

Saskatoon Skies

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

Volume 54, Number 11

December 2023



Royal Astronomical Society of Canada
Saskatoon Centre Incorporated
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INSTAGRAM: [@RASCYXE](#)

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
- 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 – Brent Burlingham

Vice-President – John Takala

Secretary – Lorie Tedford

Treasurer – *vacant* (Les Dickson interim)

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 INFO

Newsletter Editor – Colin Chatfield

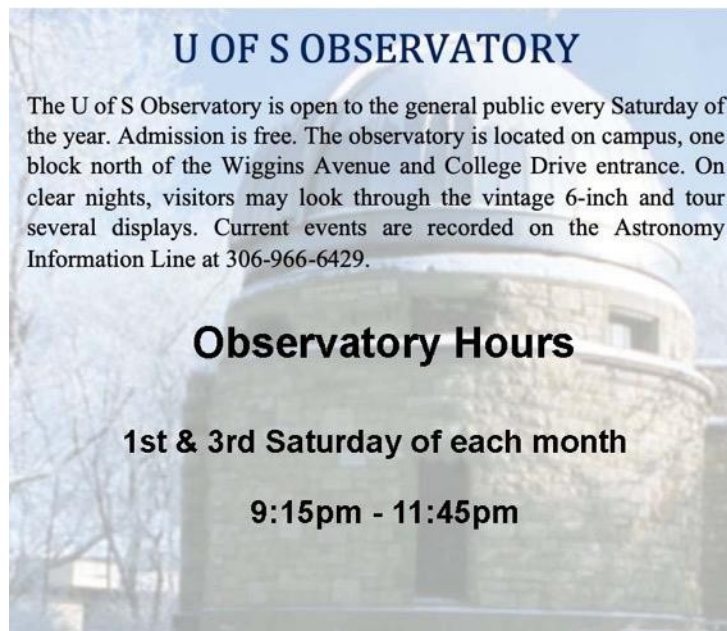
Copy & Collate – Les & Ellen Dickson

Labels & Temps – Mark de Jong

Web Posting/Content Editor – Tenho Tuomi/Andrew Kostiuk

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.

A graphic with a background image of the U of S Observatory building. The text is overlaid on the image. At the top, it says 'U OF S OBSERVATORY'. Below that, a paragraph describes the observatory's public access: '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.' Below the paragraph, it says 'Observatory Hours' in a large font. Underneath, it lists '1st & 3rd Saturday of each month' and '9:15pm - 11:45pm' in bold text.

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

Dec 9	Observer's Group - Sleaford Observatory	
Dec 11	Member's Only Supper	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>

December RASC Member's Supper (for members only)

**Join us on December 11th, 2023 at 6:00PM
Mano's Restaurant - 1820 8th St. E.**

**Please RSVP Brent if you plan on attending as space is limited
brent.burlingham@usask.ca**



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.

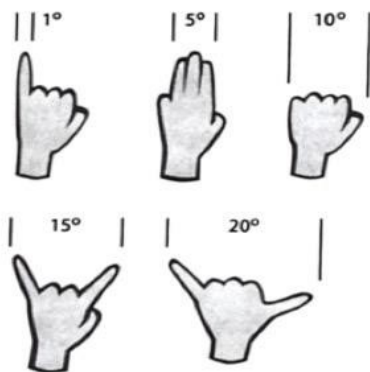
“Deep-Sky Observers Handbook” Volume 1-5 Enslow-Lutterworth	\$40.00
“International Encyclopedia of Astronomy” 1987 Patrick Moore Color	\$10.00
“Backyard Astronomers Guide” T. Dickinson & Alan Dyer 2008 Color	\$25.00
“Atlas of Deep Sky Splendors” 1978 H. Verhenberg (50.00) B & W	\$22.00
“Amateur Astronomers 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

