

Saskatoon Skies

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

Volume 54, Number 05

May 2023



Royal Astronomical Society of Canada
Saskatoon Centre Incorporated
Box 31086, RPO Broadway
Saskatoon, SK S7H 5S8

WEBSITE: <https://saskatoon.rasc.ca/>
E-MAIL: sk_centre@rasc.ca
FACEBOOK: [RASC Saskatoon Centre](#)
INSTAGRAM: [@RASCYXE](#)

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

In This Issue:	
Membership Information / Officers of the Centre	2
Newsletter Info / U of S Observatory Info	3
Calendar of Events & Meeting Info	4
Speakers for May Meeting	5
March 18th Fireball	6
Minutes of April Meetings	7-10
May Night Sky Events & Info	10-12
Reimbursement for Centre Expenses	12
Clear Sky Chart / Weather Info / Light Abatement Info	13
Saskatchewan Summer Star Party 2023	14
Books and Equipment For Sale	15
Observing Certificates & Clubs	16-17

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
- Journal of the RASC (electronic format)
- 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
- SkyNews Magazine (bimonthly)

SASKATOON CENTRE'S MAIN OFFICERS:

President – Les Dickson

Vice-President – Brent Burlingham

Secretary – Tenho Tuomi

Treasurer – *vacant*

National Council Rep – Les Dickson

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 INFO

Newsletter Editor – Colin Chatfield

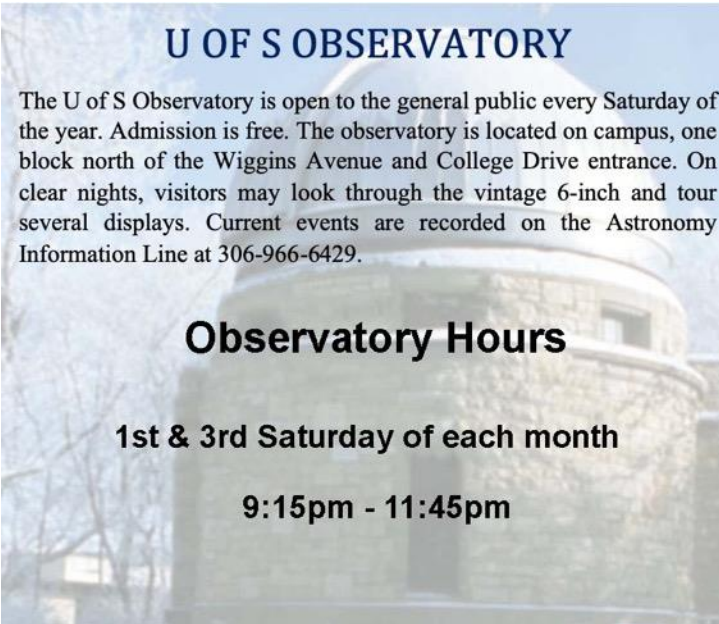
Copy & Collate – Les & Ellen Dickson

Labels & Temps – Mark de Jong

Web Posting/Content Editor – Gord Sarty/Tenho Tuomi

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. 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.



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 306-966-6429.

Observatory Hours

1st & 3rd Saturday of each month

9:15pm - 11:45pm

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

May 13	Observer's Group - Sleaford Observatory	Brent Gratias
May 15	RASC Saskatoon Centre General Meeting	Les Dickson

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>

May RASC General Meeting

for all members and guests

Join us on May 15th, 2023 at 8:00PM (Executive meeting at 7:00pm)

Webinar (info below) or in person in room 175, U of S Physics building

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 who prefer meeting online.

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

“Capturing the Wonders of Night” - Jeanine Holowatuik

“USask Campus Observatory Update” - Daryl Janzen

(Write-ups below)

SPEAKERS FOR MAY MEETING

“Capturing the Wonders of Night” - Jeanine Holowatuik

Learn about aurora photography and the unique challenges compared to most forms of night photography. Jeanine will present on the basics of aurora photography and her passion for capturing the beauty of the night sky.

Jeanine is an avid aurora chaser, astro photographer and guide. She’s a recognized, and published photographer based in Hudson Bay, Saskatchewan. Jeanine leads aurora photography workshops in Saskatchewan and has spoken about her aurora chasing adventures to an international audience.

