

NORTHERN LIGHTS



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NORTH CENTRAL REGION OF THE ASTRONOMICAL LEAGUE

Spring 2026 - Volume 10, Number 4

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CHAIR’S MESSAGE

Dear NCRAL Members and Astronomy Enthusiasts,

As the days grow longer and the night skies of spring begin to reveal their treasures, I’m delighted to welcome you to the Spring 2026 edition of *Northern Lights*. This quarter’s newsletter is packed with valuable information for amateur astronomers across our region. This issue is particularly significant as it will be the last issue compiled by Carl Wenning. Carl has done a fantastic job these past ten years as your newsletter editor and will be passing the baton to your new editor, Paul Levesque. Paul’s first issue will be the Summer edition, so stay tuned to see what he has in store for us. I would encourage you all to contribute material to Paul for inclusion in future newsletters.

I would also like to thank Roy Gustafson, who has served as the NCRAL Secretary-Treasurer since 2018. Roy has served in distinguished fashion but will be stepping down from this position at this year’s NCRAL 2026 Cosmic Conference in May. Roy’s departure opens

an opportunity for someone to join the NCRAL leadership team. Please consider if you might be willing to step up and take over for Roy.

I would also like to thank two clubs in the Region which are in the process of ceasing operations and closing down. The Marquette Astronomical Society and the Skokie Valley Astronomers have announced their dissolution. Both clubs have been around for a long time and served their communities and the Region very well. I would like to thank them for their service and encourage club members who still want to be involved with amateur astronomy to join one of the other fine clubs in the region.

I also want to emphasize that it’s not too late to register for the NCRAL 2026 Cosmic Conference in Cedar Rapids, Iowa. Our colleagues in Cedar Rapids have put together an exceptional program featuring distinguished speakers, hands-on workshops, and excellent observing opportunities. The conference facilities are first-rate, and the planned activities promise something for astronomers of all experience levels. If you haven’t registered yet, I strongly encourage you to do so soon to secure your spot at what will surely be a memorable gathering of our astronomical community.

I particularly want to thank the Cedar Amateur Astronomers for their hard work and skill in organizing this year’s conference. The conference co-chairs, Gordon Baustian and Chris Kardos, and their team have done a wonderful job crafting an exciting agenda. I am looking forward to seeing you all in Cedar Rapids. I am also looking forward to learning what the Milwaukee Astronomical Society has in mind for next year’s NCRAL 2027 conference. They will make a presentation at the business meeting in Cedar Rapids, after which NCRAL members in attendance will vote to accept their proposal as next year’s host. I’d like to encourage everyone to attend to find out more and support the

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Region by voting. In addition, we are looking for hosts for 2028 and beyond. If you would like to throw your hat in the ring to host a future conference, this is a good chance for you to do it.

In this issue, you'll find detailed reports from our member societies, updates on regional projects, and helpful tips for your spring observing sessions. I'm particularly proud of our feature on astronomy education initiatives happening throughout the North Central Region.

I want to express my sincere gratitude to our newsletter editor and all the contributors who make *Northern Lights* possible. Your dedication to sharing knowledge and fostering community among amateur astronomers is what makes NCRAL such a vibrant organization.

Clear skies!

Alan Sheidler
NCRAL Chair

TREASURER'S REPORT –DECEMBER 1, 2025, THROUGH MARCH 16, 2026

ROY GUSTAFSON, NCRAL TREASURER

Check #	Date	Description	Amount	Deposit	Balance
	01-Dec-25	Balance brought forward			\$7,987.12
	16-Mar-26	(no transactions)			\$7,987.12

Net Change: **\$0.00**



Here are some updates that readers might find interesting or useful. Items are listed as bullet points because they are too short to need separate articles. If readers have something to share and want it included here, email the information to Paul Levesque, the incoming editor of this newsletter, at levesque5562@att.net.

- ★ **NCRAL 2027 headed toward Milwaukee:** The *Milwaukee Astronomical Society* has volunteered to host NCRAL 2027. The group will present its formal proposal during the business meeting at NCRAL 2026, and a vote will determine acceptance. MAS plans to host NCRAL 2027 as part of its 80th-anniversary celebration; the club is among the founding members of the Astronomical League. The conference plans include a tour of the Milwaukee Astronomical Society's historic observatory and of the historic Yerkes Observatory in Williams Bay, Wisconsin.
- ★ It's not too early to start planning for **NCRAL 2028**, so amateur astronomy groups in the region that believe they can host a conference should begin thinking ahead and making plans soon.
- ★ The **NASA Night Sky Network** is excited to share that the award-winning documentary *Small Town Universe* is now available for both virtual and in-person screenings! The film, directed by Katie Dellamaggiore (SXSW Audience Award Winner, *Brooklyn Castle*), is set in Green Bank, WV, where life unfolds in the quiet zone of the world's largest steerable radio telescope. The film traces the telescope's history and role in the search for extraterrestrial life, the STEM opportunities it offers rural students, and the community's fight to protect it when funding is threatened. You can watch the film's trailer [here](#). If you're interested in learning more about how to bring the film to your NSN chapter, just complete this [brief request form](#), and someone from the impact team will follow up with more information and next steps.

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- ★ The TCAA has released another guide to amateur astronomy. TCAA Guide #13 - *Imaging with Dedicated Digital Astronomy Cameras* – explains how to use a ZWO ASIAir system, including both the 585MM with ASIAir mini and 585 MC-Air operating systems, on various telescopes. It also covers the use of a camera angle adjuster (CAA), a 5-position electronic filter wheel (EFW), and an automatic electronic focuser (EAF). Mounts discussed include both the CPC on a wedge and a CGEM. Version 1.2 of this 22-page guide is available on the [Guides page of the TCAA website](#).
- ★ Nominations for Awards and applications for NCRAL mini-grants are due at the end of March. Details about nominations and grant application forms are available on the [NCRAL website](#).

SPEAKERS BUREAU

Created by NCRAL Chair Alan Sheidler, the NCRAL Speakers Bureau helps connect our Region's *affiliates* with professional speakers for meetings and other events. Many individuals have expressed a willingness to serve as speakers. Most are available for Zoom presentations, though some might also attend club meetings and other gatherings. Please contact a speaker directly via our [NCRAL Speakers Bureau listing to arrange a presentation](#). Discuss arrangements openly, including accommodations, meals, travel expenses, and honorarium, if applicable.

The 2026 Astronomical
League Convention



Join us August 12th - 15th, 2026 as
ALCON returns to the Great Lakes Region
for the first time in 27 years.

For more information visit
ALCON2026.org

ALCON 2026 is being hosted by the Cincinnati Astronomical Society, one of the nation's oldest and largest amateur societies.

A wide variety of events are being planned, along with the annual Star-b-que, and many other fun and engaging activities.

The ALCON will be held in Covington Kentucky at the Marriott Rivercenter; a hotel that looks out across the Ohio river into downtown Cincinnati. Come visit for the entire week and join us for ALCON 2026!



Save the Date!

May 15-16-17, 2026

Cedar Amateur
Astronomers
present



The Eastern Iowa Cosmic Conference

North Central Region
of the Astronomical League

DoubleTree Convention Complex - Cedar Rapids, IA

<https://www.ncral2026.org/>

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NOTEWORTHY!

