Appendices referred to in the article from AFI (Astrology Federation Incorporated) Journal Spring 2018:

Shocking news: A major earthquake in the Wellington area in the period 2018-2020?

Appendices:

1. Super Moons:

Super Moons 2017 to 2021: Dates, Time, and Distance.
Perigee-Syzygy of Earth-Moon-Sun system: 2017 to 2021

This calendar shows 'Full Moon' Supermoons.

These dates show the Super Moon at maximum Full Moon, plus the time and date when The Moon reaches its Perigee (closest approach) to Earth.

2017: Sunday 3rd December: Full Moon 15:47 GMT/UT | Perigee: Monday 04th December, 08:43 GMT/UT: Distance: 222,137 miles/ 357,495km.

2018: Tuesday 2nd January: Full Moon 02:24 GMT/UT | Perigee: Monday 01st January, 21:56 GMT/UT. Distance: 221,559 miles/ 356,565km

2019: Monday 21st January: Full Moon 05:16 GMT/UT | Perigee: Monday 21st January,19:59 GMT/UT. Distance: 222,043 miles/ 357,344km

2019: Tuesday 19th February: Full Moon 15:53 GMT/UT | Perigee: Tuesday 19th February, 09:07 GMT / UT. Distance: 221,681 miles/ 356,761km

2020: Monday 9th March: Full Moon 17:48 GMT/UT | Perigee: Tuesday 10th March, 06:34 GMT / UT. Distance: 221,905 miles/ 357,122 km

2020: Wednesday 8th April: Full Moon 02:35 GMT/UT | Perigee: Tuesday 07th April, 18:10 GMT / UT. Distance: 221,772 miles/ 356,908km

2021: Tuesday 27th April: Full Moon 03:31 GMT/UT | Perigee: Tuesday 27th April, 15:25 GMT /UT. Distance: 222,064 miles/ 357,378km

2021: Saturday 4th December: Full Moon 07:43 GMT/UT | Perigee: Saturday 04th December, 10:02 GMT/UT. Distance: 221,700 miles/

New Moon Supermoons: 2017 to 2021:
Dates, Time, and Distance.
Perigee-Syzygy of Earth-Moon-Sun system: 2017 to 2021

This calendar shows 'New Moon' Supermoons.

2017: Thursday 25th May: New Moon 19:44 GMT/UT | Perigee: Friday 26th May, 01:24 GMT/UT | Distance: 221,959 miles /357,209 km

2017: Saturday 24th June: New Moon 02:31 GMT/UT | Perigee: Friday 23rd June, 10:50 GMT/UT | Distance: 222,411 miles / 357,937 km

2018: Friday 13th, July: New Moon 02:48 GMT/UT | Perigee: Friday 13th July, 08:30 GMT/UT |Distance: 222,097 miles /357,431KM. Solar eclipse.

2018: Saturday 11th August: New Moon 09:58 GMT/UT | Perigee: Friday 10 August, 18:06 GMT/UT | Distance: 222,327 miles /358,082km. Solar Eclipse.

2019: Saturday 28th September: New Moon 18:26 GMT/UT | Perigee: Saturday 28h September, 02:28 GMT/UT | Distance: 357,802km

2020: Friday 16th October: New Moon 19:31GMT/UT | Perigee: Friday 16th October: 23:48 GMT/UT | Distance: 221,774 miles /356,912km
2020: Sunday 15th November: New Moon 05:07 GMT/UT | Perigee: Saturday 14 November 11:49 GMT/UT | Distance: 222,350 / 357,838 km.

