

# Saskatoon Skies

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

Vol. 41, No. 3

March 2010

## Watching Stars in the Daytime



Ever wonder what an amateur astronomer can do in the daytime? Our own Ron Waldron thinks he has a possible answer. Here he is showing constellation shapes and mythology inside the Starlab Portable Planetarium to a group of Grade 6 students at Fairhaven School in Saskatoon.

Photo by Ron Waldron



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To view *Saskatoon Skies* 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](mailto: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 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](http://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](mailto: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

<b>Mar 13</b>	<b>Messier Marathon</b> – Dusk, Sleaford Observatory	Larry Scott	934-5801
<b>Mar 15</b>	<b>RASC Executive Meeting</b> - 6:30 pm, 175 Physics, U of S	Barb Wright	249-1990
<b>Mar 15</b>	<b>RASC General Meeting</b> - 7:30 pm, 175 Physics, U of S	Barb Wright	249-1990
<b>Mar 27</b>	<b>Earth Hour</b> – Lights out at 8:00 pm!	Barb Wright	249-1990
<b>Apr 9</b>	<b>Observers Group</b> – Dusk, Sleaford Observatory	Larry Scott	934-5801
<b>Apr 9-11</b>	<b>Anglin Lake Astronomy Weekend</b> – Anglin Lake	Barb Wright	249-1990
<b>Apr 19</b>	<b>RASC General Meeting</b> - 6:00 pm, Mendel Art Gallery	Barb Wright	249-1990
<b>Apr 19</b>	<b>Free Public Lecture, “Studying the X-ray Universe From Space”</b> – 7:00 pm, Mendel Art Gallery	Barb Wright	249-1990
<b>Apr 24</b>	<b>International Astronomy Day</b> – See page 4	Barb Wright	249-1990
<b>May 7</b>	<b>Observers Group</b> – 8:30 pm, Sleaford Observatory	Larry Scott	934-5801
<b>Jul 1-4</b>	<b>RASC General Assembly</b> – Fredericton, NB	<a href="http://www.rasc.ca/ga2010">http://www.rasc.ca/ga2010</a>	
<b>Jul 9-11</b>	<b>Alberta Star-B-Q</b> – Caroline, Alberta	<a href="http://calgary.rasc.ca">http://calgary.rasc.ca</a>	
<b>Aug 7-15</b>	<b>Mt. Kobau Star Party</b> – Mt. Kobau, BC	<a href="http://www.mksp.ca">http://www.mksp.ca</a>	
<b>Aug 12-14</b>	<b>Sask. Summer Star Party</b> – Cypress Hills park, SK	Barb Wright	249-1990

### RASC SASKATOON CENTRE GENERAL MEETING

**MONDAY, MARCH 15, 7:30 PM**

**Room 175, Physics Bldg., U of S**



**“Inconstant Moon”**

**By Mike Clancy**

A light-hearted look at our silvery companion, illustrated with slides that cover lunar folklore and lunar observing, from beginner-level to more structured projects.

*Note: There will be an Executive Meeting at 6:30 pm.*

### *Coming Up in April!*

## Free Public Lecture at the Mendel Art Gallery

The April meeting of the RASC Saskatoon Centre will be held at a special location, the Mendel Art Gallery. Beginning at 6:00 pm on Monday, April 19, our General Meeting will be followed by a special public presentation by an invited speaker who comes to us all the way from London, England.

Professor Kinwah Wu, an astrophysicist from the University College London's Mullard Space Science

Laboratory, will present a free public lecture at the Mendel Art Gallery at 7:00 pm entitled “Studying the X-ray Universe From Space: From the Solar System to Stars and Galaxies.”

This lecture is made possible by funding from the University of Saskatchewan's Role Model Speaker Fund, the Guest Lecturer Fund, and the Department of Physics and Engineering Physics.

