WELLINGTON ASTRONOMICAL SOCIETY

Comet McNaught Photo © John Field

MONTHLY MEETING

WEDNESDAY 14th MARCH 2007

7.30 PM

SCIENCE HOUSE

TURNBULL STREET

THORNDON

WELLINGTON

Comet McNaught by John Field.

In early January the first comet visible in the daylight sky for over 40 years appeared in our sky. Astronomers in both hemispheres were treated to the beautiful sight of Comet McNaught, We in the southern hemisphere got the best views and the best pictures! In this highly illustrated presentation John Field will explain what a comet needs to have, to be a "Great Comet", some past Great Comets, and a look at the discovery, origin, orbit and images of the Comet McNaught (including recent images taken by large telescopes). If you have any images of the comet bring them along on either CD or Memory Stick and share them us.

Request for Donation at meetings

The WAS Committee would like to request that members attending the monthly meetings consider providing a "gold coin" donation. A small donation will help to cover the hire of the room, projector, tea and coffee supplies.

Training to operate Gifford Observatory telescope.

The Gifford Observatory telescope is a fine instrument that should be used more by Wellington Astronomical society members. If more skilled operators become trained then WAS can hold star parties at this convenient city location. Those who are interested should contact Duncan Hall at 474 5350 email duncan.hall@ieee.org

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.

Galactic Circle will meet at Carter Observatory on Wednesday 21st March between 4.30 and 6.30pm. The group is coordinated by Marilyn Head ph 389-0882 email marilyn@actric.gen.nz

The Gifford Observatory star party is on Saturday 17th March. For more details contact Duncan Hall at phone 474 5350, email duncan.hall@ieee.org

The Pauatahanui Star Party will be held on Saturday March 10th. Observing will commence after dark. The Phone number at Pauatahanui is 021-102-6056.

Secondary Schools Group will meet at Carter Observatory on Monday 12th March at 4.45pm. The group is coordinated by John Field jfield@was.org.nz or phone 938-4526

Please note that mobile charges may apply when you phone some of these numbers

Editorial Disclaimer

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

Thomas King Observatory

W.A.S members are now able to use the TKO on any Tuesday night. Please let Carter staff know if you are interested in training as this can happen even on cloudy nights. The key will be kept at Carter and can be collected on the evening. Staff will ensure correct set up as well as signage for the public (by donation). There must be at least two people on site at all times. The key is to be returned to Carter unless by prior arrangement. There is a cabinet for items to be locked up. This can include, eyepieces, torches, star maps etc. There will be a table of information for customers about the Carter Observatory. Ross Powell Ph 389-9765, email rpowell@was.org.nz or Vicki Irons Ph 970-5215 email virons@was.org.nz.

Czech astronomer wants Pen pal greetings from the Czech Republic !

A few days ago I managed to find your email address when I found the web site of the WAS. The main reason of this message is, I would like to get in touch with a penpal with similar hobbies to improve my English and discuss astronomy, observing, etc.. Any reply, contact or address would be appreciated. Jan Safar email castor.pollux@centrum.cz

Wellington Vintage Machinery Club 20 Year anniversary

The Wellington Vintage Machinery Club will be holding an event to coincide with their 20th anniversary on 7th and 8th April 2007. Wellington Astronomical Society has been invited to participate. Space allocated to solar observing and astronomical displays. Further details will be in the April newsletter. Anyone interested in participation should contact Brenda Johnston ph 461-6612 (weekdays except Monday) or 4789-008 (night) email bjohnston@was.org.nz

