

# Newsletter

WELLINGTON ASTRONOMICAL SOCIETY

November 2011, Volume 41, Number 10, [www.was.org.nz](http://www.was.org.nz)  
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Wednesday, 2<sup>nd</sup> of November,  
7:30 PM at Carter Observatory



THIS  
MONTH'S  
MEETING  
FEATURES

# SPACE STAMPS



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with Gary Sparks

President of the  
Hawkes Bay Astronomical Society



11-2011



Wellington  
Astronomical  
Society



## Notice of Annual General Meeting

The AGM of WAS will be held at 7:30 pm on Wednesday 2nd November 2011 at Carter Observatory, Kelburn, Wellington.

### Agenda

- Apologies
- Minutes of 2010 AGM
- President's Report
- Financial Report
- Election of Auditor
- Election of Council
- Election of Life Member
- General Business

**Motion:** *That the ownership of the WAS Dollond Telescope be passed over to Carter Observatory.*

### Third International Starlight Conference

The Royal Astronomical Society of New Zealand along with the University of Canterbury are organising and hosting the Third International Starlight Conference. This conference will be held in Tekapo from the 11th to the 13th of June 2012.

The conference will be a multi-disciplinary meeting, and contributions will be welcome that not only include scientific and technical aspects of starlight, but also on themes which are educational, cultural, environmental, aesthetic, legal or political. It is hoped to include astro-tourism, Maori astronomy and public outreach through star-gazing. The relationship between stars and the ecology of the nocturnal biosphere will also be discussed.

See <http://starlight2012.org/> and <http://www.starlight2007.net/> for further details.

**THIRD INTERNATIONAL STARLIGHT CONFERENCE**  
IN DEFENCE OF THE QUALITY OF THE NIGHT SKY AND THE RIGHT TO OBSERVE THE STARS  
11, 12 AND 13 JUNE 2012 - LAKE TEKAPO, NEW ZEALAND

### New WAS Council for 2011-12

Nominations for WAS council were received by the deadline of October 11th and 9 people had been nominated for all the available positions.

They are:

**President:** John Talbot;  
**Vice president:** Gordon Hudson;

**Secretary:** Chris Monigatti;  
**Treasurer:** Lesley Hughes;

### Councillors:

Frank Andrews,  
John Homes,  
Aline Homes,  
Bill Parkin;  
Roger Butland.

As this was the number required for council all those mentioned are elected as the new Council for 2012. As all positions have been filled there will be no nominations from the floor. However there is room for council to co-opt another member if required.

John Homes will remain as Web Master. Vicki Irons will be the Newsletter Editor but not on council.

### OBSERVING AT PAUATAHANUI

Novembers observing at Pauatahanui will be on the 19th with a back up day on the 26th November starting at 8pm. If doubtful please ring Chris Monigatti on his mobile 021 890 222 to see if the session is going ahead.

## COUNCIL OF THE WELLINGTON ASTRONOMICAL SOCIETY INC.

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## Presidents Report for November

At the November meeting there will be two important items that will need to be discussed.

**One is the election of another Life Member and the second is the transfer of ownership of the WAS Dollond Telescope over to Carter Observatory.**

The Dollond telescope sits in a box at Carter Observatory and few members know of it and the fact that it is an historical telescope and perhaps should be displayed. WAS has nowhere it can display this except at Carter Observatory so it may as well be owned by Carter Observatory.

This is a decision that has to be made by the General membership.

**The future placement of the Pauatahanui Observatory still has not been decided however a recommendation by the council would like to see it moved to a school and therefore we would ask the general membership to vote on the likely removal of the observatory from Pauatahanui to a local school.**

On October the 8th at Tawa College WAS "Observed the Moon Day" - an International programme celebrated this year as part of the World Space Week 2011. The weather was not good on the day with heavy cloud and the Moon could only be seen through the cloud.

Also part of the World Space Week was the Hubble IMAX film showing at our meeting on October 5th which was well attended by 75 people, about half who were general public. This film was a first in New Zealand due to license restrictions. The film was spectacular and enjoyed by everyone.

Unfortunately because of Carter safety requirements I was unable to see the

film as I along with Haritina had to man the front desk while the film was running. From 6pm till 8pm the front desk was run by Lesley Hughes and Bill Parkin and then I took over.

**The November meeting will be the WAS AGM and our speaker for this evening will be Gary Sparks from Napier who will be showing us and telling us stories about his Space Stamp Collection**

Gary is the President of the Hawkes Bay Astronomical Society and he runs the Holt Planetarium at Napier Boys High School. This Planetarium is the same as the one that Carter Observatory had which has been sold onto the Northland Astronomical Society and should be opening in the New Year.

Volunteers are still required for assisting at the Carter Cooke telescope on Saturday Nights so if you haven't done so this is your opportunity to help and learn more about observing at Carter.

Put your name down at the next meeting or email the president.