# Minutes of the Executive Meeting, February 8, 2010

*by Ron Waldron*

1. Meeting called to order at 6:40 pm.
2. Approval of the minutes of the previous (November 16) meeting: Moved by Ron Waldron, seconded by Rick Huziak, and carried.
3. National Rep (Rick Huziak): Next National Council meeting is on March 27. Barb Wright added that there is a new membership form on the National Website.
4. Events:
  - Although Events Coordinator Patricia Gakis was absent, Jeff Swick reported on plans for Astronomy Day. He suggested a format similar to last year, with Friday night (April 23) at Lakewood Civic Centre and Saturday (April 24) at the Farmer's Market, followed by Beaver Creek in the evening.
  - Various members expressed concern about waning involvement by members for recent outreach activities.
  - Barb Wright would like to see us get involved again this year with Earth Hour (Saturday, March 27). Rick suggested that a schedule for all these events be published in the March newsletter.
5. Observers Group: Ron Waldron reported in Larry Scott's absence. A used snowblower has been purchased for \$900. Larry will be taking the snowblower out to Sleaford this week to clear the viewing area. The remainder of his \$1,200 budget will be used to build a ramp for the snowblower and pay for a minor tune-up. Darrell Chatfield suggested that Larry investigate purchasing the portable ramps made of corrugated metal.
6. Newsletter: Les Dickson reported that approximately 100 newsletters are being printed every month, and with the rise in postage, is that number still needed? He suggested we do another push for our members to receive their newsletter online. Several members expressed the concern that we find ways to reduce those 100 printed copies. Rick reminded members that it is nice to give gift copies of newsletters to interested people at Astronomy Day activities.
7. Motion to adjourn: Les Dickson. Meeting adjourned at 7:13 pm.

# Minutes of the General Meeting, February 8, 2010

*by Ron Waldron*

1. Meeting called to order at 7:31 pm.
2. Approval of the minutes of the previous meeting: Moved by Mark de Jong, seconded by Ellen Dickson, and carried.
3. Fundraising: Colin Chatfield reported \$125 in Canadian Tire money donated.
4. Events: Barb Wright reported that Norma Jensen is planning another Astronomy Weekend at Anglin Lake for April 9-11.
5. Observers Group: Barb Wright reported on Larry Scott's behalf that the next assembly of observers at Sleaford is March 6.
6. Sleaford Site Coordinator: Darrell Chatfield reported on the plans to fix both the Paterson dome and the 16" Meade telescope. He reminded us of plans to renovate the warmup shelter by removing and expanding into the cold storage area. A work bee will be coming soon but must remain fairly small as the expansion area is small.
7. Membership (Mark de Jong): National is working on a new format for online membership renewal. It includes a question that asks whether the member wants their local newsletter mailed out or whether they will access the online version. It should be ready to go fairly soon. Present membership is ~74.
8. Light Abatement (Rick Huziak):
  - The committee is working on getting Light Abatement legislation included in the Provincial Environmental Act.
  - Grasslands National Park has submitted a request for a Star Night. Rick will let us know of the date chosen.

- The CHIPP dark sky observatory at Cypress Hills has raised \$100,000. Rick has agreed to sit on the committee planning the observatory.
  - Work is being done to pressure SaskPower to become more dark-sky observant in their lighting. City of Saskatoon Dark Sky Policy Draft is still not coming. There are plans to upgrade the Broadway area, and in the plans not a single light is dark-sky compliant.
9. Newsletter (Christine Kulyk): All items for the March newsletter must be received by Monday, February 22.
  10. SSSP Committee: Barb Wright mentioned that the committee is still looking for someone to be the Meadows Coordinator this year. Rick Huziak presented a PowerPoint outlining changes happening to the Meadows in near future. This includes 80 more powered sites plus hot showers and flush toilets. ☺
  11. Further Committee Reports: See Executive Minutes.
  12. Presentation: Rick Huziak gave a PowerPoint presentation entitled “An Introduction to Variable Stars for Fun and Science.”
  13. Meeting adjourned at 10:00 pm.

## President’s Message

*by Barb Wright*

After the huge success we had with Earth Hour at the Centre Mall (at Circle & 8th) last year, Bob Johnson has offered to have the parking lot lights off again this year so we can set up scopes for the public. Earth Hour has been scheduled for Saturday, March 27, at 8:00 pm. There are usually quite a few people coming and going to movies and restaurants on Saturday

evenings at the Mall, who will stop and look through a scope. Please come join in and help out with this public event. Bring a scope or binoculars!

