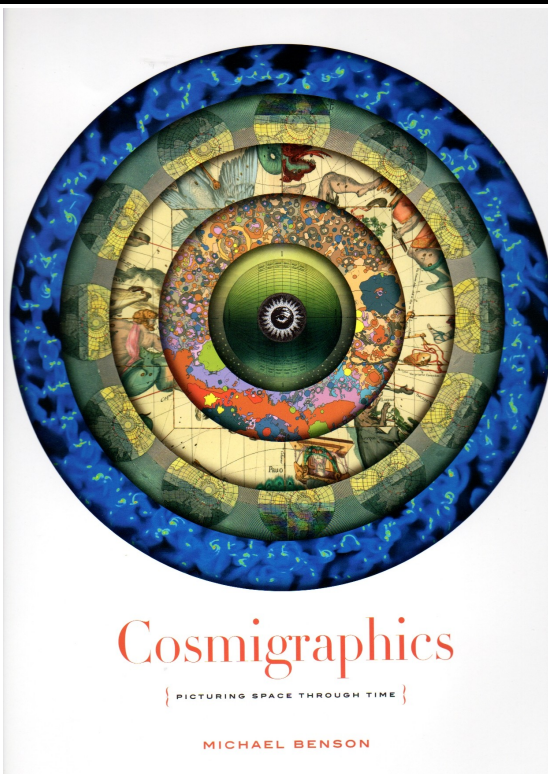


Cosmigraphics: Book Review by Steve Mastellotto



Cosmigraphics: Picturing Space Through Time
by Michael Benson

Abrams, 2014

320 pages, ISBN 978-1-4197-1387-3

Hardcover, Available at Amazon.ca for \$36.05

I read a review of this book in the December 7, 2014 issue of Maclean's and ordered it immediately. Unfortunately it was not available until December 15th and when it did arrive at the house it was quarantined as a perfect Christmas present for me.

Once I was able to crack the spine on this coffee table sized picture book (about 10" x 12") it was everything I hoped it would be. You may recognize Michael Benson's name as the author of other beautifully produced astronomy themed picture books *Planetfall* and *Beyond*.

The book is an extremely interesting collection of images from over the past 4,000 years that represent our fascination with the sky. I thought the book would be a chronological exploration of man's understanding of the universe around us. However, the book starts

with theories of creation, then moves to the Earth, Moon, Sun and the Universe. The book then returns to the solar system and the Milky Way and then ends with eclipses, transits, comets, meteors and finally an exploration of atmospheric phenomena including aurora. Within each of these chapters human understanding is presented in a roughly chronological order.

Each page is dominated by a high quality reproduction of a drawing, painting, image or chart with a caption or a short essay. Some of the reproductions are the typical fair like Copernicus' model of the solar system, Galileo's drawings from *Sidereus nuncius* and William Parsons' drawing of M51 but many are unfamiliar and are a satisfying discovery.

There is something here for everyone and it makes for a fascinating read.

Note: I will bring my copy of the book to the January and February meetings so you can look through it.



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Calendar of Events

Our next meeting...

Tuesday February 17, 2015

7:30 p.m.

at

Ojibway Park Nature Centre

5200 Matchette Road

Main Speaker...

TBD

Topic...

TBD

Activities...

Conjunction: On Wednesday January 21st look for the Moon, Venus and Mercury within 5 degrees of each other shortly after sunset low in the WSW sky.

