

Saskatoon Skies

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

Vol. 41, No. 1

January 2010

The Milky Way from Saskatoon



(From Sky & Telescope Editor's Choice Archive)

“As I was imaging, I was treated to an Aurora with a beautiful Violet tinge just above the usual green.”
Photo by Bob Johnson, 1:00am, May 24, 2009, Canon 40D and Tokina 10-17mm fisheye lens.



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

MEMBERSHIP? IT'S NEVER TOO LATE TO JOIN!

Regular: \$77.00 /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 membership coordinator, Mark de Jong, or renew through the National Office and let Mark know that you did!

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
- The 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 – Barb Wright, 249-1990
Secretary – Ron Waldron, 382-9428
Vice-President – Jeff Swick, 373-3902
Treasurer – Norma Jensen, 244-7360

Bottle Drive & Canadian Tire \$

By Darrell Chatfield

If you cannot make it to a meeting but would like to contribute your Canadian Tire money please call me at 374-9278.

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

Newsletter Editors – Christine Kulyk & 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 clkulyk@sasktel.net – preferred as plain unformatted ASCII text files without line breaks. Images sent by e-mail should be 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 20th of the preceding month. Saskatoon Skies accepts Commercial advertising. Please call the editor 306-858-2453 for rates. Members can advertise non-commercial items free of charge.

RASC CALENDAR OF EVENTS

Jan 18	Synchrotron Tour & RASC Meeting -7:30 pm, Canadian Light Source, U of S	Barb Wright	249-1990
Feb 6	Observers Group – Dusk, Sleaford Observatory	Larry Scott	934-5801
Feb 8	RASC Executive Meeting - 6:30 pm, 175 Physics, U of S	Barb Wright	249-1990
Feb 8	RASC General Meeting - 7:30 pm, 175 Physics, U of S	Barb Wright	249-1990
Mar 6	Observers Group – 7:30 pm, Sleaford Observatory	Larry Scott	934-5801
Mar 13	Messier Marathon – Dusk, Sleaford Observatory	Larry Scott	934-5801



MONDAY, JANUARY 18, 7:30 PM

**Synchrotron Tour
& RASC General Meeting
at the Canadian Light Source Building, U of S**

(Be sure to read below for further details!)

Behind the Scenes at the Canadian Light Source:

As a special feature for our January program, our Membership Coordinator Mark de Jong has arranged for our members to be given a guided tour of Saskatoon's world-class Synchrotron facility. To take part in this tour, go to the main entrance of the Canadian Light Source (CLS) building on the University of Saskatchewan campus (parking is available outside). Be sure to arrive at least 15 minutes BEFORE 7:30 pm on Monday, January 18, so that a member of the CLS staff can let you into the building and provide you with a security pass.

Please note that space limitations require us to restrict this tour to RASC members only. Following the Synchrotron tour, a brief RASC General Meeting (again, for members only) will be held in Room 2068 at the CLS building. As noted above, those wishing to attend will need to arrive BEFORE 7:30 pm to gain entry to the building, which may be locked after that time.

SKY BUYS & MIRROR CELLS

The Saskatoon Centre's Swap and Sale Page

5" Astroscan telescope. Red exterior. Good condition.

8" Celestron Celestar Deluxe S/C telescope. Includes many extras and upgraded items, such as finder, W/O diagonal, Feathertouch focuser, Telrad, Bob's Knobs, Dry Eye dew heater system, padded main scope case, and tripod bag. This scope has great optics, as attested to by a former Celestron employee at a previous SSSP. This scope has seen me through 3 certificates, and will track for hours on end. If you want a great scope, then please consider this one. Over \$3,300 invested. Asking \$1,700. Will consider offers. Please contact Darrell (306-374-9278; novachat@sasktel.net).

President's Message

by Barb Wright

International Year of Astronomy is now over. The Saskatoon Centre has every reason to be proud of our past year; we were all very busy with IYA events, including a successful GA/SSSP. (We won't talk about the rain since that was just how it was, and nothing we could change about it!)

