

# SPECTRUM

Northern Cross Science Foundation Newsletter

January 2023



**Holiday Rose** - The Rosette Nebula is a large, circular emission nebula in the constellation Monoceros and comes with a bonus: open cluster, NGC 2244. The open cluster is easily seen with binoculars or a small telescope, just east of the Orion constellation. The Rosette is a different story. You'll need a very dark sky, dry air and low power. An O-III filter helps. The nebula spans more than a degree of arc, twice the width of the full moon. NCSF member **Don Woelz** used a wide-field refractor and gathered more than 8 hours of subframes over the course of two nights to make this rendition of this classic winter deep sky target. - Ernie Mastroianni

## NCSF Board Members Elected at December Meeting, Dues Are Payable in January

At the December 2022 NCSF meeting, Joyce Jentges, Gene DuPree and Steve Sweeney were elected to new 3-year terms. Our pot-luck was the program, and a good time was had by all.

The final Board of Directors meeting of 2022 ended up with the same officers re-elected for the 2023 term. Our treasurer's report indicated a balance of \$13,012.43. Separately, the Rick Kazmierski memorial donations to NCSF are now up to \$570. Gene can correct me if I mistook any of the figures.

Our January program is a guest speaker attending remotely from Arizona (we'll pipe him into our meeting space at JCC). Steve Bradshaw will be presenting an explanation of LaGrange Points of orbital mechanics fame.

Upcoming Ski & Hike events are listed below. [Gene & Charlotte DuPree](#) are the contacts for anyone who wants to volunteer with them on these.

- Jan 21 6pm-9pm at Horicon Marsh
- Feb 4 6pm-9pm at the Reuss Ice Age Center
- Feb 11 6pm-9pm at Pike Lake

The annual NCSF dues of \$36 are payable and due by January's end. Patron membership is \$70, under 18 and full-time college students are \$24. All dues can be paid online. Go to this link for more information: <https://ncsf.info/ncsf-online-dues-payment/> - Jeff Setzer

### Coming Up

**Thursday, January 5,  
February 2**

General Meeting, 6 pm  
[Jackson Community Center](#)  
N165 W20330 Hickory Lane  
Jackson, WI 53037

**Saturday, Jan. 14 1-3 pm**  
[Open House](#)

UWM Planetarium  
Free to the general public

**Saturday, March 11 9-2 pm**

Annual Swap-n-Sell  
Aviation Heritage Center,  
Sheboygan Airport  
Bring your astronomy items  
to sell or swap

## Astronomy and spaceflight links

Any comprehensive list of online astronomy links could fill dozens of pages, and as such, this list is selective and is subject to change. All underlined websites are actively linked. Please email me with any more suggestions that you feel would be useful to NCSF members, and let me know if any links are no longer working. - *Ernie Mastroianni, editor*

### Astronomy clubs, newsletters and websites

NCSF: <https://ncsf.info>  
 Astronomical League: <https://www.astroleague.org/>  
*The Reflector* magazine: <https://www.astroleague.org/reflector>  
 Milwaukee Astronomical Society:  
<http://milwaukeeastro.org/index.asp>  
 North Central region of the AL: <https://ncral.wordpress.com/>  
 NCRA newsletter archive:  
<https://ncral.wordpress.com/newsletter-archive/>  
 US list of astronomy clubs:  
<https://www.astroleague.org/astronomy-clubs-usa-state>

### Astronomy gear, vendors and online sellers

<https://www.bhphotovideo.com/>  
<https://www.highpointscientific.com/>  
<https://optcorp.com>  
<https://www.telescope.com/>