2021: Saturday 04th December: New Moon 07:43 GMT/UT | Perigee: Saturday 04th December, 10:02 GMT/ UT. | 221,700 miles/356,793 km

Full Moon at Perigee (Super Moon): 2021 to 2040

Greenwich Mean Time (GMT)

Year	Full Moon	Distance (km)	Diameter (arc-min)	Relative Distance	Relative Brightness	Perigee	ΔPerigee (days)
2021	Mar 28 18:48	362170	32.99	0.959	1.252/1.127	Mar 30 06:12	1.475
	Apr 27 03:31	357615	33.41	0.995	1.290/1.155	Apr 27 15:24	0.495
	May 26 11:14 t	357462 m	33.43	0.997	1.291/1.156	May 26 01:52	-0.390
	Jun 24 18:40	361558	33.05	0.965	1.257/1.130	Jun 23 09:58	-1.363
2022	May 16 04:14 t	362127	33.00	0.959	1.252/1.127	May 17 15:23	1.465
	Jun 14 11:52	357658	33.41	0.995	1.290/1.155	Jun 14 23:21	0.479
	Jul 13 18:37	357418 m	33.43	0.997	1.292/1.157	Jul 13 09:08	-0.395
	Aug 12 01:36	361409	33.06	0.965	1.258/1.131	Aug 10 17:14	-1.348
2023	Jul 03 11:39	361934	33.02	0.961	1.254/1.128	Jul 04 22:28	1.451
	Aug 01 18:31	357530	33.42	0.996	1.291/1.156	Aug 02 05:52	0.472
	Aug 31 01:35	357344 m	33.44	0.997	1.293/1.157	Aug 30 15:51	-0.406
	Sep 29 09:57	361552	33.05	0.964	1.257/1.130	Sep 28 01:05	-1.370
2024	Aug 19 18:26	361970	33.01	0.961	1.254/1.128	Aug 21 05:05	1.444
	Sep 18 02:34 p	357486	33.43	0.996	1.291/1.156	Sep 18 13:26	0.453
	Oct 17 11:26	357364 m	33.44	0.996	1.292/1.157	Oct 17 00:46	-0.445
	Nov 15 21:29	361867	33.02	0.961	1.254/1.128	Nov 14 11:18	-1.424
2025	Oct 07 03:47	361458	33.06	0.964	1.259/1.131	Oct 08 12:36	1.367
	Nov 05 13:19	356980 m	33.47	0.997	1.296/1.160	Nov 05 22:29	0.382
	Dec 04 23:14	357219	33.45	0.995	1.294/1.158	Dec 04 11:06	-0.506
2026	Jan 03 10:03	362312	32.98	0.956	1.252/1.126	Jan 01 21:43	-1.513
	Nov 24 14:53	360768	33.12	0.969	1.264/1.135	Nov 25 20:58	1.253
	Dec 24 01:28	356740 m	33.50	0.998	1.298/1.161	Dec 24 08:30	0.293
2027	Jan 22 12:17	357644 m	33.41	0.993	1.290/1.155	Jan 21 21:49	-0.603
	Feb 20 23:23 n	363306	32.89	0.948	1.244/1.119	Feb 19 07:30	-1.662
2028	Jan 12 04:03	360266	33.17	0.974	1.268/1.138	Jan 13 07:47	1.155
	Feb 10 15:04	356720 m	33.50	0.999	1.298/1.161	Feb 10 19:53	0.201
	Mar 11 01:06	358074	33.37	0.990	1.286/1.152	Mar 10 08:23	-0.697
	Apr 09 10:27	363867	32.84	0.943	1.239/1.116	Apr 07 16:02	-1.767
2029	Jan 30 06:03	367046	32.56	0.911	1.217/1.097	Feb 01 12:21	2.262
	Feb 28 17:10	359659	33.22	0.978	1.273/1.142	Mar 01 18:30	1.055
	Mar 30 02:26	356683 m	33.50	1.000	1.299/1.161	Mar 30 05:40	0.134
	Apr 28 10:37	358383	33.34	0.989	1.284/1.150	Apr 27 16:24	-0.759
	May 27 18:37	364262	32.80	0.938	1.237/1.114	May 25 22:19	-1.846
2030	Mar 19 17:56	366439	32.61	0.917	1.220/1.100	Mar 21 22:00	2.169
	Apr 18 03:20	359654	33.22	0.980	1.272/1.142	Apr 19 03:44	1.017
	May 17 11:19	357028 m	33.47	1.000	1.295/1.159	May 17 13:45	0.102
	Jun 15 18:41 p	358779	33.31	0.987	1.280/1.148	Jun 14 23:37	-0.794
	Jul 15 02:12	364530	32.78	0.936	1.234/1.112	Jul 13 05:12	-1.875

The closest in Full Moon perigees (or *Super Moons*) for the 21st Century are listed below. This includes all events in which the Full Moon's distance is less than or equal to 356,800 km.

