 29	10.5
Sun Aug 04/Mon Aug 05		20 51	17 35	18 54	5 25	6 44	15 44	2 17	7 19	17 15	0	9 10.7	20 44	10.5
Mon Aug 05/Tue Aug 06		20 55	17 36	18 55	5 25	6 43	15 48	2 20	7 50	18 15	1	9 58.1	16 10	10.5
Tue Aug 06/Wed Aug 07		20 59	17 36	18 55	5 24	6 42	15 53	2 23	.....	19 12	4	10 42.6	11 04	10.5
Wed Aug 07/Thu Aug 08		21 03	17 37	18 56	5 23	6 42	15 57	2 27	.....	20 07	9	11 25.2	5 37	10.5
Thu Aug 08/Fri Aug 09		21 07	17 38	18 56	5 22	6 41	16 02	2 30	.....	21 01	15	12 06.7	0 02	10.4
Fri Aug 09/Sat Aug 10		21 10	17 38	18 57	5 21	6 40	16 06	2 33	.....	21 54	22	12 48.1	- 5 32	10.4
Sat Aug 10/Sun Aug 11		21 14	17 39	18 57	5 21	6 39	16 11	2 36	.....	22 48	30	13 30.4	-10 56	10.4
Sun Aug 11/Mon Aug 12		21 18	17 39	18 58	5 20	6 38	16 15	2 39	.....	23 44	39	14 14.6	-16 00	10.4
Mon Aug 12/Tue Aug 13		21 22	17 40	18 58	5 19	6 37	16 20	2 42	.....	0 42	49	15 01.8	-20 32	10.3
Tue Aug 13/Wed Aug 14		21 26	17 41	18 59	5 18	6 36	16 24	2 45	.....	1 43	59	15 52.8	-24 18	10.3
Wed Aug 14/Thu Aug 15		21 30	17 41	18 59	5 17	6 35	16 28	2 48	.....	2 45	68	16 48.0	-26 59	10.3
Thu Aug 15/Fri Aug 16		21 34	17 42	19 00	5 16	6 34	16 33	2 51	.....	3 46	78	17 47.2	-28 17	10.3
Fri Aug 16/Sat Aug 17		21 38	17 42	19 00	5 15	6 33	16 37	2 54	.....	4 43	86	18 49.0	-27 55	10.3
Sat Aug 17/Sun Aug 18		21 42	17 43	19 01	5 14	6 32	16 42	2 57	.....	5 35	93	19 51.7	-25 45	10.2
Sun Aug 18/Mon Aug 19		21 46	17 44	19 01	5 13	6 31	16 46	3 00	.....	6 19	98	20 53.1	-21 49	10.2
Mon Aug 19/Tue Aug 20		21 50	17 44	19 02	5 12	6 30	16 51	3 03	16 57	6 58	100	21 52.1	-16 24	10.2
Tue Aug 20/Wed Aug 21		21 54	17 45	19 02	5 11	6 29	16 55	3 06	18 09	7 33	99	22 48.5	- 9 54	10.2
Wed Aug 21/Thu Aug 22		21 58	17 45	19 03	5 10	6 28	17 00	3 09	19 19	.....	95	23 42.7	- 2 48	10.1
Thu Aug 22/Fri Aug 23		22 02	17 46	19 03	5 09	6 27	17 04	3 12	20 29	.....	88	0 35.9	4 26	10.1
Fri Aug 23/Sat Aug 24		22 06	17 47	19 04	5 08	6 25	17 09	3 15	21 37	.....	79	1 29.2	11 19	10.1
Sat Aug 24/Sun Aug 25		22 10	17 47	19 04	5 07	6 24	17 13	3 18	22 46	.....	69	2 23.5	17 28	10.1
Sun Aug 25/Mon Aug 26		22 14	17 48	19 05	5 06	6 23	17 18	3 21	23 56	.....	58	3 19.7	22 31	10.0
Mon Aug 26/Tue Aug 27		22 18	17 48	19 05	5 05	6 22	17 22	3 23	1 04	.....	47	4 17.7	26 12	10.0
Tue Aug 27/Wed Aug 28		22 21	17 49	19 06	5 04	6 21	17 26	3 26	2 09	.....	37	5 17.0	28 20	10.0