The next date for public viewing will be International Astronomy Day, Saturday, April 24, at the Farmer’s Market and Beaver Creek. We will need you there!

## Editor’s Corner

*by Christine Kulyk*

International Astronomy Day is coming up on April 24. Here are some of the many ways that you can take part in celebrating this annual event:

- Join us at Saskatoon Centre public activities taking place that weekend.
- Have a sidewalk astronomy evening in your own neighbourhood.
- Whenever you give a public talk from now until April 24, be sure to tell everyone about International Astronomy Day.
- If you’re a teacher, be sure to let your students know about International Astronomy Day, and get them involved in some astronomy-related learning activities between now and April 24.
- Make a copy of Page 3 of this newsletter in March and April, and post it on a bulletin board.
- Make an extra copy of *Saskatoon Skies* in March or April, and share it with a friend.

Make a point of doing some special astronomy activity yourself on or around April 24:

- Use your telescope or binoculars to find something you haven’t seen before.
- Read a new astronomy book or magazine.
- Watch an astro video.
- Above all, get out under the stars and enjoy the night sky!
- Then send me a note (clkulyk@sasktel.net) or a picture to let us know how you celebrated this special day.

On behalf of the Saskatoon Centre, let me extend a hearty welcome to our two newest members: **Lorin Briand** of Saskatoon and **Robert Procyshyn** of Colonsay. We hope you’ll enjoy reading *Saskatoon Skies*; drop us a note sometime; and we look forward to seeing you at some of our upcoming Centre events!

## 3rd Annual Anglin Lake Astronomy Weekend April 9-11

by Norma Jensen

Some of us are heading back to Anglin Lake for a weekend of viewing in early April. We are provided with a Saturday night buffet at a reasonable cost, and can book a Friday supper ahead of time and have a Sunday brunch. All cabins and chalets can be booked as desired. For details about accommodations, call the

Lodge at 306-982-4482 (ask for Desya). Norma Jensen and Barb Wright can provide you with further info. Please let Barb know before mid-March if you are planning to attend (306-249-1990; wrightb@sasktel.net).

## IYA Goes Beyond 2009 As Galileoscopes Go World Wide

[News Release From IYA2009 U.S. Press Office]

More than 110,000 of the low-cost, high-quality Galileoscopes have been sold and delivered in 96 countries (including 6,000 donated to developing nations), and another 70,000 are in production. Offered initially at a price of US\$15 for single orders, the cost of individual kits increased to US\$30 on January 11, when the project was handed over from its founding volunteer staff to an educational products company.

“The kit-based aspect of the Galileoscope has proven to have strong educational value, and we look forward to many years of teacher workshops and interested individuals using it to help them observe the same inspiring objects in the night sky that Galileo saw 400 years ago,” says Stephen Pompea, manager of science education at the National Optical Astronomy Observatory (NOAO) in Tucson, Arizona, and chair of the U.S. IYA2009 Telescope Kits and Optics Challenges Working Group.

A month-long repeat of the successful 2009 “100 Hours of Astronomy” and “Galilean Nights,” with new twists, will be held in April 2010 under the leadership of the group Astronomers Without Borders (<http://www.astronomerswithoutborders.org>).

More than 1.3 million Canadians enjoyed a “Galileo Moment” of personal astronomical discovery by participating in one of the more than 3,500 events throughout the country during 2009, more than 30 percent over their national goal. IYA2009 helped strengthen relations between the three societies

representing amateur and professional astronomers in Canada, according to national SPoC James Hesser. Other legacies include newly collected astronomy stories from Aboriginal communities, new outreach materials in English and French, a \$30 commemorative coin, and a pair of postal stamps.

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## Ask AstroNut

The **Ask Astronut** column is an anonymous question and answer column, where you can ask any question you want, boneheaded or brilliant, and the editor will find someone who will give you a somewhat educated answer.

**Hey, AstroNut:** Which should I buy: the Nagler or the Ethos? I want a really sharp eyepiece for double stars and for details on planets.

