Siding Spring Observatory

January 2023

DATE	EVENING SUN			MOON		MORNING SUN			HOURS	TWILIGHTS		MOON	SUN	MOON
	set	–12˚	–18˚	set	rise	–18˚	–12˚	rise	twi–twi	sidereal time		phase	(apparent)	(apparent)
01–02 Su	19:16	20:13	20:50	01:22		03:25	04:02	04:58	06:35	03:29	10:06	0·75	18 47·4 –22 59	02 34·6 +15 05
02–03 Mo	19:16	20:13	20:50	01:56		03:26	04:02	04:59	06:36	03:33	10:11	0·83	18 51·8 –22 54	03 23·3 +19 39
03–04 Tu	19:17	20:13	20:50	02:33		03:27	04:03	05:00	06:37	03:37	10:15	0·90	18 56·2 –22 49	04 13·9 +23 18
04–05 We	19:17	20:13	20:50	03:16		03:28	04:04	05:01	06:38	03:41	10:20	0·95	19 00·6 –22 42	05 06·1 +25 52
05–06 Th	19:17	20:13	20:50			03:29	04:05	05:01	06:39	03:45	10:25	0·98	19 05·0 –22 36	05 59·6 +27 13
06–07 Fr	19:17	20:13	20:50			03:30	04:06	05:02	06:40	03:49	10:30	1·00	19 09·4 –22 29	06 53·3 +27 17
07–08 Sa	19:17	20:13	20:49			03:31	04:07	05:03	06:41	03:53	10:35	1·00	19 13·8 –22 21	07 46·2 +26 05
08–09 Su	19:17	20:13	20:49			03:32	04:08	05:04	06:42	03:56	10:40	0·98	19 18·1 –22 13	08 37·3 +23 42
09–10 Mo	19:17	20:13	20:49		20:58	03:33	04:09	05:05	06:43	04:00	10:45	0·94	19 22·5 –22 05	09 26·3 +20 20
10–11 Tu	19:17	20:13	20:49		21:31	03:34	04:10	05:06	06:45	04:04	10:50	0·89	19 26·8 –21 56	10 13·0 +16 08
11–12 We	19:17	20:13	20:48		22:00	03:35	04:11	05:06	06:46	04:08	10:55	0·82	19 31·2 –21 47	10 57·9 +11 17
12–13 Th	19:17	20:13	20:48		22:27	03:36	04:12	05:07	06:47	04:11	11:00	0·74	19 35·5 –21 37	11 41·8 +05 59
13–14 Fr	19:17	20:12	20:48		22:54	03:37	04:13	05:08	06:49	04:15	11:05	0·65	19 39·8 –21 27	12 25·5 +00 22
14–15 Sa	19:17	20:12	20:47	—	23:21	03:38	04:14	05:09	06:50	04:18	11:10	0·55	19 44·1 –21 17	13 10·1 –05 24
15–16 Su	19:16	20:12	20:47		23:50	03:39	04:15	05:10	06:52	04:22	11:15	0·45	19 48·4 –21 06	13 56·7 –11 05
16–17 Mo	19:16	20:12	20:47		00:23	03:41	04:16	05:11	06:54	04:25	11:20	0·34	19 52·7 –20 55	14 46·8 –16 28
17–18 Tu	19:16	20:11	20:46		01:01	03:42	04:17	05:12	06:55	04:29	11:26	0·24	19 57·0 –20 43	15 41·3 –21 13
18–19 We	19:16	20:11	20:46		01:48	03:43	04:18	05:13	06:57	04:32	11:31	0·15	20 01·3 –20 31	16 41·0 –24 54
19–20 Th	19:15	20:10	20:45		02:45	03:44	04:19	05:14	06:59	04:36	11:36	0·08	20 05·5 –20 18	17 45·7 –27 04
20–21 Fr	19:15	20:10	20:44			03:45	04:20	05:15	07:00	04:39	11:41	0·03	20 09·8 –20 06	18 53·3 –27 19
21–22 Sa	19:15	20:09	20:44			03:47	04:21	05:16	07:02	04:42	11:46	0·00	20 14·0 –19 52	20 01·1 –25 31
22–23 Su	19:14	20:09	20:43			03:48	04:22	05:16	07:04	04:45	11:51	0·01	20 18·2 –19 39	21 06·0 –21 50
23–24 Mo	19:14	20:08	20:42			03:49	04:23	05:17	07:06	04:49	11:56	0·04	20 22·4 –19 25	22 06·6 –16 42
24–25 Tu	19:14	20:08	20:42	21:18		03:50	04:24	05:18	07:08	04:52	12:02	0·11	20 26·6 –19 11	23 02·7 –10 39
25–26 We	19:13	20:07	20:41	21:51		03:51	04:25	05:19	07:10	04:55	12:07	0·19	20 30·8 –18 56	23 55·0 –04 11
26–27 Th	19:13	20:06	20:40	22:22		03:53	04:26	05:20	07:12	04:58	12:12	0·29	20 35·0 –18 41	00 44·8 +02 16
27–28 Fr	19:12	20:06	20:39	22:52		03:54	04:27	05:21	07:14	05:01	12:17	0·39	20 39·1 –18 26	01 33·3 +08 25
28–29 Sa	19:12	20:05	20:39	23:23	—	03:55	04:29	05:22	07:16	05:05	12:22	0·49	20 43·3 –18 10	02 21·7 +14 00
29–30 Su	19:11	20:04	20:38	23:56		03:56	04:30	05:23	07:18	05:08	12:27	0·60	20 47·4 –17 54	03 10·8 +18 50
30–31 Mo	19:10	20:04	20:37	00:33		03:58	04:31	05:24	07:20	05:11	12:33	0·69	20 51·5 –17 38	04 01·2 +22 44
31–01 Tu	19:10	20:03	20:36	01:14		03:59	04:32	05:25	07:22	05:14	12:38	0·78	20 55·6 –17 21	04 53·2 +25 32

Siding Spring Observatory

February 2023

DATE	EVENING SUN			MOON		MORNING SUN			HOURS	TWILIGHTS		MOON	SUN	MOON
	set	–12˚	–18˚	set	rise	–18˚	–12˚	rise	twi–twi	sidereal time		phase	(apparent)	(apparent)
01–02 We	19:09	20:02	20:35	02:00		04:00	04:33	05:26	07:25	05:17	12:43	0·85	20 59·7 –17 04	05 46·3 +27 09
02–03 Th	19:08	20:01	20:34	02:50		04:01	04:34	05:27	07:27	05:20	12:48	0·91	21 03·7 –16 47	06 39·9 +27 29
03–04 Fr	19:08	20:00	20:33	03:45		04:02	04:35	05:28	07:29	05:23	12:53	0·96	21 07·8 –16 29	07 32·9 +26 33
04–05 Sa	19:07	20:00	20:32			04:04	04:36	05:29	07:31	05:26	12:58	0·99	21 11·8 –16 11	08 24·4 +24 25
05–06 Su	19:06	19:59	20:31			04:05	04:37	05:29	07:33	05:29	13:04	1·00	21 15·9 –15 53	09 14·0 +21 13
06–07 Mo	19:06	19:58	20:30			04:06	04:38	05:30	07:35	05:31	13:09	0·99	21 19·9 –15 35	10 01·3 +17 09
07–08 Tu	19:05	19:57	20:29			04:07	04:39	05:31	07:38	05:34	13:14	0·97	21 23·9 –15 16	10 46·7 +12 23
08–09 We	19:04	19:56	20:28		20:31	04:08	04:40	05:32	07:40	05:37	13:19	0·93	21 27·9 –14 57	11 30·8 +07 07
09–10 Th	19:03	19:55	20:27		20:57	04:09	04:41	05:33	07:42	05:40	13:24	0·87	21 31·8 –14 38	12 14·4 +01 32
10–11 Fr	19:02	19:54	20:26		21:24	04:11	04:42	05:34	07:44	05:43	13:29	0·80	21 35·8 –14 19	12 58·3 –04 11
11–12 Sa	19:01	19:53	20:24		21:51	04:12	04:43	05:35	07:47	05:46	13:34	0·71	21 39·7 –13 59	13 43·7 –09 51
12–13 Su	19:01	19:52	20:23	—	22:22	04:13	04:44	05:36	07:49	05:48	13:39	0·61	21 43·7 –13 39	14 31·6 –15 14
13–14 Mo	19:00	19:51	20:22		22:57	04:14	04:45	05:37	07:51	05:51	13:44	0·51	21 47·6 –13 19	15 23·2 –20 04
14–15 Tu	18:59	19:50	20:21		23:38	04:15	04:46	05:37	07:54	05:54	13:49	0·40	21 51·5 –12 59	16 19·3 –24 00
15–16 We	18:58	19:49	20:20		00:28	04:16	04:47	05:38	07:56	05:57	13:55	0·29	21 55·4 –12 38	17 20·1 –26 39
16–17 Th	18:57	19:48	20:19		01:28	04:17	04:48	05:39	07:58	06:00	14:00	0·19	21 59·3 –12 18	18 24·7 –27 38
17–18 Fr	18:56	19:47	20:17		02:38	04:18	04:49	05:40	08:01	06:02	14:05	0·11	22 03·2 –11 57	19 30·9 –26 41
18–19 Sa	18:55	19:45	20:16		03:52	04:20	04:50	05:41	08:03	06:05	14:10	0·04	22 07·0 –11 35	20 36·2 –23 49
19–20 Su	18:54	19:44	20:15			04:21	04:51	05:42	08:05	06:08	14:15	0·01	22 10·9 –11 14	21 38·4 –19 16
20–21 Mo	18:53	19:43	20:14			04:22	04:52	05:42	08:07	06:10	14:20	0·00	22 14·7 –10 53	22 36·8 –13 29
21–22 Tu	18:52	19:42	20:12			04:23	04:53	05:43	08:10	06:13	14:25	0·02	22 18·6 –10 31	23 31·6 –06 59
22–23 We	18:51	19:41	20:11	20:18		04:24	04:54	05:44	08:12	06:16	14:30	0·07	22 22·4 –10 09	00 23·6 –00 16
23–24 Th	18:50	19:40	20:10	20:49		04:25	04:55	05:45	08:14	06:18	14:35	0·15	22 26·2 –09 47	01 14·1 +06 17
24–25 Fr	18:49	19:38	20:09	21:21		04:26	04:56	05:46	08:17	06:21	14:39	0·23	22 30·0 –09 25	02 04·0 +12 19
25–26 Sa	18:48	19:37	20:07	21:54		04:27	04:57	05:46	08:19	06:24	14:44	0·33	22 33·8 –09 03	02 54·3 +17 36
26–27 Su	18:46	19:36	20:06	22:30	—	04:28	04:58	05:47	08:21	06:26	14:49	0·42	22 37·6 –08 41	03 45·6 +21 55
27–28 Mo	18:45	19:35	20:05	23:10		04:29	04:58	05:48	08:23	06:29	14:54	0·52	22 41·4 –08 18	04 38·1 +25 07
28–01 Tu	18:44	19:34	20:03	23:55		04:30	04:59	05:49	08:26	06:32	14:59	0·62	22 45·1 –07 55	05 31·7 +27 04

