



Peoria Astronomical Society, Inc.

P.O. Box 10111 Peoria, IL 61612-0111

Section of Peoria Academy of Science

Affiliate of the Astronomical League

www.astronomical.org

STARLITE

Summer, 2026

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Photos from members

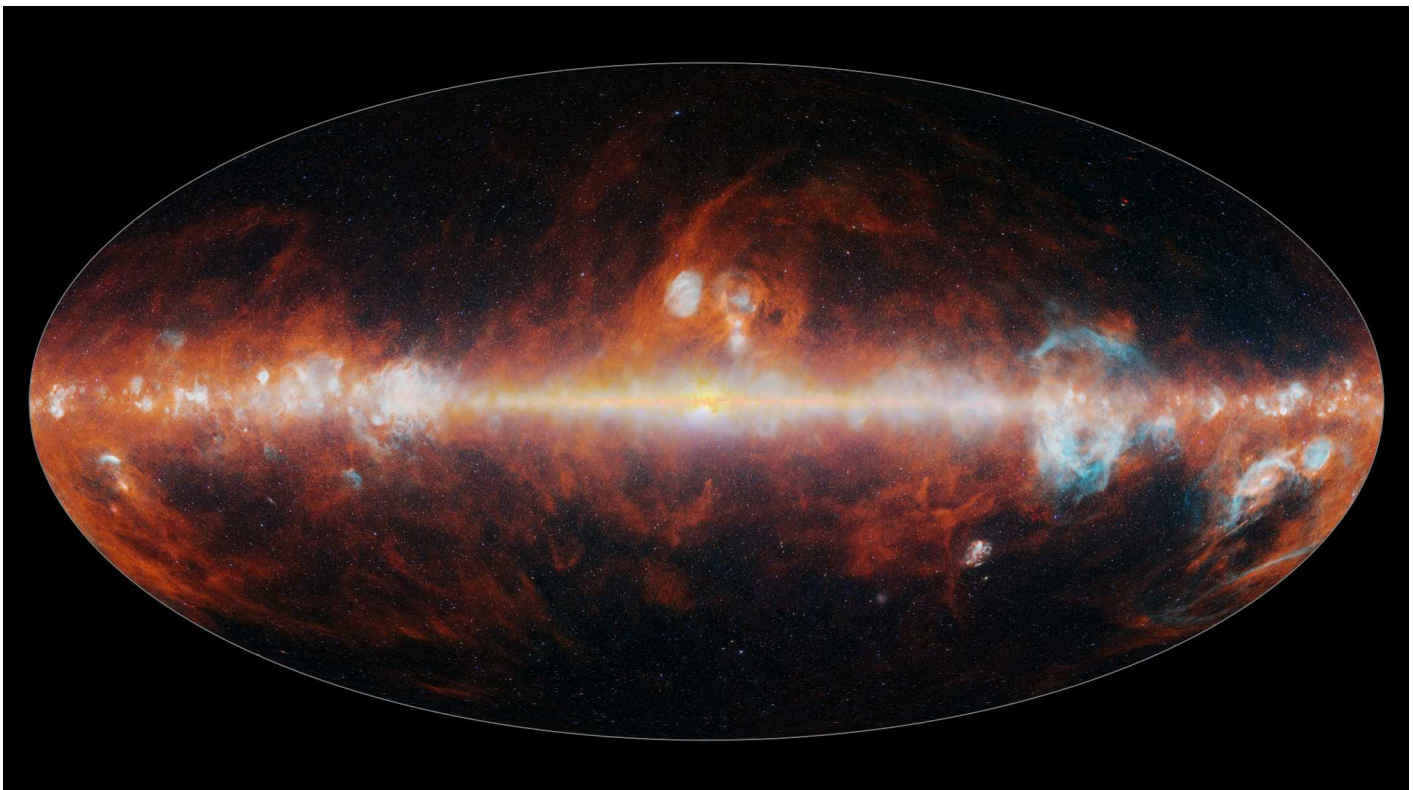
Photos from other instruments

25 & 50 years ago

Jubilee Maintenance Schedule

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June Night Sky



All Sky Map by Spherex Observatory in infrared

Officers:

President: Dan Son, sonshine1992@gmail.com

Vice-President: Jesse Hoover

Secretary: Carol Hootman

Treasurer: Dave Monroe, dave.monroe@comcast.net

Directors:

Parliamentarian: Dave Monroe, dave.monroe@comcast.net

Nominating Chairman: Open

Legal Agent: Chris Schmidt

Northmoor Chairman: Dan Son, sonshine1992@gmail.com

Jubilee Chairman: Jesse Hoover

PEORIA ASTRONOMICAL SOCIETY IS NOW ON FACEBOOK:

www.facebook.com/PeoriaAstronomicalSociety

Update your address, phone or email changes

Please notify Dan Son at sonshine1992@gmail.com if you will be getting a new mailing address, email address and/or phone number. It is important that he has your personal information correct so you will continue to receive the Starlite and the Reflector.