WAS at the Upper Hutt Carnival Saturday 24th February by Ross Powell

On the 24 February, Brenda Johnston, Murray Forbes, and myself went to the Upper Hutt Carnival at Trentham, equipped with telescopes and solar filters. Many passers-by saw the sun safely through our 6-inch Dobsonian and Brenda`s 3-inch refractor, both fitted with solar filters. The Questar was aimed at distant trees. This was for many their first experience of looking through a telescope, and few had seen the sun before. We had a steady stream of visitors and were kept busy answering questions about astronomy, or listening to people`s experiences of the comet. One sunspot was visible. During the afternoon we viewed the moon with a range of coloured filters through Brenda`s refractor. This improved the contrast. Green was best, and yellow also good. Weather was generally good with just a few passing clouds. One or two membership forms were handed out. Our display of pictures by WAS members included pictures of the Pauahatanui and Thomas King observatories. All had a great time. Thanks to John Field, Gerald Griggs, Aline Homes and Don McDonald for the photographs and Graham Blow for the information on the November 12th 2005 lunar occultation of ZC 35.

Galactic Circle feature - Superstar

This month we look at the brightest, heaviest star in the Galaxy! No not Fat Albert but Eta Carina, a star that is over 4 million times brighter than our Sun and 1 hundred times heavier. How does a star get so big; is there a super- duper size McStarbucks that this star spent too long at or is just greedy? Find out how this star got so big and what will happen, or perhaps has happened, to our brightest star. Marilyn has created an awesome rap called “Supernova Rap” so come along and bring your singing voice!

February Meeting.
At the February meeting we made comet orbits, string patterns of the stars, (at which John was not very good), and made highly explosive, mucky and FUN comets! Many thanks to BOC gasses for donating the dry ice for comet making. It was great to meet four new Galactic Circle members… Welcome to the club!

Energy Efficiency - Submissions Sought. Taken from Royal Astronomical Society of New Zealand. Email Newsletter Number 78, 25 February 2007

Steve Butler seeks: Are you able to prepare a submission to help retrieve the night sky from the effects of light pollution? The Draft New Zealand Energy Efficiency and Conservation Strategy are now in submissions stage. This strategy is called "Making it Happen". The strategy is the Government's proposal for an action plan to cut energy waste, help every New Zealander save money, use energy more efficiently and improve our health and comfort. The strategy is a 72 page PDF document, available on the web .http://www.eeca.govt.nz/about/national-strategy/release-of-draft-nzeecs.

A key statement in this draft strategy is "There is increasing recognition that New Zealand cannot continue to use energy in the way it has done in the past. It is time for a concerted effort to reduce wastage."Some of the questions asked for submitters to answer: How can local government and non-government agencies work with central government to improve the uptake of energy efficiency and renewable energy? What is needed to enable this to happen? Are there other targets we should be using for the electricity sector, e.g. a low-carbon electricity system target? Are there any big opportunities that have been overlooked in this draft? I will prepare a submission on behalf of the RASNZ Dark Skies Group. Feel free to send me comments. For your own submission, base it on your situation, pointing out how wasteful lighting impacts on your activities. I feel our main message is that energy savings can be made if lighting is directed only where it is needed. Lower wattage lamps can be used if waste is eliminated.

Please send your submission to:
Draft Strategy Submissions
Energy Efficiency and Conservation Authority
PO Box 388
Wellington

Or email it to: feedback@eeca.govt.nz You may also make a submission via the EECA website, www.eeca.govt.nz Your submission must be received by the Energy Efficiency and Conservation Authority (EECA) by 5pm Friday 30 March 2007.If you do send in a submission please let me know so I can get some idea of the support we have. Thanks for your help.
Steve Butler, RASNZ Dark Skies: http://rasnz.org.nz/darkskies/New Zealand Urban Design

What's in the Sky in March: Information provided by Carter Observatory

March is an excellent month for viewing the planets. All the 5 major planets, Mercury, Venus, Mars, Jupiter and Saturn will be visible for all of the month.

Venus will be visible in the evening twilight sky. At the start of the month it sets at 21 15 and at 19 41* by month's end. Venus starts the month in the constellation of Pisces, moving into Aries on March 18. Its magnitude is a constant –4.0 during March.