### Astrophotography

Astrobin (a paid site for astrophotography uploads):  
<https://welcome.astrobin.com/>  
 Rogelio Bernal Andreo <http://www.deepskycolors.com>  
 Chad Andrist <https://www.astrobin.com/users/SparkyHT/>  
 Jim DeLillo <https://www.astrobin.com/users/jimdelillo/>  
 Harrington Beach Imagers Group (Ernie Mastroianni and Tom Schmidtkunz)  
[https://www.astrobin.com/users/Harrington\\_Beach\\_Imagers\\_Group/](https://www.astrobin.com/users/Harrington_Beach_Imagers_Group/)  
 Trevor Jones <https://astrobackyard.com/>  
 Rick Kazmierski <http://skyhawkobservatory.com>  
 Jerry Lodriguss <http://www.astropix.com/index.html>  
 N.I.N.A astrophotography suite:  
<https://nighttime-imaging.eu/download/>  
 Gabe Shaughnessy: <https://www.astrobin.com/users/AstroGabe/>  
 Babak Tafreshi <https://babaktafreshi.com/>

### Classifieds

<https://astromart.com/>  
<https://www.cloudynights.com/>

### Clear sky forecasts

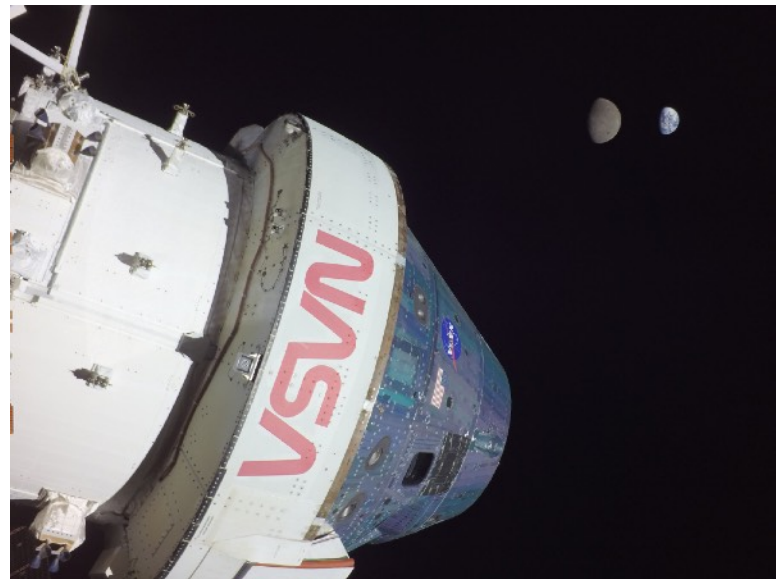
Astrospheric <https://www.astrospheric.com/>  
 Clear Dark Sky <https://www.cleardarksky.com/csk/>  
 Clear Outside <https://clearoutside.com/forecast/50.71-3.52>

### Digital star atlases

Cartes du Ciel <https://www.ap-i.net/skychart/en/start>  
 Stellarium <https://stellarium.org/>  
 Sky Safari <https://skysafariastronomy.com/>

### Magazines and online astronomy news

*Sky & Telescope* <https://skyandtelescope.org/>  
*Astronomy* <https://astronomy.com/>  
*Astronomy Now* <https://astronomynow.com/>  
*Skynews* <https://skynews.ca/>  
*The Reflector* <https://www.astroleague.org/reflector>  
*Sky at Night* <https://www.skyatnightmagazine.com/>  
 Astronomy Picture of the Day  
<https://apod.nasa.gov/apod/astropix.html>



NASA's Orion spacecraft reached a maximum distance from Earth when it was 268,563 miles away from our home planet. Orion surpassed the record for distance traveled by a spacecraft designed to carry humans, previously set during Apollo 13.  
 - NASA photo and caption