Closest Full Moon Perigees (Super Moons): 2001 to 2100

Year	Full Moon	Distance (km)	Diameter (arc-min)	Relative Distance	Relative Brightness	Perigee	ΔPerigee (days)
2008	Dec 12 16:37	356615 m	33.51	0.999	1.299/1.162	Dec 12 21:37	0.208
2010	Jan 30 06:18	356607 m	33.51	1.000	1.299/1.162	Jan 30 09:03	0.115
2016	Nov 14 13:52	356523 m	33.52	1.000	1.300/1.162	Nov 14 11:23	-0.104
2018	Jan 02 02:24	356604 m	33.51	0.999	1.299/1.162	Jan 01 21:54	-0.187
2026	Dec 24 01:28	356740 m	33.50	0.998	1.298/1.161	Dec 24 08:30	0.293
2028	Feb 10 15:04	356720 m	33.50	0.999	1.298/1.161	Feb 10 19:53	0.201
2029	Mar 30 02:26	356683 m	33.50	1.000	1.299/1.161	Mar 30 05:40	0.134
2034	Nov 25 22:32	356448 m	33.52	1.000	1.301/1.163	Nov 25 22:06	-0.018
2036	Jan 13 11:16	356531 m	33.52	1.000	1.300/1.162	Jan 13 08:47	-0.103
2037	Mar 02 00:28	356751 m	33.50	0.999	1.298/1.161	Mar 01 19:48	-0.194
2052	Dec 06 07:18	356429 m	33.53	1.000	1.301/1.163	Dec 06 08:52	0.066
2054	Jan 23 20:08	356512 m	33.52	1.000	1.300/1.163	Jan 23 19:38	-0.021
2055	Mar 13 08:57	356709 m	33.50	1.000	1.298/1.161	Mar 13 06:25	-0.105
2061	Dec 26 16:53	356731 m	33.50	0.998	1.298/1.161	Dec 26 08:56	-0.331
2070	Dec 17 16:05	356466 m	33.52	1.000	1.301/1.163	Dec 17 19:41	0.149
2072	Feb 04 04:55	356549 m	33.51	1.000	1.300/1.162	Feb 04 06:26	0.063
2073	Mar 23 17:17	356722 m	33.50	1.000	1.299/1.161	Mar 23 16:57	-0.013
2077	Oct 02 01:20	356765 m	33.49	1.000	1.298/1.161	Oct 01 22:59	-0.098
2078	Nov 19 12:52 n	356716 m	33.50	0.999	1.298/1.161	Nov 19 08:57	-0.163
2080	Jan 07 01:45	356570 m	33.51	0.999	1.300/1.162	Jan 06 19:49	-0.247
2088	Dec 28 00:57	356557 m	33.51	0.999	1.300/1.162	Dec 28 06:32	0.232
2090	Feb 14 13:39	356642 m	33.51	1.000	1.299/1.162	Feb 14 17:13	0.149
2091	Apr 04 01:31	356790 m	33.49	1.000	1.298/1.161	Apr 04 03:26	0.080
2095	Oct 13 09:30	356687 m	33.50	1.000	1.299/1.161	Oct 13 09:25	-0.004
2096	Nov 29 21:34 n	356614 m	33.51	1.000	1.299/1.162	Nov 29 19:43	-0.077
2098	Jan 17 10:36	356464 m	33.52	0.999	1.301/1.163	Jan 17 06:41	-0.163

Ultimate Full Moon Perigees (Super Moons)

The ultimate in Full Moon perigees (or *Super Moons*) for the 21st Century are listed below. This includes all events in which the Full Moon's distance is less than or equal to 356,500 km. The Full Moon of 2052 Dec 06 is the closest *Super Moon* of the 21st Century with a distance of 356,429 km.