**AstroNut Answers:** Hands down, by leaps and bounds, the Ethos are the best eyepieces on the market, but that's not the question you should be asking if you are talking about viewing planets and double stars! If you want spectacular panoramic views of star fields that simply knock your socks off, then the Ethos 100° apparent field is the eyepiece line for you; simply WONDERFUL!

But — keep in mind...If you are older and your eyes no longer dilate to 7 mm, getting Ethos eyepieces may be a losing battle! You will only see a portion of the field of view; so you might as well stay with Naglers (82°), and if your pupils only open up to 5 mm, then your Radians (60°) or other similar brands work fine and are a whole lot cheaper. Try before you buy, and be honest with yourself about what you see! If your eye “swims” around the field, your pupils are no longer opening up enough and your eyepiece will not perform as well.

Doing “magnification work” with eyepieces designed to do wide-angle viewing is self-defeating. Double stars and planets viewed at 500x or 750x need very little field of view (provided your telescope tracks), but you do need a very sharp set of optics. The BEST eyepieces for this purpose are Orthoscopes (antiquated — most of you may not even have heard of them, but they are alive and well in the niche of specialized observing). Orthos have very little glass, so have very little colour errors, and with a very small field of view they are well-corrected. With that small field, you are not distracted in what detail you are trying to see by a wide field around your little object in the middle, as Naglers and Ethos are designed to give. Serious double star and planet observers invest

in a professional set of Orthoscopes, which run around \$100 each because they only have four small lenses (instead of the eight or so more complex lenses in the Ethos). Failing finding good Orthos, use Plossls (50°). They are almost as sharp, and their field is a bit wider. The better your Plossl (i.e., TeleVue vs. generic brands) or the better the Ortho, the better your resolution will be!

So, you'd like to own the elephant (Ethos — wouldn't we all?) when you are really interested in looking at the fleas on the elephant! You want to invest in a 3 mm or 4 mm Ortho, if you can, for the highest-power and narrow-angle view. It is always best to view with a high-power eyepiece alone, and not with an added Barlow that simply adds more glass and generally, due to slight looseness or misfit in the drawtube, compromises the scope's alignment and collimation!

### 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).

# Now You Can Join the Solar Stormwatch

[News Release From Royal Observatory in Greenwich, UK]

The Royal Observatory, Greenwich (ROG), in partnership with the Science and Technology Facilities Council's Rutherford Appleton Laboratory and Zooniverse are launching Solar Stormwatch, a new web project where anyone can help spot and track solar storms and be involved in the latest solar research.

Solar storms (aka Coronal Mass Ejections) can be harmful to astronauts in orbit and have the potential to knock out communication satellites, disrupt mobile phone networks, and damage power lines. With the public's help, Solar Stormwatch will allow solar scientists to better understand these potentially dangerous storms and help to forecast their arrival time at Earth.

Julia Wilkinson, a Solar Stormwatch user, says, "The fact that any Solar Stormwatch volunteer could make a brand new discovery about our neighbouring star is very cool indeed. All you need is a computer and an

interest in finding out more about what the Sun is really like."

Solar Stormwatch is part of the Zooniverse network of projects (<http://www.zooniverse.org>). The project uses real data from NASA's STEREO spacecraft, a pair of satellites in orbit around the Sun which give scientists a constant eye on the ever-changing solar surface.

Citizen Science is a movement where scientists harness a vast network of volunteers to help analyze scientific data. This mass participation allows scientists to untangle data that it would take much longer or be impossible to analyze otherwise. In other cases, the human eye and brain are much more adept at making subjective decisions than computers and so are better suited to more finely detailed observations. The Citizen Science Alliance, led by Dr. Chris Lintott, brings together an international team of scientists, software developers, and educators to continue to build on previous Citizen Science success.



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# The Planets This Month, March 2010

by Murray D. Paulson, RASC Edmonton Centre

**Mercury** starts off this month headed away from us around the Sun. At the beginning of the month, it sits at a distance of 6 degrees from the Sun, and it will quickly disappear into the Sun's glare. Mercury will be at superior conjunction on March 14. Over the following three weeks, Mercury will swing out into the evening sky to April 8 greatest eastern elongation. These spring evening apparitions are the best! Mercury sets almost 2 hours after the Sun, so you have ample opportunity to find it in the evening sky. This year, we have a fantastic advantage with Venus acting as our guide star. The two will sit in close proximity for over a week's time. On April 4, Mercury will pass 3 degrees north of Venus, which also, coincidentally, is the date of Mercury's dichotomy. It will shine at magnitude -0.4 and show a 6.9" half-disk at the time. It fades as it reaches greatest eastern elongation on the 8th, when it shines at magnitude 0.0 and shows a 7.7" fat crescent. It will sit 19.35 degrees from the Sun at this time.