Now, as we look forward to 2010, we want to continue with public outreach events and grow our club as a result. And we will be looking at the Sleaford site, to decide how we want to develop in that direction. This will be another interesting and full year.

I hope you have considered joining the Saskatchewan Summer Star Party (SSSP) planning group. After hosting the General Assembly last year, having just the Star Party to plan will be a walk in the park! We are already approaching speakers; do join us in the fun.

I hope everyone had a lovely Christmas with family and friends. I was in Calgary with my daughter and grandson. He's so much fun at 1 1/2 years. I'd like to take this opportunity to wish the very best of health and prosperity to all of you in the New Year!

Farewell International Year of Astronomy 2009, Hello Legacy Program

(News Release From the International Astronomical Union)

IYA2009 was launched by the International Astronomical Union (IAU) and UNESCO under the theme "The Universe, Yours to Discover." It marked the 400th anniversary of Galileo Galilei's first astronomical observation through a telescope in 1609, an event that changed the world forever. Many thousands of individuals in over 148 countries around the world have been involved, forming the world's largest-ever astronomy network. IYA2009 has shown astronomy as a truly global scientific endeavour that unites astronomers in an international, multicultural family of scientists, working together to find answers to some of the most fundamental questions humankind has ever asked.

On January 9-10, 2010, an IYA2009 Closing Ceremony is being held in Padova, Italy, in the Aula Magna of the University of Padova (where Galileo taught experimental physics and astronomy). This concludes one of the world's grandest science popularization ventures, but also hails the beginning of a new era: Beyond IYA2009. The IYA2009 Legacy Program, which will be launched during the IYA2009 Closing Ceremony, will foster continued cooperation and aim to sustain the network, activities, and innovative concepts for education and public outreach in astronomy which have been shown to be successful in IYA2009.



Ron Waldron and Rick Huziak, two IYA participants at Beaver Creek, 100 Hours of Astronomy, April 4, 2009

Photos by Jeff Swick

Editor's Corner

by Christine Kulyk

The snow is falling and skies are overcast as I sit dreaming of starry skies to come in the year 2010. As members of the RASC, we now have the chance to use the momentum generated by all the wonderful 2009 International Year of Astronomy (IYA) events and public-awareness efforts to propel us into a star-studded future.

As the IYA unfolded, I was delighted to see the creative variety and multiplicity of activities and projects that took place around the world. Several cities in North America and Europe mounted impressive exhibits of astronomical images and information that were widely visible to passersby. Torontonians were treated to astronomical ads on their buses. Our Saskatoon Centre hosted two exhibits, one at the Cypress Hills GA/SSSP and another at the Saskatoon Public Library.

Lots of sidewalk astronomy and a steady stream of public star nights gave millions of people the chance to look through a telescope and discover for themselves the thrill of observing the night sky. Many Saskatoon Centre members took their telescopes to community gatherings throughout Saskatchewan at parks, libraries, and public events in 2009.

Now it's time to take hold of the awareness and enthusiasm generated through all these activities and use it to build upon. One of the greatest things about astronomy is that it has so many facets that can appeal to so many different people. There is an enormous range of possibilities open to us for future Saskatoon Centre activities. For us, the sky is no limit!

New Website & Organization to Help Sustain IYA Legacy Projects

(News Release From Astrosphere New Media Association)

A new nonprofit organization and website have been created to provide a brand-new "home" to sustain IYA projects. Astrosphere New Media Association (<http://www.astrosphere.org/>) is dedicated to promoting science and skeptical thought through Internet-based technologies and distribution. Its efforts are focused on the creation of technologies and content that enable better astronomy communications and greater astronomy content access for the public.

