NORTHERN LIGHTS

NORTH CENTRAL REGION OF THE ASTRONOMICAL LEAGUE

Autumn 2021 - Volume 6, Number 2

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NCRAL CHAIR'S MESSAGE

In this column, I sometimes note trends in amateur astronomy that I see as Regional Chair. One trend that is becoming too frequent is the low transparency summer skies caused by smoke plumes crossing over the Midwest from wildfires out west. This summer was no different. Many nights that otherwise would have been clear have resulted only in naked-eye views of the moon, the brighter planets, and a few stars. Under such conditions, there is not much of a reason to go out for deep sky viewing. Hopefully, everyone has been getting out to view with the more transparent skies of late summer. (If you want to track smoke plumes and sky transparency in general, get the free iOS/Android application ***Astrospheric***.)

Based on my Chair's message appearing in the Summer 2021 issue of this newsletter, you might recall that I recently developed a list of five NCRAL-related goals to work on during my third and final term in office as Regional Chair. They are as follows: (1) create a full NCRAL Messier Marathon observing program to complement the four NCRAL seasonal mini-marathon programs; (2) modify the current NCRAL Convention Planning Guidelines last updated in 2019 to take into account changes suggested by the COVID-19 pandemic; (3) pilot a donation system with the Astronomical League whereby donations to the AL (a 501c3 non-profit educational organization) can be channeled to NCRAL which does not hold the same status as a stand-alone organization; (4) develop an NCRAL 5-Year Plan, and (5) amend the Region's Bylaws to clarify them to eliminate the two-tiered governance system that does not, in my opinion, work well.

These are significant changes for the Region, and it likely will take some time to implement them working on my own as I usually do. (Feel free to lend a hand if you will.) Below are status updates about all of these goals.

NCRAL Messier Marathon: In the coming months, I'll begin assembling guidelines for this program, with completion expected in time for utilization during the Spring 2022 observing season (typically late March). Successful completion of the Region's marathon will not be an indication of observing prowess. Instead, the program will merely reflect that all Messier objects will have been viewed in a single dusk-to-dawn period. Its observations are not intended for use and do not necessarily comply with AL observing program requirements but may be used with such programs so long as all AL requirements are met. The NCRAL Messier Marathon will permit the use of goto telescopes and serve to get both tyros and experts out under the stars for the entire night – something that even few experienced amateur astronomers do nowadays.

NCRAL Convention Planning Guidelines: As I noted in the last issue of this newsletter, the COVID-19 pandemic and consequent increased use of online video conferencing might well have a profound impact on the emphases of future NCRAL conventions. I watched the recent ALCon 2021 virtual convention with interest and was somewhat surprised by what I observed. This, too, might have implications for our Region. See my analysis later on in this issue of the newsletter.

NCRAL Donation System: Thanks to recent efforts by NCRAL Treasurer Roy Gustafson and AL Treasurer Bill Dillon, the NCRAL banking account is now aligned with the AL account. *This allows NCRAL to take full advantage of the AL's 501(c)(3) non-profit status.* Donations made to NCRAL are henceforth fully deductible on federal taxes to the extent permitted by law. (N.B., Federal non-profit status does not confer tax-exempt status. That is a state-by-state matter.) I'm

happy to announce that the Region received its first charitable donation of $250 from an anonymous donor on July 28th. Read more about charitable giving to NCRAL in an article further on in this issue of the newsletter.

NCRAL 5-year Plan: With this message, I encourage members of the Region to send me ideas about where they would like to see NCRAL in the next five years. My astronomy club, the Twin City Amateur Astronomers, have had a series of such plans for decades, and these plans have gone a long way toward making the club what it is today – with three observatories and member-accessible telescope in the range of 10" to 24" aperture, lots of member education, and public outreach. Please send your thoughts to me at carlwenning@gmail.com.

Amending the Region's Bylaws: Both Vice Chair Bill Davidson and I have been contemplating amendments to our Bylaws to improve the way this Region operates. While attending the online AL national council meeting on Saturday, July 17th, we learned more about efforts to revise the national AL Bylaws. Given that NCRAL Bylaws are based on the AL Bylaws, we will wait to see what happens with the national governing document before making changes in our Regional governing document.

As noted, Bill Davidson and I attended the Astronomical League national council meeting – he as NCRAL Regional Representative and I as NCRAL Chair. This four-hour meeting had interesting implications for NCRAL and its members. Among the several aspects of greatest interest are the following:

- ALCon 2022 will be held in Albuquerque, New Mexico, and ALCon 2023 will be held in Baton Rouge, Louisiana. An international joint venture is possibly on deck for 2024 in a foreign country and hosted jointly with one of that country's national astronomy groups.
- The AL website will be updated (converting from Drupal version 7 to 9) and then moved to a new service provider. There will be a major infusion of money over the next two years from the AL Endowment Fund.
- The Astronomical League Endowment Fund received two major charitable contributions this past year totaling more than $100,000, with the larger of those two donations coming from the estate of an NCRAL member.
- An International Region of the AL has been formally approved, and details are now being worked out to benefit countries whose economies won't generally support regular dues payments by affiliates. Documents will be electronic only, and various economic policies will be put in place, all to keep costs to the AL to a minimum.

I was recently privileged to give a Zoom-based talk to the ***Northwest Suburban Astronomers*** of the northwestern Chicago metropolitan area. While I spoke about the possible collapse of Earth's magnetic field, I also had an opportunity to talk about some of the Region's benefits and encourage participation in NCRAL activities, promote visits to our NCRAL website, and subscribing to this newsletter. If others in our Region would like to have me address their affiliate's membership via Zoom, you merely need to contact me.

The September 2021 issue of ***Reflector*** arrived just before this issue was assembled, and there are many references to the NCRAL membership. Be certain to read more about the AL programs and observing awards. I'm sure that you will be impressed.

As this issue of ***Northern Lights*** was just about to be disseminated, I received world from Jeff Setzer that the dates for our next long-awaited NCRAL convention have been set. He also provided a brief overview. The dates of NCRAL 2022 are Friday/Saturday, May 13-14. Put this event into your schedule now so you can avoid schedule conflicts. Look for additional information about NCRAL 2022 later on in this issue of the newsletter.

I'm happy to report that our two outstanding NCRAL mini grants awarded in 2020 and 2021 are making considerable progress. Look for interim reports further on in this issue of ***Northern Lights***.

