

MOONRISE & MOONSET 2011

TIMES ARE FOR AUCKLAND

Andrew Buckingham

JANUARY

DATE	RISE	AZI°	TRAN	ALT°	SET	AZI°	ILL%
1-Jan	2:53	118	10:19	76°	17:50	241	12%
2-Jan	3:42	120	11:16	78°	18:51	239	6%
3-Jan	4:37	121	12:12	78°	19:45	240	2%
4-Jan	5:36	119	13:06	76°	20:32	242	0%
5-Jan	6:37	116	13:58	73°	21:11	246	0%
6-Jan	7:39	112	14:46	70°	21:45	251	3%
7-Jan	8:39	107	15:31	65°	22:15	257	7%
8-Jan	9:38	101	16:14	61°	22:43	263	13%
9-Jan	10:34	94	16:55	56°	23:08	269	20%
10-Jan	11:30	88	17:36	51°	23:33	275	28%
11-Jan	12:26	82	18:16	46°	23:59	281	36%
12-Jan	13:23	76	18:58	41°			46%
13-Jan	14:21	70	19:42	37°	0:27	287	55%
14-Jan	15:20	66	20:29	33°	0:58	292	65%
15-Jan	16:21	62	21:20	31°	1:34	296	74%
16-Jan	17:22	60	22:15	29°	2:16	299	82%
17-Jan	18:20	59	23:12	29°	3:06	301	90%
18-Jan	19:13	61			4:05	301	95%
19-Jan	20:01	64	0:10	30°	5:10	298	99%
20-Jan	20:44	70	1:08	34°	6:21	294	100%
21-Jan	21:21	76	2:05	38°	7:34	288	98%
22-Jan	21:55	84	3:00	44°	8:46	280	94%
23-Jan	22:28	91	3:52	50°	9:58	273	87%
24-Jan	23:01	99	4:44	56°	11:09	265	78%
25-Jan	23:34	106	5:35	62°	12:19	257	67%
26-Jan			6:27	68°	13:29	251	56%
27-Jan	0:11	112	7:20	72°	14:37	245	45%
28-Jan	0:53	116	8:15	75°	15:43	242	34%
29-Jan	1:39	119	9:10	77°	16:45	240	25%
30-Jan	2:31	121	10:06	78°	17:40	240	16%
31-Jan	3:28	120	11:00	77°	18:28	241	9%

FEBRUARY

DATE	RISE	AZI°	TRAN	ALT°	SET	AZI°	ILL%
1-Feb	4:28	118	11:52	75°	19:10	245	4%
2-Feb	5:28	114	12:41	71°	19:46	249	1%
3-Feb	6:29	109	13:27	67°	20:17	254	0%
4-Feb	7:27	103	14:10	63°	20:45	260	1%
5-Feb	8:25	97	14:52	58°	21:11	266	4%
6-Feb	9:21	91	15:33	53°	21:37	272	8%
7-Feb	10:17	84	16:13	48°	22:02	278	14%
8-Feb	11:13	78	16:54	43°	22:29	284	21%
9-Feb	12:10	73	17:37	39°	22:58	290	29%
10-Feb	13:08	68	18:22	35°	23:31	294	38%
11-Feb	14:07	64	19:10	32°			47%
12-Feb	15:06	61	20:01	30°	0:10	298	57%
13-Feb	16:04	59	20:56	29°	0:55	300	67%
14-Feb	16:58	60	21:52	30°	1:48	301	77%
15-Feb	17:49	62	22:50	32°	2:48	299	85%
16-Feb	18:33	67	23:47	36°	3:55	296	92%
17-Feb	19:14	73			5:07	291	97%
18-Feb	19:50	80	0:43	41°	6:20	284	100%
19-Feb	20:25	87	1:38	46°	7:34	277	99%
20-Feb	20:58	95	2:31	53°	8:48	269	96%
21-Feb	21:33	103	3:25	59°	10:01	261	90%
22-Feb	22:10	109	4:18	65°	11:14	253	81%
23-Feb	22:51	115	5:13	70°	12:25	247	71%
24-Feb	23:37	118	6:09	74°	13:34	243	61%
25-Feb			7:06	77°	14:38	240	50%
26-Feb	0:28	120	8:02	78°	15:36	240	39%
27-Feb	1:24	120	8:57	77°	16:26	241	30%
28-Feb	2:22	118	9:49	75°	17:10	244	21%