### NASA images and missions

Artemis mission <https://www.nasa.gov/artemisprogram>  
 James Webb telescope [https://www.nasa.gov/mission\\_pages/webb/main/index.html](https://www.nasa.gov/mission_pages/webb/main/index.html)  
 Hubble telescope <https://hubblesite.org/>  
 NASA JPL Curiosity <https://www.jpl.nasa.gov/missions/mars-science-laboratory-curiosity-rover-msl>  
 NASA JPL Juno at Jupiter <https://www.jpl.nasa.gov/missions/juno>  
 NASA JPL Mars 2020 <https://www.jpl.nasa.gov/missions/mars-2020-perseverance-rover>  
 NASA Johnson Space Center on Flickr  
<https://www.flickr.com/photos/nasa2explore/>  
 NASA Images  
<https://www.nasa.gov/multimedia/imagegallery/index.html>  
<https://images.nasa.gov/>  
 NASA video on YouTube  
[https://www.youtube.com/channel/UC\\_aP7p621ATY\\_yAa8jMqUVA](https://www.youtube.com/channel/UC_aP7p621ATY_yAa8jMqUVA)  
 NASA International Space Station  
[https://www.nasa.gov/mission\\_pages/station/main/index.html](https://www.nasa.gov/mission_pages/station/main/index.html)  
 NASA Kennedy on Flickr  
<https://www.flickr.com/photos/nasakennedy/>  
 NASA Project Apollo Hasselblad scans:  
<https://www.flickr.com/photos/projectapolloarchive/albums>

### NASA Research Centers

Ames Research Center <https://www.nasa.gov/ames>  
 Armstrong Flight Research Center  
<https://www.nasa.gov/centers/armstrong/home/index.html>  
 Jet Propulsion Laboratory  
<https://www.nasa.gov/centers/jpl/home/index.html>  
 White Sands [https://www.nasa.gov/centers/wstf/index\\_new.html](https://www.nasa.gov/centers/wstf/index_new.html)  
 Johnson Space Center  
<https://www.nasa.gov/centers/johnson/home/index.html>



**Hawaii Panorama** - There's more going on in this picture than you might think. This image shows [Gemini North](#), located on Mauna Kea in Hawaii. To the lower left of Gemini is a red glowing light source from the eruption of the Kilauea volcano, ongoing since late September 2021. Further lower left of Gemini is the faint green light of Hilo, Hawaii, mostly hidden by the layer of clouds that often covers the ground as seen from Maunakea. Photo and caption by International Gemini Observatory/NOIRLab/NSF/AURA/P. Horálek (Institute of Physics in Opava)

### NASA Research Centers (continued)

Marshall Space Flight Center

<https://www.nasa.gov/centers/marshall/home/index.html>

Michoud Assembly Facility

<https://www.nasa.gov/centers/marshall/michoud/index.html>

Stennis Space Center

<https://www.nasa.gov/centers/stennis/home/index.html>

Glenn Research Center

<https://www.nasa.gov/centers/glenn/home/index.html>

Plum Brook Station <https://www.nasa.gov/centers/glenn/about/testfacilities/index.html>

Katherine Johnson IV&V facility

<https://www.nasa.gov/centers/ivv/home/index.html>

Goddard Space Flight Center <https://www.nasa.gov/goddard>

Mary W. Jackson NASA headquarters

<https://www.nasa.gov/centers/hq/home/index.html>

Wallops Flight Facility

<https://www.nasa.gov/centers/wallops/home>

Langley Research Center <https://www.nasa.gov/langley>

Kennedy Space Center

<https://www.nasa.gov/centers/kennedy/home/index.html>

### Observatories

UW Astronomy <http://www.astro.wisc.edu/>

Gemini <http://www.gemini.edu/>

WM Keck <http://www.keckobservatory.org/>

European Southern Observatory <https://www.eso.org/public/>

ESO images <https://www.eso.org/public/images/>

NOIRLab: formerly National Optical Astronomy Observatory

<https://noirlab.edu/public/images/>

National Radio Astronomy Observatory <https://public.nrao.edu/>

Lowell Observatory: <https://lowell.edu/>

### Observing

Clear Skies Observing Guides <https://clearskies.eu/csog/>

Current comets: <http://www.aerith.net/comet/weekly/current.html>

Fred Espanek's eclipse guide: <http://mreclipse.com>

Upcoming and seasonal events: <https://in-the-sky.org/>

ISS transits: [transit-finder.com](http://transit-finder.com)

