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## NCRAL CHAIR'S MESSAGE

I attended the Sangamon Astronomical Society's *Illinois Dark Skies Star Party* in late September and had the opportunity to speak with a number of NCRAL affiliate members. I was both surprised to learn that many of those with whom I spoke knew little about NCRAL and the fact that we hold annual conventions. While this was a bit dismaying, I was delighted to know that every one of them eagerly listened while I spoke about the Region and the benefits it offered. This has led me to the belief that disseminating our ***Northern Lights*** newsletter via email and Facebook and sometimes through affiliate officers is not doing an adequate job of getting the word out there about the Region and its offerings.

I've repeatedly asked NCRAL members and affiliate presidents and newsletter editors to share information about the Region with their affiliates' members, and this happens to a limited extent. As is, only about 475 of our 1,900 Regional members receive our newsletter. I feel that is appropriate, therefore, to send out at least one postcard annually to our Regional members to get around the various roadblocks. I plan to do so in the coming weeks. Not every NCRAL member will be included in this mailing, only those closest to the

regional 2023 convention. This will serve as an experiment. With printing and postage, this will cost about \$280 to do so (rather than \$1,100 for sending a postcard to everyone), but it is a well worth the cost if we can get a more responsive Regional membership as measured by new subscriptions to our electronic newsletter and heightened convention attendance from the target area. If this test case proves its worth, then next year we can consider sending out 1,500 postcards to further increase the impact. We have over \$8,000 in the NCRAL treasury. What worth has it if we don't make use of it to promote the Region and our hobby?

There is a new URL for the NCRAL Email Database registration: <https://tinyurl.com/NCRAL>. If you have not registered to receive electronic copies of NCRAL's ***Northern Lights*** newsletter, please do so now. The old data collection instrument that had been in place for many years was removed accidentally, but fortunately all data were backup up only a few days before. A nearly identical new survey was created in its place and all the old data entered into that database. Thanks to the ALCor of ***Cedar Amateur Astronomers*** for drawing attention to this error allowing correction in a timely fashion.

Following a discussion with Peggy Walker from MSRAL and the Region's executive officers and appointees, I have roughed out job descriptions for all elected and appointed positions within NCRAL. That document is included further on in this newsletter. While the document bears no legal authority, it does provide guidance to those involved in leadership now and in the future to better know what to expect when serving in various capacities. This explanatory document should be considered "living" and subject to continuous revision, so let me know if you have any recommendations for improvement.

I have prepared a draft proposal for NCRAL's Messier Marathon as well. I encourage members to review the program and contact me with any questions and/or concerns. Please keep in mind that this proposal is not for a program to show observing prowess; rather, it has been designed to get our membership to observe the heavens. It will have three levels, bronze star (minimum of 70 observations in a single night) silver star (all 110 observations in a single night, assisted), and gold star (all 110 observations in a single night, unassisted). A finalized proposal will come up for formal approval at NCRAL's May 5-6 convention. I will ask that it be

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approved retroactively, so anyone completing the Messier Marathon following our guidelines from this point forward will be able to receive recognition from the Region. In the meantime, see the accompanying draft proposal for details.

As you probably well know, I must step down as Regional Chair following the conclusion of my third term as mandated by the Region's Bylaws. Elections for NCRAL Chair and Vice Chair will come up at the May convention. Vice Chair Bill Davidson is willing to continue in that position as he will be concluding only his second term. According to our Bylaws, the Regional Chair is to appoint a nominations committee. If you are willing to assist in finding nominees for these positions, please contact me.

With this newsletter, we are again accepting nominations for NCRAL's Region Award and Newsletter Editor Award, and applications for both of our \$250 mini-grants. The deadlines for all are March 31<sup>st</sup>. Note that new guidelines have been instituted for the Region Award that must be followed in

order to qualify. See the corresponding articles later in this issue of *Northern Lights* for details.

I'm looking ahead to NCRAL 2023 that my affiliate, the Twin City Amateur Astronomers, will be hosting May 5-6, 2023, just south of Utica, Illinois. This site is more centrally located than Bloomington-Normal, so we hope to see more attendees as a result. We have as our theme *Amateur Astronomy for Amateurs*. This convention will be somewhat different from others in that it will focus on small telescope astronomy. Of course, we will have some "big" astronomy elements as well such as recent research results coming by way of the James Webb Space Telescope. Be sure to see the article following.

Carl J. Wenning  
NCRAL Regional Chair  
(2017 – 2023)  
[carlwenning@gmail.com](mailto:carlwenning@gmail.com)

## NORTH CENTRAL REGION OF THE ASTRONOMICAL LEAGUE YEAR-END FINANCIAL STATEMENT BY ROY E. GUSTAFSON, SECRETARY-TREASURER

Check	Amount	Deposit	Daily	Monthly	
1-Jul-22				\$8,112.83	July
31-Jul-22				\$8,112.83	July
1026 1-Aug-22	Roy E. Gustafson - U.S.P.S. (mail certificate and pin)	\$6.39	\$8,106.44		August
31-Aug-22				\$8,106.44	August
1-Sep-22				\$8,106.44	September
30-Sep-22				\$8,106.44	September
1-Oct-22				\$8,106.44	October
31-Oct-22				\$8,106.44	October
1-Nov-22				\$8,106.44	November
21-Nov-22	Proceeds from NCRAL 2022 (Northern Cross Science Foundation)	\$470.51		\$8,576.95	November
30-Nov-22				\$8,576.95	November
1-Dec-22				\$8,576.95	December
1027 5-Dec-22	Roy E. Gustafson - U.S.P.S. (mail certificate and pin)	\$9.90		\$8,567.05	December
31-Dec-22				\$8,567.05	December

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## NCRAL SEEKS NOMINATIONS FOR NEW CHAIR

Following the conclusion of three consecutive two-year terms, Carl Wenning will be stepping down as NCRAL's Regional Chair as required by the Region's bylaws. Wenning was first elected in 2017. His third and final term expires with the conclusion of the NCRAL Regional business meeting on May 6. Candidates for the 2023-2025 Chair position (and Vice Chair, too, though Bill Davidson is willing to run for his third term) are now being sought.

The Regional chairs oversees the operations of the Region and serves as chief communicator, holding their

Regions together and providing guidance. While Carl has edited NCRAL's *Northern Lights* newsletter since 2016, he points out that newsletter editorship is **not** part of the NCRAL Chair's responsibilities. Carl is willing to continue to serve in the capacity as editor and as advisor at the pleasure of the new Chair.

If any NCRAL member (affiliate member or member at large) is willing to consider serving as NCRAL Chair or Vice Chair, **[or even as nominations chair]**, (s)he should contact Carl at [carlwenning@gmail.com](mailto:carlwenning@gmail.com).