MARCH

DATE	RISE	AZI°	TRAN	ALT°	SET	AZI°	ILL%
1-Mar	3:22	115	10:38	72°	17:47	248	13%
2-Mar	4:22	110	11:25	69°	18:19	253	8%
3-Mar	5:21	105	12:08	64°	18:48	258	3%
4-Mar	6:18	99	12:50	59°	19:15	264	1%
5-Mar	7:14	93	13:31	54°	19:41	270	0%
6-Mar	8:10	87	14:12	49°	20:06	276	1%
7-Mar	9:06	81	14:53	45°	20:33	282	4%
8-Mar	10:03	75	15:35	40°	21:01	288	9%
9-Mar	11:00	70	16:19	36°	21:33	292	15%
10-Mar	11:58	65	17:05	33°	22:09	296	22%
11-Mar	12:56	62	17:55	31°	22:51	299	31%
12-Mar	13:53	60	18:46	29°	23:39	300	40%
13-Mar	14:47	60	19:40	29°			50%
14-Mar	15:38	61	20:35	31°	0:34	300	61%
15-Mar	16:23	65	21:31	34°	1:36	298	71%
16-Mar	17:05	70	22:26	38°	2:43	293	81%
17-Mar	17:42	76	23:20	43°	3:54	288	89%
18-Mar	18:18	83			5:06	281	95%
19-Mar	18:52	91	0:14	49°	6:19	273	99%
20-Mar	19:27	99	1:08	56°	7:33	265	100%
21-Mar	20:04	106	2:02	62°	8:48	257	98%
22-Mar	20:45	112	2:58	68°	10:03	250	92%
23-Mar	21:30	117	3:56	72°	11:15	245	85%
24-Mar	22:21	119	4:55	76°	12:24	241	76%
25-Mar	23:17	120	5:53	77°	13:27	240	66%
26-Mar			6:50	77°	14:21	241	55%
27-Mar	0:16	119	7:44	76°	15:08	243	45%
28-Mar	1:16	116	8:35	73°	15:47	247	35%
29-Mar	2:16	112	9:23	70°	16:21	251	26%
30-Mar	3:15	106	10:07	65°	16:51	257	18%
31-Mar	4:13	101	10:50	61°	17:19	262	12%

APRIL

DATE	RISE	AZI°	TRAN	ALT°	SET	AZI°	ILL%
1-Apr	5:09	95	11:31	56°	17:45	268	6%
2-Apr	6:05	89	12:11	51°	18:10	274	3%
3-Apr	6:00	83	11:52	46°	17:37	280	1%
4-Apr	6:57	77	12:34	42°	18:05	286	0%
5-Apr	7:54	71	13:17	38°	18:36	291	2%
6-Apr	8:52	67	14:03	34°	19:10	295	5%
7-Apr	9:50	63	14:51	31°	19:50	298	10%
8-Apr	10:47	61	15:42	30°	20:36	300	17%
9-Apr	11:41	60	16:35	30°	21:28	300	25%
10-Apr	12:32	61	17:28	30°	22:27	298	35%
11-Apr	13:18	63	18:22	33°	23:30	295	45%
12-Apr	13:59	68	19:15	36°			56%
13-Apr	14:37	73	20:07	41°	0:36	290	66%
14-Apr	15:12	80	20:59	47°	1:45	284	77%
15-Apr	15:46	87	21:51	53°	2:55	277	86%
16-Apr	16:20	95	22:45	59°	4:07	269	93%
17-Apr	16:55	102	23:40	65°	5:20	261	98%
18-Apr	17:34	109			6:34	254	100%
19-Apr	18:18	114	0:37	70°	7:49	248	99%
20-Apr	19:08	118	1:36	74°	9:01	243	95%
21-Apr	20:04	120	2:37	76°	10:09	241	89%
22-Apr	21:04	119	3:37	77°	11:09	240	81%
23-Apr	22:06	117	4:34	76°	12:01	242	71%
24-Apr	23:07	113	5:28	74°	12:44	245	61%
25-Apr			6:18	71°	13:21	250	51%
26-Apr	0:08	108	7:04	67°	13:53	255	42%
27-Apr	1:06	103	7:48	62°	14:21	261	32%
28-Apr	2:03	97	8:29	57°	14:48	266	24%
29-Apr	2:59	91	9:10	53°	15:14	272	16%
30-Apr	3:54	84	9:51	48°	15:40	278	10%