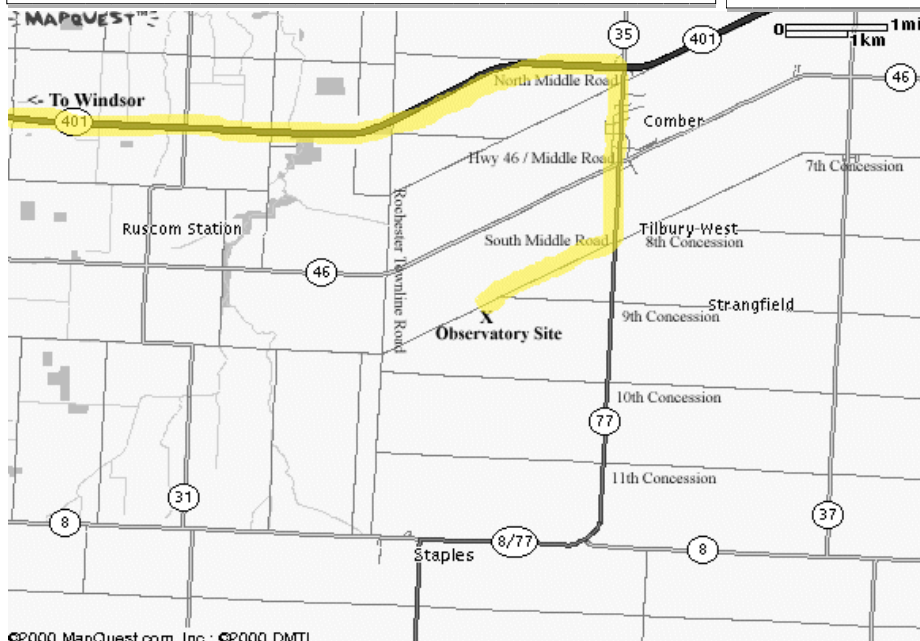
Triple Shadow Transit: Overnight on Friday January 23rd/24th look for the shadows of Io, Callisto and Europa on Jupiter's disk from 1:28 - 1:52 a.m..

Open House Night at Hallam: The next open house night at Hallam is on Saturday January 24th at 7:00 p.m..

Juno: is at opposition on Thursday January 29th.

Venus and Neptune: are less than 1 degree apart on Sunday February 1st.

Jupiter: is at opposition on Friday February 6th and rises just as the sun is setting.



Hallam Observatory Site

Directions: The map at left shows the Comber area and it includes the major highways (401, 77, 8 and 46) that are in the area of the observatory.

The most direct route from Windsor is "highlighted" on the map which is to take Highway 401 East to Highway 77 South to South Middle Road. Turn right onto South Middle Road and go about 1 kilometer and just after the point where Concession 9 joins it (it is hard to see this intersection) you will find the observatory site on the South side (left) of the road. 3989 South Middle Road.

If you hit the Rochester Townline Road (you come to a stop sign) you have gone too far.

Submissions

Aurora is published monthly except for July, August and December. The September, October, January, March and May issues are full newsletters (usually 6 pages) with a number of member submitted articles. The November, February, April and June issues are short flyers (2 pages).

Submitted articles can be of any length from a paragraph to multiple pages. I can scan pictures and/or diagrams (both prints and film) to support your article and the originals will be returned to you.

Submission deadline is the 1st of the month.

Editor: Steve Mastellotto Email: mmastellotto@cogeco.ca

Membership

The Windsor Centre of The Royal Astronomical Society of Canada meets on the 3rd Tuesday of every month (except July and August) at the Ojibway Park Nature Centre. In addition to regular meetings the centre hosts a number of observing nights, a picnic and a December social. Members receive a copy of the Observer's Handbook, a subscription to SkyNews magazine and access to the Centre's library and telescopes. Optionally the RASC Journal is available in print form—online version free.

Annual Membership Fees: Please see the RASC website at www.rasc.ca for current rates.

Contact Greg Mockler at (519) 326-7255 or visit our website at: <http://www.rascwindsor.com> for more information.

November 2014 Meeting Minutes by Matt McCall

The monthly meeting of The Royal Astronomical Society of Canada - Windsor Centre was held at the Ojibway Park Nature Centre on November 18, 2014.

Windsor Centre **President Rick Marion** chaired the Meeting. Rick called the meeting to order at 7:37 p.m. and welcomed members and guests to the Ojibway Nature Centre.