Saturn will be visible for the first three quarters of the night. At the start of the month it sets at 05 26 and at 02 19* by month's end. Saturn is in the constellation of Leo, in which it remains until September 2009. Its magnitude slightly fades from 0.0 to 0.2 during the month.

Jupiter will be visible for the last two thirds of the night in March. At the start of the month it rises at 00 29 and at 21 35* by month's end. Jupiter is in the constellation of Ophiuchus, in which it remains until 2007 December. Its magnitude increases from –2.0 to –2.3 during the month.

Mars will be visible for the last quarter of the night. At the start of the month it rises at 03 46 and at 02 45* by month's end. Mars is in the constellation of Capricornus. Its magnitude slightly increases from 1.3 to 1.1 during the month.

Mercury is visible in the morning sky. At the start of the month it rises at 06 12, at 05 02 by March 17, by 04 02* by March 18 and at 04 19* by month's end. Mercury starts the month in the constellation of Capricornus, moving into Aquarius on March 16. Its magnitude rapidly brightens in the month from 2.6 to 0.1.

All times are for Wellington unless otherwise stated. Other centres may vary by a few minutes. *Time corrected for the change from New Zealand Daylight Time (NZDT) to New Zealand Standard Time (NZST).

Phases of the Moon
Full Moon – March 4 at 12 17. Last Quarter – March 12 at 16 54.
New Moon – March 19 at 14 43 First Quarter – March 26 at 06 16.

New Zealand Daylight Time Ends

Time changes from New Zealand Daylight Time (NZDT) to New Zealand Standard Time (NZST) on the morning of Sunday, March 18, at 02:00. Clocks and watches need to be put back by one hour so we will then be 12 hours ahead of Universal Time (UT). It means we get an extra hour in bed on the Saturday night, but unfortunately the light evenings are shorter.

Autumnal Equinox
The Southern Hemisphere Autumnal Equinox occurs on March 21 at 12:07. This is when the Sun moves from the Southern Hemisphere into the Northern Hemisphere.

Meteor Showers
A weak shower, the gamma Normids, is active from February 25 to March 22 (with maximum activity about March 14 when 8 meteors per hour can be expected). The radiant is at R.A. 16h36m and Dec. -51°. Average meteor magnitude is 2.4. The radiant is in the constellation of Normae. There is no convenient bright star at this point. So draw an imaginary line from the Acrux (alpha Crucis), the bottom and brightest star in the Southern Cross to Rigil Kentaurus (alpha Centauri), the brighter star of the two pointers. Continue the line for about the same distance between the two stars to be approximately at the radiant point. This radiant point is visible for the whole of the night although is very low in the southern evening sky.

The beta Pavonids shower is active from March 11 to April 16, with peak activity in early April when about 13 meteors per hour, averaging magnitude 2.6, can be expected. The radiant is at R.A. 20h32m and Dec. -63°. The radiant is in the constellation of Pavonis, near to alpha Pavonis (the "Peacock Star"), which is visible for the whole of the night.

Another shower, the alpha Scorpids is active between March 26 and May 12 (with maximum activity of about 10 meteors per hour on May 03). The radiant position is R.A. 16h00m and Dec. -27°. The radiant is in the constellation of Scorpii, near to Antares (alpha Scorpii), which is visible for all but the beginning of the night.

Diary of Astronomical Phenomena: Information provided by Carter Observatory

Mar 4	Full Moon at 12 17.
7	Moon at apogee (furthest from the Earth) at 17:00 (Distance = 0.0027130 AU = 405,860 km).
7	Mercury stationary against the background stars at 23 00, as its motion changes from a Westerly to an Easterly direction.
19	New Moon at 14 43.
20	Moon at perigee (closest to the Earth) at 07:00. (Distance = 0.0023918 AU = 357,810 km).
21	Autumnal Equinox at 12 07.
22	Mercury at greatest Westerly elongation from the Sun (28°) at 14 00.