2026 Meteor Showers & other events:

The Persids meteor shower will happen on the evening of August 12 into the morning of August 13th. This coincides with the new moon phase and makes it a great year to observe this event. The darker the night sky the more you can see with possibilities of 100 meteors per hour. The best time to view is after midnight to pre-dawn hours. Jubilee would make a good spot and anything that has an open to the east. Comet 109P/Swift-Tuttle causes this meteor shower. Spotted in 1862 by Lewis Swift and Horace Tuttle. The comet is about 16 miles in diameter and orbits the sun every 133 years last appearing in 1992 to the inner solar system.

Comet 220P/McNaught has had in a few weeks a massive outburst of brightness by 7 magnitudes. It is now magnitude 8.3 and visible before dawn in the constellation Pisces.

Ramblings from the President

Oh the joy of summer! Just made it out to Jubilee in May to observe. Clouds please leave. Northmoor is open for public viewing and I want to thank those that stepped up to be added as helpers. I know not all of you have been contacted but I will get to you and please feel free to email me. I will be offering training for the Lunt Solar scope and the Seestar S50 that are at Northmoor. Any member can use them (as long as they are at Northmoor for Saturday night).

We are in the process of looking at our web site astronomical.org and making it better with information for members and the public. I hope all members go and look around, tell us what you like and dislike and we (the board) can make some changes to make the site better.

I want to thank Chris Schmidt for taking Program chair and setting me up for an interview on WMBD 100.3 a few weeks ago. Friends said I sounded good so that is a plus and the public heard we are open..barring cloudy weather. Keep up the great work Chris. She and Stan Pope are hard at work getting updates to the website.

Keep looking up as Jupiter gets lower to the horizon, Mercury is joining and will be at its highest between June 5th through the 15th. Mercury never leaves the twilight of the sun so I like to go to Fondulac Drive in East Peoria and view it over the Peoria skyline.

We have a lot of new members so I hope you will join PAS at our Jubilee site when members announce they are going out their. This happens on 3rd quarter and new moon weekends. We have a 12 in dob out their for members to use.

June 17th has a daytime occultation of Venus by the Moon. I will post more information about this event. In the meantime keep looking up!

Dan Son



Facts..just the Facts..

Solar storms cause auroras here on Earth, but also on other planets, moons, and even comets. Jupiter's moon Io, for example, is thought to experience a rainbow of auroras, with gases in its skies causing shades of red, orange-yellow, green, and blue.

Interstellar comet 3I/ATLAS is the fastest object ever recorded in our Solar System. It is moving at 209,000 kilometers (130,000 miles) per hour, likely sped up by gravitational slingshots from stars and nebulae over the billions of years it has been drifting through interstellar space.

In the first year of the Legacy Survey of Space and Time, the Vera C. Rubin Observatory is expected to image more objects than all other optical observatories in human history have ever done — combined.

Submission of photos / article content for the Starlite: Dan Son

If you have a photo that you would like to submit for the Starlite, please send these to Dan Son sonshine1992@gmail.com along with a little write-up about the photo. Photos can be from star parties, club events, personal view, etc. Astrophotography is encouraged. Also, if you have educational content, tips, techniques, lessons learned or how-to articles with photos, we encourage that material for the Starlite. We can also put these on our Facebook page if you so desire.

<https://www.facebook.com/PeoriaAstronomicalSociety>

The Caterpillar Matching Gifts Program IRA RMD: Brian Hakes

If you are a CAT Employee/Retiree you can gift the PAS through the CAT matching gift program. Employees/Retirees are asked to submit matching gift forms electronically via the Caterpillar Foundation website, www.caterpillar.com/foundation. The process is easy. Once you made your gift to the PAS you can go online to the Cat Foundation website and complete the electronic form, there is no paper involved. Once the form is registered with the foundation they will notify the PAS and the treasurer will then verify the gift has been received. Because there will be no mailings, the turnaround time for the whole process will be negligible.

If you are required to make an annual mandatory withdrawal from an IRA you can also designate an amount to the Peoria Astronomical Society. Don't forget that the PAS is a 501C(3) organization.