A motion to accept the minutes of the October 21, 2014 members meeting was made by Susan Sawyer-Beaulieu, seconded by Greg Mockler. **MOTION CARRIED.**

***Addendum to June 17, 2014 Meeting Minutes:** In the September Aurora newsletter, the meeting minutes were missing mention of Tom Sobocan's short talk on his visit to Montreal's new planetarium. The presentation included outdoor photos taken of the nearby Olympic stadium and Biodome as well as pictures from inside the museum of various meteors such as a troctolite rock. He described the city's former planetarium as using an old Zeiss projector, whereas the new one consists of digital format projectors along with two theatres and other various exhibits.*

Rick introduced **Past President Paul Pratt**, who presented the slate for the 2015 RASC Windsor Centre Council:

See page 5 for the complete list

Rick Marion thanked Paul Pratt for the presentation. He then gave thanks to the entire Centre for all the help during his two years as President.

Main Presentation: Observing Southern Skies, Dave McCarter of the RASC London Centre. Dave showed slides from his trip to Hawaii. His photos featured a long drive up Maui's highest point of Haleakalā, where he visited the various observatories there. Pictures of the telescope domes were displayed, such as Mees Solar Observatory, Faulkes Telescope North, and Pan-STARRS 1, with the Pan-STARRS 2 observatory under construction.

He located the local astronomy club - Haleakalā Amateur Astronomers, and mentioned how they bring out their telescopes each Friday night for the public to observe.

Next in the show was the Atacama Desert, which he visited in March 2010. Permanently mounted telescopes are set up on an observing field, with a tarp for a cover. People can volunteer here to keep them pointed on the Large Magellanic Cloud. Omega Centauri was featured in an excellent image. Through telescopes the bright globular cluster looked very good from that region of the southern hemisphere.

Dave showed an image of the Jewel Box, exclaiming you won't find a prettier section of the sky and that his wife became interested in astronomy due to this object.

In 2012, they traveled to Australia, taking a cruise into the Pacific to view a solar eclipse from there. Dave remarked that

many people were lamenting the fact that clouds obscured some of the Sun for a time, however the show was quite good overall. Within the following year, he went down to New Zealand, and his slideshow photos displayed Nova Centauri 2013 - an object that could only have been seen for a short period of time and also only from lower latitudes in the world. Carter Observatory was another place he visited, located in Wellington. Various images of the buildings were shown and explained.

Further south in New Zealand was Lake Tekapo. While staying the night around that area, he was informed that it would be a great idea for him to come back to the nearby hills at midnight for some observing at the domes there. There was a steel shed where they store a dobsonian telescope, and more pics of these places were shown.

Rick thanked Dave for his excellent presentation.

Rick then called on Joady Ulrich to present a **RASC Windsor Centre Service Award** to Paul Preney. Joady explained that the Centre wanted to recognize an individual putting forth such fine efforts over a good portion of time. Paul Preney joined the centre in the mid-80s, and by 1987 was editor of the newsletter. His father owned a printing shop which really helped everyone out, and has been on council for a number of years, and nowadays various committees as well.

Break and Fifty-fifty draw: Winner was Greg Mockler, who donated the winnings back to the Centre.

Announcements

1. **Point Pelee Dark Sky Nights** are November 22 and December 13
2. **December Social** is Friday December 5 at 7:00 p.m.. Members encouraged to bring favourite foods.
3. The next **Windsor Centre meeting** is January 20, 2015.
4. The next **Hallam open house** is December 27 starting at 7:00 p.m..

Director of Observing Report, Steve Mastellotto: Steve began his presentation by talking about some of the astronomical activity that's been going on since the last meeting.

In particular, there was the **partial solar eclipse** that occurred at sunset, with the massive sunspots AR2192 and 2205 being especially prominent through filters. Photos taken by Art Rae, Scott Stuckless, Steve Mastellotto and Randy Groundwater were used. Tom Sobocan took his class outside with eclipse glasses to view it before the Sun moved too low. Mitch Arseneault's wife Barb took a great image of it just outside Tilbury.

