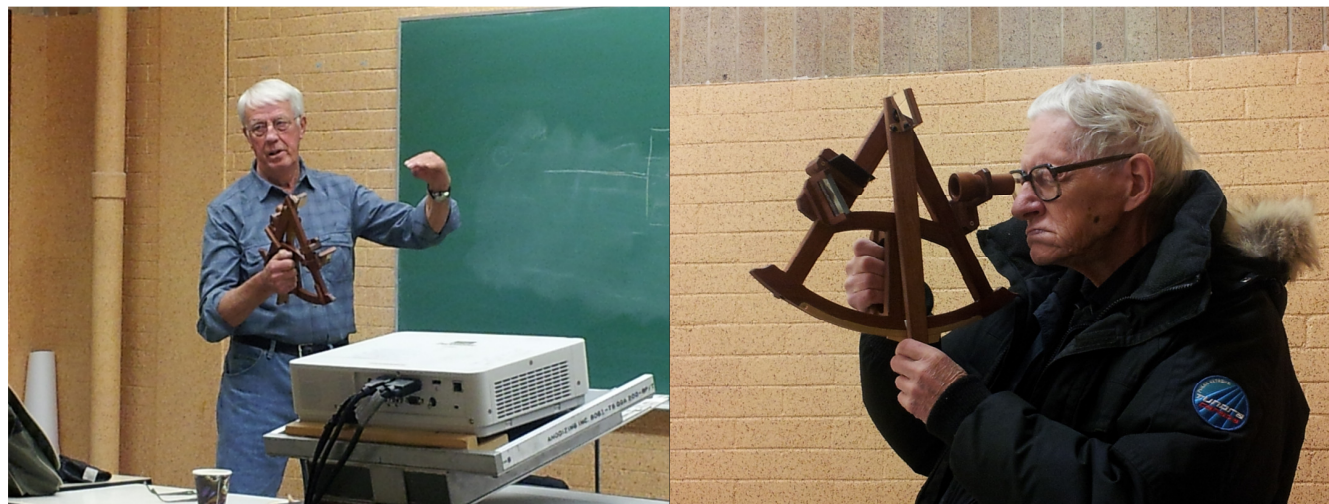


Saskatoon Skies

The Newsletter of the Saskatoon Centre of the Royal Astronomical Society of Canada

Vol. 44, No. 12

December 2013



Left: Member Garry Stone gives a presentation at the November meeting outlining how he built three matching wooden sextants. **Right:** Member Merlin Melby examines the sextant highly finished sextant. One of the sextants will be donated to use as a raffle prize at SSSP to be held next August 2014.



Saskatoon Centre
 The Royal Astronomical Society of Canada
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 Saskatoon, SK S7N 4J8
 WEBSITE:

<http://www.rasc.ca/saskatoon>

E-MAIL: skstars@shaw.ca

To view *Saskatoon Skies* in colour, see our Website:

<http://homepage.usask.ca/~ges125/rasc/newsletters.html>

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MEMBERSHIP? JOIN TODAY!

Regular: \$80.00 /year

Youth: \$41.00 /year

Associate: \$33 /year

The Saskatoon Centre operates on a one-year revolving membership. You will be a member for the next 12 months no matter when in the year you join. If you do not want to join at this time, ask to get onto our FREE 3-month Temporary Membership list. You will receive regular mailings of our Saskatoon Skies newsletter and will be invited to participate in Centre activities. Members are encouraged to renew early to avoid disruption in publications. Renew through the National Office at <national@RASC.ca>!

Benefits of Membership in the Saskatoon Centre

- knowledgeable & friendly amateur astronomers
 - use of the Sleaford Observatory
 - use of the U of S Observatory (after training)
 - Saskatoon Skies Newsletter
 - Observer's Handbook
 - Journal of the RASC (electronic format)
 - SkyNews Magazine (bimonthly)
 - use of the Centre library
 - rent the Centre's Telescopes
<http://homepage.usask.ca/ges125/rasc/telescopes.html>
 - discounts to Sky & Telescope Magazine*
 - free, no-cost, no-obligation, 3-month temporary membership if you don't want to join right now!
- *New subscription or renewal of Sky & Telescope? Send new info or renewal notice, plus credit card # to Norma Jensen, 128 – 4th Street East, Saskatoon, SK S7H 1H8, or email her at norj@sasktel.net.

