

Saskatoon Skies

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

Vol. 43, No. 04

April 2012

Earth Hour 2012



For the fourth year in a row Earth Hour was celebrated by the RASC Saskatoon Centre members at the Centre Mall on 8th Street by setting up a sidewalk astronomy event. Thank you to the 11 volunteers who brought their scopes, met the public, and did the organizing.

Photo by Jeff Swick



Saskatoon Centre
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To view <i>Saskatoon Skies</i> in colour, see our Website: http://homepage.usask.ca/~ges125/rasc/newsletters.html	

MEMBERSHIP? JOIN TODAY!

Regular: \$80.00 /year

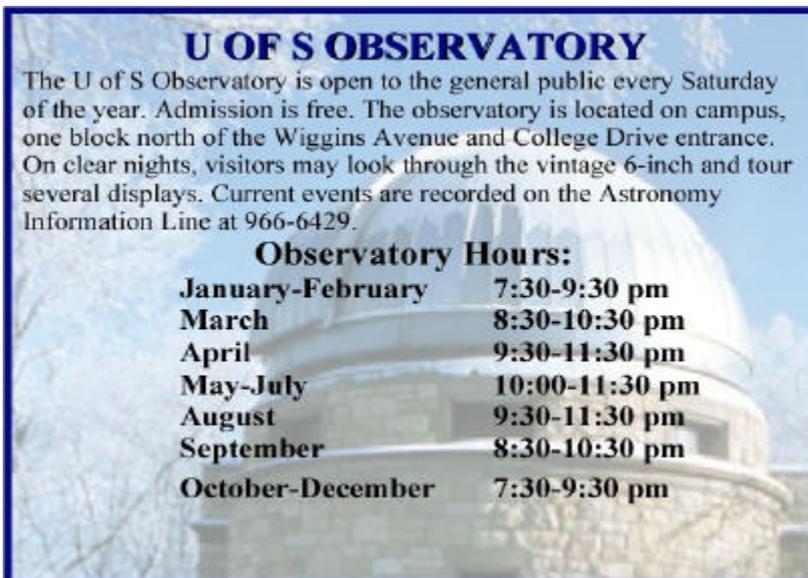
Youth: \$41.00 /year

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 – Jeff Swick, 373-3902
Secretary – Ron Waldron, 382-9428
Vice-President – James Gorkoff, 644-1343
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 Editors – Kathleen Houston & Tenho Tuomi

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 e.b.a@sasktel.net 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.

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

Apr 14	Observers Group – Dusk, Sleaford Observatory	Larry Scott	934-5801
Apr 16	RASC Executive Meeting –6:30 pm, 175 Physics, U of S	Jeff Swick	373-3902
Apr 16	RASC General Meeting – 7:30 pm, 175 Physics, U of S	Jeff Swick	373-3902
Apr 21	April Lyrid Meteor Shower – peak at 11 pm	http://www.imo.net/calendar/2012#lyr	
May 12	Astronomy Day. Farmer's Market – 8:00 – 14:00	Barb Wright	249-1990
May 12	Alan Dyer, "The Transit of Venus", 8:00 - 9:00 pm Venus gazing, 7:00 - 8:00 pm, Star Gazing, 9:00 - 11:00 - Bethlehem Catholic High School theatre and grounds	Kathleen Houston	665-3392
May 14	RASC Executive Meeting –6:30 pm, 175 Physics, U of S	Jeff Swick	373-3902
May 14	RASC General Meeting – 7:30 pm, 175 Physics, U of S	Jeff Swick	373-3902
May 19	Observers Group – Dusk, Sleaford Observatory	Larry Scott	934-5801
May 20	Partial Eclipse of the Sun – 6:10 to 8:13 PM		
June 16	Observers Group – Dusk, Sleaford Observatory	Larry Scott	934-5801
June 18	RASC Executive Meeting –6:30 pm, 175 Physics, U of S	Jeff Swick	373-3902
June 18	RASC General Meeting – 7:30 pm, 175 Physics, U of S	Jeff Swick	373-3902
June 28 – July 2	2012 General Assembly - Edmonton	http://www.rasc.ca/programs/ga2012	
Aug 16-19	Saskatchewan Summer Star Part – Cypress Hills	http://www.usask.ca/rasc/starparty.html	

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



RASC SASKATOON CENTRE GENERAL MEETING

MONDAY, April 16, 7:30 PM
Room 175, Physics Bldg., U of S

Speaker: To Be Announced

NOTE: There will be an executive meeting at 6:30 PM

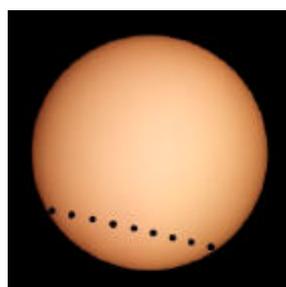


Photo by Alan Dyer

Pre-Transit of Venus Fever!

