



# NORTHERN LIGHTS



NORTH CENTRAL REGION OF THE ASTRONOMICAL LEAGUE

Winter 2025 - Volume 9, Number 3

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## NCRAL CHAIR'S MESSAGE

Welcome to another edition of the *Northern Lights* newsletter. As I write this introduction to the winter newsletter, it is mid-December. Christmas is just around the corner, though this newsletter may not arrive until later. Nevertheless, let me wish you all a Merry Christmas and a Happy New Year! Perhaps Santa brought you a shiny new telescope. Beyond gift-giving and receiving, this is a time to celebrate the holidays with friends and family and to reflect on everything we have experienced this past year. 2024 has been a great year.

*Northern Lights* has documented many of the significant activities within the North Central Region of the AL. As we look toward 2025, now is the time to reflect on all that has happened, astronomically speaking, in 2024. Now is the time to remember and appreciate the contributions of our clubs

and club members all around the Region. Now is the time to recognize those contributions.

NCRAL has several awards and grant programs. Currently, there are two awards and two grant programs: the Region Award, the Newsletter Editor Award, the Membership Recruitment Mini-Grant, and the Affiliate Recruitment Mini-Grant. The Region Award is NCRAL's most prestigious award. It is given annually to a member of the NCRAL who demonstrates extraordinary skill, generosity, and devotion to promoting amateur astronomy and support of the NCRAL events and goals. At the moment, we already have a nomination for the Region Award. However, if you have a deserving person in your club who has demonstrated unwavering commitment to your club and amateur astronomy, why not submit their name for consideration too?

I also want to draw your attention to the NCRAL Newsletter Editor Award. This award is given in acknowledgment of excellence in content and presentation for a club-level newsletter. Newsletter editors do tremendous service for their clubs by recording club activities and promoting their clubs generally. This award recognizes this critical service to an NCRAL affiliate that often goes unrecognized and unrewarded. The following link takes you to the NCRAL awards and mini-grants guidelines and applications:

<https://ncral.wordpress.com/awards/>

Complete the form and return it to our award chairman, Bill Davidson, at [rochesterskies@outlook.com](mailto:rochesterskies@outlook.com). Of course, as long as we are talking about awards, the Astronomical League has an extensive awards program for recognizing member contributions. Please take a few moments and look these over. Do you have someone in your club who deserves to be nominated for one of these awards? Follow the link below to the AL's awards:

<https://www.astroleague.org/astronomicalleague-awards/>

I also encourage you to get involved in the leadership of your local club and the North Central Region by considering running for office. NCRAL elections will be held during the NCRAL 2025 conference this April 25<sup>th</sup> & 26<sup>th</sup>. Chair, Vice Chair, and Regional Representative positions all expire in 2025. So here is your chance to get involved at the regional level. If you like working with people, have new ideas and

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want to make a difference in the future of the hobby of astronomy, here's your opportunity.

Finally, I would like to update you on our NCRAL 2025 Conference. Since we do not have a primary host club for this year's conference, we formed a committee to handle the arrangements. Volunteers from Cedar Amateur Astronomers, Milwaukee Astronomical Society, Minnesota Astronomical Society, Naperville Astronomical Association, Popular Astronomy Club, and Rochester Astronomy Club are handling the event. Let me thank all of these volunteers, especially RAC members, who comprise more than half of the volunteers at

the moment. I especially want to thank John Attewell and Randy Hemann, the co-chairmen of NCRAL 2025. We might call for additional help closer to the conference date. If you would like to get involved, please let us know. You can read more about NCRAL 2025 on pages 3 and 4 below. Mark your calendars. You don't want to miss out on this great event!

Thanks, and keep looking up!

*Alan Sheidler*  
NCRAL Chair

## TREASURER'S REPORT – JULY 1 THROUGH NOVEMBER 30, 2024

*Roy Gustafson* NCRAL Secretary/Treasurer

Check #	Date	Description	Check Amount	Deposit	Balance
	1-Jul-24				\$8,162.49
	6-Aug-24	NPMAS 2024 Convention Profit		\$95.60	\$8,258.59
1037	20-Nov-24	Al Sheidler (NCRAL 2025 expenses)	\$3,156.42*		\$5,102.17
	30-Nov-24				\$5,102.17
				<b>Net Change</b>	<b>\$3,060.32</b>

\* The \$3,156.42 paid to "Al Sheidler (NCRAL 2025 expenses)" is a temporary deposit and will be paid back from the convention funds.

## CALL FOR 2025 NCRAL NOMINATIONS & APPLICATIONS

**CHAIR/VICE CHAIR/REGIONAL REP/REGION AWARD/NEWSLETTER EDITOR AWARD/MINI-GRANTS**

The current terms of NCRAL's Chair, Vice Chair, and Regional Representative end with the close of the Regional Business Meeting on April 26<sup>th</sup>. Chair Alan Scheidler is nearing the end of his first two-year term but is willing to continue in office if that is what the Region desires. Still, others interested in this leadership position are welcome to stand for election. Vice Chair Bill Davidson is nearing the end of this third two-year term and is ineligible to run for a fourth term due to limits imposed by the Region's bylaws. A nominee for the Vice Chair position is needed. Region Rep. John Attewell is nearing the end of his three-year term but is willing and able to continue in this position if elected. Please get in touch with one of the existing leaders if you'd like to self-nominate or nominate someone else to fill either of these positions.

It's never too early to start thinking about nominations for the NCRAL Region Award. Do you know someone who has dedicated time and energy to promoting astronomy? Wouldn't you like to let them know they are appreciated for their arduous work? This is your chance! This award recognizes exceptional individual effort and meritorious service to amateur astronomy through the member's local astronomy club, public outreach, the NCRAL, or the Astronomical League.

The Region award will be presented in a ceremony concluding the dinner banquet of the next Regional convention. The rules for Region Award nominations are as follows:

1. The nomination must be made using the [official NCRAL Region Award nomination form](#), an interactive PDF that must be completed in its entirety before submission.
2. The individual must be a member in good standing, either through an AL/NCRAL-affiliated club, association, or society or as a current member-at-large in the North Central Region.
3. The three current regional officers and the regional representative are ineligible for this award, as are past winners.
4. The Regional officers are the voters and will base their decision on the information provided. Past winners of this award will be asked to assist in the case of a tie vote. Each member votes independently and will use his/her best judgment. All decisions are final.
5. The winner will be contacted at least 21 days before the NCRAL meeting at which the award will be presented. The winner will be publicly revealed at the time of the

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presentation. Those nominated but not selected will not be revealed.

6. All non-winning nominations will be kept on file for two years after the initial submission. After such time, a new nomination needs to be completed. Nominations for the 2025 Region Award MUST BE RECEIVED by March 31<sup>st</sup>. Any nominations received after this date will be kept on file for 2025.
7. All nominations must be sent via email to Bill Davidson, NCRAL Vice Chair, at [rochesterskies@outlook.com](mailto:rochesterskies@outlook.com)

Let's not forget about the **NCRAL Newsletter Editor Award**. The next award is expected to be conferred at the NCRAL 2025 meeting. Submission Guidelines: The president of the club/society/association should email a copy of the designated issue of the associated newsletter in Adobe Acrobat pdf file format to NCRAL Vice Chair Bill Davidson ([rochesterskies@outlook.com](mailto:rochesterskies@outlook.com)), along with a cover letter of recommendation in the same file format. In addition,

complete contact information of the editor must be included. A photo of the newsletter editor, preferably in an astronomical-type setting, must be received electronically in jpg format to the same email address by March 31<sup>st</sup>.