RISE/SET: Rise, transit and set times include NZ Daylight Saving Time where applicable (Daylight Savings Time ends at 2am on 3rd April 2011 and begins at 2am on 25th September 2011).

TRAN: When the Moon is due north.

AZI: Azimuth, which is the angle around the horizon measured clockwise from north (0° is north, 90° is east, 180° is south and 270° is west).

ALT: Angle measured from horizon to Moon at the time of transit.

MOONRISE & MOONSET 2011

TIMES ARE FOR AUCKLAND

Andrew Buckingham

MAY

DATE	RISE	AZI°	TRAN	ALT°	SET	AZI°	ILL%
1-May	4:50	79	10:32	43°	16:07	284	5%
2-May	5:47	73	11:15	39°	16:37	289	2%
3-May	6:45	68	12:00	35°	17:11	294	0%
4-May	7:43	64	12:48	32°	17:50	297	1%
5-May	8:41	61	13:39	30°	18:34	299	3%
6-May	9:37	60	14:31	30°	19:25	300	7%
7-May	10:29	61	15:24	30°	20:22	299	13%
8-May	11:16	63	16:18	32°	21:23	296	21%
9-May	11:58	66	17:10	35°	22:28	292	30%
10-May	12:36	72	18:02	39°	23:34	286	41%
11-May	13:11	78	18:52	45°			52%
12-May	13:44	84	19:42	50°	0:41	279	63%
13-May	14:16	92	20:33	56°	1:49	272	74%
14-May	14:50	99	21:25	62°	2:59	264	83%
15-May	15:26	106	22:20	68°	4:11	257	91%
16-May	16:07	112	23:18	72°	5:23	251	97%
17-May	16:54	116			6:36	245	100%
18-May	17:47	119	0:18	75°	7:47	242	100%
19-May	18:46	120	1:19	77°	8:52	240	97%
20-May	19:49	118	2:18	77°	9:48	241	92%
21-May	20:52	115	3:15	75°	10:37	244	85%
22-May	21:55	110	4:08	72°	11:17	248	77%
23-May	22:55	105	4:57	68°	11:52	253	67%
24-May	23:54	99	5:43	64°	12:22	258	58%
25-May			6:26	59°	12:50	264	48%
26-May	0:50	93	7:07	54°	13:16	270	39%
27-May	1:46	87	7:48	49°	13:42	276	30%
28-May	2:42	81	8:29	45°	14:09	282	21%
29-May	3:39	75	9:11	40°	14:38	287	14%
30-May	4:36	70	9:56	36°	15:10	292	8%
31-May	5:34	65	10:43	33°	15:47	296	4%