DECEMBER NIGHT SKY EVENTS AND INFO

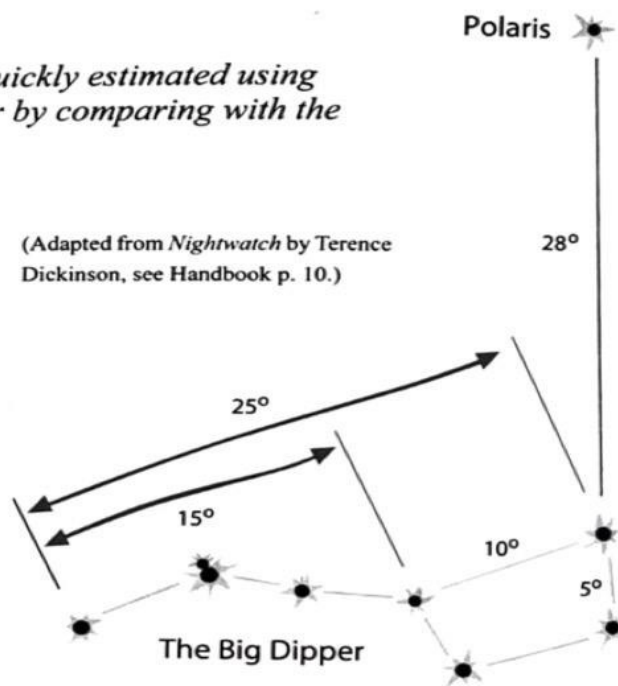
Images on the next few pages taken, with permission, from the 2023 Observer’s Handbook. It can be obtained by joining the RASC here <http://rasc.ca/join> or ordered from <https://secure.rasc.ca/Portal/Shop/RASC/Store/StoreMain.aspx?Category=CURRPUB>