Lastly, don't forget about our two **NCRAL mini-grants**. A mini-grant will be awarded following a successful written proposal originating with the president of an NCRAL affiliate. The focus of a mini-grant must be oriented to an increase in either (1) an affiliate's membership whose mini-grant proposal must focus on both recruitment and retention (Member Recruitment & Retention Mini-grant) or (2) an increase in the number of A.L.-affiliated clubs, societies, or associations within the North Central Region (Non-affiliate Recruitment Mini-grant). Applications for 2025 (interactive PDFs) can be found at <https://ncral.wordpress.com/awards/>. The application deadline for all mini-grants is March 31<sup>st</sup>. Mini-grants, if approved, will be announced following the NCRAL 2025 banquet.

## NCRAL 2025 CONFERENCE SLATED FOR APRIL 25/26, MINNEAPOLIS AREA

By Tom Weber, Cedar Amateur Astronomers, Cedar Rapids, Iowa

### Conference Theme – *First Light: New Frontiers, New People*

We've set the date and booked the venue—all that's needed is you. The next NCRAL conference is scheduled for April 25 and 26, 2025, in the Minneapolis, Minnesota, area. The conference theme, "First Light: New Frontiers, New People," emphasizes recent advancements in astronomy. The goal is to share astronomy with like-minded enthusiasts who might be new to NCRAL or the conference.

An impressive lineup of speakers is scheduled throughout Saturday. The conference also includes the NCRAL business meeting, a banquet meal, and an awards ceremony in the evening. Registration opens on January 25, and the planning committee encourages early registration.

A composite of volunteers spanning several NCRAL member groups is planning the 2025 conference rather than a sponsoring group, as is typical, taking advantage of multiple viewpoints and various experiences.



**Conference Schedule:** Guests arriving on Friday can head to Eagle Lake Observatory for a Star-B-Q hosted by the Minnesota Astronomical Society, including a special discussion by **Greg Bragg**, acknowledged camera and telescope insider. Greg will discuss the state of the astronomy industry. An evening observation session, weather permitting, will follow tours of the observatory. Saturday's guest speakers and presentation titles include:

- **John Rummel**, Madison Astronomical Society, accomplished photographer – *Can the Milky Way Cast a Shadow?*
- **Bob King**, Contributor, Sky & Telescope, blogger, author – *NASA's Planned NEO Surveyor Hunts Down Killer Asteroids*.
- **Lawrence Rudnick**, Professor Emeritus of Astrophysics University of Minnesota – *Game Changers in the Radio Sky*.
- **Clem Pryke**, Experimental Cosmologist and Educator, University of Minnesota – *Studying the Beginning of the Universe from the Bottom of the World*.
- **Mike Solontoi**, Associate Professor of Physics, Monmouth College – *Seeing the Universe Through New Eyes – The Vera C. Rubin Observatory*.
- **Mike Benson**, PhD and VP of R&D at Hormel Foods, an accomplished astrophotographer, will describe his experiences in astrophotography.
- **Evan Skillman**, Distinguished Professor, University of Minnesota – *Using the Large Binocular Telescope to Measure the Primordial Helium Abundance*.

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The opening comments and the business meeting will begin at 8 AM. Speakers start at 10 a.m. Vendor displays and an astrophotography contest will be held throughout the day in the adjoining room. Visit the NCRAL conference website at <https://ncral2025.org> for a detailed schedule, a synopsis of presentations, and registration info.

**Registration:** The conference will be at the Marriot Southwest, 5801 Opus Parkway, Minnetonka, Minnesota. Follow the conference link to make reservations. Attendees who require rooms can use the same link or contact the Marriot Southwest directly at (952) 935-5500. Send questions about the conference or registration to [NCRALConference@gmail.com](mailto:NCRALConference@gmail.com).

Visit our Facebook page at <https://www.facebook.com/profile.php?id=61570354787210>. Check this page for updates and information or to post questions, comments, or photos of previous conference experiences. We look forward to seeing you for this astronomically exciting weekend.

## ALCON 2024 IN REVIEW

~ by Bill Davidson, Rochester Astronomy Club ~



Amateur astronomers gathered in Kansas City, Kansas, from July 17 to 20 for ALCon 2024. The Astronomical Society of Kansas City (ASKC) hosted this year's event, which provided a remarkable opportunity for enthusiasts to unite, share knowledge, and engage in celestial observations at the ASKC's Powell Observatory. The event featured presentations by distinguished speakers, offering an unforgettable and enriching experience for all participants.

At the Linda Hall Library of rare books of science, engineering, and technology on the University of Missouri—Kansas City campus, Dr. David Levy, a renowned comet chaser, delivered a lecture that offered valuable insights into his early passion for astronomy, his late wife Wendee, and the excitement of discovering the comet that later collided with Jupiter, a discovery

he made alongside Gene and Carolyn Shoemaker. Visitors had the opportunity to view his observational logs on Shoemaker-Levy 9, as well as rare astronomical atlases such as John Flamsteed's *Historiae Coelestis* from 1712 and 1725, *Atlas Coelestis* from 1729, and the *Catalogue of Stars* by William and Caroline Herschel from 1798 – all part of the Linda Library collection of astronomical works.



The conference featured various presentations, including topics such as the James Webb Space Telescope, the Artemis Program, live-stacking astrophotography images, Solar Observations, and the legacy of Voyager, among other noteworthy topics. The keynote address was delivered by Dr. Stephon Alexander of Brown University, a theoretical physicist specializing in cosmology, particle physics, and quantum gravity. His presentation, *The Jazz of Physics*, explored the connections between music, physics, mathematics, and technology. Tim Russ, one of the stars of Star Trek fame, also made a cameo appearance.

We must account for the additional venues visited by conference attendees in Kansas

City. These included a presentation at the Gottlieb Planetarium at Union Station, a Star-B-Q event held at the picturesque Overland Park Arboretum and Botanical Gardens, and a visit to ASKC's Powell Observatory, where the 30" Ruisinger Telescope was showcased. At the observatory, Rachel Cionitti delivered a presentation entitled *Dark Matter and Dark Energy* under a partially cloudy, hazy, moonlit sky. Despite less-than-ideal observing conditions, David McCallie imparted his expertise on photo stacking, resulting in remarkable galaxy views. ASKC members arranged their telescopes for public viewing during the event.



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## ANOTHER IDSSP IN THE HISTORY Book

~ by Ray Watt, Sangamon Astronomical Society ~

The 2024 edition of the Illinois Dark Skies Star Party (October 3-5) is history, but plans are already underway for next year. We have tentatively set the 2025 dates as September 18-20. The Sangamon Astronomical Society of Springfield hosts this event each year at one of Illinois' darkest sites – the Jim Edgar Panther Creek State Fish and Wildlife Area near Champaign, Illinois.

While the Thursday night storm was not part of the local weather forecast this past autumn, hardy observers stuck with it. The weather resumed its predicted cool and clear pattern, and on Saturday, Oct. 5, we finished up the three-night fest with hours of observing and astrophotography



efforts.

Once again, we had a great lineup of speakers: ALPO Secretary/Treasurer Matt Will spoke on the value of small telescope astronomy; Dr. Carl Wenning (Twin City Amateur Astronomers) explained how an image intensifier can enhance observing enjoyment; Dr. John Martin (University of Illinois, Springfield) described five theoretical ways the universe could end; and Dr. Paul Ricker led us in exploring gravitational waves.

Great, on-site meals and hot coffee fueled attendees for observation and conversation. As is the norm, the night was spent observing the heavens, the morning hours were spent sleeping, and the afternoons were used for presentations.

The IDSSP has been held every year since 2002, except in 2020, during the COVID-19 pandemic. We gladly welcome first-timers and appreciate the long-time attendees who have become our friends.

We'll post 2025 IDSSP information on our website when appropriate. If you'd like to join us next year, please email us at [ILLINOISDARKSKY@GMAIL.COM](mailto:ILLINOISDARKSKY@GMAIL.COM).