“USask Campus Observatory Update” - Daryl Janzen

I will discuss progress on a new functional display at the USask Campus Observatory. Tim Wheler, a graduate student in USask's Computer Science department, is working on a project that uses image recognition software to read and digitise the original hour angle and declination Vernier gauges on our antique Duncan telescope. When complete, a monitor will be mounted inside the dome displaying the telescope’s hour angle/right ascension and declination, as they are read off the two gauges in real time. A display using the hour angle gauge from the telescope, which has been temporarily removed in order to work on this project, will be set up in the Physics and Engineering Physics faculty lounge. After the meeting, everyone will be invited for a demonstration.



Gord Sarty documented this view of the terrestrial planets a few weeks back in Saskatoon

MARCH 18TH FIREBALL

Tenho Tuomi

The all-sky camera that is on my house recorded a bright fireball on March 18, 06:21 UT (12:21 AM CST). This was also recorded by the University of Calgary aurora cameras behind our house and by several doorbell/security cameras scattered across central Saskatchewan. Its terminal flare was bright enough to be detected by GOES 16 and 18 satellites and those indicate that the rock was about 100 kg in mass. (For comparison, the Buzzard Coulee meteor in 2008 was 100 times bigger). Even though it seems to be going from west to east in my camera, its track was towards the SE.

From analysis done by Dr. Alan Hildebrand and Lincoln Hanton at the University of Calgary, the meteor is estimated to have “ended” at an altitude of 30 km which indicates that it was a more fragile carbonaceous type than the Buzzard Coulee stony type of meteor which descended to 12 km before ending. Because of the high altitude at which it ended, there is more uncertainty in determining the fall zone, though it is estimated to be a bit west of Gardiner Dam. High altitude winds should have somewhat concentrated the meteorites on the ground. Some random searching has been done but no meteorites from the fall have been found yet.



7 second video of the March 18th fireball with the flare frame removed

MINUTES OF APRIL MEETINGS

Tenho Tuomi

Minutes of the Monthly Executive Meeting - RASC Saskatoon Centre Monday, April 17th, 2023 - 7:00 pm Hybrid Online Zoom and In-Person

Attending: In person - Les Dickson, Brent Burlingham, Yannis Pahatouoglou, Ike Thiessen, James Wood, Grant Ursaki (observer); On-line – Darrell Chatfield, Tenho Tuomi, Colin Chatfield

Minutes taken by Ellen Dickson

1. **Call to order** 7:07 pm – Les Dickson (President and Chair)
2. **Approval of the March Executive meeting minutes** as circulated in the April newsletter. **Moved:** Mark de Jong. **Seconded:** James Wood. **Carried.**
3. **Call for additional announcements/items** to add to agenda
4. **Announcements from the Chair** – Les Dickson
 - Thanks to Brent Burlingham, Yannis Pahatouoglou and the Faculty and Staff of the Physics and Engineering Physics Department (Chair Professor Michael Bradley) for making this room ready for the hybrid meeting.
5. **President's Report**
 - Financial Report for fiscal 2021-2022 to Corporate Registry completed and will be submitted; thanks to Donna-Lee May and James Gorkoff.
 - James Gorkoff and Les Dickson will be working on a new set of by-laws that will be ready for the fall General Meeting.
 - We need a Treasurer as soon as possible as Les has too much to do to cover that position as well.
6. **Reports from the Executive Council**
 - 6.1 National Council Rep: Les Dickson
 - RASC National has dug themselves a deep financial hole out of which they are trying to climb out.
 - They have a 4-point plan: 1) deal with expenditures, 2) develop a viable budget, 3) conduct a review of just what happened to get themselves into this mess, 4) achieve the successful continuation of the RASC into the future.
 - The former Fund Development Consultant for RASC Lisa di Veto has been sending out emails to members complaining about how her position was terminated; please ignore.

6.2 Telescope Loaner Program: Ike Thiessen

- One dob on loan to a member who has it at the Dakota Dunes Hotel, one is with a member who will be paying for the rental, and one is at Ike's home.
- Ike will be submitting a bill for the recently purchased Telrad.
- He has \$110 in cash from rentals.
- The donated Meade 12" LX100 scope and mount is being returned to the Observatory storage.

