

Saskatoon Skies

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

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Royal Astronomical Society of Canada
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To view *Saskatoon Skies* digitally, see our website:
<https://saskatoon.rasc.ca/newsletters.html>

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MEMBERSHIP? JOIN TODAY!

Regular: \$111.00 /year

Youth: \$61.10 /year

Family: \$105.50 + \$42.90/additional adult + \$22.20/additional youth

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. Members are encouraged to renew early to avoid disruption in publications. Renew through the National Office at <http://www.rasc.ca/join>.

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
- borrow the Centre's projector to give astronomy outreach presentations - contact Les Dickson at astrochem@sasktel.net
- rent the Centre's Telescopes <https://saskatoon.rasc.ca/telescopes.html>
- use of the Centre library
- Journal of the RASC (electronic format)

SASKATOON CENTRE'S MAIN OFFICERS:

President - Brent Burlingham

Vice-President - John Takala

Secretary - Lorie Tedford

Treasurer - Les Dickson

National Council Rep - Joelle Sheard-Patrick

Canadian Tire money - Darrell Chatfield

If you cannot attend a meeting but would like to donate your old Canadian Tire money please to assist with club purchases, email Darrell at novachat@sasktel.net.

NEWSLETTER & U OF S OBSERVATORY INFO

Newsletter Editor - Colin Chatfield

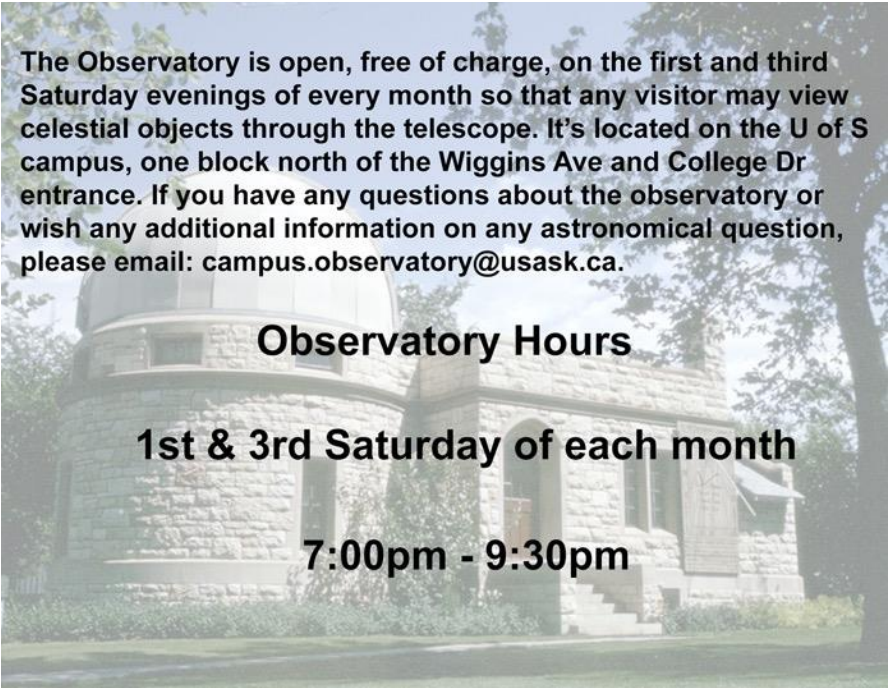
Copy & Collate - Les & Ellen Dickson

Labels & Temps - Mark de Jong

Web Posting/Content Editor - Tenho Tuomi/Andrew Kostiuk/Brent Burlingham

Saskatoon Skies is published monthly by the Saskatoon Centre of the RASC. Distribution is approximately 80 copies per issue. Saskatoon Skies welcomes unsolicited articles, sketches, photographs, cartoons, and other astronomy or space science material. Submissions should be sent by e-mail to the editor at colcha@gmail.com in MS Word or text format. Images (new or old): any format, less than 30MB, sent by e-mail as attached files. Send any articles of interest to the night sky or astronomy. **Deadline for submission of all articles for an upcoming issue is the first Friday of each month!**

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. Saskatoon Skies accepts commercial advertising. Please email the editor at colcha@gmail.com for rates. Members can advertise non-commercial items for free.



