Saskatoon Skies

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

Vol. 41, No. 5 May 2010

Public Events on Astronomy Weekend



On April 23 and 24, Saskatonians were treated to some celestial sights at our Astronomy Weekend events. At Beaver Creek on the evening of April 24, Ron Waldron gave a talk on buying a telescope and showed astronomy slides to an appreciative audience.

Photo by Tenho Tuomi



Saskatoon Centre
The Royal Astronomical Society of Canada
P.O. Box 317, RPO University
Saskatoon, SK S7N 4J8
WEBSITE:

http://www.rasc.ca/saskatoon E -MAIL: wrightb@sasktel.net TELEPHONE: (306) 249-1990

In This Issue:

Membership Information / Bottle Drive / Officers of the Centre	2
U of S Observatory Hours / Light Pollution Abatement Website	2
Calendar of Events / Meeting Announcement	3
President's Message – Barb Wright	3
Minutes of the Executive & General Meetings, April 19	4
Editor's Corner – Christine Kulyk	5
"Revisionary" Blog	5
Sky Buys & Mirror Cells	5
Astronomy Week Roundup	6
Observing Mars – Denis Fell	7
Observers Group Notes – Larry Scott	9
The Messier, H-400 & H-400-II, FNGC, Bino, Lunar & EtU Club	10
Clear Sky Chart's Creater Receives Award	10

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.

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.

ABATTEMENT WEBSITE AT:

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

May 17	RASC Executive Meeting - 6:30 pm, 175 Physics, U of S	Barb Wright	249-1990
May 17	RASC General Meeting -7:30 pm, 175 Physics, U of S	Barb Wright	249-1990
June 12	Observers Group – Dusk, Sleaford Observatory	Larry Scott	934-5801
June 21	RASC Executive Meeting - 6:30 pm, 175 Physics, U of S	Barb Wright	249-1990
June 21	RASC General Meeting -7:30 pm, 175 Physics, U of S	Barb Wright	249-1990
July 1-4	RASC General Assembly – Fredericton, NB	http://www.rasc.ca/ga2010	
July 9-11	Alberta Star-B-Q – Caroline, AB	http://calgary.rasc.ca	
July 17	Observers Group – Dusk, Sleaford Observatory	Larry Scott	934-5801
Aug 7-15	Mt. Kobau Star Party – Mt. Kobau, BC	http://www.mksp.ca	
Aug 12-15	Sask. Summer Star Party – Cypress Hills park, SK	Barb Wright	249-1990
Sep 2-6	Spruce Woods Star Party – (for RASC members only)	rcberard@gmail.com	
	Spruce Woods Prov. Park, MB		
Sep 7-12	Northern Prairie Star Party – Black Nugget Lake, AB	http://www.edmontonrasc.com/pu	
		blic/nps.html	
Sep 10-12	Alberta Star Party – Starland Recreational Campground, AB	http://calgary.rasc.ca/asp2010.htm	

RASC SASKATOON CENTRE GENERAL MEETING

MONDAY, MAY 17, 7:30 PM Room 175, Physics Bldg., U of S

Program TBA

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

President's Message

by Barb Wright

Many thanks to those hardy souls who braved the wind and weather to help with Astronomy Day. We battled the wind at the Farmer's Market, but managed to have a peek at the Sun in between the clouds. I would guess about 40-50 people came to see our display on Saturday, April 24, at Farmer's Market and about the same number to Beaver Creek that night.

Thank you, Ron Waldron, for your presentation at Beaver Creek — capable and personable as always.

Thanks to Tenho Tuomi, Jeff Swick, Patty Gakis, and Ron Waldron for setting up scopes. The sky wasn't so bad, and the crowd was enthusiastic.

Now, we move on to the next project: Sleaford. Please answer Darrell's call to help with the needed work at our observing site, so we can develop Sleaford to meet our every desire!