U OF S OBSERVATORY

The U of S Observatory is open to the general public every Saturday of the year. Admission is free. The observatory is located on campus, one block north of the Wiggins Avenue and College Drive entrance. On clear nights, visitors may look through the vintage 6-inch and tour several displays. Current events are recorded on the Astronomy Information Line at 966-6429.

Observatory Hours:

January-February	7:30-9:30 pm
March	8:30-10:30 pm
April	9:30-11:30 pm
May-July	10:00-11:30 pm
August	9:30-11:30 pm
September	8:30-10:30 pm
October-December	7:30-9:30 pm

SASKATOON CENTRE'S MAIN OFFICERS:

President – James Gorkoff, 644-1343
Secretary – Tenho Tuomi, 306-858-2453
Vice-President – Jim Goodridge, 370-8530
Treasurer – Norma Jensen, 244-7360

**Bottle Drive &
Canadian Tire \$**
By Colin Chatfield

If you cannot make it to a meeting but would like to contribute your Canadian Tire money please call me at 934-7046.

**LIGHT POLLUTION
ABATEMENT
WEBSITE AT:
www.ras.sk.ca/lpc/lpc.htm**

Newsletter Editor – Ron Waldron
Copy & Collate – Les & Ellen Dickson
Labels & Temps – Mark de Jong
Web Posting – Gord Sarty

Saskatoon Skies is published monthly by the Saskatoon Centre of the RASC. Distribution is approximately 100 copies per issue. Saskatoon Skies welcomes unsolicited articles, sketches, photographs, cartoons, and other astronomy or space science material. **Articles can be sent by mail in any format to the Centre's mailbox.** Submitted materials can be returned upon request. Submissions may also be sent by e-mail to the editor at rmwaldron@shaw.ca as a .doc, no indents, no tabs, one line between paragraphs. Images: .jpg please, no larger than 1 – 1.5 MB, sent by e-mail as attached files. **Deadline for submission of all articles for an upcoming issue is the first Friday of the month!**

A separate by-mail subscription to Saskatoon Skies is available for \$15.00 per year. Saskatoon Skies is also posted on our Saskatoon Centre homepage as a .pdf file and can be downloaded free-of-charge. Members may choose to receive the newsletter by regular mail or via the Internet. Articles may be reprinted from Saskatoon Skies without expressed permission (unless otherwise indicated), provided that proper source credit is given. **DEADLINE for submissions** for each month's issue is the 1st of the month. Saskatoon Skies accepts commercial advertising. Please call the editor 306-665-3392 for rates. Members can advertise non-commercial items free of charge.

RASC CALENDAR OF EVENTS

Dec. 16	Christmas Potluck Social – 6:30 PM – No Executive Meeting	Barb Wright
Dec. 28	Observer’s Group at Sleaford	Larry Scott
Jan. 25	Observer’s Group at Sleaford	Larry Scott
Feb. 22	Observer’s Group at Sleaford	Larry Scott

For a complete list of club events, please check out: <http://www.usask.ca/rasc/activities.html>



Annual Christmas Pot Luck Meeting

Everyone invited

Bring a potluck dish & meet the club

Monday, December 16th at 6:30 PM
Room 175 Physics Bldg

Note: *there will not be an Executive meeting this month*



Minutes of November 18th Executive Meeting – *Tenho Tuomi*

Chairman Jim Gorkoff opened the meeting at 7 PM.

Moved by Norma Jensen and Les Dickson that the minutes of the October 21 Executive meeting be accepted as circulated. Carried.

Committee Reports:

Les Dickson reported that newsletter mailing costs have gone up from \$.55 to \$1.10 for the post office is now saying that the 10-page newsletter is overweight. About 18-20 newsletters are mailed out each month.

Sleaford site report – Darrell Chatfield reported that the shed is finished now except for the wiring. There was discussion on re-keying locks.