6.3 Sleaford Site: Darrell Chatfield

- Darrell, Daryl and Yannis are looking into security cameras for Sleaford.
- Once camera(s) in place, have a sign indicating the presence of cameras.
- The gate is falling down and apart; it may be cheaper to replace it than try to fix it.
- A "friendly amendment" is needed to update the agreement with the University regarding the Sleaford site with the current postal address of the Centre.

New Business

7. Re-orientation of the club to activate the larger membership: Yannis Pahatouroglou
 - Yannis presented a report describing his observations of the Centre's struggles with governance and essential functions, noting that an imbalance and tension has developed between the "inner members", those that appear to do most of the work from year to year, and the "peripheral members" who appear discouraged from participating in our governance.
 - Yannis presented suggestions on how we could alleviate the dysfunctionality for the short term and the medium and long term.
 - His suggestions were welcomed and further discussion is needed to implement these suggestions.
 - A version of Yannis' report will appear in the newsletter in the future.
 - As part of the discussion, Jim Wood generously offered to subsidize youth memberships in the Centre; the details of this need to be worked out.
8. **Motion to adjourn. Moved:** Mark de Jong. **Seconded:** Yannis Pahatouroglou
Adjourned 07:58 pm.

Minutes of the Monthly General Meeting - RASC Saskatoon Centre Monday, April 17th, 2023 - 8:00 pm Hybrid Online Zoom and In-Person

15 members attending at beginning of meeting.

Minutes taken by Ellen Dickson

1. **Sharing / Networking Time 8:00 PM** – all members

2. **Call to order** 8:16 pm – Les Dickson (President and Chair)
3. **Call for additional items or changes to the agenda**
4. **Call out to new members/guests**
5. **Adoption of the March General Meeting minutes as circulated in the April newsletter. Moved:** Ellen Dickson. **Seconded:** Brent Burlingham. **Carried.**
6. **Executive Meeting summary** – Les Dickson
 - Financial report completed and will be submitted to ICS shortly
 - James Gorkoff and Les Dickson will have new by-laws ready for Fall general meeting
 - We need a Treasurer ASAP
 - RASC National is trying to climb out of a deep financial hole with a 4-point plan; a budget for this coming year coming out in early May
 - Please ignore emails from former RASC National Fund Development Consultant Lisa di Veto
 - Ike Thiessen gave a report on the telescope loaner program; the donated 12” Meade telescope and mount now in the Observatory storage
 - Darrel Chatfield gave an update on Sleaford site: gate needs repair or replacing; looking into security cameras
 - Yannis Pahatouoglou presented a report describing his observations on our struggles with governance and member participation with a good list of positive suggestions on how we can correct the problems
 - Jim Wood has offered to subsidize youth memberships in the Centre
 - Les gave an update on SSSP: 12 registered with 75 of about 110 camping sites booked; early registration ends July 15

New Business

7. No new business.
8. **Program:**
 - *What’s Up This Month* – Colin Chatfield
 - *Main Speaker* – Pierre Schierle, Regina Centre

Green Laser Pointer Safety and Certification -Just how bright are Green Laser Pointers (GLPs) and are they dangerous? Join Pierre to learn some brightness comparisons that will help you understand why GLPs are regulated by both Health Canada and Transport Canada. Pierre will simplify these regulations and help you know if your GLP is legal. He will teach you how to safely operate your GLP so you can avoid severe fines or jail time. RASC has obtained a special Authorization for

GLP usage. Pierre will teach you the requirements and provide a certification test for RASC members.

- Pierre administered an exam in which 15 in-person and on-line people participated and all but 1 passed
- Our Centre will need a policy and procedure regarding GLP usage by those who passed the exam.