Noteworthy! lists the NCRAL members who have completed various Astronomical League observing and award programs in recent months. Its content is taken from *Reflector*. As the listing shows, North Central Region members continue to shine brightly. The following NCRAL members have completed the Astronomical League observing and award programs in recent months and were recognized in the **December 2025** and **March 2026** issues of *Reflector*. Congratulations to all!

2025 Observe the Moon Challenge:

Tom Holman, Minnesota Astronomical Society

Hubble 35th Anniversary Observing Challenge:

Heide Bjerke, Jun., Jul., Aug., Sep., Oct., Nov.

Champaign-Urbana Astronomical Society

Jeffery S. Moorehouse, May, June, July, La

Crosse Area Astronomical Society

Jacob Payne, May, June, Cedar Amateur Astronomers

Jim Dole, Sep., Oct., Nov., Planetary Studies Foundation

Jeffrey S. Moorhouse, Aug., Sep., La Crosse Area Astronomical Society

Huygens Toes Observing Challenge:

Bill Boike, Planetary Studies Foundation

Kyra Pontnack, Planetary Studies Foundation

Gary Gordon, Planetary Studies Foundation

Jim Dole, Planetary Studies Foundation

Alan Sheidler, Popular Astronomy Club

Roy Gustafson, Popular Astronomy Club

Dale Hachtel, Popular Astronomy Club

Active Galactic Nuclei Observing Program:

Tom Holman, Minnesota Astronomical Society

Advanced Binocular Double Star Observing Prog.:

Craig Endres, Milwaukee Astronomical Society

Asteroid Observing Program:

Gerald R. Jones, Gold, Minnesota Astronomical Society

Binocular Double Star Observing Program:

Craig Endres, Milwaukee Astronomical Society

Binocular Messier Observing Program:

Danny Glover, Madison Astronomical Society

Caldwell Observing Program:

Stephen Pavela, Silver, La Crosse Area Astronomical Society

Constellation Hunter Observing Program – North Skies:

Greg Shabert, Minnesota Astronomical Society

Foundations of Imaging Observing Program:

Tom Holman, Minnesota Astronomical Society

Globular Cluster Observing Program:

Jack Shelton, Minnesota Astronomical Society

Sky Puppy Observing Program:

Vincent Witcher, River Bend Astronomy Club

Solar Neighborhood Observing Program:

Anthony J. Kroes, Eyes-Only, Binocular, Minnesota Astronomical Society

CONTRIBUTIONS TO NORTHERN LIGHTS WELCOME!

Have you ever thought about writing an article for this newsletter? The Region is lively, with many notable local events. Authors are encouraged to submit stories for inclusion in *Northern Lights* and news items for the *NCRAL blotter*. We are now seeking items for the upcoming editions. Contact the editor, Carl Wenning, with your questions and submissions.

If you are interested in contributing a column to assist our new editor, **Paul Levesque**, with the production of future issues, please contact him via email at levesque5562@att.net. (It should be noted that the author of our seasonal events column, Jeff Hunt, will also discontinue writing following the spring issue.)

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SEEING THE NIGHT SKY ANEW: OBSERVING AFTER CATARACT SURGERY

by Carl J. Wenning, Twin City Amateur Astronomers

I have been observing the heavens since the summer of 1957, when my maternal grandfather introduced me to Venus, Jupiter, and the constellations. I was not quite five years old. Since then, I have grown up, earned a degree in astronomy, worked in a planetarium, presented astronomy lectures and labs, and been recognized as an Astronomical League Master Observer. I have served as a three-term chairman of the North Central Region of the Astronomical League (2017-2023) – a seven-state region in the Upper Midwest. Simply put, I have been observing the heavens regularly for nearly seven decades.

BARELY NOTICED VISUAL DETERIORATION

As my age quickly rocketed past 70 (it's incredible how fast time passes), I noticed that my views of the heavens were much less impressive than when I was a youth growing up in small-town Ohio. Visits to the countryside were then most rewarding; now, not so much. Over the years, the heavens, even under the best conditions, had begun to fade. The moon had turned yellowish and less distinct; the stars had grown fuzzier and fewer in number; contrast was lower; and everything seemed less colorful. At first, I thought it was light pollution, but it wasn't, because I observed the same thing even under the exceptionally dark sky of Bryce Canyon, Utah, during the Astronomical League's national convention, AstroCon 2025. I finally figured out it was due to something else.

Over the years, I gradually realized I was experiencing the slow progression of vision loss from growing cataracts in both eyes. Earlier visits to my optometrist had yielded comments like, "You seem to have the start of cataracts in both eyes," "They aren't that bad yet," and "You'll know when it's time to have corrective surgery." The onset of cataracts is like a frog in a slow-to-boil pot of water. By the time you recognize what's happening, it's too late. By late 2025, I had had enough. The sky as I knew it was fleeting, and the time for cataract surgery had arrived. I had corrective surgery on both eyes, the right eye on January 5 and the left eye on January 22, 2026.



The moon as seen with cataracts (left) and after corrective surgery. Image created with Nano Banana (Feb. 2, 2026).

POST-OPERATIVE HEALING

Before my cataract operations, I studied the process after hearing horror stories about how lens replacement had negatively affected the night vision of certain amateur astronomers. Some people were experiencing glare when viewing high-contrast objects in the sky. An important article was brought to my attention in the autumn of 2025 that addressed the streaking of stellar and planetary images caused by cataract surgery (to say nothing of the headlights of approaching cars at night). Joe Comiskey of the Kalamazoo Astronomical Society pointed out this vital document, written by and for amateur astronomers. (If, after reading my article, you are considering cataract surgery, check out this informative document written by Kathy & Jerry Oltion (*Cataracts and the Amateur Astronomer*). That 2014 article is available through: https://www.jerryoltion.com/Cataracts_and_Astronomers.pdf)

While my vision was on the mend following both surgeries, I knew it would take several weeks – perhaps even months – for my postoperative vision to improve. After cataract surgery, vision improves only slowly because the eyes and brain must recover from the procedure and adapt to a fundamentally different optical system. This is especially noticeable to amateur astronomers, who tend to be critical of their night vision and glare. In addition, at night and when viewing high-contrast objects, conditions central to astronomical observing are more evident. Rather than focusing on specific problems, such as those highlighted by the

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Oltions in their article, let's examine how night vision and contrast sensitivity generally improve with the healing process following cataract surgery.

Nighttime vision often takes longer to stabilize than daytime vision. Cataracts scatter light, particularly short-wavelength (blue) light, and the brain compensates over many years. Once the cloudy lens is replaced with a clear intraocular lens, much more light reaches the retina. Initially, this can cause a sensation of brightness, glare, and halos around bright stars – even starburst effects. As inflammation subsides and the pupil's response normalizes, these effects diminish, allowing darker backgrounds and sharper stellar images to emerge.

Contrast sensitivity improves steadily over several weeks. Even when visual acuity (reading letters) returns early, the ability to detect faint brightness differences takes longer. This matters greatly in astronomy, where seeing subtle shading on the Moon, low-contrast planetary features, and faint nebulae depends more on contrast sensitivity than on sharpness alone. As corneal swelling resolves and internal light scatter decreases, faint objects become easier to detect and to see with averted vision.