The Observatory is open, free of charge, on the first and third Saturday evenings of every month so that any visitor may view celestial objects through the telescope. It's located on the U of S campus, one block north of the Wiggins Ave and College Dr entrance. If you have any questions about the observatory or wish any additional information on any astronomical question, please email: campus.observatory@usask.ca.

Observatory Hours

1st & 3rd Saturday of each month

7:00pm - 9:30pm

Hours subject to change, so check below for more info -

Website - <https://artsandscience.usask.ca/physics/facilities/observatory.php>

Facebook - <https://www.facebook.com/usaskobservatory/>

RASC CALENDAR OF EVENTS & MEETING INFO

Dec 28	Observer's Group - Sleaford Observatory	Brent Burlingham
Jan 20	RASC Saskatoon Centre General Meeting	Brent Burlingham
Jan 25	Observer's Group - Sleaford Observatory	Brent Burlingham

Observer's group viewing starts at dusk at the Sleaford Observatory dark site. Get there early and set up for a great night of observing! Members and their guests only.

For a complete list of club events, please visit: <https://saskatoon.rasc.ca/activities.html>

January RASC General Meeting

for all members and guests

Join us on January 20th, 2024 at 8:00PM (Executive meeting at 7:00pm)

Webinar (info below)

***Please note:** the meeting will be at the U of S Observatory at 108 Wiggins Ave (on the U of S Campus)*

7:00pm - **RASC Executive Meeting** (Members may attend the executive meeting as observers if they wish)

A Zoom registration link and phone-in numbers will be emailed to Members. After that, the procedure to register and join the meeting is the same as for the webinar (explained below).

NOTE: links to register to attend the webinar will be emailed out as well so we know who is planning to attend. After registering, an email invitation will be sent with a link to join via computer or a number to phone in. When joining via computer, participants will have to first download and install the Zoom app, if they have not done so already.

8:15pm - **Main Program -**

"What's Up This Month?" - Colin Chatfield

TBA

BOOKS AND EQUIPMENT FOR SALE

All books are in either new, or like new condition. Retail price in brackets. Please email at novachat@sasktel.net or text/call 306-222-0515 if you want a particular book to make arrangements. All books being sold by Darrell Chatfield.

“Deep-Sky Observers Handbook”	Volume 1-5	Enslow-Lutterworth	\$40.00
“International Encyclopedia of Astronomy”	1987	Patrick Moore	Color \$10.00
“Backyard Astronomers Guide”	T. Dickinson & Alan Dyer	2008	Color \$25.00
“Atlas of Deep Sky Splendors”	1978	H. Verhenberg	B & W \$22.00
“Amateur Astronomers Catalog of 500 Deep Sky Objects”	Vol 1	1980	B & W
R. Morales			\$15.00
“Observing the Constellations”	1989	J. Sanford	Color charts \$10.00

Please email me if you want to see any items - novachat@sasktel.net. Darrell Chatfield

- **2 - 1.25” rack and pinion focusers** for refractor type telescopes. Brand new. Never used. Inset diameter is 57mm. Heavy duty type with metal knurled knobs. All have boxes. \$20.00 each.

- **Original Celestron orange tube C5” scope** with tangent arm. Fork arms. SCOPE ONLY. No tripod or wedge. 5 x 30 finder, 1.25” visual back, diagonal, eyepiece, lens cap, metal case. Was used as a spotter scope. Not a mark on the tube. Clean looking. \$250.00

- 1 1.25” eyepiece extender - 3” long \$20.00
- 1 1.25” Celestron off axis guider c/w 12.5mm ep. Can be illuminated. New. \$45.00
- 1 Celestron 1.25” reticle. Can be illuminated \$20.00
- 1 3.5” long 1.25” tele-extender \$20.00
- 3 1.25” visual backs new \$10.00 each
- 1 1.25” to 0.965’ visual back \$10.00
- 1 Camera to visual back adapter Lightly used \$10.00
- 1 Threaded visual back to 16mm male threads camera adapter \$10.00

PRINTED NEWSLETTERS

Please note that after the December 2024 newsletter is sent out, printed newsletters will not be mailed any longer.