Ultimate Full Moon Perigees (Super Moons): 2001 to 2100

Year	Full Moon	Distance (km)	Diameter (arc-min)	Relative Distance	Relative Brightness	Perigee	ΔPerigee (days)
2034	Nov 25 22:32	356448 m	33.52	1.000	1.301/1.163	Nov 25 22:06	-0.018
2052	Dec 06 07:18	356429 m	33.53	1.000	1.301/1.163	Dec 06 08:52	0.066
2070	Dec 17 16:05	356466 m	33.52	1.000	1.301/1.163	Dec 17 19:41	0.149
2098	Jan 17 10:36	356464 m	33.52	0.999	1.301/1.163	Jan 17 06:41	-0.163

Wellington Earthquake

2. Eclipses

The tables below, taken from the Nasa website, show the Lunar Eclipses for the period in question.

2018 Jan 31	13:31:00	Total	**124**	1.315	03h23m **01h16m**	Asia, Aus., Pacific, w N.America
2018 Jul 27	20:22:54	Total	**129**	1.609	03h55m **01h43m**	S.America, Europe, Africa, Asia, Aus.
2019 Jan 21	05:13:27	Total	**134**	1.195	03h17m **01h02m**	c Pacific, Americas, Europe, Africa
2019 Jul 16	21:31:55	Partial	**139**	0.653	02h58m	S.America, Europe, Africa, Asia, Aus.
2020 Jan 10	19:11:11	Penumbral	**144**	-0.116	-	Europe, Africa, Asia, Aus.
2020 Jun 05	19:26:14	Penumbral	**111**	-0.405	-	Europe, Africa, Asia, Aus.
2020 Jul 05	04:31:12	Penumbral	**149**	-0.644	-	Americas, sw Europe, Africa
2020 Nov 30	09:44:01	Penumbral	**116**	-0.262	-	Asia, Aus., Pacific, Americas

Lunar Eclipses: 2021 - 2030

Fred Espenak

A concise summary of all lunar eclipses from 2021 through 2030 is presented in the table below. The first column gives the **Calendar Date** of the instant of greatest eclipse[**1**]. The second column **TD of Greatest Eclipse** is the Terrestrial Dynamical Time of greatest eclipse. The third column lists the **Eclipse Type** which is either Total, Partial, or Penumbral.

Eclipses recur over the **Saros** cycle, a period of approximately 18 years 11 days. Each eclipse belongs to the **Saros Series** shown in the 4th column. The **Umbral Magnitude**[**2**] (column 5) gives the fraction of the Moon's diameter immersed in Earth's umbral shadow at the instant of greatest eclipse. The **Eclipse Duration**[**3**] gives the length of the partial eclipse. If the eclipse is total then two durations are listed. The first is the interval between the beginning and end of the partial phases. The second value (in **bold**) is the duration the total phase. Finally, the **Geographic Region of Eclipse Visibility**[**4**] provides a brief description of the regions where each eclipse will be seen.

Two fields in the summary table provide links to graphics and additional information for each eclipse. A figure consisting of a diagram and map for each eclipse may be seen by clicking on the **Calendar Date**. The top diagram shows the Moon's trajectory with respect to Earth's penumbral and umbral shadows. The equidistant cylindrical projection map below illustrates the geographpic region of visibility for each phase of the eclipse. These figures are described in greater detail in the **Key to Lunar Eclipse Maps**. Each figure is stored as a PDF file of about 110 kilobytes.

All eclipses belonging to a particular **Saros Series** are listed in a table linked through the **Saros** number.

The **Key to Lunar Eclipse Decade Table** contains a more detailed description of each item in the table.

For more data on lunar eclipses during this period, see **Catalog of Lunar Eclipses: 2001 to 2100** .