Events Co-ordinator Report by Barb Wright. New banners are needed for indoor displays. Looking for a graphic artist for it in our members.

SSSP Report by Les Dickson. Always looking for volunteers to join the committee.

Centre Rep Report by Tenho Tuomi. No other meeting since the initial meeting at the GA.

Newsletter report by Ron Waldron. Next deadline is December 6. There is a serious lack of interest in the membership in writing articles for the newsletter.

Meeting adjourned at 7:42 PM

Minutes of November 18th General Meeting – *Tenho Tuomi*

Moved by Rick Huziak and Norma Jensen that the minutes of the October 21, 2013 meeting be accepted as circulated. Carried.

Committee Reports:

Treasurer's Report by Norma Jensen. \$5900 was taken out of term savings to pay the Coop bill for the new shed.

Newsletter report by Ron Waldron. Next deadline December 6. Articles are needed.

Sleaford Report by Darrell Chatfield. The shed is finished now except for the wiring. Darrell showed pictures of the new shed and other work done at Sleaford. Several additions were made to the package; 4' longer for a 12'x20' building, locks changed to match other locks, building paper under siding, 16" stud spacing, double

lock, heavier inside finishing, and everything still under budget.

Les Dickson voiced thanks on behalf of the members for a great job done in building the shed.

Events Co-ordinator Report by Barb Wright. December 16 meeting is a Potluck supper at 6:30 PM. Bring pictures and drawings for an art display.

Meeting adjourned at 8:22 PM followed by a presentation by Garry Stone on Building a Sextant. The Our Night sky lecture on Observing the Planets With a Telescope had to be cancelled due to technical problems with the computer.

Five Comets in One Morning – *Tenho Tuomi*



C/2013 V3 (Nevski), C/2013 R1 (Lovejoy), C/2012 S1 (ISON), C/2012 X1 (LINEAR), 2P/Encke, all to the same scale

On the morning of November 12 I photographed five comets in two hours. One of them was a new comet for me, C/2013 V3 (Nevski), making it the tenth comet that I have photographed this year. That is a new record for me for the number of comets that I have found in one year. Twice before, in 2009 and 2010, I photographed nine comets. In 2011 I was able to find only one comet all year. This year started with a bang with comet C/2011 L4 (PANSTARRS) and might end up with an even bigger bang with comet ISON.

It still amazes me that half the comets that I have photographed this year are in one morning sky. Comets must come in spurts.

I have 47 comets photographed on my comet web page, starting from 2002.

<http://www.lex.sk.ca/astro/350d/comets.htm>



From any member with artistic ability who would be willing to design a new Saskatoon Centre backdrop and banner for our indoor displays. Contact president James Gorkoff if you would like to volunteer.

jgorkoff@yahoo.ca

Sky Buys and Mirror Cells

Televue PowerMate 2.5x 1.25" - \$150 obo

- Hardly used. New \$200, asking
- Contact Les Dickson, astrochem@sasktel.net



Telescope for Sale - \$450 (*reduced price!*)

- Skywatcher 13065-EQ-2 Newtonian Reflector with Finder Scope and Equatorial Mount (D=130mm, F=650 mm)
- Motor Drive on Right Ascension Celestron T-Ring Mount for Nikon Camera
- Two Eyepieces
 - Televue Plossl 25mm
 - Televue Plossl 10mm
- 2X Barlow Lens
- Telescope Bag
- Leather case for parts storage



Contact **Barbara Nelson** - 374-2055 or e-mail: hobbit.hole@shaw.ca



1. To **Rick Huziak and Gord Sarty** for preserving the history of our Centre by scanning many of our old newsletters which can now be found online at: <http://www.usask.ca/rasc/newsletters.html>
2. To **Garry Stone** for donating one of his handmade high quality wooden sextants to be raffled at SSSP 200014
3. To **Rick Huziak, Darrell Chatfield, Larry Scott**, and all other members who lent their time to help complete renovations to our Sleaford Warm-up Shelter

The New Sleaford Storage Shed – *Darrell Chatfield*



Yes, it's built!! The new Sleaford Storage Shed is up, and very functional. It was done by the beginning of November, with just the wiring left to be done in the spring. About the only other thing to do is to paint the double door system, again in the spring. (It comes with a primer on it). We ran out of time to get that done. We will, of course, put extra shelving in there, and move the metal storage cabinet from the schoolhouse that Rick had bought from SED Systems surplus two years ago.