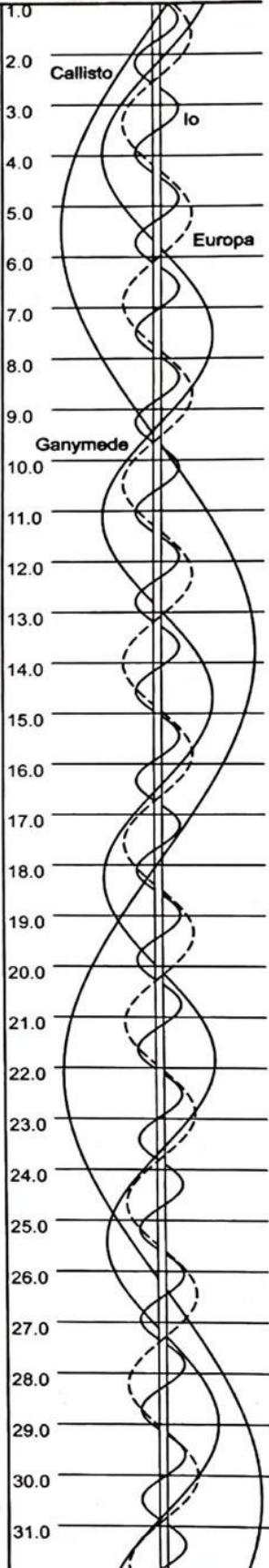

















HANDY SKY MEASURES

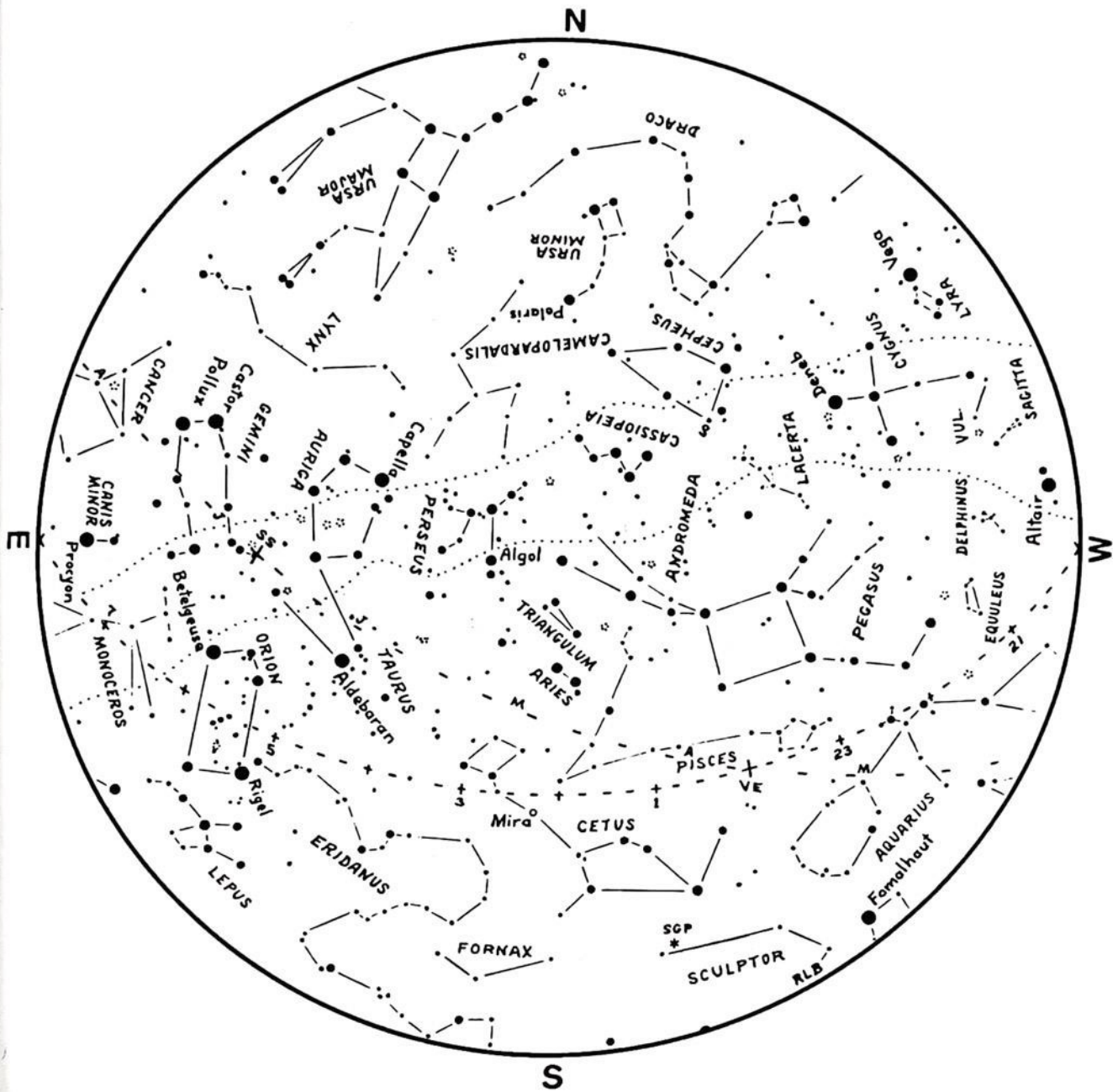
Angular measure in the sky can be quickly estimated using the fingers of an outstretched arm, or by comparing with the star separations in the Big Dipper.



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



Time (UT)		DECEMBER EVENTS	Jupiter's Satellites	
d	h m		West	East
Fri.	1 4	Pollux 1.6° N of Moon		
Sat.	2			
Sun.	3 15 06	Algol at minimum		
Mon.	4 14	Mercury greatest elongation E (21°)		
	19	Moon at apogee (404 346 km)		
Tue.	5 5 49	last quarter		
Wed.	6 11 55	Algol at minimum		
Thu.	7 0	Neptune stationary		
Fri.	8 15 24	Moon at descending node		
Sat.	9 8 44	Algol at minimum		
	17	Venus 4° N of Moon		
Sun.	10			
Mon.	11			
Tue.	12 5 34	Algol at minimum		
	23 32	new Moon (lunation 1249)		
Wed.	13 5	Mercury stationary		
Thu.	14 5	Mercury 4° N of Moon		
	19	Geminid meteors peak		
Fri.	15 2 22	Algol at minimum		
Sat.	16	Mercury at ascending node		
	19	Moon at perigee (367 901 km)		
Sun.	17 22	Saturn 2° N of Moon		
	23 11	Algol at minimum		
Mon.	18			
Tue.	19	Venus at greatest heliocentric lat. N		
	13	Neptune 1.3° N of Moon, occultation†		
	18 39	first quarter		
Wed.	20	Mercury at perihelion		
	20 00	Algol at minimum		
Thu.	21 13 54	Moon at ascending node		
	19	Vesta at opposition		
Fri.	22 3 27	Solstice		
	14	Jupiter 3° S of Moon		
	19	Mercury in inferior conjunction		
Sat.	23 4	Ursid meteors peak		
	15	Uranus 3° S of Moon		
	16 49	Algol at minimum		
	19 25	Double Shadows on Jupiter		
Sun.	24 8	Moon 1.0° S of Pleiades (M45)		
Mon.	25			
Tue.	26 13 39	Algol at minimum		
Wed.	27 0 33	full Moon		
Thu.	28 12	Pollux 1.7° N of Moon		
Fri.	29 10 27	Algol at minimum		
Sat.	30	Mercury at greatest heliocentric lat. N		
	22 17	Double Shadows on Jupiter		
Sun.	31 15	Jupiter stationary		