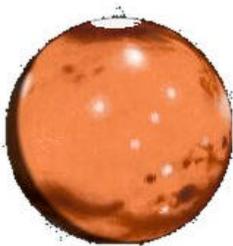
This month starts off with **Venus** sitting far enough from the Sun to make it easily visible in the evening twilight. Venus shines at magnitude -3.9 and is a fat 10" gibbous disk in the eyepiece. Over the month, it will slowly climb up the ecliptic and share in a duet with Mercury in the first week of April. Venus sits just below the ecliptic, and Mercury is rising above it as it approaches Venus. It maxes out at 2.7 degrees above the ecliptic on April 8. Meanwhile back at Venus, we will see a slight increase in size in the eyepiece to 10.7" by the first week of April. It will sit at an elongation of 21 degrees by this time.

It certainly has been hard to keep up with **Mars** due to the poor weather over the month. I have reports from

Larry Wood that he has had very good seeing on a few nights. I had one evening where a haze built up as the night progressed, and the image was steady and sharp. A little dim, but very sharp. At the beginning of March, Mars shines at magnitude -0.2 and shows a 10.7" disk in the eyepiece. Over the month, Mars will shrink slightly to 9.45" and it will dim slightly to magnitude 0.0. I have included a graphic created by Guide that shows the side of Mars that will be visible at weekly intervals over the month as viewed at about 10:00 pm local time. Despite its size, it still is worth a look if the seeing is good. On the night of February 23, I saw Syrtis Major centred on the disk at 23:45 local time. Seeing wasn't great, but the polar cap was sharp and the major features were easily seen.

**Jupiter** is in conjunction with the Sun at the beginning of the month and will slowly make it back into the morning sky as spring progresses. It would be visible in late March or early April rising before the Sun, except the ecliptic is so shallow that you will not be able to see it in the twilight glare.

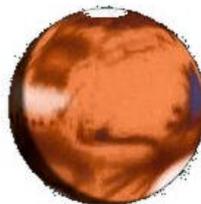
Here we are at **Saturn's** month! Opposition will be on March 21, where it will shine at magnitude 0.5, and in the eyepiece the disk will be 19.5". This is great for Astronomy Day in April, as Saturn stole the show last year. We will get two good planets for the public sessions, and with the promise of warmer weather, it will make for good observing. The rings will be tipped up at 3.6 degrees coming into March, and they will become more shallow as the month progresses, a perspective effect from our orbital point of view. By month's end, the angle will be slightly less than 3 degrees.



7 Mar



14 Mar



21 Mar



28 Mar



4 Apr

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

#### 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*

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

### FINEST NGC CLUB

#### 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 / 135

Norma Jensen		74
Jeff Swick		16
Tenho Tuomi	New!	13

### EXPLORE the UNIVERSE

#### Certified at 55 to 110 Objects:

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

Wayne Schlapkohl	Done!	55
Sharon Dice		31

### HERSCHEL 400 CLUB

#### Certified at 400 Objects:

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

Tenho Tuomi	Done!	400
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*



Our meeting for February 6 was cancelled due to weather conditions. On February 9, I did get out to Sleaford to try out our NEW (to us) SNOWBLOWER. Due to some technical difficulties, it's not living at

Sleaford yet. As soon as I get a ramp organized, I'll get it stored in the school. Anyone wanting to use it should contact me, as there are some safety issues in using our NEW (to us) SNOWBLOWER.

Hopefully, skies will be clear for the Messier Marathon on Saturday, March 13. Come out early to be set up and ready for those first evening objects. Following this will be another Observers Group scheduled for Friday, April 9. (Please note the date change from April 10.) Moonless skies are available from April 1 to 16.