JUNE

DATE	RISE	AZI°	TRAN	ALT°	SET	AZI°	ILL%
1-Jun	6:33	62	11:33	31°	16:30	299	1%
2-Jun	7:30	60	12:25	30°	17:20	300	0%
3-Jun	8:24	60	13:19	30°	18:15	299	1%
4-Jun	9:14	62	14:13	31°	19:16	297	5%
5-Jun	9:58	65	15:07	34°	20:21	293	11%
6-Jun	10:38	70	15:59	38°	21:27	288	18%
7-Jun	11:13	76	16:49	43°	22:33	281	27%
8-Jun	11:46	82	17:39	49°	23:40	274	38%
9-Jun	12:18	89	18:28	54°			49%
10-Jun	12:50	97	19:19	60°	0:48	267	61%
11-Jun	13:24	103	20:11	66°	1:57	260	72%
12-Jun	14:02	110	21:05	70°	3:07	253	81%
13-Jun	14:44	115	22:03	74°	4:18	247	90%
14-Jun	15:34	118	23:02	76°	5:28	243	96%
15-Jun	16:29	120			6:34	241	99%
16-Jun	17:30	119	0:02	77°	7:34	241	100%
17-Jun	18:34	116	1:00	76°	8:26	242	98%
18-Jun	19:38	112	1:56	74°	9:11	246	95%
19-Jun	20:41	107	2:47	70°	9:49	251	89%
20-Jun	21:41	101	3:35	66°	10:21	256	82%
21-Jun	22:39	95	4:20	61°	10:50	262	73%
22-Jun	23:36	89	5:02	56°	11:17	268	64%
23-Jun			5:43	51°	11:44	274	55%
24-Jun	0:32	83	6:25	47°	12:10	280	45%
25-Jun	1:28	77	7:06	42°	12:38	285	36%
26-Jun	2:25	72	7:50	38°	13:09	290	27%
27-Jun	3:23	67	8:36	34°	13:44	295	19%
28-Jun	4:21	63	9:24	32°	14:24	298	12%
29-Jun	5:19	61	10:16	30°	15:11	300	6%
30-Jun	6:15	60	11:10	30°	16:05	300	2%

JULY

DATE	RISE	AZI°	TRAN	ALT°	SET	AZI°	ILL%
1-Jul	7:07	61	12:05	31°	17:05	298	0%
2-Jul	7:55	64	13:00	33°	18:09	295	1%
3-Jul	8:37	68	13:53	37°	19:16	290	3%
4-Jul	9:14	74	14:46	41°	20:24	283	8%
5-Jul	9:49	80	15:36	47°	21:32	276	16%
6-Jul	10:21	87	16:26	53°	22:40	269	25%
7-Jul	10:53	94	17:16	58°	23:49	262	36%
8-Jul	11:26	101	18:07	64°			47%
9-Jul	12:02	108	19:00	69°	0:57	255	59%
10-Jul	12:42	113	19:55	73°	2:07	249	70%
11-Jul	13:27	117	20:52	76°	3:15	244	79%
12-Jul	14:19	119	21:51	77°	4:22	241	88%
13-Jul	15:17	119	22:49	77°	5:23	240	94%
14-Jul	16:19	118	23:45	75°	6:18	241	98%
15-Jul	17:22	114			7:05	244	100%
16-Jul	18:26	109	0:37	72°	7:45	248	99%
17-Jul	19:27	104	1:27	68°	8:20	254	97%
18-Jul	20:27	98	2:13	63°	8:51	259	92%
19-Jul	21:25	92	2:57	58°	9:19	265	86%
20-Jul	22:21	86	3:39	53°	9:45	271	79%
21-Jul	23:17	80	4:20	49°	10:12	277	71%
22-Jul			5:02	44°	10:39	283	62%
23-Jul	0:14	74	5:44	40°	11:09	288	52%
24-Jul	1:11	69	6:29	36°	11:42	293	43%
25-Jul	2:09	65	7:16	33°	12:19	296	33%
26-Jul	3:06	62	8:05	31°	13:02	299	24%
27-Jul	4:03	60	8:58	30°	13:52	300	16%
28-Jul	4:57	61	9:52	30°	14:49	299	9%
29-Jul	5:46	62	10:47	32°	15:52	296	4%
30-Jul	6:31	66	11:42	35°	16:59	292	1%
31-Jul	7:11	71	12:36	39°	18:08	286	0%