Full field Orion Nebula. Imaged at Sleaford Observatory Friday, November 1st, 2024. 5 hours total, 300 second exposures. RedCat 51x250mm, ASI 2600 Duo colour camera, Optolong L-quad enhance filter, ZWO AM3 harmonic drive mount. Processed in Siril. Photo by Nick Larsen.

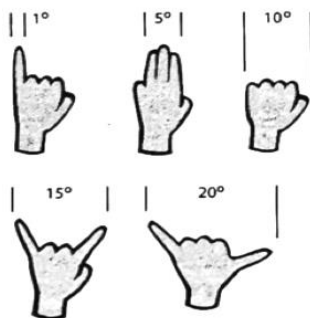
Cropped from the original to fit properly.

DECEMBER NIGHT SKY EVENTS AND INFO

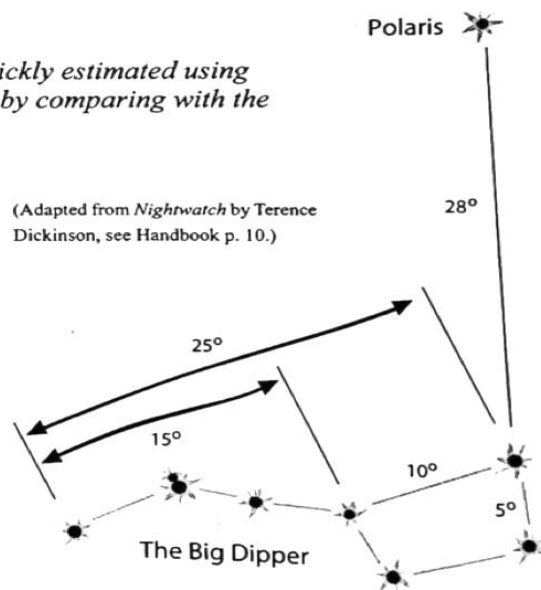
Images on the next few pages taken, with permission, from the 2024 Observer's Handbook. It can be obtained by joining the RASC here <http://rasc.ca/join> or ordered from <https://secure.rasc.ca/store/product/observer-s-handbook-2024>

HANDY SKY MEASURES

Angular measure in the sky can be quickly estimated using the fingers of an outstretched arm, or by comparing with the star separations in the Big Dipper.



(Adapted from *Nightwatch* by Terence Dickinson, see Handbook p. 10.)



Time (UT)		DECEMBER EVENTS	Jupiter's Satellites	
d	h m		West	East
Sun.	1	Mercury at ascending node new Moon (lunation 1261) Algol at minimum		1.0
Mon.	2			2.0
Tue.	3			3.0
Wed.	4	Algol at minimum Venus 2° N of Moon		4.0
Thu.	5			5.0
Fri.	6	Mercury at perihelion Mercury in inferior conjunction		6.0
Sat.	7	12 15 21 21 Algol at minimum Jupiter at opposition Mars stationary		7.0
Sun.	8	9 11 15 27 Saturn 0.3° S of Moon, occultation† Neptune stationary first quarter		8.0
Mon.	9	9 19 36 Neptune 0.8° S of Moon, occultation‡ Moon at ascending node		9.0
Tue.	10	9 04 Algol at minimum		10.0
Wed.	11			11.0
Thu.	12	13 Moon at perigee (365 361 km)		12.0
Fri.	13	5 54 10 18 Algol at minimum Uranus 4° S of Moon Moon in Pleiades (M45)		13.0
Sat.	14	1 20 Geminid meteors peak Jupiter 5° S of Moon		14.0
Sun.	15	9 02 21 full Moon Mercury stationary		15.0
Mon.	16	2 43 Mercury at greatest heliocentric lat. N Algol at minimum		16.0
Tue.	17			17.0
Wed.	18	9 23 32 Mars 0.9° S of Moon, occultation* Algol at minimum		18.0
Thu.	19			19.0
Fri.	20			20.0
Sat.	21	9 21 20 21 Solstice Algol at minimum		21.0
Sun.	22	10 22 18 Ursid meteors peak last quarter		22.0
Mon.	23	7 47 23 21 Moon at descending node Double Shadows on Jupiter		23.0
Tue.	24	7 17 10 Moon at apogee (404 485 km) Algol at minimum		24.0
Wed.	25	3 20 Spica 0.2° S of Moon, occultation§ Mercury greatest elongation W (22°)		25.0
Thu.	26			26.0
Fri.	27	13 59 Algol at minimum		27.0
Sat.	28	15 Antares 0.09° N of Moon, occultation††		28.0
Sun.	29			29.0
Mon.	30	10 37 10 49 Double Shadows on Jupiter Algol at minimum		30.0
Tue.	31	22 27 new Moon (lunation 1262)		31.0