Siding Spring Observatory

March 2023

DATE	EVENING SUN			MOON		MORNING SUN			HOURS	TWILIGHTS		MOON	SUN	MOON
	set	–12˚	–18˚	set	rise	–18˚	–12˚	rise	twi–twi	sidereal time		phase	(apparent)	(apparent)
01–02 We	18:43	19:32	20:02	00:44		04:31	05:00	05:50	08:28	06:34	15:04	0·71	22 48·9 –07 33	06 25·6 +27 43
02–03 Th	18:42	19:31	20:01	01:38		04:31	05:01	05:50	08:30	06:37	15:09	0·79	22 52·6 –07 10	07 18·9 +27 05
03–04 Fr	18:41	19:30	19:59	02:34		04:32	05:02	05:51	08:32	06:39	15:14	0·86	22 56·3 –06 47	08 10·9 +25 13
04–05 Sa	18:40	19:29	19:58	03:31		04:33	05:03	05:52	08:35	06:42	15:19	0·92	23 00·1 –06 24	09 00·9 +22 16
05–06 Su	18:38	19:27	19:57	04:28		04:34	05:04	05:53	08:37	06:45	15:23	0·97	23 03·8 –06 01	09 48·8 +18 22
06–07 Mo	18:37	19:26	19:55			04:35	05:04	05:53	08:39	06:47	15:28	0·99	23 07·5 –05 37	10 34·9 +13 42
07–08 Tu	18:36	19:25	19:54			04:36	05:05	05:54	08:41	06:50	15:33	1·00	23 11·2 –05 14	11 19·5 +08 28
08–09 We	18:35	19:24	19:53			04:37	05:06	05:55	08:44	06:52	15:38	0·99	23 14·9 –04 51	12 03·4 +02 51
09–10 Th	18:34	19:22	19:51			04:38	05:07	05:55	08:46	06:55	15:43	0·96	23 18·6 –04 27	12 47·5 –02 57
10–11 Fr	18:32	19:21	19:50		19:55	04:38	05:07	05:56	08:48	06:58	15:47	0·91	23 22·3 –04 04	13 32·7 –08 43
11–12 Sa	18:31	19:20	19:49		20:24	04:39	05:08	05:57	08:50	07:00	15:52	0·84	23 26·0 –03 40	14 20·1 –14 14
12–13 Su	18:30	19:18	19:47		20:57	04:40	05:09	05:58	08:52	07:03	15:57	0·76	23 29·7 –03 17	15 10·5 –19 13
13–14 Mo	18:29	19:17	19:46	—	21:36	04:41	05:10	05:58	08:54	07:05	16:02	0·66	23 33·3 –02 53	16 04·8 –23 22
14–15 Tu	18:28	19:16	19:45		22:22	04:42	05:11	05:59	08:57	07:08	16:07	0·56	23 37·0 –02 29	17 03·2 –26 19
15–16 We	18:26	19:15	19:43		23:16	04:43	05:11	06:00	08:59	07:11	16:11	0·44	23 40·7 –02 06	18 05·1 –27 45
16–17 Th	18:25	19:13	19:42		00:20	04:43	05:12	06:00	09:01	07:13	16:16	0·33	23 44·3 –01 42	19 08·9 –27 24
17–18 Fr	18:24	19:12	19:41		01:30	04:44	05:13	06:01	09:03	07:16	16:21	0·23	23 48·0 –01 18	20 12·6 –25 14
18–19 Sa	18:23	19:11	19:39		02:43	04:45	05:13	06:02	09:05	07:18	16:25	0·14	23 51·6 –00 54	21 14·1 –21 22
19–20 Su	18:21	19:09	19:38		03:56	04:46	05:14	06:02	09:07	07:21	16:30	0·06	23 55·3 –00 31	22 12·4 –16 07
20–21 Mo	18:20	19:08	19:37			04:46	05:15	06:03	09:09	07:24	16:35	0·02	23 58·9 –00 07	23 07·7 –09 56
21–22 Tu	18:19	19:07	19:35			04:47	05:16	06:04	09:11	07:26	16:39	0·00	00 02·6 +00 17	00 00·4 –03 15
22–23 We	18:18	19:06	19:34			04:48	05:16	06:04	09:13	07:29	16:44	0·01	00 06·2 +00 40	00 51·6 +03 30
23–24 Th	18:16	19:04	19:33			04:48	05:17	06:05	09:15	07:31	16:49	0·05	00 09·9 +01 04	01 42·3 +09 56
24–25 Fr	18:15	19:03	19:31	19:49		04:49	05:18	06:06	09:17	07:34	16:53	0·10	00 13·5 +01 28	02 33·5 +15 42
25–26 Sa	18:14	19:02	19:30	20:24		04:50	05:18	06:06	09:19	07:37	16:58	0·18	00 17·2 +01 51	03 25·7 +20 34
26–27 Su	18:13	19:00	19:29	21:03		04:51	05:19	06:07	09:21	07:39	17:03	0·26	00 20·8 +02 15	04 19·1 +24 17
27–28 Mo	18:11	18:59	19:27	21:47	—	04:51	05:20	06:08	09:23	07:42	17:07	0·35	00 24·4 +02 38	05 13·6 +26 44
28–29 Tu	18:10	18:58	19:26	22:36		04:52	05:20	06:08	09:25	07:45	17:12	0·45	00 28·1 +03 02	06 08·4 +27 50
29–30 We	18:09	18:57	19:25	23:29		04:53	05:21	06:09	09:27	07:47	17:17	0·55	00 31·7 +03 25	07 02·7 +27 35
30–31 Th	18:08	18:55	19:24	00:25		04:53	05:21	06:10	09:29	07:50	17:21	0·64	00 35·4 +03 49	07 55·5 +26 04
31–01 Fr	18:06	18:54	19:22	01:22		04:54	05:22	06:10	09:31	07:53	17:26	0·73	00 39·0 +04 12	08 46·2 +23 23