Lunar Eclipses: 2021 - 2030

Calendar Date	TD of Greatest Eclipse	Eclipse Type	Saros Series	Umbral Magnitude	Eclipse Duration	Geographic Region of Eclipse Visibility
2021 May 26	11:19:53	Total	**121**	1.009	03h07m **00h15m**	e Asia, Australia, Pacific, Americas
2021 Nov 19	09:04:06	Partial	**126**	0.974	03h28m	Americas, n Europe, e Asia, Australia, Pacific
2022 May 16	04:12:42	Total	**131**	1.414	03h27m **01h25m**	Americas, Europe, Africa
2022 Nov 08	11:00:22	Total	**136**	1.359	03h40m **01h25m**	Asia, Australia, Pacific, Americas
2023 May 05	17:24:05	Penumbral	**141**	-0.046	-	Africa, Asia, Australia
2023 Oct 28	20:15:18	Partial	**146**	0.122	01h17m	e Americas, Europe, Africa, Asia, Australia
2024 Mar 25	07:13:59	Penumbral	**113**	-0.132	-	Americas
2024 Sep 18	02:45:25	Partial	**118**	0.085	01h03m	Americas, Europe, Africa
2025 Mar 14	06:59:56	Total	**123**	1.178	03h38m **01h05m**	Pacific, Americas, w Europe, w Africa
2025 Sep 07	18:12:58	Total	**128**	1.362	03h29m **01h22m**	Europe, Africa, Asia, Australia
2026 Mar 03	11:34:52	Total	**133**	1.151	03h27m **00h58m**	e Asia, Australia, Pacific, Americas
2026 Aug 28	04:14:04	Partial	**138**	0.930	03h18m	e Pacific, Americas, Europe, Africa
2027 Feb 20	23:14:06	Penumbral	**143**	-0.057	-	Americas, Europe, Africa, Asia
2027 Jul 18	16:04:09	Penumbral	**110**	-1.068	-	e Africa, Asia, Australia, Pacific
2027 Aug 17	07:14:59	Penumbral	**148**	-0.525	-	Pacific, Americas
2028 Jan 12	04:14:13	Partial	**115**	0.066	00h56m	Americas, Europe, Africa
2028 Jul 06	18:20:57	Partial	**120**	0.389	02h21m	Europe, Africa, Asia, Australia
2028 Dec 31	16:53:15	Total	**125**	1.246	03h29m **01h11m**	Europe, Africa, Asia, Australia, Pacific
2029 Jun 26	03:23:22	Total	**130**	1.844	03h40m **01h42m**	Americas, Europe, Africa, Mid East
2029 Dec 20	22:43:12	Total	**135**	1.117	03h33m **00h54m**	Americas, Europe, Africa, Asia
2030 Jun 15	18:34:34	Partial	**140**	0.502	02h24m	Europe, Africa, Asia, Australia
2030 Dec 09	22:28:51	Penumbral	**145**	-0.163	-	Americas, Europe, Africa, Asia

Geographic abbreviations (used above): n = north, s = south, e = east, w = west, c = central

[**1**] **Greatest Eclipse** is the instant when the distance between the axis of Earth's umbral shadow and the center of the Moon's disk reaches a minimum.