## DRAFT NCRAL JOB DESCRIPTIONS

In an effort to help candidates, new officers, and affiliate leaders to understand their roles within NCRAL, the following job descriptions are provided. These descriptions are based on both NCRAL Bylaws and experience. The descriptions found here are merely advisory; not prescriptive.

### OFFICERS:

According to the NCRAL Bylaws, NCRAL officers shall be the Chair, Vice Chair, and Secretary-Treasurer.

- **CHAIR** – Specific duties of the Chair are outlined in the NCRAL Bylaws. In general, however, these are the duties that actually characterize the position:

- Ensures that we have hosts for upcoming conventions (<https://ncral.wordpress.com/conventions/>).
- Prepares the agenda for and presides over Regional Council and Membership meetings held during annual Regional conventions.
- Prepares an Annual Regional Report (<https://ncral.wordpress.com/reports/>) during June for transmittal to the AL Secretary prior to the summer meeting of the National Council.
- Serves as a member of the National Council, attending such meetings when possible.
- Appoints webmaster, newsletter editor, and observing awards coordinator when openings in these positions occur.
- Participate in selection of the Region Award and Newsletter Editor Award recipients.

- **VICE CHAIR** – Specific duties of the Vice Chair are outlined in the NCRAL Bylaws. In general, however, these are the duties that actually characterize the position:

- Assist the Chair in the discharge of all duties and perform them in the case of the absence, death, disability, resignation, or removal of the Chair.
- Contribute from time to time to the content of the Region's *Northern Lights* newsletter.
- Lead the Regional Award Committee, soliciting and collecting nominations, and participate in selection of the Region Award and Newsletter Editor Award recipients.

- **SECRETARY-TREASURER** – Specific duties of the Secretary-Treasurer are outlined in the NCRAL Bylaws. In general, however, these are the duties that actually characterize the position:

- Record and preserve the minutes of the Council and Regional Business meetings and distribute these minutes within thirty (30) days following said meetings to the officers and the Regional Representative to the National Council.
- Contribute from time to time to the content of the Region's *Northern Lights* newsletter providing such things as minutes and treasurer's reports on a quarterly basis.
- In cooperation with the Executive Secretary of the League, maintain an accurate and up-to-date list of all member societies, patrons and members-at-large within the NCRAL (helping to maintain this information on the Region's website), and call the roll of member societies at the Regional Business Meeting.
- Execute all financial transactions of the NCRAL and keep proper books of account of such.
- Place the funds in a repository approved by the NCRAL officers and shall present an account of all transactions and of the financial condition of the NCRAL annually at the Regional Business meeting.

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- Submit an annual report of the NCRAL financial status to the NCRAL Chair for inclusion in the Annual Region Report.
- Ensure that NCRAL remains in compliance with the 501(c)(3) non-profit status of the League.
- Participate in selection of the Region Award and Newsletter Editor Award recipients.

According to the NCRAL Bylaws, the Region must have a **REPRESENTATIVE TO THE LEAGUE COUNCIL**. In general, however, these are the duties that actually characterize the position:

- Attend, or in cooperation with the Regional Chair, assign a proxy to attend, all League Council meetings which occur during his/her term of office.
- Serve as a liaison between the League and the Region, ensuring that information is conveyed from the League to the Region and Region to League as appropriate.

## EXECUTIVE BOARD:

Together, the officers and the Regional Rep to the AL constitute the **Executive Board**. Specific duties of the Executive Board are outlined in the NCRAL Bylaws. In general, however, these are the duties that actually characterize the position:

## REGIONAL COUNCIL:

According to the NCRAL Bylaws, the Region shall maintain a **COUNCIL**

## APPOINTEES:

Appointees are appointed by and serve at the pleasure of the Regional Chair. We now have three such appointees:

### • NEWSLETTER EDITOR

- Produce a newsletter of high quality on a seasonal basis and disseminate it via email on a timely basis.
- Solicit subscribers to the newsletter from among the NCRAL membership and maintain a database.
- Ensure the inclusion of Chair's Message, Secretarial minutes, and Treasurer's Report in the newsletter on a timely basis.
- Write and solicit content as necessary for appeal and appropriate length.

### • WEBMASTER

- Establish and maintain a quality NCRAL website.
- Include critical information "for the record" on the website including bylaws, quarterly newsletters, annual Region reports, convention information, and so forth.

### • OBSERVING AWARDS COORDINATOR

- Acquire, maintain a stock of, and disseminate pins and certificates for observing programs as appropriated.
- Providing information about award recipients to the newsletter editor.

## NCRAL 2023 COMING MAY 5-6

~ by Carl Wenning, Convention Chair, Twin City Amateur Astronomers ~

The *Twin City Amateur Astronomers* is pleased announced that it will be hosting NCRAL 2023. NCRAL members will gather May 5-6 at Grand Bear Lodge near Utica, Illinois, for this event. Our theme is **Amateur Astronomy for Amateurs**. Focus will be on small-telescope astronomy. Talks will be presented mostly by amateur astronomers, though we do have a few professional astronomers on our list of speakers. We have confirmed our speakers and their topics as follows:

- ★ Dr. Carl Wenning, TCAA, Illinois State University Physics Department: *A Total Eclipse of the Heart*
- ★ Lisa Wentzel, TCAA Master Observer: *Astronomical League Observing Programs*

- ★ Dr. Jeffrey L. Hunt, Author of When the Lines Meet: Creating Astronomical Diagrams
- ★ Sandullah Epsicokhan, TCAA, 2022 Mabel Sterns Newsletter Editor Award Recipient: *Creating a Top-Notch Club Newsletter*
- ★ Matt Will (Sangamon Astronomical Society & A.L.P.O. Secretary) & Lisa Wentzel (TCAA): *Small Telescope Astronomy*
- ★ Mark Tiritilli, TCAA, Illinois Wesleyan University: *Meteoroids, Meteor, and Meteorites*
- ★ Dr. John Martin, Sangamon Astronomical Society and University of Illinois at Springfield; Keynote Speaker: *The Science of the James Webb Space Telescope*



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In addition to these outstanding speakers and topics, we will have a mixture of other activities including panel discussion, seminar, workshop, and roundtable dealing with the following topics:

- ★ Panel Discussion: *Lesson Learned from the 2017 Eclipse*
- ★ Seminar: *NCRAL Guides 1-3*
- ★ Workshop: *Build a Solar Funnel* (free)
- ★ Roundtable: *Revitalize Your Astronomy Club*

This convention will feature parallel sessions throughout the day on Saturday, with the exception of the keynote banquet address that evening. Friday afternoon will be check-in time and that evening will feature an informal reception, a flea market, swap meet, give away table, and more. Watch the TCAA website at <https://tcaa.club/> in coming weeks for details.