Sunrise/Sunset

On the next page are Sunrise and Sunset times for each Monday of the month for Wellington. The table also gives the time of Transit (Trans), the maximum Altitude (Alt) and the Azimuth (Az).

The time of transit is when the Sun crosses the local North-South meridian from East to West. At the time of transit, shadows will point South. The transit time is also the time at which the Sun is at its maximum altitude (Alt). Assuming your horizon is at sea level, the Azimuth is the position on the horizon where the Sun rises or sets. The angle is measured from true North (not magnetic North), towards the East for Sunrise and towards the West for Sunset. An azimuth of 90°, for Sunrise, means the Sun rises exactly in the East and for Sunset the Sun sets exactly in the West.

For azimuths less than 90°, the Sun rises to the North of East and sets to the North of West (Winter months). For azimuths greater than 90°, the Sun rises to the South of East and sets to the South of West (Summer months). Other New Zealand centres may differ slightly from Wellington.

Date	Rise	Set	Trans	Alt	Az
Mar	H M	H M	H M	°	°
5	07 06	19 59	13 32	55	98
12	07 14	19 47	13 31	52	95
19	06 22	18 36	12 29	49	91
26	06 29	18 24	12 27	47	87

Moonrise/Moonset

The table alongside gives the Moonrise and Moonset times for Wellington for the month. Sun differences between Auckland, Wellington, Christchurch and Dunedin bear little resemblance to the Moon differences because of the Moon's declination) it is not possible to estinmate the difference by consulting the surnise and Sunset tables. Consequently the times for othercentres may deviate by up to 30 minutes

We include the Azimuth (Az) that the Moon rises and sets on the horizon. It assumes your horizon is sea level. Azimuth is measured in degrees from True North (not Magnetic North) either towards East or West depending on whether it is for Moonrise or Moonset.So for an Azimuth of 90°, the Moon will rise exactly in the East and set exactly in the West. For Azimuths less than 90°, the Moon will rise to the North of East and set to the North of West. Similarly, for Azimuths greater than 90°, the Moon will rise to the South of East and set to the South of West.

Date	Rise	Az	Set	Date	Rise	Az	Set
Mar	H M	°	H M	Mar	H M	°	H M
1	18 57	62	03 38	**16**	03 07	120	18 10
2	19 23	69	04 46	**17**	04 25	112	18 39
3	19 45	76	05 52	**18**	04 44	103	18 05
4	20 04	84	06 55	**19**	06 02	93	18 29
5	20 22	92	07 56	**20**	07 21	83	18 54
6	20 41	99	08 57	**21**	08 42	73	19 21
7	21 00	106	09 57	**22**	10 03	65	19 53
8	21 22	114	10 59	**23**	11 23	57	20 32
9	21 47	120	12 01	**24**	12 40	53	21 20
10	22 18	125	13 06	**25**	13 47	51	22 18
11	22 56	128	14 09	**26**	14 42	52	23 22
12	23 44	130	15 11	**27**	15 26	56	-- --
13	-- --	128	16 07	**28**	16 01	60	00 31
14	00 44	129	16 56	**29**	16 28	67	01 38
15	01 52	126	17 37	**30**	16 51	74	02 44
				31	17 11	82	03 47