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.

NOTES FROM THE PRESIDENT

Brent Burlingham

The RASC Saskatoon Centre has been through some very trying times over the last several years.

In common with most volunteer organizations, the centre has been sustained by the efforts of a small core group of members doing the lion's share of work required to maintain the club and to further the mission of promoting our shared love of stargazing and astronomy. The core group has been exhausted by these efforts and the tumultuous events of the last few years. It was time for new members to step up and carry forward the aims and mission of the centre.

I decided to join the executive of the club as Vice President when I heard discussions about the possibility of the club dissolving due to apathy and lack of participation. After years of enjoying the benefits the club provided (Sleaford, SSSP, public outreach and the considerable shared knowledge of long time club members) I felt it was time to contribute something. This wasn't because of any inherent leadership or administrative abilities, but because I did not want to see the club fail.

I was encouraged at our last meeting to see several new members (John Takala as Vice President, Lorie Tedford as Secretary and Joelle Sheard-Patrick as National Council Representative and Activities Coordinator) step up to take on positions that were vacated. I felt we had turned a crucial corner towards re-establishing the club as a vital forum for promoting and sharing our astronomical knowledge and enthusiasm. I stepped into the role of President because I felt we just might be able to get back to what several long-time members of the club have told me they thought was missing these days – having fun with astronomy and looking up in wonder together.

