

WELLINGTON ASTRONOMICAL SOCIETY



The 1.2m UK-Schmidt Telescope at Siding Springs Photo used
courtesy AAO

NOTE CHANGE OF DAY

MONTHLY MEETING: Stargazer

**FRIDAY 7TH MARCH 2008 7.30 PM
SCIENCE HOUSE
TURNBULL STREET
THORNDON
WELLINGTON**

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Stargazer - the past, present and future of the telescope by Fred Watson

The telescope is literally the world's most far-reaching invention. It is a time machine, allowing us to look billions of years into the past for answers to some of our most profound questions. In its 400-year history, it has progressed from a crudely fashioned tube holding a couple of spectacle lenses to colossal structures housed in space-age cathedrals, and, increasingly, to sophisticated machines surveying the Universe from space. In this entertaining and fully illustrated talk, Fred Watson relates the story of telescopes, from their earliest days to today's complex machines, and gives a sneak-peek at future telescopes - some of them only yet imagined. He also looks at the way telescopes have changed our view of the Universe, and what astronomers hope to learn with them in future. Fred will also have some of his books for sale and this is some info on them: Have you ever wondered what dark matter is, or why galaxies collide? Why is the Moon gradually drifting away from Earth? Space is really, really big, as Douglas Adams once pointed out, and there is no better guide to it than Fred Watson, astronomer to the stars. Fred has taken the many, many questions that have been asked by listeners of his popular, long-running radio shows, and answered them in **Why Is Uranus Upside Down?**

How can you identify the constellations?
Could you dump nuclear waste into the Sun?
round?

Does the Earth wobble?
What makes planets

Where's the nearest black hole?
other universes?

Are there

Can we ever know everything?

This highly entertaining and informative introduction to our planet and the Universe we live in is a must-read for enquiring minds of all ages.

About Fred Watson

Dr Fred Watson is Astronomer-in-Charge of the Anglo-Australian Observatory at Coonabarabran in central NSW, where he is responsible for the scientific output of Australia's largest optical telescope. Fred writes regularly for Sky & Space magazine and the annual Yearbook of Astronomy. His articles have also appeared in many well-known journals, including New Scientist, Sky & Telescope and Astronomy Now. Fred is a frequent broadcaster, and has a regular spot on ABC Local radio

Phoenix Society Social Gathering 29th March

The Phoenix Astronomical Society would like to invite the Wellington Astronomical Society to join us for a social gathering on the 29th March 2008 at the Stonehenge-Aotearoa site starting with BBQ at 6pm followed by an observing evening. All WAS members are encouraged to attend. It is a BYO food and drink but they will put on some extra sausages. Coffee and tea will also be provided. Anyone is welcome to bring their own telescope. If the weather doesn't cooperate we will still go ahead with the BBQ and show a movie later in the evening. Anthony Gomez and the Committee of the Phoenix Astronomical Society look forward to seeing us.



Map to Stonehenge Aotearoa

Special General Meeting: Changes to the WAS Constitution. Information supplied by John Field, President WAS

To continue to receive the tax free status of the Society our current constitution requires changes. These require the inclusion of how the Society benefits the

community highlighted in bold. To take in account of this change clauses 5 & 6 have been altered to take in an account of this change. Clause 23 has also been altered to bring the constitution in line with currents laws on the disposal of the Society's assets if the Society was to wind up. These changes are shown below, and highlighted in bold typeface. If you wish to view the current constitution it can be downloaded from WAS website: www.was.org.nz These changes require a Special General Meeting for approval, after which the updated constitution will be submitted to the Incorporated Societies and IRD for their acceptance. As all societies around New Zealand have been asked to make similar changes I hope that these changes will be accepted at the upcoming meeting.

Objects of the Society

(5) **To benefit the community** by encouraging astronomical research and skills.

(6) **To benefit the community** by promoting and holding lectures, meetings and discussions either between members of, or with, other clubs, societies or associations of a similar nature and if the Society should decide, to hold competitions or examinations and give prizes, awards, certificates or medals, and public events.

DISPOSAL OF ASSETS

23. In the event of the Society being put in liquidation the appointed liquidator shall hold the assets of the Society on trust. After payment of any costs incurred by the liquidator and payment by the liquidator of all debts and liabilities of the Society, any surplus funds and remaining assets of the Society shall be distributed to **an approved charitable trust** organisation or organisations **in New Zealand** with similar objects to the Society. Preference shall be given to such organisation or organisations as may be determined by resolution of a General Meeting of members of the Society.