Accurate Sunrise/set and Moonris e in
the World, are available from Cart sky
of the Sun and Moon (or planets) Sun
or Moon, can also be supplied. Th
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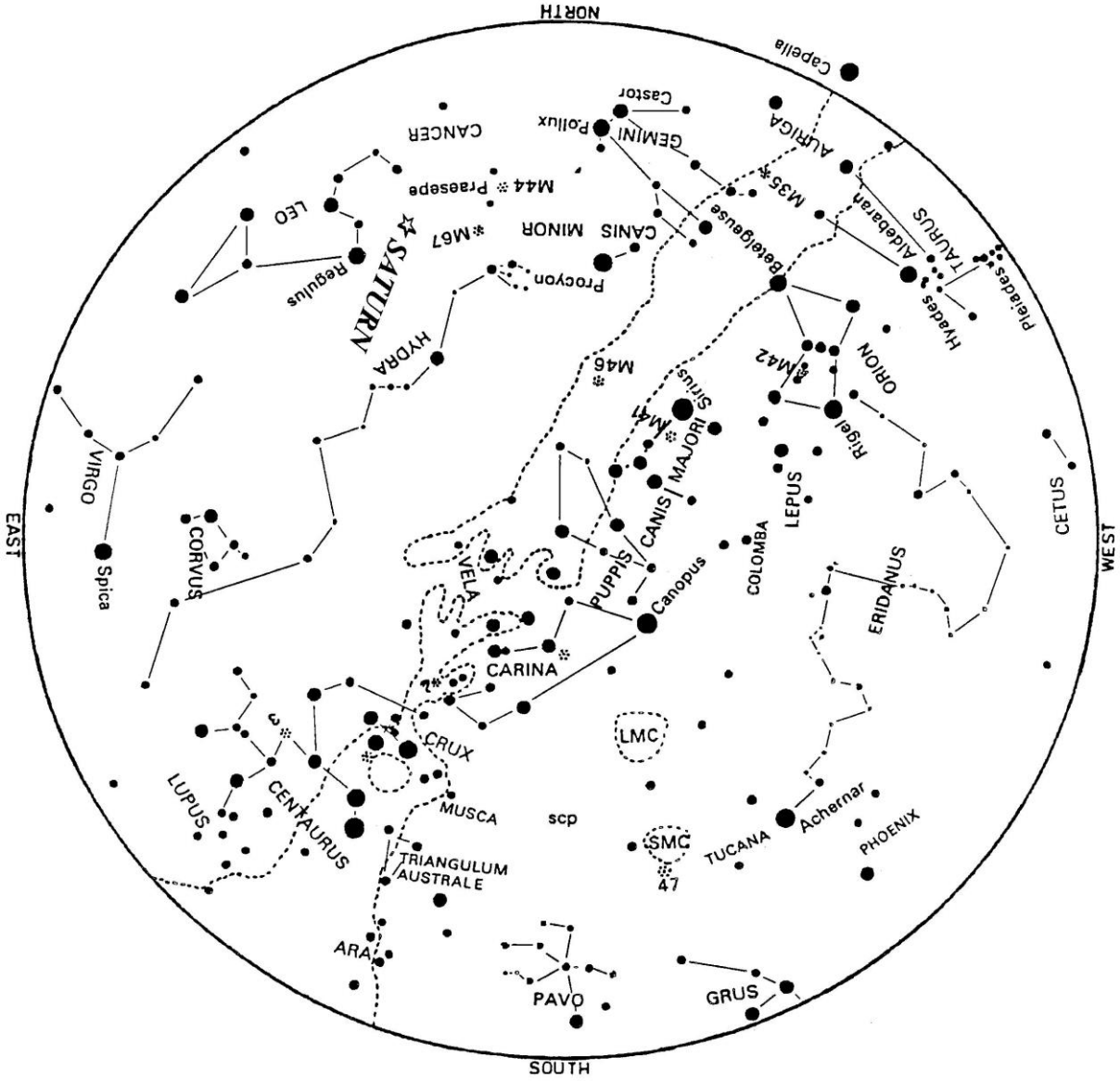
SKY MAP PROVIDED BY CARTER OBSERVATORY

This chart shows the sky as it appears at about 22:00 for March (21:00 after March 17).



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 22:00 NZDT, 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:	20:00 (19:00)	00:00 (23:00)	02:00 (01:00)	04:00 (03:00)	06:00 (05:00)
Use this month’s charts:	Feb.	Apr.	May.	Jun.	Jul.

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.