Ghosts of Cassiopeia, IC 59 and IC 63 by John Myers -- Jim Edgar Panther Creek Park, Illinois -- October 6, 2024

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## IOWA STAR PARTY IN REVIEW

The 2024 Iowa Star Party was held Oct 3-6. L. Allen Beers reported that approximately 37 were registered for the star party, which included delegates from Minnesota, Arkansas, Nebraska, and Ohio. It was a bit windy and rainy on Friday. There was some solar viewing on Friday afternoon, but wind, rain, thunder, and lightning were also experienced that night. Saturday night's viewing went well, with a crowd of about 35 visitors.

Allen reports, "We had about six scopes set up for them. A short talk was given by one of our star party attendees. We had our banquet

at noon on Saturday.  
Only one door prize

was given out. It was windy again on Saturday afternoon, with wind gusts up to 40mph. Last night's observing wasn't too good. It was a hazy sky all over. The stars were blinking. We were supposed to have northern lights this weekend, but I saw nothing of them. It was clear overnight or early this morning. The stars of Orion were bright. I also saw the Zodiacal light cone in the early morning, just before sunrise, about 4:30 a.m. It was a fun star party. It's great to see your Iowa Star Party friends again."



## SHEBOYGAN ASTRONOMICAL SOCIETY AWARDED GRANT FROM GREEN BAY PACKERS FOUNDATION

*Sheboygan, WI – November 22, 2024* – The Sheboygan Astronomical Society (SAS) is thrilled to announce that it has been awarded a generous grant from the Green Bay Packers Foundation. This funding will support the Society's mission to purchase a portable planetarium and projector.

"We are incredibly grateful to the Green Bay Packers Foundation for recognizing the value of our work," said Diane Van Minsel, a member of the Sheboygan Astronomical Society. "This grant will help us inspire the next generation of scientists, engineers, and explorers. With the Packers' support, we can enhance our programs and reach even more people, showing them the wonders of the night sky."

The Green Bay Packers Foundation is known for supporting community-based initiatives throughout Wisconsin. It focuses on organizations that improve education, health, and social services. By awarding this grant, the Foundation continues to invest in opportunities that enrich the lives of people across the state.

## SOUTHERN ILLINOIS STAR PARTY TAKES OVER SIU'S UNIVERSITY FARM

~ by Robert A. Baer, Astronomical Association of Southern Illinois ~

The Southern Illinois Star Party, a joint effort between Southern Illinois University (SIU) Carbondale, the Astronomical Association of Southern Illinois (AASI), and the Adler Planetarium of Chicago, was hosted at the SIU Farms astronomy observation on Saturday, October 19. This free annual event was attended in person by 409 individuals.

This year, the Adler Planetarium hosted a YouTube Live event from the star party, interviewing amateur astronomers and organizers about the event, demonstrating activities, and sharing live views from several telescopes onsite. SIU students participating in a NASA-funded engagement program, SolarSTEAM, operated four telescopes that output live stacked images via *sharp cap*.

The students come from various disciplines across the university, including media arts students who work alongside physics and other majors to produce live programming featuring telescope imagery. Students learned to work in the field to produce programming and interact with an online audience.

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This year's special treat for visitors was Comet C/2023 A3 (Tsuchinshan-ATLAS), which was still barely visible to the naked eye at the event, easily seen on small telescopes or via cell phone imaging. The event was made possible by several volunteers from host organizations, including members of AASI, who provided their telescopes to share with the community for this free event. We plan to hold this free annual event. We plan to continue our live stream and social media interaction as part of a nation star party and other events, such as the upcoming lunar eclipse in March 2025, through [SolarSTEAM](#).



Event Flyer



SIU Media Arts professor Karla Berry speaks with a student during the event. Comet C/2023 A3 is visible in the background and is being pointed at by SIU Physics professor, Corinne Brevik, during her talk on the night sky.



An AASI member shares views of the sun with the crowd before sundown.



SIU student Brodye Miller manages telescope video feeds and monitors the YouTube live stream of the event.

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## TCAA RECEIVES LIBRARY TELESCOPE FROM THE ASTRONOMICAL LEAGUE

The membership of the TCAA held its November 21 meeting at Normal Township Hall. The topic of the presentation was *The Astronomical League's Library Telescope Program*. Following words of welcome and a brief introduction to all topics for the evening by President Carl Wenning, the members individually introduced themselves.

President Wenning then gave a brief PowerPoint presentation about the Astronomical League's *Library Telescope Program*. The assembled members opened a box containing the Zhumell Z114 (4.5-inch) reflecting telescope during this presentation. The membership paused long enough to take a group photograph commemorating the event. Afterward, Carl displayed the Celestron 8-24mm zoom eyepiece, the telescope's instructional guide, and a book that will be donated to the Vespasian Warner Public Library in Clinton along with the telescope.

Following suggested modifications, the telescope will be transferred to the library in a public ceremony this spring. The event will include a talk for assembled youth interested in borrowing the telescope. Each year, the A.L. awards one library telescope to each of the League's ten regions. The TCAA was NCRAL's 2024 recipient. Details about the Library Telescope program can be found on the [AL website](#).



TCAA members with new Astronomical League library telescope. Appearing left to right are Lewis Carroll, Jack & Margaret Archibald, Carl Wenning, Steve Moore, Salil Bavdekar, Cynthia Moore, John Hickey, Dave Osenga, Olivier Bufole, and Sharon MacDonald. Mike Julien, who took the photograph, is not shown.

## A HANDICAP-ACCESSIBLE MULTIPURPOSE TELESCOPE AND OBSERVATORY

~ by Carl J. Wenning, Twin City Amateur Astronomers ~

The TCAA of Central Illinois recently repurposed a telescope from exclusively photographic to visual use with imaging options. The club's 14" iOptron reflector, housed in Prairie Sky Observatory at Funks Grove Nature Spaces outside McLean, Illinois, is now ready for use as a handicap-accessible instrument. Recent concrete work made the observatory fully ADA-compliant. Very few handicap-accessible telescopes are currently known to currently exist in the USA, mostly at major science centers.

This 14" instrument is one of four telescopes housed in the 18'x24 'roll-off-roof observatory. The other telescopes are a 17" PlaneWave dedicated to astrophotography, a 130mm Starfire refractor dedicated primarily to solar work using a Lunt Herschel wedge, and a 90mm Coronado Solar Max II H $\alpha$  telescope. What makes the 14" special is that it has become the club's multipurpose telescope.

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Beginning as a photographic unit intended solely for astrophotography using *TheSkyX* and *Maxim DL* software, this telescope was repurposed to make it a more accessible multipurpose telescope. With a telescoping pier, including night vision technology, the telescope can now provide handicap-accessible visual observations for those with night blindness. It can also be used to conduct simplified color astrophotography utilizing a controller or astrovideography using a stand-alone unit.

In its simplest visual configuration, the telescope – which rests on an Astro-Physics 1100 mount – is very easy to manipulate using a hand controller. Polar aligned with but little orthogonality error, the telescope can easily view celestial objects. Most users can be trained to use this telescope in only about 15 minutes.

To enhance visual images, we use night vision technology, which gives the 14" the performance of a telescope three times its size or 42 inches in aperture. Using night vision technology, the telescope provides accessible images even to those with low vision or night blindness.

In addition, the mount is situated atop a telescoping pier that allows vertical movement of about 18", making it exceedingly commodious for those with physical disabilities and limitations imposed by wheelchairs! It is also suitable for those with back problems who prefer to view from a wheeled office chair.

In November, the Funks Grove Cemetery Association (owner of FGNS) outfitted the observatory with an ADA-compliant 10' x 17' foot ramp that provides easy access to the building. Previously, the observatory was accessible only by way of a grass footpath. In addition, a substantial step at the doorway made the observatory inaccessible for those in wheelchairs.

Starting in March 2025, the TCAA will provide handicap-accessible observing for those with disabilities who might otherwise not be able to view through a telescope. The PSO roll-off-roof observatory, built in 2013 with member funding, was constructed



with ADA compliance in mind. The recent addition of an inclined ramp outside the doorway completed the process and now provides a staging area for multiple wheelchairs.