## October 2011 Crossword answers

### Across

3. LMC, could be mistaken for a cloud;
6. HALLEYS COMET, an omen leading to the Battle of Hastings (1066);
10. NOON, mid-day; 11. IO, One of the Galilean satellites; 12. SOLSTICE, the longest day;
14. GALAXY, Andromeda is one;
15. HALO, angels and galaxies both have one;
16. NEAP, tide; 17. SMC, satellite galaxy to the Milky Way; 18. SOHO, satellite observatory studying the Sun; 20. MASS, I weight 6 times less on the Moon, but still have the same ???;
22. VEGA, alpha Lyr; 23. BINARY, a double star;
25. LGM, acronym for aliens; 26. NASA, space agency; 28. CHARON, Pluto's Moon;
29. SUNSPOT, A darker patch on the Sun's surface;
32. ION, an arrested atom; 35. WEST, the Sun sets in this direction;
38. BAR, some spiral galaxies have one; 39. LEO, A lion circling the Earth;
40. COLLIMATION, to align optics accurately;
41. STEADYSTATE, cosmological theory proposed by Fred Hoyle; 44. MARS, God of war;
47. ORION, the hunter; 50. ICE, frozen liquid;
51. COMET, Encke is one; 52. EMISSION, some is in (anagram); 53. DUST, obscures centre of our galaxy; 54. REFLECTION, a mirror will do this to light; 56. CHAOS, Maxwell Smart's nemesis;
58. SAGITTARIUSA, radio source at the centre of the Milky Way;

### Down

1. EARTH, Tellus; 2. PHOTON, light particle;
4. MINORPLANET, asteroid; 5. SOUTH, shout (anagram); 7. ATOM, smallest indivisible piece of a element; 8. SAGAN, astronomy popularizer; 9. TIDE, "... and time wait for no man"; 13. CLEMENTINE, recent lunar surveyor; 14. GAMMARAY, very high energy particle; 19. HORSEHEAD, a nebula;
21. PLASMA, fully ionised gaseous state of matter;
24. NUTATION, a wobble in a planet's polar axis;
27. SUPERNOVA, can be used to indicate distance to a galaxy; 28. CONSTELLATIONS, lions act stolen (anagram); 30. NADIR, opposite to zenith;
31. POLAR, ... bear; 33. GRAVITY, caused by mass (Newtonian viewpoint); 34. KIWI, New Zealander; 36. PLUTO, a Disney character;
37. MATARIKI, signals it's time to start spring planting of kumera; 42. DESDEMONA, small satellite of Uranus, also one of Shakespeare's characters; 43. EUGENIA, asteroid with its own moon; 44. MERCURY, quick-silver planet;
45. ZODIAC, also a small inflated rubber boat;
46. UFO, flying saucer; 48. VENUS, a very cloudy planet; 49. PAULI, predicted the neutrino;
55. GAS, solid, liquid or ...; 57. HST, an orbiting telescope;



## **WAS ANNUAL REPORT for 2011**

The move into Carter Observatory for WAS this year has had, and will continue to have big gains for the Society especially with finances but we also have access to other events that Carter runs but one place we do not have access to is the Planetarium. Following is a copy of the agreement that the WAS council signed in August 2011.

### **MOU between Wellington Astronomical Society and Carter Observatory**

Carter Observatory welcomes the opportunity to host Wellington Astronomical Society (WAS) monthly public meetings. This Memorandum Of Understanding details the agreement between Carter Observatory and WAS. It enables WAS to use Carter for their meetings under the following framework, gratis, and by prior arrangement.

Namely that:

All WAS meeting dates and times must be booked at least 4 months in advance. Carter and WAS honour the times/ dates booked for meetings as agreed by WAS President and Carter team. WAS will give Carter Observatory reasonable notice of any cancellation.

WAS will observe Carter's health and safety framework - and in particular, note and abide by Carter's fire and evacuation and lone working policies.

WAS will not use Carter for commercial activities.

A WAS member who is a Carter-approved key holder will open

and close the building securely for each session. Carter-approved key holders are Gordon Hudson; John Field; Vicki Irons. If this is not possible, WAS will pay for a Carter Observatory Front of House supervisor to open and close the building, and act as fire warden throughout the session.

WAS will set up the room and leave it in the way that Carter requires it for use the following day. This includes any/all of Carter's AV equipment used by WAS.

All rooms used will be left hygienically clean and tidy, and ready for use by corporate and education guests the following day.

Any costs due to damage, breakages, cleaning, and security calls due to alarm activation by WAS members/keyholder will be met by WAS.

WAS members will only use the OMV Exploration Room, kitchen and toilets, and not use the exhibition, the telescopes, and the Pelorus Trust Planetarium.

WAS will provide Carter with volunteers for weekly telescope viewing, star parties and other special events, as a 'quid pro quo' for free use of the room.

WAS Council agrees to the Terms & Conditions as laid out above.

Council agreed to this MOU agreement in August 2011.

Because WAS hold their meetings at Carter under this agreement it saves us approx \$1000 per year in hiring another venue. We only need to assist Carter in running the Telescope regularly on Saturday evenings which is a small price to pay.