May 12th, 2012.

Free public astronomy events.

Bethlehem Catholic High School, Saskatoon, SK.
122 Bowit Cres. off 22nd west, Shaw Centre.

7:00 – 8:00 p.m. Sun and Venus observing.

8:00 – 9:00 pm. Alan Dyer public multimedia presentation,
"The Transits of Venus". Last transit in our lifetime: June 5, 2012.

Writer and producer of science programs at TELUS Spark Science Centre of Calgary.

Rush Seating!

9:15 p.m. -11:00 pm. Urban stargazing.

<http://rasc.ca/transit-venus>

PRESIDENT'S MESSAGE

by Jeff Swick



Well, another Earth Hour come and gone. It was good to see some of our newer members out. It was much appreciated and I'm guessing the newer members enjoyed that moment when you show a child or even an adult something in the night sky for the first time. It's something that transcends age, gender and cultures and something that is very rewarding. It's really something to share a view with somebody who's native language isn't English some things just bridge that barrier astronomy and music.

Coming up in May we have Alan Dyer coming to Saskatoon for his transit of Venus talk and our annual appearance at the Farmers Market. One thing that was

decided between meetings is that we will not be hosting a sidewalk astronomy event at the Civic Centre this year as the lateness of sunset this year means we only have 25 minutes from sun set until we have to be off of the property. We are welcome on the property while the facility is open but we have to be gone shortly after they close the doors.

For those heading out to Sleaford this time of year, please be wary of the softness of the ground so as not to rip up the yard and leave it full of ruts.

In closing, let me welcome our new temporary members to the club. I hope to see you out at our next few meetings and you should feel free to bring a friend or family member along with you if you wish.

New members who may have questions ahead of our meeting can email me at skstars@shaw.ca

Earth Hour Report

by Jeff Swick



Thanks to our attuning volunteers for putting on a fabulous sidewalk astronomy event last night at The Center Mall on 8th St. We processed some 300 people, and Ellen who ran our display booth signed up 9 new temp memberships.

Thank you to our member Bob Johnson and his staff at The Center Mall for putting this event together. I think it was 3 years ago that Barb Wright and Bob initiated our participation in this event and it has turned into one of our most visible events. It's short, it's intense, it's high visibility and it's done.

Photo by Jeff Swick

Minutes of the Executive Meeting, March 19, 2012

by Ron Waldron

- 1 Meeting began at 6:30 PM
- 2 Approval of Minutes of January and February's Executive Meetings – moved by Barb Wright, seconded by Rick Huziak - carried
- 3 Committee Reports
 - a) Treasurer's Report – Norma Jensen - nil report
 - b) Fundraising Report – Colin Chatfield
 - Currently checking out a Sask-Tel Grant for our club (\$500). There is also a City of Saskatoon Grant being checked on (\$500 - \$5000)
 - Colin is going to look into Sobee's Gift Cards as a possible future fundraiser
 - c) Centre Rep Report – Rick Huziak
 - Jim Gorkoff attended a meeting of the National Council regarding CMCA. He will be giving a presentation at a future General Meeting to outline what he learned
 - National is doing some E-Book applications
 - Our Centre will be asked whether we want insurance provided by a National Office broker
 - We were given 200 free moon gazer guides which we will be able to give away
 - It is critical that we continue to report our Outreach activities in our year end reports as National relies on this information. It also helps our centre to receive "freebies" from National. An example of that would be the 700 Venus Transit Goggles which we are going to receive
 - Edmonton Centre General Assembly is happening at the end of June. Our membership should plan to attend.
 - d) Sleaford Site coordinator – Darrell Chatfield
 - The 16" telescope has to have a factory reset done on it before it will be working 100%
 - e) Events Coordinator – Barb Wright
 - Messier Marathon is this coming Saturday evening. (March 24th)
 - Earth Hour is Saturday, March 31st (8:30 – 9:30 PM) at Circle Centre Mall. We will need to have about six telescopes to be at this event. There are posters up in the mall advertising the event.
 - Astronomy Day / Transit of Venus plans are up and running. The dates are Friday, May 11th through Saturday, May 12th. Alan Dyer will be the speaker for the Venus transit. More information can be found in the next newsletter.
 - A partial eclipse of the sun takes place on Sunday, May 20th so we will be planning a public event around that as well.
 - f) Membership Report – Mark de Jong – nil report
 - g) Light Abatement – Rick Huziak – nil report
- 4 Other Business
 - a) SSSP – Les Dickson
 - There is a meeting on Thursday, March 22nd at Les's home.
 - All of the speaker spots have been filled except for the Thursday night public speaker event.
 - b) Darrell gave us information about some outbuildings being sold off this Saturday at an auction by Elim Tabernacle. These are ready-made buildings on wooden floors. It was decided that it would be a more expensive alternative than the garage packages we have looked at previously.
- 5 Meeting adjourned at 7:30 PM