Reflector:

Reflector Magazine digital edition is available for download. You may access an archive of digital issues from the AL website by visiting:

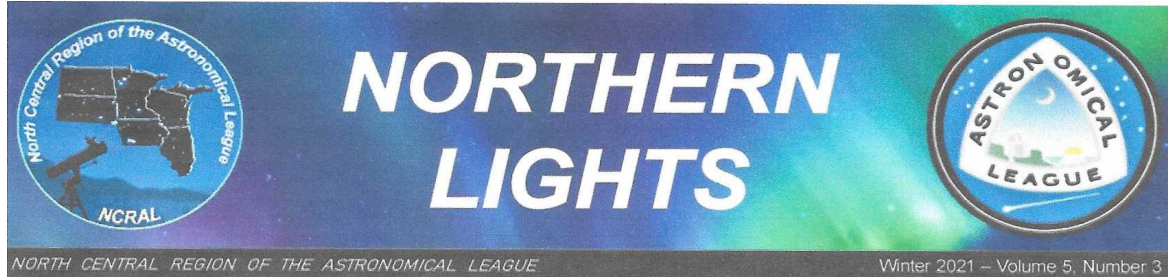
<https://www.astroleague.org/reflector>

NCRAL Newsletter:

The North-Central Region of the Astronomical League (NCRAL) is made up of member societies... the six states commonly thought of as the Upper Midwest of the USA, plus the Upper Peninsula of the state of Michigan. The PAS is a member of the NCRAL. Their Region Newsletter, also named "Northern Lights", has been resurrected and is better than ever! The latest issue's can be read on their website can be found here:

<https://ncral.wordpress.com/newsletter-archive/>

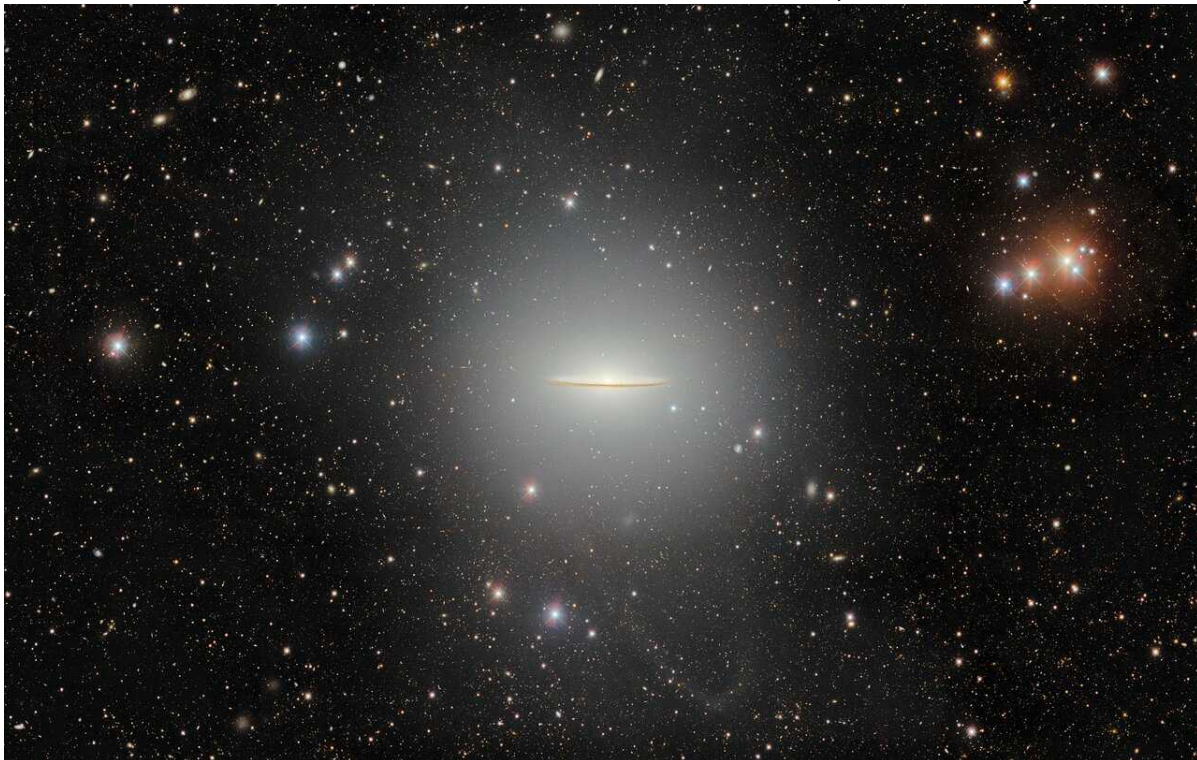
You can access the current issue and all other back issues through this link.