Also, Brian Thomas took an image of **Melotte 15, the Flaming Star Nebula**.

Upcoming events included the **Geminid meteor shower** peaking before 7:00 a.m. on December 14th. **Mars** continues to

(Continued on page 5)

At The Eyepiece: Winter Observing by Mike Ethier

When November 2013 rolled around I had great plans for upcoming observing sessions. Not a whole lot became of my plans. One of the severest winters in memory struck, dashing hopes of getting much of anything accomplished. A few looks at Jupiter here, a couple of the Orion Nebula there. Obscenely cold temperatures coupled with high winds, along with continually falling and blowing snow made even the most stalwart observer helpless and confused. I managed two sessions during that November, another one in December, none in January, and two in February. Though we had more clear nights than that, they were simply unusable due to extreme weather.

It's not that we don't have the clothing for it, though the one weak link in the chain continues to be good gloves. Being able to switch an eyepiece, focus properly, turn a page from the map book or hold a pencil is impossible if fingers are properly protected. And if they aren't, then watch out! Here is a list of my typical winter gear for observing.

- lined pants (extremely warm!)
- snow pants overtop
- T-Max Heat* thermal base layer shirt, long sleeves
- turtle neck sweater
- T-Max Heat* sweater, zippered high
- light jogging jacket, zippered tight
- snorkel parka, full length, synthetic down
- warm socks
- heavy over-socks, T-Max Heat*
- lined winter boots
- winter ear band
- toque
- jacket hood, if required
- two or three pair of light gloves (dollar store), with T-Max Heat* hand warmers inside
- pair of large, very bulky, very warm winter mittens overtop double gloves. Mitten comes off temporarily for eyepiece or other work.



Rechargeable T-max Heat hand warmer with cover

* T-Max is part of Wind River brand, sold at Marks Work Warehouse in Canada.

It takes quite a while to get dressed and ready to go outside! And once dressed, you must go outside quickly or you will faint! Now the back deck must be prepared. The home site is inundated with light pollution from nearby subdivisions and county roads. The south sky is polluted by the lights of my hometown of Amherstburg. We erect tarps on two sides (south and east) to protect our eyes from oncoming traffic headlights. A third side is protected by the garage which is attached to our house (west), and the fourth side from a large hedge (north). Our north and west sky is polluted by lights from the Windsor/Detroit

megapolis. If it is too windy we cannot erect the tarps, and thus we cannot observe. Our best sky is overhead and east, though we have no problems with clusters, nebula, double stars etc, in almost any direction. Finding galaxies is a challenge.

Earlier in the evening we set up the two telescopes. The 12" takes about fifteen minutes from basement to deck, while the 6" requires less than five minutes. Serious winter observing is a huge undertaking. I remember our first session in February of 2014. We got everything set up, got dressed, began observing, and clouds rolled in. We waited patiently for an hour before calling things off. In came the scopes, down came the tarps, off came the clothing. Suddenly, it cleared up and remained clear the rest of the night! We had no ambition to redo our setup, so we just remained indoors and in bad moods the rest of the night.

Of course another solution is to escape winter and bring a scope along with you. This year the [Winter Star Party](#) in the Florida

Keys runs from February 16th until February 22nd. Ever wondered what it is like to see Auriga, Taurus, Orion, Lepus (especially Lepus, as it is up so high down there!), Gemini and Canis Major in shirt sleeves and a light jacket? I know I have. Another option is to visit the desert southwest. While visiting Tucson last year we got to know a very nice man from their astronomy club. They have a fabulous observing area set up southeast of town for members, with large reflectors available for visitors if booked ahead. Contact the [Tucson Amateur Astronomy Association](#) if interested. And a little bit closer is a bed and breakfast near Gila, New Mexico, that caters to amateurs. Bring your own scope to this one and enjoy having a comfortable room and bed awaiting you after a dark, clear night. Check out [Casitas de Gila on-line](#). Their astronomy page contains their region's clear sky clock.