RETURN OF CLEAR VISION & A RENEWED RELATIONSHIP

After my first cataract surgery, I was somewhat dismayed by the blurry vision, but I was quite impressed by how much brighter the lights in my house appeared. Some unshielded light bulbs were almost painful to look at. Even going outside on sunny days is now "painful," and I'm wearing sunglasses habitually when the sun is out. Historically, I've rarely worn sunglasses. An advantage of this increased apparent brightness is that it makes nighttime driving much easier. I can see things better than before.

In addition to the startling brightness, I was amazed by how white the light bulbs, the fence posts around my back deck, and the nearby picket fence in the backyard looked. Over the ensuing days (and eventually with corrective lenses, as I chose to retain my near focus rather than go with distant focus), I came to realize how much sharper the world could be. Clearly, over the years, I had lost the ability to see the finer details in the things around me. Because the loss of detail was so gradual, I did not notice it. Some say correcting cataracts is much like cleaning a long-neglected telescope objective lens.

Not only did my views appear brighter, but they were also surprisingly whiter. As the lens in the eye ages, it turns yellow, effectively acting as a yellow filter. While the yellow "filter" does not significantly affect longer wavelengths of light (red to yellow), it does change the appearance of shorter wavelengths (green to violet). After replacing my lenses, traffic lights no longer appeared red, yellow, and *blue*.

For astronomical observing, the combined effects of improved night vision and enhanced contrast and color sensitivity can be striking. Bright stars appear much brighter and more colorful, and the dark sky is much darker. The contrast continues to amaze me. In fact, the wonder of the night I had as a child is even more impressive now! Many observers report apparent gains of several tenths of a magnitude, improved separation of close double stars, and more distinct star colors. The Milky Way often shows increased texture and depth, and familiar deep-sky objects appear better defined. However, this improvement unfolds over time as the visual system adapts and stabilizes—typically over 3 to 6 weeks, and sometimes longer for night-critical observing.

In essence, cataract surgery restores the eye's optical clarity quickly. Still, superior observing performance for the critical observer returns only gradually as healing completes and the brain relearns how to interpret the night sky through a clearer window than it has had in years. Enhanced vision leads to a renewed relationship with the stars, one that is hard to believe ever existed, given the slow, inexorable progression of cataracts.

MY FIRST NIGHT BACK UNDER THE STARS

The interval between my first and second cataract surgeries was 17 days. This gave ample time to assess the differences between my left and right eyes. During the day, blues and whites were once again vivid, and everything was much brighter. Image sharpness also increased as my right eye accommodated to the changes. The contrast was amazing, and I found myself repeatedly switching between eyes, like a railroad crossing light, to see the difference.

At night, I noticed improved light and contrast sensitivity, even at low illumination levels. There was an apparent gain in limiting magnitude, and views of the moon, planets, and stars improved. Colors began

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to return to objects that had formerly appeared only in shades of gray. I could see more stars and had a better view of faint nebulae and the extent and structure of the Milky Way. In essence, I began to return to my childhood, seeing the sky as I once did when my grandfather pointed out Venus, Jupiter, and the stars in July 1957.

Over the ensuing weeks and months, my vision continued to improve, and new glasses corrected the remaining deficiencies. (Recall that I had my eyes adjusted for near, not distant, vision.) One evening in late January, while out walking, I was drawn to the full moon, and Jupiter was astride it. I was amazed at how white and detailed the moon appeared. The moon had a sharp limb, and the various maria stood out in great relief. I was almost delighted to see the moon, though its light blotted out most of the other stars in the sky. Jupiter's bright light was also pinpoint, with no glare whatsoever. I was greatly relieved, given the horror stories I'd heard.

Telescopic views improved considerably as well. Close binary stars were more readily split than before under the same seeing conditions. Jupiter's belts and Saturn's rings were now sharp, crisp, and clear. Deep-sky objects were also seen with renewed definition. All these changes had an emotional impact on me, much like seeing one's "old friends" after many years.

Viewing the heavens with "new eyes," as it were, is like first light for a new telescope. The night sky is seen anew, everything is fresh, even after decades of observing. The heavenly firmament is more inviting than ever, and as I look up once again, I do so gratefully and with renewed awe.

LESSONS FOR AMATEUR ASTRONOMERS

As an amateur astronomer, I have learned several important lessons following my cataract procedures. I have learned that vision is part of the observing system, alongside telescope or binocular optics and sky conditions. I have learned the importance of eye health in observational astronomy and that our optical systems are only as good as the weakest component. I have learned through this process to encourage observers to fully and thoughtfully reassess their visual limitations.

Keep in mind the often-overlooked fact that a telescope's performance does not end at the eyepiece—the observer's eye is an essential part of the system. Factors that affect what we see include not only cataracts but also astigmatism, dark adaptation, pupil size, color blindness, and more. Knowing how to use averted vision can significantly affect what one sees. Realize, too, that atmospheric conditions and the quality of optics can affect what we see. Amateur astronomers need to realize that better observing often comes not from buying new equipment but from understanding and training the human eye—the most personal and irreplaceable component of any observing setup.

A new "look on life" after cataract surgery can lead to a greater desire to share the night's experience with fellow club members. Of course, this also has implications for outreach, helping others see what is possible. Cataract procedures can not only improve our vision at night but also give us renewed appreciation for the gift of sight and the privilege of observation. Not all are as fortunate as amateur astronomers. ☾



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MAS OBSERVATORY GETS HISTORIC DESIGNATION

by Paul Levesque, PAC & Matt Ryno, MAS

The Milwaukee Astronomical Society Observatory is now part of the Alliance of Historic Observatories. The MAS applied to become a member of the organization last year and recently learned that it had been accepted by unanimous vote. Membership in the Alliance of Historic Observatories is open to observatories that are currently in operation, were established at least 50 years ago, and have played pivotal roles in advancing our understanding of the cosmos.

The Alliance is an international non-profit organization that addresses the needs of its member observatories in areas such as the conservation of historic instruments and buildings, historical research, modern research applications for heritage equipment, and public education.

The MAS Observatory is situated on three acres in New Berlin, east of Milwaukee, along a street now called Observatory Road. It was first founded in 1937 with a small roll-off shed on a hilltop. Construction of the initial observatory building and dome started shortly after the dedication, officially opening the observatory in 1938.

Today, the observatory site has nine buildings, including three domes named the Albrecht, Armfield, and Buckstaff Observatories, along with three sheds with roll-off roofs, a solar observing station, and a Quonset hut used for club meetings, lectures, educational sessions, and public outreach events.

The Milwaukee Astronomical Society is also collaborating with the New Berlin Landmarks Commission to have the observatory designated as a historic landmark. Benefits of this designation could include participation in multi-year planning efforts, the City of New Berlin's involvement in observatory events, and the installation of historic signage to guide visitors to the observatory.