Lastly, I've been surprised by the number of positive comments I've received about NCRAL's seasonal mini-Messier marathon observing programs. I assure you, there are many more observers who have completed these sessions than have filed for certificates and pins. Because of that, I'm taking the liberty as Regional Chair of piloting a new set of seasonal observing programs based on my earlier ***Astronomical Bucket List*** that failed to generate much interest. I'm currently putting together four seasonal mini-NGC marathon observing programs. I have been selecting the best NGC objects from that list for these observing programs and adding others. There are many NGC objects just as nice as Messier objects, and they should not be overlooked. For details, see my article about mini-NGC marathons further on in this issue.

Clear skies and keep looking up!

Carl

--

Dr. Carl J. Wenning
NCRAL Chair (2017-2023)
carlwenning@gmail.com

NCRAL Financial Statement Summer 2021

~ Reported by Treasurer Roy Gustafson ~

Check #	Date	Description	Check Amount	Deposit	Daily Balance	Monthly Balance
	1-Jul-21					$8,332.70
1019	2-Jul-21	Jeff Setzer (NCRAL Website Fee)	$96.00		$8,236.70	
	20-Jul-21	Roy E. Gustafson (Checks for NCRAL)	$39.44		$8,197.26	
	31-Jul-21					$8,197.26
	9-Aug-21	Anonymous Donor		$250.00	$8,447.26	
	31-Aug-21					$8,447.26
	1-Sep-21					$8,447.26

Take Advantage of NCRAL's Non-profit Status & Benefits

Did you know that you can now make tax-deductible donations to the North Central Region of the Astronomical League? Because NCRAL is an affiliate of the Astronomical League which has non-profit status, that status is conferred on our Region because our bank accounts are now properly aligned.

The Astronomical League (AL) was established on August 30, 1947. The North Central Region of the Astronomical League (NCRAL) was established concurrently. When a club decides to become a member of the AL, it automatically becomes a member of NCRAL. There is no fee associated with belonging to NCRAL, and all this Region's many benefits come at no additional cost.

All affiliates pay dues to the national office at a rate of $10 per club plus $5 per member. Despite the fact that our Region is major part of the Astronomical League (we have some 1,900 dues-paying members), NCRAL receives no financial support from the national office. All the money that we possess has come from conventions that the Region has hosted over the years.

Today NCRAL consists of some three dozen clubs, societies, and associations (affiliates) scattered across seven states in the upper Midwest. States in the region with the most to least number AL/NCRAL affiliates are as follows: Illinois, Wisconsin, Iowa, Minnesota, and the Upper Peninsula of Michigan. North Dakota and South Dakota currently have no AL/NCRAL affiliates. Astronomical League members-at-large living within our seven-state region are also part of the NCRAL membership.

The goals of NCRAL are numerous, but the most essential are the promotion of amateur astronomy and fellowship among its members. The Region does so through a variety of means, but the most important are Regional conventions, the quarterly ***Northern Lights*** newsletter, award and mini-grant programs, observing programs, and resource guides. These are described briefly as follows:

- **Regional conventions** are hosted each spring by one of our affiliates. These gatherings are as varied as the locations, but generally consist of invited speakers, tours of nearby astronomical facilities and museums, observing sessions, imaging/poetry contests, club displays, contributed show-and-tell talks, formal discussions, and include plenty of time for camaraderie. Business meetings provide updates and set the direction of the Region for the following year. A closing banquet is the setting for a keynote speaker.

- ***Northern Lights***, our newsletter, is compiled and produced by the current Region Chair. The newsletter is distributed electronically and at no cost in portable document format (PDF). Members receive it directly through a growing email database. (To add your name to the email list, go to the following case-sensitive URL: https://goo.gl/gsS8SF). Executive Council members as well as individual association members contribute to the content of this full-color publication. The newsletter is growing in both size and scope and typically runs from 16-24 pages. Back issues of the newsletter can be found on the Region's website.

- **Awards** recognize service provided by our members; these are awarded at the annual convention. The ***NCRAL Region Award*** is presented to the one member who has provided the most distinguished service to amateur astronomy within the North Central Region. The ***NCRAL Newsletter Editor*** **Award** which names the newsletter editor who best exemplifies the Region's standards of what constitutes a great newsletter. The latter award

program provides a certificate for the editor and a cash prize to the sponsoring club in recognition of the fact that it takes more than just a good editor to have a great newsletter; it takes many contributors from within a club as well.

- **Mini grant programs** assist in growing local and regional memberships. The ***Member Recruitment & Retention Grant*** provides up to $250 in financial support for affiliates to recruit new members from among the public and to retain current members; the grants must include both aspects. The ***Affiliate Recruitment Grant*** provides up to $250 in financial support for affiliates to encourage non-affiliated clubs, societies, and associations to join the Astronomical League and, by default, NCRAL. This grant funds activities such as meals, star parties, joint meetings and such with the intent stated.
- **Observing programs** specific to NCRAL are on the rise. During 2019 NCRAL approved four ***Seasonal Mini Messier Marathon*** observing programs, each with its own certificate and pin. The Region is now working on developing an ***Annual Messier Marathon*** program and four ***Seasonal mini-NGC Marathon*** programs.
- **NCRAL Online** is our Regional website that is expertly maintained by webmaster Jeff Setzer. The website serves as a repository of essential information for the Region including our Bylaws, Awards program recipients, observing program guidelines, grant summaries, a newsletter archive, affiliate contacts, and much more. Be certain to visit this website regularly at https://ncral.wordpress.com/
- **Astronomy resource guides** are also a benefit of membership in the North Central Region. Currently there are eight guides, most designed for the sake of boosting the hobby of amateur astronomy. Each guide may be modified to include an affiliate's logo, header, and introduction. The guides available in MS Word format, and are as follows:

1. *Introduction to Amateur Astronomy*
2. *TCAA Membership and Benefits*
3. *Astronomy as a Hobby (newly expanded)*
4. *The Art of Sky Interpretation*
5. *Coordinating Public Viewing Sessions*
6. *Have a Successful Observing Session*
7. *Buying Binoculars and Telescopes*
8. *Optimizing Deep Sky Observations*
9. *Astrophotography 101 (early draft)*
10. *Introduction to Spherical Astronomy*

If an affiliate would like to publish these for free distribution under their own "brand" while giving credit to the authors, they may do so by contacting the authors through NCRAL Chair Carl Wenning at carlwenning@gmail.com.

NCRAL is governed by an Executive Council consisting of the Region's Executive Officers (Chair, Vice Chair, and Secretary-Treasurer) along with its Regional Council that consists of all affiliates' presidents and one additional representative appointed by each affiliate's president. The Regional Council guides the Region in concert with the Executive Council. The governing Bylaws can be found on the Region's website.