WAS at the Upper Hutt Summer Carnival Saturday 23rd February by Brenda Johnston

Although there had been light rain earlier, by the time Lesley Hughes, Bill Parkin and I arrived at Trentham Memorial Park the weather was merely cloudy. We had brought the Galactic circle dobbie, my Williams Optics refractor with Vixen mount, Bill's binoculars on a tripod and Bill's laptop playing a re-run of the February 7th annular eclipse. Since it was not expected to be sunny we left the C8 at Gifford and only brought a solar filter for the dobbie. We were soon joined by Aline and John Homes who brought their Skywatcher reflector equipped with solar filter. The weather turned out to be a scorching 28°C. We trained the refractor and the binoculars onto a cell phone tower on a nearby hill and the two telescopes with solar filters onto the sun, which was completely bland and without spots. As the ground heated up I discovered that I had to gradually reduce the amount of magnification I could use with the refractor so by mid-afternoon I was using only one eyepiece – a 26mm. Consequently the object was being magnified by about the same amount in both the binoculars and my refractor. It was probably getting on for 5pm before we left to go home. Thanks to Aline and John Homes, Lesley Hughes and Bill Parkin.



Aline and two telescopes with solar filters at Upper Hutt Summer Carnival.
Photo © John Homes

NZ IYA Website - Biographies Still Needed. Information taken from RASNZ email Newsletter Number 87, 25 November 2007

Marilyn Head, RASNZ Publicity officer, is still looking for notes of upcoming events and for local biographies. The NZ International Year of Astronomy (IYA) site is up and running thanks to the sterling efforts of Roland Idacsyk at <http://www.astronomy2009.org.nz>. To make it as useful as possible we'd like it to be comprehensive so please let me know if you want any events - and that includes any from now until the end of 2009 - to be posted. A critical part is the section that deals with NZ astronomers - past, present and overseas. We would like to include as many active astronomers as we can - it should end up being the Who's Who of NZ astronomy. So we would like all individuals and societies to send me (not Roland) names and very short profiles with any relevant links to be posted. Marilyn's email address is on www.writerfind.com/mhead.htm

Upcoming Star Parties

We often post up-to-date information about upcoming star parties on the society's announcements' email group. If you'd like to join, send a blank email to: announce-subscribe@was.org.nz. There will be no star parties at either Gifford or Pauatahanui in March.

What's in the Sky in March. Information taken from the RASNZ website

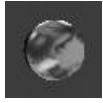
Planets



Mercury is a morning object during all of March. The best morning apparition will be 6th March when Mercury will rise nearly two and a half hours before the Sun, also there will be a triple planetary conjunction, involving Mercury, Venus and Neptune.



Venus is another morning object during March.



Mars is an evening object during March and in New Zealand, it will set about midnight (NZDT) by the end of March. During the first part of 2008 Mars will fade quite rapidly, its magnitude changing from -1.5 on January 1 to 1.5 by the beginning of June. .



Jupiter is in the constellation Sagittarius throughout 2008. It starts the year as a morning object too close to the Sun to observe. By the end of January it will become visible in the dawn sky. On the morning of February 2 in New Zealand, Jupiter and Venus will be just over half a degree apart.



Saturn is in Leo and starts the month being visible as a late evening object but becomes visible throughout the evening from mid March.

