

SKYNEWS



Silhouette

A two-day old moon sets on Gonzales Hill

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DECEMBER MEETING

Wednesday 12th 2012
University of Victoria
A104 Bob Wright Bldg.
3800 Finnerty Rd.

www.victoria.rasc.ca

On the Cover

A two-day old moon sets on Gonzales Hill with Charles Banville doing a self portrait.

Date: November 15, 2012
 Gonzales Hill Regional Park, Victoria, BC
 Optics: Canon EF 135mm f/2L USM
 Camera: Canon EOS 5D Mark III
 Exposure: 1/13 second, f/9, ISO 800

Presidents Report

Nelson Walker



The first meeting of the new Victoria Centre Council was held December 5 at the Astronomy Department lounge in the Eliot Building on the UVic campus. After the requisite reports were given, Council's attention was drawn to what will be our next big challenge: our hosting of the 2014 National RASC General Assembly, in celebration of the Centennial year of Victoria Centre. The committee charged with organizing the event, to be held at the University of Victoria, is led by Paul Schumacher, Lauri Roche, and Mark Bohlman. Interested in helping? Contact any of the three.

Our council is mindful, too, that our other important projects must not suffer on account of attention the GA, mainly public outreach, schools, and light pollution and abatement. The former, a real jewel in our crown, remains headed-up by Sid Sidhu, Lauri Roche, and Sherry Buttner, who will continue to rely on our volunteers (and who will be calling YOU). The

latter remains in the hands of Mark B. and Dorothy Paul.

Not least are the Centre's observing activities, both at the VCO and elsewhere. Don't forget that a MIC will likely be at the VCO on most even-marginally clear nights, and become an "active observer" if you are not. In addition to the scopes in the observatory, there is usually a 20" dob at the VCO available for use! Bill Weir fills the newly created position of Observing Chair, and is always willing to share his considerable knowledge with those interested in upgrading their skills.

Diane Bell was appointed by Council to fill the Skynews Editor position just vacated by Malcolm Scrimger. Thanks to Diane. And lastly, don't forget to make use of our excellent website. Quick perusals of other Centre websites around the land show ours to be one of the best.

December Speaker

Dr. John Hutchings, Dominion Astrophysical Observatory

Dec 12, 2012 - The James Webb Space Telescope and Canada's Contribution



Abstract: I will review some of the results from the Hubble Space Telescope, and how they lead to defining its successor, the James Webb Space Telescope. The JWST is very different in design, technology, and operation, but will address questions that cannot be answered today. It will also lead to new discoveries presently unimagined. I will describe the required performance, and the technology developed to enable it. I will describe the Canadian instruments that form our part in this NASA-

ESA-CSA partnership, along with the other instruments on board.

[James Webb Space Telescope - Canadian Space Agency](#)

Biography: Dr. John Hutchings studied astronomy, completed his astronomy MSc in his native South Africa, and received his PhD from Cambridge University before coming to Victoria. He has worked as an astronomer at the DAO in Victoria for over 40 years with research interests in X-ray binaries, quasars, the interstellar medium, and distant galaxies - using telescopes on the ground and in orbit, from X-rays to radio wavelengths. He has been involved in a number of space telescopes, including the IUE, Einstein, Hubble, FUSE, Astrosat, and have been the project scientist for JWST. He is now working to enable the next generation of astronomy facilities for Canada.

Council Reports

by Sherry Buttner, VP2

Hi RASCals, here is my report for December.

Memberships:

Dropped: 1
 New/Returning: 1
 Renewed: 8
 Upcoming Expiries: 7 (Do check and renew)
 Total Membership: 163

Liaisons:

HIA/CU: Nothing to report from Eric (CU).
 Clyde (HIA) requests our attention to driving on the Hill. Please pay careful attention to your speed, and keeping your lane. A very close near-miss was reported recently. At this time of year, also be careful of frost and ice on road surfaces on the Hill.

Transport Canada: nothing to report.

Plaskett: Good news. Our fantastic Telescope Operator. Dave Balam is forwarding a proposal for telescope time for us. Depending

on how that goes, and his health on the day, we may get some imaging time on the Plaskett in the first quarter of 2013. We *may* also get some observing time (visual) on the new 32" telescope at UVic. Stay tuned!

Telescopes for Sale

The Centre is making room for the storage of a returning 20" observatory class telescope.

An image gallery of the telescopes for sale are at the website below.