With a pending 5-year plan under development, the benefits of membership will only increase. The Region does, however, need additional financial support to implement new activities. Please consider donating to NCRAL today to support its current and future endeavors. Send your donations to: Mr. Roy Gustafson, NCRAL Secretary-Treasurer, 11 Deer Run Rd, Orion, Illinois 61273. You may also contact Roy at astroroy46@gmail.com. And remember, no amount is too large, and no amount is too small.

2020 NCRAL-TCAA-ISUAC Affiliate Recruitment Mini Grant Advances

~ by Carl Wenning, TCAA ~

The Twin City Amateur Astronomers (TCAA) received a $250 affiliate recruitment mini grant from NCRAL in May 2020. The mini grant was to be used to recruit the nascent Illinois State University Astronomy Club (ISUAC) as the newest affiliate of NCRAL. Assisting with this effort was to be the Illinois State University Planetarium (ISUP), "home" of the ISUAC. With the ensuing pandemic, however, on-campus classes were called off and clubs were prohibited from gathering. The mini grant was put on indefinite hold due to the pandemic.

Finally, this past August 26th, the ISUAC had its first meeting in more than a year. Many earlier members had either graduated or did not otherwise return to the club with autumn semester 2021. Nonetheless, the group was reformulated with assistance of ISU Planetarium Director Tom Willmitch and ISUAC President Amy Saladino. Tom invited the TCAA leadership to address the reformulated club telling them what was in wait for them if they indeed wanted to move ahead with the mini grant.

TCAA members Tim Stone and Dave Osenga and NCRAL Chair Carl Wenning told

the assembled group of 10 ISUAC members what had been offered to the club earlier. He reiterated how the $250 would provide for:

- a social that will involve the ISUAC and TCAA and include refreshments,
- talks about amateur astronomy, the TCAA, NCRAL, and the Astronomical League,
- material resources (e.g., solar glasses, star maps, accessories for existing telescopes, etc.) for giving away or use during "sidewalk astronomy" events on campus.
- printing of fliers, posters, brochures, etc. for use to publicize sidewalk astronomy events and well as any Astronomy Day displays.
- paying one-half the ISUAC first-year membership in the Astronomical League ($10 for the ISUAC plus $5.00 per member annually = $110/2 = $55 for both TCAA and ISUAC for a group of 20)

Here are some benchmarks that have been established to evaluate the mini grant's work:

- The TCAA and ISUP will provide training in the use of telescopes using the resources at Sugar Grove Nature Center (SGNC) and the ISU Planetarium. The first training session at SGNC was held on August 27th. A second training session at SGNC was held on September 11th.
- The TCAA and ISUP will cosponsor initial sidewalk astronomy programs on campus along with the ISUAC during the autumn semester. (The first sidewalk astronomy event was held September 9th.)
- The TCAA will provide access to electronic or printed copies of TCAA Guides such as *The Art of Sky Interpretation* and *Introduction to Amateur Astronomy* as well as copies of ***The OBSERVER*** of the TCAA and NCRAL's ***Northern Lights*** newsletters.
- The ISU Planetarium will provide training in skywatching and interpretation practices.
- The ISUAC membership will present periodic sidewalk amateur astronomy programs on their own during the spring semester.
- The ISUAC membership will provide post-public-program sky lectures at the ISU Planetarium both semesters.
- The ISUAC will join the AL by the end of the 2021-2022 academic year (May 2022).

Details for implementing this grant more fully have been worked out by the TCAA, ISUAC, and ISUP leadership. A planning meeting was head by the joint leadership on September 15th with lots of interesting prospects to follow. Stay tuned to learn more about this effort to bring the ISUAC members into the world of amateur astronomy (most of whom have interest but little to no experience) and the club up to par as a full-fledged affiliate of NCRAL. Your affiliate might want to apply for a similar grant next year to recruit the latest NCRAL affiliate.

ISU Astronomy Club's first sidewalk astronomy event was held on September 9th outside the ISU Planetarium. Included in this image are ISU Planetarium Director Tom Willmitch (second from left) and ISUAC President Amy Saladino (rightmost).

2021 NCRAL-CUAS Membership Recruitment & Retention Mini Grant Advances

~ by David Leake, Champaign-Urbana Astronomical Society ~

The Champaign-Urbana Astronomical Society was awarded a 2021 Membership Recruitment mini grant in the amount of $250. The club applied for the grant to raise awareness of our group, which, like many groups, could use some "fresh blood." After a discussion among the membership during a virtual monthly meeting, the membership decided that a colorful flyer would be more suitable than a brochure.

CUAS member Dave Leake worked with others in the group to collect images for possible use. We wanted to focus on people engaging with the club, looking at the sky and not just the sky itself, plus include families with

kids. Of course, it is most prudent to depict children so that their faces cannot be seen. We also wanted to feature our observatory complex, located southwest of Champaign, and some of the telescopes housed in the buildings to entice potential new members.

Dave worked with a former associate, Mike Conron, who lives in Maine, on preliminary designs. Several drafts were run by the club officers and the membership itself at the May and June virtual meetings on Zoom. Input was collected, especially regarding wording on the flier. Some wanted it to be more visual with contact information, while others wanted more verbiage. A compromise was reached to explain when our meetings and observatory open houses were held and then direct people to the website for specific information.

Two hundred fifty flyers were printed at our local FedEx/Kinkos on July 15th at the cost of $188. We used heavier paper so the colors would stand out better, and the flyer would be more durable. The size of the flyer is 8.5” by 11”.

The main thrust of the flier, as explained in our proposal, was to hand two copies to each attendee at our open houses with the idea they’d post one at a place they congregate with others and then give the other to a friend who they think might be interested. We did not foresee the rise of the delta variant of COVID-19, which pushed back our in-person open houses.

As to measuring the effectiveness of the flier, it is difficult to directly link a new member or new interest to the flyer itself without just asking, but we do have analytics in place now on both our club Facebook page and the club website.

We hope that we’ll see an uptick in use, and of course, we can ask people who join if they saw the flyer. We hope to have more information as we progress through the year. As of this date, we have an event at the Middle Fork River Forest Preserve on October 2nd and an observatory open house at our facility on October 9th. Please feel free to direct any questions to Dave Leake at dleake@parkland.edu.

REPORT ON ALCON VIRTUAL 2021

~ by Carl Wenning, NCRAL Chair ~

ALCon Virtual 2021 has come and gone. The virtual convention was a valiant effort by the hosts and AL leadership to provide the League with an annual convention when otherwise there would have been none due to the current pandemic. Their efforts resulted in a three-day online extravaganza filled with wonderful talks by a number of really talented speakers. Sessions were viewable live through the Astronomical League Facebook page and the *Explore Alliance* YouTube channel. I didn't attend all sessions in real time, but I did watch several following their live broadcasts.