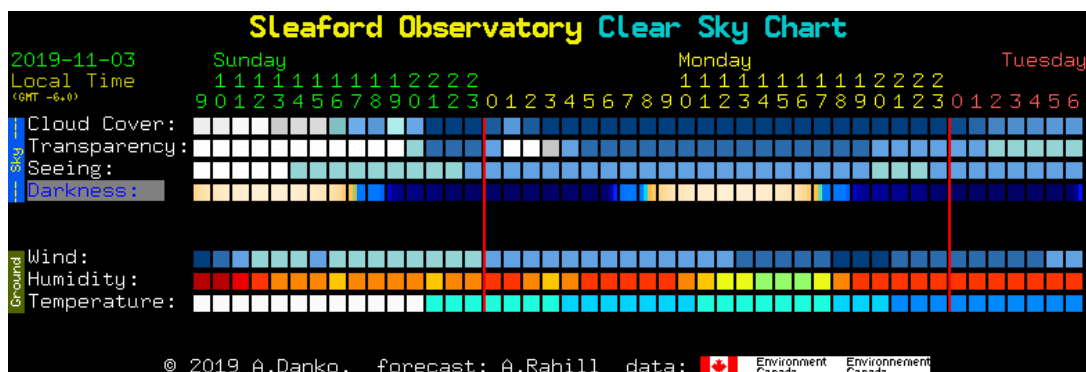
†Indonesia, Philippines, NW edge of Australia, NW Micronesia, most of Japan, Aleutian Is.

CLEAR SKY AND WEATHER INFO

To find clear skies, visit the Clear Dark Sky website -

<https://www.cleardarksky.com/csk/>

Once there, one can enter your location to find clear skies. The chart will appear as follows:



Environment Canada provides weather information for astronomy -

www.weather.gc.ca/astro



Saskatchewan Light Pollution Abatement Committee -

<http://myotherlife.net/slpac/>



www.darksky.org

MINUTES OF NOVEMBER MEETINGS

Lorie Tedford

Minutes of the Monthly Executive Meeting of the RASC Saskatoon Centre Monday, Nov 18th, 2024 - 7:00 pm Hybrid: Online & In-person: U of S Observatory

Attending: Brent Burlingham, Lorie Tedford, Les Dickson, Joelle Sheard-Patrick, Colin Chatfield, Darrell Chatfield, George Charpentier