Siding Spring Observatory

April 2023

DATE	EVENING SUN			MOON		MORNING SUN			HOURS	TWILIGHTS		MOON	SUN	MOON
	set	–12˚	–18˚	set	rise	–18˚	–12˚	rise	twi–twi	sidereal time		phase	(apparent)	(apparent)
01–02 Sa	18:05	18:53	19:21	02:19		04:55	05:23	06:11	09:33	07:55	17:30	0·81	00 42·7 +04 35	09 34·7 +19 44
02–03 Su	18:04	18:52	19:20	03:15		04:55	05:23	06:11	09:35	07:58	17:35	0·88	00 46·3 +04 58	10 21·1 +15 16
03–04 Mo	18:03	18:51	19:19	04:11		04:56	05:24	06:12	09:37	08:01	17:40	0·93	00 49·9 +05 21	11 06·1 +10 09
04–05 Tu	18:01	18:49	19:17			04:57	05:25	06:13	09:39	08:03	17:44	0·97	00 53·6 +05 44	11 50·3 +04 35
05–06 We	18:00	18:48	19:16			04:57	05:25	06:13	09:40	08:06	17:49	1·00	00 57·3 +06 07	12 34·7 –01 16
06–07 Th	17:59	18:47	19:15			04:58	05:26	06:14	09:42	08:09	17:53	1·00	01 00·9 +06 30	13 20·0 –07 10
07–08 Fr	17:58	18:46	19:14			04:58	05:26	06:15	09:44	08:12	17:58	0·98	01 04·6 +06 52	14 07·4 –12 54
08–09 Sa	17:56	18:45	19:13			04:59	05:27	06:15	09:46	08:14	18:02	0·94	01 08·2 +07 15	14 57·7 –18 09
09–10 Su	17:55	18:43	19:11		19:35	05:00	05:28	06:16	09:48	08:17	18:07	0·88	01 11·9 +07 37	15 51·7 –22 35
10–11 Mo	17:54	18:42	19:10		20:19	05:00	05:28	06:17	09:49	08:20	18:11	0·80	01 15·6 +07 59	16 49·7 –25 53
11–12 Tu	17:53	18:41	19:09	—	21:11	05:01	05:29	06:17	09:51	08:23	18:16	0·70	01 19·2 +08 21	17 50·9 –27 41
12–13 We	17:52	18:40	19:08		22:12	05:01	05:30	06:18	09:53	08:26	18:21	0·59	01 22·9 +08 43	18 53·9 –27 46
13–14 Th	17:51	18:39	19:07		23:19	05:02	05:30	06:18	09:55	08:28	18:25	0·48	01 26·6 +09 05	19 56·6 –26 04
14–15 Fr	17:49	18:38	19:06		00:29	05:03	05:31	06:19	09:56	08:31	18:30	0·36	01 30·3 +09 27	20 57·2 –22 42
15–16 Sa	17:48	18:37	19:05		01:40	05:03	05:31	06:20	09:58	08:34	18:34	0·26	01 34·0 +09 48	21 54·8 –17 57
16–17 Su	17:47	18:36	19:04		02:49	05:04	05:32	06:20	10:00	08:37	18:39	0·16	01 37·7 +10 10	22 49·2 –12 11
17–18 Mo	17:46	18:35	19:03		03:56	05:04	05:33	06:21	10:01	08:40	18:43	0·09	01 41·4 +10 31	23 41·2 –05 47
18–19 Tu	17:45	18:34	19:02		05:01	05:05	05:33	06:22	10:03	08:43	18:48	0·03	01 45·1 +10 52	00 31·7 +00 52
19–20 We	17:44	18:32	19:01			05:06	05:34	06:22	10:04	08:46	18:52	0·00	01 48·9 +11 13	01 21·8 +07 24
20–21 Th	17:43	18:31	19:00			05:06	05:34	06:23	10:06	08:49	18:57	0·00	01 52·6 +11 33	02 12·4 +13 28
21–22 Fr	17:42	18:30	18:59			05:07	05:35	06:24	10:08	08:52	19:01	0·02	01 56·3 +11 54	03 04·4 +18 46
22–23 Sa	17:41	18:29	18:58			05:07	05:36	06:24	10:09	08:55	19:06	0·07	02 00·1 +12 14	03 57·9 +23 01
23–24 Su	17:40	18:28	18:57	19:38		05:08	05:36	06:25	10:11	08:58	19:10	0·13	02 03·8 +12 34	04 52·9 +26 02
24–25 Mo	17:39	18:28	18:56	20:26		05:08	05:37	06:26	10:12	09:01	19:15	0·20	02 07·6 +12 54	05 48·6 +27 40
25–26 Tu	17:38	18:27	18:55	21:18	—	05:09	05:37	06:26	10:14	09:04	19:19	0·29	02 11·4 +13 14	06 44·0 +27 53
26–27 We	17:37	18:26	18:54	22:13		05:10	05:38	06:27	10:15	09:07	19:24	0·38	02 15·1 +13 33	07 38·0 +26 46
27–28 Th	17:36	18:25	18:53	23:10		05:10	05:38	06:28	10:17	09:10	19:28	0·47	02 18·9 +13 52	08 29·7 +24 26
28–29 Fr	17:35	18:24	18:52	00:08		05:11	05:39	06:28	10:18	09:13	19:33	0·57	02 22·7 +14 11	09 19·0 +21 05
29–30 Sa	17:34	18:23	18:51	01:04		05:11	05:40	06:29	10:19	09:16	19:37	0·66	02 26·5 +14 30	10 05·9 +16 52
30–01 Su	17:33	18:22	18:50	02:00		05:12	05:40	06:30	10:21	09:19	19:42	0·75	02 30·3 +14 48	10 51·1 +11 58

Siding Spring Observatory

May 2023

DATE	EVENING SUN			MOON		MORNING SUN			HOURS	TWILIGHTS		MOON	SUN	MOON
	set	–12˚	–18˚	set	rise	–18˚	–12˚	rise	twi–twi	sidereal time		phase	(apparent)	(apparent)
01–02 Mo	17:32	18:21	18:50	02:56		05:12	05:41	06:30	10:22	09:22	19:47	0·83	02 34·1 +15 07	11 35·2 +06 33
02–03 Tu	17:31	18:20	18:49	03:53		05:13	05:41	06:31	10:24	09:25	19:51	0·89	02 38·0 +15 25	12 19·3 +00 47
03–04 We	17:30	18:20	18:48	04:51		05:14	05:42	06:32	10:25	09:28	19:56	0·95	02 41·8 +15 42	13 04·2 –05 08
04–05 Th	17:29	18:19	18:47			05:14	05:43	06:32	10:26	09:32	20:00	0·98	02 45·6 +16 00	13 51·2 –11 00
05–06 Fr	17:28	18:18	18:47			05:15	05:43	06:33	10:28	09:35	20:05	1·00	02 49·5 +16 17	14 41·2 –16 31
06–07 Sa	17:28	18:17	18:46			05:15	05:44	06:34	10:29	09:38	20:09	0·99	02 53·4 +16 34	15 35·0 –21 21
07–08 Su	17:27	18:17	18:45			05:16	05:44	06:34	10:30	09:41	20:13	0·96	02 57·2 +16 51	16 33·1 –25 06
08–09 Mo	17:26	18:16	18:45		19:05	05:16	05:45	06:35	10:31	09:44	20:18	0·90	03 01·1 +17 07	17 34·8 –27 22
09–10 Tu	17:25	18:15	18:44		20:04	05:17	05:46	06:36	10:32	09:48	20:22	0·82	03 05·0 +17 23	18 38·7 –27 54
10–11 We	17:25	18:15	18:43	—	21:11	05:17	05:46	06:36	10:34	09:51	20:27	0·73	03 08·9 +17 39	19 42·4 –26 35
11–12 Th	17:24	18:14	18:43		22:21	05:18	05:47	06:37	10:35	09:54	20:31	0·62	03 12·8 +17 55	20 43·8 –23 34
12–13 Fr	17:23	18:13	18:42		23:31	05:18	05:47	06:38	10:36	09:58	20:36	0·50	03 16·7 +18 10	21 41·8 –19 07
13–14 Sa	17:22	18:13	18:41		00:40	05:19	05:48	06:38	10:37	10:01	20:40	0·39	03 20·7 +18 25	22 36·1 –13 39
14–15 Su	17:22	18:12	18:41		01:46	05:20	05:48	06:39	10:38	10:05	20:45	0·28	03 24·6 +18 39	23 27·6 –07 30
15–16 Mo	17:21	18:12	18:40		02:50	05:20	05:49	06:39	10:39	10:08	20:49	0·19	03 28·6 +18 54	00 17·2 –01 03
16–17 Tu	17:20	18:11	18:40		03:53	05:21	05:50	06:40	10:40	10:11	20:54	0·11	03 32·5 +19 08	01 06·2 +05 24
17–18 We	17:20	18:10	18:39		04:56	05:21	05:50	06:41	10:41	10:15	20:58	0·05	03 36·5 +19 21	01 55·5 +11 31
18–19 Th	17:19	18:10	18:39			05:22	05:51	06:41	10:42	10:18	21:03	0·01	03 40·5 +19 34	02 46·1 +17 01
19–20 Fr	17:19	18:10	18:38			05:22	05:51	06:42	10:43	10:22	21:07	0·00	03 44·5 +19 47	03 38·6 +21 37
20–21 Sa	17:18	18:09	18:38			05:23	05:52	06:43	10:44	10:25	21:12	0·01	03 48·5 +20 00	04 32·9 +25 04
21–22 Su	17:18	18:09	18:38			05:23	05:52	06:43	10:45	10:29	21:16	0·04	03 52·5 +20 12	05 28·6 +27 12
22–23 Mo	17:17	18:08	18:37	19:07	—	05:24	05:53	06:44	10:46	10:32	21:21	0·09	03 56·5 +20 24	06 24·6 +27 55
23–24 Tu	17:17	18:08	18:37	20:02		05:24	05:53	06:45	10:47	10:36	21:25	0·15	04 00·5 +20 36	07 19·6 +27 14
24–25 We	17:16	18:07	18:37	20:59		05:25	05:54	06:45	10:48	10:40	21:30	0·22	04 04·5 +20 47	08 12·5 +25 17
25–26 Th	17:16	18:07	18:36	21:57	—	05:25	05:54	06:46	10:48	10:43	21:34	0·31	04 08·6 +20 58	09 02·7 +22 14
26–27 Fr	17:16	18:07	18:36	22:54		05:26	05:55	06:46	10:49	10:47	21:38	0·40	04 12·6 +21 09	09 50·3 +18 17
27–28 Sa	17:15	18:07	18:36	23:50		05:26	05:56	06:47	10:50	10:51	21:43	0·49	04 16·7 +21 19	10 35·7 +13 38
28–29 Su	17:15	18:06	18:35	00:45		05:27	05:56	06:48	10:51	10:54	21:47	0·59	04 20·7 +21 29	11 19·7 +08 25
29–30 Mo	17:15	18:06	18:35	01:40		05:27	05:57	06:48	10:51	10:58	21:52	0·68	04 24·8 +21 38	12 03·2 +02 50
30–31 Tu	17:14	18:06	18:35	02:36		05:28	05:57	06:49	10:52	11:02	21:56	0·77	04 28·9 +21 47	12 47·2 –02 59
31–01 We	17:14	18:06	18:35	03:35		05:28	05:58	06:49	10:53	11:06	22:01	0·85	04 33·0 +21 56	13 32·9 –08 50