You will recall that ALCon 2020 hosted by the Albuquerque Astronomical Society was rescheduled to 2021 due to the pandemic. It was subsequently rescheduled to 2022, again due to the pandemic. The powers that be decided wisely to hold on virtual convention using Zoom. The online convention ran during two 4-hour time slots each day from August 19th through 21st . If you missed the virtual convention, you still can still view its various sessions by going to: https://www.youtube.com/c/ExploreScientificOfficial/videos

I was somewhat surprised by the small number of "live" viewers – typically only about 150-200 – but this is somewhat understandable in light of the fact that many amateur astronomers have work schedules. This number is not atypical of those who physically attend ALCon conventions each year. Still, only about 500-600 AL members have viewed available videos of the presentations which is a surprisingly small number in light of the 20,000 plus membership of the League. I suspect more than anything that this results from the fact that many of our number do not know about the availability of the post-convention videos. This is a shame considering the excellence of the program and demanding work that it took to pull off. I urge you, fellow amateur astronomers, to visit one of the above links to view ALCon 2021 Virtual.

From what I could see from the various door prize drawings, about 850 AL members registered for the free online convention. A large part of the draw might well have been the impressive list of door prized provided by manufacturers, distributors, and astronomy clubs (many of whom were NCRAL affiliates). There were numerous door prizes (most gift certificates) in the range of $100 to $250 and a grand prize worth a lot more. To see if you were a winner, go to https://www.alconvirtual.org/copy-of-door-prizes-list

NCRAL VISION 2022 COMING!

~ by Jeff Setzer, Northern Cross Science Foundation ~

After the very start of the Covid-19 pandemic forced us to cancel our 2020 convention, it is re-born as the NCRAL 2022 convention! The Northern Cross Science Foundation is pleased to be hosting the first in-person AL-related convention since 2019. Our theme is ***Vision 2022*** which will have new meaning in a post-pandemic world. We have re-confirmed an exciting list of core speakers:

- Dr. William Dirienzo, Assistant Professor of Physics & Astronomy at University of Wisconsin-Sheboygan
- Kate Meredith, Founder & Director of Education at Geneva Lake Astrophysics & STEAM
- David Prosper, Program Manager for Amateur Astronomy at the Astronomical Society of the Pacific & Administrator of the NASA Night Sky Network: *The Latest From The NASA Night Sky Network*
- "Astro" Bob King, Retired Photo Editor of the Duluth News Tribune, publisher of "Astro Bob" blog since 2008, contributing author for *Sky & Telescope* and *Universe Today,* author of *The Night Sky With The Naked Eye* and *Wonders of The Night Sky You Must See Before You Die.*
- Brandon Hamil, Minnesota Astronomical Society: *The Traveling Astronomer*
- Banquet Speaker: Dr. Francis Halzen, Gregory Breit Professor and Hilldale Professor at University of Wisconsin-Madison, and Principal Investigator of the IceCube Neutrino Observatory in Antarctica

We have a few additional speakers for Friday and Saturday being confirmed, in addition to finalizing a few topics. We should have the NCRAL 2022 website up and running as part of our club website (www.ncsf.info) at the end of September, so be sure to check there for updates.

Additional activities on Friday include a tour of the Jim & Gwen Plunkett Observatory at nearby Harrington Beach State Park, which features some upgrades to the building and the instrumentation since our previous NCRAL hosting. Other Friday afternoon and evening activities are being discussed by the committee, as well; again, updates will be forthcoming.

Future NCRAL Conventions

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

- 2022 Port Washington, Wisconsin: Northern Cross Science Foundation (May 13-14)
- 2023 Utica, Illinois, Grand Bear Resort: Twin City Amateur Astronomers (May 5-6)
- 2024 and Beyond: **OPEN**

If your club has never 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 should you have any questions or wish to toss your affiliate's hat into the ring for hosting a future NCRAL convention.

Noteworthy!

Several NCRAL affiliate members were recognized at the national level during this summer's Astronomical League Convention, ***ALCon 2021 Virtual***. This Region takes immense pride in the following award winners who were recognized in the September 2021 issue of ***Reflector*** magazine:

- **National Young Amateur Astronomer Second Place: Tarun Kota, Apple Valley, MN**
- **Horkheimer/Smith Service Award First Place (tie): Tyler Westering, Roselle, IL**
- **Horkheimer/O'Meara Journalism Award: Mary Kate Bauer, Oronoco, Minnesota (Rochester Astronomy Club)**

These are all exceptional award winners, and the Region can be rightfully proud to have them within our seven-state region. Be certain to read detailed descriptions about these amazing award winners in the September 2021 issue of ***Reflector***.

The following NCRAL members were recognized for having completed Astronomical League observing programs. Congratulations to all for their many and varied successes!

Active Galactic Nuclei Observing Program:
Brian Chopp, Neville Public Museum Astronomical Society

Binocular Double Star Observing Program:
Stephen Pavela, La Crosse Area Astronomical Society

Citizen Science:
Dick Francini, Neville Public Museum Astronomical Society, Variable Stars, Observational, Silver

Constellation Hunter Northern Skies Observing Program:
James Rowan, Minnesota Astronomical Society
Stephen Pavela, La Crosse Area Astronomical Society

Herschel 400 Observing Program:
Jeff Moorhouse, La Crosse Area Astronomical Society

Messier Observing Program:
Trena Johnson, Honorary, Minnesota Astronomical Society
Don Gazdik, Honorary, Minnesota Astronomical Society
Claire Weaverling, Honorary, Minnesota Astro. Society

Open Cluster Observing Program:
Lisa Wentzel, Advanced, Twin City Amateur Astronomers

Variable Star Observing Program:
Antone Gregory, Minnesota Astronomical Society

NCRAL Seasonal Mini-Messier Mini Marathon Awards – Spring-Summer 2021

The following individuals have qualified for NCRAL's **Winter and Spring Messier Mini-Marathon** certificate and pin. The suffix letter "A" indicates assisted, and "U" indicates unassisted observations. Congratulations to our successful observers!

Spring:

12. Venkat Chander, TCAA, A
13. Mike Julien, TCAA, A
14. Dana Sawyer, TCAA, A
15. Darren Sawyer, TCAA, A
16. Sunil Chebolu, TCAA, A
17. Josh Gardner, TCAA, A

Summer:

10. Kevin Habhegger, La Cross Area Astro. Soc., A

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. 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.
- ***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.*

NCRAL Seasonal Mini-NGC Marathon Observing Programs: A Proposal

~ By Carl Wenning, Twin City Amateur Astronomers ~

NCRAL's Mini-Messier Marathons have proven to be quite successful as demonstrated in Sunil Chebolu's recent blog reproduced on pages 11-13. While there are many who have earned their certificates and pins, there are many more who have completed these observing programs and never requested certification. Additionally, I know several observers who have completed these observing programs multiple times during a single season and, now that we are into the second year of the program, are doing so again.