Phases of the Moon

New Moon - 8 th March - 06 15	First Quarter Moon 14 th March - 23 48	Full Moon 22 nd March - 07 40	Last Quarter 30 th March - 10 47
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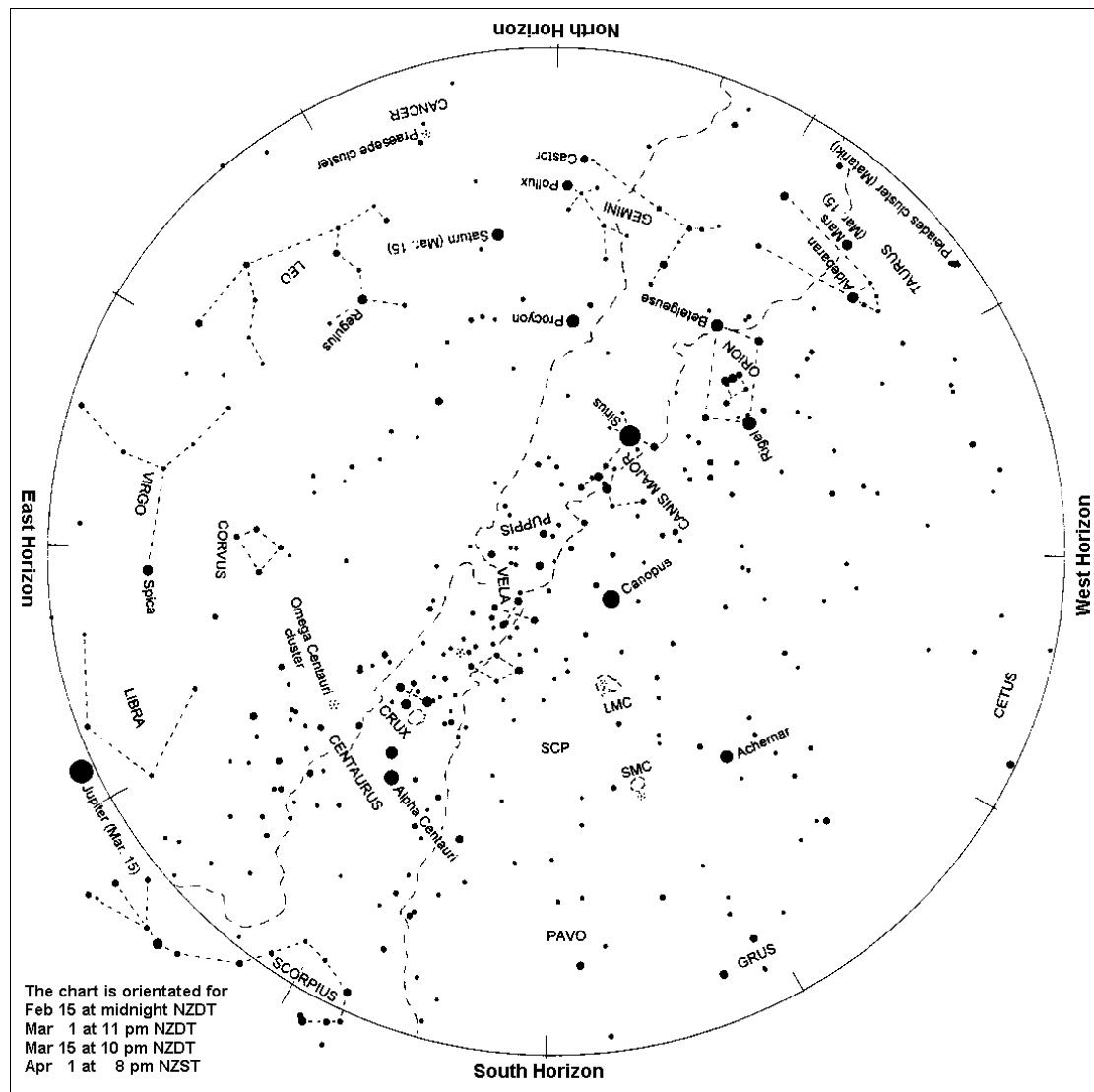
Date (NZDT) Diary of Solar System Events in March 2008 for New Zealand

March 3	25% Moon 5° from <u>Jupiter</u> . Moon also occults star Nunki, σ Sgr, magnitude 2.1 near dawn.
March 4	<u>Mercury</u> at greatest elongation 27° west of Sun.
March 6	4.5% lit crescent Moon 0.5° from Venus, 1.5° from Neptune and 2.6° from <u>Mercury</u> in the morning sky.
March 7	<u>Venus</u> , less than 40' from <u>Neptune</u> , morning sky.
March 8	New Moon at 6:14 pm NZDT (Mar 7, 17:14 UT).
March 9	<u>Uranus</u> at conjunction.
March 9 & 10	<u>Mercury</u> just over 1° from <u>Neptune</u> , morning sky.
March 11	Moon at perigee, its closest to the Earth for the Lunar month, 363303 km.
March 14	Moon at first quarter 11:46 pm NZDT (10:46 UT).
March 16	60% lit Moon 3.5° from <u>Mars</u> magnitude 0.5, evening sky.
March 19	94% lit Moon less than 3° from <u>Saturn</u> . Also the Moon, disappearing shortly before sunset, and reappearing soon after, occults Regulus, magnitude 1.4.
March 20	Southern autumnal equinox at 6:48 pm NZDT as Sun crosses celestial equator moving north.
March 22	Full Moon at 7:40 am NZDT (Mar 21, 18:40 UT).
March 23/24	97% lit Moon 3° from star Spica, magnitude 1.1, evening sky, closing in to 2° on early morning of 24th.
March 25	<u>Venus</u> and <u>Mercury</u> 1° apart, low in dawn sky.
March 27	Moon at apogee, its greatest distance from the Earth for the Lunar month, 405095 km.
March 27	73% lit Moon less than 1° from star Antares, late evening sky. At Moon rise Antares is occulted for places north of a line from New Plymouth to Dannevirke.
March 28	<u>Venus</u> , Mercury and Uranus all about 1.6° apart forming a triangle in dawn sky, with Vesta close by.
March 30	Moon at last quarter 10:47 am NZDT (Mar 29, 21:47 UT).
March 31	42% lit Moon less than 3° from <u>Jupiter</u> in morning sky.