Of course, using a *StellarMate Pro* controller, we can still provide photographic experiences for “newbies” by using an imaging system that incorporates a QHY168C color camera and a separate guide scope. The images can be displayed on the screen of a cell phone, tablet, or laptop computer wirelessly linked to the controller. Producing high-quality photos only takes a few minutes, and a composite (stacked) image could be viewed as being built up as the controller integrated images one after the other. Of course, the controller also helps the photographer capture flats, darks, and bias frames as needed. We can have new astrophotographers capturing serious astronomical photographs with but an evening of training. Similar possibilities are also available using video imaging.

Of course, all these trappings can be removed, and the telescope can be used for simple visual observations if that is what the observer wishes – many of whom view from the

convenience of an office chair atop rollers. All the accouterments are an indication of the next wave of astronomy....

## Artificial Intelligence as an Astronomy Resource

~ by Carl J. Wenning, Twin City Amateur Astronomers ~



**ChatGPT 4**

ChatGPT is an invaluable tool for newsletter editors, streamlining the creation of engaging, high-quality content while saving time. It can help brainstorm ideas, craft compelling headlines, generate article drafts, and tailor messages to specific audiences. With its ability to summarize complex information and suggest edits for clarity or tone, ChatGPT ensures your newsletter is polished and professional. It also aids in creating engaging social media posts to promote your content, offering consistency across platforms. Whether you need quick inspiration or detailed assistance, ChatGPT is the ultimate content companion for newsletter success. [This was a ChatGPT-generated paragraph based on the prompt, "Write a one-paragraph description for a newsletter explaining how ChatGPT can be used greatly by newsletter editors." The Northern Lights editor wrote the next paragraph.]

*The following article was written using ChatGPT 4.0. The original prompt was, "Write a short article about how to practice the hobby of amateur astronomy." The result was a set of fragments that contained lots of information but did not read well. A follow-up prompt was given, "Convert the above response to paragraph form." The following article was the result. Only minor grammatical edits were made.*

Amateur astronomy is a rewarding hobby that connects you with the vastness of the cosmos. Whether you're marveling at the Moon's craters or spotting distant galaxies, the night sky offers endless opportunities for exploration. The best way to begin is by looking up! Familiarize yourself with the constellations, planets, and brighter stars using a star map or mobile apps like *SkySafari* or *Stellarium*. Many celestial wonders, such as meteor showers or the Milky Way, don't require any equipment. Before investing in a telescope, consider starting with binoculars. A good pair, such as 7x50 or 10x50, provides a wider field of view and is excellent for observing the Moon, star clusters, or even Jupiter's moons. Binoculars are portable, affordable, and a great choice for beginners.

To make the most of stargazing, find a dark sky location, as light pollution can wash out celestial sights. Seek out parks, rural areas, or designated dark sky reserves. Check the

weather beforehand, as clear skies are essential, and avoid nights with heavy clouds or a bright Moon if you're looking for faint objects. Knowing when to look is just as important; celestial event timings, such as the phases of the Moon, planet positions, or meteor showers, can be tracked using apps or almanacs. Joining a local astronomy club can be a valuable step in your journey. Clubs often host stargazing events and workshops, where members can guide you in choosing equipment and share practical tips. You may even get hands-on experience with different telescopes.

When you're ready to invest in a telescope, start small. A refractor or reflector telescope with a 4- to 6-inch aperture is a good beginner option. Avoid cheap "department store" telescopes, as they often over-promise and under-deliver. Recording your observations is a great way to enhance the experience. Keep a journal to note the objects you observe, their location, and the conditions. You can also sketch celestial sights or explore astrophotography for a more creative approach. Expanding your knowledge through books like *Night Watch* by Terence Dickinson or online tutorials can deepen your understanding of the cosmos. Exploring topics such as light pollution, astrophysics, and celestial mechanics enriches the hobby.

Lastly, remember that astronomy requires time and patience. Learning the sky takes practice, and seeing faint objects like nebulae or galaxies often depends on experience and conditions. With dedication and curiosity, amateur astronomy can become a lifelong passion. The universe is vast and awe-inspiring—so grab a blanket, look up, and enjoy the adventure!

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ChatGPT is an advanced AI language model designed to generate human-like text. It assists with writing, brainstorming, learning, and problem-solving tasks by responding conversationally to prompts. Versatile and user-friendly, ChatGPT supports creativity, productivity, and communication across various fields, offering instant insights and solutions tailored to user needs. {ChatGPT generated.}

OpenAI. (2024). *ChatGPT* (Version 4) [AI model]. Retrieved from <https://chat.openai.com/>

I have been using ChatGPT for about a year now. It is quite accurate when referring to topics in the area of general knowledge. However, that might not be the case when working with controversial areas. Regardless, it is always important to review AI's work to see if it accurately reflects things as you know them to be. It also makes sense to cite Open AI as the source, as was done above. {Editor}

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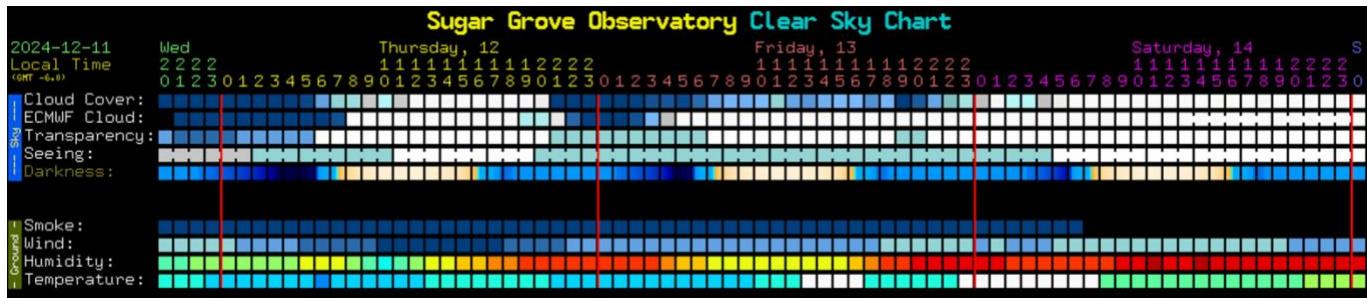
## SPEAKERS BUREAU

The leadership of the North Central Region proudly announces the beginning of this new service. The brainchild of NCRAL Chair Alan Sheidler, the NCRAL Speakers Bureau will facilitate the acquisition of professional speakers for meetings and other events for our Region's affiliates. Many individuals have indicated a willingness to serve as speakers. Most speakers are available for presentations over Zoom, though some might also be willing to attend club meetings and other events. Please contact the speaker directly through our [NCRAL Speakers Bureau listing to arrange a presentation](#). Speak with them frankly about arrangements, including accommodations, meals, travel expenses, and honorarium, if any.

## AstroBITS

Here are some news notes that readers might find interesting or helpful. Items appear here as bullet points because they are too short to merit separate articles. If readers have something to share and want it to appear here, email this newsletter's editor at [carlwenning@gmail.com](mailto:carlwenning@gmail.com).

- ★ We regret to announce the passing of Attila Danko, originator of *Clear Sky Chart*, the weather service for astronomers. Attila was born 1955-09-28 and died 2024-11-28 from lung cancer, despite never being a smoker. Astronomers and others may know him as the creator of the Clear Sky Chart astronomy forecasts, which won him many awards, including having asteroid 161693 Attilladanko (2006 HL46) named after him. He will be deeply missed by everyone whose life he touched. You may read [Attila's obituary](#) here.