Siding Spring Observatory

June 2023

DATE	EVENING SUN			MOON		MORNING SUN			HOURS	TWILIGHTS		MOON	SUN	MOON
	set	–12˚	–18˚	set	rise	–18˚	–12˚	rise	twi–twi	sidereal time		phase	(apparent)	(apparent)
01–02 Th	17:14	18:05	18:35	04:38		05:29	05:58	06:50	10:53	11:09	22:05	0·92	04 37·1 +22 04	14 21·5 –14 29
02–03 Fr	17:13	18:05	18:35			05:29	05:58	06:50	10:54	11:13	22:09	0·97	04 41·2 +22 12	15 14·0 –19 37
03–04 Sa	17:13	18:05	18:34			05:29	05:59	06:51	10:55	11:17	22:14	1·00	04 45·3 +22 20	16 11·2 –23 51
04–05 Su	17:13	18:05	18:34			05:30	05:59	06:51	10:55	11:21	22:18	1·00	04 49·4 +22 27	17 12·9 –26 43
05–06 Mo	17:13	18:05	18:34			05:30	06:00	06:52	10:56	11:25	22:22	0·97	04 53·5 +22 33	18 17·9 –27 52
06–07 Tu	17:13	18:05	18:34		18:58	05:31	06:00	06:52	10:56	11:28	22:27	0·92	04 57·6 +22 40	19 23·6 –27 05
07–08 We	17:13	18:05	18:34		20:09	05:31	06:01	06:53	10:56	11:32	22:31	0·84	05 01·7 +22 46	20 27·5 –24 26
08–09 Th	17:13	18:05	18:34		21:21	05:32	06:01	06:53	10:57	11:36	22:36	0·75	05 05·9 +22 51	21 27·7 –20 13
09–10 Fr	17:13	18:05	18:34	—	22:32	05:32	06:01	06:54	10:57	11:40	22:40	0·64	05 10·0 +22 56	22 23·7 –14 51
10–11 Sa	17:13	18:05	18:34		23:39	05:32	06:02	06:54	10:58	11:44	22:44	0·53	05 14·1 +23 01	23 16·1 –08 47
11–12 Su	17:13	18:05	18:34		00:43	05:33	06:02	06:54	10:58	11:48	22:48	0·41	05 18·3 +23 05	00 05·9 –02 23
12–13 Mo	17:13	18:05	18:34		01:46	05:33	06:03	06:55	10:58	11:52	22:53	0·31	05 22·4 +23 09	00 54·5 +04 01
13–14 Tu	17:13	18:05	18:34		02:48	05:33	06:03	06:55	10:59	11:56	22:57	0·21	05 26·6 +23 13	01 42·9 +10 08
14–15 We	17:13	18:05	18:34		03:50	05:34	06:03	06:56	10:59	12:00	23:01	0·13	05 30·7 +23 16	02 32·4 +15 42
15–16 Th	17:13	18:05	18:35		04:53	05:34	06:04	06:56	10:59	12:04	23:06	0·07	05 34·9 +23 19	03 23·5 +20 28
16–17 Fr	17:13	18:05	18:35			05:34	06:04	06:56	10:59	12:08	23:10	0·03	05 39·1 +23 21	04 16·6 +24 11
17–18 Sa	17:13	18:05	18:35			05:35	06:04	06:56	10:59	12:12	23:14	0·00	05 43·2 +23 23	05 11·5 +26 40
18–19 Su	17:13	18:05	18:35			05:35	06:04	06:57	10:59	12:17	23:18	0·00	05 47·4 +23 24	06 07·2 +27 47
19–20 Mo	17:13	18:06	18:35			05:35	06:05	06:57	10:59	12:21	23:22	0·02	05 51·5 +23 25	07 02·5 +27 30
20–21 Tu	17:13	18:06	18:35	18:50		05:35	06:05	06:57	10:59	12:25	23:27	0·05	05 55·7 +23 26	07 56·1 +25 54
21–22 We	17:14	18:06	18:36	19:47		05:36	06:05	06:57	10:59	12:29	23:31	0·11	05 59·9 +23 26	08 47·2 +23 09
22–23 Th	17:14	18:06	18:36	20:44		05:36	06:05	06:58	10:59	12:33	23:35	0·17	06 04·0 +23 26	09 35·5 +19 26
23–24 Fr	17:14	18:06	18:36	21:40		05:36	06:06	06:58	10:59	12:37	23:39	0·25	06 08·2 +23 25	10 21·4 +14 59
24–25 Sa	17:14	18:07	18:36	22:35		05:36	06:06	06:58	10:59	12:42	23:43	0·34	06 12·3 +23 24	11 05·4 +09 58
25–26 Su	17:15	18:07	18:37	23:30		05:36	06:06	06:58	10:59	12:46	23:47	0·43	06 16·5 +23 23	11 48·4 +04 33
26–27 Mo	17:15	18:07	18:37	00:25	—	05:36	06:06	06:58	10:59	12:50	23:51	0·53	06 20·7 +23 21	12 31·4 –01 07
27–28 Tu	17:15	18:07	18:37	01:21		05:37	06:06	06:58	10:59	12:54	23:55	0·62	06 24·8 +23 19	13 15·6 –06 52
28–29 We	17:16	18:08	18:37	02:20		05:37	06:06	06:58	10:59	12:58	23:59	0·72	06 29·0 +23 16	14 02·1 –12 30
29–30 Th	17:16	18:08	18:38	03:24		05:37	06:06	06:58	10:59	13:03	00:03	0·81	06 33·1 +23 13	14 52·1 –17 46
30–01 Fr	17:16	18:08	18:38	04:31		05:37	06:06	06:59	10:58	13:07	00:07	0·89	06 37·2 +23 10	15 46·8 –22 20