MARCH SKY MAP TAKEN FROM THE RASNZ WEBSITE

The closure of Carter Observatory has necessitated WAS having to find another source of astronomical information. Although RASNZ will be sending us monthly star charts in future this was unable to be organised in time for the March

newsletter. Consequently the chart shows Jupiter rising in tune with Scorpio when it is actually in the morning sky. The positions for Mars and Saturn are also not exactly correct. The editor regrets this inaccuracy but hopes to be able to produce a better month in future months.



How To Use the Sky Charts

To use the sky chart hold it up to the sky so that the direction in which you are looking is at the lower edge of the map. For example, if you are looking at the western horizon then the map should be held so that the "WEST" label is at the lower edge. The altitude and direction of the stars and planets will then be correctly shown. The centre of the chart will be directly overhead. The above chart is for 21:00 NZST, but other month's charts, from previous *WAS Newsletters*, can be used at other times of the night. The table below indicates which month's chart, from back copies, can be used at other times during this month.

For this time of the night:	00 00	02 00	04 00
Use this month's charts:	Mar.	Apr.	May.

Note that although the stars will be correctly positioned, the planets will not be correct as they move against the background stars from month to month.

Diary of Astronomical Phenomena: Information taken from the RASNZ website

Sunrise/Sunset

The table gives the time of Sun rise and Sun set for Wellington. These can be used from year to year as the times will not vary by more than a minute or two on the same date from year to year. Times are for a horizon level with the observer and do not allow for hills or mountains obscuring the horizon. New Zealand Standard time (NZST) is used in the winter months and is 12 hours ahead of Universal Time (UT) which is virtually the same as Greenwich Mean Time (GMT). New Zealand Daylight Time (NZDT) is used in summer and is 13 hours ahead of UT. NZDT starts from the last Sunday in September from 2007 onwards and finishes on first Sunday in April from 2008 onwards. Previously NZDT had been between the first Sunday in October and the third in March respectively.

Date	Rise NZDT	Set NZDT
Mar 2	07:02	20:03
Mar 12	07:14	19:47
Mar 22	07:25	19:30

Moonrise and moonset tables for Wellington during March.

The times listed are in New Zealand standard time (NZST). Add one hour when New Zealand Daylight Time (NZDT) is in force throughout March.

Date	Day	Rise	Set	Date	Day	Rise	Set	Date	Day	Rise	Set
1	Sat	2335	1459	12	Wed	1126	2050	23	Sun	1843	0737
2	Sun	.....	1549	13	Thu	1244	2136	24	Mon	1906	0841
3	Mon	0034	1632	14	Fri	1355	2232	25	Tue	1932	0945
4	Tue	0138	1708	15	Sat	1456	2338	26	Wed	2004	1048
5	Wed	0246	1739	16	Sun	1544	.....	27	Thu	2042	1150
6	Thur	0357	1805	17	Mon	1623	0051	28	Fri	2127	1248
7	Fri	0509	1829	18	Tue	1654	0293	29	Sat	2221	1341
8	Sat	0621	1853	19	Wed	1719	0305	30	Sun	2322	1426
9	Sun	0735	1916	20	Thu	1741	0423	31	Mon	.....	1504
10	Mon	0851	1943	21	Fri	1802	0529				
11	Tue	1008	2013	22	Sat	1828	0634				

Don McDonald's photographs of February 7th annular eclipse



This projection of the partial annular eclipse was done at Newtown
with a pinhole mirror. Picture © Don McDonald



Note the beautiful dappled effect as multiple annular eclipse images are projected through the foliage of a pohutukawa tree onto the door. Pictures © Don McDonald



Council Contact details

COUNCIL OF THE WELLINGTON ASTRONOMICAL SOCIETY INC.