As a member of the Alliance of Historic Observatories, the MAS Observatory now belongs to a distinguished group of sites recognized for their



The Milwaukee Astronomical Society Observatory as it appeared at its dedication ceremony in 1936 and as it appears today.

contributions to astronomy, including – among others – the Griffith Observatory, Lick Observatory, Lowell Observatory, Vatican Observatory, and Yerkes Observatory.

You can learn about the Alliance of Historic Observatories and how your observatory might be eligible for membership via this link: [Historic Observatories](#). More information about the MAS Observatory is available here: [MAS Observatory](#).



Membership in the Alliance is open to observatories that have been in operation for at least 50 years.

HOW CLOSE TO IDEAL IS YOUR ASTRONOMY CLUB'S MEMBERSHIP MIX?

by Carl J. Wenning, Twin City Amateur Astronomers

Note: This article is part of a continuing series about recruiting and retaining astronomy club members. The current article is speculative and not research-based. Opinions expressed herein are solely those of the author. Additionally, readers should note that all prior articles in this series have been consolidated into a single leadership guide, TCAA Guide #11, "Recruiting and Retaining Astronomy Club Members," available at <https://tcaa.club/guides>.

Astronomy clubs are made up of members, and these members have a wide range of traits. Some traits benefit the club and its members appreciably. Other traits draw on a club's resources, but they, too, bring something positive to the situation. A club will not long survive if its membership is entirely homogeneous. Variety helps maintain a healthy club environment.

There are three dimensions that can characterize club members. Each dimension benefits the club in different but complementary ways. I characterize these three dimensions as leaders versus followers (L/F), producers versus consumers (P/C), and observers versus enthusiasts (O/E). Dimensional differences do not make members good or bad; they make them different.

A healthy club has older, more experienced, and better-informed members as well as younger, less experienced, and less knowledgeable members. Each group brings something to the table, keeping a club vibrant. The older, more experienced members bring knowledge and skills, whereas the newbies bring enthusiasm and interest. A club needs both types of members to sustain itself in the long term. Club members need to be aware of these differences and how they benefit the organization for the club to function effectively.

This article suggests that an optimal mix of member types exists, each with specific interests and needs. If a club is designed to serve only the purposes of existing members or to serve only the needs of new members, these are extremes that do not bode well for a club's longevity. Clubs are unlikely to last long if they serve only one or the other of these extremes. It would be best to have a mix of goals that serve different membership types. Virtue, it appears, lay in the middle way.

Furthermore, this article introduces a method to assess how closely a club's membership composition approximates an ideal, defined neither by deficit nor by excess but by the mean. How close is your membership to the idealized mean, and how can you tell?

Membership Dimension 1: Leaders & Followers

There is a clear contrast between leaders and followers in an astronomy club, with examples that fit typical amateur and educational settings. The leaders in an astronomy club serve the primary roles of setting direction, organizing activities, and inspiring participation. Because leaders are vision-oriented, they propose various activities based on the needs and interests of the membership. As organizers, leaders schedule meetings, coordinate star parties, and manage equipment access. As mentors, they teach telescope setup, astrophotography, or celestial navigation. As decision-makers, they choose outreach targets, speakers, or observing sites. As representatives of their clubs, leaders liaise with schools, parks, or regional astronomy organizations. Typical behaviors of leaders include running meetings and moderating discussions, training new members on mounts, filters, or software, encouraging inclusive participation and curiosity, and handling logistics (permits, weather calls, safety rules). As leaders, they provide a variety of strengths. They provide structure and continuity, increase club visibility and impact, and help novice members progress more quickly. If a leader outdoes himself, there is a risk of burnout, micromanagement, and over-centralized decision-making.

The followers in an astronomy club primarily serve to support activities, learning, and contributions within established plans. Their key characteristic is a participation-focused approach: They attend observing nights, workshops, and talks. They are learners who develop skills through practice and questioning. They are reliable supporters, helping with setup and teardown, and as feedback providers, they share observations, ideas, and improvement suggestions. Typical behaviors of followers include bringing equipment and assisting others, recording observations or submitting astrophotos, helping guests at outreach events, and following observing protocols and safety

guidelines. Followers provide a variety of strengths. They provide manpower and energy, maintain club culture and camaraderie, and often become future leaders. If a follower role is overdone, it risks passivity, over-reliance on leadership, and underutilized talent. Clearly, the club would benefit from a good mix of both leaders and followers.

Membership Dimension 2: Producers & Consumers

Here's a helpful way to contrast producers and consumers in an astronomy club, a distinction that often cuts across formal titles like "officer" or "member." Producers in an astronomy club create value for the club. They can produce content, including talks, workshops, observation guides, newsletters, and social posts. They can host events such as star parties, outreach nights, eclipse trips, and Messier marathons. They can offer resources: finder charts, equipment manuals, and loaner-scope programs. They can share knowledge: tutorials on telescope collimation, imaging workflows, and data reduction. They build community by providing mentorship, welcoming new members, and sustaining the club's traditions. Typical producer behaviors include preparing observing lists and sky briefings, sharing astrophotos with processing notes, building or maintaining club equipment, and organizing public outreach or school visits. Producers can increase club value and reputation, multiply learning opportunities, and build long-term institutional memory. If overdone, producers can suffer burnout and feel underappreciated after taking on too much responsibility.

Consumers in an astronomy club benefit from the value created by the club's producers. They "consume" experiences by participating in observing nights, attending lectures, and visiting planetariums. They make use of club resources such as observatories, loaner telescopes, social media, and software access. They "consume" knowledge by participating in instructional activities, demonstrations, and guided observation. They take advantage of a club's social interaction, inspiration, and encouragement. In doing so, they attend meetings and events, listen to talks and ask questions, use club equipment appropriately, and enjoy outreach without having to organize it. The strengths that consumers bring to the mix are that they provide an audience and energy, validate producers' work through participation, and represent the club's

growth potential. If consumerism is pushed too much, this leads to a passive membership with overdependence on a few active members, and declining engagement over time

Membership Dimension 3: Observers & Enthusiasts

A club often has what one might characterize as observers and enthusiasts. One is not better than the other; they are merely different. Observers might be enthusiastic viewers, dedicated astrophotographers, or both. Observers of any type are characterized by hands-on engagement with the night sky. They regularly go outside to observe or image, even in marginal conditions. They invest time in equipment setup, alignment, and troubleshooting. They review observing logs and image portfolios and regularly track sky conditions, lunar phases, and seasonal targets. Typical activities might include any or all the following: visual observing (double stars, deep-sky objects, planets); astrophotography and image processing; participating in Messier marathons, variable-star observing, or exoplanet transit timing; and assisting others at star parties with setup and technique. Their contribution to a club typically consists of sharing real-time sky knowledge ("What's up tonight?"), demonstrating equipment and software, providing outreach impact—people remember seeing Saturn live, and using data and images that can support citizen-science projects. Their strengths include strong practical skills, the ability to inspire others through experience, and a tradition of observation and credibility. They face various other risks, such as equipment costs and technical frustrations, weather dependence, and the risk of burnout or gear obsession.