Siding Spring Observatory

July 2023

DATE	EVENING SUN			MOON		MORNING SUN			HOURS	TWILIGHTS		MOON	SUN	MOON
	set	–12˚	–18˚	set	rise	–18˚	–12˚	rise	twi–twi	sidereal time		phase	(apparent)	(apparent)
01–02 Sa	17:17	18:09	18:38			05:37	06:06	06:59	10:58	13:11	00:11	0·95	06 41·4 +23 06	16 46·6 –25 46
02–03 Su	17:17	18:09	18:39			05:37	06:06	06:58	10:58	13:16	00:15	0·99	06 45·5 +23 01	17 50·9 –27 37
03–04 Mo	17:17	18:10	18:39			05:37	06:06	06:58	10:57	13:20	00:19	1·00	06 49·6 +22 57	18 57·7 –27 34
04–05 Tu	17:18	18:10	18:39			05:37	06:06	06:58	10:57	13:24	00:23	0·98	06 53·8 +22 52	20 04·1 –25 31
05–06 We	17:18	18:10	18:40		19:03	05:37	06:06	06:58	10:57	13:28	00:27	0·93	06 57·9 +22 46	21 07·4 –21 40
06–07 Th	17:19	18:11	18:40		20:17	05:37	06:06	06:58	10:56	13:33	00:31	0·86	07 02·0 +22 40	22 06·5 –16 26
07–08 Fr	17:19	18:11	18:41		21:28	05:37	06:06	06:58	10:56	13:37	00:35	0·77	07 06·1 +22 34	23 01·5 –10 20
08–09 Sa	17:20	18:12	18:41		22:35	05:37	06:06	06:58	10:55	13:41	00:39	0·67	07 10·2 +22 27	23 53·1 –03 49
09–10 Su	17:20	18:12	18:41		23:39	05:36	06:06	06:58	10:55	13:46	00:43	0·55	07 14·3 +22 20	00 42·7 +02 43
10–11 Mo	17:21	18:12	18:42	—	00:42	05:36	06:06	06:57	10:54	13:50	00:46	0·44	07 18·4 +22 13	01 31·6 +08 59
11–12 Tu	17:21	18:13	18:42		01:45	05:36	06:06	06:57	10:53	13:55	00:50	0·34	07 22·5 +22 05	02 20·8 +14 41
12–13 We	17:22	18:13	18:43		02:47	05:36	06:05	06:57	10:53	13:59	00:54	0·24	07 26·5 +21 57	03 11·4 +19 36
13–14 Th	17:22	18:14	18:43		03:49	05:36	06:05	06:57	10:52	14:03	00:58	0·16	07 30·6 +21 48	04 03·6 +23 32
14–15 Fr	17:23	18:14	18:44		04:49	05:36	06:05	06:56	10:52	14:08	01:01	0·09	07 34·6 +21 39	04 57·6 +26 16
15–16 Sa	17:23	18:15	18:44			05:35	06:05	06:56	10:51	14:12	01:05	0·04	07 38·7 +21 30	05 52·7 +27 40
16–17 Su	17:24	18:15	18:44			05:35	06:04	06:56	10:50	14:16	01:09	0·01	07 42·7 +21 20	06 47·8 +27 42
17–18 Mo	17:24	18:16	18:45			05:35	06:04	06:55	10:49	14:21	01:13	0·00	07 46·8 +21 10	07 41·6 +26 25
18–19 Tu	17:25	18:16	18:45			05:34	06:04	06:55	10:49	14:25	01:16	0·01	07 50·8 +21 00	08 33·3 +23 55
19–20 We	17:25	18:17	18:46			05:34	06:03	06:54	10:48	14:30	01:20	0·03	07 54·8 +20 49	09 22·3 +20 25
20–21 Th	17:26	18:17	18:46	19:34		05:34	06:03	06:54	10:47	14:34	01:23	0·07	07 58·8 +20 38	10 08·7 +16 07
21–22 Fr	17:27	18:18	18:47	20:29		05:33	06:02	06:53	10:46	14:39	01:27	0·13	08 02·8 +20 27	10 53·0 +11 13
22–23 Sa	17:27	18:18	18:47	21:23	—	05:33	06:02	06:53	10:45	14:43	01:30	0·20	08 06·8 +20 15	11 35·9 +05 54
23–24 Su	17:28	18:19	18:48	22:17		05:33	06:02	06:52	10:44	14:47	01:34	0·28	08 10·8 +20 03	12 18·3 +00 20
24–25 Mo	17:28	18:19	18:48	23:12		05:32	06:01	06:52	10:43	14:52	01:37	0·37	08 14·7 +19 50	13 01·3 –05 19
25–26 Tu	17:29	18:20	18:49	00:09		05:32	06:01	06:51	10:42	14:56	01:41	0·47	08 18·7 +19 37	13 46·0 –10 54
26–27 We	17:30	18:20	18:49	01:08		05:31	06:00	06:51	10:41	15:01	01:44	0·57	08 22·6 +19 24	14 33·6 –16 11
27–28 Th	17:30	18:21	18:50	02:12	—	05:31	06:00	06:50	10:40	15:05	01:48	0·67	08 26·6 +19 11	15 25·2 –20 55
28–29 Fr	17:31	18:21	18:50	03:19		05:30	05:59	06:49	10:39	15:10	01:51	0·77	08 30·5 +18 57	16 21·6 –24 43
29–30 Sa	17:31	18:22	18:51	04:28		05:30	05:58	06:49	10:38	15:14	01:55	0·86	08 34·4 +18 43	17 23·1 –27 11
30–31 Su	17:32	18:22	18:51			05:29	05:58	06:48	10:37	15:18	01:58	0·93	08 38·3 +18 29	18 28·4 –27 55
31–01 Mo	17:33	18:23	18:52			05:28	05:57	06:47	10:36	15:23	02:01	0·98	08 42·2 +18 14	19 35·2 –26 40

Siding Spring Observatory

August 2023

DATE	EVENING SUN			MOON		MORNING SUN			HOURS	TWILIGHTS		MOON	SUN	MOON
	set	–12˚	–18˚	set	rise	–18˚	–12˚	rise	twi–twi	sidereal time		phase	(apparent)	(apparent)
01–02 Tu	17:33	18:23	18:52			05:28	05:57	06:47	10:35	15:27	02:05	1·00	08 46·1 +17 59	20 40·6 –23 28
02–03 We	17:34	18:24	18:53			05:27	05:56	06:46	10:34	15:32	02:08	0·99	08 50·0 +17 44	21 42·6 –18 37
03–04 Th	17:34	18:25	18:53		19:08	05:27	05:55	06:45	10:33	15:36	02:11	0·95	08 53·8 +17 28	22 40·5 –12 37
04–05 Fr	17:35	18:25	18:54		20:19	05:26	05:54	06:44	10:32	15:41	02:15	0·88	08 57·7 +17 12	23 34·9 –05 57
05–06 Sa	17:36	18:26	18:54		21:27	05:25	05:54	06:44	10:30	15:45	02:18	0·80	09 01·5 +16 56	00 26·7 +00 52
06–07 Su	17:36	18:26	18:55		22:32	05:24	05:53	06:43	10:29	15:50	02:21	0·70	09 05·4 +16 40	01 17·2 +07 27
07–08 Mo	17:37	18:27	18:55		23:36	05:24	05:52	06:42	10:28	15:54	02:24	0·59	09 09·2 +16 23	02 07·5 +13 29
08–09 Tu	17:37	18:27	18:56		00:40	05:23	05:51	06:41	10:27	15:58	02:27	0·48	09 13·0 +16 06	02 58·5 +18 43
09–10 We	17:38	18:28	18:56	—	01:43	05:22	05:51	06:40	10:25	16:03	02:30	0·38	09 16·8 +15 49	03 50·9 +22 55
10–11 Th	17:39	18:28	18:57		02:44	05:21	05:50	06:39	10:24	16:07	02:34	0·29	09 20·6 +15 31	04 44·9 +25 56
11–12 Fr	17:39	18:29	18:57		03:42	05:20	05:49	06:38	10:23	16:12	02:37	0·20	09 24·4 +15 14	05 39·7 +27 38
12–13 Sa	17:40	18:29	18:58		04:35	05:20	05:48	06:37	10:21	16:16	02:40	0·13	09 28·2 +14 56	06 34·7 +27 57
13–14 Su	17:41	18:30	18:58			05:19	05:47	06:36	10:20	16:21	02:43	0·07	09 31·9 +14 38	07 28·7 +26 55
14–15 Mo	17:41	18:30	18:59			05:18	05:46	06:35	10:19	16:25	02:46	0·03	09 35·7 +14 19	08 20·7 +24 40
15–16 Tu	17:42	18:31	18:59			05:17	05:45	06:34	10:17	16:30	02:49	0·01	09 39·5 +14 01	09 10·2 +21 22
16–17 We	17:42	18:31	19:00			05:16	05:44	06:33	10:16	16:34	02:52	0·00	09 43·2 +13 42	09 57·2 +17 12
17–18 Th	17:43	18:32	19:00			05:15	05:43	06:32	10:14	16:39	02:55	0·01	09 46·9 +13 23	10 41·9 +12 23
18–19 Fr	17:44	18:33	19:01	19:18		05:14	05:42	06:31	10:13	16:43	02:58	0·04	09 50·7 +13 03	11 25·0 +07 08
19–20 Sa	17:44	18:33	19:01	20:12		05:13	05:41	06:30	10:11	16:47	03:01	0·09	09 54·4 +12 44	12 07·4 +01 35
20–21 Su	17:45	18:34	19:02	21:06		05:12	05:40	06:29	10:10	16:52	03:04	0·15	09 58·1 +12 24	12 50·0 –04 04
21–22 Mo	17:45	18:34	19:02	22:02		05:11	05:39	06:28	10:08	16:56	03:07	0·23	10 01·8 +12 04	13 33·7 –09 40
22–23 Tu	17:46	18:35	19:03	23:00		05:10	05:38	06:27	10:07	17:01	03:10	0·32	10 05·5 +11 44	14 19·6 –14 59
23–24 We	17:47	18:35	19:03	00:01		05:09	05:37	06:26	10:05	17:05	03:13	0·41	10 09·2 +11 24	15 08·9 –19 48
24–25 Th	17:47	18:36	19:04	01:05		05:08	05:36	06:25	10:04	17:10	03:16	0·52	10 12·8 +11 03	16 02·3 –23 49
25–26 Fr	17:48	18:36	19:04	02:11	—	05:07	05:35	06:24	10:02	17:14	03:18	0·63	10 16·5 +10 43	17 00·4 –26 41
26–27 Sa	17:48	18:37	19:05	03:16		05:06	05:34	06:22	10:01	17:19	03:21	0·73	10 20·2 +10 22	18 02·6 –28 03
27–28 Su	17:49	18:37	19:05	04:17		05:05	05:33	06:21	09:59	17:23	03:24	0·83	10 23·8 +10 01	19 07·3 –27 35
28–29 Mo	17:49	18:38	19:06			05:04	05:32	06:20	09:57	17:28	03:27	0·91	10 27·5 +09 40	20 12·2 –25 12
29–30 Tu	17:50	18:38	19:07			05:03	05:31	06:19	09:56	17:32	03:30	0·97	10 31·1 +09 19	21 15·1 –21 01
30–31 We	17:51	18:39	19:07			05:01	05:30	06:18	09:54	17:37	03:33	1·00	10 34·8 +08 57	22 14·8 –15 25
31–01 Th	17:51	18:39	19:08			05:00	05:28	06:17	09:52	17:41	03:35	1·00	10 38·4 +08 36	23 11·2 –08 52