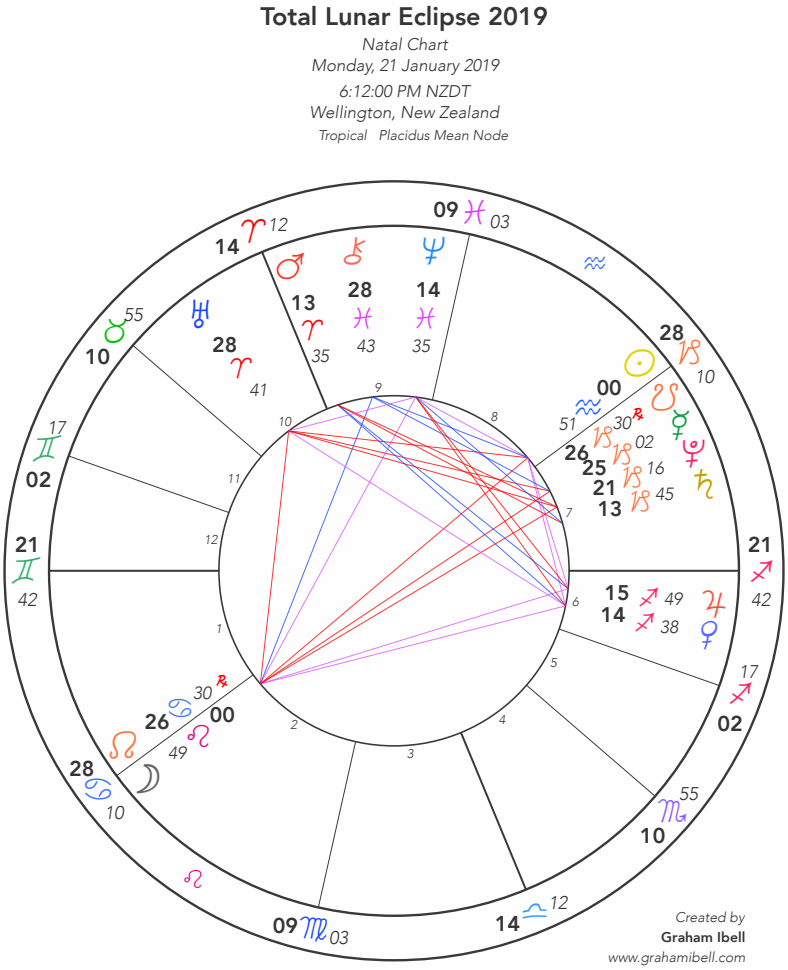
[**2**] **Umbral magnitude** is the fraction of the Moon's diameter obscured by Earth's umbral shadow at the instant of greatest eclipse. For total eclipses, the umbral magnitude is always greater than or equal to 1. For partial eclipses, the umbral magnitude is always greater than 0 and less than 1. For penumbral eclipses, the umbral magnitude is always negative (i.e., less than 0).

[**3**] **Eclipse Duration** is the duration of the partial phase of a partial eclipse. For total eclipses two values are given. The first is the period between the beginning and end of the partial phases, while the second value (in **bold** is the duration of the total phase.

[**4**] **Geographic Region of Eclipse Visibility** is the portion of Earth's surface where some portion of the eclipse can be seen.

The January 2019 Eclipse for Wellington

Although the eclipse itself isn't angular, Mars' position both zodiacally (dignified in Aries) and on the Midheaven speaks loudly. Also of note is: the eclipse straddling the cusps of the financial houses; Neptune is within 0°28′ of its position at the infamous 1855 quake (in which much of Wellington's much-valued waterfront rose out of the harbour); the eclipse squares Uranus (2°08′) and semi-squares/sesqui-squares Neptune (1°15′); this prominent Mars squares Saturn (0°10′) and Pluto (7°41′); Venus, ruler of the 4th, closely squares Neptune (0°03′), which is closely on Wellington's Uranus (within 0°37′) (co-ruler of that chart). Further connections between this and Wellington's charts are worth exploring[1].



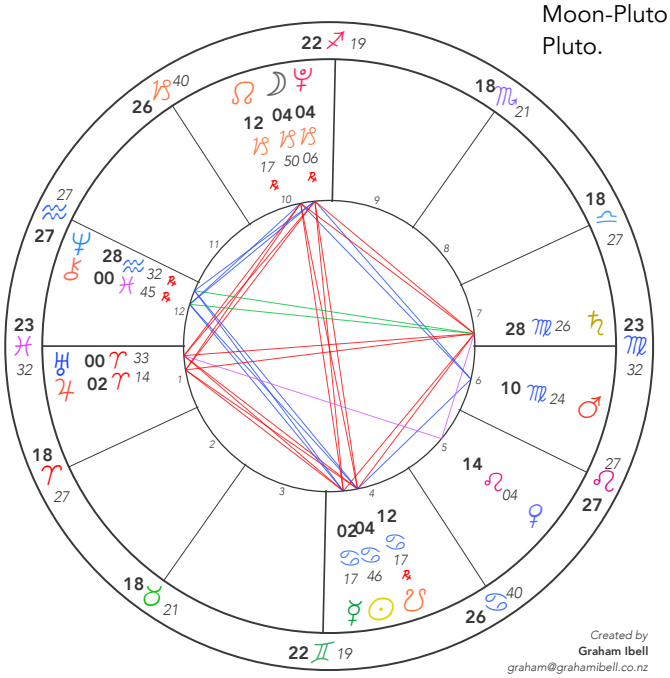
[1] The Total Lunar Eclipse of 28 July 2018, the previous season's lunar eclipse, could be seen as symbolically linked to this one: it takes place at 4°Aqu-Leo, and which opposition between the Lights picks up Mars by conjunction with Moon (0°48′) and Uranus by square (2°15′). Mars, being retrograde at the time, returns to cross this eclipse position in late September 2018.