One of the Special events we ran was the Hubble IMax film we showed - in October as part of the International Space Week where the WAS meeting happens to fall in the middle of Space Week. This was run in conjunction with Carter Observatory. Unfortunately this meant we had to postpone our speaker Professor Matt Visser for that meeting. However we will have Matt back next year.

The newsletter is now becoming manageable with most people now receiving the newsletter by email. This has a lot of advantages for us in that it is cheaper and more convenient. If we are to print and post newsletters someone has to pick it up from the printer fold and put into envelopes put a stamp on it and take it to the Post Office. Someone also has to print out the names on envelopes. They have to be picked up by the person doing the posting. Then we have to buy envelopes. The saving by not having to do this is considerable also the time involved.

You may well ask if we are saving so much money where is it all going. This will be answered by our Treasurer who will show you where the money comes and goes with his Annual Financial Report. John Talbot has done a lot of investigation into the WAS accounts.

I am disappointed with the number of volunteers we get for assisting with the Carter Observing on Saturday nights with the same eight helping out each observing evening. Remember we are doing this as our repayment for the use of Carter Observatory for our meetings.





### **Attendance Record**

This year we have had 16 new members join the society.

Unfortunately we have had 11 either resigned or lapsed in paying subs.

Total number of paid up members is 79.

Average number of members attending meetings as about 30.

### **WAS Research Group**

The group held monthly meeting an hour before the main meeting each month with an average attendance of 10 members but we have had up to 15 attending. This is a very informative group where members tell us about what they are doing in the research field and John informs us of upcoming events in the occultation sector while Aline tells us of events to observe and report on other events in the Variable Star sector. John Field is starting up as group of DSLR observers with everyday cameras.

Murray Forbes is teaching us Variable Star Research and analysis.

Progress has been slow in regards to the possible moving of our observatory at Pauatahanui but it is something I and the council would like to have resolved this summer. The observatory does not get anywhere the amount of use that perhaps it should and if the moving of it to Tawa College goes ahead I know it will get a lot more use. Several members have already mentioned this to me.

Pauatahanui is a reasonably dark sky but is not very accessible unless you have a vehicle also there are no facilities there at all.

The ST7 Camera that is owned by WAS and is in my care and use - well it was in use until it developed a fault about a month ago.

The computer could not connect to the camera for some reason. Roger Butland brought his computer around which is running the same software but a later version but that would not connect to the camera. The camera has gone to our Electronic expert John Priestly in Waitara to see if he can sort it out. An email to SBig in the USA can only suggest that we reinstall the Drivers. However they do say that there are parts still available for that camera.

### **WAS Equipment**

WAS owns 7 dobsonian telescopes plus one old C8 plus the ST7 CCD Camera plus the Observatory at Pauatahanui. Haritina is using the WAS Questar telescope and the WAS occultation timing equipment is up at Carter Observatory to be used at the Ruth Crisp Boller & Chivens telescope.

The Dobsonians are all out on loan and we try to rotate them as often as we can. If someone wants to borrow



The Dollond Telescope

one of the Dobsonians they should contact the secretary.

The Dollond telescope will be passed on to Carter Observatory.

The Tony Dodson telescope is in pieces in my workshop and is to be rebuilt but we need a new plastic tube for this 8" Newtonian telescope.

### **November 2010**

The new WAS council was elected and looked very much like the previous council

David MacLennan was our speaker for our last AGM and his talk was Next Steps in Mars Exploration. November observing was cancelled because of cloud.

### **December 2010**

Frank Andrews presented his well run talk The Star of Bethlehem only this time the talk was on DVD whereas last



year it was on an overhead projector so this time there was a lot more images.

Observing at Pautahanui was clouded out yet again. The observatory does not

get much use with cloud nearly every month. The barbecue set down for Dec 11th was rained out and cancelled.

Even the Lunar Eclipse on Dec 21st was clouded out.



### **February 2011**

We do not have a meeting in January so at our first meeting of the year we showed a DVD from Chris Monigatti's collection: Palomar The building of the Observatory this was a fascinating film and quite long at 1hr 26min. Both observing evenings set down for the 5th & 12th of Feb were clouded out and cancelled.

### **March 2011**

Haritina our newsletter editor travelled to the Utah Desert in February to attend the Mars Desert Research Station and live for two weeks in a Mars simulation environment. She presented to us her time and travels of this event and the Research she was involved in this Mars like station.

The observing at Pauatahanui had the first night the 5th March cancelled because of cloud but the following week of the 12th March was clear but only a couple of people showed up.

### **April 2011 Global Astronomy Month**

Roland Idaczyk was our presenter for this month's talk called Our Changing View of Saturn this talk had two parts to it the first part outlined important Milestones in the history of observing the planet and the second focussed on the ring system with some of the more recent discoveries. Great talk.

Roland also presented this talk to Tawa College on Saturday 2nd this consisted with the event Saturn Watch. The following Saturday the 9th was Global Star Party Night and Haritina presented her talk 'Can Kiwis help Colonise Mars' this was also at Tawa College.