Siding Spring Observatory

September 2023

DATE	EVENING SUN			MOON		MORNING SUN			HOURS	TWILIGHTS		MOON	SUN	MOON
	set	–12˚	–18˚	set	rise	–18˚	–12˚	rise	twi–twi	sidereal time		phase	(apparent)	(apparent)
01–02 Fr	17:52	18:40	19:08			04:59	05:27	06:15	09:51	17:46	03:38	0·97	10 42·0 +08 14	00 05·0 –01 52
02–03 Sa	17:52	18:41	19:09		20:14	04:58	05:26	06:14	09:49	17:50	03:41	0·91	10 45·6 +07 52	00 57·2 +05 05
03–04 Su	17:53	18:41	19:09		21:21	04:57	05:25	06:13	09:47	17:54	03:44	0·83	10 49·2 +07 30	01 49·1 +11 35
04–05 Mo	17:54	18:42	19:10		22:27	04:56	05:24	06:12	09:45	17:59	03:46	0·74	10 52·9 +07 08	02 41·4 +17 19
05–06 Tu	17:54	18:42	19:10		23:32	04:54	05:22	06:10	09:44	18:03	03:49	0·64	10 56·5 +06 46	03 34·9 +22 00
06–07 We	17:55	18:43	19:11		00:36	04:53	05:21	06:09	09:42	18:08	03:52	0·54	11 00·1 +06 24	04 29·6 +25 27
07–08 Th	17:55	18:43	19:11		01:36	04:52	05:20	06:08	09:40	18:12	03:54	0·43	11 03·7 +06 01	05 25·3 +27 31
08–09 Fr	17:56	18:44	19:12	—	02:32	04:51	05:19	06:07	09:38	18:17	03:57	0·34	11 07·3 +05 39	06 20·9 +28 11
09–10 Sa	17:56	18:44	19:13		03:21	04:49	05:17	06:05	09:36	18:21	04:00	0·25	11 10·9 +05 16	07 15·5 +27 27
10–11 Su	17:57	18:45	19:13		04:04	04:48	05:16	06:04	09:34	18:26	04:03	0·17	11 14·5 +04 53	08 08·1 +25 28
11–12 Mo	17:58	18:46	19:14		04:41	04:47	05:15	06:03	09:33	18:31	04:05	0·11	11 18·1 +04 31	08 58·2 +22 22
12–13 Tu	17:58	18:46	19:14			04:46	05:14	06:02	09:31	18:35	04:08	0·05	11 21·7 +04 08	09 45·6 +18 22
13–14 We	17:59	18:47	19:15			04:44	05:12	06:00	09:29	18:40	04:10	0·02	11 25·2 +03 45	10 30·8 +13 40
14–15 Th	17:59	18:47	19:15			04:43	05:11	05:59	09:27	18:44	04:13	0·00	11 28·8 +03 22	11 14·3 +08 27
15–16 Fr	18:00	18:48	19:16			04:42	05:10	05:58	09:25	18:49	04:16	0·00	11 32·4 +02 59	11 57·0 +02 54
16–17 Sa	18:00	18:48	19:17			04:40	05:09	05:56	09:23	18:53	04:18	0·02	11 36·0 +02 36	12 39·6 –02 48
17–18 Su	18:01	18:49	19:17	19:57		04:39	05:07	05:55	09:21	18:58	04:21	0·06	11 39·6 +02 13	13 23·1 –08 28
18–19 Mo	18:02	18:50	19:18	20:54		04:38	05:06	05:54	09:19	19:02	04:24	0·11	11 43·2 +01 49	14 08·4 –13 54
19–20 Tu	18:02	18:50	19:19	21:54		04:36	05:05	05:53	09:17	19:07	04:26	0·18	11 46·8 +01 26	14 56·6 –18 52
20–21 We	18:03	18:51	19:19	22:57		04:35	05:03	05:51	09:15	19:12	04:29	0·27	11 50·3 +01 03	15 48·4 –23 04
21–22 Th	18:03	18:51	19:20	00:01		04:34	05:02	05:50	09:13	19:16	04:31	0·37	11 53·9 +00 40	16 44·2 –26 13
22–23 Fr	18:04	18:52	19:20	01:05		04:32	05:01	05:49	09:11	19:21	04:34	0·47	11 57·5 +00 16	17 43·9 –27 59
23–24 Sa	18:05	18:53	19:21	02:06		04:31	04:59	05:47	09:09	19:25	04:36	0·59	12 01·1 –00 07	18 46·1 –28 06
24–25 Su	18:05	18:53	19:22	03:01	—	04:29	04:58	05:46	09:07	19:30	04:39	0·70	12 04·7 –00 31	19 49·1 –26 24
25–26 Mo	18:06	18:54	19:22	03:48		04:28	04:57	05:45	09:05	19:35	04:42	0·80	12 08·3 –00 54	20 50·9 –22 58
26–27 Tu	18:06	18:55	19:23			04:27	04:55	05:44	09:03	19:39	04:44	0·89	12 11·9 –01 17	21 50·2 –18 00
27–28 We	18:07	18:55	19:24			04:25	04:54	05:42	09:01	19:44	04:47	0·95	12 15·5 –01 41	22 46·7 –11 52
28–29 Th	18:08	18:56	19:25			04:24	04:53	05:41	08:59	19:48	04:49	0·99	12 19·1 –02 04	23 40·9 –05 03
29–30 Fr	18:08	18:57	19:25			04:23	04:51	05:40	08:57	19:53	04:52	1·00	12 22·7 –02 27	00 33·7 +02 01
30–01 Sa	18:09	18:57	19:26			04:21	04:50	05:38	08:55	19:58	04:54	0·98	12 26·3 –02 51	01 26·2 +08 53