Minutes of the Executive Meeting, April 19, 2010

by Ron Waldron

- 1. Meeting called to order at 6:39 pm.
- 2. Approval of the minutes of the previous meeting: Moved by Ellen Dickson. Carried.
- 3. National Report: Barb Wright (on Rick Huziak's behalf) let us know that the National Office has placed an ad to hire an Executive Director.
- 4. Jim Young asked about the Star Party brochure. Barb reported that it is about to be printed.
- 5. Discussion re. New Members: Barb reported that at Earth Hour Star Night, we signed up 10 temporary members. She wondered if we should offer an exclusive Star Night for them before their 3-month temp membership expires. Jeff Swick wondered if a vendor, i.e. Don's Photo, might be interested in setting up one or two of their "for
- sale" telescopes at the same event. It was also mentioned that a "buddy system" might be helpful in working with these new members and in changing them to permanent members. Patricia Gakis has a date in mind for this event and it will be followed up in May.
- 6. Jim Young brought up that the meeting portion of our evenings is sometimes too long and can be shortened if we are more mindful of not interrupting or asking questions in the middle of a report. Further discussion ensued. It was felt that the problem was not the number of committee reports but rather that they are at times interrupted before the report is completed.
- 7. Meeting adjourned at 7:08 pm.

Minutes of the General Meeting, April 19, 2010

by Ron Waldron

- 1. Meeting called to order at 7:38 pm.
- 2. Approval of the minutes of the previous meeting: Moved by Jeff Swick. Carried.
- 3. Fundraising: Colin Chatfield is investigating making astronomy greeting cards as a fundraiser.
- 4. National Report: See Executive minutes.
- 5. Events: Jeff Swick (on Patricia Gakis's behalf) reported on the plans for Astronomy Day this weekend. Friday, April 23, starts at 8:00 pm at Lakeview Civic Centre. Saturday morning is at the Farmer's Market (8:00 am to 2:00 pm), and Saturday evening is at Beaver Creek. Many hands will be needed. Les and Ellen Dickson will arrange a "gastronomy" supper between the last two events.
- 6. Observers Group: Ron Waldron reported (on Larry Scott's behalf) that the "new" snow blower has been tuned up and is now stored in the schoolhouse until next winter.
- 7. Sleaford Site: Darrell Chatfield reported that he has dates in mind for refurbishing the Sleaford facilities. The first date is May 1 and will be reported on the Yahoo Group website. If it is raining, the following Saturday, May 8, will be the backup. The U of S roll-off roof is problematic

- and has been worked on by both Rick and Larry during the winter months. Jeff Swick expressed some frustration with the repairs to our Meade 16" telescope. Darrell explained that parts are not that easy to obtain but that he and Rick are working on it.
- 8. Membership: Mark de Jong reported 71 regular members, 3 associate members, and 1 youth. We also have 9 temporary members.
- 9. SSSP: Les Dickson reported that Stan Shadick has been chosen to give the Father Lucian Kemble Lecture. Kathleen Houston will be giving a public talk on Thursday evening. Banquet price this year will be \$30.
- 10. Other Business: Ellen Dickson inquired as to the whereabouts of the Galileoscopes ordered by our club. Les Dickson is checking into this. She also reported that "Star Wars in Concert" is coming to the Credit Union Centre June 28. Clips from all six movies will be included in the 90-minute show narrated by Anthony Daniels. Tickets range from \$25-\$75.
- 11. Presentation: "Space Telescope Fever (A Cure for Aperture Fever!)" by Gord Sarty.
- 12. Meeting adjourned at 9:14 pm.

Editor's Corner

by Christine Kulyk

Although volcanic ash-filled skies over Europe in April caused the cancellation of many, many flights including that of our scheduled guest speaker from England, we hope to reschedule Dr. Kinwah Wu's visit to a future date. Our own Gord Sarty (Dr. Wu's sometime "observing buddy") leapt in to fill the gap at our April 19 meeting with a fine presentation about his recent space-telescope observing runs. We all wish Gord success with his ongoing efforts, including spending time with the Spitzer.

With the flurry of Earth Hour and Astronomy Week activities for 2010 behind us, we now look forward to the summer star party season. Be sure to read the Calendar of Events on page 3 of this issue for a lineup of notable upcoming star parties, including of course our own Saskatchewan Summer Star Party on August 12-15. For a more complete listing of Canadian events, see page 42 in the May-June issue of *SkyNews*.