Stargazers Astro Camp was held on the 8th 9th & 10th at Tatum Park near Levin. The Friday and Saturday

were both clear days and nights. Many talks were presented to the 30 people attending several of which were WAS members. Hari and I had to leave Tatum Park early for her talk at Tawa College before we went into Hari's talk we watched the ISS pass overhead.

Pauatahanui Observing was again clouded out.

### **May 2011**

This month we ran another of Chris's DVD's this one Telescope Hunting the Edge of Space this proved to be a very popular meeting with a large number of members turning up.

Even the observing at Pauatahanui was most successful with 10 people turning up.

The RASNZ conference was held in Napier on 27th to 30th May and this was the most successful conference we have attended for many years with many of our member attending.

### **June 2011**

Peter Read the People's Astronomer was the topic for this month which Gordon Hudson presented this was a stretched out version of the RASNZ presentation I did at Napier at the end of last month. Observing was again cancelled on both nights because of cloud.

### **July 2011**

Lunar & Matariki Calendar was the title of Frank's presentation which was most informative. The Lunar Calendar looked at the Origin to measure Time and then how it harmonised with the Solar Calendar. Matariki was an example of the process.

Both observing evenings were clouded out.

### **August 2011**

The Square Kilometre Array was this month's talk by Dr Melanie Johnston-

Hollitt from Victoria University. She did her PhD in radio astronomy at CSIRO and ATNF in Australia. This talk created a lot of interest especially where a decision is about to be decided as to whether NZ will be a partner in this venture. The observing this month was clear - and a number of our members turned up at the Pauatahanui observing site. This month we also had a snow storm the first in the Wellington area since 1995. Looked great but was very cold.

### **September 2011**

This month we ran another of Chris's DVD's this one The Journey to the Edge of the Universe - The Ultimate Cosmic Journey. Again this was very popular with a good turnout of members.

Pauatahanui was again clouded out on both nights.

### **October 2011**

This month was World Space Week and the WAS was asked by Carter Observatory if it would run the special Hubble IMax film as our meeting fell in the middle of World Space Week.

We agreed to do this but it meant having to cancel our scheduled speaker Professor Matt Visser.

The film was spectacular and well attended with 75 people many of whom were general public.

Observing was cancelled again this month because of cloud.

### **November 2011**

This month Gary Sparks will present his talk on Space Stamps and his commitment to collecting such a fantastic collection. Gary comes to us from Napier where he runs the Holt Planetarium at the Napier Boys High

School and he is also president of the Hawkes Bay Astronomical Society.

**Acknowledgements**

I would like to thank the out-going committee for their help and support for the last year although the next committee looks similar.

Thank you Ross for running the Thomas King Observatory on Friday evenings when you were available and our secretary. Unfortunately Ross resigned as secretary in July.

I would like to thank the volunteers who help each Saturday evening to run the 9.75” Cooke Refractor at Carter and I hope this will continue.

Thank you Murray for the great Crossword you supply to us each month.

Chris Monigatti has been running the Pauatahanui observatory when we have fine weather for the events which was not very often, thanks for doing that.

John Homes who has been looking after the Web page.

John Talbot who is our most accomplished treasurer and John mostly runs the Research Group meetings which I assist with.

Thank you to Bill & Lesley for looking after the supper every month.

A big thank you to Haritina for putting together the newsletter each month and making such a wonderful job of it.

*Gordon Hudson*  
President 2011

**Financial Report (Unaudited)**

A full copy of the financial report is available on the WAS web site at <http://was.org.nz/01join.html>

The following is an abbreviated unaudited statement.

Wellington Astronomical Society Incorporated For year ended 31 August 2010			
INCOME:	2011	2010	
Total Income	\$3,861	\$5,421	
EXPENDITURE:			
Depreciation	\$ 2,484	\$ 2,341	
Operating costs	\$ 1,597	\$ 3,864	
Total Expenditure	\$4,081	\$6,204	
Net Surplus/(Deficit)	(\$220)	(\$783)	

Statement of Movement in Members Funds			
	2011	2010	
Members Funds Opening Balance	\$ 20,302	\$ 21,085	
Net Surplus/(Deficit)	(\$ 220)	(\$ 783)	
Members Funds Closing Balance	\$20,082	\$20,302	