Wed Aug 28/Thu Aug 29		22 25	17 49	19 06	5 03	6 20	17 31	3 29	3 08	.....	27	6 16.1	28 51	9.9
Thu Aug 29/Fri Aug 30		22 29	17 50	19 07	5 02	6 18	17 35	3 32	3 59	.....	18	7 13.6	27 49	9.9
Fri Aug 30/Sat Aug 31		22 33	17 51	19 07	5 01	6 17	17 40	3 35	4 43	.....	11	8 08.3	25 24	9.9
Sat Aug 31/Sun Sep 01		22 37	17 51	19 08	4 59	6 16	17 44	3 37	5 20	.....	6	8 59.4	21 52	9.9

Calendar for Anglo-Australian Tel., Siding Spring, west longitude (h.m.s) = - 9 56 16, latitude (d.m) = -31 16.6
 Rise/set times in Australian time (-10 hr W), for 670 m above surroundings, DAYLIGHT time used, * shows clock reset.
 Moon info is for local midnight, even if moon is down. Program: John Thorstensen, Dartmouth College.

***** 2024 SEPTEMBER *****

Date (eve/morn)	LMST midn	----- Sun: -----			LST twilight:		----- Moon: -----				Twilight		
		set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Sun Sep 01/Mon Sep 02	22 41	17 52	19 09	4 58	6 15	17 49	3 40	5 52	.....	2	9 47.2	17 28	9.8
Mon Sep 02/Tue Sep 03	22 45	17 52	19 09	4 57	6 14	17 53	3 43	6 20	17 05	0	10 32.1	12 29	9.8
Tue Sep 03/Wed Sep 04	22 49	17 53	19 10	4 56	6 12	17 58	3 46	6 46	18 00	0	11 14.8	7 06	9.8
Wed Sep 04/Thu Sep 05	22 53	17 54	19 10	4 55	6 11	18 02	3 48	7 10	18 54	2	11 56.3	1 31	9.7
Thu Sep 05/Fri Sep 06	22 57	17 54	19 11	4 53	6 10	18 07	3 51	7 35	19 48	5	12 37.5	- 4 04	9.7
Fri Sep 06/Sat Sep 07	23 01	17 55	19 11	4 52	6 09	18 11	3 54	.....	20 41	10	13 19.2	- 9 31	9.7
Sat Sep 07/Sun Sep 08	23 05	17 55	19 12	4 51	6 07	18 16	3 57	.....	21 36	17	14 02.5	-14 40	9.7
Sun Sep 08/Mon Sep 09	23 09	17 56	19 12	4 50	6 06	18 20	3 59	.....	22 33	24	14 48.1	-19 18	9.6
Mon Sep 09/Tue Sep 10	23 13	17 56	19 13	4 48	6 05	18 25	4 02	.....	23 32	33	15 36.9	-23 14	9.6
Tue Sep 10/Wed Sep 11	23 17	17 57	19 14	4 47	6 04	18 29	4 05	.....	0 33	43	16 29.4	-26 13	9.6
Wed Sep 11/Thu Sep 12	23 21	17 58	19 14	4 46	6 02	18 34	4 07	.....	1 33	53	17 25.6	-27 58	9.5
Thu Sep 12/Fri Sep 13	23 25	17 58	19 15	4 45	6 01	18 38	4 10	.....	2 31	63	18 24.6	-28 14	9.5
Fri Sep 13/Sat Sep 14	23 28	17 59	19 15	4 43	6 00	18 43	4 12	.....	3 23	73	19 25.2	-26 49	9.5
Sat Sep 14/Sun Sep 15	23 32	17 59	19 16	4 42	5 58	18 48	4 15	.....	4 09	83	20 25.7	-23 41	9.4
Sun Sep 15/Mon Sep 16	23 36	18 00	19 17	4 41	5 57	18 52	4 18	.....	4 50	91	21 24.7	-18 58	9.4
