

ASTRONOMICAL PHENOMENA

July 2009 – June 2010

ORBITAL PHENOMENA OF THE EARTH

Orbital Phenomena		
Aphelion (Earth furthest from Sun)	2009 July 4	14:00
Equinox (Sun moves south of the Equator); equal day, night	2009 September 23	09:18
Solstice (Sun furthest south); Southern hemisphere longest day	2009 December 22	05:47
Perihelion (Earth nearest to Sun)	2010 January 3	12:00
Equinox (Sun moves north of the Equator); equal day, night	2010 March 21	05:32
Solstice (Sun furthest north); Southern hemisphere shortest day	2010 June 21	23:28

SOLAR AND LUNAR ECLIPSES

Type of Eclipse	Mid-event	Visibility from New Zealand
Penumbral Eclipse of the Moon	2009 July 7 21:39	Entire event visible
Total Eclipse of the Sun	2009 July 22 14:33	Not visible
Penumbral Eclipse of the Moon	2009 August 6 12:39	Not visible
Partial Eclipse of the Moon	2010 January 1 07:23	Not visible
Annular Eclipse of the Sun	2010 January 15 19:20	Not visible
Partial Eclipse of the Moon	2010 June 26 23:38	Entire event visible

LUNAR PERIGEE AND APOGEE

	Perigee (Moon nearest to Earth)			Apogee (Moon furthest from Earth)		
	Date	Time	Distance (km)	Date	Time	Distance (km)
2009	Jul 22	08:17	357,464	Jul 8	09:40	406,232
	Aug 19	16:54	359,641	Aug 4	12:43	406,026
	Sep 16	19:57	364,053	Aug 31	23:05	405,267
	Oct 14	00:29	369,067	Sep 28	15:34	404,431
	Nov 7	19:31	368,899	Oct 26	11:19	404,166
	Dec 5	02:13	363,478	Nov 23	08:08	404,734
2010	Jan 2	08:37	358,682	Dec 21	02:55	405,730
	Jan 30	21:04	356,592	Jan 17	13:41	406,433
	Feb 28	09:41	357,831	Feb 13	14:07	406,541
	Mar 28	16:57	361,876	Mar 12	22:08	406,009
	Apr 25	09:00	367,141	Apr 9	14:46	404,997
	May 20	20:40	369,728	May 7	09:54	404,230
	Jun 16	02:55	365,936	Jun 4	04:52	404,264

PHASES OF THE MOON

	New Moon		First Quarter		Full Moon		Last Quarter	
	Date	Time	Date	Time	Date	Time	Date	Time
2009	Jul 22	14:35	Jul 29	10:00	Jul 7	21:21	Jul 15	21:53
	Aug 20	22:02	Aug 27	23:42	Aug 6	12:55	Aug 14	06:55
	Sep 19	06:44	Sep 26	16:50	Sep 5	04:03	Sep 12	14:16
	Oct 18	17:33	Oct 26	12:42	Oct 4	18:10	Oct 11	20:56
	Nov 17	07:14	Nov 25	09:39	Nov 3	07:14	Nov 10	03:56
	Dec 17	00:02	Dec 25	05:36	Dec 2	19:30	Dec 9	12:13
2010	Jan 15	19:11	Jan 23	22:53	Jan 1	07:13	Jan 7	22:39
	Feb 14	14:51	Feb 22	12:42	Jan 30	18:18	Feb 6	11:48
	Mar 16	09:01	Mar 23	23:00	Mar 1	04:38	Mar 8	03:42
	Apr 15	00:29	Apr 22	06:20	Mar 30	14:25	Apr 6	21:37
	May 14	13:04	May 21	11:43	Apr 29	00:18	May 6	16:15
	Jun 12	23:15	Jun 19	16:29	May 28	11:07	Jun 5	10:13
				Jun 26	23:30			

Times listed are in New Zealand Standard Time (NZST). Add 1 hour when New Zealand Daylight Time (NZDT) is in force.