## CALL FOR 2023 NCRAL NOMINATIONS & APPLICATIONS

### CHAIR & VICE CHAIR/REGION AWARD/NEWSLETTER EDITOR AWARD/MINI-GRANTS

The terms of NCRAL's Chair and Vice Chair end with the next Regional Business Meeting on May 6<sup>th</sup>. Chair Carl Wenning must step down following three terms in this position. Vice Chair Bill Davidson is willing to returned to this position for a third term. Because both positions will "open," nominations for both positions are requested. Please contact either if you'd like to nominate someone to fill either of these two positions.

It's never too early to start thinking about nominations for the NCRAL Region Award. Do you know someone who has dedicated his or her 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, NCRAL 2023, to be held at Grand Bear Resort just south of Utica, Illinois, on May 6<sup>th</sup>.

The rules for Region Award nominations are as follows:

1. The nomination must be made using the [official NCRAL Region Award nomination form](#) which is an interactive PDF that must be completed in its entirety prior to 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 NOT eligible for this award. Past winners are also ineligible for this award.
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 not less than 21 days in advance of the NCRAL meeting at which the award will be presented. The winner will not be publicly revealed until the time of the 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 competed. Nominations for the 2023 Region Award MUST BE RECEIVED by March 31<sup>st</sup>. Any nominations received after this date will be kept on file for 2024.
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**. It is expected that the next award will be conferred at the NCRAL 2023 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). New 2023 applications (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 at NCRAL 2023.

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## NOTEWORTHY!

### Active Galactic Nuclei Observing Program:

*Kevin Nasal, Minnesota Astronomical Society*

### Arp Peculiar Galaxies Northern Observing Program:

*Bill Hennessy, Nevil Public Museum Astronomical Society.*

### Binocular Messier Observing Program:

*Trena Johnson, Minnesota Astronomical Society*

### Double Star Observing Program:

*Trena Johnson, Minnesota Astronomical Society*

### Galaxy Observing Challenge:

*Dave Tosteson, Minnesota Astronomical Society*

### Galileo Observing Program:

*Dave Tosteson, Minnesota Astronomical Society  
Stephen Pavella, La Crosse Area Astronomical Society*

### Hydrogen Alpha Solar Observing Program:

*Lisa Wentzel, Twin City Amateur Astronomers*

### Library Telescope Program:

*John Zimitch, Silver, Minnesota Astronomical Society*

### Lunar Observing Program:

*Steve Sweeney, Northern Cross Science Foundation*

### Outreach Special Program:

*Alan Sheidler, Popular Astronomy Club  
Bradley Nasset, Minnesota Astronomical Society*

### Solar System Observing Program:

*Stephen Pavella, La Crosse Area Astronomical Society*

### Spectroscopy Observing Program:

*Antone G. Gregory, Minnesota Astronomical Society*

### Sunspotter Observing Program:

*Jonathan Poppele, Minnesota Astronomical Society*

### Two in the View Observing Program:

*Lisa Wentzel, Twin City Amateur Astronomers*

## NCRAL SEASONAL MESSIER MINI MARATHON AWARDS

- *Stephen Pavella, La Crosse Area Astronomical Society, Autumn, Assisted*

## SUCCESSFUL MINI MESSIER MARATHONS AT LCAAS



*Mini Messier Marathoners of La Crosse Area Astronomical Society. Image by Jeffrey S. Moorhouse, President.*

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The following message was sent to NCRAL Chair Carl Wenning and Secretary-Treasurer Roy Gustafson, (received October 31) by Jeffrey S. Moorhouse, President of the La Crosse Area Astronomical Society:

*I have here a report describing our Autumn Mini-Messier Marathon observing. I don't know why this is not more popular in the Region. Perhaps if there were more people interested in being a champion for this fun program within each club, it would. Regardless, I am your champion here in La Crosse and we love these mini marathons.*

*We schedule these for several sessions every season. Yes, sometimes I am the only one observing the Marathon list that night. Sometimes others will join me for all of the objects or just some of the objects. It is not always just club members as we invite anyone to come out. Some of the observers, like myself, I have observed the lists and have NCRAL awards already (thank you) but we enjoy the search nonetheless.*

*This fall, we were out on the 27<sup>th</sup> and 29<sup>th</sup> of September as well as the 28<sup>th</sup> of October and had a total on nine participate in tracking the Autumn list down. We were clouded out on the 27<sup>th</sup> about halfway through the list but we still enjoyed being out under the starry ceiling until it became a cloudy ceiling. No regrets at all. It becomes a fond memory each time out. The image is of our crew all set up on October 28<sup>th</sup>. Thanks for all you do!*

Thanks, Jeffrey, for your remarks and appreciative comments. Carl

## DRAFT PROPOSAL FOR NCRAL MESSIER MARATHON OBSERVING PROGRAM

I, Carl J. Wenning, Chair of NCRAL (2017-2023), propose that NCRAL establish the following NCRAL Messier Marathon Observing Program and rules for affiliates and at-large members with the following awards and certificates:

- ★ **Gold Star Award:** Observe all 110 Messier objects in one dusk-to-dawn interval using only unassisted means (Telrad, optical finder, star hopping, sweeping, drift, etc., are acceptable)
- ★ **Silver Star Award:** Observe all 110 Messier objects in one dusk-to-dawn interval using any combination of assisted or unassisted means (e.g., goto telescopes, setting circles, etc.)
- ★ **Bronze Star Award:** Observe at least 70 Messier objects in one dusk-to-dawn interval using any telescopic means, assisted or unassisted.



Those who earn the Gold Star also will receive the Silver and Bronze Stars. Those who earn the Silver Star also will receive the Bronze Star. No more than one star of each type will ever be awarded to a single observer.

Observations must be approved and sent by an affiliate's ALCor to the NCRAL Secretary-Treasurer who will serve as program administrator. The observing record must be affirmed by an affiliate's ALCor or affirmed by another observer if a member-at-large. Observing records (objects and time stamps) in the form of an electronic file should be sent to Roy Gustafson at [astroroy46@gmail.com](mailto:astroroy46@gmail.com) for final approval and recognition. NCRAL will provide and pay for suitable certificates, pins, and postage associated with this program. Recipients will be recognized in the *Noteworthy!* section of NCRAL's **Northern Lights** newsletter. Due to the more prestigious nature of this program, it is NOT permissible for two or more individuals to work together to earn this recognition.