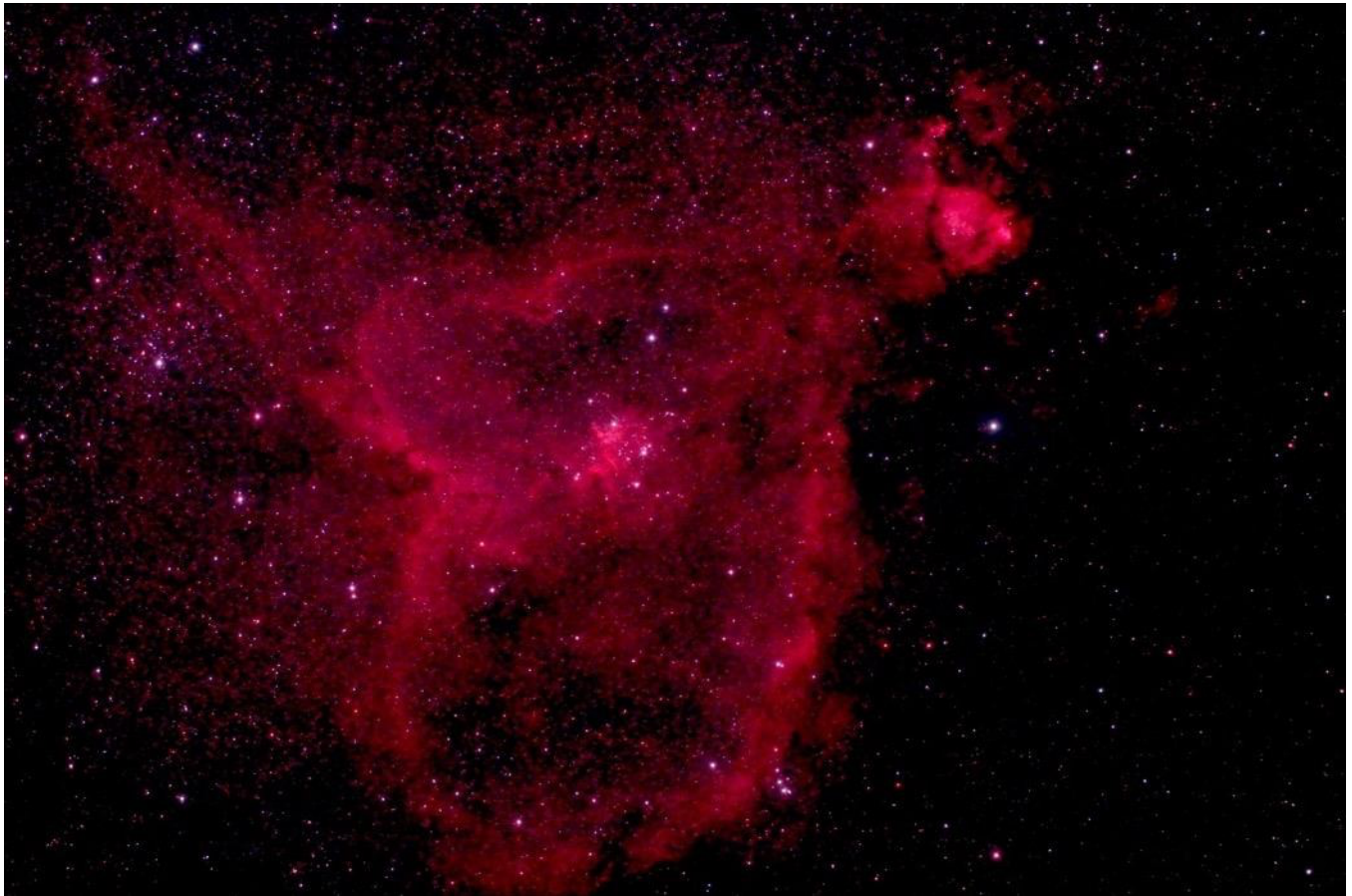
I'd like to acknowledge the huge efforts of our Past President Les Dickson over the last difficult periods the club has experienced. He stepped up as acting President, was the National Council Representative, was on the Board of Directors, was the chair of the SSSP and has been and continues to be the acting Treasurer. I am not exaggerating when I say the club would not have survived without those efforts, and we all owe Les (and Ellen) and huge thank you.

I'd also like to thank club's past Board of Directors (Les Dickson, Tenho Tuomi, James Wood and Norma Jensen) for their efforts guiding the club through some difficult times. And thanks to Norma Jensen for continuing as a Director, and George Charpentier, Mark De Jong and Yannis Pahatouoglou for stepping in as Directors.

We still have several crucial positions to fill (a permanent Treasurer, Observing Group Coordinator, Meeting Room and Speaker Coordinators), so please step up if you feel one of these positions would be a fit for you.

Many thanks also to the remaining core group who continue to sustain the club (Colin Chatfield, Darrell Chatfield, Ike Thiessen, Tenho Tuomi, Rick Huziak and Brent Harold) and Donna-Lee May for her work updating our accounting methods.

I look forward to our joint efforts to rebuild the RASC Saskatoon Centre, share our knowledge and passion, and to look up in wonder together. Clear Skies!