Siding Spring Observatory

October 2023

DATE	EVENING SUN			MOON		MORNING SUN			HOURS	TWILIGHTS		MOON	SUN	MOON
	set	–12˚	–18˚	set	rise	–18˚	–12˚	rise	twi–twi	sidereal time		phase	(apparent)	(apparent)
01–02 Su	18:09	18:58	19:27		20:06	04:20	04:49	05:37	08:53	20:02	04:57	0·94	12 29·9 –03 14	02 19·3 +15 08
02–03 Mo	18:10	18:59	19:27		21:14	04:18	04:47	05:36	08:50	20:07	05:00	0·87	12 33·6 –03 37	03 13·7 +20 25
03–04 Tu	18:11	18:59	19:28		22:21	04:17	04:46	05:35	08:48	20:12	05:02	0·79	12 37·2 –04 00	04 09·6 +24 29
04–05 We	18:11	19:00	19:29		23:25	04:16	04:45	05:33	08:46	20:17	05:05	0·70	12 40·8 –04 23	05 06·5 +27 07
05–06 Th	18:12	19:01	19:30		00:24	04:14	04:43	05:32	08:44	20:21	05:07	0·60	12 44·5 –04 47	06 03·6 +28 15
06–07 Fr	18:13	19:01	19:31		01:16	04:13	04:42	05:31	08:42	20:26	05:10	0·50	12 48·1 –05 10	06 59·6 +27 56
07–08 Sa	18:13	19:02	19:31	—	02:02	04:11	04:41	05:30	08:40	20:31	05:12	0·40	12 51·7 –05 33	07 53·4 +26 16
08–09 Su	18:14	19:03	19:32		02:41	04:10	04:39	05:28	08:37	20:35	05:15	0·31	12 55·4 –05 55	08 44·5 +23 26
09–10 Mo	18:15	19:04	19:33		03:15	04:09	04:38	05:27	08:35	20:40	05:17	0·23	12 59·1 –06 18	09 32·7 +19 39
10–11 Tu	18:15	19:04	19:34		03:44	04:07	04:37	05:26	08:33	20:45	05:20	0·15	13 02·7 –06 41	10 18·4 +15 06
11–12 We	18:16	19:05	19:35			04:06	04:36	05:25	08:31	20:50	05:23	0·09	13 06·4 –07 04	11 02·3 +10 00
12–13 Th	18:17	19:06	19:36			04:05	04:34	05:24	08:29	20:55	05:25	0·04	13 10·1 –07 26	11 45·2 +04 29
13–14 Fr	18:17	19:07	19:36			04:03	04:33	05:22	08:26	20:59	05:28	0·01	13 13·8 –07 49	12 27·9 –01 14
14–15 Sa	18:18	19:07	19:37			04:02	04:32	05:21	08:24	21:04	05:30	0·00	13 17·5 –08 11	13 11·5 –07 00
15–16 Su	18:19	19:08	19:38			04:01	04:30	05:20	08:22	21:09	05:33	0·01	13 21·2 –08 33	13 56·7 –12 36
16–17 Mo	18:19	19:09	19:39	19:47		03:59	04:29	05:19	08:20	21:14	05:35	0·03	13 25·0 –08 55	14 44·6 –17 46
17–18 Tu	18:20	19:10	19:40	20:50		03:58	04:28	05:18	08:17	21:19	05:38	0·08	13 28·7 –09 17	15 36·0 –22 14
18–19 We	18:21	19:11	19:41	21:54		03:57	04:27	05:17	08:15	21:24	05:41	0·15	13 32·4 –09 39	16 31·2 –25 40
19–20 Th	18:22	19:12	19:42	22:59		03:55	04:26	05:16	08:13	21:29	05:43	0·23	13 36·2 –10 01	17 30·0 –27 46
20–21 Fr	18:22	19:12	19:43	00:00		03:54	04:24	05:14	08:11	21:33	05:46	0·33	13 40·0 –10 23	18 31·1 –28 17
21–22 Sa	18:23	19:13	19:44	00:56		03:53	04:23	05:13	08:08	21:38	05:49	0·44	13 43·7 –10 44	19 32·9 –27 04
22–23 Su	18:24	19:14	19:45	01:45	—	03:51	04:22	05:12	08:06	21:43	05:51	0·55	13 47·5 –11 05	20 33·5 –24 09
23–24 Mo	18:25	19:15	19:46	02:27	—	03:50	04:21	05:11	08:04	21:48	05:54	0·66	13 51·3 –11 26	21 31·7 –19 45
24–25 Tu	18:25	19:16	19:47	03:03		03:49	04:20	05:10	08:02	21:53	05:57	0·77	13 55·1 –11 47	22 27·2 –14 09
25–26 We	18:26	19:17	19:48	03:36		03:48	04:18	05:09	07:59	21:58	05:59	0·86	13 58·9 –12 08	23 20·4 –07 44
26–27 Th	18:27	19:18	19:49			03:46	04:17	05:08	07:57	22:03	06:02	0·93	14 02·8 –12 29	00 12·2 –00 53
27–28 Fr	18:28	19:19	19:50			03:45	04:16	05:07	07:55	22:08	06:05	0·98	14 06·6 –12 49	01 03·7 +06 00
28–29 Sa	18:29	19:20	19:51			03:44	04:15	05:06	07:52	22:13	06:07	1·00	14 10·5 –13 09	01 56·1 +12 31
29–30 Su	18:29	19:21	19:52			03:43	04:14	05:05	07:50	22:18	06:10	0·99	14 14·3 –13 29	02 50·0 +18 16
30–31 Mo	18:30	19:22	19:53		20:00	03:41	04:13	05:04	07:48	22:23	06:13	0·96	14 18·2 –13 49	03 45·9 +22 56
31–01 Tu	18:31	19:22	19:54		21:07	03:40	04:12	05:03	07:46	22:28	06:16	0·91	14 22·1 –14 08	04 43·6 +26 14

Siding Spring Observatory

November 2023

DATE	EVENING SUN			MOON		MORNING SUN			HOURS	TWILIGHTS		MOON	SUN	MOON
	set	–12˚	–18˚	set	rise	–18˚	–12˚	rise	twi–twi	sidereal time		phase	(apparent)	(apparent)
01–02 We	18:32	19:23	19:55		22:10	03:39	04:11	05:03	07:43	22:33	06:18	0·84	14 26·0 –14 28	05 41·9 +28 00
02–03 Th	18:33	19:24	19:56		23:07	03:38	04:10	05:02	07:41	22:38	06:21	0·76	14 30·0 –14 47	06 39·7 +28 12
03–04 Fr	18:33	19:25	19:57		23:56	03:37	04:09	05:01	07:39	22:43	06:24	0·67	14 33·9 –15 06	07 35·3 +26 57
04–05 Sa	18:34	19:26	19:59		00:38	03:36	04:08	05:00	07:37	22:48	06:27	0·57	14 37·8 –15 24	08 28·0 +24 28
05–06 Su	18:35	19:27	20:00	—	01:14	03:35	04:07	04:59	07:35	22:53	06:30	0·48	14 41·8 –15 42	09 17·5 +20 56
06–07 Mo	18:36	19:28	20:01	—	01:45	03:34	04:06	04:58	07:32	22:59	06:33	0·38	14 45·8 –16 01	10 04·1 +16 36
07–08 Tu	18:37	19:29	20:02		02:13	03:33	04:05	04:58	07:30	23:04	06:35	0·30	14 49·8 –16 18	10 48·5 +11 39
08–09 We	18:38	19:30	20:03		02:39	03:32	04:04	04:57	07:28	23:09	06:38	0·21	14 53·8 –16 36	11 31·5 +06 16
09–10 Th	18:39	19:31	20:04		03:05	03:31	04:03	04:56	07:26	23:14	06:41	0·14	14 57·8 –16 53	12 14·0 +00 37
10–11 Fr	18:39	19:32	20:05			03:30	04:03	04:55	07:24	23:19	06:44	0·08	15 01·8 –17 10	12 57·2 –05 09
11–12 Sa	18:40	19:33	20:07			03:29	04:02	04:55	07:22	23:24	06:47	0·03	15 05·9 –17 27	13 42·1 –10 51
12–13 Su	18:41	19:35	20:08			03:28	04:01	04:54	07:20	23:29	06:50	0·01	15 09·9 –17 43	14 29·6 –16 13
13–14 Mo	18:42	19:36	20:09			03:27	04:00	04:54	07:17	23:34	06:53	0·00	15 14·0 –17 59	15 20·7 –21 00
14–15 Tu	18:43	19:37	20:10			03:26	03:59	04:53	07:15	23:39	06:56	0·02	15 18·1 –18 15	16 15·8 –24 49
15–16 We	18:44	19:38	20:11	20:50		03:25	03:59	04:52	07:13	23:44	07:00	0·05	15 22·2 –18 30	17 14·8 –27 20
16–17 Th	18:45	19:39	20:12	21:54		03:24	03:58	04:52	07:11	23:50	07:03	0·12	15 26·3 –18 46	18 16·5 –28 15
17–18 Fr	18:46	19:40	20:14	22:52		03:23	03:57	04:51	07:09	23:55	07:06	0·20	15 30·5 –19 00	19 18·9 –27 25
18–19 Sa	18:47	19:41	20:15	23:43		03:23	03:57	04:51	07:07	24:00	07:09	0·29	15 34·6 –19 15	20 20·0 –24 51
19–20 Su	18:47	19:42	20:16	00:27		03:22	03:56	04:50	07:06	00:05	07:12	0·40	15 38·8 –19 29	21 18·4 –20 47
20–21 Mo	18:48	19:43	20:17	01:04	—	03:21	03:56	04:50	07:04	00:10	07:15	0·52	15 42·9 –19 43	22 13·5 –15 32
21–22 Tu	18:49	19:44	20:18	01:37		03:21	03:55	04:50	07:02	00:15	07:19	0·63	15 47·1 –19 56	23 06·0 –09 27
22–23 We	18:50	19:45	20:19	02:08		03:20	03:54	04:49	07:00	00:20	07:22	0·74	15 51·3 –20 09	23 56·6 –02 54
23–24 Th	18:51	19:46	20:21	02:39		03:19	03:54	04:49	06:58	00:25	07:25	0·83	15 55·5 –20 22	00 46·6 +03 48
24–25 Fr	18:52	19:47	20:22	03:10		03:19	03:54	04:49	06:57	00:31	07:29	0·91	15 59·8 –20 34	01 37·1 +10 17
25–26 Sa	18:53	19:48	20:23			03:18	03:53	04:48	06:55	00:36	07:32	0·96	16 04·0 –20 46	02 29·3 +16 12
26–27 Su	18:54	19:49	20:24			03:18	03:53	04:48	06:53	00:41	07:35	0·99	16 08·2 –20 57	03 23·7 +21 14
27–28 Mo	18:55	19:50	20:25			03:17	03:52	04:48	06:52	00:46	07:39	1·00	16 12·5 –21 08	04 20·4 +25 03
28–29 Tu	18:55	19:51	20:26			03:17	03:52	04:48	06:50	00:51	07:42	0·98	16 16·8 –21 19	05 18·8 +27 25
29–30 We	18:56	19:52	20:27		20:53	03:16	03:52	04:48	06:49	00:56	07:46	0·95	16 21·1 –21 29	06 17·4 +28 12
30–01 Th	18:57	19:53	20:28		21:46	03:16	03:52	04:47	06:47	01:01	07:50	0·89	16 25·4 –21 39	07 14·7 +27 28