From the poured concrete floor picture, you can see it is well off the ground by over 5", which is what I really stressed with the concrete guy. He agreed, and complied! I didn't want a structure that could get wet if built too low. There are other features that I specified before construction by the Co-op, who supplied all materials, and built the shed. They were: thicker outside walls; 2x4 studs at 16" on center, and not the usual 24"; heavy duty double door system; a lock system that would accept our keys; special ties that will keep the roof and walls together in case of a big wind; matching metal siding, and building paper under the metal siding.



In the one picture, you will see the ramp made out of treated lumber. I painted the ground-side edges with latex paint before building it, later secured it against the concrete pad.

These ideas, I believe, will make for a very durable shed for a long time to come. By the time you read this, the shed will have had the final inspection done with the local building inspector. This has been a long and very time consuming effort on my part. But I'm glad to see it up and already in use by Larry and Norma, with the storage of the snow blower and mowers.



We will have to do a major cleanout of the schoolhouse next summer. This means throwing out, or recycling the useless things, and cleaning up and putting the good items in the new shed. We will put out a call for help when that can happen.

Observer's Group Notes – Larry Scott

There had been an Observers's Group scheduled for November 2nd but it was cloudy that night so we didn't go. Another date was scheduled for November 30th and that one was cancelled as well, but it at least comes with a story.

I had high hopes for the Nov. 30th date as forecasts were calling for clear skies that Saturday for nearly the entire week prior, despite the nearly solid bank of cloudy weather that we had been living under. On a cloudy Thursday evening satellite imagery showed me a wide patch of clear sky headed toward us, clearing from around suppertime on Friday the 29th till suppertime on Saturday. I packed the van and drove it to work Friday morning so I could get out to Sleaford as quickly as possible that evening. Although cloudy all day the forecast held and the skies began clearing at Sleaford around 18:30. There was a light breeze out of the SW and the temperature remained near -5C all night. Seeing was good for the three members present and transparency got better as the night wore on. Saturday was a beautiful day and and although clear, the humidity that night was 100%.

Next scheduled Observer's Group is December 28th with moonless evenings from the 21st till January 4th.



The Five Visible Planets This Month

adapted from Earthsky.org

Editor's Note: Venus pops out at dusk. Jupiter rises at early evening, and Mars comes up after midnight. Saturn before dawn.

Mercury. Mercury is at the tail end of a fine morning apparition for the Northern Hemisphere, centered on November 18, 2013. So you might catch Mercury before sunrise in early December. Try using the slender waning crescent moon to spot Mercury, Saturn and Comet ISON before sunrise [December 1](#). Mercury will pass into the evening sky in late December 2013, but probably won't become visible in the western evening twilight until the second half of January 2014.

Venus. Venus, the brightest planet, will remain in the evening sky throughout December, but will pass into the morning sky in January 2014. It is a dazzling object, as seen from around the globe. An unobstructed horizon in the direction of sunset is best for observing Venus at dusk and early evening. Best of all, it'll be at its brightest as the evening star at the end of the first week of December. How can anyone not enjoy Venus when it's in the evening sky?

Mars. Mars becomes a easier to spot before sunrise in December, as it climbs a higher into the predawn sky and brightens all month long. Keep in mind that Jupiter shines many times more brilliantly than Mars does. At or near dawn, Jupiter sits low in the west whereas Mars shines at or near its highest point in the sky. Mars *transits* - reaches its high point for the night – around 7 a.m. in early December and 6 a.m. by around New Year's Day.

Jupiter. As December begins, our solar system's largest planet, Jupiter, is easy to see starting at early-to-mid evening, and this brilliant beauty of a planet lights up the nighttime all the way to dawn. It is rising around 7 to 8 p.m. in early December. By the end of the month, Jupiter is up by dusk or nightfall (approximately 6 p.m.). Jupiter at nightfall means we are getting closer to the giant planet's yearly opposition, which will happen in early January 2014.