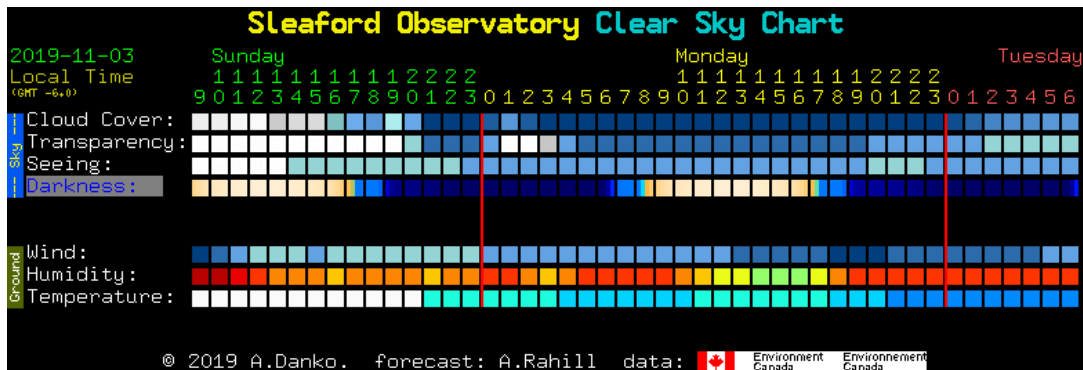
IC-1805 the Heart Nebula taken October 14, 2023 with a modified Canon T3i camera through a 12" Dobsonian telescope. Photo taken by Tenho Tuomi

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

Les Dickson

Minutes of the Monthly Executive Meeting of the RASC Saskatoon Centre Monday, Nov 20th, 2023 – 7:00 pm Hybrid: In-person Room Phys 175 & Online

Minutes prepared by: Les Dickson

Attending: Les Dickson, Brent Burlingham, James Wood, Darrell Chatfield, Mark De Jong, Colin Chatfield, Tenho Tuomi; **Observing:** Daryl Janzen

Recording - Ellen Dickson, Les Dickson

1. **Call to order** 7:03 pm – Les Dickson (President and Chair)
2. **Call for additional announcements/items** to add to agenda - None
3. **Approval of the October Executive meeting minutes** as circulated in the November newsletter. Moved: Brent Burlingham. Seconded: Mark De Jong. CARRIED.
4. **Announcements from the Chair** – Les Dickson
5. **Reports from the Executive Council** (Please be brief)
 - 5.1 **President’s Report** – Les Dickson
 - Thanks to all Executive members
 - 5.2 **(Acting) Treasurer:** Les Dickson
 - The Centre’s post office box was renewed, cost \$191.10. Paid by Les Dickson and reimbursed.
 - Printed copies of the Assets and Liabilities, and Operating Statements for the Fiscal Year of October 2021 to September 2022 are available at this meeting and LD will send scanned versions of the reports by email to members upon request.
 - LD working through SSSP finances, and the financial records to eventually prepare reports to National and Corporations branch
 - 5.3 **National Council Rep:** Les Dickson
 - Report on November NC meeting: there will be a “small” deficit for 2024 but hoping to be balanced in following year; National considering a proposal to make the Observer’s Handbook available free to members in electronic format, a printed version to be available for sale; membership fees may be going up to keep up with inflation; focusing on a steady revenue stream from donations.

- Redirection of emails in our sk_centre@rasc.ca now fixed, now being sent to Tenho Tuomi, will change again once new Secretary in place

5.4 Bylaws Committee: Les Dickson

- Les working to draft new bylaws with advice from Jim Gorkoff as required
- Hope to have first draft ready for the January meeting

5.5 Sleaford site work – Darrell Chatfield

- The gate has been replaced and some further work done on the hinge supports
- More work on supports planned for the Spring
- Cost \$1111.00 shared 50:50 with university
- DC to submit invoices with documentation to Centre and University

6. Reports from the Nominations Committee – Phone Tree: Les Dickson, Brent Burlingham, Darrell Chatfield, Joelle Sheard-Patrick

- Each committee member gave a report
- Phone calls resulted in three new nominees for Directors: George Charpentier, Mark De Jong, and Yannis Pahatouroglou
- Some discussion regarding the results of the phone calls
- It was a useful exercise to gain insight into reasons members do or do not participate or renew memberships

7. New Business

7.1 Formal resignation of outgoing Directors:

- Les Dickson suggested that the outgoing Directors submit formal resignation letters to the Centre

7.2 December meeting – Potluck?

- A “gastronomy” social dinner at a restaurant will be organized to replace the regularly scheduled December meeting

7.3 Darrell Chatfield reported that Kim Mysyk wanted to donate books to the library

- There was a discussion about the library and donations of books

7.4 Daryl Janzen gave an update on activities in and around the campus observatory

8. Motion to adjourn. Moved: Mark De Jong. **Seconded:** Les Dickson. **Adjourned** 8:00 pm

**Minutes of the Monthly General Meeting of the RASC Saskatoon Centre
Monday, Nov 20th, 2023 – 8:00 pm Hybrid: In-person Room Phys 175 & Online**

15 members attending at beginning of meeting.