The projects encompassed by Astrosphere New Media include the 365 Days of Astronomy podcast, Second Astronomy in Second Life, the popular Astronomy Cast podcast, and a new project for 2010, We Are Astronomers. Additionally, Astrosphere will be hosting the archival websites from the US IYA2009 program. The 365 Days of Astronomy Podcast is a community project that "airs" one podcast per day, 5 to 10 minutes in duration, for all 365 days of the year. The podcast episodes are written, recorded, and produced by people around the world who donate a few minutes to share their passion for astronomy. Astronomy Cast takes a facts-based journey through the Universe each week with Fraser Cain (Universe

Today) and Dr. Pamela L. Gay (Star Stryder). The podcasts are available online at <http://www.astronomycast.com/>. We Are Astronomers is a Beyond 2009 project that looks to capture the diversity of who we are as astronomers through pictures and videos. Astronomers include professionals, amateurs, and armchair enthusiasts. To find out how you can help, email info@WeAreAstronomers.org.



The Moon from Saskatoon, July 3, 2009. Testing out a new Nikon D90 camera. *Photo by Colin Chatfield*

IYA in Coronach

by Mike Clancy

I was in Coronach on Friday, September 11, 2009, to take part in the South-west Saskatchewan Tourism Association's 'Fam Tour' (a familiarization tour for media reps, authors, and tourism-industry personnel) through the Big Muddy Badlands area. Anna and I had been invited as freelance authors.

As I was in the area anyway, I offered the local school "a guided tour of the night sky," explaining that this was the International Year of Astronomy (IYA). In hindsight, the night sky was among the finest I enjoyed all that year. The Milky Way was particularly sharp and bright, with the dust lanes evident all the way up to the azimuth and all three of the Little Dipper's very dim "handle stars" (the judge of the night sky for clarity!) visible to the naked eye. I brought my 90mm Maksutov-Cassegrain telescope and two sets of binoculars, and asked that anyone with their own binoculars please bring them as the whole purpose of the event was to teach people how to use their own equipment to find neat stuff in the night sky. The teachers were quite pleased about the opportunity, and had been telling all their students to bring their parents for an evening of "Stories and Stars."

I set up in the open space behind the hockey arena, as it offered the best view of the eastern horizon. Beginning about dusk, the folks began to gather, particularly Connor Ferrie, a Grade 10 student at the Coronach School, who was very keen on seeing the Jovian moon Europa come out from behind Jupiter, which occurred about 21:03. As I was going to be busy guiding people through the night sky, I showed him how to keep an object centred in the view, so he took over the telescope which (I think) tickled him pink! In fact, he proudly announced Europa's appearance to the assembly and then helped everyone take a look while explaining the motion of the Galilean moons to his school chums!

People were able to see Jupiter, two of its main cloud bands and three of its moons

(Io, Ganymede, and Europa), the Perseus Double Cluster, the Andromeda Galaxy, the Coathanger asterism, the Lagoon Nebula, the Jewel Box Cluster, and a series of constellations starting with Ursa Major. All of this under a sky so dark that the Milky Way cast shadows about 22:30! The International Space Station made an appearance lasting 7 or so minutes, and we saw several Iridium flashes. The whole tour lasted about 2 hours, from approximately 8:30 pm to 10:30 pm, but could have gone all night with new objects of interest rising in the east every half-hour or so.

As it was IYA-related, I'd brought quite a collection of RASC materials. Everyone was pleased with the quality of the materials, particularly that they were provided free of charge. I also left a collection of the stuff for their school library. The evening had begun with a recitation of "The Cremation of Sam McGee" and ended with "Swamp Witch Hattie," after which the 75 or so people in attendance picked up their lawn chairs, binoculars, and planispheres, and went home, perhaps hoping that the remaining days of summer would yield another evening as fine and clear as this one so that the treasures of the night sky could be unveiled again.