Program Schedule 2026

September 2nd at the Jubilee Observatory. More information will be coming.

Inclement weather notice: Monitor email (e-group), local radio stations or PAS Facebook Page if a program, board meeting, viewing, or star party may be canceled due to weather. If we determine a risk in the weather, the Society will cancel the event.



M 104 Sombrero Galaxy DECam in Chile

When is an astronomy convention not an astronomy convention?

By Sheldon Schafer

One Answer, when it's a Star Trek Convention at Sea

When you go to an astronomy convention, you expect high-end invited science speakers. And you also would expect to be surrounded by astronomy aficionados. But an astronomy convention isn't the only venue where such circumstances would be true.

My wife and I recently attended a Star Trek Convention at Sea, a 7-night Caribbean voyage attended by 3,600 Star Trek enthusiasts, who are, as well (and perhaps not surprisingly), overwhelmingly into science, particularly astronomy. We were on the Royal Caribbean ship Adventure of the Seas.

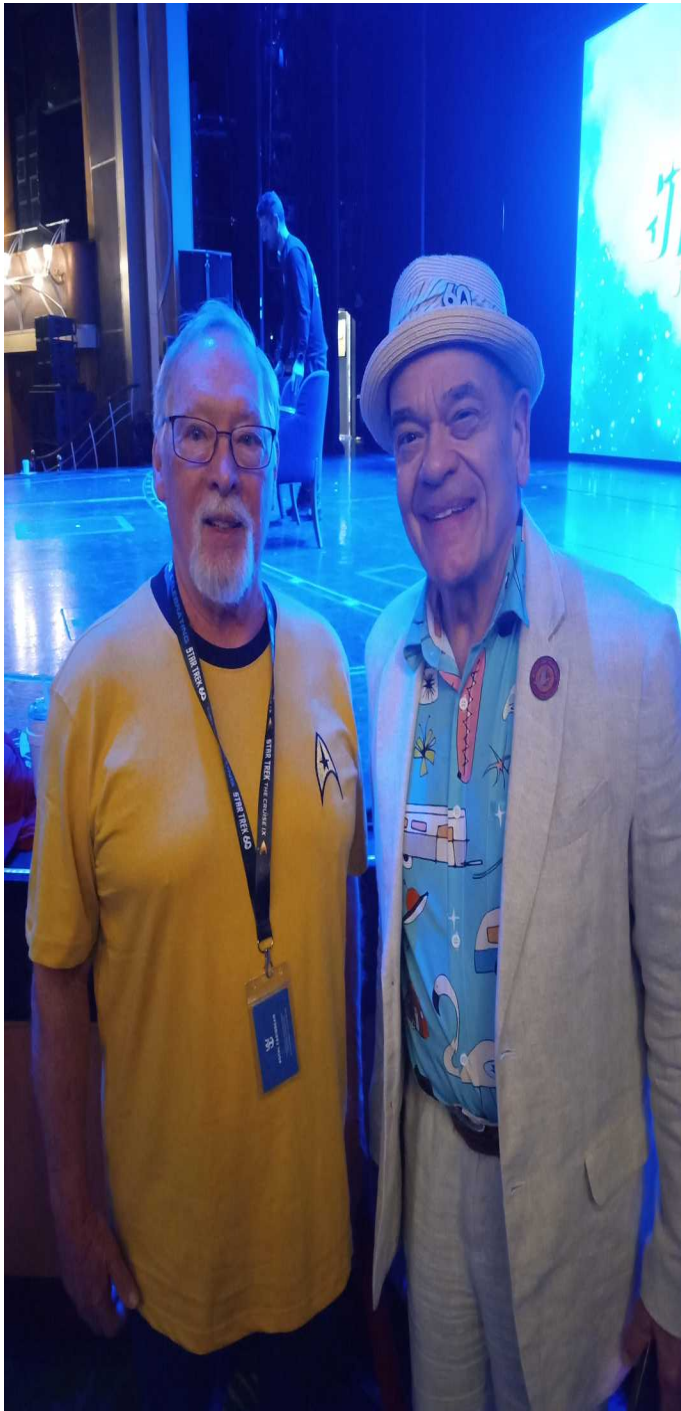
There were two science sessions each sea day, one on astronomy and space science, and the other with a biology focus, with such titles as: "The Lives of Stars – Stellar Evolution", "The Year in Space Science (2025)", "Scientific Context of the Original Series", "Why are there so many Humanoids in Star Trek" (a look at evolution of our species), and "Current and Practical Research in Evolutionary Biology". There was also a star-talk of the upper deck of the ship one night, taking advantage of the dark Caribbean skies. It was an impressive list of lectures!