1. **Sharing/Networking Time** 8:00 – 8:15pm – all members
2. **Call to order** – 8:17pm – Les Dickson (President and Chair)
3. **Call for additional items** or changes to the agenda
4. **Call-out to new members/guests: 5**
 - Request for help with astronomical equipment: Guest Christopher Moore asked for help with his equipment; Mike Dolan offered to help.
5. **Adoption of the October General Meeting minutes** as circulated in the November newsletter. Moved: Ron Waldron. Seconded: Brent Burlingham. CARRIED
6. **Executive Meeting summary** – Les Dickson
 - See Executive minutes
7. **Resignation of Outgoing Directors and Appointment of New Directors**
 - 7.1 **Resignation of outgoing Directors:**

Motion: Move that the Royal Astronomical Society of Canada Saskatoon Centre Incorporated accept the resignations of Leslie Dickson, Tenho Tuomi and Jim Wood as Directors of the corporation, effective this day (November 20, 2023), with thanks. Moved by: Brent Burlingham, Seconded by Mike Dolan. CARRIED.
 - 7.2 **Appointment of incoming Directors:**

Motion: Move that the Royal Astronomical Society of Canada Saskatoon Centre Incorporated appoint George Charpentier, Mark de Jong, and Yannis Patahouroglou as Directors of the corporation, effective this day (November 20, 2023). Moved by: Les Dickson, Seconded by Joelle Sheard-Patrick. CARRIED.
8. **Election of Officers**
 - In this section, all filled positions were acclaimed (only one person nominated). If the position was not filled, it is indicated by OPEN. Positions remaining open after the elections will be deferred to the new Executive to fill.
 - Chair called for more nominations from the floor. Nominations were received for several positions that were open as of the start of the meeting.

MOVED: by Les Dickson, seconded by Mark De Jong, that nominations be closed.
CARRIED.

Executive Positions:

President – Brent Burlingham

Vice President – John Takala

Secretary – Lorie Tedford

(Acting) Treasurer – Les Dickson (continue acting until permanent replacement found)

Past-President – Les Dickson

National Council Rep – Joelle Sheard-Patrick

Activities Coord. – Joelle Sheard-Patrick

Librarian/Archivist – Darrel Chatfield

Meeting Room Coord. – **OPEN**

Membership Coord. – Mark de Jong

Newsletter Editor – Colin Chatfield

Newsletter Printer/Mailer – Les Dickson

Observing Cert. Coord. – Darrell Chatfield

Observing Group Coord. – **OPEN**

Sleaford Maintenance Coord. – Darrell Chatfield

Sleaford Joint Mgmt. Comm. Rep. – Darrell Chatfield

Sleaford Joint Mgmt Comm. Rep. – Yannis Pahatouroglou

Social Media Coord. – Colin Chatfield

Speaker Coord. – **OPEN**

SSSP Comm. Co-chairs – Rick Huziak and Brent Harrold

Telescope Rental Coord. – Ike Thiessen

Website Content Editor – Tenho Tuomi

Directors:

George Charpentier

Mark De Jong

Norma Jensen

Yannis Pahatouroglou

9. Program

The Upcoming Sky – Colin Chatfield

Student Satellites to Space - Dustin Preece, Kierstin Anderson, and Arliss Sidloski
(University of Saskatchewan Space Design Team)

- This presentation was very well received by all and prompted a long Q&A session after the formal presentation.

10. Call to adjourn – 9:49pm. Moved: Les Dickson Seconded: Brent Burlingham.



Aurora taken November 12, 2023 by Colin Chatfield about 15 kms east of Saskatoon

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

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](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>