Mike Clancy treated Coronach kids and parents to a night of "Stories and Stars"

Photo by Mike Clancy

IYA in Hitchcock's Hideaway

by Mike Clancy



Anna and I were invited to Hitchcock's Hideaway, a convention centre located on a fine harbour on Lake Diefenbaker's western shore (south of Birsay) on Tuesday, September 15, 2009, to provide some "value-added" learning to a South-west Saskatchewan Tourism Associations retreat. Tenho Tuomi and his charming wife Velma took some time from their farming operation to join in, bringing his collection of meteorites (and one meteor-wrong) from the Buzzard Coulee fall of November 2008, which was a big hit as always. I'd received the invitation for this event as a result of the success of the Coronach IYA presentation (see page 5 of this issue), which shows just how popular stargazing and astronomy are at the moment.

To begin, I did my rendition of "The Cremation of Sam McGee," as well as an IYA intro speech during which we gave some free swag away. Then we got down to observing and saw some great stuff, including the International Space Station, Jupiter and its four largest moons (Io, Ganymede, Callisto, and Europa), then various constellations and their features like the Big Dipper (Alcor/Mizar double star), the Little Dipper (Polaris, the North Star), Perseus (Double Cluster plus the Mirfak star field and Algol), Cassiopeia, Pegasus, the Great Andromeda Galaxy, the Summer Triangle (Vega in Lyra, Deneb in Cygnus, and Altair in Aquila), with a binocular view of the Coathanger (Brocchi's Cluster in Cygnus), Sagitta the Arrow and Sagittarius (the Teapot

asterism). We also had excellent binocular views of the Jewel Box and the Lagoon Nebula, followed by Hercules and that huge globular cluster. I demonstrated the dark laning in the Milky Way and gave the "CD as scale model" speech, then finished with Auriga and demonstrated Capella (the Goat Star), which changes colour as you look at it.

The evening ended with a recitation of "Swamp Witch Hattie" and "The Shooting of Dan McGrew," after which the 15 or so people in attendance packed up and went to their respective rooms, chattering excitedly about the fine sights they'd seen and how to incorporate them into their own tourism ventures back home. (I'll say more on an exciting opportunity that came from this evening in another article, once things are more defined!) Once again, I am indebted to Tenho and Velma for their invaluable assistance; their expertise and good humour make evenings like this so special for Anna and me.

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My Observing Year in Review

by Tenho Tuomi

Looking back on 2009 at my observatory, I was the least active I have been since I started keeping an observing log in 2002. In 2009, I observed on 99 days, about half as many days as two years ago. Was it the weather, or am I starting to get old?

In January 2009, I upgraded my telescope from an 8" to a 12" Newtonian, mounted on a Byers 812 mount, and still fitting in my little observatory. I continued with photography, taking 132 astro pictures with a Canon Rebel XT digital camera.

Since it was International Year of Astronomy, I took part in Public Star Nights at the Lucky Lake and Dinsmore libraries. I also joined Mike Clancy for stargazing events at Douglas Park and Hitchcock's Hideaway.

I observed and photographed nine comets in 2009, more than in any other year! Comet Lulin in February was the brightest.

In March, I made a new record of 97 in a Messier Marathon from home. In April, I observed an occultation of Venus by the Moon during daylight.

The highlight of each month was the RASC meeting in Saskatoon, though I could not get to all of the meetings. The highlight of the year was the GA/SSSP in August — wet, but still had a very good time.

Anybody else want to look back at 2009?



Comet C/2007 Q3 (Siding Spring) with satellite track
Photo by Tenho Tuomi, Dec. 26, 2009
7x2-min, 12" Newtonian

New Website for Astronomers to Report Observations of "UFOs"

(News Release From the Unidentified Aerospace Phenomena Observations Reporting Scheme in the Netherlands)

A website has been launched giving amateur and professional astronomers a formal mechanism for reporting any unexplained phenomena they observe when studying the night sky. The Unidentified Aerospace Phenomena (UAP) Observations Reporting Scheme aims to provide a global focus for sightings by astronomers and contribute towards a better understanding of transient phenomena occurring in the atmosphere. The reporting scheme has been set up by amateur astronomer Philippe Ailleris, who proposes to use the IYA2009's network of professional and amateur astronomers to collect additional and more rigorous information on UAPs, more popularly referred to as UFOs. Ailleris has developed a questionnaire that requests precise details of the sightings
(<http://www.uapreporting.org>)