- 1. Call to order** 7:04 pm - Brent Burlingham (President and Chair)
- 2. Approval of the Executive meeting minutes for October 2024** as printed in the October newsletter. Moved by Les Dickson, seconded by Darrell Chatfield; carried.
- 3. Call for additional announcements/items to add to the agenda.**
- 4. Announcements from the Chair** - None to present.
- 5. Old Business - Reports from the Executive Council**
 - 5.1 President's Report** - Brent Burlingham.
 - The rental scopes were picked up and moved the basement at the Observatory. Thanks to Ron Waldron, Darrell Chatfield and Nick Larsen for their help.
 - A tally of the current membership is around 55 people.
 - 5.2 Acting Treasurer** - Les Dickson.
 - Discussed the finances for the year. There were a few extra expenses this year but overall in good standing.
 - 5.3 National Council Rep** - Joelle Sheard-Patrick
 - National is wanting to remove the grace period between when a membership has expired and needs to be renewed.
 - 5.4 Activities Coordinator** - Joelle Sheard-Patrick
 - None reported.
 - 5.5 Sleaford Update** - Darrell Chatfield
 - The RM will be removing snow on a "as needed" basis.
 - Darrell is going to get in touch with Larry about use of the snowblower.
 - 5.6 SSSP Update** - Les Dickson
 - Had a review of the SSSP 2024. The financial report will be released soon and the next star party will be announced in the new year.

6. Old Business

6.1 Christmas Party

- November 29th will be our Christmas party to be hosted at Great Western Brewing Company. Details will soon follow.
- No meeting will be held in December.

6.2 Ike Thiessen Memorial

- Discussed the idea of having a plaque with the ability to add several members who have contributed to the centre.
- Darrell to look into pricing and options.

7. New Business

7.1 Jeff Swick and Tim Yaworski have recommended Nick Larsen to be appointed the Imaging Group Coordinator. It was discussed to combine the Imaging Group and the Observing Group into one night and use separate parts of Sleaford. Nick has accepted this role. Motion for Nick to be the Imaging and Observing Group coordinator was made by Joelle Sheard-Patrick, seconded by Les Dickson; carried.

7.2 Insurance for Club Assets - Discussed compiling a master list of the telescopes stored in the U. of S. Observatory Library to determine what we have, has been sold, or disposed of etc.

7.3 Discussion on the club participation in the Meewasin Dark Sky Events that Tim Yaworski has arranged. The club decided that we will be taking part in these events as a partnership. List of all the events for 2025 are as follows:

- Planet Viewing at Beaver Creek Feb. 7th 7-10pm
- Lunar Eclipse at Beaver Creek March 13th 10pm
- Lyrids Meteor Shower at Beaver Creek April 22nd 9pm
- Perseid Meteor Shower at NE Swale August 12th 10:30pm
- Dark Skies at Beaver Creek October 24th 7:30pm
- Geminids Meteor Shower at Beaver Creek December 13th 9pm

8. Motion to adjourn by Les Dickson; carried. 7:58 PM.

**Minutes of the Monthly General Meeting of the RASC Saskatoon Centre
Monday, Nov 18th, 2024 - 7:00 pm Hybrid: Online & In-person: U of S Observatory**

Minutes taken and prepared by Lorie Tedford.

1. Sharing/Networking Time - 8:00-8:15 pm - all members.

2. Call to Order - 8:20 pm - Brent Burlingham (President and Chair)

3. **Call for additional announcements/items to add to the agenda.**
4. **Call out to new members/guests:** Aaron Allinson.
5. **Adoption of the October General meeting minutes** as printed in the October newsletter. Moved by Lisa Caldwell, seconded by Nick Larson, carried.
6. **Executive Meeting Summary - Brent Burlingham**
 - The rental scopes were picked up and moved to the U. of S Observatory. Thank you to Ron, Jeff and Nick for their help.
 - The club will be participating in events alongside Tim Yaworski that he has arranged with Meewasin Dark Sky throughout 2025. See list above.
 - The Christmas party will be held on November 29th with no meeting in December. It is to be held at Great Western Brewing Company, more details to follow through email.
 - Darrell is looking into options to create a memorial plaque for members who have contributed to the club and have passed on.
 - The Imaging and Observing Group will now be held together at Sleaford with the two groups using different areas of the site. Nick Larsen was appointed the coordinator for the groups.
7. **Program**
 - 7.1 **“The Upcoming Sky”** presented by Colin Chatfield.
 - 7.2 **“Everyone Always Gives a Bad Explanation of the Twin Paradox”** Implications and misunderstandings of the theory of special relativity - Dr. Daryl Janzen, U. of S. Department of Engineering Physics.
 - 7.3 **“PANP Aurora Workshop”** - Tim Yaworski.
8. **Call to adjourn** - Moved by Les Dickson; carried.