Whichever method you choose, make certain that winter skies do not pass you by. The winter of 2015 will hopefully be far less severe than last year's freakish event. If you think that setting up a telescope in winter is too much bother, you may wish to check out the Orion 6" Starblast telescope sometime. This little workhorse is perfect for cold nights, as it sets up on a table and is ready to go. Have a peek through Deb's some night when we are at the observatory. And if you think you can't possible be warm outside at night, it's time to visit a Mark's Work Wearhouse. Their warm clothing really works!

Until next time, enjoy those clear skies!

November Meeting Minutes (continued)

(Continued from page 3)

cling to the southwest horizon at sunset. **Uranus and Neptune** are well placed for evening viewing. **Jupiter** is high in the morning sky these days.

Pegasus and Andromeda are constellations that are well placed in the sky. Steve showed images of deep sky objects M15, M2, M33, M31, 32 and 110 and NGC 752 and explained how to see and find them, as well as what best to use for decent observing.

NGC 7333 and Stephan's Quintet are the challenge object for the month. Stephan's Quintet is five galaxies about an eyepiece field of view - it's a challenge because you can't see all five easily. You have to look hard and you might only see three at first. They aren't in the easiest place to locate distant objects.

Rick thanked Steve for his presentation and thanked everyone for coming out to the meeting.

The meeting was **adjourned at 10:19 p.m.**

Hallam Happenings

A reminder that the Hallam Observatory annual access/key fee is now due (October 1st). At the recent Council Meeting it was decided that this fee will be increases to \$60 per year. Please see our Treasurer Greg Mockler at the October meeting to pay for your key. If you no longer wish to have your own access to the observatory please turn in your key to Steve Mastellotto.

2015 Council of the RASC - Windsor Centre

Elected Officers

President	Randy Groundwater
1st Vice-President	Mike Mastronardi
2nd Vice-President	Rick Marion
Secretary	Steve Pellarin
Treasurer	Greg Mockler
National Council Rep.	Mike Mastronardi

Councilors

Dr. Pierre Boulos	Steve Mastellotto
Matt McCall	Paul Pratt
Paul Preney	Dr. Susan Sawyer-Beaulieu
Tom Sobocan	C. Joady Ulrich

Appointed Officers

Honorary President	Dr. William Baylis
Past-President	Rick Marion
Librarian	Dr. Pierre Boulos
Recording Secretary	Steve Pellarin
Public Education Director	Matt McCall
Public Relations Director	Rick Marion
Directors of Observing	Juliana Grigorescu
	Steve Mastellotto
	Matt McCall
	Brian Thomas
	Open Position
Light Pollution Abatement Dir.	John Marn
Hallam Observatory Director	Steve Mastellotto
Aurora Editor	Steve Mastellotto
Webmaster	Steve Mastellotto



Member Astrophotos



Top Left: Comet Lovejoy and M79 by Steve Mastellotto, 12 x 30 second exposure on December 28th with Canon 6D at ISO1600 and 400mm f/5.6L lens. The comet's tail can be traced over 1 degree. *Top Right: Ice Pillars by Dan Taylor* captured on January 13th. They are formed when ice crystals in the air cause a vertical reflection from lights on the ground. *Middle Left: Venus and Mercury from Hallam by Randy Groundwater* captured on January 13th. *Middle Right: Venus and Mercury by Art Rae* captured on January 12th. *Bottom Left: Sunspot Group AR2192 by Randy Groundwater* was captured on October 22nd with a 1/1000 sec. exposure, ISO 200 at prime focus of his AstroPhysics 130mm f/6.3 Gran Turismo refractor using Baader solar film. *Bottom Right: The Flaming Star Nebula – IC 405 by Brian Thomas* was captured on October 25th at the prime focus of a Celestron 9.25" f/10 telescope with a Canon 5D, 25 x 4 minute subs at ISO 1600. Dark frame calibration only and processed with ImagesPlus and Photoshop CS4.