*I further propose that this observing program be approved retroactively to January 1, 2023, so that anyone completing the observing program following these guidelines during the winter and spring of 2023 may receive appropriate recognition from NCRAL.*

**Notes:** This observing program is possible only under certain conditions. The time to conduct the marathon is from mid-March to early April when no Messier objects are hidden in the glare of the sun. Within that brief period, dark nights around the time of the new moon are best for the Marathon. Even then, you'll need a good dark sky site. Many of the Messier object are faint and need favorable seeing conditions. Around the March equinox, you'll have around eleven hours of darkness on a given night. To find all 110 objects means you only get six minutes average to locate and observe each one. Observations must be well planned and begin as soon as it gets dark and continue through morning twilight. Observations begin low in the western sky and progress eastward throughout the night. Consult any of the several Messier Marathon observing guides found online for details. Because the goal is to "view" and not "observe" each M object, a checklist documenting observations is adequate. The checklist must include date and time.



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## 25' OBSERVATORY DOME AVAILABLE / ASTRONOMICAL CALENDAR 2023 AVAILABLE

Your NCRAL Chair recently received the following note from Bart Fried, past president of the Antique Telescope Society, in relation to the Emerson McMillin 12.5" refractor. "Pioneer Works and Tiffin Rangers have executed the agreement of sale of the telescope and a check will go to Tiffin shortly.... The moving stair is part of the deal, but the dome is not. If you know anyone who is interested in the dome, it was produced by Seneca Metal Fabrication, which is still in business. They copied Ash Dome's design very closely. It is an aluminum skin'd dome. About 25 feet in diameter. Tiffin Rangers has no further use for it."

If you or your group might be interested in acquiring this roughly 30-year-old dome, contact Tiffin Rangers at Tiffin Rangers, 3543 N County Road 33, Tiffin, Ohio 44883, phone: [\(419\) 447-9081](tel:4194479081)

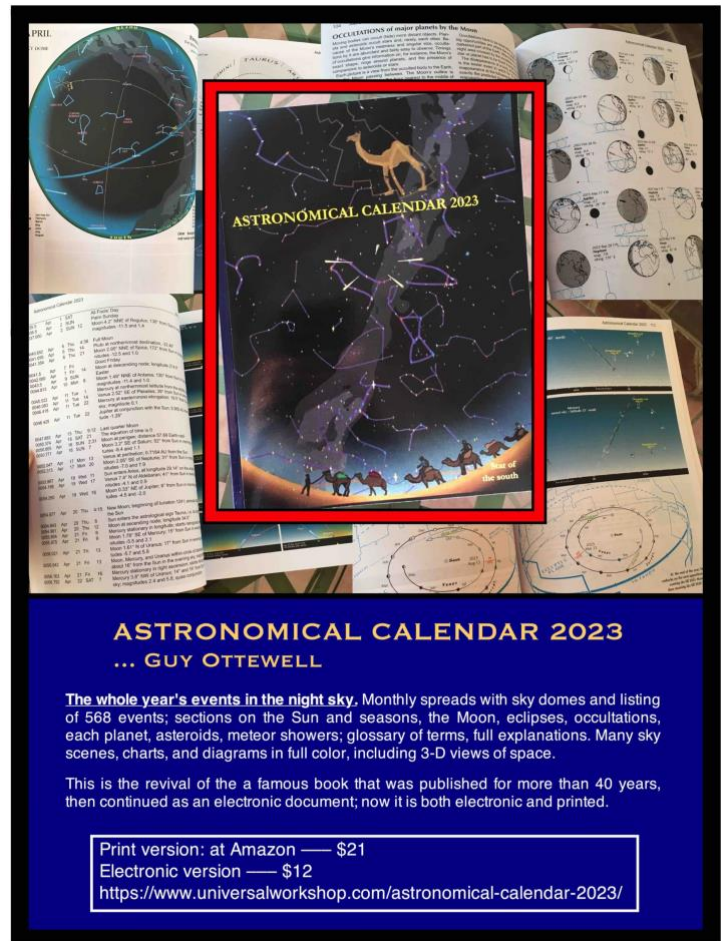
### NCRAL SEEKING FUTURE CONVENTION HOSTS

During NCRAL's annual business meeting, the Region receives offers for hosting future conventions. We are now looking for hosts for NCRAL 2024 beyond. It's never too early to start planning to host an NCRAL convention.

Whether or not your club has ever hosted an NCRAL Regional convention, please consider doing so in 2024 or later. While hosting a Regional convention is a considerable amount of work, it can be quite rewarding – even fun. It provides an opportunity to highlight your group's facilities and accomplishments, build club camaraderie, and to get to personally know interesting guest speakers. You can also use such an event to grow your club's membership.

Remember, NCRAL now has its own convention planning guide. To download the planning guide, visit the following URL: <https://ncral.wordpress.com/conventions/>. Look for the link at the bottom of the page.

Please contact the NCRAL Chair at [carlwenning@gmail.com](mailto:carlwenning@gmail.com) should you have any questions or wish to toss your affiliate's hat into the ring for hosting a future NCRAL convention.



### THE WINTER SEASON

By Jeffrey L. Hunt

On December 21<sup>st</sup>, the new season arrives when the sun reaches 270° of ecliptic longitude at 3:48 p.m. CST, signaling the beginning of astronomical winter in the northern hemisphere. The sun is in the sky for nine hours, eight minutes at Chicago's latitude. The latest sunrise begins on the 28<sup>th</sup> and lasts through January 10<sup>th</sup>. The season lasts eighty-eight days, twenty-three hours, and thirty-six minutes. Winter's midpoint occurs February 4<sup>th</sup> at 2:36 a.m.

Earth and sun are closest (perihelion) on January 4<sup>th</sup>. The separation is 0.983 A.U.

Daylight exceeds darkness again on February 11, 2023. This comparison is not a description of the daylight at the equinoxes or solstices. The 24-hour cycle can be divided into daytime, twilight, and darkness – from the end of evening twilight until twilight's renewal the next morning. On this day, daytime is longer than darkness, lasting until the end of October.

First magnitude stars Antares and Altair make their morning first appearances during the season.



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Late winter mornings provide a preview of the summer Milky Way with Sagittarius and Scorpius in the south and the Milky Way arching upward toward the east through the Summer Triangle and downward toward Cassiopeia.

During late January look for the Summer Triangle – Vega, Altair, and Deneb – in the west-northwest and the Winter Triangle – Sirius, Betelgeuse, and Procyon – in the east-southeast simultaneously after sundown.

Winter's middle places the bright stars of the Orion region of the Milky Way in the southern sky during the early evening hours. These bright stars represent every spectral type.

Use a binocular to view winter's Hertzsprung-Russell collection of stars. Some optical aid amplifies a star's brightness as well as its subtle color. Here's my tour of the winter stellar sampler.