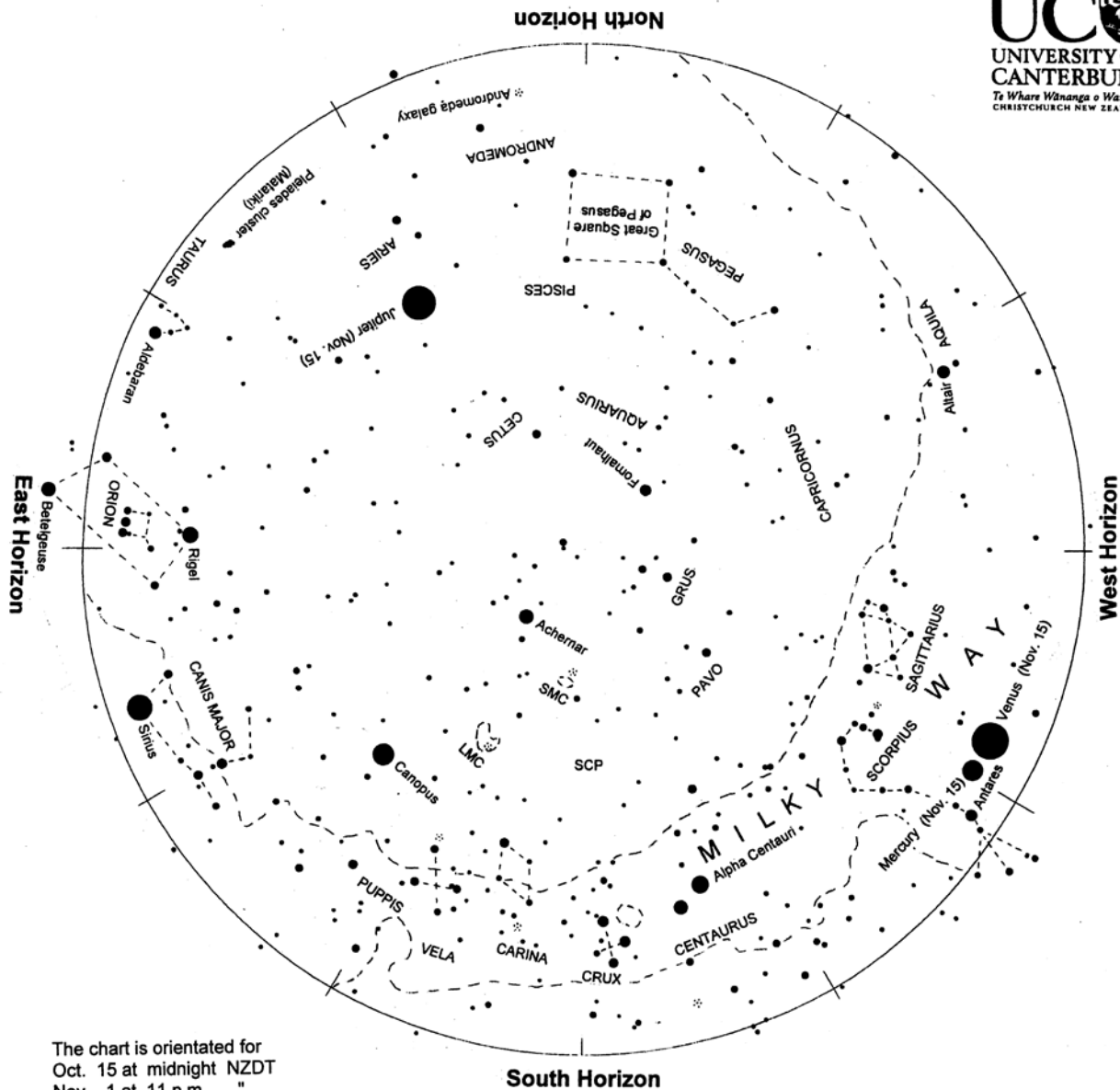
Bank Accounts			
	2011	2010	
Cheque	\$ 4,031	\$ 2,121	
Simple Saver	\$ 5,238	\$ 5,096	
Total	\$9,269	\$7,217	

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The chart is orientated for  
 Oct. 15 at midnight NZDT  
 Nov. 1 at 11 p.m. "  
 Nov. 15 at 10 p.m. "

### Evening sky in November 2011

To use the chart, hold it up to the sky. Turn the chart so the direction you are looking is at the bottom of the chart. If you are looking to the south then have 'South horizon' at the lower edge. As the earth turns the sky appears to rotate clockwise around the south celestial pole (SCP on the chart). Stars rise in the east and set in the west, just like the sun. The sky makes a small extra clockwise rotation each night as we orbit the sun.

Venus appears in the southwest soon after sunset and sets two hours later. Mercury is near Venus for the first half of the month. Jupiter is midway up the northeast sky at dusk, shining with a steady golden light. It is due north at midnight and sets around 5 a.m. The Milky Way is wrapped around the horizon. It is low in the west and south sky early in the night. As the western portion sets the eastern part comes into view. Along with it rise Sirius, the brightest star, twinkling like a diamond, Orion (containing 'The Pot'), Taurus and the Pleiades/Matariki star cluster. The Pointers and Crux, the Southern Cross, are low in the south. The north sky is empty but for the Great Square of Pegasus with the Andromeda galaxy nearby.