Aurora in Nipawin. Taken in October 2024 by Colin Chatfield.



My eleven year old Canon Rebel T5i camera died and I bought a new Canon EOS RP camera. My first picture with it was on November 1 of comet C/2023 A3 (Tsuchinshan-ATLAS) through my 80mm Sky-Watcher Equinox telescope. This comet was still good looking even though it had faded from its brightest two weeks earlier. It will continue to be the brightest comet in our skies for the next two months unless something new comes along. Taken by Tenho Tuomi.

OBSERVING CERTIFICATES AND CLUBS

RASC OBSERVING PROGRAMS AND CERTIFICATES

The RASC offers four observing certificates for **members** who observe all objects in each of the following observing lists in this chapter:

- THE MESSIER CATALOGUE (p. 312)
- THE FINEST NGC OBJECTS (p. 316),
- THE DEEP-SKY CHALLENGE OBJECTS (p. 320),
- DEEP-SKY GEMS (p. 322).

See rasc.ca/certificate-programs for details and contact the RASC Observing Committee Chair at rasc.ca/contact/observing for further information.



The RASC also offers the **Explore the Universe Certificate** for novice observers (who do not have to be RASC members), the **Explore the Moon Certificate** for beginning members, and the **Isabel Williamson Lunar Observing Certificate** and the **Double Stars Observing Certificate** for intermediate to advanced members. In addition, **Astroimaging certificates** are available for those members with a photographic bent. See rasc.ca/astro-imaging-certificate

RASC OBSERVER'S HANDBOOK 2023 – STANDARD EDITION

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. Chatfield, T. Tuomi, L.
Scott, G. Charpentier, B.
Johnson, L. Dickson,
B. Burlingham, Norma Jensen,
Donna-Lee May*

Ron Waldron	108
Brent Gratias	104
Marcel Müller-Goldkuhle	94
Wade Selvig	75
Wayne Schlapkohl	43
Ellen Dickson	34
Graham Hartridge	9

CHATFIELD BINOCULAR CERTIFICATE

Certified at 35 to 40 Objects:

T. Tuomi, R. Huziak

Jim Goodridge	12
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FINEST NGC CLUB

Certified at 110 Objects:

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

Larry Scott	110
Scott Alexander	97
Norma Jensen	83
Sandy Ferguson	23
George Charpentier	13
Brent Burlingham	97

EXPLORE THE UNIVERSE

Certified at 55 to 110

Objects: *T. Tuomi, B. Gratias*

Wayne Schlapkohl	55
Jim Goodridge	35

ISABEL WILLIAMSON

LUNAR OBSERVING CERTIFICATE

Certified at 140 Objects:

T. Tuomi, N. Jensen

EXPLORE THE MOON CERTIFICATE

T. Yaworski

Brent Gratias	37
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HERSCHEL 400 CLUB

Certified at 400 Objects:

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

Gordon Sarty	251
Scott Alexander	117
Larry Scott	45
Sandy Ferguson	18

HERSCHEL 400-II CLUB

Darrell Chatfield	400
Tenho Tuomi	378
Rick Huziak	246

LEVY DEEP-SKY GEMS

Certified at 154 Objects:

Tenho Tuomi	150
Darrell Chatfield	70

Messier, Finest NGC, and David Levy's Deep-Sky lists in the *Observer's Handbook*.

The Explore the Universe list is available here <http://www.rasc.ca/explore-universe>
Messier and Finest NGC lists, charts and logbooks: <https://www.rasc.ca/certificate-programs>

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

Chatfield Binocular List is at: https://saskatoon.rasc.ca/Chatfield_Binocular_List.pdf

“Isabel Williamson Lunar Observing Program Guide” program details can be found at:

<https://www.rasc.ca/isabel-williamson-lunar-observing-program>