Mon Sep 16/Tue Sep 17	23 40	18 00	19 17	4 39	5 56	18 57	4 20	.....	5 27	96	22 21.8	-12 56	9.4
Tue Sep 17/Wed Sep 18	23 44	18 01	19 18	4 38	5 55	19 01	4 23	16 55	6 00	100	23 17.2	- 6 00	9.3
Wed Sep 18/Thu Sep 19	23 48	18 02	19 18	4 37	5 53	19 06	4 26	18 06	6 33	100	0 11.6	1 23	9.3
Thu Sep 19/Fri Sep 20	23 52	18 02	19 19	4 35	5 52	19 10	4 28	19 16	7 06	97	1 06.2	8 43	9.3
Fri Sep 20/Sat Sep 21	23 56	18 03	19 20	4 34	5 51	19 15	4 31	20 28	.....	91	2 02.0	15 27	9.2
Sat Sep 21/Sun Sep 22	0 00	18 03	19 20	4 33	5 49	19 20	4 33	21 39	.....	82	2 59.7	21 11	9.2
Sun Sep 22/Mon Sep 23	0 04	18 04	19 21	4 31	5 48	19 24	4 36	22 51	.....	73	3 59.5	25 31	9.2
Mon Sep 23/Tue Sep 24	0 08	18 05	19 22	4 30	5 47	19 29	4 38	23 59	.....	62	5 00.6	28 12	9.1
Tue Sep 24/Wed Sep 25	0 12	18 05	19 22	4 28	5 46	19 33	4 41	1 02	.....	51	6 01.6	29 09	9.1
Wed Sep 25/Thu Sep 26	0 16	18 06	19 23	4 27	5 44	19 38	4 44	1 57	.....	41	7 00.8	28 26	9.1
Thu Sep 26/Fri Sep 27	0 20	18 06	19 24	4 26	5 43	19 43	4 46	2 43	.....	31	7 56.8	26 16	9.0
Fri Sep 27/Sat Sep 28	0 24	18 07	19 24	4 24	5 42	19 47	4 49	3 22	.....	23	8 48.9	22 56	9.0
Sat Sep 28/Sun Sep 29	0 28	18 08	19 25	4 23	5 40	19 52	4 51	3 55	.....	15	9 37.4	18 41	9.0
Sun Sep 29/Mon Sep 30	0 32	18 08	19 26	4 22	5 39	19 57	4 54	4 24	.....	9	10 22.7	13 48	8.9
Mon Sep 30/Tue Oct 01	0 36	18 09	19 27	4 20	5 38	20 01	4 56	4 50	.....	4	11 05.7	8 30	8.9

***** 2024 OCTOBER *****

Date (eve/morn)	LMST midn	----- Sun: -----			LST twilight:		----- Moon: -----				Twilight		
		set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Tue Oct 01/Wed Oct 02	0 39	18 09	19 27	4 19	5 37	20 06	4 59	5 15	16 49	1	11 47.2	2 58	8.9
Wed Oct 02/Thu Oct 03	0 43	18 10	19 28	4 17	5 35	20 11	5 01	5 39	17 42	0	12 28.3	- 2 39	8.8
Thu Oct 03/Fri Oct 04	0 47	18 11	19 29	4 16	5 34	20 15	5 04	6 04	18 36	1	13 09.8	- 8 09	8.8
Fri Oct 04/Sat Oct 05	0 51	18 11	19 30	4 15	5 33	20 20	5 07	6 31	19 31	3	13 52.6	-13 22	8.8
Sat Oct 05/Sun Oct 06	0 55	18 12	19 30	4 13	5 32	20 25	5 09	7 01	20 27	7	14 37.5	-18 08	8.7
Sun Oct 06/Mon Oct 07	0 59	18 13	19 31	4 12	5 30	20 30	5 12	.....	21 25	12	15 25.2	-22 14	8.7
Mon Oct 07/Tue Oct 08	1 03	18 13	19 32	4 10	5 29	20 34	5 14	.....	22 25	19	16 16.1	-25 26	8.6
Tue Oct 08/Wed Oct 09	1 07	18 14	19 33	4 09	5 28	20 39	5 17	.....	23 25	28	17 10.3	-27 29	8.6