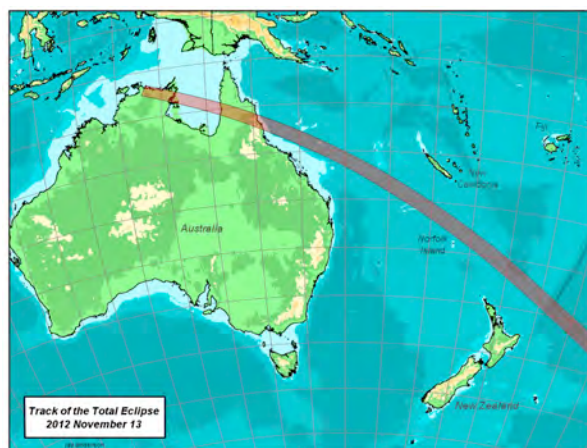
<http://rascvic.zenfolio.com/p21578235>

If you see something that strikes your fancy come out to Astronomy Cafe on Monday nights as there will be an Auction of sorts this month which may last into the New Year.

- 13" Mirror: 1.25 Focal length: unknown
- 10" Dobsonian Telescope Sonotube 2" focuser 8x50 finder scope
- 8" Newtonian Telescope Ernie Pfannenschmidt design f/5 2" focuser Fitted with a cooling fan
- 8" Criterion SCT FL: 2110mm Motorized R.A. With wedge and finder scope
- 8" Newt. Telescope Focuser: 1.25" Motorized R.A.
- 8" BellStar Dob Telescope Truss tube design Focuser: 1.25"
- 4" Refr f/12 Focuser: 1.25" Edmund Scientific equatorial mount with R.A. drive
- Polarex 60mm Refractor Telescope f/15 Equatorial mount Focuser: 0.96"
- 4" Newt. Solar Telescope Clear primary mirror with mount
- 60mm Tasco Refractor Telescope Focuser: 0.96" Alt-Az mount
- 60mm Sears Discoverer Refractor Telescope Focal length: 500mm Wooden case
- 4" Newtonian Telescope OTA
- 4" Newtonian Solar Scope
- 12cm Newtonian Telescope f/9.5 Optics: Frank Vaughn, Chicago, 1949 with equatorial mount
- Meade ETX-90EC: 1.25" with case
- 6" Dobsonian Telescope Focuser: 1.25"

2012 Total Solar Eclipse

by Joe Carr



My planning for the Total Solar Eclipse began two years ago at this time of year, when I decided to pay a deposit for arrangements offered by [TravelQuest](#), a travel company I have used before who specializes in Solar Eclipse tours and astronomy-themed travel. I originally had intended to join the RASC Toronto group headed by Ralph Chou, who was heading to the Australian coast just north of Cairns - the only place where the eclipse track made landfall.

In the end, the deluxe small cruise ship *Paul Gauguin* chartered by *TravelQuest* won out, despite the additional expense. The cruise ship offered the benefit of being able to avoid weather during cyclone season in the South Pacific, which proved to be valuable two years later when this event finally happened. The ship's location at sea also meant that the Sun's altitude would be 40° high, whereas the Sun would be very near the horizon on the Australian coast.

Eclipse day weather prospects were very important to get right, and *TravelQuest* does their homework to ensure their clients have the best chance possible: eclipse meteorologist Jay Anderson (a Canadian, and editor of the *RASC Journal*) chooses their eclipse viewing sites. To quote his prediction:

"The selected eclipse site lies within the zone of low cloudiness that stretches eastward from the Australian coast. Total cloud cover averages a little over 50% in the area, but about half of this tends to be semi-transparent. The frequency of thick opaque cloud is very low – only 20% according to long-term satellite observations. Weather in the region tends to be made up clumps of convective clouds, a characteristic that will allow us to make use of the ship's mobility and satellite images of the area to avoid any cloud patches that might linger on eclipse day."

After boarding the ship in Fiji, we were told in briefing sessions that the prospects of cloud cover had actually improved from 50% to 20% - a trend in the right direction! Jay was aboard another ship in the area chartered by *TravelQuest* for eclipse viewing, and he was constantly monitoring weather for all of TQ's eclipse groups.