- ★ Did you know NCRAL produces a newsletter for the North Central Region presidents, ALCors, and newsletter editors? The *NCRAL Blotter* newsletter is disseminated monthly. You can view back issues on the [NCRAL website](#). If your club's leaders are not receiving the blotter, please have them contact [carlwenning@gmail.com](mailto:carlwenning@gmail.com) to add them to the mailing list.
- ★ The TCAA has released version 1.2 of its *TCAA Guide #11 – Recruiting and Retaining Astronomy Club Members*. The TCAA has used the techniques in this Guide to grow and maintain its membership. The club has grown from about 20 members in recent years to nearly 100. The club is no longer seeing the “graying of amateur astronomy.” If your club needs advice, see this compendium of articles from the Northern Lights newsletter. Authors include Carl Wenning (TCAA), Devanand Chatrathi (TCAA), and Alan Sheidler (PAC). You may download the Guide (along with ten other TCAA Guides) at <https://tcaa.club/guides>.
- ★ Make plans to attend **AstroCon 2025** at Bryce Canyon in Utah, June 25-28. The current and past chairs of the Region plan to attend, and you might want to join them. NCRAL Chair Alan Sheidler will attend the AL national council meeting, and former Chair Carl Wenning will speak about night vision technology. Reservations are required by late April.

# NORTHERN LIGHTS

- ★ It's never too early to make nominations for NCRAL's Region award, Newsletter Editor award, and other regional and Astronomical League awards. Please start thinking about who you want to recognize for their significant contributions to the science of astronomy and their clubs. Also, don't forget that two mini-grants are available each year for up to \$250 each. Regional Award and Mini-Grants information can be found on [NCRAL's Awards Page](#).
- ★ The Astronomical League recently sent out a "What's Up with the Astronomical League" newsletter that is sent out from time to time to Astronomical League Correspondents. [The November 2024 issue can be accessed here](#). There are essential notifications concerning: (1) Reflection only a digital publication as of March 2025, (2) a new Astronomical League Historian appointed, and (3) information about Astrocon 2025.

## NCRAL SEEKING FUTURE CONVENTION HOSTS

During NCRAL's annual business meeting, the Region receives offers to host future conventions. We are now looking for hosts for NCRAL 2027 and beyond. It's never too early to plan to host an NCRAL Regional convention.

Whether or not your club has ever hosted an NCRAL Regional convention, please consider doing so. While hosting a regional convention is a lot of work, it can be rewarding – even fun. It allows you to highlight your group's facilities and accomplishments, build club camaraderie, and personally get to know interesting guest speakers. You can also use such an event to grow your club's membership. Please make your reservations for a future year now (4, 5, or 6 years in advance), so you have plenty of time to think about them and plan the event. No affiliate (or group of affiliates) is too big or small to host.

Remember, NCRAL has its own **Convention Planning Guide**. To download the most recent version of the *Guide* (last updated November 30, 2023), visit the following URL: <https://ncral.wordpress.com/conventions/>. Look for the link at the bottom of the page. Please get in touch with the NCRAL Chair, Alan Sheidler, at [adsheidler@gmail.com](mailto:adsheidler@gmail.com) should you have any questions or wish to toss your affiliate's hat into the ring for hosting a future NCRAL convention.

## ADD YOUR EMAIL ADDRESS TO THE NCRAL MEMBER DATABASE

Did you know that only about 525 of our Region's 2,300 members receive this newsletter? That's less than one-quarter of the membership! Please help NCRAL get its newsletter out to the membership by encouraging fellow club members to add their email addresses to the NCRAL member database. Editors, please include this information in your affiliate's newsletter. It's one of the many benefits of belonging to the Astronomical League.

When one adds their email address to the NCRAL member database, they will receive direct notifications about the availability of **Northern Lights**. In addition, subscribers receive important and timely announcements about Regional conventions, elections, star parties, etc. Only blind addressing (Bcc:) will be used with this email list, so others will not see subscribers' email addresses. Email addresses will never be shared with or sold to outside entities.

No one will add your email address to this list, so you must do it yourself. Sign-up takes only about a minute. Resubscribe if you recently changed your email address and are not receiving our notifications. You must provide your name, email address, and astronomy club affiliation (or indicate A.L. membership-at-large) and let us know if you hold specific positions within your club. Go to the following case-sensitive URL to add your information to our database at <https://tinyurl.com/NCRAL> today so you won't miss critical future communications.

## CONTRIBUTIONS TO NORTHERN LIGHTS ARE INVITED AND WELCOME!

Have you ever considered writing an article for this newsletter? The Region is vibrant, and many noteworthy local events are happening. Authors are encouraged to submit stories for inclusion in **Northern Lights** and news items for the NCRAL blower. We are now looking for items to be included in the coming editions. Contact the editor, Carl Wenning, with your inquiries and submissions.

## NORTHERN LIGHTS INDEX OF FEATURE ARTICLES (2016-2024)

The editor of **Northern Lights** has created a listing of articles he considers of considerable interest and lasting value. This listing will increase the ease of finding and the likelihood that these articles will be read and re-read. Please review these article titles and see what you have missed since the current series of newsletters was established in 2016. This information (recently revised and updated to include articles through Autumn 2024) can now be found on the NCRAL website's newsletter archive page: <https://ncral.wordpress.com/newsletter-archive/>

# NORTHERN LIGHTS

## NOTEWORTHY!

Here are a few exciting updates. The North Central Region members continue to shine brightly. The following NCRAL members had articles published in the Winter 2025 issue of *Reflector*.

- ★ *Robert Kerr* of the Minnesota Astronomical Society wrote *Long Journey into the Light: How the Binocular Came to Be*.
- ★ *Dave Tosteson* of Chisago City, Minnesota, wrote the article *The Brightest Star: The Hunt to See Supernova Remnant 1006*.

The following NCRAL members have completed the following Astronomical League observing and award programs in recent months and have been recognized in the most recent issue of *Reflector*. Congratulations to all!

### Active Galactic Nuclei Observing Program:

*Doug Neverman*, Minnesota Astronomical Society

### Arp Peculiar Galaxies Northern Observing Program:

*Kevin Nasal*, Minnesota Astronomical Society

### Binocular Messier Observing Program:

*Craig Endres*, Milwaukee Astronomical Society  
*Nathan Endres*, Milwaukee Astronomical Society

### Bright Nebula Observing Program:

*Tom Holman*, Gold, Imaging, Honorary, Minnesota Astronomical Society

### Constellation Hunter Northern Skies Observing Challenge:

*Marilyn Sameh*, Milwaukee Astronomical Society

### Outreach Program:

*Karen Fajardo*, Stellar, River Bend Astronomy Club  
*Dan Cusak*, Outreach, Popular Astronomy Club  
*Megan Warren*, Outreach, Popular Astronomy Club

### Sky Puppy Observing Program:

*Jacob Huelsmann*, River Bend Astronomy Club

### Sunspotter Program:

*Dick Francini*, Neville Public Museum Astronomical Society

## NCRAL SEASONAL MESSIER MARATHON AWARDS

- ★ *Megan Warren*, Popular Astronomy Club, Spring, Unassisted
- ★ *Nettie & Keith Hanson*, Twin City Amateur Astronomers, Spring, Assisted
- ★ *Meredith Barkhurst*, Twin City Amateur Astronomers, Spring, Assisted
- ★ *Nettie & Keith Hanson*, Twin City Amateur Astronomers, Summer, Assisted
- ★ *Nettie & Keith Hanson*, Twin City Amateur Astronomers, Autumn, Assisted
- ★ *Sunil Chebolu & Sureka Methuku and Shloka*, Twin City Amateur Astronomers, Autumn, Assisted
- ★ *Salil Bavdekar*, Twin City Amateur Astronomers, Autumn, Assisted
- ★ *Mayank and Yashasvi Yadav*, Twin City Amateur Astronomers, Autumn, Assisted

## DONATIONS TO NCRAL TO BE MATCHED UP TO \$500 MAXIMUM

Because of its affiliation with the Astronomical League, the North Central Region of the Astronomical League (NCRAL) possesses 501(c)3 non-profit status as a charitable educational organization. Donations to NCRAL are tax-deductible to the extent permitted by law. Considering this fact, **a generous donor has agreed to match dollar-for-dollar contributions to NCRAL between now and March 31, 2025**. The maximum total amount of this match is \$500. So, your donation of \$50 will be worth \$100 to NCRAL and so forth.