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The Planets This Month, January 2010

by Murray D. Paulson, RASC Edmonton Centre

The New Year starts off with **Mercury** in inferior conjunction with the Sun on January 4. Mercury will pass between the Earth and Sun at 2.4 degrees above the Sun. Moving at an incredible rate, Mercury zips up to its greatest western elongation (morning sky) only 22 days later (January 26). In the eyepiece, you will see a 7" 61 percent-illuminated gibbous phase. It shines at magnitude -0.1. You may be able to glimpse it in morning twilight low in the southeast, three-quarters of an hour before sunrise. You will need a very good southeast horizon, because the ecliptic is so shallow in the morning sky.

Venus is in conjunction with the Sun this month. (Superior conjunction is on January 11, when Venus skims only 33 arc-minutes below the Sun.) It will not emerge into the evening sky until sometime in February. The only way to get a glimpse of it will be with coordinates and due care and attention to the Sun nearby. As Venus passes beneath the Sun, it will display a 9.75" disk and shine at magnitude -3.9.

The main event of January is the opposition of **Mars** on January 29. Mars will reach a maximum diameter of 14.09" on January 26-27 and shine at magnitude -1.3. Mars moves from the Leo-Cancer border in early January to just over the Beehive by early February. It is spring in Mars's northern hemisphere, and this means the weather is more dynamic. The north polar cap is prominent, and you may see cloud or haze over the south polar region. I have included a panel of simulations of the side of Mars that will be visible at 11:30 pm MST. Note that north is up, and the image is not mirror reversed. The year starts off with Syrtis Major rotating into view. Mars takes 40 minutes

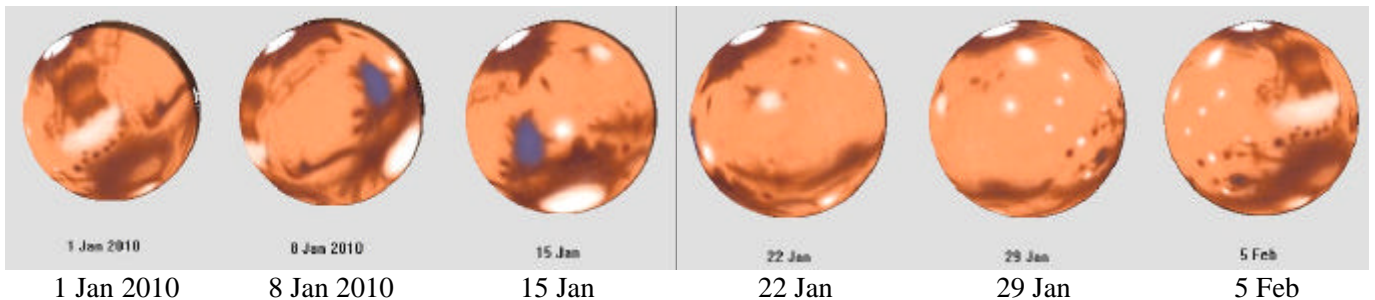
longer to rotate on its axis than Earth, so we see a face that is progressively earlier in the Martian day each night at the same hour. Mars actually rotates from left to right as you watch it. Our misfortune is that around the time of opposition, the blankest face of Mars will be turned towards us. That is not to say it is uninteresting, but you will have to have very good seeing to see the subtle details on this face. You may be lucky enough to observe orographic clouds over the giant shield volcanoes of Mars. The Tharsis volcanoes are the three little white spots in a row, and Nix Olympica is the larger white spot to the left of them on the January 29 image.