Chart produced by Guide 8 software; [www.projectpluto.com](http://www.projectpluto.com). Labels and text added by Alan Gilmore, Mt John Observatory of the University of Canterbury, P.O. Box 56, Lake Tekapo 7945, New Zealand. [www.canterbury.ac.nz](http://www.canterbury.ac.nz)





## The Evening Sky in November 2011



Brilliant silver Venus appears in the southwest soon after sunset and sets about two hours later. Mercury is above and left of Venus till mid month. Then it slides into the twilight as it passes between Earth and Sun. Neither planet is impressive in a telescope. Mercury is always small. So is Venus for several more months as it is on the far side of the sun. Now it is 230 million km from us.

Venus and Mercury pass by orange Antares in the second week of November. Antares marks the heart of Scorpius. The scorpion's tail points up toward the zenith, like a back-to-front question mark. The tail is 'the fish-hook of Maui' in Maori star lore.

Jupiter appears in the northeast soon after sunset, shining with a steady golden light. Binoculars and small telescopes will show Jupiter's brightest moons on either side of the planet, swapping sides from night to night. Jupiter is around 600 million km away from us now. There is an old unreliable rule that stars twinkle and planets don't. It works for Jupiter. The planet's disk blurs the air's twinkling effect.

Canopus, in the southeast, is the second brightest star in the sky. It moves eastward and upward during the night as the stars appear to circle clockwise around the south celestial pole, SCP.

Canopus is 300 light years\* away. Seen up close it would be 13 000 times brighter than the sun.

Sirius rises in the east around dusk. When low in the sky it is shining through a lot of air. The air breaks

its white light into colours so Sirius twinkles like a diamond. It is the brightest star both because it is relatively close, nine light years away, and 23 times brighter than the sun.

Left of Sirius in the late evening is the constellation of Orion, with 'The Pot' at its centre. Rigel, a bluish supergiant star, is directly above the line of three stars; Betelgeuse, a red-giant star, is straight below. Left again is orange Aldebaran. It is at one tip of a triangular group called the Hyades cluster. The Hyades and Aldebaran make the upside down face of Taurus the bull. Still further left is the Pleiades or Matariki star cluster, also called the Seven Sisters, Subaru and many other names. Six stars are visible to the eye; dozens are seen in binoculars.

The Milky Way is low in the sky, visible around the horizon from the northwest, through south into the eastern sky. The broadest, brightest part is in Sagittarius, to the right of the Scorpion's sting. The Milky Way is our edgewise view of the galaxy, the pancake of billions of stars of which the sun is just one. The thick hub of the galaxy is 30 000 light years away in the direction of Sagittarius.

Low in the south are the Pointers, Beta and Alpha Centauri, and Crux the Southern Cross. In some Maori star lore the bright southern Milky Way makes the canoe of Maui with Crux being the canoe's anchor hanging off the side. In this picture the Scorpion's tail can be the canoe's prow and the Clouds of Magellan are the sails. Alpha Centauri is the closest naked-eye star; 4.3 light years away.

The Clouds of Magellan, (LMC and SMC), high in the in the southern sky, are two small galaxies about

160.000 and 200.000 light years away, respectively. They are easily seen by eye on a dark moonless night. The larger cloud is about 1/20th the mass of the Milky Way galaxy, the smaller cloud 1/30th. That's still billions of stars in each. The globular star cluster 47 Tucanae appears near the SMC but is 'only' 16 000 light years away. Globular clusters are spherical clouds of stars many billions of years old.

Very low in the north is the Andromeda Galaxy, easily seen in binoculars on a dark night and faintly visible to the eye. It appears as a spindle of light. It is similar in shape to our galaxy but a little bigger and nearly three million light years away.

Mars (not shown) is in the morning sky. It rises in the northeast after 3 a.m. It has an orange-red tint. In November it passes by Regulus, the brightest star in Leo. Regulus is white and a little fainter than Mars.

*\*A light year (l.y.) is the distance that light travels in one year: nearly 10 million million km or  $10^{13}$  km. Sunlight takes eight minutes to get here; moonlight about one second. Sunlight reaches Neptune, the outermost major planet, in four hours. It takes four years to reach the nearest star, Alpha Centauri.*

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## Research Astronomy Group's Page

The main areas we have decided to focus on are Variable Stars and Occultations. Many of the group already observe one or both.

Murray Forbes is leading the Variables group and set us home work to map and locate a known eclipsing binary variable star RS Cha (Chameleon) also known as Tycho 9403-1987-1 at RA 8:43:12, Dec -79:04. This should be visible above 0 deg altitude year round so is not season dependant. John Talbot

is leading the Occultation group and is publishing predictions for the Wellington area on our web site at <http://was.org.nz/01Occs.html>.

These include both Lunar events that should be visible in a 6 inch telescope and Minor Planet events that may be a bit dimmer but which have high probability of being seen. Even if you do not have recording equipment it can be fun in the evening to observe a star disappearing behind the dark edge

of the moon during the first half. Or if you like getting up real early and want a harder challenge try for some bright reappearances during the second half of the cycle.

*The Research group meets each month at 6:30pm before the main meeting.*

Please feel free to come along and join in if you are interested. This is also a good time to bring along that telescope or observing problem you may have for discussion.