Minutes of the General Meeting, March 19, 2012

by Ron Waldron

- 1 Meeting began at 7:45 PM
- 2 Approval of Minutes of January and February's General Meetings – moved by Ellen Dickson, seconded by Colin Chatfield. Carried
- 3 Committee Reports – see minutes of the March Executive Meeting. In addition are these items:
 - a) Newsletter – The date for submissions for the April Newsletter is April 1st
 - b) Great White Astro – <http://www.gwnastro.ca> is our new forum for discussion. We will be phasing out our Yahoo group.
- 4 Presentation – Rick Huziak gave a talk entitled "The Rockhaven Fireball – Feb. 21st, 2012" including video clips and audio clips of some of the follow-up interviews.

Dark Sky Lighting Monthly, Part III

By Rick Huziak <rickhuziak@shaw.ca>

A Star Night at Waskesiu Lake



On February 18th, I did a presentation and star night at the Prince Albert National Park interpretive centre as one of the several interpretive programs during February break. The invitation was from Marcia Klein, now Interpreter Coordinator at PANP. Marcia, you may recall, was the Director of Brightwater Science & Nature Camp, where some of us have done many presentations in the past. I arrived at the park at 3 p.m., and having some time to kill, I set up my scope in the parking lot and showed about 20 passes-by views of the 60%-illuminated Venus and the belts of Jupiter. These daylight observations surprised everyone; no one knew you could see planets in the daylight.

The main presentation was held in the interpretive centre lobby at 7:00 p.m. I had 21 people show for the talk, *A New View of the Solar System*. The audience included Nicole Dancey, who was up at the park doing some winter tenting, and a reporter from the Prince Albert Daily Herald. (Nicole is now Promotions Officer for the Saskatchewan South Field Unit of Canada Parks Agency and was an interpreter at CHIPP when the DSP was created).

For the star night, running from 8 p.m. to 9:30 p.m., the crowd swelled to 60. We held the star night in the parking lot, and despite some side-facing pack lights, we did fine, looking at Jupiter, M42, the Pleiades and theta Orionis. Marcia helped out a lot by bringing out four pairs of binoculars and doing an impromptu binocular starwalk.

A very welcome visitor was the aurora borealis. About half way though the star night, the aurora flared up with a very bright display of curtains, growing to a fan at the zenith. The aurora had rapid, swirling

motion, and sported green, yellow, pink and purple streamers. Since this great park attracts people from all over the world, many of the crowd had never seen the northern lights, and this spectacular display will leave them with a very good impression of our land.

I jumped at the chance to do this presentation, as it was a good excuse to do a quick survey of the park. This spring, Sask Power will be changing the lights here from conventional drop-lens cobra, to flat lens FCO cobras with intelligent controls. Although Sask Power is doing this to study energy savings, the natural next step is to begin the creation of the next dark-sky preserve. National Parks has a mandate to create DSPs with all of their parks, and so this process should be just a matter of creating some momentum with the park management. PANP is, for the most part, a vast wilderness, but it does contain a townsite and many cottages. This mix is not unusual in parks, but creates the need to have a strong DSP agreement that has the support of the park, businesses and cottagers. But seeds have already been sown. PANP is part of *Lakeland*. Lakeland consists of Candle, Christopher, Anglin and many other lakes. The great demand for large cabins, trail quadding and lake-based power boating has caused great pressure on the environment, and a lot of local destruction. Not to be spared is the sky, and often, new 3000 square-foot “cabins” are lit up like Fort Knox. The uncontrolled destruction of parklands has spurred a movement to retake the environment by proposing strong environmental development rules, which include light pollution bylaws. If passed, light pollution bylaws within the RM of Lakeland and a DSP that includes PANP and possibly some surrounding camps and lakes might go a long way to preserving the environment of Saskatchewan’s northern lakes.