The astronomy lectures were presented by Dr Erin MacDonald, astrophysicist and science advisor to the Star Trek franchise. She received her PhD from Glasgow University where she specialized in relativity and gravitational waves, after which she did a post-doc at the Laser Interferometer Gravitational-Wave Observatory (LIGO). She's one of two people who played themselves on a ST episode, the other being Steven Hawking. Biology lectures were presented by Dr. Mohamed Noor, professor and dean at Duke University. Dr. Noor and MacDonald are the official science advisors to the Star Trek franchise

Of course, there were celebrities and costumes galore. The highlight of this year's cruise was William Shatner (looking remarkable at 94), but he wasn't alone. There were over 40 other celebrities from the various series, and each day had a there for costumes and cosplay. There were so many events, panels, games, etc. that were exhausted at the end of every day. And of course there were port visits, for this cruise in San Juan, Puerto Rico; the Puerto Plata, Dominican Republic; and the cruise line's private island in the Bahamas. Those ports provided down-time to relax on the beaches and recover from the hectic pace of the convention.

Would we do it again? Absolutely! It was one of the most fun experiences we've had in years.

How did I learn about these cruises? Purely by chance. I'm a member of the Planetary Society, and last year they had an online charity auction. The big-ticket item was passage for two on the cruise; I was the winning bidder. The donation of the cruise to the Planetary Society was facilitated by Robert Picardo. He sits on their board, and was the Holographic Doctor on the Star Trek Voyager series, and the current series Star Fleet Academy. I caught up with him on the cruise to reveal myself as the winning bidder and thank him, resulting in my one Photograph with a Celebrity!



Sheldon Schafer & Robert Picardo



William Shatner

Photos from Members:



M 1 by Tim McGrath



**M 3
J Dire
Celestron Origin
Home Observatory
20 minutes
Bortle 4**



M 51 by Linda Groezinger

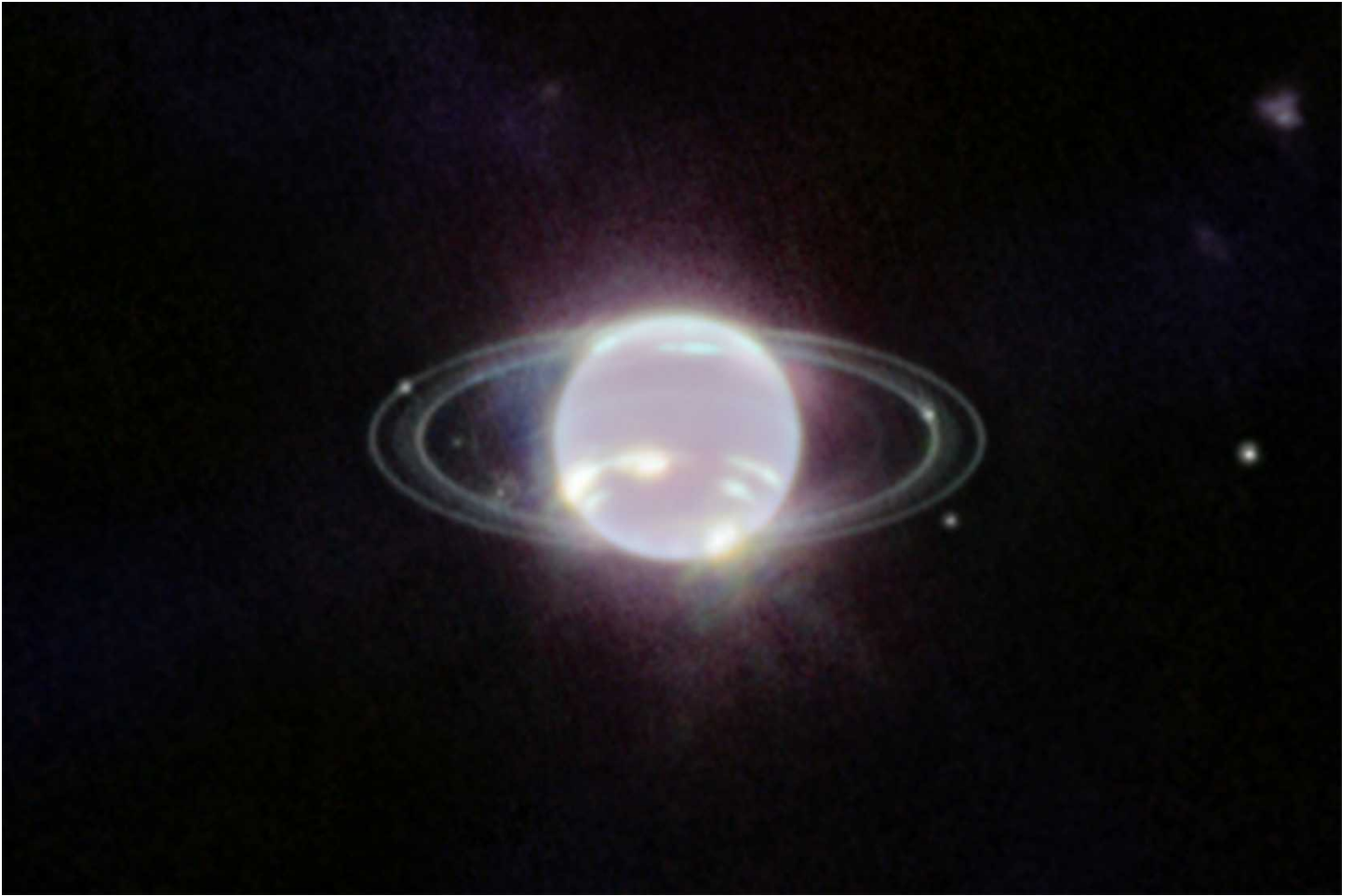


M 27 Dumbbell Nebula by Mike Frasca

And from other Instruments:



NGC 685 ESA Hubble NASA



Neptune by JWST

Can You Spot This?

NGC 6910

by John Barra

Can You Spot This? premiered in *Starlite* Issue # 144, December 2000

NGC 6910 is an open cluster that is easy to find in Cygnus the Swan. However, its beauty is not revealed until you use extremely high power. Then you can use it as a tool to test your optics and the quality of the night sky. But first, back to finding it.

When the summer triangle rises, just aim your telescope at Deneb. A near circle of stars can be followed from Deneb to the stars just north of it. See *Chart 1* for a low-power view. Just to the

northeast, a small knot of stars reveals itself in your telescope. It will show itself as a tiny smudge in binoculars. This cluster, which is only eight minutes in size, is our target. Once you center it, continue to increase your power.

Chart 2 shows the cluster at very high power. It has been coined the "Rocking Horse Cluster." To me it looks more like a horse on a merry-go-round. But I guess that name would be too long. I have drawn lines in the chart to show my impression.

The real value of this cluster is its use in letting you know how good your optics are. This cluster

has a wide range of star magnitudes. Use *Chart 3* (on the following page) to find out how many stars you can see (the decimals have been eliminated in order to avoid being confused with stars). By checking the magnitudes of these stars, you can determine what the limiting magnitude is for your scope on that night. It will help you determine the quality of both your main objectives and the high power eyepieces.

This cluster can also be used to determine the seeing conditions and the overall quality of the night sky on any particular evening. Compare the dimmest star you can see on different nights. Since it is easy to find, you can also observe it in the city. Compare what you see here with what you see at a dark sky site.

Finally, just look at NGC 6910 to enjoy it. Let me know the dimmest star you can see with your optics, both in the city and at a dark sky location. If you think it looks like something besides a rocking horse, let me know that also. I will print your results.

OBJECT STATISTICS:

Name: NGC 6910 — Rocking Horse Cluster
Type: Open Cluster
Magnitude: 7.4
Size: 8.0'
Coordinates: 20 hr. 23 min. 6.0 sec; +40deg. 47 min. 0.0 sec.