3. The Christchurch Earthquakes

Here I gather together a few relevant maps for the Darfield (September 2010) and Christchurch (February 2011) earthquakes.

Partial Lunar Eclipse 2010

Natal Chart
Saturday, 26 June 2010
11:38:00 PM NZT
Christchurch, New Zealand
Tropical Placidus Mean Node

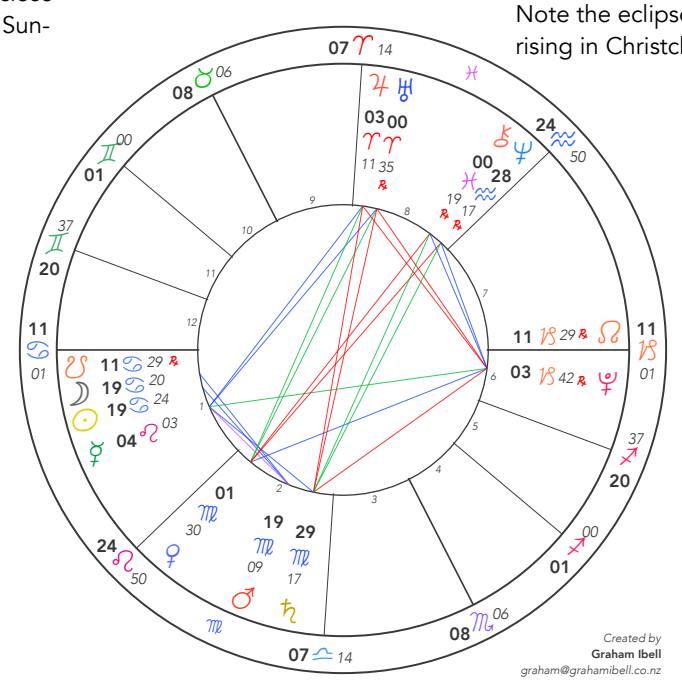


Created by
Graham Ibell
graham@grahamibell.co.nz

Note the eclipse is part of the cardinal grand cross in angular houses, and the close Moon-Pluto and Sun-Pluto.

Total Solar Eclipse 2010

Natal Chart
Monday, 12 July 2010
7:34:00 AM NZT
Christchurch, New Zealand
Tropical Placidus Mean Node

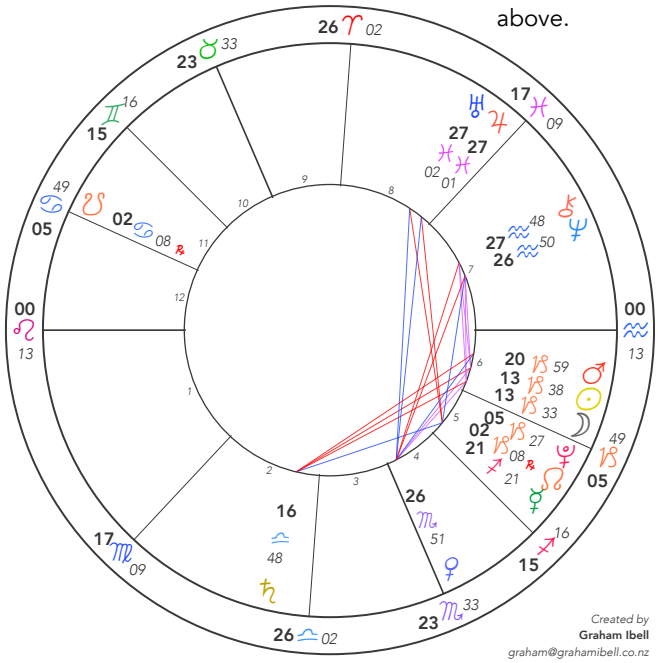


Created by
Graham Ibell
graham@grahamibell.co.nz

Note the eclipse rising in Christchurch.