Wed Oct 09/Thu Oct 10	1 11	18 15	19 34	4 08	5 27	20 44	5 19	.....	0 22	37	18 07.0	-28 10	8.6
Thu Oct 10/Fri Oct 11	1 15	18 15	19 34	4 06	5 25	20 49	5 22	.....	1 15	47	19 05.3	-27 18	8.5
Fri Oct 11/Sat Oct 12	1 19	18 16	19 35	4 05	5 24	20 53	5 24	.....	2 02	58	20 03.6	-24 51	8.5
Sat Oct 12/Sun Oct 13	1 23	18 17	19 36	4 04	5 23	20 58	5 27	.....	2 44	69	21 01.0	-20 53	8.5
Sun Oct 13/Mon Oct 14	1 27	18 17	19 37	4 02	5 22	21 03	5 30	.....	3 21	79	21 56.7	-15 33	8.4
Mon Oct 14/Tue Oct 15	1 31	18 18	19 38	4 01	5 21	21 08	5 32	.....	3 55	88	22 51.1	- 9 09	8.4
Tue Oct 15/Wed Oct 16	1 35	18 19	19 39	4 00	5 20	21 13	5 35	.....	4 27	95	23 44.8	- 2 03	8.3
Wed Oct 16/Thu Oct 17	1 39	18 20	19 40	3 58	5 18	21 18	5 37	.....	4 59	99	0 38.9	5 20	8.3
Thu Oct 17/Fri Oct 18	1 43	18 20	19 41	3 57	5 17	21 22	5 40	18 01	5 34	100	1 34.5	12 28	8.3
Fri Oct 18/Sat Oct 19	1 46	18 21	19 42	3 56	5 16	21 27	5 43	19 14	6 13	98	2 32.5	18 52	8.2
Sat Oct 19/Sun Oct 20	1 50	18 22	19 43	3 54	5 15	21 32	5 45	20 28	.....	93	3 33.3	24 00	8.2
Sun Oct 20/Mon Oct 21	1 54	18 22	19 44	3 53	5 14	21 37	5 48	21 41	.....	86	4 36.4	27 30	8.2
Mon Oct 21/Tue Oct 22	1 58	18 23	19 45	3 52	5 13	21 42	5 51	22 49	.....	77	5 40.1	29 09	8.1
Tue Oct 22/Wed Oct 23	2 02	18 24	19 45	3 50	5 12	21 47	5 53	23 49	.....	67	6 42.4	28 58	8.1
Wed Oct 23/Thu Oct 24	2 06	18 25	19 46	3 49	5 11	21 52	5 56	0 40	.....	57	7 41.2	27 09	8.0
Thu Oct 24/Fri Oct 25	2 10	18 25	19 48	3 48	5 10	21 57	5 59	1 22	.....	47	8 35.8	24 02	8.0
Fri Oct 25/Sat Oct 26	2 14	18 26	19 49	3 47	5 09	22 02	6 01	1 57	.....	37	9 25.9	19 55	8.0
Sat Oct 26/Sun Oct 27*	1 18	18 27	19 50	4 45	6 08	22 07	6 04	3 28	.....	29	10 10.0	15 18	7.9
Sun Oct 27/Mon Oct 28	1 22	19 28	20 51	4 44	6 07	22 12	6 07	3 54	.....	20	10 53.6	10 05	7.9
Mon Oct 28/Tue Oct 29	1 26	19 29	20 52	4 43	6 06	22 17	6 09	4 19	.....	13	11 35.5	4 36	7.9
Tue Oct 29/Wed Oct 30	1 30	19 29	20 53	4 42	6 05	22 22	6 12	4 44	.....	8	12 16.6	- 0 59	7.8
Wed Oct 30/Thu Oct 31	1 34	19 30	20 54	4 41	6 04	22 27	6 15	5 08	17 31	4	12 57.9	- 6 31	7.8
Thu Oct 31/Fri Nov 01	1 38	19 31	20 55	4 39	6 03	22 32	6 18	5 35	18 25	1	13 40.4	-11 51	7.7

Calendar for Anglo-Australian Tel., Siding Spring, west longitude (h.m.s) = - 9 56 16, latitude (d.m) = -31 16.6
 Rise/set times in Australian time (-10 hr W), for 670 m above surroundings, DAYLIGHT time used, * shows clock reset.