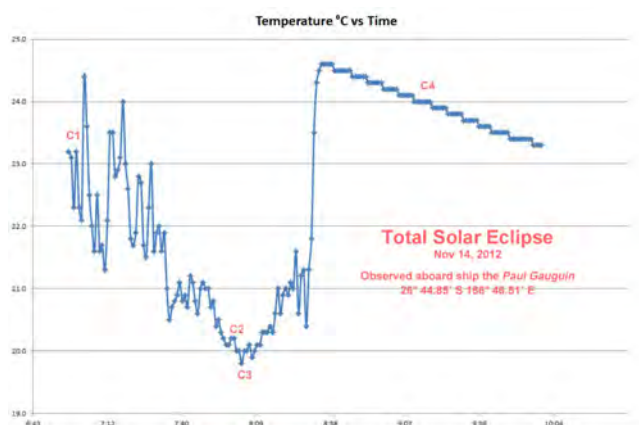
On November 13th, we were anchored at Ile des Pins, New Caledonia. The ship only stayed four hours, because the captain wanted to ensure we were on position the following day to observe the eclipse at sea south of New Caledonia. The Sun and the Moon do not wait, and the eclipse was predicted to start the following day at 7AM, and last 3 minutes at our location of 26° 44.8' S latitude 166° 46.5' E longitude.

Eclipse day started early, with everyone finding a spot on deck to setup their equipment, or to simply sit in a deck chair and watch this apparition unfold. I had five things I wanted to accomplish that morning:

1. Measure the temperature drop during the eclipse, and the rise in temperature after Totality finished using a personal automated weather station (Kestrel 4500).
2. Take a wide field video of the crowd aboard ship during Totality, to capture

(mainly) the crazy reactions of people at Second and Third Contact.

3. Take photographs of the eclipse using a telephoto lens and a dSLR camera from First Contact, when the Moon first eclipses the Sun, through Second Contact when Totality starts, Third Contact when Totality ends, and perhaps a few minutes longer after Third Contact when solar filters are back on and the Moon slides away from eclipsing the Sun.
4. Observe the eclipse visually – *the most important task!*
5. Observe the eclipse phases using my image-stabilized binoculars, which were equipped with solar filters for viewing during the non-Totality phases.



This was a great deal to accomplish, but I managed to (mostly) do it all! Totality only lasted 3 minutes and 1 second, so that was a particularly busy time, however I mainly sat back in my chair and concentrated on taking some photographs with the dSLR and visually observing. Totality was visually stunning and beautiful. The colours around the edge of the eclipse Sun sparkled, and the coronal streamers coming off the Sun in all directions was mesmerizing. About 10 minutes before Second Contact, Venus was easily visible in the sky, and then as darkening continued, Jupiter was also visible. There was a nice display of

Sunspots to observe during non-Totality as the Moon slid across the Sun. Diamond Rings visible at Second and Third Contact were very dramatic – this is when the crowd went wild aboard ship. The captain and the *TravelQuest* staff decided to turn the ship 180° and head along the track of totality in the opposite direction just before the eclipse started, in order to avoid a big cloud which was heading our way. This proved to be a good decision, since we had clear skies for the whole eclipse.

Temperature drop from First Contact to minimum at Third Contact was 3.4°C, which is much lower than expected. The mild climate near the ocean's surface and the early morning air resulted in less daytime heating, and therefore less temperature range resulted for this eclipse than observing from land at midday. My photos turned out quite well, and my video is hilarious as people yell and carry on. *Corona* beer was served to everyone after the eclipse concluded – one time when drinking beer before breakfast seemed appropriate, although I opted for a celebratory cappuccino!



Eclipse chasers in other locations were not as fortunate as my group. Lauri Roche reported that the RASC group and the rest of the huge mob near Cairns in Australia were clouded out for Totality,

although they did see glimpses of the partial phases. Some parts of the Australian coast had better weather and saw Totality. The P&O ship *Pacific Jewel* failed to get to position on the track of Totality, so the passengers aboard only observed a partial eclipse. This illustrates the value of having good planning in place long before an eclipse occurs, and to hope luck falls your way at the appointed time! I returned home happy and satisfied that my second time under the Moon's shadow observing the Sun went off without a hitch.

My photo gallery: <http://rascvic.zenfolio.com/solareclipse2012>

**ASTRONOMY
CAFÉ**



Fairfield Community Centre

1330 Fairfield Rd. Victoria,
7:30pm - 10pm

Call Malcolm at (778) 430-4136 for directions and information.

New comers are especially encouraged.



New Observers Group

Hosted by Sid Sidhu
1642 Davies Road, Highlands. Call (250).391-0540 for information and directions.



Email Lists

Observer / CU Volunteers / Members

Contact Joe Carr to subscribe
web@victoria.rasc.ca

NEXT MEETING

**January 9th , 2013 7:30pm
University of Victoria A104 Bob Wright Bldg. 3800 Finnerty Rd.**

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