## John Field's astrophotography corner

The Lagoon Nebula. (M8) Image by John Field (text courtesy of Wikipedia)

The \*Lagoon Nebula\* (catalogued as \*Messier 8\* and as \*NGC 6523\*) is a giant interstellar cloud in the constellation Sagittarius. It is classified as an emission nebula and as an H II region.

The Lagoon Nebula is estimated to be between 4,000-6,000 light years from the Earth. In the sky of Earth, it spans 90' by 40', translates to an actual dimension of 110 by 50 light years. Like many nebulas, it appears pink in time-exposure

color photos but is gray to the eye peering through binoculars or a telescope, human vision having poor color sensitivity at low light levels. The nebula contains a number of Bok globules (dark, collapsing clouds of protostellar material), the most prominent of which have been catalogued by E. E. Barnard as B88, B89 and B29.

Image taken with a Canon 1000D through a Skywatcher ED 80 mm f7.5 refractor at ISO 800 10 x 4 minute exposures. Scope and camera mounted on a Skywatcher NEQ6 ProMount.



## Dark Skies News

The International Dark-Sky Association has awarded the United Kingdom's Exmoor National Park the designation of International Dark Sky Reserve on 08 October at the 11th European Symposium for the Protection of the Night Sky.

Located on the southwest coast of England in Somerset and Devon Counties, Exmoor enjoys the darkest skies in the nation yet offers relatively easy access from urban hubs.

The Exmoor National Park Authority (ENPA) has been incorporating dark sky protection into its planning policy since 2005. Dark sky awareness bloomed in 2009 with a variety of programs on astronomy and conservation held during UNESCO's International Year of Astronomy. Local communities have been invited to get involved and offer feedback. Many residents, including business owners, are passionate advocates for the designation.

The park hopes its designation and astronomy programs will be a popular draw for tourists.

The IDSRerve designation extends protection over a vast area. A buffer system of tiered lighting requirements surrounds a core area of astronomical significance. This elaborate designation requires widespread cooperation from multiple parties.

In Exmoor, the 31 square miles (81 square kilometers) of core zone were chosen to minimize human habitation but to maximize open land access and points of interest. The mostly moorlike land of the core area includes bronze age burial mounds, a site of Special Scientific Interest at Dunkery Horner Wood National Nature Reserve, the deserted medieval settlement of Hoccombe Combe, and a recreational building that will be used for astronomy events.

A lighting management plan that extends throughout the park encourages use of low-wattage, shielded fixtures for residences, businesses, and public streetlighting. An extensive sky quality monitoring program will provide valuable data on effective lighting practices.

The only other IDSRerve designation in the world was granted to Mont Megantic in Quebec, Canada, in 2007.

An application is being prepared for the Tekapo - Aoraki/Mt Cook area for registration with the IDA as perhaps the world's third IDSRerve!

## FOR SALE

### Celestron Ultima

#### 9.25 Schmidt-Cassegrain telescope

Hardly used, very well looked after. No scratches on lens. Rock solid mount and has a very accurate Byers worm drive tracking motor. Suitable for astrophotography or CCD imaging. This telescope is 11 years old, however it hasn't been used for 8 of those 11 years as the owner is overseas.

Includes the 12mm Ultima eyepiece, 25mm Plossl eyepieces, Orthoscopic eyepiece with Illuminated Reticule for guiding, 2X barlow lens, Lumicon Easy guider for astrophotography (with focal reducer lens), DEC motor drive, 6X30mm finder scope and original manuals.