Partial Solar Eclipse 2011a

Natal Chart
Tuesday, 4 January 2011
8:51:00 PM NZT
Wellington, New Zealand
Tropical Placidus Mean Node

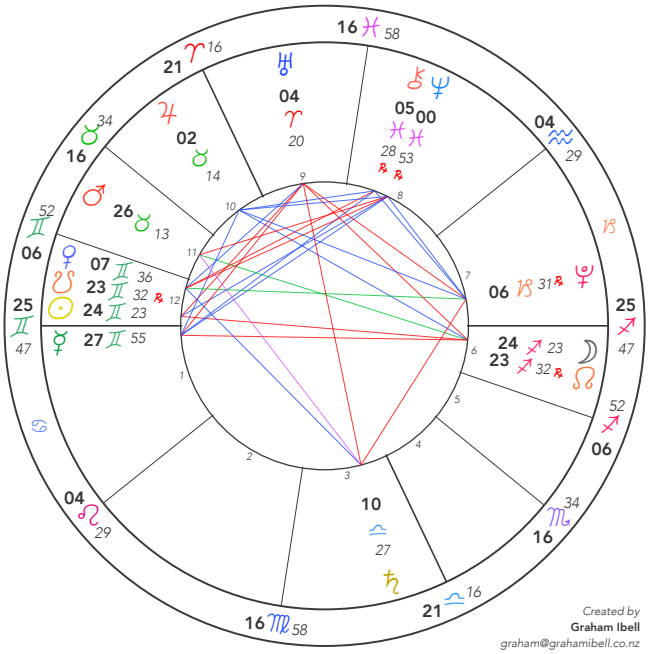


Created by
Graham Ibell
graham@grahamibell.co.nz

Note the eclipse degree falls exactly on the placement of Pluto in the chart for New Zealand explore above.

Total Lunar Eclipse 2011a

Natal Chart
Thursday, 16 June 2011
8:13:00 AM NZT
Christchurch, New Zealand
Tropical Placidus Mean Node



Created by
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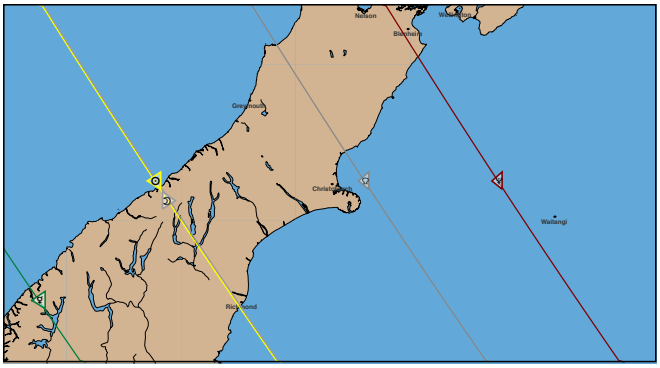
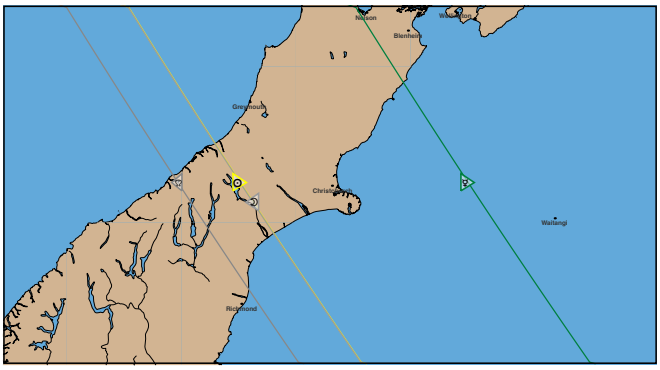
Wellington Earthquake

Total Lunar Eclipse 2010b
Natal Chart
21 December 2010
9:17:00 PM NZDT
Christchurch, New Zealand
Tropical Placidus



Total Lunar Eclipse 2011a
Natal Chart
16 June 2011
8:13:00 AM NZT
Christchurch, New Zealand
Tropical Placidus