Inspired by the success of the Mini-Messier Marathon program, I've taken it upon myself as Regional Chair to propose a new set of seasonal observing programs based on the best NGC objects. The goal of all mini marathon programs is to motivate amateur astronomers to get out under the stars and observe. If the new observing programs meet with even a modicum of success, I will seek consent from the Region at the NCRAL 2022 business meeting to formally approve this new set of NGC-based mini marathons.

At this point there will be no certificates or pins because we are merely in the proposal stage. (Whether or not we even have certificates and pins will be up to the membership.) For the time being, I ask observers to view and make comments on the following proposed observing lists and guidelines.

The NCRAL Seasonal Mini-NGC Marathon Observing Program is intended to serve as motivation to get NCRAL-affiliated members out under the stars to view. 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 NGC observing programs serve that purpose.

All observations must be completed during a single dusk to dawn night. *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-NGC recognition (whatever that turns out to be), so long as the group shares equally in the recognition. All members of a group must observe each NGC object.* Completion of these mini-NGC marathons in no way qualifies completers for Astronomical League NGC-related observing programs that each have their own requirements.

Below are draft sets of the seasonal observing lists. These observing lists are based on my 200 *Astronomical Bucket List* objects that never generated much interest. The present list consists of the original 200 *Bucket List* items minus Messier, Index Catalog, and a few other irregularly named objects such as quasars. Additional objects were added from a list of the brightest NGC objects bringing the total mini-NGC observing program candidates to around 130 in number. These objects were parceled into four seasonal lists based upon right ascension, six hours of right ascension for each season. Observations have and will be used to eliminate unsuitable candidate objects.

The cut-off point on integrated magnitude was generally set at about 11.3. This should allow observers with 8" telescopes or above to readily complete this observing program if viewing under dark, clear conditions with dark-adapted eyes. Thus far I have viewed the summer list of NGC objects using a CPC 11" telescope, and I am now working viewing my draft autumn list. I will provide information about this as well as winter and spring NGC objects in future issues of this newsletter.

Viewing M-objects is very easy, but NGC objects are often not so much so. This NGC-based observing program should provide a refreshing challenge due to the smaller/larger apparent sizes and increased visual magnitudes of the objects included. Please contact me via email at carlwenning@gmail.com if you would like to "share" observing notes.

Summer: NGC 6207, 6210, 6369, 6445, 6503, 6520, 6543, 6572, 6633, 6712, 6781, 6818, 6819, 6826, 6885, 6888, 6934, 6939, 6940, 6846, 6960, 6992, 6995, 7000, 7006, 7009, 7023, 7027 (28 objects)

Autumn: NGC 7209, 7243, 7293, 7331, 7479, 7635, 7662, 7789, 7814, 40, 147, 185, 188, 246, 247, 253, 281, 404, 457, 559, 663, 752, 772, 869, 884, 891, 936, 1023, 1097, 1232, 1432, 1435 (32 objects tentatively)

N.B., Candidate objects for winter and spring have yet to be determined.

NCRAL Summer Mini-Messier Marathon

~ by Sunil Chebolu, Twin City Amateur Astronomers ~

In a previous blog post, I talked about my observations of the NCRAL Spring Mini-Messier Marathon. This one is about the Summer Mini Messier Marathon – a collection of 28 objects to be observed and recorded in a single night, similar to the Spring Mini-Messier Marathon. I did this on August 16th and again on September 5th, both at Sugar Grove Nature Center near McLean, Illinois. What follows is a summary of my observations, lessons learned, tricks discovered, and some fun facts.

How is the Summer Marathon different from the Spring Marathon?

The most noticeable difference is the variation and the kind of objects being observed. The spring list is inundated with galaxies because that is the best time for viewing galaxies. On the other hand, the summer list has many globular clusters and a few nebulae and galaxies. The Milky Way arches across the sky closer to the zenith after sunset in late summer. For this reason, late summer is the best time to view the globular clusters around the galactic nucleus that dominate the southern sky. I enjoyed the variation in the summer list.

A better telescope vs. a moonless night, which one will you pick?

I experimented to analyze this question. As mentioned above, I did the summer marathon twice, on August 16th and September 5th. Both sets of observation were made at the same place and time of the night – Sugar Grove Nature Center, between 9:30 pm – 11:00 pm – but using different instruments and under different moon phases.

1. August 16th: waxing gibbous moon (60% illumination), Celestron 11".
2. September 5th: waning crescent moon (3% illumination), Celestron 130mm (~ 5.1")

There is an obvious tradeoff here. On the one hand, a larger aperture will collect more light giving a better view of distant and dim objects. On the other hand, a night closer to the new moon can help identify deep-sky objects more easily. Which of the two is better? Even though the aperture was relatively low on September 5th, I got much better results (stunning view of the Messier objects!) because the moon was only at 3% illumination. When the moon was bright on August 16th, the objects appeared rather dim, even though I was observing with a larger aperture and when the moon was setting. The moonlight partly washed the beautiful starry night sky.

An important lesson here is that although aperture may be the king in visual astronomy, it is no use when moonlight washes the night sky. I have always underestimated the power of my 130mm scope. This experiment shows conclusively that even a small telescope can go a long way under favorable viewing conditions.

After aligning your goto telescope, you are ready to begin your observations. You hit M95, say. The telescope slews to M95, and you don't find it in your eyepiece. What do you do?

Of course, this is due to an improper alignment. I discovered two ways to resolve this issue; one is a workaround and the other avoids this problem.

1. If you can't find the desired object in the eyepiece, don't worry. You are probably very close to it; the object is often hiding just outside the field of view of your eyepiece. To find it, I recommend a spiral search at motor speed 4 or 5. So switch to motor speed four and then do a clockwise search by hitting up, left, down, right arrows in this order. Keep doing this a few times until the object pops up in the eyepiece's FOV. Note: you will not lose your alignment by doing this! If you want to stare at that object for more, you can also sync on that object.
2. When you do an auto-two star or a two-star alignment in a Celestron goto, it is often a two-stage process. First, it will ask you to use directional arrows to locate the object into the eyepiece's field of view and hit enter. Then it will again ask you to use directional arrows to bring the target to the eyepiece's center, and then you hit align. It is an excellent idea to switch to a high-powered eyepiece in the second stage to bring the object to the dead center. I begin with a 40mm eyepiece and then move to a 9mm eyepiece in the second step. This technique will ensure the proper alignment of your telescope.