In other words, Jupiter is the planet to watch – to replace Venus as the bright beacon in the evening sky in January 2014! It's now nearly at its best. Keep your eye on Jupiter, as this brilliant world will become more and more visible in the evening sky. In late December 2013/early January 2014, Jupiter will shine from dusk until dawn.

Saturn. at mid-northern latitudes, Saturn rises about two hours before the sun in early December and about four hours before sunrise by the month's end. This golden-colored world shines in front of the constellation Libra the Scales. Let the waning crescent moon help guide you to Saturn on the mornings of December 1, December 28 and December 29.

Earth flew between the sun and Saturn last on April 28, 2013, so Saturn's time of greatest prominence in our sky is long past for this year. In fact, if you want to see Saturn at its best, you might start looking forward to next year. Saturn fell into the sunset glare in mid-October 2013 and recently reappeared in the morning sky in the latter part of November 2013. Saturn will be at its best in May 2014.

Observing Clubs and Certificates

Join the Club! Observe all 110 Messier, 110 Finest NGC, 400 Herschel I or II, 140 Lunar, 154 Sky Gems or 35 Binocular objects, or Explore the Universe and earn great OBSERVING CERTIFICATES!

MESSIER CLUB

Certified at 110 Objects:

*R. Huziak, G. Sarty, S. Alexander,
S. Ferguson, D. Jeffrey, D. Chatfield, B.
Christie, K. Noesgaard,
M. Stephens, B. Hydomako, T. Tuomi, L.
Scott, G. Charpentier, B. Johnson, M.
Clancy, L. Dickson, B. Burlingham, K.
Houston*

Norma Jensen	110
complete	
Ron Waldron	105
Wade Selvig	75
Garry Stone	57
Bernice Friesen	45
Wayne Schlapkohl	43
Barb Wright	40
Ellen Dickson	34
Jeff Swick	24
Graham Hartridge	9

Chatfield BINOCULAR CERTIFICATE

Certified at 35 to 40 Objects:

*M. Stephens, T. Tuomi, M. Clancy,
R. Huziak, K. Maher*

Jim Goodridge	Up!	12
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FINEST NGC CLUB

Certified at 110 Objects:

*R. Huziak, D. Jeffrey, G. Sarty,
D. Chatfield, T. Tuomi*

Larry Scott	Done!	110
Scott Alexander		97
Norma Jensen		66
Sandy Ferguson		23
Kathleen Houston		23
George Charpentier		13
Mike Clancy		7

EXPLORE the UNIVERSE

Certified at 55 to 110 Objects:

*M. Clancy, T. Tuomi, K. Maher,
B. Grattias*

Wayne Schlapkohl	Done	55
Sharon Dice		31
Jim Goodridge	Up!	35

Isabel Williamson Lunar Observing Certificate

Certified at 140 Objects:

T. Tuomi

Norma Jensen	133
Jeff Swick	29

HERSCHEL 400 CLUB

Certified at 400 Objects:

*D. Jeffrey, R. Huziak, D. Chatfield, T.
Tuomi*

Gordon Sarty	251
Scott Alexander	117
Sandy Ferguson	18
Larry Scott	20

HERSCHEL 400-II CLUB

Darrell Chatfield	Done!	400
Rick Huziak		246

LEVY DEEP-SKY GEMS

Certified at 154 Objects:

Tenho Tuomi	150
Darrell Chatfield	70



The Messier, Finest NGC and David Levy's Deep-Sky Gems lists can be found in the *Observer's Handbook*.

The Explore the Universe list is available on the National website.

On-line Messier and Finest NGC lists, charts and logbooks: <http://www.rasc.ca/observing>

On-line Herschel 400 List: <http://www.astroloague.org/al/obsclubs/herschel/hers400.html>

Binocular List is at: http://homepage.usask.ca/%7Eges125/rasc/Chatfield_Binocular_List.pdf

"Isabel Williamson Lunar Observing Program Guide:

<http://www.rasc.ca/observing/williamson-lunar-observing-certificate>

Program details can be found at: <http://www.rasc.ca/williamson/index.shtm>