Speaking of that publication, I'd like to don my other hat for a moment to note that the current issue of *SkyNews* celebrates its 15th anniversary. I've been a member of the *SkyNews* editorial team since the first of those 15 years, and it's been a great experience throughout. It's given me the opportunity to meet and

address probing questions to many fine astronomers, as well as keeping on top of activities in both the amateur and professional astronomy communities. (The Star Party Calendar in the May-June issue was compiled by yours truly.) I look forward to many more *SkyNews* issues to come!

SKY BUYS & MIRROR CELLS

The Saskatoon Centre's Swap and Sale Page

5" Astroscan telescope. Red exterior. Good condition.

8" Celestar Deluxe S/C telesope. 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).

"Revisionary" Blog

RASC Saskatoon Centre member and writer Bernice Friesen has just opened her Website and started a blog called "Revisionary." Her first blog is about taking one of the Saskatoon RASC telescopes to a writing retreat at St. Peter's Abbey, Meunster, and viewing the sky for the first time.

Her latest book, a novel, *The Book of Beasts*, won the Saskatchewan Book Award for fiction. She is currently finishing a novel about 17th century Italian painter Artemisia Gentileschi, who was a contemporary of Galileo's in the



Medici court of Florence. She has also begun to do research on her next novel, about an astrophysicist who develops an obsessive-compulsive fear of the Sun and its radiation.

She will be blogging about art, writing, and her close encounters with astronomy, physics, and everything that is cosmological and quantum mechanical.

She invites all those who look up, wideeyed with wonder, to visit and read, http://www.bernicefriesen.com/

2010 Astronomy Week Roundup



On Tuesday, April 20, Tenho Tuomi and Mike Clancy appeared at the Astronomy Night hosted by the Lucky Lake Library. Tenho gave a talk about his Buzzard Coulee meteorites, and Mike entertained until it got dark enough to see stars. Unfortunately, because of many other things happening in the community that night, only eight people came to look through the telescopes. However those who were there were very enthusiastic and made the trip worth while.

Photo by Tenho Tuomi

On Saturday, April 24, members of the Centre set up tables and displays outdoors at the Saskatoon Farmer's Market, and chased papers that the wind tried to take away. A couple of telescopes were set up for viewing the sun when the clouds permitted. There always seemed to be someone around the table to tell about our hobby.

Photo by Jeff Swick





In the evening telescopes were set up at Beaver Creek, and were ready in place for viewing after Ron Waldron's talk.

The skies were very clear, though the late twilight was a problem.

The moon was the favourite, along with Venus, Saturn, Mars and Alcor/Mizar. Most fainter objects were washed out by the moon.

There was a steady stream of people looking through the telescopes.

Photo by Jeff Swick

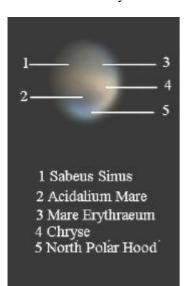
Observing Mars 2009-2010

by Denis Fell

Observations of this apparition were accomplished with my recently acquired 12" f/5 Dobsonian reflector at magnifications of 250x-300x using TeleVue Mars A and B filters. Imaging was accomplished with a Celestron Neximage video cam using 2x and 4x Powermates.

August 2009: Rather poor seeing, with the 12" reflector at 5.5" diameter. Syrtis Major, Sabeus Sinus, and Hellas were visible. **September** brought better seeing. At 6", the disk was large enough for drawing, and much fine detail not seen in previous apparitions was evident even at this small diameter.

October started with cool weather and better seeing and transparency, yielding clear and sharp images at disk diameters of more than 6". For three weeks, I was unable to observe due to cloudy, foggy, snowy, and rainy weather. Finally on the morning of October 25, a few hours of fairly clear skies with at least average



seeing allowed my first view of a >7" disk. Sabeus Sinus, Margaritifer Sinus and Niliacus Lacus were dark and sharp. The North Hood Polar extensive. remained covering most of Mare Boreum and blending into the limb haze on the morning side.