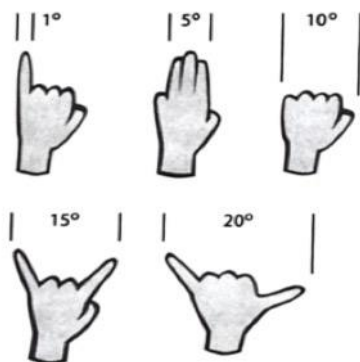
9. **Call to adjourn** – est. 9:45 pm. **Moved:** not recorded

MAY NIGHT SKY EVENTS AND INFO

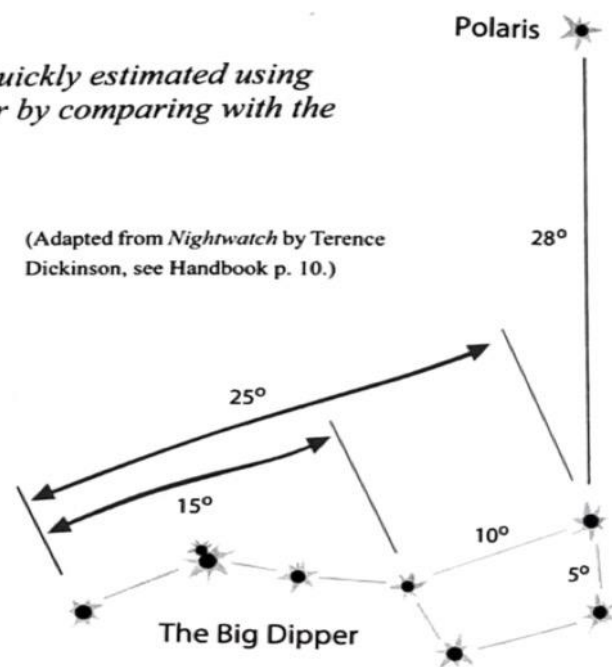
Images on the next few pages taken, with permission, from the 2023 Observer's Handbook. It can be obtained by joining the RASC here <http://rasc.ca/join> or ordered from <https://secure.rasc.ca/Portal/Shop/RASC/Store/StoreMain.aspx?Category=CURRPUB>

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.