See the PA Daily Herald link here. (The spelling, accuracy and context errors are wholly their own): <http://www.paherald.sk.ca/Local/News/2012-02-21/article-2900799/Park-proves-popular-during-Family-Day-weekend/1>

Congratulations to Kathleen Houston for getting her Messier Certificate.

Congratulations to Darrell Chatfield for completing his Herschel 400-II list. He has applied for a certificate.

Welcome to Jim Goodridge, to the Chatfield Binocular Certificate list.

Debra Ceravolo's SSSP Astrophotography Tips. "What I Look for in Astrophotography"



1. Sharpness in detail, not to be confused with sharpening but good sharp focus and a fine sense of quality of the image.

2. Good composition, for example, one entry that had the Moon reflected in water with a tractor was a

good idea but not executed that well. I looked at that photographer's images online and saw much better ones he could have chosen or at least cropped differently. The composition should be well balanced, interesting and say something that evokes emotion and our connection to the sky. Deep sky images should also be well composed and thought out, especially mosaics.

3. Processed with a delicate touch. This includes saturation, sharpening and contrast. I am all for using the tools but it is important to know when it has gone too far or is too harsh.

4. Degree of difficulty. Traveling to a dark sky with portable equipment and working all night to capture enough data and process it, as opposed to capturing the Moon through someone's telescope with an iPhone. Knowing how much work it takes to create a

good image helps to appreciate them.

5. Unusual scene, for example, an airplane or bird flying through the disc of the Sun or Moon. Many meteors at once. A lightning storm on the horizon with the Milky Way overhead or a brilliant aurora with an interesting foreground, or something that makes me stop and say, wow! cool photo (and knowing that it is not a fake).

As for the colour pallet, I don't know if the one I use for astroimaging can be used for day photography. The two things are different. One is emissions in space and the other is reflected light from our Sun. When I do daylight photography, I typically use a white light for color balance, or photograph something very bright white and use that to balance everything else, but perhaps you can use the spectral chart I use. In Photoshop there is a gradient tool that works well for the three parameters of colour: hue, saturation and brightness. I have written an article that will appear in the December issue of Sky & Telescope that illustrates how to go about colorizing an image using my technique. I would be interested in knowing if this works also for day photography.

debra@ceravolo.com

2013 Observer's Calendar - Call for Images — by Paul Gray

Astronomical images of all types are invited for consideration for publication in the 2013 RASC Observer's Calendar including: deep sky, solar system, and dramatic astronomically themed landscapes.

Images can be prime focus, piggyback, eyepiece projection, or fixed tripod; and recorded on a digital/CCD camera, film, or webcam. Submitted images must be of sufficient quality and resolution to reproduce well at 9.5" x 12" and must be compatible with the "landscape" orientation of the calendar

images. Generally, this will mean a resolution of at least 1200 pixels tall. We will also consider making a quilt or mosaic of lunar/planetary webcam captured images (so as not to over magnify an individual image for publication).

Please email submissions to me at snpgray (at) gmail (dot) ca. The deadline for submissions is 2012 May 31. With the Transit of Venus on June 5/6, Transit photos/sketches may be accepted up to June 30th.

RASC National Council Meeting (NC 121)

March 10, 2012, 8:35 am – 2:48 pm CST

Richard Huziak, NC Rep rickhuziak@shaw.ca



Here is a summary of the latest National RASC news, as discussed during March's National Council meeting. Only items that may apply to members at large are included, though much more business was held during the meeting. So this report is short and sweet!

eBook astronomy applications are being developed and will eventually be available on the National website. Initial content will be repurposed existing material. eBook application should attract a “new-generation” membership.

Moon Gazer Guides, a new outreach handout, have been distributed to Centres. 200 guides have been

received by our Centre and can be given away at public events.

Names that our members may recognize: Past Saskatoon member Mike Stephens is now a voting member of the **National Observing Committee** and Tenho Tuomi was asked to join the committee as a non-voting member as his experience and depth of knowledge is often relied upon. Tenho has accepted.

20,000 Transit of Venus sun goggles have been received by National. The glasses are provided by a grant from the *Dunlap Institute for Applied Astronomy and Astrophysics*. This will allow us to provide safe viewing glasses for the upcoming Transit and eclipse public events.

Public Star Night at the Lucky Lake Library

By Tenho Tuomi



On Tuesday, March 27, we had our fourth annual Spring Public Star Night at the Lucky Lake Public Library. The librarian looks forward to this every year and puts posters over town announcing it

The most amazing part of the evening was that it was solid overcast up to the announced time, but the sky cleared completely while I was giving a short talk inside!

10 adults and 6 children came in spite of the clouds. We looked at the Moon and planets, and a couple other objects when the sky became dark enough.