 Moon info is for local midnight, even if moon is down. Program: John Thorstensen, Dartmouth College.

***** 2024 NOVEMBER *****

Date (eve/morn)	LMST midn	----- Sun: -----			LST twilight:		----- Moon: -----				Twilight		
		set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Fri Nov 01/Sat Nov 02	1 42	19 32	20 56	4 38	6 02	22 37	6 21	6 04	19 21	0	14 24.8	-16 46	7.7
Sat Nov 02/Sun Nov 03	1 45	19 33	20 57	4 37	6 01	22 42	6 23	6 37	20 19	1	15 11.9	-21 04	7.7
Sun Nov 03/Mon Nov 04	1 49	19 34	20 58	4 36	6 01	22 47	6 26	.....	21 19	4	16 02.1	-24 32	7.6
Mon Nov 04/Tue Nov 05	1 53	19 34	20 59	4 35	6 00	22 52	6 29	.....	22 19	8	16 55.5	-26 54	7.6
Tue Nov 05/Wed Nov 06	1 57	19 35	21 00	4 34	5 59	22 57	6 32	.....	23 17	14	17 51.4	-27 57	7.6
Wed Nov 06/Thu Nov 07	2 01	19 36	21 02	4 33	5 58	23 02	6 35	.....	0 11	22	18 48.8	-27 31	7.5
Thu Nov 07/Fri Nov 08	2 05	19 37	21 03	4 32	5 57	23 07	6 38	.....	0 59	31	19 46.1	-25 34	7.5
Fri Nov 08/Sat Nov 09	2 09	19 38	21 04	4 31	5 57	23 13	6 41	.....	1 41	42	20 42.2	-22 09	7.4
Sat Nov 09/Sun Nov 10	2 13	19 39	21 05	4 30	5 56	23 18	6 44	.....	2 19	53	21 36.6	-17 25	7.4
Sun Nov 10/Mon Nov 11	2 17	19 40	21 06	4 29	5 55	23 23	6 47	.....	2 52	64	22 29.4	-11 38	7.4
Mon Nov 11/Tue Nov 12	2 21	19 41	21 07	4 28	5 55	23 28	6 50	.....	3 24	75	23 21.2	- 5 03	7.3
Tue Nov 12/Wed Nov 13	2 25	19 41	21 09	4 27	5 54	23 33	6 53	.....	3 55	84	0 13.1	1 59	7.3
Wed Nov 13/Thu Nov 14	2 29	19 42	21 10	4 26	5 54	23 38	6 56	.....	4 27	92	1 06.4	9 05	7.3
Thu Nov 14/Fri Nov 15	2 33	19 43	21 11	4 25	5 53	23 43	6 59	17 47	5 03	97	2 02.2	15 47	7.2
Fri Nov 15/Sat Nov 16	2 37	19 44	21 12	4 24	5 52	23 48	7 02	19 00	5 45	100	3 01.4	21 34	7.2
Sat Nov 16/Sun Nov 17	2 41	19 45	21 13	4 24	5 52	23 53	7 05	20 14	6 33	99	4 04.1	25 57	7.2
Sun Nov 17/Mon Nov 18	2 45	19 46	21 14	4 23	5 51	23 59	7 08	21 26	.....	96	5 09.1	28 34	7.1
Mon Nov 18/Tue Nov 19	2 49	19 47	21 16	4 22	5 51	0 04	7 11	22 32	.....	90	6 14.1	29 13	7.1
Tue Nov 19/Wed Nov 20	2 52	19 48	21 17	4 21	5 51	0 09	7 15	23 29	.....	83	7 16.5	28 02	7.1