AUGUST

DATE	RISE	AZI°	TRAN	ALT°	SET	AZI°	ILL%
1-Aug	7:48	77	13:29	44°	19:18	279	2%
2-Aug	8:22	84	14:21	50°	20:28	272	7%
3-Aug	8:55	92	15:12	56°	21:38	264	14%
4-Aug	9:29	99	16:04	62°	22:48	257	23%
5-Aug	10:04	106	16:57	67°	23:58	251	34%
6-Aug	10:43	111	17:51	72°			45%
7-Aug	11:26	116	18:48	75°	1:07	246	56%
8-Aug	12:16	119	19:45	77°	2:14	242	67%
9-Aug	13:10	119	20:42	77°	3:16	241	77%
10-Aug	14:10	118	21:38	76°	4:12	241	85%
11-Aug	15:12	116	22:31	73°	5:01	243	92%
12-Aug	16:14	111	23:21	69°	5:43	247	97%
13-Aug	17:16	106			6:19	251	99%
14-Aug	18:16	100	0:08	65°	6:51	257	100%
15-Aug	19:14	94	0:52	60°	7:20	263	98%
16-Aug	20:11	88	1:35	56°	7:48	269	95%
17-Aug	21:08	82	2:16	51°	8:14	275	90%
18-Aug	22:04	76	2:58	46°	8:42	281	84%
19-Aug	23:00	71	3:40	41°	9:10	286	77%
20-Aug	23:57	67	4:23	37°	9:41	291	68%
21-Aug			5:09	34°	10:16	295	59%
22-Aug	0:54	63	5:57	32°	10:56	298	49%
23-Aug	1:50	61	6:47	30°	11:42	299	40%
24-Aug	2:44	60	7:39	30°	12:35	299	30%
25-Aug	3:35	62	8:33	31°	13:34	298	21%
26-Aug	4:22	64	9:28	33°	14:38	294	13%
27-Aug	5:04	69	10:22	37°	15:46	289	6%
28-Aug	5:42	74	11:16	42°	16:57	283	2%
29-Aug	6:18	81	12:09	47°	18:08	275	0%
30-Aug	6:53	88	13:01	54°	19:20	268	1%
31-Aug	7:27	96	13:55	60°	20:32	260	5%



RISE/SET: Rise, transit and set times include NZ Daylight Saving Time where applicable (Daylight Savings Time ends at 2am on 3rd April 2011 and begins at 2am on 25th September 2011).

TRAN: When the Moon is due north.

AZI: Azimuth, which is the angle around the horizon measured clockwise from north (0° is north, 90° is east, 180° is south and 270° is west).

ALT: Angle measured from horizon to Moon at the time of transit.

MOONRISE & MOONSET 2011

TIMES ARE FOR AUCKLAND

Andrew Buckingham

SEPTEMBER

DATE	RISE	AZI°	TRAN	ALT°	SET	AZI°	ILL%
1-Sep	8:03	103	14:49	65°	21:44	253	12%
2-Sep	8:42	109	15:45	70°	22:56	248	21%
3-Sep	9:25	114	16:42	74°			31%
4-Sep	10:13	118	17:40	76°	0:05	243	42%
5-Sep	11:07	119	18:38	77°	1:10	241	53%
6-Sep	12:05	119	19:34	76°	2:08	241	64%
7-Sep	13:06	116	20:27	74°	2:59	243	74%
8-Sep	14:07	113	21:17	71°	3:43	246	82%
9-Sep	15:08	108	22:05	67°	4:20	250	89%
10-Sep	16:08	102	22:49	62°	4:53	255	95%
11-Sep	17:06	96	23:32	57°	5:23	261	98%
12-Sep	18:03	90			5:51	267	100%
13-Sep	19:00	84	0:14	52°	6:18	273	100%
14-Sep	19:56	78	0:56	48°	6:45	278	98%
15-Sep	20:52	73	1:38	43°	7:13	284	94%
16-Sep	21:49	69	2:20	39°	7:43	289	89%
17-Sep	22:45	65	3:05	35°	8:17	293	82%
18-Sep	23:41	62	3:52	33°	8:54	296	74%
19-Sep			4:40	31°	9:38	299	65%
20-Sep	0:35	61	5:31	30°	10:26	299	56%
21-Sep	1:25	61	6:23	31°	11:21	298	46%
22-Sep	2:12	63	7:15	32°	12:21	296	36%
23-Sep	2:56	67	8:08	35°	13:26	291	26%
24-Sep	3:35	72	9:01	40°	14:33	286	17%
25-Sep	5:12	78	10:53	45°	16:43	279	9%
26-Sep	5:47	85	11:46	50°	17:54	272	3%
27-Sep	6:21	92	12:39	57°	19:07	264	1%
28-Sep	6:57	99	13:34	63°	20:21	257	1%
29-Sep	7:36	106	14:31	68°	21:35	250	4%
30-Sep	8:19	112	15:30	72°	22:48	245	10%