*...use it as a tool
to test your
optics and the
quality of the
night sky....*

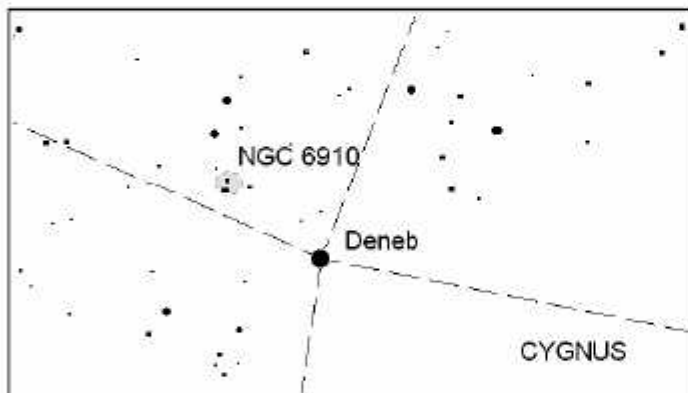


Chart 1: Low Power

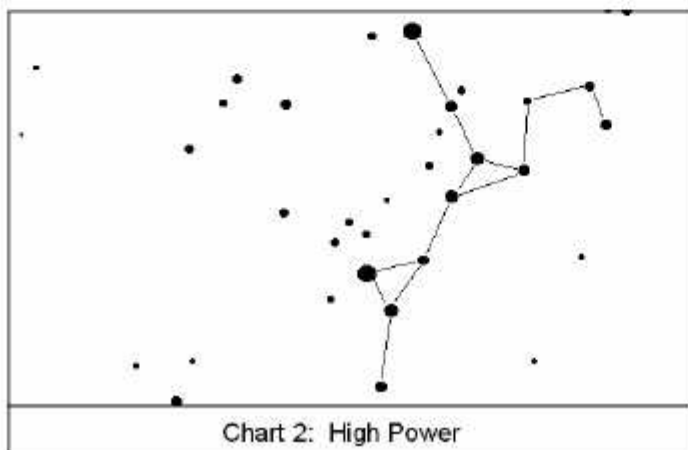


Chart 2: High Power

50 Years ago: Summer of 1976

Women in Astronomy

Maria Mitchell, the first American women astronomer, was born Aug. 1, 1818, the third of ten children, to Quaker parents on Nantucket Island. Her Father, William was an avid stargazer, and Maria was soon infected with the astronomy virus. At the age of twelve she observed with her father and annual eclipse of the sun, on Feb. 19, 1831, which she recorded meticulously in her notebook. The arrival of the moon's umbra at the predicted time impressed her young mind with the grandeur of this natural spectacle and the power of science that could foretell such events. Urania, the Muse of Astronomy, had claimed another lifelong devotee.

It was a maxim of this gifted skywatcher that (as she later explained it) "Astronomy is not stargazing. The entrance is through mathematics." Accordingly, she read the works Lagrange, Laplace, and Legendre in the original French and struggled with the Latin of Gauss's "Theoria Motus Corporum Coelestium" (Theory of the motion of the heavenly bodies).

William Mitchell became a cashier of a bank in Nantucket. On the roof of this bank he and Maria built a wooden house for their wide-angle comet seeking telescope, an Alt-azimuths instrument. Later they acquired a four inch equatorial refractor along with an altitude and azimuth circle, lent by Dr. A.D. Bache, director of the U.S. Coast Survey, with the purpose of making little Nantucket Observatory one end of a great arc for the ongoing work of determining the earth's true shape (as we know, this type of work goes on to this day; now we do it with artificial satellites). William Cranch Bond, the Director of Harvard College Observatory and the leading American astronomer of the time, visited the Mitchell's and they became lifelong friends. Father and daughter continued to work as an observing team until his death in 1859. On October 1, 1847, as Maria was "sweeping the sky," she saw a fuzzy patch of light in a place where, from long familiarity, she knew there had been no stars or nebula. William confirmed the sighting and wrote to Bond announcing Maria's discovery, over her protest; she could not believe that she had discovered that others would not have seen. A storm kept the mail from leaving the island until the fourth. When he received the letter, Bond observed the comet through the new 15-inch refractor, which Harvard had just acquired, (then the largest refractor in the world) and sent his observations to Professor Schumacher in Altona, Denmark, with a note stating that the comet had first been sighted by Maria Mitchell on Oct. 1st. Meanwhile, a noted comet hunter, Francesco de Vico of Rome, had sighted the comet on the 3rd and had immediately communicated his discovery to Schumacher. He therefore was judged the winner of a gold medal offered by the King of Denmark to "the first discoverer of any event which, at the time of its discovery, is invisible to the naked eye, and whose periodic time is unknown." On the evidence supplied by Bond, de Vico graciously conceded Maria's priority and a year later, on Oct. 26, 1848, she received the ornate medal inscribed with

her name. This event brought her world-wide fame, so that she was well received when she first visited in Europe in 1857. There she met the leading astronomers, including Struve of Pulkova Observatory in Russia; Sir John Herschel, who received her warmly and showed her the portrait of his Aunt Caroline; John Couch Adams, one of the predictors of Neptune; and Jean Joseph Leverrier, Director of the Paris Observatory, the other predictor of Neptune, who coldly refused to accept her as a fellow astronomer. In Florence, Italy, she met Mary Somerville, the well known British woman astronomer.