Imagine a world where every amateur astronomer has the resources and knowledge to unlock the wonders of the night sky. NCRAL has been your steadfast partner in this journey, fostering community, sharing expertise, and offering programs that deepen our passion for the cosmos. Now, we invite you to help us take the next leap forward. Your support will sustain the programs you love and expand our educational offerings within the Region and possibly during future conventions, inspiring and aiding future generations to reach for the stars. Together, we can ensure that every member continues to grow in their astronomical knowledge and pursuits. Will you join us in shaping the future of amateur astronomy?

Please donate to NCRAL today by sending a check to our treasurer at the following address. In the memo line, please indicate "Donation." Make your check payable to NCRAL. Mail to: Roy Gustafson, NCRAL Treasurer, 11 Deer Run Road, Orion, IL 61273.

# NORTHERN LIGHTS

## PLANET VIEW – WINTER 2025

~ by Jeffrey L. Hunt ~

During the new season, the evening sky is full of planetary activity with conjunctions, an opposition, and occultations.

### Sun

The sun is at the winter solstice coordinates on December 21<sup>st</sup> at 3:21 a.m. CST. The season lasts 88 days, 23 hours, 40 minutes. The midpoint occurs on February 3<sup>rd</sup> at 3:11 p.m. Daylight exceeds darkness again on February 11<sup>th</sup>. Should Daylight Saving Time survive Washington's current political machinations, set your clock one hour ahead on March 9<sup>th</sup>.

### Moon

Month	New Moon	First Quarter	Full Moon	Last Quarter
December	1/30	8	15	22
January	29	6	13	21
February	27	5	12	20
March	29	6	14	22

During its monthly eastward journeys, the moon passes bright stars and planets. It occults the Pleiades on January 11<sup>th</sup> and Mars on the 13<sup>th</sup>, two nights before opposition. Another Pleiades conjunction begins before moonset on the night of February 5/6.

A total lunar eclipse is visible on the night of March 13/14. The penumbral eclipse begins at 10:55 p.m. CDT on the 13<sup>th</sup>. On the 14<sup>th</sup>, the total eclipse occurs from 1:25 a.m. through 2:31 a.m. Maximum eclipse is at 1:58 a.m.

### Earth

Earth is at perihelion on January 4<sup>th</sup> at 7:28 a.m. Central Time. The sun's distance is 0.983327 Astronomical Units.

### Mercury

As the season opens, the innermost planet is in the southeastern predawn sky as the season opens. On solstice morning, it rises 107 minutes before daybreak. During morning twilight, it is 5.3° to the lower left of Graffias (β Sco, m = 2.5). It passes 6.8° to the upper left of Antares (α Sco, m = 1.0) on the 23<sup>rd</sup>. This is a snug fit in a binocular. The speedy planet reaches greatest elongation (22.0°) on the morning of the 25<sup>th</sup>. Look for a thin lunar crescent moon nearly 10° to Mercury's right on the 28<sup>th</sup>, when the moon appears near Antares. Mercury recedes into morning twilight and brightens. Find it easily through January 7<sup>th</sup>.

Mercury recedes into morning twilight, passing superior conjunction on February 9<sup>th</sup>. It moves into the evening sky. By late in the month, it passes Saturn during bright twilight at 30

minutes after nightfall. Mercury (m = -1.1) passes 1.6° to Saturn's (m = 1.1) lower right on the 24<sup>th</sup>. The Ringed Wonder is a challenging view through a binocular at this level of twilight. Six planets are visible this evening, but not likely simultaneously due to Mars' diminishing brightness. The crescent moon, 1% illuminated, is 3.8° below Mercury on the 28<sup>th</sup>.

Mercury (m = -0.2) reaches the evening greatest elongation (18.2°) on March 8<sup>th</sup> when it is nearly 10° up in the west and 6.6° to Venus' lower left at 45 minutes after sundown. Mercury recedes into evening twilight as the season ends.

### Venus

The Evening Star shines brightly in the southwest after nightfall over 27° to Saturn's lower right, setting 220 minutes after sunset on solstice evening. The four bright evening planets – Venus, Saturn, Jupiter, and Mars – span over 167°.

Each evening, Venus (m = -4.3) is farther eastward in front of Capricornus, passing Deneb Algredi (δ Cap, m = 2.8), the tail, on the 27<sup>th</sup>. On the 31<sup>st</sup>, it crosses into Aquarius, less than 17° west of Saturn.

The moon reenters the western evening sky on the 1<sup>st</sup> in a new lunation that started on December 30<sup>th</sup>. Watch the moon wax as it appears farther eastward each evening. At 45 minutes after sundown on the 3<sup>rd</sup>, Venus stands nearly 30° above the southwest horizon, 3.5° to the moon's lower right. Check out this spectacular conjunction. Saturn is nearly 14° to Venus' upper left. The next evening the lunar crescent is to Saturn's upper left.

As Venus steps eastward through Aquarius, it closes a gap to Saturn that spans 15.8° on January 1<sup>st</sup>. On the 5<sup>th</sup>, the gap closes to 10.0°, and it is reduced to 4.7° on the 13<sup>th</sup>. Venus passes 2.2° to the Ring Wonder's upper right on the 18<sup>th</sup>, though Venus and Saturn are nearly 900 million miles apart in space. The four evening planets span nearly 129°. This gap closes somewhat during the remainder of the month as Saturn creeps eastward and Mars retrogrades in front of Gemini.

Venus reaches greatest elongation on the 9<sup>th</sup>, showing an evening half-full moon through the telescope. The planet is 47.2° from the sun, setting 3 hours, 58 minutes after nightfall.

During the month, through a telescope, the planet's phase decreases from a slight evening gibbous phase, 55% illuminated, to an evening crescent, 38% lit. The planet's apparent diameter increases nearly 50% as Venus' distance to Earth decreases from 68 million miles to 49 million miles.

# NORTHERN LIGHTS

On the 19<sup>th</sup>, Venus sets four hours after nightfall, its greatest time interval after sunset, displaying a crescent 46% lit.

While Venus overtakes Earth and appears larger, it brightens over 30% during the month. This is a noticeable effect. The planet reaches its greatest brightness during February.

On the 23<sup>rd</sup>, Venus crosses into Pisces.

Venus passes 3.2° to the right of Neptune ( $m = 7.9$ ) on the 30<sup>th</sup>. At the end of evening twilight, the pair's altitude is only 25°. Look for the planets before they descend farther into the atmosphere's dimming and blurring effects.

On the 31<sup>st</sup>, Venus is over 30° above the southwest horizon and 10.7° above Saturn. The crescent moon, 8% illuminated, is 3.4° to Saturn's lower right. This evening Venus sets 3 hours, 53 minutes after the sun. The bright four planets span over 123°.

February opens with Venus ( $m = -4.8$ ) in the west-southwest after sundown. On the 1<sup>st</sup>, The crescent moon (15%) is 2.5° to Venus' lower left. Venus, Saturn, Neptune, and Moon fit into a circle 11.7° in diameter.

The planet sets less than four hours after nightfall, loosing over an hour of setting time compared to sunset during the month. The distance decreases from 48 million miles to 32 million miles as the angular size increases from 32 arcseconds to 49 arcseconds.

On the 14<sup>th</sup>, Venus reaches its greatest illuminated extent, when the crescent, 27% lit, and 39 arcseconds in diameter covers the largest area of the sky for this apparition. (See this [link](#) for more details.) The planet appears brightest, and this geometric configuration was formerly known as the planet's greatest brilliancy.

The planet's eastward progress slows, and it begins to retrograde on March 1<sup>st</sup>. With Saturn in bright evening twilight, the Mercury to Mars gap is nearly 108°; Venus to Mars, 96°. While not as spectacular as last month's conjunction, the moon returns to the evening sky and the 5% lit crescent is 6.6° to the Evening Star's lower left on this evening.