Siding Spring Observatory

December 2023

DATE	EVENING SUN			MOON		MORNING SUN			HOURS	TWILIGHTS		MOON	SUN	MOON
	set	–12˚	–18˚	set	rise	–18˚	–12˚	rise	twi–twi	sidereal time		phase	(apparent)	(apparent)
01–02 Fr	18:58	19:54	20:30		22:32	03:16	03:51	04:47	06:46	01:06	07:53	0·82	16 29·7 –21 49	08 09·2 +25 22
02–03 Sa	18:59	19:55	20:31		23:11	03:15	03:51	04:47	06:44	01:11	07:57	0·74	16 34·0 –21 58	09 00·4 +22 08
03–04 Su	19:00	19:56	20:32		23:44	03:15	03:51	04:47	06:43	01:16	08:01	0·65	16 38·3 –22 07	09 48·2 +18 01
04–05 Mo	19:00	19:57	20:33		00:14	03:15	03:51	04:47	06:42	01:21	08:04	0·56	16 42·7 –22 15	10 33·3 +13 15
05–06 Tu	19:01	19:58	20:34	—	00:40	03:15	03:51	04:47	06:41	01:26	08:08	0·47	16 47·0 –22 23	11 16·5 +08 01
06–07 We	19:02	19:59	20:35		01:05	03:15	03:51	04:47	06:40	01:31	08:12	0·37	16 51·4 –22 30	11 58·8 +02 29
07–08 Th	19:03	19:59	20:36		01:31	03:15	03:51	04:47	06:38	01:36	08:16	0·28	16 55·7 –22 37	12 41·3 –03 12
08–09 Fr	19:04	20:00	20:36		01:57	03:14	03:51	04:47	06:37	01:40	08:20	0·20	17 00·1 –22 43	13 25·1 –08 53
09–10 Sa	19:04	20:01	20:37		02:26	03:14	03:51	04:48	06:37	01:45	08:23	0·13	17 04·5 –22 49	14 11·4 –14 21
10–11 Su	19:05	20:02	20:38		03:00	03:14	03:51	04:48	06:36	01:50	08:27	0·07	17 08·9 –22 55	15 01·1 –19 21
11–12 Mo	19:06	20:03	20:39			03:15	03:51	04:48	06:35	01:55	08:31	0·02	17 13·3 –23 00	15 55·2 –23 33
12–13 Tu	19:06	20:03	20:40			03:15	03:51	04:48	06:34	02:00	08:36	0·00	17 17·7 –23 05	16 53·8 –26 35
13–14 We	19:07	20:04	20:41			03:15	03:51	04:48	06:34	02:05	08:40	0·00	17 22·1 –23 09	17 56·1 –28 04
14–15 Th	19:08	20:05	20:42	20:43		03:15	03:52	04:49	06:33	02:09	08:44	0·03	17 26·5 –23 13	19 00·1 –27 44
15–16 Fr	19:09	20:06	20:42	21:38		03:15	03:52	04:49	06:32	02:14	08:48	0·09	17 31·0 –23 16	20 03·4 –25 34
16–17 Sa	19:09	20:06	20:43	22:25		03:15	03:52	04:49	06:32	02:19	08:52	0·16	17 35·4 –23 19	21 03·9 –21 45
17–18 Su	19:10	20:07	20:44	23:05		03:16	03:53	04:50	06:32	02:23	08:56	0·26	17 39·8 –23 21	22 00·8 –16 39
18–19 Mo	19:10	20:08	20:44	23:40		03:16	03:53	04:50	06:31	02:28	09:01	0·37	17 44·3 –23 23	22 54·2 –10 40
19–20 Tu	19:11	20:08	20:45	00:11	—	03:17	03:53	04:51	06:31	02:32	09:05	0·48	17 48·7 –23 25	23 45·0 –04 12
20–21 We	19:11	20:09	20:46	00:41		03:17	03:54	04:51	06:31	02:37	09:09	0·59	17 53·1 –23 26	00 34·5 +02 24
21–22 Th	19:12	20:09	20:46	01:12		03:17	03:54	04:51	06:31	02:41	09:14	0·70	17 57·6 –23 26	01 24·0 +08 50
22–23 Fr	19:13	20:10	20:47	01:44		03:18	03:55	04:52	06:31	02:46	09:18	0·79	18 02·0 –23 26	02 14·5 +14 47
23–24 Sa	19:13	20:10	20:47	02:20		03:18	03:55	04:53	06:31	02:50	09:23	0·87	18 06·4 –23 26	03 07·0 +19 56
24–25 Su	19:13	20:11	20:47	03:01		03:19	03:56	04:53	06:31	02:55	09:27	0·94	18 10·9 –23 25	04 01·9 +24 02
25–26 Mo	19:14	20:11	20:48			03:20	03:56	04:54	06:31	02:59	09:32	0·98	18 15·3 –23 23	04 59·0 +26 48
26–27 Tu	19:14	20:11	20:48			03:20	03:57	04:54	06:32	03:03	09:36	1·00	18 19·8 –23 22	05 57·1 +28 04
27–28 We	19:15	20:12	20:49			03:21	03:58	04:55	06:32	03:07	09:41	1·00	18 24·2 –23 19	06 54·7 +27 48
28–29 Th	19:15	20:12	20:49			03:22	03:58	04:55	06:32	03:12	09:46	0·98	18 28·6 –23 16	07 50·3 +26 07
29–30 Fr	19:15	20:12	20:49		21:07	03:22	03:59	04:56	06:33	03:16	09:50	0·94	18 33·1 –23 13	08 42·9 +23 12
30–31 Sa	19:16	20:13	20:49		21:43	03:23	04:00	04:57	06:33	03:20	09:55	0·88	18 37·5 –23 09	09 32·0 +19 18
31–01 Su	19:16	20:13	20:49		22:13	03:24	04:01	04:58	06:34	03:24	10:00	0·81	18 41·9 –23 05	10 18·1 +14 42