While enthusiasts are sometimes called "armchair amateur astronomers," their primary focus may be conceptual, historical, and theoretical engagement rather than time spent out under the stars. As such, they engage in astronomy mainly through reading, lectures, simulations, and discussions; they follow discoveries from journals, NASA/ESA releases, and astronomy media. They are often knowledgeable about cosmology, stellar evolution, or the history of astronomy. They might observe rarely—or not at all. Their presence in a club often means asking insightful questions during talks, leading discussions on black holes, exoplanets, or space missions, writing newsletter articles or book reviews, or using planetarium software rather than

telescopes. In doing so, they contribute to a club in ways that observers might not. Armchair amateur astronomers can add intellectual depth and context to a club function, provide historical and theoretical framing for observations, share a broad awareness of current research, and make the club accessible to members without equipment or dark skies. Their strengths often include a strong conceptual understanding, a connection to professional astronomy, and a low barrier to participation. Their challenges include limited practical observing experience, a sense of disconnection from the club's observing culture, and the risk of passive engagement if they do not contribute.

Edging Toward the Idealized Mean

Clubs need a good mix of member types. Both are reliant on each other; without the other, a club will falter and eventually fail. While a club cannot determine who joins its ranks, it can offer various accommodations to welcome members of all stripes. Before a club begins to attract a new type of member, it needs to know where it stands in the three-dimensional membership space. We can attract specific types of members to bring the overall membership characterization closer to an optimal mean.

How can we assess whether a club is close to the optimal mean, especially when there are three membership dimensions: leaders-followers, producers-consumers, and observers-enthusiasts? Interestingly, we can take a mathematical approach using three-dimensional (3D) space. The midpoint of two points in three-dimensional space is the average of their coordinates. If the two objects in three-space are at points $P_1 = (x_1, y_1, z_1)$ and $P_2 = (x_2, y_2, z_2)$, the midpoint coordinates between them are given by the following relationship:

$$P_{mid} = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}, \frac{z_1 + z_2}{2} \right)$$

For n points in three-space, the natural generalization of a midpoint is the centroid (also called the mean position). If the points are

$$P_i = (x_i, y_i, z_i), i = 1, 2, \dots, n,$$

then the coordinates of the centroid are given by

$$\left(\frac{1}{n} \sum_{i=1}^n x_i, \frac{1}{n} \sum_{i=1}^n y_i, \frac{1}{n} \sum_{i=1}^n z_i \right)$$

If the extremes of the three dimensions are taken from 1 to 5 in three-space, the centroid would have coordinates of (3,3,3) when each dimension is perfectly balanced. For the purposes of this discussion, the optimal mean will have these coordinates.

Characterizations with Likert Scales

Consider the following numerical definitions for the extrema and midpoints of each of the three membership characterization dimensions:

Leaders & Followers: Below is a 5-point Likert scale specifically tailored to Leader/Follower orientation in amateur astronomy, reflecting how individuals engage within clubs, observing groups, outreach events, and projects. A balanced leader/follower might have traits of both the strongly leader-oriented individual and the strongly follower-oriented individual.

1. **Strongly Leader-Oriented** – Consistently assumes leadership roles; organizes programs, mentors members, coordinates events, or sets the direction for club or group activities.
2. **Mostly Leader-Oriented** – Frequently takes initiative in planning observing sessions, projects, or outreach events; guides others while remaining collaborative.
3. **Balanced Leader-Follower** – Equally comfortable leading or following, depending on the situation; may organize small activities while also participating under others' guidance.
4. **Mostly Follower-Oriented** – Comfortable following established plans and leaders; occasionally offers suggestions or helps when asked.
5. **Strongly Follower-Oriented** – Prefers to participate by observing, learning, and assisting as directed; relies on others to organize activities, select targets, or lead events.

Producers & Consumers: Below is a 5-point Likert scale tailored to a Producer/Consumer orientation in amateur astronomy, ranging from primarily consuming astronomical experiences and information to actively contributing to the community. A balanced producer/consumer might exhibit traits of both a strong producer-oriented individual and a strongly consumer-oriented individual.

1. **Strongly Producer-Oriented** – Consistently generates and shares significant contributions (e.g., systematic observations, astrophotography, research projects, outreach leadership, or citizen-science data) that benefit the amateur astronomy community.
2. **Mostly Producer-Oriented** – Frequently contributes original content such as observing logs, astrophotographs, outreach assistance, or mentoring, while still benefiting from others' work.
3. **Balanced Producer-Consumer** – Equally engaged in using others' resources and in contributing observations, images, reports, or assistance to the community.
4. **More Consumer-Oriented** – Regularly consumes astronomical information and experiences but occasionally shares observations, images, or insights when prompted.
5. **Strongly Consumer-Oriented** – Primarily enjoys astronomy by viewing objects, attending talks, or using resources created by others; does not typically contribute original content or data.

Observers & Enthusiasts: Below is a 5-point Likert scale tailored to Observers/Enthusiasts in amateur astronomy, ranging from regular observers (visual and/or photographic) to highly engaged enthusiasts. A mixed observer/enthusiast might have traits of both the dedicated observer and the highly engaged enthusiast.

1. **Dedicated Observer** – Makes observations when opportunities present themselves; owns or uses advanced equipment; is commonly involved in observing or imaging projects or programs.
2. **Occasional Observer** – Observes periodically; uses basic equipment and follows astronomy news or events when convenient.
3. **Mixed Observer/Enthusiast** – Observes when the opportunity arises; uses charts or apps to view the night sky with the unaided eye, and only occasionally seeks a view of a variety of celestial objects.
4. **Dedicated Enthusiast** – Observes infrequently and with little purpose; invests time in learning about astronomy concepts rather than actively participating with equipment.
5. **Highly Engaged Enthusiast** – Observes infrequently; primarily enjoys looking at the night sky with minimal equipment and limited preparation. Astronomy for

the sake of knowledge is a central activity; participates in club discussions or outreach.

Characterizing Membership & Dealing with Findings

Begin by obtaining your club's most up-to-date membership list. Then, perhaps working with elected officials, characterize individuals using the three dimensions outlined in this article. If a member is strongly leader-oriented, strongly producer-oriented, and a dedicated observer, their characterization will be (1, 1, 1). If a person is a balanced leader/follower, more consumer-oriented, and an occasional observer, that person will have a characterization set of (3, 4, 2). Do this for each member. Then, find L/F, P/C, and O/E averages separately using all values.

Because 3 is the midpoint for each of the three dimensions, a club average of (3, 3, 3) will be optimal if the assertions of this article are correct. A club membership average of, say, (4, 3, 2) implies that the membership is more leader-oriented, neutral consumer-oriented, and more enthusiast-oriented.

How might the club leadership respond to such a finding if achieving the optimal mean if the latter results are considered important enough to do something about it? The club should devote more time, talent, and treasure to promoting leadership, with greater emphasis on observation. Production and consumption appear to be in balance, so efforts should be made to maintain that balance.

In Summary

A thriving and sustainable amateur astronomy organization benefits from an ideal balance of membership types across three dimensions: Leaders/Followers, Producers/Consumers, and Observers/Enthusiasts.

A thriving club neither relies on a small core of overextended leaders nor expects all members to contribute at the same level; instead, it promotes fluid movement among roles, mentoring, and shared responsibility. When these three dimensions are well balanced, the organization becomes resilient, sustainable, and capable of inspiring curiosity and advancing meaningful amateur astronomy.