On the 12<sup>th</sup>, Mercury ( $m = 0.7$ ) passes 5.5° to Venus' lower left.

Now rapidly overtaking Earth, Venus loses 5-6 minutes of setting time compared to sunset each evening. By the 15<sup>th</sup>, it sets 70 minutes after the sun.

Seemingly falling from the sky, Venus passes between Earth and Sun on the 23<sup>rd</sup>. Then it rapidly moves into the morning sky. On the morning of the equinox, Venus rises over 30 minutes before the sun, beginning a morning apparition that lasts for the remainder of the year.

## Mars

During January, Mars puts on a show in the eastern sky after sunset. It is the fourth brightest starlike body in the evening sky during the month, after Venus, Jupiter, and Sirius, though it rivals the Dog Star's visual intensity at midmonth.

On New Year's Day, the Red Planet rises in the east-northeast 75 minutes after sundown. Distinctly reddish in color, Mars is nearly 20° above the horizon at three hours after sundown. It retrogrades in front of Cancer's dim stars, 8.4° to Pollux's lower right.

Mars retrogrades as opposition occurs on the 15<sup>th</sup>. Retrograde is an illusion as Earth overtakes and passes between Mars and the sun. The line of sight from Earth to Mars and projected to the stars normally moves eastward compared to the starry background. While Mars seems to stop moving eastward, the line of sight shifts westward, and the planet seems to back up compared to the starfield.

Mars' orbit is eccentric, so its solar distance varies enough that the planet's view is better when Mars is at the perihelion. At these perihelic oppositions, Mars can be as close as 36 million miles away.

Currently, Mars is near aphelion, although the aphelic opposition occurs in 2027, and at its closest the planet is almost 60 million miles away. Through a telescope, the northern polar cap is diminished from the Martian spring that began November 12<sup>th</sup>.

After the January moon passes Venus (January 3<sup>rd</sup>), Saturn (4<sup>th</sup>), and Jupiter (10<sup>th</sup>), it approaches Mars, appearing above it on the 12<sup>th</sup>. On this night, Mars is 4.5° below Pollux as retrograde continues and it crosses the boundary from Cancer to Gemini.

This is the night of Mars' closest approach to Earth, three nights before opposition. From the 1<sup>st</sup>, Mars' brightness increases 20%. It rivals Sirius, the night's brightest star, although the redder planet seems dimmer to the human eye.

The next evening, the Full (Wolf) moon [occults](#) or eclipses Mars from large areas across North America. From Chicago, for example, the moon covers the planet beginning at 8:07 p.m. Central Time. The occultation ends at 9:16 p.m. when Mars reappears from behind the bright moon.

Earth passes between Mars and the sun on the 15<sup>th</sup>, opposition. The planet rises in the east-northeast at sunset; appears high in the south at midnight; and sets in the west-northwest at sunrise.

As Mars retrogrades, it makes some interesting configurations with Gemini's brightest stars. On the 16<sup>th</sup>, it appears along the same imaginary line, 8.3° long, that begins at Castor and extends through Pollux to Mars.

On the 22<sup>nd</sup>, Mars passes 2.4° from Pollux, the second of three conjunctions. The first occurred on October 19th.

# NORTHERN LIGHTS

Mars' retrograde carries it past Castor on the 31<sup>st</sup> for their second conjunction. The gap is 5.9°.

Since the nights of closest approach and opposition, Mars' brightness decreases 30%, slightly dimmer than on the 1<sup>st</sup>, mirroring the growing distance between Earth and Mars as our home planet speeds away.

During February, Mars' retrograde slows and direct motion begins on the 23<sup>rd</sup>, 7.3° to Castor's lower right. The Venus-Mars gap is 96.4°. On the 1<sup>st</sup>, Mars (m = -0.4) is over halfway up in the east-southeast after sunset. Use a binocular to track the planet's slow eastward trek with Gemini's rich starfield.

Look for the moon nearby on the 9<sup>th</sup>.

As March opens, Mars (m = -0.2) is high in the southeast to the right of Castor and Pollux. Now 81 million miles from Earth, the planet is only 33% of its visual intensity at closest approach. The waning gibbous moon makes a close pass on the 8<sup>th</sup>. During the month, Mars picks up speed toward the east against the starfield, passing Castor (7.2°) on the 21<sup>st</sup> for the third time during this apparition and Pollux (4.0°) on the 31<sup>st</sup>.

## Jupiter

The solar system's largest planet is about 30° up in the east after mid-twilight as the season opens. It is high in the south around 10 p.m. and sets in the west-northwest about two hours before sunrise, leaving Mars as the lone bright planet in the predawn sky after Mercury departs. Only 20% of Venus' brightness, the Jovian Giant outshines all the stars in the Orion congregation that decorate the eastern evening sky at winter's onset.

Jupiter (m = -2.7) retrogrades in front of Taurus to Aldebaran's (α Tau, m = 0.8) northeast. Use a binocular to watch it pass stars in the rich star field.

On January 10<sup>th</sup>, the moon is 5.1° to Jupiter's upper left, followed by a second conjunction (5.2°) on February 8<sup>th</sup>, and a third (7.8°) on March 5<sup>th</sup>.

Jupiter's retrograde ends February 4<sup>th</sup>, 5.1° to Aldebaran's upper left and 1.1° of ecliptic longitude east of the star, missing a triple conjunction.

The planet's activity – rotation, moons, and Red Spot – makes it the easiest to observe. The planet's rapid rotation whips the cloud formations parallel to the equator. The moons shuttle from east to west and back again, sometimes passing directly across the cloud decks.

From the long winter nights, the Red Spot is visible at varying hours almost every night during January. Check your favorite source for the spot's appearance times.

At the end of the season, Jupiter begins the nights high in the south-southwest, 5.9° east of Aldebaran and clearly between the Bull's horns, a precarious place. There is no

Venus conjunction during this apparition, now with the Evening Star zipping into the eastern morning sky. Look for the next one after Jupiter's solar conjunction on August 12<sup>th</sup>.

## Saturn

Slowing moving eastward in front of Aquarius, Saturn (m = 1.1) is dimmer than usual as the rings are slightly inclined to our view. The icy rings reflect considerable sunlight and now seen nearly edge on. the planet is noticeably dimmer than it has been during recent apparitions.

After the Venus-Saturn conjunction, the Ringed Wonder begins a slow descent into evening twilight. By mid-February, it is near the horizon. Its last unaided appearance is around February 20<sup>th</sup> as Mercury joins the evening planet display.

Saturn reaches solar conjunction on March 12<sup>th</sup> and begins its climb into the morning sky. On the 23<sup>rd</sup>, Earth crosses the rings' plane, but the planet is less than 10° west of the sun, rising only 10 minutes before the sun.

During past ring plane crossings, the rings' thickness was measured, moons were discovered. At the 1655 ring plane crossing Huygens first observed Titan and noted that it revolves in the same plane as the rings. While spacecraft have investigated the rings up close, remote observations can replicate findings and reveal more details about this complex system.

## Uranus

Uranus (m = 5.6) starts the season in eastern Aries, 8.0° west of Alcyone (η Tau, m = 2.8), the brightest Pleiad. Retrograde ends on January 31<sup>st</sup>. The planet is easily observed with a binocular. Place the Pleiades at the left edge of the binocular field then move the binocular slightly westward. It is about the same brightness as 13 Tauri (13 Tau, m = 5.6) and 14 Tauri (14 Tau, m = 6.1). At the end of the season, Uranus' eastward progress puts it into the same binocular field with Alcyone.

## Neptune

The most distant planet in the solar system (m = 7.9) is in a Pisces starfield, near 20 Piscium (20 Psc, m = 5.5) and 24 Piscium (24 Psc, m = 5.9). It is nearly 13° to Saturn's upper left.