Is there a small area of the night sky that is a good representative of the entire night sky?

I bet there are many candidates for this. The summer mini-Messier Marathon offers one example. It is the constellation of Sagittarius. Within it, I saw open clusters (M18, M21, M23, M25), nebulae (Lagoon (M8) and Omega (M17), Trifid (M20)), globular clusters (M22, M28, and M25), and a star cloud (M24). Using a pair of binoculars to scan the entire constellation of Sagittarius, you will see all the objects mentioned above. It is your ***one-stop source*** for a variety of deep-sky objects.

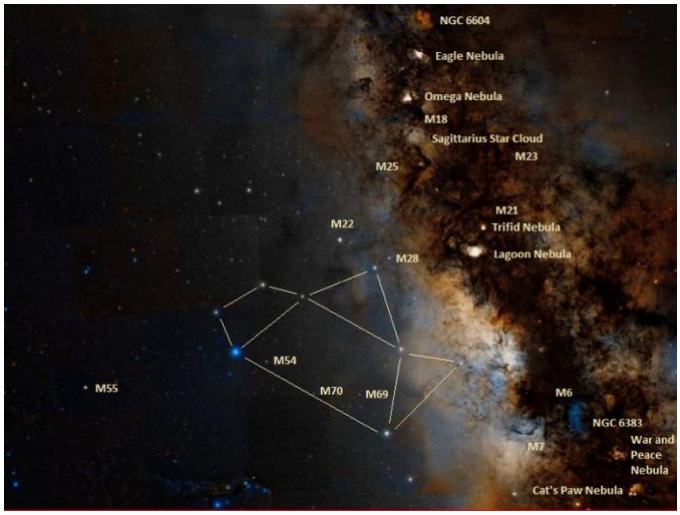


Figure 1. Deep-sky objects near Sagittarius. Image Credit: https://www.constellation-guide.com/teapot

Fun and interesting facts about the objects in the Summer Mini Messier Marathon

1. When you are looking at Sagittarius, you are looking directly in the direction of the galactic core/center of our Milky Way. This galactic core is the home to a supermassive black hole that is about 26,000 light-years away!!

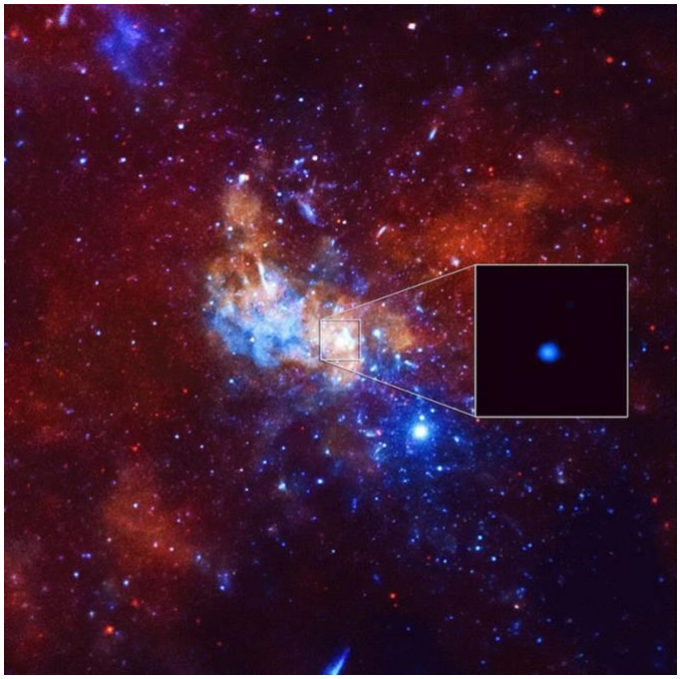


Figure 2. A supermassive black hole at the center of our Milky Way. Image Credit: Wikipedia

2. M7 Ptolemy Cluster, a large open cluster in Scorpius, was one of the earliest deep-sky objects to be observed. This was known to Ptolemy around 130 AD, who described it as a "*little cloud following the stinger of Scorpius.*"

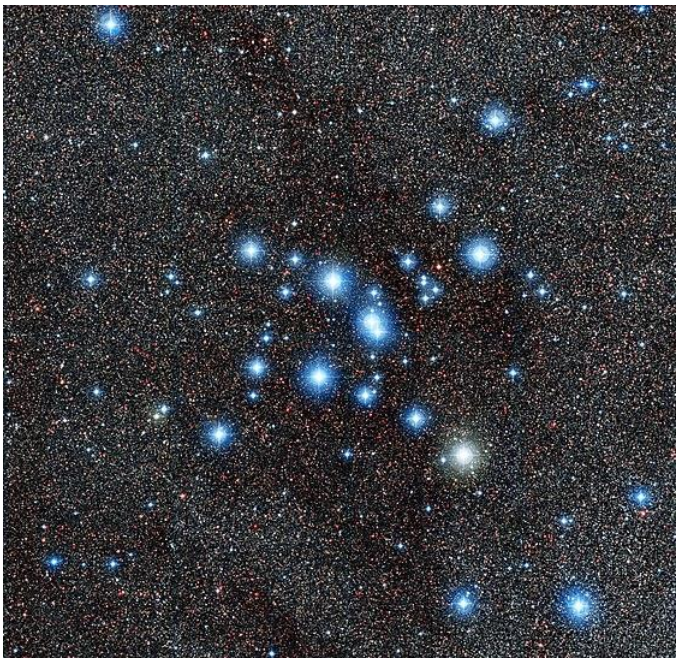


Figure 3. M7: Image Credit: Wikipedia

3. In 1974, the Arecibo radio telescope sent a message toward M13. This was intended to communicate the existence of human intelligence to hypothetical extraterrestrials inside this cluster. M13 was chosen as the target for this message because of its high star density; it had a greater chance of reaching some planet harboring intelligent life. Frank Drake prepared the message with help from Carl Sagan and others. You can learn more about it here.

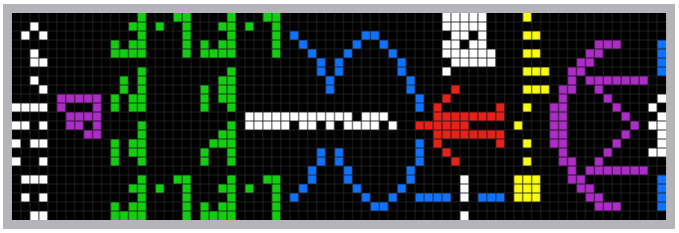


Figure 4. The transcribed message that was sent to M13 with color added. Image Credit: Wikipedia

4. Charles Messier was not the first person to discover the Messier objects that bear his name. Several of them were known before him. For instance, M13 was discovered by Edmond Halley 50 years before Messier found it. Also, some of the objects found by Messier were rediscovered or resolved later by William Herschel and others.