Equally important is a dynamic balance between consumers and producers and between followers and leaders. Consumers and followers create demand, energy, and participation, while producers and leaders

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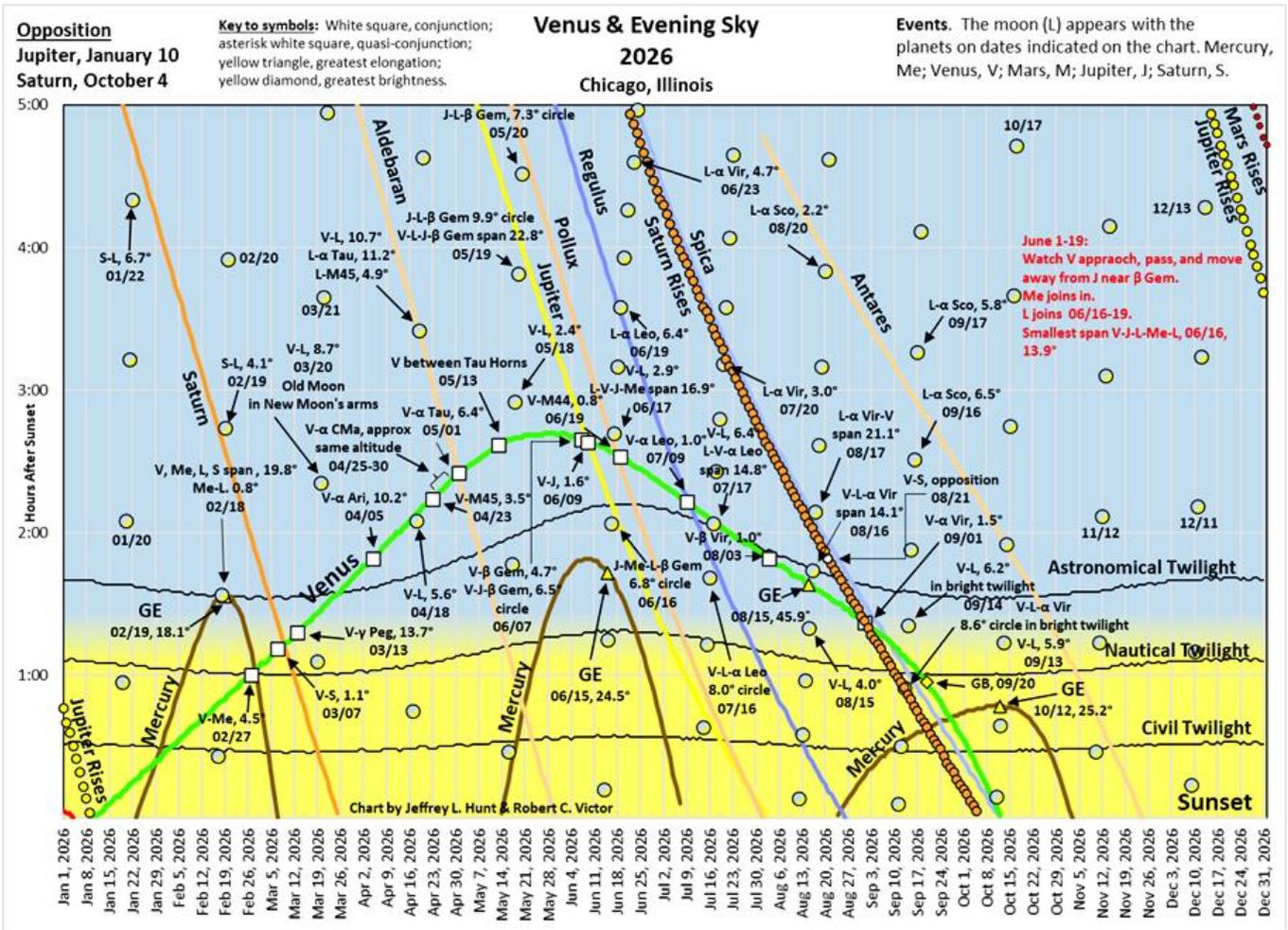
generate the content, programs, observations, outreach, and organizational structure that keep the club vibrant.

A healthy base of casual and occasional observers provides accessibility, inclusivity, and growth potential, while a strong contingent of active and dedicated observers sustains regular observing, learning, and technical depth. This blend ensures newcomers feel welcome without diluting opportunities for deeper engagement, allowing members to progress naturally along the continuum as their interest deepens.

By cultivating pathways for members to grow—encouraging observers to become contributors and followers to step into leadership as they are ready—clubs can increase engagement, reduce burnout, and strengthen continuity. Attending to the membership mix is not about labeling members; it is about aligning opportunities with interests and capacities, ultimately creating a more inclusive, resilient, and rewarding experience for everyone. C

VENUS, SPRING 2026

~ by Jeffrey L. Hunt ~



This chart from US Naval Observatory data shows the setting times in the west of bright planets, the moon, and stars near the ecliptic compared to sunrise. The rising times of Jupiter and Saturn are shown relative to sunset.

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Venus emerges from bright sunlight during the spring months and passes through some of the ecliptic's richest star fields. As the season opens, Venus is less than 10° below the waxing crescent moon. On March 29, it passes Hamal on a wide conjunction.

Taurus

On April 19, Venus ($m = -3.9$), setting over two hours after sunset, moves into Taurus, 6.5° to the Pleiades' lower left. It gains 32 minutes of setting time compared to sunset while in the constellation. Choose your favorite stars and watch the brilliant planet pass them. Four nights later, Venus passes Alcyone (η Tau, $m = 2.8$), the brightest Pleiad, in a separation of 3.5°. Try to see Uranus ($m = 5.8$) 0.7° to Venus' lower left.

During April 25-30, Venus and Sirius (α CMa, $m = -1.5$) are nearly the same altitude, although they are 55° apart in the sky. The brightest star is in the southwest, while the brightest planet is in the west-northwest.

Venus passes the "V" of Taurus (Aldebaran, $m = 0.8$, and Hyades) April 28-May 1, although the shape and the planet are not the same standard binocular field (7°). On April 28, it passes Gamma Tauri (γ Tau, $m = 3.6$, 6.5°), Epsilon Tauri (ϵ Tau, $m = 3.5$, 3.5°) on April 30, and Aldebaran (α Tau, 6.4°) on May 1.