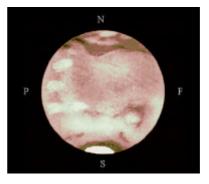
Mars in October 2009 All images by Denis Fell

November was better weather-wise for Mars observing, with a larger disk diameter; albedo features were stronger. Towards the middle of the month and afterwards, increasing cloud activity was observed around and south of the north polar region, extending into Tharsis over Arcadia/Cydonia with a subsequent muting of the local albedo features in the area.

The first two weeks of **December** allowed no observing due to weather: clouds, snow, and extreme cold. Observations were made on December 18 and

27, allowing sharp visual views of the so-called "blank" side of the planet. This portion of Mars is the most active for clouds, especially around the large Tharsis volcanoes. These were seen distinctly on the 27th as discrete bright areas in the correct locations. Thin, high cloud prevented good imaging but was perfect for visual observing.

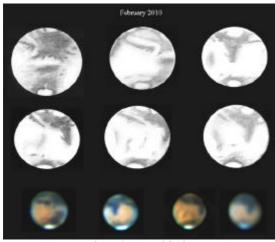
January 2010: Close approach and opposition. Weather was a complete turnaround from the last two months, with many observing opportunities. Also, putting the scope on wheels made for faster and easier setup and teardown. Many clouds seen, mostly orographics over the major volcanoes. Features well-seen this time: Hyblaeus Extension, Gomer Sinus, Mare Tyrrhenum, Mare Cimmerium, Elysium Mons and surrounding area. Close approach on January 27 highlighted orographic clouds over the Tharsis region,



as well as cloud over Mare Boreum and Mare Sirenum.

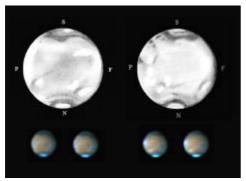
Mars at closest approach in January, showing orographic clouds.

February 2010: February started with the nasty January weather and then moderated to warmer, clearer nights, allowing some detailed observations and imaging to be done. Some cloud activity noted over Mare Acidalium and along the border of the north polar cap, which is much larger than shown by the simulators. The south polar region remained shrouded in cloud or frost. From the middle of the month towards the end, better weather enabled more quality observations. Martian weather has been most interesting with more cloud activity over the northern hemisphere in the observed regions. As well, dust activity was noted around and onto the north polar cap. Mars' favourable evening position allowed more sessions, although high cloud and fog continued to affect transparency.



Mars in February 2010

March 2010: Some clearer skies in March allowed some very interesting images and drawings to be made. Some evidence appears to support circulation of Mars' atmosphere around the north polar cap, with suspended dust and cloud streaks around the border of the cap in both images and drawings. Orographics over the Tharsis volcanoes were evident on all observations of this area. Further to dust around the cap, observations on March 13 revealed an interesting streak at about the location of Chasma Boreale that had a reddish tinge. Subsequent observation indicated not just the location of this feature but that it may be acting as a channel for dust to deposit on the cap with the circular polar winds.



Mars in March 2010

Conclusions: The north polar cap was observed to shrink with the progress of the Martian northern spring. More of Mare Boreum and adjoining regions were revealed with the demise of the North Polar Hood and visualization of the edge of the actual polar cap. Almost at the end of the observing season, Chasma (Rima) Boreale was seen along with some dust activity south of and in the canyon.

Changes in both shape and intensity of albedo features from previous apparitions were not observed; features remained almost the same as observed in the 2007-08 apparition. This is probably due to the fact that although there were some localized dust events, there were no major storms that engulfed major albedo features. The Hyblaeus Extension and smaller areas in the Tharsis/Solis Lacus regions were well defined. The region between Margaritifer Sinus and Aurorae Sinus was seen clearly on a number of occasions, and the Indus bridge between Margaritifer Sinus and Niliacus Lacus was also apparent.