- **Spectral Class O:** Alnitak – the eastern star in Orion's belt, Zeta Orionis ( $\zeta$  Ori,  $m = 1.7$ ), 815 light years distant (l.y.);
- **B:** Rigel, Beta Orionis ( $\beta$  Ori,  $m = 0.2$ ), 860 l.y.
- **A:** Sirius, Alpha Canis Majoris ( $\alpha$  CMa,  $m = -1.5$ ), 9 l.y.
- **F:** Procyon, Alpha Canis Minoris ( $\alpha$  CMi,  $m = 0.4$ ), 11 l.y.
- **G:** Capella, Alpha Aurigae ( $\alpha$  Aur,  $m = 0.1$ ), 40 l.y.
- **K:** Aldebaran, Alpha Tauri ( $\alpha$  Tau,  $m = 0.8$ ), 70 l.y.
- **M:** Betelgeuse, Alpha Orionis ( $\alpha$  Ori,  $m = 0.4$ ), 500 l.y.

## Moon

Moon phases:

New Moon	12/23	01/21	02/20	03/21
First Quarter	12/29	01/28	02/27	03/28
Full Moon	01/06	02/05	03/07	04/05
Last Quarter	01/14	02/13	03/14	04/13

This year the moon occults the planets 14 times, visible across the planet. On January 1<sup>st</sup>, the moon blocks Uranus, although this occurs across the region during the daytime. The January 3<sup>rd</sup> Mars occultation is not visible from North America. Uranus and the moon appear in the same binocular field on the 28<sup>th</sup>. On January 30<sup>th</sup>, Mars dips behind the moon from the western US. From the NCRAL regions other close groupings of the moon with the planets that are occultations from other locales, February 22<sup>nd</sup> (Jupiter), February 25<sup>th</sup> (Uranus), February 28<sup>th</sup> (Mars), and March 22<sup>nd</sup> (Jupiter).

## December

The five bright planets are in the evening sky late in the month. From the sunset point, look for Venus, Mercury, Saturn, Jupiter and Mars. Of course, Neptune, to the west of Jupiter, and Uranus, in Aries, are there as well.

The best evenings are December 24<sup>th</sup> to the 28<sup>th</sup> when the moon is nearby. Possibly the best night is the 26<sup>th</sup> when the crescent moon helps to locate Saturn, the dimmest of the bright five. Mercury is a challenge to see by month's end.

The next time five planets are visible simultaneously is late October 2028, when the order from the sunrise point is Mercury, Jupiter, Venus, Mars, and Saturn. They span over 155°.

This month, Mars is retrograding in front of Taurus, passing Aldebaran on the 26<sup>th</sup>.

## January

Mercury is at inferior conjunction on the 7<sup>th</sup>, reaching greatest elongation (25.0°) on the 29<sup>th</sup>. This is the first of three complete morning apparitions during the year. The best occurs September 22<sup>nd</sup>. Mercury is largely the bright planet activity of this season in the morning until Saturn reappears after solar conjunction.

The moon is somewhat near Mercury on the 19<sup>th</sup>. On mornings leading up to this view, find the moon with Regulus (10<sup>th</sup>), Spica (14<sup>th</sup> & 15<sup>th</sup>), and Antares (18<sup>th</sup>). On the morning of the 10<sup>th</sup>, look for the moon 0.7° below Eta Leonis ( $\eta$  Leo,  $m = 3.5$ ), the star north of Regulus in the Sickle of Leo.

Four bright planets – Venus, Saturn, Jupiter, and Mars – shine simultaneously in the evening sky until late in the month when Saturn disappears into bright twilight. Around mid-month, the Evening Star sets after the end of evening twilight. This continues until early July. Venus passes 0.4° from Saturn on the 22<sup>nd</sup>. The next easily visible Venus-Saturn conjunction is January 19, 2025. Six planets, including Uranus and Neptune, span about 74° from Venus to Mars. The moon joins Venus and Saturn on the next evening, 7.6° from Venus. The moon is 3.5° from Jupiter on the 25<sup>th</sup> and passes closely to Mars on the 30<sup>th</sup>, but no occultation for us.

Mars' retrograde ends on January 12<sup>th</sup>, followed by the final conjunction with Aldebaran of a triple conjunction series on the 30<sup>th</sup>. The planet dims from magnitude -1.2 to -0.3. Use a binocular to track its place compared to Epsilon Tauri ( $\epsilon$  Tau,

# NORTHERN LIGHTS

m = 3.5), Upsilon Tauri ( $\upsilon$  Tau, m = 4.2, Kappa Tauri, ( $\kappa$  Tau, m = 4.2), and Tau Tauri ( $\tau$  Tau, m = 4.2).

## February

Mercury is visible in the east-southeast before sunrise, although find a clear horizon. It rises eighty-three minutes before the sun on the 1<sup>st</sup>, appearing about 5° above the horizon about forty minutes later. At magnitude -0.1, it is brighter than Antares and Altair.

Mercury loses two to three minutes of rising time each morning. By the 10<sup>th</sup>, it rises only an hour before sunup, appearing less than 5° above the horizon at 30 minutes later. The moon is near Regulus (6<sup>th</sup> & 7<sup>th</sup>), Spica (11<sup>th</sup>), and Antares (14<sup>th</sup>). The crescent moon is in the Teapot on the 16<sup>th</sup>.

In the evening sky, Venus begins to run down Jupiter, moving eastward in Pisces. Enroute to Jupiter, Venus passes 0.6° from Neptune on the 15<sup>th</sup>. Beginning February 20<sup>th</sup>, Venus is within 10° of the Jovian Giant, leading up to their close conjunction next month. The sight of two very bright planets together is an exciting prospect.

The moon is 6.5° from the Evening Star on the 21<sup>st</sup> and makes a nice pairing with Jupiter (1.3°) the next evening. The nearly Last Quarter moon is with Mars on the 27<sup>th</sup>. After midnight on the 28<sup>th</sup>, the moon is only 0.7° from the Red Planet. An occultation occurs from Iceland and northern Europe.

Saturn is at solar conjunction on the 16<sup>th</sup>, beginning a slow climb into the morning sky. Look for it late next month.

## March

The morning sky is without a bright planet for most of the month. On the 30<sup>th</sup>, Saturn (m = 1.0) is over 5° up in the east-southeast at 45 minutes before sunrise.

The moon passes through early in the month: Regulus (6<sup>th</sup>), Spica (10<sup>th</sup>), and Antares (13<sup>th</sup> & 14<sup>th</sup>). The moon is in the Teapot's handle on the 16<sup>th</sup>.

Mercury is at superior conjunction on the 17<sup>th</sup> heading for its best evening appearance of the year. Greatest elongation occurs on April 11<sup>th</sup>.

In the evening sky, Venus passes 0.5° from Jupiter on the 1<sup>st</sup>, a close conjunction. Venus stays within 10° of the Jovian Giant through the 11<sup>th</sup>.