Wed Nov 20/Thu Nov 21	2 56	19 49	21 18	4 21	5 50	0 14	7 18	0 17	.....	74	8 14.6	25 18	7.0
Thu Nov 21/Fri Nov 22	3 00	19 49	21 19	4 20	5 50	0 19	7 21	0 56	.....	64	9 07.8	21 25	7.0
Fri Nov 22/Sat Nov 23	3 04	19 50	21 20	4 19	5 49	0 24	7 24	1 28	.....	55	9 56.5	16 45	7.0
Sat Nov 23/Sun Nov 24	3 08	19 51	21 21	4 19	5 49	0 29	7 28	1 57	.....	45	10 41.7	11 33	7.0
Sun Nov 24/Mon Nov 25	3 12	19 52	21 23	4 18	5 49	0 34	7 31	2 22	.....	36	11 24.4	6 04	6.9
Mon Nov 25/Tue Nov 26	3 16	19 53	21 24	4 18	5 49	0 39	7 35	2 47	.....	27	12 05.9	0 29	6.9
Tue Nov 26/Wed Nov 27	3 20	19 54	21 25	4 17	5 48	0 44	7 38	3 11	.....	19	12 47.2	- 5 05	6.9
Wed Nov 27/Thu Nov 28	3 24	19 55	21 26	4 17	5 48	0 50	7 42	3 37	.....	12	13 29.3	-10 27	6.8
Thu Nov 28/Fri Nov 29	3 28	19 56	21 27	4 16	5 48	0 55	7 45	4 05	.....	7	14 13.3	-15 28	6.8
Fri Nov 29/Sat Nov 30	3 32	19 56	21 28	4 16	5 48	1 00	7 49	4 37	18 11	3	14 59.9	-19 56	6.8
Sat Nov 30/Sun Dec 01	3 36	19 57	21 29	4 16	5 48	1 05	7 52	5 15	19 10	1	15 49.6	-23 37	6.8

***** 2024 DECEMBER *****

Date (eve/morn)	LMST midn	----- Sun: -----			LST twilight:		----- Moon: -----				Twilight		
		set	twi.end	twi.beg	rise	eve	morn	rise	set	%illum	RA	Dec	hours
Sun Dec 01/Mon Dec 02	3 40	19 58	21 30	4 15	5 48	1 10	7 56	5 59	20 11	0	16 42.7	-26 15	6.8
Mon Dec 02/Tue Dec 03	3 44	19 59	21 31	4 15	5 48	1 15	8 00	.....	21 11	2	17 38.6	-27 36	6.7
Tue Dec 03/Wed Dec 04	3 48	20 00	21 32	4 15	5 48	1 20	8 03	.....	22 07	5	18 36.1	-27 28	6.7
Wed Dec 04/Thu Dec 05	3 52	20 01	21 33	4 15	5 48	1 25	8 07	.....	22 57	11	19 33.6	-25 49	6.7
Thu Dec 05/Fri Dec 06	3 56	20 01	21 34	4 15	5 48	1 29	8 11	.....	23 41	18	20 29.7	-22 41	6.7
Fri Dec 06/Sat Dec 07	3 59	20 02	21 35	4 15	5 48	1 34	8 15	.....	0 19	27	21 23.8	-18 17	6.7
Sat Dec 07/Sun Dec 08	4 03	20 03	21 36	4 14	5 48	1 39	8 19	.....	0 53	37	22 15.8	-12 50	6.6
Sun Dec 08/Mon Dec 09	4 07	20 04	21 37	4 14	5 48	1 44	8 23	.....	1 24	48	23 06.2	- 6 38	6.6
Mon Dec 09/Tue Dec 10	4 11	20 04	21 38	4 14	5 48	1 49	8 26	.....	1 54	60	23 56.2	0 03	6.6