**Selling price: \$1900 ONO**

**Contact detail: | (04)9380738 or 022 601 4192 (Moi Tan)**

## OBSERVING AT THOMAS KING

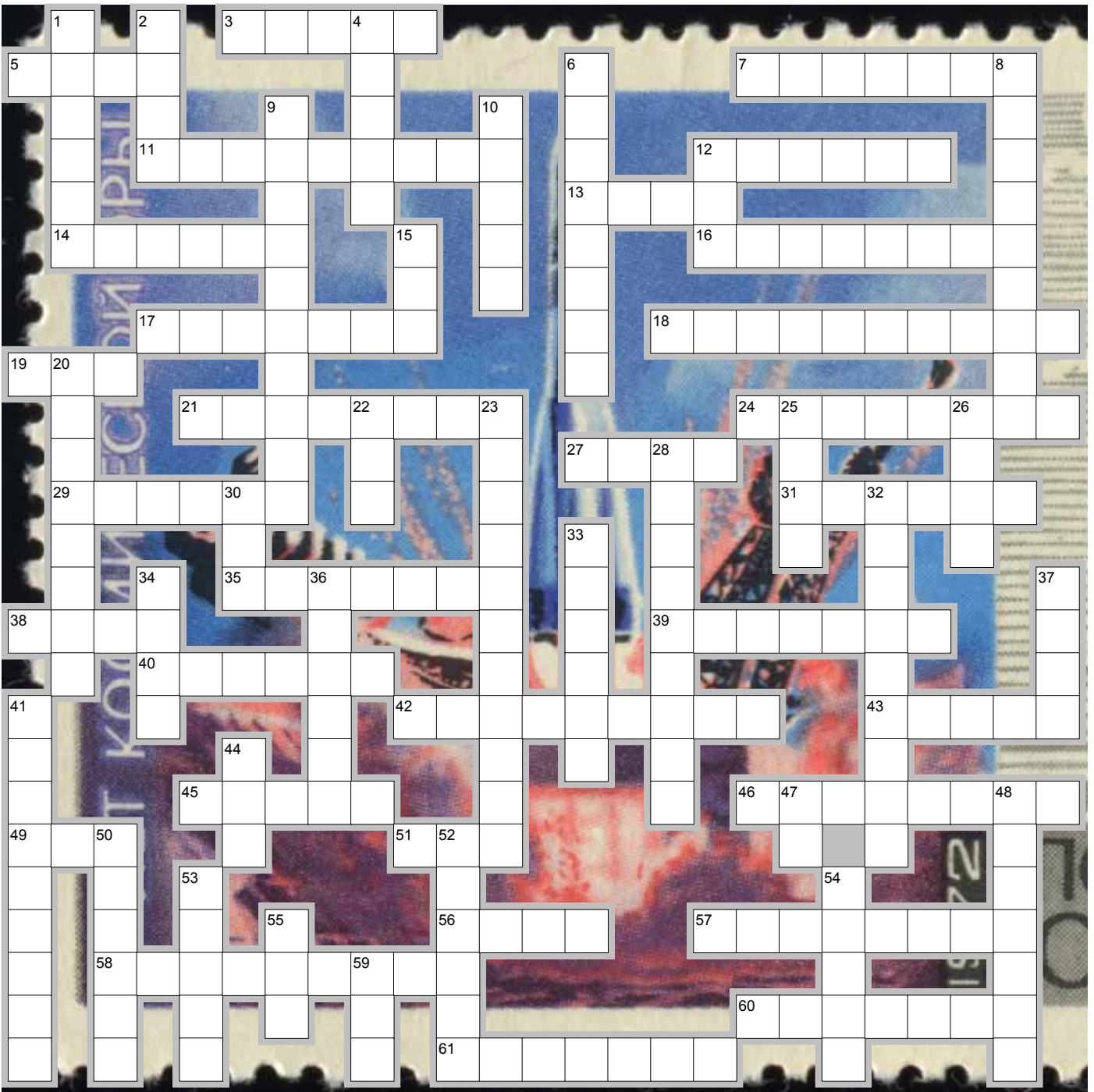
All public observing evenings will be held at the Thomas King Observatory run by our Observatory Director Ross Powell. from 7:00 pm. **Ring Ross on 389 9765** to check if there are public observing evenings on most FRIDAYS, starting as soon as it gets dark depending on the weather and Ross's availability.







## Cross Word with Murray Forbes



EclipseCrossword.com  
Across

3. top prize for Scientists; 5. the Sun sets in this direction; 7. A darker patch on the Sun's surface; 11. type of telescope; 12. one of the twins; 13. space agency; 14. second most common element; 16. constellation with a sting; 17. James Cook made a special voyage to see one; 18. when the path of light is bent by entering a different medium; 19. 24 hours; 21. some is in (anagram); 24. discovered Uranus; 27. smallest indivisible piece of a element; 29. discovered universe was expanding; 31. alpha Canis Major; 35. An open or globular ...; 38. a new star; 39. X-ray telescope; 40. type of galaxy; 42. small satellite of Uranus, also one of Shakespeare's characters; 43. Maxwell Smart's nemesis; 45. one is (anagram); 46. type of lens; 49. satellite galaxy to the Milky Way; 51. some spiral galaxies have one; 56. "... and time wait for no man"; 57. signals it's time to start spring planting of kumera; 58. northern constellation of the fox; 60. discovered the four largest moons of Jupiter; 61. meteor showers appear to come from one;

Down

1. opposite of nadir; 2. rats (anagram); 4. used as a standard reference date; 6. can be used to find South; 8. let cop see (anagram); 9. recent lunar surveyor; 10. triangular shaped glass used to refract light; 12. solid, liquid or ...; 15. an orbiting telescope; 20. leap on hi (anagram); 22. closest star; 23. may left over after a supernova explosion; 25. direction of sun rise; 26. unit of time; 28. comet reservoir around the solar system; 30. could be mistaken for a cloud; 32. type of telescope; 33. The farthest point of an (Earth orbiting) object from the Earth; 34. I weight 6 times less on the Moon, but still have the same ???; 36. bland gas giant; 37. God of war; 41. cored cans (anagram); 44. an arrested atom; 47. One of the Galilean satellites; 48. Around 23rd June or September; 50. The Crow; 52. Alpha Aquilae; 53. ... bear; 54. predicted the neutrino; 55. A lion circling the Earth; 59. flying saucer;