Figure 5. Globular Cluster M12 in Hercules. Image Credit: Wikipedia

Ending with Shavasana ☺ In addition to the objects on the list, I saw M31, Jupiter and its moons, and Saturn and its rings. The most mesmerizing of all is the naked-eye view of the Milky Way, which was clear and stunning on the 5th of September. I saw a noticeable drift of the Milky Way band across the sky during my two-hour observation session. Although the Milky Way is known to move at a staggering 1.3 million miles per hour, the drift I am talking about is due to the apparent motion in the sky due to Earth's rotation at a rate of 15 degrees per hour. I keep gazing at it until my neck started hurting. Then I lay down on the ground and enjoyed the grandeur of the Milky Way for 10 minutes in the Shavasana pose before packing my stuff and driving home.

Figure 6. A view of the Milky Way toward the constellation Sagittarius (including the Galactic Center). Image Credit: Wikipedia

THE PLANETS, FALL 2021

~ by Jeffrey L. Hunt ~

The notes that follow are for Chicago, Illinois, but they are generally applicable across the Region.

Sun: A total solar eclipse occurs over Antarctica on December 4. Partial phases are visible across South Africa, the Southern Ocean, and portions of Australia. No part of the eclipse is visible from North America. The eclipse occurs during the night from North American regions.

Moon: On the morning of November 1, the moon occults the star Nu Virginis (ν Vir, m = 4.0). From the Chicago area, this occurs during bright twilight. Regions farther west can see this earlier during twilight. The moon is eclipsed on the morning of November 19 in front of the stars of Taurus. The complete eclipse is visible across nearly all of North America and the Pacific Ocean. Western Asia sees the latter phases of the eclipse. This is nearly a total lunar eclipse, but a small sliver of the moon is in sunlight. The penumbral eclipse begins at midnight. The partial eclipse begins at 1:18 a.m. CST. Maximum eclipse is at 3:02 a.m. CST. At this hour, the Pleiades are nearly 6° to the upper right of the moon and Aldebaran is over 14° to the upper left of the lunar orb. Wide-field photos will show the Taurus star clusters along with an eclipsed moon. The partial eclipse ends at 4:47 a.m., when the moon is over 20° up in the west from the Chicago area, higher farther westward. Morning twilight begins at 5:08 a.m. CST. The penumbral eclipse ends at 6:05 a.m. CST. The moon is only 8° above the western horizon. The moon occults Eta Leonis (η Leo, m = 3.5) beginning on the evening of December 23. The occultation is in progress as the moon rises.

Mercury: As autumn begins, Mercury is past its greatest evening elongation. The planet is over 20° east of the sun, but it suffers from a low inclination of the ecliptic and a celestial latitude below the solar system's plane. On October 9, it passes inferior conjunction, zipping into the morning sky for its best morning appearance of the year. Within a week, Mercury (m = 1.3) is already 13° west of the sun. During that week, the planet rises about 4 minutes earlier each morning and rapidly brightens. Rising 96 minutes before sunrise, the speedy planet reaches is greatest morning elongation (18.4°) on October 24. The elongation is relatively small, but the ecliptic is highly inclined to the horizon. Forty-five minutes before sunrise, Mercury stands nearly 9° up in the east-southeast. It is nearly the same altitude as Arcturus, over 30° to the left of the planet. Mercury is a half magnitude brighter than the star. On November 2, Mercury (m = −0.8) passes Spica in a wide conjunction (4.0°). The next morning, Mercury, the crescent moon (3% illuminated), and Spica easily fit into a binocular field of view (7°). A week later, Mercury (m = −0.9) rises about one hour before sunup, with an elongation of over 10°. On November 10, Mars (m = 1.8) is 0.9° to the lower right of Mercury. Thirty minutes before sunrise, the pair is less than 5° up in the east-southeastern sky, a challenging observation. On November 28, Mercury reaches its superior conjunction and jumps into the evening sky with brilliant Venus, Jupiter, and Saturn. On December 26, 30 minutes after sunset, Mercury (m = −0.7) – nearly 5° up in the southwest – is 5.9° below Venus. Four nights later, Mercury is nearly at the same altitude as Venus and 5.3° to its left.

Venus: The bright Evening Star shines from the southwest after sunset. During late September, Venus passes 2.0° below Zubenelgenubi on the 23rd. The planet is stepping eastward at over 1° each day. Venus moves quickly through Scorpius, passing Dschubba (δ Sco, m = 2.3) on October 9. The crescent moon joins in the gathering this evening. The grouping of Graffias (β Sco, m = 2.5), Dschubba, Pi Scorpii (π Sco, m = 2.9), Venus and the crescent moon fit into a binocular field. Such gatherings are rare. Unlike a grouping with a solitary star, the three stars of Scorpius, span nearly 6.5°, restricting the tight target. On October 10, 2029, one-complete Venusian cycle away, the grouping occurs again and easily fits into a binocular field of view. At mid-month, the planet skips across a corner of Ophiuchus and back into Scorpius, passing 1.4° to the upper right of Antares on October 16. Venus moves through the dim stars of the constellation Ophiuchus, above Scorpius. The planet is setting at two hours after sunset. Through a telescope, the planet displays an evening half phase (50% illuminated on October 29 when it reaches its greatest evening elongation – 47.0°). During November, the planet sets about a minute later each evening. During early November, Venus enters Sagittarius. Choose your favorite stars in the Teapot and watch Venus pass them. Conjunctions of possible interest: Nov 6, Alnasl (γ Sgr); Nov 10, Kaus Media (δ Sgr); Nov 12, Kaus Borealis (λ Sgr), Nov 16, Phi Sagittarii (ϕ Sgr), Nov 19, Nunki (σ Sgr), Nov 22, Tau Sagittarii (τ Sgr). On November 7, the crescent moon appears 3.9° to the lower right of Venus. On December 4, Venus reaches its greatest illuminated extent. The phase is an evening crescent, 25% illuminated. Likely the best Venus – Moon grouping and most photogenic of the apparition occurs on December 6. Brilliant Venus (m = −4.9) is 3.2° above a lunar crescent that is 10% illuminated. On December 18, the planet's eastward motion stops and begins to retrograde. As the season ends the planet is setting earlier each evening, growing in size through a telescope, and growing thinner in phase. Venus reaches its inferior conjunction on January 8, 2022.