Mars is marching eastward in Taurus. It passes Elnath ( $\beta$  Tau, m = 1.6) on the 9<sup>th</sup>. Two nights later it moves between the horns, Elnath and Zeta Tauri (m = 3.0), passing Zeta on the 14<sup>th</sup>. This is the third conjunction for Mars and the horn stars. On the 26<sup>th</sup>, the planet steps into Gemini. Three nights later Mars passes Messier 35.

Use a binocular to try for Jupiter and Mercury, 1.3° apart on the 27<sup>th</sup>.

The moon passes Jupiter (1.8°) on the 22<sup>nd</sup>, an occultations from southern hemisphere latitudes, and Venus (5.9°) the next evening. Look for a nice pairing of the moon and the Pleiades (2.2°) on the 25<sup>th</sup>. Look for the moon with Mars on the 27<sup>th</sup> and 28<sup>th</sup>.

## In the Eyepiece

**Venus'** phase shrinks to 78% and displays an evening gibbous phase. Its size grows nearly 4 arcseconds during the season.

**Mars'** brightness diminishes greatly from apparent magnitude -1.5 to 0.8, while the size diminishes from 16.0 arcseconds to 7.0 arcseconds. Spring begins in the Martian northern hemisphere on December 26<sup>th</sup>. While diminishing in size, the far northern features become more apparent.

**Jupiter** has several features to monitor through a telescope. The Galilean satellites are seemingly in constant motion and their apparent orbital change can be seen across an hour or so. Their orbital periods: Io, 1.8 days (d); Europa 3.6d; Ganymede, 7.2d; and Callisto, 17.7d.

The Great Red Spot transits – is visible in the center of the planet in the southern hemisphere – about every nine hours, 55 minutes. With Jupiter appearing farther westward each night, the window to see the spot frequently is closing. Check your sources for viewing times. Here are a few dates worth noting: On January 12<sup>th</sup> at 6:19 p.m. CST, the Great Red Spot transits. The planet is about 45° up in the southwest, a favorable place for a good view from the central US. At this time, Jupiter's large satellite Europa is visible against the cloud tops. As Jupiter spins and the satellite revolves, Europa moves from in front of the planet at 6:35 p.m. At about that time, the satellite's shadow is cast on the cloud tops. This continues until nearly 9 p.m. CST.

On January 19<sup>th</sup> at 7:08 p.m. CST, Jupiter's Great Red Spot is center stage again. The planet is over 30° up in the southwest from Chicago. Sky watchers farther westward see the planet higher in the sky. At this time Europa is again seen against the

# NORTHERN LIGHTS

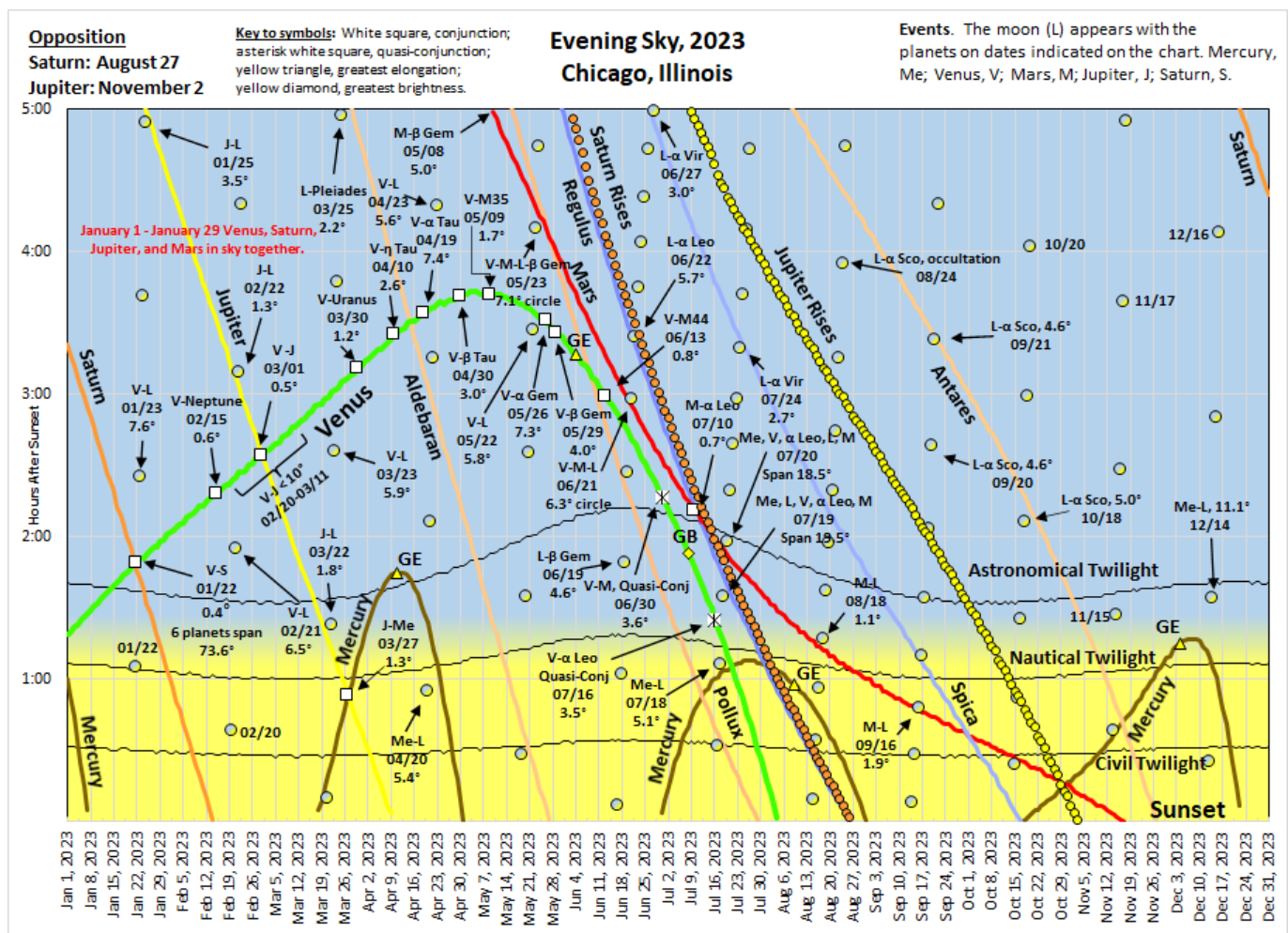
planet's clouds. The large satellite moves back against the darkness of space about the time the spot disappears from view a few minutes before 9:20 p.m. About that time, the moon's shadow begins to cross the cloud tops. From Chicago, the shadow is there until the planet sets.