Jupiter is low in the southwest and shines at magnitude -2.0. In the eyepiece, it will show you a 34.4" disk early in January, but it sets rather early at just after 8:00 pm. Jupiter has a date with the Sun next month, so it is low and hard to get a good image out of it.

Saturn now rises just before midnight and sits in the constellation Virgo. It shines at magnitude 0.8 and will show a 18" disk in the eyepiece. Take a look at the rings, they are tipped up to our line of sight at almost 5 degrees. By the time of opposition, they will be only 2.5 degrees to our point of view.

Uranus is near Jupiter and will suffer in the low south as Jupiter does. You may get a last chance to view the outer planet before it disappears into the twilight.

Neptune will be in conjunction with the Sun next month, so is lost to our view for the next few months.



Mars Graphics generated by Guide 7.0

The Messier, H-400 & H-400-II, FNGC, Binoc & EtU Club

Join the Club! Observe all 110 Messier, 110 Finest NGC, 400 Herschel I or II, 135 Lunar, or 35 Binocular objects, or Explore the Universe and earn great OBSERVING CERTIFICATES!

MESSIER CLUB

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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

Ken Maher	Done!	110
Norma Jensen		108
Ron Waldron		105
Kathleen Houston		90
Margo Millar		77
Wade Selvig		75
Garry Stone		57
Barb Wright	Up!	40
Wayne Schlapkohl		36
Ellen Dickson		32
Jeff Swick		24
Bruce Brandell		5

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Certified at 110 Objects:

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

Larry Scott	Done!	110
Scott Alexander		97
Sandy Ferguson		23
George Charpentier		13
Ken Maher		10
Mike Clancy		7

Chatfield BINOCULAR CERTIFICATE

Certified at 35 to 40 Objects:

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

Isabel Williamson Lunar Observing Certificate

Norma Jensen		74
Jeff Swick	Up!	16

EXPLORE the UNIVERSE

Certified at 55 to 110 Objects:

M. Clancy, T. Tuomi, K. Maher, B. Gratiias

Wayne Schlapkohl		55
Sharon Dice	Up!	31

HERSCHEL 400 CLUB

Certified at 400 Objects:

D. Jeffrey, R. Huziak, D. Chatfield

Tenho Tuomi		398
Gordon Sarty		251
Scott Alexander		117
Sandy Ferguson		18

HERSCHEL 400-II CLUB

Darrell Chatfield		323
Rick Huziak		211

The Messier & Finest NGC lists can be found in the *Observer's Handbook*.

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

The Binocular List will be available at each general meeting or can be mailed out on request to distant members.

On-line Messier and Finest NGC lists, charts and logbooks – check out:

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

On-line Herschel 400 List – check out the official site at:

<http://www.astroloague.org/al/obsclubs/herschel/hers400.html>

Copies of the Isabel Williamson Lunar Observing Program Guide can be purchased from Bruce Brandell.

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



Observers Group Notes

by Larry Scott



The December 11 Observers Group was cancelled due to weather conditions (-26°C). Nevertheless, the cold weather did not keep my trusty sidekick and me from getting out December 13 for the Geminid meteor shower.

With a temperature of -31°C and wind chills pushing into the -45°C range, we decided to see if this could be done without too much discomfort. We hid on the eastern, downwind side of the warmup shelter, used electric blankets, and wore all of our winter clothing. It turned out reasonably well! No frostbite and, with the electric blankets, reasonably comfortable. The skies were clear, and with good seeing, we caught 80+

meteors between the two of us in about two hours. For the next two years, the Moon will interfere, so our next good chance to catch the Geminids will be in 2012, weather permitting.

The January Observers Group is scheduled for the 9th, with dark skies from the 3rd to the 19th. The February Observers Group is scheduled for the 6th, with dark skies from the 1st to the 16th.

Despite the cold weather, I'd like to invite any of our new members wishing to visit Sleaford to contact me (306-934-5801). With the proper gear, there's nothing like a crisp winter evening of stargazing.