Tue Dec 10/Wed Dec 11	4 15	20 05	21 39	4 15	5 48	1 54	8 30	.....	2 25	71	0 46.9	6 52	6.6
Wed Dec 11/Thu Dec 12	4 19	20 06	21 40	4 15	5 49	1 59	8 35	.....	2 58	81	1 39.6	13 29	6.6
Thu Dec 12/Fri Dec 13	4 23	20 07	21 41	4 15	5 49	2 03	8 39	.....	3 36	89	2 35.6	19 27	6.6
Fri Dec 13/Sat Dec 14	4 27	20 07	21 41	4 15	5 49	2 08	8 43	17 49	4 20	95	3 35.4	24 20	6.6
Sat Dec 14/Sun Dec 15	4 31	20 08	21 42	4 15	5 49	2 13	8 47	19 02	5 11	99	4 38.8	27 41	6.6
Sun Dec 15/Mon Dec 16	4 35	20 08	21 43	4 15	5 50	2 17	8 51	20 11	6 11	100	5 44.1	29 11	6.5
Mon Dec 16/Tue Dec 17	4 39	20 09	21 44	4 16	5 50	2 22	8 55	21 13	.....	98	6 48.7	28 46	6.5
Tue Dec 17/Wed Dec 18	4 43	20 10	21 44	4 16	5 50	2 27	9 00	22 06	.....	94	7 50.0	26 35	6.5
Wed Dec 18/Thu Dec 19	4 47	20 10	21 45	4 16	5 51	2 31	9 04	22 49	.....	88	8 46.6	23 01	6.5
Thu Dec 19/Fri Dec 20	4 51	20 11	21 45	4 17	5 51	2 36	9 08	23 25	.....	80	9 38.3	18 28	6.5
Fri Dec 20/Sat Dec 21	4 55	20 11	21 46	4 17	5 52	2 40	9 13	23 56	.....	72	10 25.8	13 17	6.5
Sat Dec 21/Sun Dec 22	4 59	20 12	21 46	4 18	5 52	2 45	9 17	0 23	.....	63	11 10.2	7 45	6.5
Sun Dec 22/Mon Dec 23	5 03	20 12	21 47	4 18	5 53	2 49	9 22	0 48	.....	53	11 52.6	2 05	6.5
Mon Dec 23/Tue Dec 24	5 07	20 13	21 47	4 19	5 53	2 53	9 26	1 13	.....	44	12 34.3	- 3 33	6.5
Tue Dec 24/Wed Dec 25	5 10	20 13	21 48	4 19	5 54	2 58	9 31	1 38	.....	35	13 16.3	- 9 00	6.5
Wed Dec 25/Thu Dec 26	5 14	20 14	21 48	4 20	5 55	3 02	9 35	2 05	.....	26	13 59.7	-14 08	6.5
Thu Dec 26/Fri Dec 27	5 18	20 14	21 48	4 21	5 55	3 06	9 40	2 35	.....	18	14 45.5	-18 45	6.5
Fri Dec 27/Sat Dec 28	5 22	20 14	21 49	4 21	5 56	3 11	9 44	3 11	.....	12	15 34.3	-22 39	6.5
Sat Dec 28/Sun Dec 29	5 26	20 15	21 49	4 22	5 56	3 15	9 49	3 52	17 59	6	16 26.6	-25 35	6.6
Sun Dec 29/Mon Dec 30	5 30	20 15	21 49	4 23	5 57	3 19	9 54	4 42	19 00	2	17 22.1	-27 18	6.6
Mon Dec 30/Tue Dec 31	5 34	20 15	21 49	4 24	5 58	3 23	9 59	5 40	19 58	0	18 19.9	-27 33	6.6
Tue Dec 31/Wed Jan 01	5 38	20 16	21 49	4 25	5 58	3 27	10 03	.....	20 52	1	19 18.3	-26 14	6.6