OCTOBER

DATE	RISE	AZI°	TRAN	ALT°	SET	AZI°	ILL%
1-Oct	9:07	116	16:30	75°	23:57	242	18%
2-Oct	10:00	118	17:30	76°			27%
3-Oct	10:58	119	18:28	76°	1:00	241	38%
4-Oct	12:00	117	19:23	74°	1:54	242	49%
5-Oct	13:02	114	20:15	71°	2:41	245	59%
6-Oct	14:03	109	21:03	68°	3:21	249	69%
7-Oct	15:03	104	21:48	63°	3:55	254	78%
8-Oct	16:01	98	22:31	59°	4:26	259	85%
9-Oct	16:58	92	23:13	54°	4:54	265	91%
10-Oct	17:54	86	23:54	49°	5:21	271	96%
11-Oct	18:50	80			5:48	277	99%
12-Oct	19:46	75	0:36	45°	6:16	282	100%
13-Oct	20:42	70	1:19	40°	6:46	287	99%
14-Oct	21:39	66	2:03	37°	7:18	292	97%
15-Oct	22:35	63	2:49	34°	7:55	295	93%
16-Oct	23:29	61	3:37	32°	8:36	298	87%
17-Oct			4:26	31°	9:23	299	80%
18-Oct	0:20	61	5:17	31°	10:15	298	71%
19-Oct	1:07	63	6:08	32°	11:12	296	62%
20-Oct	1:50	65	6:59	34°	12:13	293	52%
21-Oct	2:30	70	7:50	38°	13:16	288	41%
22-Oct	3:06	75	8:41	42°	14:22	282	31%
23-Oct	3:41	81	9:31	48°	15:30	275	21%
24-Oct	4:15	88	10:23	53°	16:40	268	12%
25-Oct	4:49	96	11:16	59°	17:53	261	5%
26-Oct	5:26	103	12:12	65°	19:07	254	1%
27-Oct	6:07	109	13:10	70°	20:22	248	0%
28-Oct	6:53	114	14:11	74°	21:35	244	2%
29-Oct	7:46	117	15:13	76°	22:43	242	7%
30-Oct	8:44	119	16:14	76°	23:43	242	14%
31-Oct	9:47	118	17:13	75°			23%