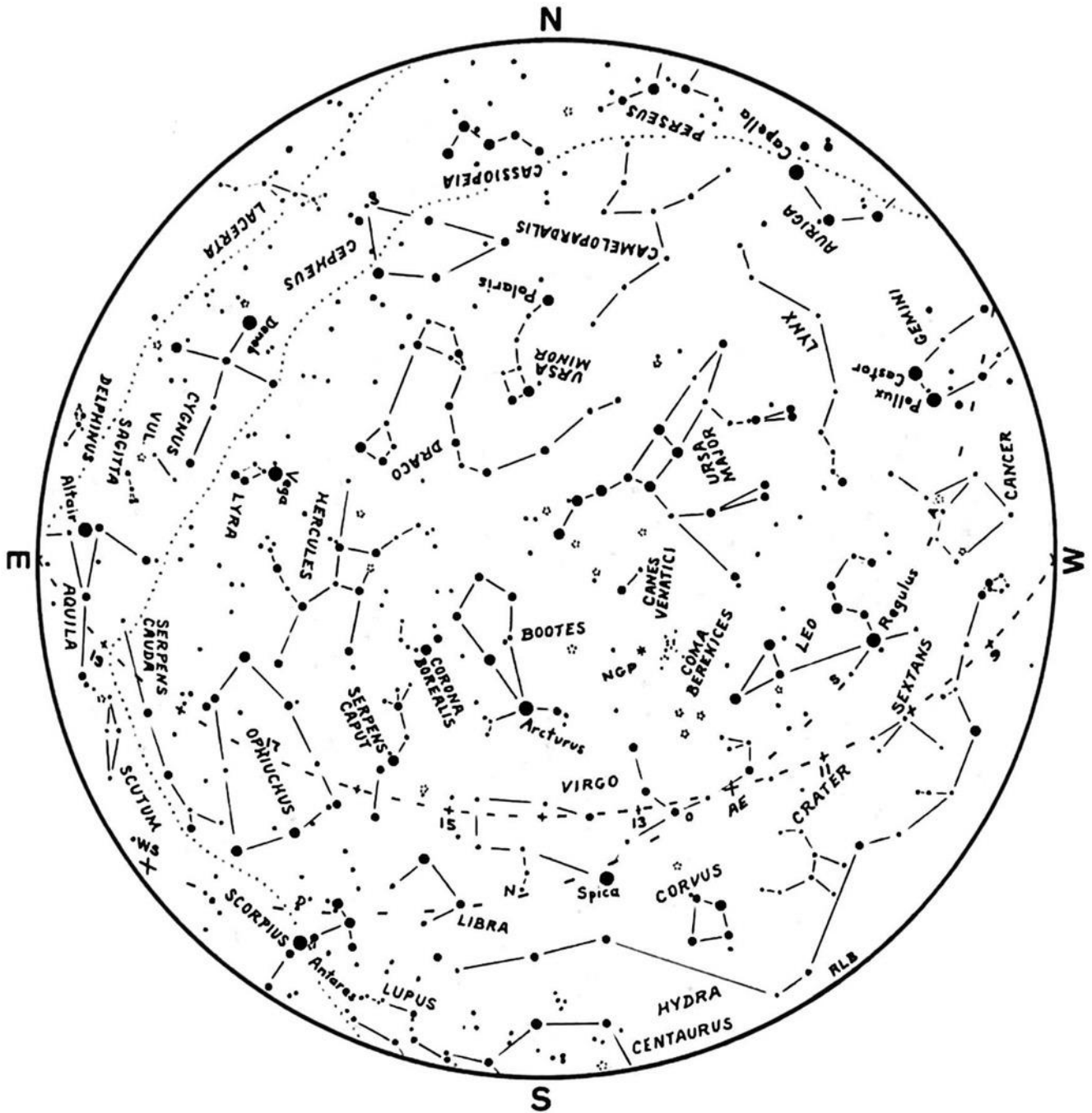


(Adapted from *Nightwatch* by Terence Dickinson, see Handbook p. 10.)



RASC OBSERVER'S HANDBOOK 2023 – STANDARD EDITION

Time (UT)		MAY EVENTS	Jupiter's Satellites	
d	h m		West	East
Mon.	1 23	Mercury in inferior conjunction		1.0 Io
Tue.	2 13 53	Algol at minimum		2.0 Europa
Wed.	3			3.0
Thu.	4	Mercury at descending node		4.0
Fri.	5 21 57	Moon at descending node		5.0 Callisto
	10 42	Algol at minimum		6.0
	17 34	full Moon		7.0
		Penumbral Lunar Eclipse (p. 130)		8.0
Sat.	6 15	η -Aquariid meteors peak		9.0 Ganymede
Sun.	7 13	Antares 1.5° S of Moon		10.0
Mon.	8 7 31	Algol at minimum		11.0
Tue.	9 17	Venus at greatest heliocentric lat. N		12.0
	20	Venus 1.8° N of M35		13.0
		Uranus in conjunction with the Sun		14.0
Wed.	10			15.0
Thu.	11 4 20	Algol at minimum		16.0
	5	Moon at perigee (369 343 km)		17.0
Fri.	12 14 28	last quarter		18.0
Sat.	13 11	Ceres stationary		19.0
	13	Saturn 3° N of Moon		20.0
Sun.	14 1 09	Mercury at aphelion		21.0
	7	Algol at minimum		22.0
		Mercury stationary		23.0
Mon.	15 1	Neptune 2° N of Moon		24.0
Tue.	16 21 58	Algol at minimum		25.0
Wed.	17 11 51	Double Shadows on Jupiter		26.0
	12 27	Double Shadows and Transits on Jupiter		27.0
	13	Jupiter 0.8° S of Moon, occultation†		28.0
	19 36	Moon at ascending node		29.0
Thu.	18 2	Mercury 4° S of Moon		30.0
Fri.	19 15 53	new Moon (lunation 1242)		31.0
	18 47	Algol at minimum		
Sat.	20			
Sun.	21 0 48	Double Shadows on Jupiter		
	1 28	Double Shadows and Transits on Jupiter		
Mon.	22 15 36	Algol at minimum		
	19 17	Double Shadows on Jupiter		
Tue.	23 12	Venus 2° S of Moon		
Wed.	24 2	Pollux 1.6° N of Moon		
	13 46	Double Shadows on Jupiter		
	14 40	Double Shadows and Transits on Jupiter		
	18	Mars 4° S of Moon		
Thu.	25 12 25	Algol at minimum		
Fri.	26 2	Moon at apogee (404 509 km)		
Sat.	27 15 22	first quarter		
Sun.	28 2 43	Double Shadows on Jupiter		
	4 06	Double Shadows and Transits on Jupiter		
	9 14	Algol at minimum		
Mon.	29 6	Mercury greatest elongation W (25°)		
	21 37	Double Shadows on Jupiter		
Tue.	30	Mars at aphelion		
Wed.	31 6 03	Algol at minimum		
	15 50	Double Shadows on Jupiter		
	17 31	Double Shadows and Transits on Jupiter		