Orographic clouds over the large volcanoes were observed over Arsia Mons, Pavonis Mons, Ascraeus Mons, and to a lesser extent over Olympus Mons. These were bright, discrete from one another, and obvious from the beginning of February on.

In summing up, this was not the most favourable apparition of the Red Planet for recent years, however much was seen due to the high declination of the planet. Weather patterns are beginning to be understood by this observer, and the progression through the northern spring was especially apparent. The most detail seen was of course in the northern regions, as the majority of the most familiar albedo features were tilted away from our line of sight and thus appeared very foreshortened compared with previous apparitions.

The instrumentation used for this observing campaign was of much larger aperture than I have previously used and proved the adage that "aperture wins." Subtle features and colours of various clouds, as well as variations in the desert areas, were observed in far more detail than was previously possible with smaller telescopes. Many times, some of the larger impact structures hovered on edge of visibilty in good seeing. This was something I had not experienced before.

This was very much a learning experience for myself, much more than at closer approaches of Mars. Even with less than ideal weather, it was an enjoyable and educational experience. For further details of observations, equipment used, drawing, and imaging methods, see my Website at:

http://www.spacealberta.com

Fair weather in mid-April resulted in a flurry of visits to Sleaford. The good weather didn't include the April 9 Observers Group, which was postponed due to wind and snow. However, the next weekend saw the site in use for three or four consecutive nights.

My best night was April 15, with some exceptional seeing. It was an awesome night! Seeing was 8+/10 all night, and transparency was very good until about 01:00. There were no bugs, no aurora, no snow to shovel, no dew, and no grass to cut. At sunset, we (Norma and I) saw Venus, Mercury, and a 38-hour-old crescent Moon set together. Mars was in a binocular field with the Beehive Cluster, and Saturn was very good at 380x. At that power, we were able to make out gaps between the planet and its rings, despite the flatness of the rings. We saw M44, NGC4565, NGC4494, M3, M51, M101, M64, M65, M56, NGC3628, M13, M57, and maybe a couple more. Most galaxies were observed at 135x, and clusters at 270x. Saw several meteors, including one at about the mag -5/-6 range. (OOO! AHH!)

Best night I've had in many Moons! I'm told the next night was maybe even better, but by Saturday, the Moon was not setting till after midnight. Would like to thank the Timbit fairies for making a delivery to Sleaford on the 17th, a very nice surprise.

Am looking for a volunteer host for the June 12 Observers Group, as I will be out of town. If weather is fair, I'll most likely be out the weekend before.



The new (to us) snowblower at Sleaford is now tuned and ready for next winter's fluffy white stuff Photo by Ron Waldron





8% Crescent Moon

Thinnest crescent Moon I've ever imaged. Taken April 16, 2010 with Nikon D90 mounted on Orion 4.5" telescope with 2x barlow.

Photo by Colin Chatfield

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, 140 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. Hydomako, 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. Člancy, R. Huziak, K. Maher

Isabel Williamson Lunar Observing Certificate / 140

Tenho Tuomi	Up!	84
Norma Jensen	Up!	80
Jeff Swick	•	16

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	Up!	340
Rick Huziak		211



On-line Herschel 400 List - check out the official site at: http://www.astroloeague.org/al/obsclubs/herschel/hers400.html

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

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.shtml

Clear Sky Chart's Creator Receives Award

Canada's Allan Rahill, creator of the Clear Sky Chart (http://cleardarksky.com/csk/), has received a major award for his sky-predicting program, a favourite of amateur astronomers everywhere. The Astronomical Society of the Pacific presented this year's Amateur Achievement Award to: "Allan Rahill on behalf of the Clear Sky Chart team comprising of Rahill and Attilla Danko. Rahill, a meteorologist with the Canadian Meteorological Centre (CMC), adapted CMC forecast

products for the purpose of planning observing sessions with highly accurate high-resolution point forecasts of cloud cover, transparency, seeing, darkness, wind, temperature, and humidity over North and Central America. Danko developed the Web page that presents these forecasts. The universal acclaim received by the Clear Sky Charts in both the amateur and professional astronomy communities wins the team the Amateur Achievement prize for 2010."