Mars: The Red Planet is at its solar conjunction on October 7. By November 13, it rises one hour before sunrise. Thirty minutes later, it is less than 5° up in the east-southeast. If you want to push the limits of the planet's visibility, Mercury (m = −0.9) is 1.0° to the upper left of Mars on November 10. On November 22, Mars (m = 1.6) is 0.1° to the lower left of Zubenelgenubi (α Lib, m = 2.8). The pair is nearly 5° up at forty-five minutes before sunrise. On December 2, Mars rises 90 minutes before sunrise. Forty-five minutes later, the crescent moon (5% illuminated) is 6.6° to the upper right of the planet that is about 7° up in the southeast. Mars passes 1.0° to the lower right of Graffias (β Sco, m = 2.5) on December 18. Find Mars over 9° above the southeast horizon, 45 minutes before sunrise. A Mars – Antares conjunction occurs December 27. The planet is 4.5° to the upper left of the star. As the year closes, Mars rises two hours before sunrise. Mars, the crescent moon (7% illuminated), and Antares easily fit into the field of a binocular on New Year's Eve morning. The crescent is 4.0° to the upper right of Mars and 3.4° to the upper left of Antares.

Jupiter and Saturn: About a year after their Great Conjunction, the Jovian-planet duo can still be mentioned together. Both passed their oppositions during August. They are low in the southeastern sky while Venus is visible in the southwest. As the new season opens, Saturn transits about 2.5 hours after sunset. Jupiter follows about 90 minutes later. They are retrograding in Capricornus. Saturn slows and reverses its direction on October 11, followed by Jupiter a week later. The gibbous moon is nearby during October 13 – 15. As Jupiter begins to pick up eastward momentum, Saturn closes in to 15.36° on October 24. While the planets are

moving eastward compared to the stars, they generally respond to the seasonal sidereal westward migration. On October 1, Saturn is 73.0° of ecliptic longitude east of Venus. By November 1, Saturn transits an hour after sunset, and it is 40.1° of ecliptic longitude east of Venus. The gap between them closes about 0.7° from evening to evening. During the same period, the Jupiter – Saturn gap grows only 1.0°. Look for the bright planets near the moon on November 10 and 11. One hour after sunset on December 1, Venus, Saturn, and Jupiter span over 34° in the sky west of the meridian. The Venus – Saturn gap is 18.0° of ecliptic longitude on December 1. At first appearance, this looks like, at least, a Venus – Saturn conjunction might occur. Venus' apparition is stalling, and it is nearing its turn for inferior conjunction. Look for the moon near the three planets from December 6 through December 9. On December 14, Jupiter moves back into Aquarius, 17.3° to the upper left of Saturn. The Venus – Saturn gap closes to 14.0° of ecliptic longitude on December 16. The gap opens to 18.6° by year's end. On New Year's Eve Jupiter is over 30° up in the southwest. Saturn, over 14° up in the sky, is 18.6° to the lower right of Jupiter, equaling the Venus – Saturn gap.

Uranus: As the season opens, Uranus (m = 5.7) is retrograding in Aries, in a triangle made by Pi Arietis (π Ari, m = 5.2), Omicron Arietis (o Ari, m = 5.8), Sigma Arietis (σ Ari, m = 5.5). The planet passes 9 arcminutes from o Ari on October 12. The bright moon is 3.7° from Uranus on October 21. The planet reaches opposition on November 4, nearly 1° west of o Ari. The moon is 1.8° from the planet on November 17. The planet continues to retrograde until mid-January 2022.

Neptune: Upon the beginning of autumn, Neptune (m =7.8) is about a week after its opposition. After night falls, find it in the eastern sky. It is retrograding in a dim starfield in Aquarius, 2.6° to the lower left of 96 Aquarii (96 Aqr, m = 5.5) and generally about 8° to the lower right of the western fish of Pisces. On November 13, the bright moon is in the same binocular field as Neptune, 4.7° to the lower left of the planet, and Phi Aquarii (ϕ Aqr, m = 4.2). On December 1, Neptune stops retrograding. During the evening locate it, 1.5° to the upper left of 96 Aqr. The moon, 4.2° to the lower left of Neptune, returns to the same binocular field with the planet and ϕ Aqr on December 10.

Pluto: The last of the classic nine planets, Pluto (m = 14.4), is in eastern Sagittarius, over 13° to the right of Saturn. Generally, it is near the Dog's Kingdom asterism (ω Sgr, m = 4.7; 59 Sgr, m = 4.8; 60 Sgr, m = 4.8; and 62 Sgr, m = 4.4), about 5.0° to the upper right of the kite-shape pattern, and 1.2° to the upper left of 53 Sagittarii (53 Sgr, m = 6.3). For those observers with the aperture, the dark sky, and the patience to look for it, Pluto is near the meridian during the early evening at the beginning of the season. Several resources, such as the RASC *Observer's Handbook 2021*, have detailed finder charts. On October 1, Pluto transits before the end of evening twilight. By November 1, it is only 17° up in the west at the end of evening twilight. The observing prospects worsen for the remainder of the year.

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://goo.gl/gsS8SF today so you won't miss important future communications.

NCRAL Website

~ by Jeff Setzer ~

Go to ncral.wordpress.com and you'll see a central repository for information about our Region and affiliates, the Region's Bylaws, back issues of ***Northern Lights***, information about observing programs, awards, and grants, and much more.

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 helping nascent amateur astronomers with observing. He has been involved with the Twin City Astronomers of Bloomington-Normal (Illinois) since September 1978. He was recognized for his education and outreach efforts in 2007 when he received the ***NCRAL Region Award***. He served as NCRAL Regional Chair from 2017-2021 and was re-elected for his third and final two-year term in 2021. 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 also served as the ***Northern Lights*** newsletter editor from 2016 to present. Carl was planetarium director (1978-2000) and physics teacher educator (1994-2008) at Illinois State University. He continues to teach physics education courses in retirement. He just finished his 44th year of college teaching. (Two-year term as Chair, currently in third and final term, 2017-2023; appointed newsletter editor)

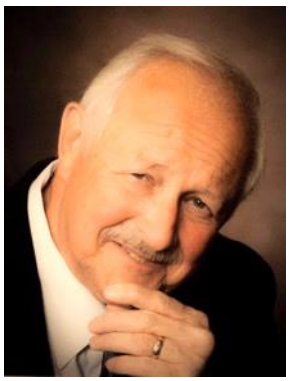
Contact: carlwenning@gmail.com

Vice-Chair and **Region Representative:** **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 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; three-year term as Regional Representative, currently in second term, 2019-2022)

Contact: 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 2nd 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. (Three-year term, currently in second term, 2018-2022)

Contact: astroroy46@gmail.com

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.

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