CCD calculator: <https://new-astronomy-ccdcalc.software.informer.com/>

Tonight's Sky localized <https://telescopius.com/>

### Jupiter's Great Red Spot transit

### Outreach organizations

Planetary Society <https://www.planetary.org/>

Night Sky Network from JPL/NASA <https://nightsky.jpl.nasa.gov>

Citizen science participation <https://cosmoquest.org>

NASA Solar System Ambassadors <https://solarsystem.nasa.gov/solar-system-ambassadors/events/>

### Sky calendars

<https://skyandtelescope.org/observing/sky-at-a-glance/>

<https://astronomy.com/observing>

### Spaceflight news, blogs, commercial and foreign space agencies

Earth and Sky: <https://earthsky.org/>

NASA blogs: <https://blogs.nasa.gov>

NASA Spaceflight <https://www.nasaspaceflight.com/>

NASA Watch <http://www.nasawatch.com>

Spaceflight Now <https://spaceflightnow.com/>

Spaceflight Insider: <https://www.spaceflightinsider.com/>

Space News: <https://spacenews.com/>

Space Weather <https://spaceweather.com/>

Space Journal of Asgardia (a borderless nation of space enthusiasts) <https://room.eu.com/>

Universe Today <https://www.universetoday.com/>

### Spaceflight: commercial and foreign space agencies

Blue Origin <https://www.blueorigin.com/>

Boeing <https://www.boeing.com/space/>

China National Space Agency : <http://www.cnsa.gov.cn/english/>

European Space Agency <http://www.esa.int/>

India space agency: <https://www.isro.gov.in/>

Lockheed Martin Space

<https://www.lockheedmartin.com/en-us/capabilities/space.html>

Roscosmos (Russian space agency): <http://en.roskosmos.ru/>

Sierra Nevada Corp. <https://www.sncorp.com/space-systems/>

SpaceX: <https://www.spacex.com/>

United Launch Alliance <https://www.ulalaunch.com/>

Virgin Galactic: <https://www.virgingalactic.com/>

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NCSF is a member of the [North-Central Region of the Astronomical League](#).

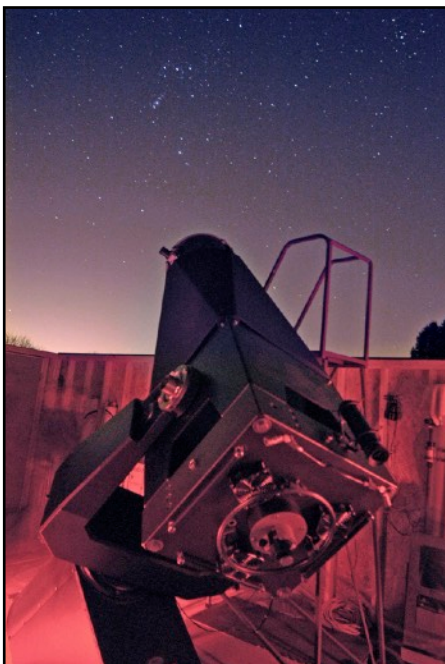


NCSF supports the [International Dark Sky Association](#)

**Imaging Report: Mars Occultation**

I expected December's occultation of Mars by the full moon to be hidden as solid clouds had been forecast. But just minutes before the Dec. 7 event, choppy holes appeared in the cloud deck, allowing brief but clear views from my Whitefish Bay backyard,

So I quickly setup my lightweight Questar 3.5" telescope with an iPhone eyepiece adapter. The event was better than I anticipated though the seeing was quite unsteady. It took almost a minute for the moon to obscure the entire planet, but to see this type of motion in real time was a rare treat. You can also see a 45-second video at [ncsfastro.slack.com](https://ncsfastro.slack.com). Go to the imaging channel. - *Ernie Mastroianni*

**Spectrum newsletter**

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<https://ncsf.info>

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