On February 17<sup>th</sup> at 6:22 p.m. CST, the planet is less than 30° up in the west. The Great Red Spot transits and Io is seen silhouetted against the planet, north of the spot. The satellite's shadow is to the east. The shadow is projected on the cloud tops beginning at 5:55 p.m. Io leaves its transit at 6:17 p.m. The shadow reaches the spot as the "storm"

disappears around the west side of the planet at 8:06 p.m. when Jupiter is less than 10° above the horizon.

**Saturn** is always a wonder through the eyepiece. While it slides into brighter evening twilight, the planet's rings are inclined 13.6°. The planet's diameter is about 15 arcseconds and the ring's diameter is over double that number.

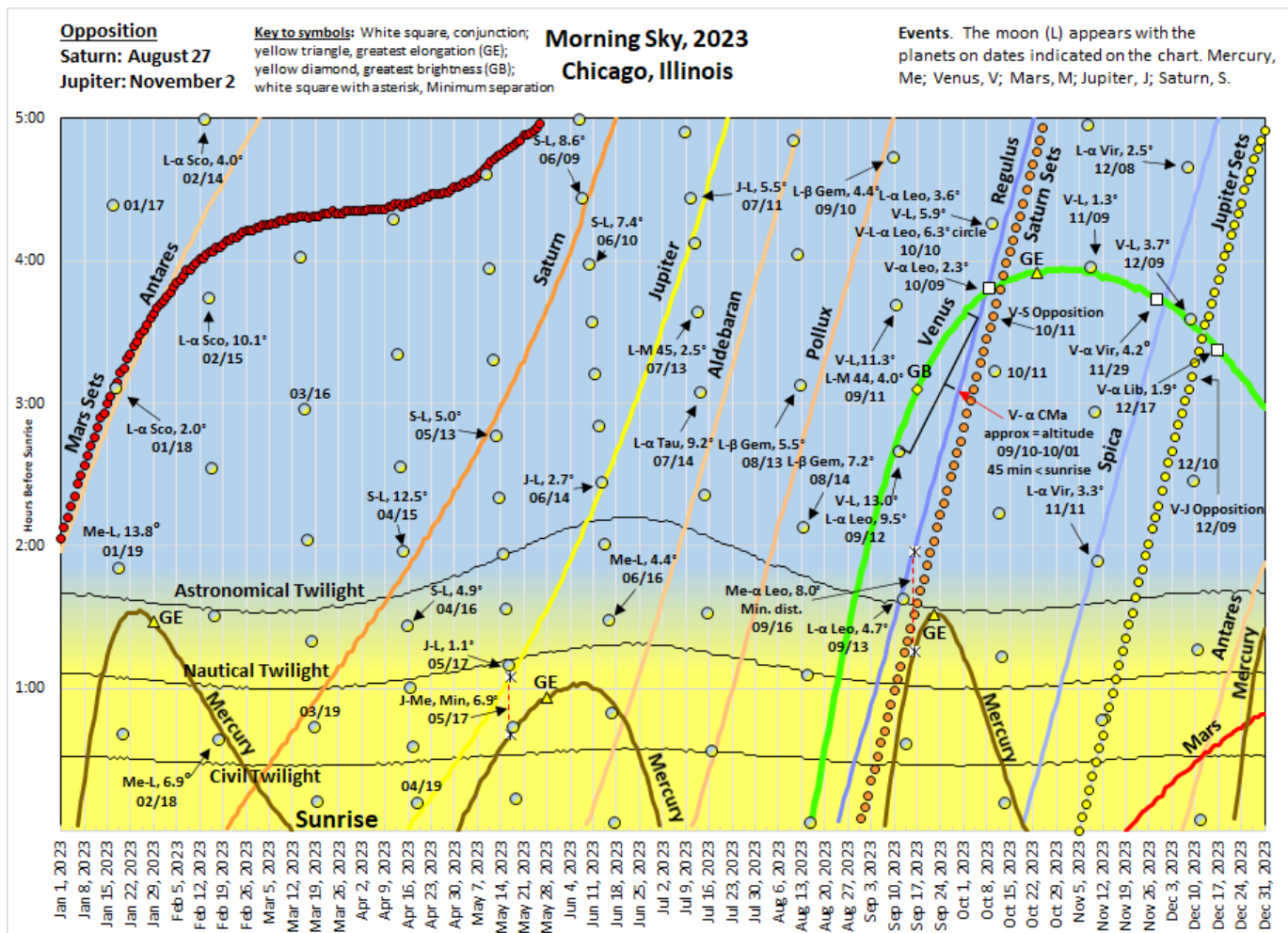
Whether you are a casual observer during this season, observing only a few minutes during the cold nights or you are a diehard all-night observer, the winter sky offers many sights to fulfill your observing goals.



The setting time intervals of the bright planets, bright stars near the ecliptic, and the moon are shown as they occur in the western sky after sunset. The rising times of Jupiter and Saturn in the eastern sky are shown as well. Conjunctions are shown with white boxes and groupings of planets with the moon are plotted as well.



# NORTHERN LIGHTS



The rising time intervals of the bright planets, bright stars near the ecliptic, and the moon compared to sunrise are displayed in the eastern sky before sunrise. Setting time intervals in the western sky are included for Mars, Jupiter and Saturn. Data is from the US Naval Observatory.

## ADD YOUR EMAIL ADDRESS TO THE NCRAL MEMBER DATABASE

Did you know that only about 475 of our Region's 1,900 members are receiving this newsletter via email? That's less than one-fourth 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.

When one adds his or her email address to the NCRAL member database, he or she will receive direct notifications about the availability of **Northern Lights**. In addition, subscribers will receive important and timely announcements about Regional conventions, elections, star parties, and so forth. Only blind addressing (Bcc:) will be used with this email list so that 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 for you, so you'll need to do it yourself. Sign-up takes only about a minute. You'll need to provide your name, email address, 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 important future communications.

# NORTHERN LIGHTS

## NCRAL SEASONAL MINI MESSIER MARATHON OBSERVING PROGRAM

The NCRAL Seasonal Mini Messier Marathon program is intended to serve as motivation to get NCRAL-affiliated members out under the stars to observe. The program permits the use of goto telescopes to find objects and, as such, the program must not be considered proof of observing prowess. The Astronomical League's Messier observing program serves that purpose. Still, NCRAL observing certificates include the words "assisted" or "unassisted." Certificates and pins are now being distributed on the equinoxes and solstices along with *Northern Lights* by the program administrator. NCRAL Secretary-Treasurer Roy Gustafson is program administrator. Please send observing records to Roy at [astroroy46@gmail.com](mailto:astroroy46@gmail.com). Up-to-date details about the Region's four observing program and helpful observing record sheets can be found on the NCRAL website: <https://ncral.wordpress.com/awards/>.