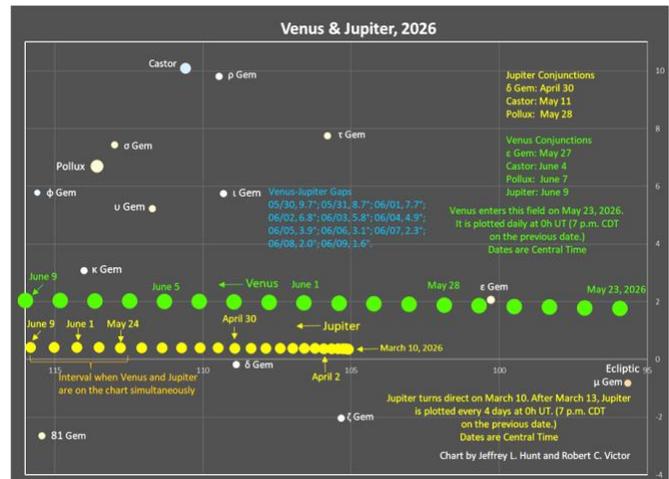
Continue to watch Venus move eastward, passing other fainter stars and setting later each night. On May 8, the Evening Star passes between Aldebaran and Elnath (β Tau, $m = 1.6$). Continuing eastbound, it nears the Bull's horns, Elnath and Zeta Tauri (ζ Tau, $m = 3.0$), passing 4.0° to the lower left of Elnath on May 12, between the horns on May 13, and 3.7° to the upper right of Zeta the next evening.

The moon (2.2d, 7%) passes 2.4° to Venus' upper right on May 18. This is a pretty photogenic scene, with Venus, the lunar crescent with earthshine nearby and this pair to the Bull's horns' upper left. Jupiter is over 20° to Venus' upper left and to the Twins' lower left.

Venus is noticeably overtaking bright Jupiter, closing the gap about 1° each night.

Gemini

On May 19, Venus moves into Gemini, passing Castor's foot during the next few evenings. Now setting 160 minutes after sunset, the planet quickly overtakes Jupiter while Mercury enters the scene.

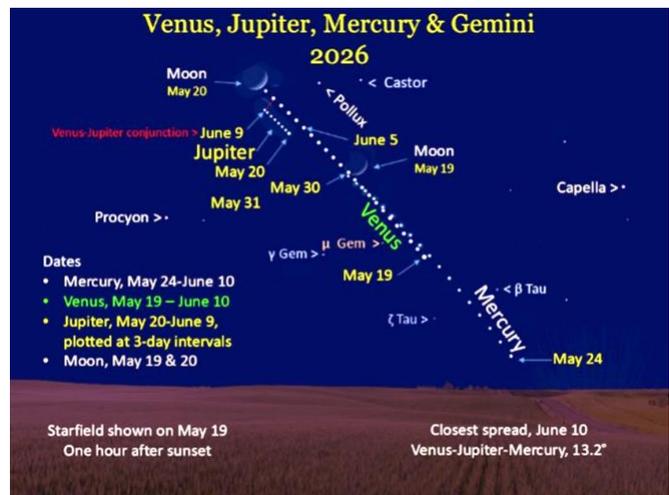


This chart shows the eastward motion of Jupiter from March 10 through June 9 and Venus from May 23 through June 9 in Gemini in ecliptic format.

For a week beginning May 26, Venus passes Alhena (γ Gem, $m=1.9$, 8.6°), Mebsuta (ϵ Gem, $m = 3.0$, 0.5°), and Mekbua (ζ Gem, $m = 4.0$, 4.1°).

Beginning May 30, Venus closes to within 10° of Jupiter. Here are the separations before conjunction: 05/30, 9.7°; 05/31, 8.7°; 06/01, 7.7°; 06/02, 6.8°; 06/03, 5.8°; 06/04, 4.9°; 06/05, 3.9°; 06/06, 3.1°; 06/07, 2.3°; 06/08, 2.0°; 06/09, 1.6°.

Depending on the view of the western horizon, Mercury ($m = -0.4$) enters the western sky, nearly 16° to Venus ($m = -4.0$) lower right and Jupiter, 7.7° to Venus' upper left. Venus is 8.3° to Pollux's lower right.



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although Mercury fades each evening. The speedy planet closes by nearly 1.5° each night.

On June 4, Venus passes Castor (8.1°), while Jupiter is only 4.9° away and Mercury follows over 14° to the lower right. The next evening, Venus passes Pollux (5.1°) with a Jupiter gap at 3.9° and Mercury 14° to the lower right.

Beginning June 5 through June 11, Venus, Jupiter, and Pollux fit into a standard binocular field. Additionally, Venus approaches and crosses imaginary lines from Jupiter to Pollux and Castor through Pollux.

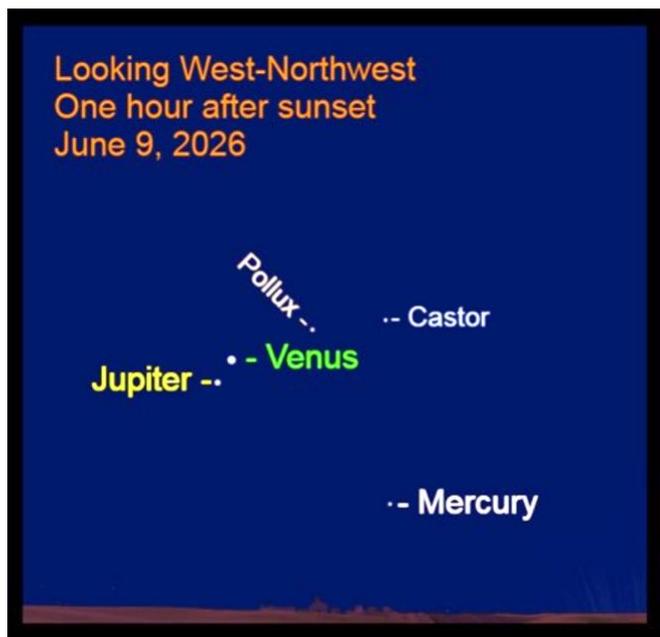
The Venus-Jupiter conjunction (1.6°) occurs on June 9. Not a spectacularly close conjunction, but a pretty scene with Pollux and Castor nearby and Mercury ($m = 0.1$) 13° to the lower right.

While the impending conjunction can be seen during the latter stages of twilight, it's not the easiest view, but worth the attempt.

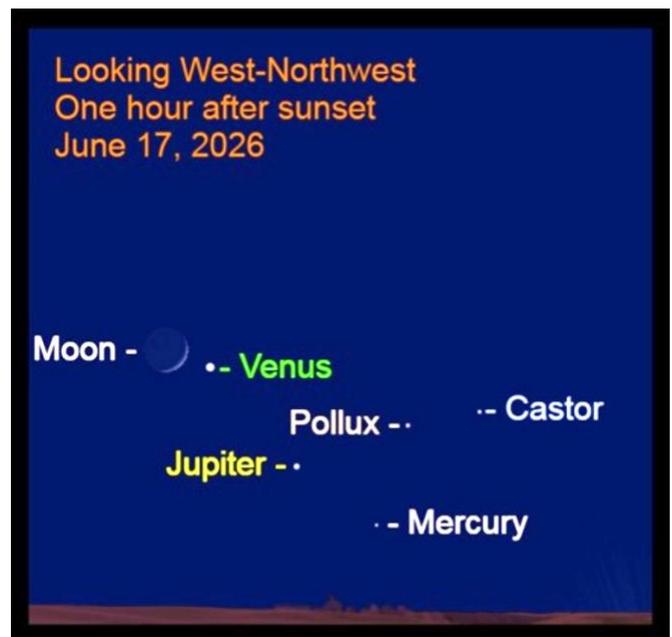
On June 14, Venus enters the same binocular field with the Beehive. On June 19, Venus passes 0.8° from the cluster.