NOVEMBER

DATE	RISE	AZI°	TRAN	ALT°	SET	AZI°	ILL%
1-Nov	10:51	115	18:08	72°	0:35	244	33%
2-Nov	11:54	111	18:59	69°	1:18	248	43%
3-Nov	12:55	106	19:46	65°	1:55	252	53%
4-Nov	13:55	100	20:30	60°	2:28	257	63%
5-Nov	14:52	94	21:12	55°	2:57	263	72%
6-Nov	15:48	88	21:53	51°	3:24	269	80%
7-Nov	16:44	82	22:35	46°	3:51	275	87%
8-Nov	17:40	77	23:17	42°	4:19	280	93%
9-Nov	18:36	72			4:48	286	97%
10-Nov	19:33	67	0:00	38°	5:20	290	99%
11-Nov	20:29	64	0:46	35°	5:55	294	100%
12-Nov	21:24	62	1:34	32°	6:35	297	99%
13-Nov	22:16	61	2:23	31°	7:20	299	96%
14-Nov	23:05	62	3:14	31°	8:11	299	91%
15-Nov	23:49	65	4:05	31°	9:07	297	85%
16-Nov			4:56	34°	10:06	294	77%
17-Nov	0:29	68	5:46	37°	11:07	290	67%
18-Nov	1:06	73	6:35	41°	12:11	284	57%
19-Nov	1:40	79	7:24	46°	13:16	278	46%
20-Nov	2:12	86	8:13	51°	14:22	271	35%
21-Nov	2:45	92	9:03	57°	15:31	264	25%
22-Nov	3:19	99	9:56	62°	16:41	257	15%
23-Nov	3:57	106	10:51	68°	17:54	251	8%
24-Nov	4:39	112	11:50	72°	19:07	246	2%
25-Nov	5:28	116	12:51	75°	20:18	242	0%
26-Nov	6:24	118	13:54	76°	21:24	242	1%
27-Nov	7:26	118	14:55	76°	22:21	243	4%
28-Nov	8:32	116	15:54	74°	23:10	246	10%
29-Nov	9:38	113	16:48	70°	23:51	250	18%
30-Nov	10:42	108	17:38	66°			27%

DECEMBER

DATE	RISE	AZI°	TRAN	ALT°	SET	AZI°	ILL%
1-Dec	11:44	102	18:25	62°	0:27	255	36%
2-Dec	12:43	96	19:08	57°	0:58	261	46%
3-Dec	13:40	90	19:51	52°	1:26	267	56%
4-Dec	14:37	84	20:32	48°	1:54	273	65%
5-Dec	15:32	78	21:14	43°	2:21	279	74%
6-Dec	16:28	73	21:57	39°	2:49	284	82%
7-Dec	17:25	69	22:42	36°	3:20	289	88%
8-Dec	18:22	65	23:29	33°	3:54	293	94%
9-Dec	19:17	62			4:33	296	98%
10-Dec	20:11	61	0:18	31°	5:16	298	100%
11-Dec	21:02	62	1:09	31°	6:06	299	100%
12-Dec	21:48	64	2:00	31°	7:00	298	98%
13-Dec	22:30	67	2:52	33°	7:59	295	94%
14-Dec	23:07	72	3:43	36°	9:01	291	89%
15-Dec	23:42	77	4:33	40°	10:04	286	81%
16-Dec			5:22	44°	11:08	280	72%
17-Dec	0:14	83	6:10	49°	12:13	273	62%
18-Dec	0:46	90	6:58	55°	13:19	266	51%
19-Dec	1:19	97	7:48	60°	14:26	260	39%
20-Dec	1:54	103	8:40	66°	15:36	253	28%
21-Dec	2:32	109	9:35	70°	16:46	248	18%
22-Dec	3:16	114	10:33	74°	17:56	244	10%
23-Dec	4:07	117	11:34	76°	19:03	242	4%
24-Dec	5:05	119	12:35	76°	20:04	242	1%
25-Dec	6:09	118	13:36	75°	20:58	244	0%
26-Dec	7:15	115	14:33	72°	21:43	248	2%
27-Dec	8:22	110	15:26	68°	22:22	253	6%
28-Dec	9:27	105	16:15	64°	22:56	258	13%
29-Dec	10:28	99	17:01	59°	23:26	264	20%
30-Dec	11:28	93	17:45	54°	23:55	270	29%
31-Dec	12:26	87	18:28	49°		276	38%



RISE/SET: Rise, transit and set times include NZ Daylight Saving Time where applicable (Daylight Savings Time ends at 2am on 3rd April 2011 and begins at 2am on 25th September 2011).

TRAN: When the Moon is due north.

AZI: Azimuth, which is the angle around the horizon measured clockwise from north (0° is north, 90° is east, 180° is south and 270° is west).

ALT: Angle measured from horizon to Moon at the time of transit.