Neptune quickly disappears into evening twilight after its Venus conjunction, reaching solar conjunction on March 19<sup>th</sup>.

After Neptune reappears in the morning sky later in the spring, it becomes an easier target with Saturn in the same binocular field of view.

The bright planet display after sunset is noteworthy and sky watchers can be awestruck with the four bright planets hanging from the plane of the ecliptic from the southwest to the east-northeast.

# NORTHERN LIGHTS

# ASTROCON 2025

## BRYCE CANYON NATIONAL PARK

June 25 - June 28, 2025, Ruby's Inn, Bryce Canyon City, Utah

26 South Main Street • [www.rubysinn.com](http://www.rubysinn.com)

Sponsored by the MARS Region of the Astronomical League

**This year, we will be under the stars for our conference!**

- The Astronomical League is pleased to announce that **ASTROCON 2025** will be held during the new moon June 25-28 2025, at **Ruby's Inn**, near the entrance to **Bryce Canyon National Park**. Along with talks and workshops given during the day, nightly dark-sky observing will be offered at **Rainbow Point**.
- Bryce Canyon National Park features some of the darkest skies in the United States. Naturally, the National Park Service will hold a nightly public star gaze across the street from the **Bryce Canyon Visitor's Center** for both park visitors and ASTROCON attendees. **Ruby's Inn** is family-oriented with many options for fun and adventures. The area is full of possibilities.
- **Ebenezer's Barn and Grill** will host the **Star-B-Que** Friday at Noon to 2:00 PM and the **Gala Banquet** Saturday night from 5:00 PM to 8:00 PM. A room and/or RV Park/tent camping site reservation link will be provided via email after registration to the conference has been confirmed. Lodging is available at a reduced rate, and will fill up fast.
- **Speakers and Workshops** will utilize the lecture hall at **Ruby's Inn** and **Ebenezer's Barn and Grill**.
- Reserved rooms with the ASTROCON rates are available the nights of June 24th through the 28th. This also includes the RV Park and Campground. If you want to come earlier or stay later, you will be charged the normal rate for those extra nights.
- Enjoy a **vacation extravaganza** to other National Parks and National Monuments within a days drive.
- Many activities available: hiking, mountain biking, horseback riding, guided ATV tours, and scenic flights.

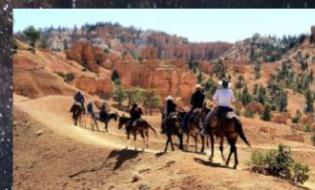
**Featured Workshops:**

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Astrophotography / Digital Imaging - Advanced  
Observing: Personal Program / Journal  
Observing: Tips & Ideas / Eyepieces / Filters  
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Sketching



**Scan to register!**

[www.astrocon2025.org](http://www.astrocon2025.org)



# NORTHERN LIGHTS

## REGIONAL OFFICER & LEADER CONTACT INFORMATION

### Chair: Alan Sheidler

**Bio:** Alan has been an active member of the Popular Astronomy Club in the Quad Cities for 30 years and has held the offices of vice president and president. He is currently serving as the director of observing. Alan has been very involved in public outreach activities and, in 2022, received the Master Level Astronomical League Outreach Award. He has also completed several AL observing programs for Double Stars, Globular Clusters, Planetary Nebulae, Venus & Mercury transits, and all four NCRAL Seasonal Messier Observing Awards. (Two-year term as Chair; currently in his first term, 2023-2025.)

**Contact:** [Adsheidler@gmail.com](mailto:Adsheidler@gmail.com)



### Vice Chair: Bill Davidson

**Bio:** In the days of the Apollo missions, Bill first observed the moon (and sunspots!) with a 50x, 60mm JCPenney's refractor telescope. Not discouraged, 40 years later, he built and observed with a 6.25-inch achromatic doublet objective, f/10, 1600mm focal length refracting telescope. He recently retired as a college mathematics instructor, has been a *Rochester Astronomy Club* (Minnesota) member for more than 20 years, and serves as editor of the club's award-winning newsletter, *Rochester Skies*. Bill manages the Region's [membership awards and grants program](#) as Vice Chair. (Two-year term as Vice Chair; currently in his third term, 2023-2025.)

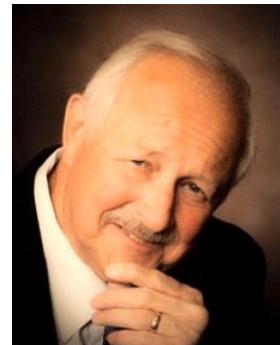
**Contact:** [rochesterskies@outlook.com](mailto:rochesterskies@outlook.com)



### Secretary-Treasurer: Roy Gustafson

**Bio:** Roy, a member of the *Popular Astronomy Club* (Quad Cities), got interested in astronomy when visiting the Adler Planetarium in Chicago in 2<sup>nd</sup> Grade. The star projected by the Zeiss Projector hooked him and started him on the path of astronomy. He has been active in outreach and has presented astronomy programs to over 20,000 people. He was awarded the **Master Outreach Award** from the Astronomical League. Roy travels with his telescopes and has observed both Transits of Venus and total solar eclipses in 2017 and 2019. Roy also taught astronomy at Black Hawk Junior College in Moline, IL. Roy retired from John Deere & Company after 32 years of service. As Secretary-Treasurer, Roy manages the Region's [observing awards program](#). (Two-year term as Secretary-Treasurer; currently in his fourth term, 2018-2026.)

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### Regional Representative: John Attewell

**Bio:** John's interest in astronomy was kindled during two great comet events – comets Hyakutake (1996) and Hale-Bopp (1997). He used a 2½-inch refractor borrowed from his brother for the next ten years, which he mounted on a rickety camera tripod. It wasn't until 2009 that he acquired a serious telescope as a gift from his family. He started attending the Rochester Astronomy Club meetings in 2002, becoming a member in 2006 and Vice President in 2019. In 2017, he chaired the NCRAL annual conference held at Eagle Bluff Environmental Center in Lanesboro, Minnesota, and served as NCRAL Vice Chair from 2017-2019. John's particular interest is the history of astronomy. (Three-year term as Regional Representative; currently in the first term, 2022-2025)

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# NORTHERN LIGHTS

## **Webmaster: Jeff Setzer (appointed)**

**Bio:** Jeff has been an amateur astronomer since 1984 and has been part of the *Northern Cross Science Foundation* (Wisconsin). He is a longtime member of their Board of Directors, has held several office positions, and is their President. He has completed several Astronomical League observing programs, made his telescopes and optics, and is a self-described telescope nut. You often find him at star parties with his 22" Starmaster and TeleVue 85 telescopes. Jeff is the webmaster of the NCRAL website, which can be found at <https://ncral.wordpress.com/>.



**Contact:** [astrosetz@hotmail.com](mailto:astrosetz@hotmail.com)

## **Newsletter Editor: Carl J. Wenning (appointed)**

**Bio:** Carl has been an avid amateur astronomer since being introduced to the sky by his grandfather in July 1957. He has been involved with the *Twin City Amateur Astronomers* (Illinois) since September 1978. Today, he is president of that organization. He is also an **Astronomical League Master Observer** and spends most of his free time introducing nascent amateur astronomers to observing using his club's Celestron 11" and PlaneWave 20" telescopes. Carl served three consecutive two-year terms as NCRAL Regional Chair from 2017 to 2023. He also has served as the Region's **Northern Lights** newsletter editor since 2016 to the present. He originated the **NCRAL blotter**, a monthly newsletter for affiliate leadership (2023-present). He was recognized for his Regional education and outreach efforts in 2007 when he received the **NCRAL Region Award**. Carl served as planetarium director (1978-2001) and physics teacher educator (1994-2008) at Illinois State University in Normal, where he resides. He spends much of his time nowadays writing about astronomical topics. He is looking forward to publication of his latest book, *Galileo Guide to the Heavens*, sometime in 2025.



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