After Venus leaves Jupiter and Mercury behind, the crescent moon enters the western evening sky on June 16. With Venus 7.6° to Jupiter's upper left and Mercury ($m = 0.7^\circ$) to the lower right. The crescent moon ($2.0d$, 6%), Venus, Jupiter, and Mercury span 30.5° against Gemini and Cancer.

As the season closes, Venus heads toward Leo and Virgo and conjunctions with Regulus and Spica. The moon is near Venus and Regulus on July 16 and 17.



2026, June 9: A Venus-Jupiter conjunction occurs near the Gemini Twins with Mercury to the lower right.



2026, June 17: Moon-Venus-Jupiter-Mercury span over 30° against Gemini and Cancer.

After the conjunction, Venus quickly opens a gap to Jupiter as it crosses into Cancer. The gaps: June 10-19: 06/10, 2.0° ; 06/11, 2.7° ; 06/12, 3.5° ; 06/13, 4.4° ; 06/14, 5.3° ; 06/15, 6.2° ; 06/16, 7.2° ; 06/17, 8.1° ; 06/18, 9.0° ; 06/19, 10.0° .

On June 11, Venus moves into Cancer and approaches the Beehive star cluster (NGC 2632, M44).

The best part of the spring western sky occurs with Venus and Mercury overtaking Jupiter against the Gemini. Every night offers outstanding opportunities to see the motions of the brightest planets. ☾

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ADD YOUR EMAIL ADDRESS TO THE NCRAL MEMBER DATABASE

Did you know that only about 600 of our Region's 2,400 members (25%) receive this newsletter? That's less than a quarter of the membership! Please help NCRAL distribute its newsletter to the members 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 being a member of the Astronomical League.

When someone adds their email to the NCRAL member database, they will receive direct notifications about the availability of *the Northern Lights*. Additionally, subscribers receive important, timely updates on regional conventions, elections, star parties, and more. Only blind carbon copy (Bcc:) will be used with this email list, so others will not see subscribers' email addresses. Email addresses will never be shared or sold.

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



19th Annual Swap 'N' Sell



Sponsored by Sheboygan Astronomical Society
Saturday, March 28, 2026
Aviation Heritage Center, Sheboygan Airport
N6191 Resource Drive, Sheboygan Falls, WI 53085
9:00 am to 2:00 pm



Join us as we celebrate the 19th Anniversary of our annual Swap-n-sell event. Got some astronomical stuff (scopes, eyepieces, books, etc. laying around that you want to get rid of?

Here's your chance! Bring unwanted astronomy items to sell or swap with other amateur astronomers.

This is a great opportunity to meet and greet fellow amateur astronomers.

Astronomy Presentations

10:00 [Joyce Jentges](#) – NASA Ambassador: "Artemus 2"

12:00 [Brian Champion](#) – "Astrophotography: Distant Photons to Nearby Pixels"

Door Prizes

Pair of 8X42 [Oberwerk](#) Explore Binoculars.
Valued at \$189.00. Donated by wiastronomy.com

2 beautiful astronomy tote bags

1 constellation puzzle



Brat Fry will be held during the event.

Sponsored by Sheboygan Astronomical Society

Terms are cash, check or swap. The Sheboygan Astronomical Society is not responsible or will not be held liable for any dealings which do or do not occur.

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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 NCRA Seasonal Messier Observing Awards. (Two-year term as Chair; currently in his second term, serving 2023-2027.)

Contact: Adsheidler@gmail.com



Vice Chair: Jim Dole

Bio: Jim's interest in astronomy started in 1969 when his father made sure his family watched the Apollo 11 Moon landing. The real 'hook' to amateur astronomy came the same year while observing Jupiter's moons and cloud bands with a newly gifted 40mm Tasco refractor (which he still has). Visual observing and astrophotography have been his passion ever since. In 1993, Jim was voted onto the adult board of Freeport High School (Illinois) JETS Observatory, taking over the role of observatory director since 2001. The dedicated work of Jim and the observatory volunteers led to winning the Astronomy Day award for "Most for Its Size" in 2001 and 2005. In 2011, he worked with the local park district to merge the observatory with the Planetary Studies Foundation (www.Planets.org). This led, in 2014, to the construction of a domed observatory on site to house a 14-inch telescope and dedication/renaming of the facility (now the Doug Firebaugh Observatory). Jim is on the executive board of Planetary Studies Foundation and ALCOR for that group. He taught astronomy at Highland Community College for 14 years and, since 2021, Jim has been teaching online astronomy courses for Appalachian State University.

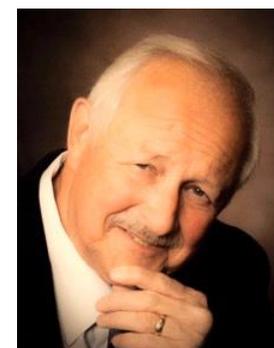
Contact: jbdole@gmail.com



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 2nd 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, serving 2018-2026.)

Contact: astroroy46@gmail.com



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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 second term, serving 2022-2028)

Contact: john_attewell@hotmail.com



Webmaster: Josef Chlachula (appointed position)

Bio: Josef has been an amateur astronomer since he was 14 years old when he first built a telescope with a 50mm aperture and a 1m focal length. Then, he built a 6-inch reflecting telescope. He was interested in spherical astronomy, celestial mechanics, and variable star observations. In 1988, he helped establish a two-week summer astronomy camp for children and teenagers, which has been held yearly since. Born in Czechoslovakia, he has lived in Rochester, Minnesota, since 1997. He is a member of the *Rochester Astronomy Club*, where he oversees outreach and is also one of the webmasters. He helped organize the NCRAL 2025 conference and became the NCRAL webmaster shortly after the conference ended.

Contact: josefch@gmail.com



Editor: Carl J. Wenning (appointed position, retiring with this issue)

Bio: Carl has been an avid amateur astronomer since being introduced to the night sky by his grandfather in July 1957. He has been involved with the *Twin City Amateur Astronomers* (Illinois) since September 1978, where he served as president as recently as 2024-2025. He is an **Astronomical League Master Observer** who spends much of his free time introducing nascent amateur astronomers to observing using his club's Celestron 11", iOptron 14", and PlaneWave 20" telescopes. Carl was first recognized for his Regional education and outreach efforts in 2007 when he received the **NCRAL Region Award**. He served three consecutive two-year terms as NCRAL Regional Chair from 2017 to 2023. He has also served as the Region's **Northern Lights** newsletter editor since 2016. He has edited the **NCRAL blotter**, a monthly newsletter for affiliate leadership, since 2023. He has now completed ten years (40 issues) of editing and producing this newsletter. He has also completed his third year as co-instructor of the week-long, summertime *Astro Camp* at YMCA Camp Eberhart in Three Rivers, Michigan, and will be starting a four weekend (24 contact hour) parent and child **Astro Academy** this summer at Funks Grove Nature Spaces near McLean, Illinois. Now 73 years of age, Carl returned to teaching introductory astronomy at Heartland Community College during the autumn of 2025. Carl resides in Normal, Illinois.

Contact: carlwenning@gmail.com