The Planets for April 2012

Murray Paulson,
RASC Edmonton Centre

Last month **Mercury** was in inferior conjunction, between the earth and the sun, and now has sped past the Earth in our orbit and will swing out into the morning sky. Unfortunately for us northern hemisphere dwellers, the morning ecliptic is almost parallel to the horizon and we will not get to see the Greatest Western elongation on the 18th of April. Mercury will venture 27.4 degrees from the sun, 9 more than last month's evening elongation, which I did witness. On the 18th, Mercury will expand out to 8" and shine at magnitude 0.4, before heading back into the sun. Of course, it is a good daytime challenge to find it and it is best observed high in the sky anyway.

Did you see **Venus** at Greatest Elongation on March 27? It was gorgeous, a white satin quarter phase against a blue twilight sky. At the beginning of this month, Venus shines at magnitude -4.4 and will show you a 27.7" obviously crescent disc. It will brighten over the month to magnitude -4.5 and stay there from the 11th of April to the 12th of May. On May 4th Venus will sit at its most northerly declination of 27.81 degrees. Watch over the month as Venus starts its trek back to the sun. It will expand and the phase will become a slimmer crescent. By May 4th, Venus will show a 23% illuminated crescent 40" in diameter. The next month the rate of change will really pick up as we enter the final stretch to the Transit. Enjoy the show!

Mars starts off the month high in the early evening sky, and the twilight serves to accentuate the redness of Mars. At the beginning of the month, Mars shines at magnitude -0.5 and has shrunk slightly to 11.8 arc seconds. In two years time we will sit at the next opposition of Mars, April 8, 2014, and Mars will rise to 15.1". This is the last of the Aphelic oppositions for this cycle, but they will march further south with every passing year. I am just going to have to go south

in 2018 for the 24" Opposition. If you have been watching Mars, you will note the very small polar cap and the occasional limb haze. Despite its size, the planetary photographers have been recording excellent details. As the month progresses, Mars will shrink and you will see the very gibbous phase as our perspective shifts. By early May, Mars will have shrunk to 9.6" and it will shine at magnitude -0.0.

Jupiter is a little more than a month away from its solar conjunction, so is very low in the west. It will not be there for Astronomy days, but Mars and Saturn will have to do. On May 13th, Jupiter passes behind the sun and will enter the morning sky and start the cycle again.

This month we will see **Saturn** return to our night skies as opposition occurs on April 15th. It will shine at magnitude 0.2 and will show a 19" disc in the eyepiece. The rings are tilted up at 13.6 degrees and they subtend 41". Daylight savings time pushes Saturn father into the late night, but it is worth the wait. You will have to set up with a good south east horizon for Astronomy days. At midnight Saturn sits at an altitude of 25 degrees and is in the south east. By early May, it will sit at 30 degrees at midnight and sits as high as it is going to get, about 5 degrees above Spica in Virgo. Saturn's moon Iapetus is directly north of Saturn on May 14th and shines at magnitude 11. It orbits Saturn every 79 days and has the interesting characteristic of being darker on one side than the other. It also is tidally locked to Saturn, so when it is on the east side of Saturn it is 2 magnitudes fainter than when it is on the west side of Saturn. It ventures as far as 9.5 minutes of arc away from Saturn, but on May 14th, it will sit 2.2 minutes of arc above Saturn.

Till next month, clear skies.

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. Hydromako, T. Tuomi, L. Scott, G. Charpentier, B. Johnson, M. Clancy, L. Dickson, B. Burlingham, K. Houston

Norma Jensen	109
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	New!	13
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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		58
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. Gratias

Wayne Schlapkohl	Done	55
Sharon Dice		31

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	7

HERSCHEL 400-II CLUB

Darrell Chatfield	Done!	400
Rick Huziak		246

LEVY DEEP-SKY GEMS

Certified at 154 Objects:

Tenho Tuomi	Up!	132
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

Copies of the Isabel Williamson Lunar Observing Program Guide can be purchased at meetings.

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

Observers Group

by Larry Scott



March turned out to be not such a good month for organized observing. The Observers Group scheduled for the 17th was cancelled and the Messier Marathon on the 24th should have been. Three deluded souls turned

up at Sleaford on March 24th and managed to get a little binocular astronomy in during a half hour break in the clouds. During our brief window in the overcast

I located the crescent Moon, Jupiter, Venus, Mars, Comet Garradd, and seven Messier's. Also got my share of a ridiculous number of donuts. Thanks, Greg.

Next Observers Group is scheduled for April 14th with Moonless evenings from about the 9th to the 23rd.