REIMBURSEMENT FOR CENTRE EXPENSES

The Centre has a reimbursement procedure on submission of expense claims. A writeable pdf claim form can be found on the Centre webpage under the Executive tab. The expense form **must** be submitted *along with original receipts* to the Treasurer within 30 days of the transaction. All expenditures must be preapproved by the Executive or be within allocated budgets.

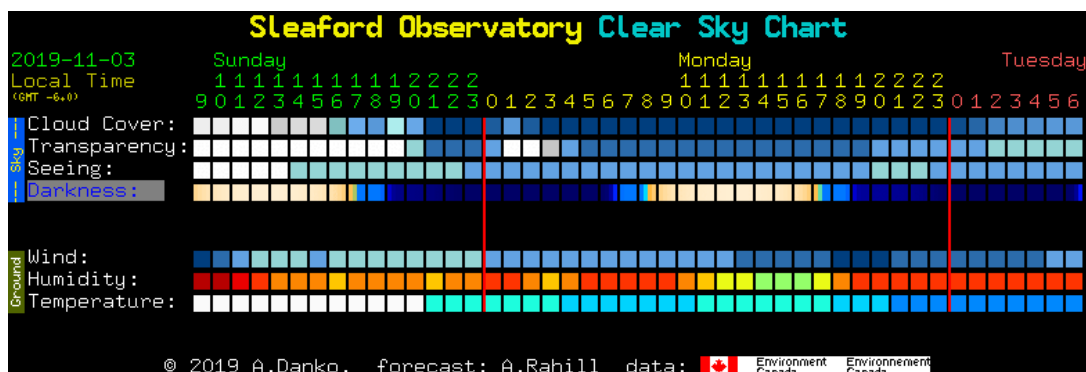
Please contact the Treasurer with any inquiries.

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

SASKATCHEWAN SUMMER STAR PARTY 2023

Cypress Hills Interprovincial Park Centre Block - 30 km South of Maple Creek on Highway 21

Wednesday, August 16th to Sunday, August 20th, 2023

Presented by the Saskatoon and Regina Centres of the RASC

The Star Party has been shortened by one day and now begins on August 16 due to changes in Sask Parks administration. We've held the registration cost from last year, but have had to increase the cost of the banquet and t-shirts by a small amount to cover inflation. We've also changed the Welcome BBQ to include either your choice of hotdogs or hamburgers!

Camping at SSSP

Camping bookings will open on **Saturday April 8th at 7:00 am CST (-6UT)** and we will not be taking any bookings or reservations before then. See the Camping page for more information.

The Resort at Cypress Hills

If you are staying at the Resort, you can book your rooms anytime. Make sure you tell them you are with the star party to get a room within our booking block. The block release date is June 16, so book early. See the Resort page for more information.

Featured Speakers

We are pleased to announce our confirmed speakers for this year:

- Saturday afternoon Fr. Lucian Kemble Memorial Speaker: Alan Dyer
- Friday afternoon clinic "Green Laser Pointer Safety and Certification": Pierre Schierle

We are still looking for speakers and clinicians. If you have suggestions or would like to be one of our speakers, please contact us at sssp.sk@sasktel.net.



SASKATOON SKIES



MAY 2023

Visit the website for more info -
<https://sssp.saskatoon.rasc.ca/>

14

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 (50.00) 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

For Sale:

2-inch diameter Televue Visual Paracorr (Type 1). For use in fast Dobsonian telescopes < f5. Tunable top. Includes original directions. I sold the f4.7 dob so no longer need it. Asking \$250. Contact Ron Waldron at strman79@gmail.com if interested.





North American Nebula by Justin Lukan

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

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
---------------	----

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

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
---------------	----

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>