P.O.Box 3126 Wellington

Website at <http://astronomy.wellington.net.nz>

President	John Field	Ph 938-4526	john.field@paradise.net.nz
Vice-President	Vicki Irons	Ph 383-8710	vrons@was.org.nz
Newsletter Editor	Brenda Johnston	Ph 478-9008	bjohnston@was.org.nz
Trsr/mmbrship	Lesley Hughes	Ph 472-5086	hpwas@hugpar.gen.nz ,
Education/librar	Vicki Irons	Ph 383-8710	vrons@was.org.nz
y Committee	Bill Parkin	Ph 472-5086	hpwas@hugpar.gen.nz
	Marilyn Head	027 642-7093(m)	
	Edwin Rodley	Ph 389-0882	marilyn@actrix.co.nz
		Ph 463-6992(w)	edwinrod@was.org.nz
		021-124-6513	
	Diane Zemanek	Ph 237-8191	diane.zemanek@axon.co.nz

Editorial Disclaimer

Views expressed in this newsletter are not necessarily those of the Society as a whole

Thomas King Observatory

Ross Powell hopes to resume observing at the TKO when the security problems have been sorted. He will arrange one night per week. Contact Ross Powell Ph 389-9765, email rpowell@was.org.nz for more details.

2008 RASNZ Conference at Lake Tekapo Friday 23 May to Sunday 25 May 2008: Information taken from Royal Astronomical Society. Email Newsletter, Number 88, 21 January 2008

Registration forms for next year's RASNZ Conference at Lake Tekapo are now available on the RASNZ website <http://rasnz.org.nz/>. The PDF version of the registration may be downloaded, for printing and mailing with your cheque. Alternatively there is a RTF version which you may use if you prefer to pay your registration fee by bank transfer (bank transfer details are shown on the forms) and email the registration details to the conference organisers.

Registration for the Friday CCD Workshop can be made on the same forms. Early registration is encouraged particularly for the number limited workshop. All registrations should be made by April 1, particularly if assistance with arranging transport is required. The registration fee includes the costs of morning and afternoon tea on Saturday, morning tea on Sunday and lunch on Saturday and the conference CD. Sunday lunch is not included. Registration for the Friday CCD Workshop includes the costs of morning and afternoon teas, lunch and handout materials. Those attending the conference should make separate arrangements for accommodation at Lake Tekapo. Available options are included with the registration forms.

If you plan to travel via Christchurch you will need to arrange for transport for the three-hour scenic drive from Christchurch to Tekapo. The Local Organising Committee suggest that people travelling together may like to arrange car hire as listed on the registration forms. If you are travelling alone and require help with transport please BOOK EARLY and make sure you indicate on the registration form that you require assistance with travel from Christchurch. The Conference organisers will contact you with details about arranged transport. RASNZ members will receive a printed copy of the conference registration forms with the December issue of Southern Stars.

The dates of the conference are Friday 23 May to Sunday 25 May 2008. The conference organisers plan to arrange a trip to Mt John, most likely on the Sunday afternoon. Information about conference speakers is being placed on the RASNZ website as details become available. The conference will be presenting some aspects of the work at Mt John observatory, past and present. Also, in view of the prospects for a dark sky park centred on Mt John and Lake Tekapo, some emphasis on preserving dark skies. However presentations will not be limited to these topics. If you would like to present a paper on any astronomical topic please complete a submission form, available on the RASNZ website.

If you have any queries about presenting papers, or other matters relating to the conference, send an email to conference@rasnz.org.nz. Pauline and Brian Loader have booked a rented house in Tekapo village from the Thursday to the Monday of conference weekend, ie 22 to 26 May. The house can accommodate up to 11 people. The cost is \$200 per night. It is a few minutes walk from the conference venue. There is still some space available- anyone interested in sharing

accommodation at the house please contact Pauline and Brian at palbrl@clear.net.nz (phone 03 318 7659) indicating which nights you would like to stay. Obviously the more using the house, the lower the cost per person. It would be considerably cheaper than staying at the Godley Resort. If we can get, say, 8 people altogether to share costs that will bring the cost down to \$25 per person per night. You can find details about the house we have booked at http://www.holidayhouses.co.nz/Lake_Tekapo.asp and look for "Arosa Lodge".

Pauline Loader -- On behalf of the Conference Organisers