**Autumn:** M55, M69, M70, M75, M11, M26, M56, M57, M71, M27, M29, M39, M2, M72, M73, M15, M30, M52, M103, M31, M32, M110, M33, M74, M77, M34, and M76. (27 objects)



**Winter:** M1, M45, M36, M37, M38, M42, M43, M78, M79, M35, M41, M50, M46, M47, M93, M48, M44, M67, M40, M81, M82, M97, M101, M108, M109, M65, M66. (27 objects)



**Spring:** M95, M96, M105, M53, M64, M85, M88, M91, M98, M99, M100, M49, M58, M59, M60, M61, M84, M86, M87, M89, M90, M104, M3, M51, M63, M94, M106, and M68 (28 objects)



**Summer:** M83, M102, M5, M13, M92, M9, M10, M12, M14, M19, M62, M107, M4, M6, M7, M80, M16, M8, M17, M18, M20, M21, M22, M23, M24, M25, M28, and M54. (28 objects)

### OBSERVING NOTES:

- **Autumn:** This season's objects span a wide range of right ascension and declination. With several objects located in Sagittarius and disappearing into the glare of the sun by mid-autumn (M55, M69, and M70), it is best to complete the autumn observing program before the end of October. After that they will be too near the sun to observe during late autumn evenings. Also note that a late September start will require observations after 10 PM due to the late rising of two of these objects.
- **Winter:** It probably would be best to begin the winter Marathon around mid-February or later. Any earlier in the year, observers will have to wait until late into the night for all winter objects to have risen high enough in the sky to observe. With winter weather moderating in March, it wouldn't be too late to start then so long as observations are completed by the March equinox.
- **Spring:** This season's objects span a rather narrow region of right ascension, with most of the objects being associated with or in proximity to the Virgo-Coma cluster of galaxies. At the start of spring, an observing run beginning near the end of astronomical twilight should allow observers to view all objects by around 10:30 PM. By mid-April, all objects should be well enough placed at the end of astronomical twilight allowing for their fastest possible observation.
- **Summer:** All summer Marathon objects are above the horizon at the end of astronomical twilight on the first day of summer through the last day of summer. They are nearly all tightly clustered around the galactic center, and most are globular clusters with a few notable exceptions.
- **UPDATE (June 4, 2021):** *By fiat of the Regional Chair, it is permissible for a group of two or more individuals to work together using a single telescope on the same night to earn a seasonal Mini Messier Marathon certificate and pin, so long as the group shares a single certificate and pin. All members of a group must observe each Messier object.*

# NORTHERN LIGHTS

**BIENVENUE EN LOUISIANA! (WELCOME TO LOUISIANA!)**

Join us for this unique and exciting amateur astronomy gathering!



# ALCON 2023

**July 26-29, 2023**

Hilton Baton Rouge  
Capitol Center Hotel

201 Lafayette Street,  
Baton Rouge, LA 70801

## KEYNOTE SPEAKERS

- ★ David Eicher—writer, editor-in-chief of *Astronomy Magazine*
- ★ Fred Espenak—co-author of *Totality: The Great American Eclipses of 2017 and 2024*
- ★ More to be announced

## FIELD TRIPS

- ★ Irene W. Pennington Planetarium
- ★ LIGO (Laser Interferometer Gravitational-Wave Observatory) Livingston\*
- ★ Louisiana State University Physics & Astronomy
- ★ Highland Road Park Observatory

\*Spaces are limited for this field trip

Brought to Baton Rouge by the **Baton Rouge Astronomical Society**

Registration info coming soon! Check [brastro.org](http://brastro.org)



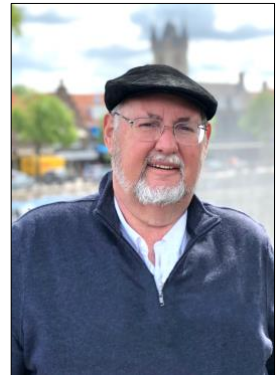
# NORTHERN LIGHTS

## REGIONAL OFFICER & LEADER CONTACT INFORMATION

### Chair and Newsletter Editor: Carl Wenning

**Bio:** Carl has been an avid amateur astronomer since being introduced to the sky by his grandfather during July 1957. Today he is an **A.L. Master Observer** spending most of his time introducing nascent amateur astronomers to observing. He has been involved with the *Twin City Amateur Astronomers* (Illinois) since September 1978. Carl served as editor of his club's newsletter, *The OBSERVER*, from 2014-2021, during which time he received the Astronomical League's *Mabel Sterns Newsletter Editor Award* in 2017. He has served as the Region's newsletter editor from 2016 to 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 and physics teacher educator at Illinois State University (1978-2008). (Two-year term as Regional Chair, currently in third and final term, 2017-2023; *Northern Lights* Newsletter Editor, 2016-present.)

**Contact:** [carlwenning@gmail.com](mailto:carlwenning@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 JC Penny's refractor telescope. Not discouraged, 40 years later, he built and observes with a 6.25-inch achromatic doublet objective, f/10, 1600 mm focal length refracting telescope. He recently retired as a college mathematics instructor, has been a member of the *Rochester Astronomy Club* (Minnesota) for more than 20 years, and serves as editor of the club's award-winning newsletter *Rochester Skies*. (Two-year term as Vice Chair; currently in second term, 2021-2023.)

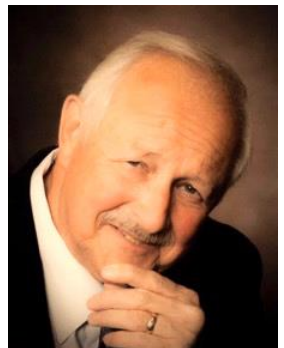
**Contact:** [rochesterskies@outlook.com](mailto:rochesterskies@outlook.com)



### Secretary-Treasurer: Roy Gustafson

**Bio:** Roy, a member of *Popular Astronomy Club* (Quad Cities), got interested in astronomy when visiting the Adler Planetarium in Chicago when he was in 2<sup>nd</sup> Grade. The stars 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. (Two-year term as Secretary-Treasurer; currently in third term, 2018-2024.)

**Contact:** [astroroy46@gmail.com](mailto:astroroy46@gmail.com)



### Regional Representative: John Attewell

**Bio:** John's interest in astronomy was kindled during two great comet events – comets Hyakutake (1996) and Hale-Bopp (1997). For the next ten years he used a 2½-inch refractor borrowed from his brother 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 meetings of the Rochester Astronomy Club 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 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) since that time. He is a longtime member of their Board of Directors, has held several office positions, and is currently their President. He has completed several Astronomical League observing programs, made his own telescopes and optics, and is a self-described telescope nut. You will often find him at star parties with his 22" Starmaster and TeleVue 85 telescopes.

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