Back in Massachusetts, she settled in Lynn; here she erected a little observatory to house a wonderful gift from "the women of America": a five-inch refractor, made by Alvin Clark. Plunging once more into the routine of sweeping the sky, she independently discovered Donati's comet of 1858 and accurately measured its position with the fine setting circles of her new telescope.

In 1865 her life took a new turn: she was appointed Professor of Astronomy and Director of the Observatory at the newly founded Vassar Female College. Here she remained as an inspiring and beloved teacher for thirty-three years. She did not neglect her research when she took on teaching duties; she watched the sun daily, recording sun spots with the observatory's 12-inch telescope and taking daily solar photographs from 1873 on. Planetary studies, especially of Jupiter and Saturn, were also high on the list of her attainments. In July, 1878, she and several of her students took their telescopes to Denver, Colorado, to observe a solar eclipse. Retiring on Dec. 25, 1888, she continued to work with her telescope in a small building in her backyard. "Lick Observatory is the largest in the world," she said, "mine is the smallest." On June 28, 1889 the career of America's first female astronomer came to a quiet end. Like Hypatia and Caroline Herschel, she has a crater on the moon named for her - - next to Aristotle.

George Nelson

2026 Jubilee Maintenance Schedule		
(May 2nd 2026 to Sep 26th 2026)		
May 2nd	Jesse Hoover	Dan Son
May 9th	Silas Mattern	Vince Allen
May 16th	Steve Russell	Jon Crow
May 23rd	Dan Son	Jamal Shafii
May 30th	John Jordan	Gary Bussman
June 6th	Brian Bill	
June 13th	Steve Russell	John Jordan
June 20th	Jesse Hoover	Vince Allen
June 27th	Jon Crow	Jamal Shafii
July 4th	Jesse Hoover	
July 11th	Jon Crow	Steve Russell
July 18th	Jamal Shafii	Dan Son
July 25th	John Jordan	Silas Mattern
Aug 1st	Jesse Hoover	Gary Bussman
Aug 8th	Silas Mattern	Dan Son
Aug 15th	Brian Bill	
Aug 22nd	Gary Bussman	John Jordan
Aug 29th	Jon Crow	Silas Mattern
Sept 5th	John Jordan	Jamal Shafii
Sept 12th	Steve Russell	Dan Son
Sept 19th	Jesse Hoover	Gary Bussman
Sept 26th	Silas Mattern	Jon Crow

Responsibilities:

- * Check each building to ensure security of equipment.
 - * Mow lawn and trim around buildings
 - * Sweep floors, blow or sweep off grass clippings from walkways.
 - * Bring gas to top off mower tank.
 - * Please notify me of any schedule conflicts or problems with the equipment.
- Jesse Hoover: 309-258-0343

2026 Northmoor Hosting Schedule

Updated: 3/15/2026

2-May	9-May	16-May NM	23-May 1 st Q	30-May FM
		Sheldon Schafer Chris Schmidt S Mukherjee	Dave Grebner Amy Rahe Patrick Showalter	Dan Son Barb Son Vincent Allen
6-Jun 3 rd Q	13-Jun NM	20-Jun 1 st Q	27-Jun FM	
Sheldon Schafer Brian Bill Shannon Wiltz	Gerald Horst Brain Austin Dan Son	John Lyle Jon Crow Nick Rae	Sheldon Schafer Carol Hootman Dave Grebner	
4-Jul 3 rd Q	11-Jul NM	18-Jul 1 st Q	25-Jul FM	
Jake Schultz Jesse Hoover Vincent Allen	Nick Rae Silas Mattern Brian Austin	Joshua Wrigley Justin Wrigley Amy Rahe	Sheldon Schafer S Mukherjee Brian Bill	
1-Aug 3 rd Q	8-Aug NM	15-Aug 1 st Q	22-Aug FM	29-Aug
Dave Grebner Chris Schmidt Jon Crow	John Lyle Patrick Showalter Carol Hootman	Gerald Horst Shannon Wiltz Jesse Hoover	Jake Schultz Vincent Allen Silas Mattern	Nick Rae Amy Rahe S Mukherjee
5-Sep NM	12-Sep 1 st Q	19-Sep 1 st Q	26-Sep FM	
Dan Son Barb Son Patrick Showalter	Joshua Wrigley Justin Wrigley Chris Schmidt	Dave Grebner Brian Austin Shannon Wiltz	John Lyle Jon Crow Gerald Horst	
3-Oct 3 rd Q	10-Oct NM	17-Oct 1 st Q	24-Oct	
Jake Schultz Carol Hootman John Lyle	Nick Rae Silas Mattern Joshua Wrigley	Dan Son Barb Son S Mukherjee		

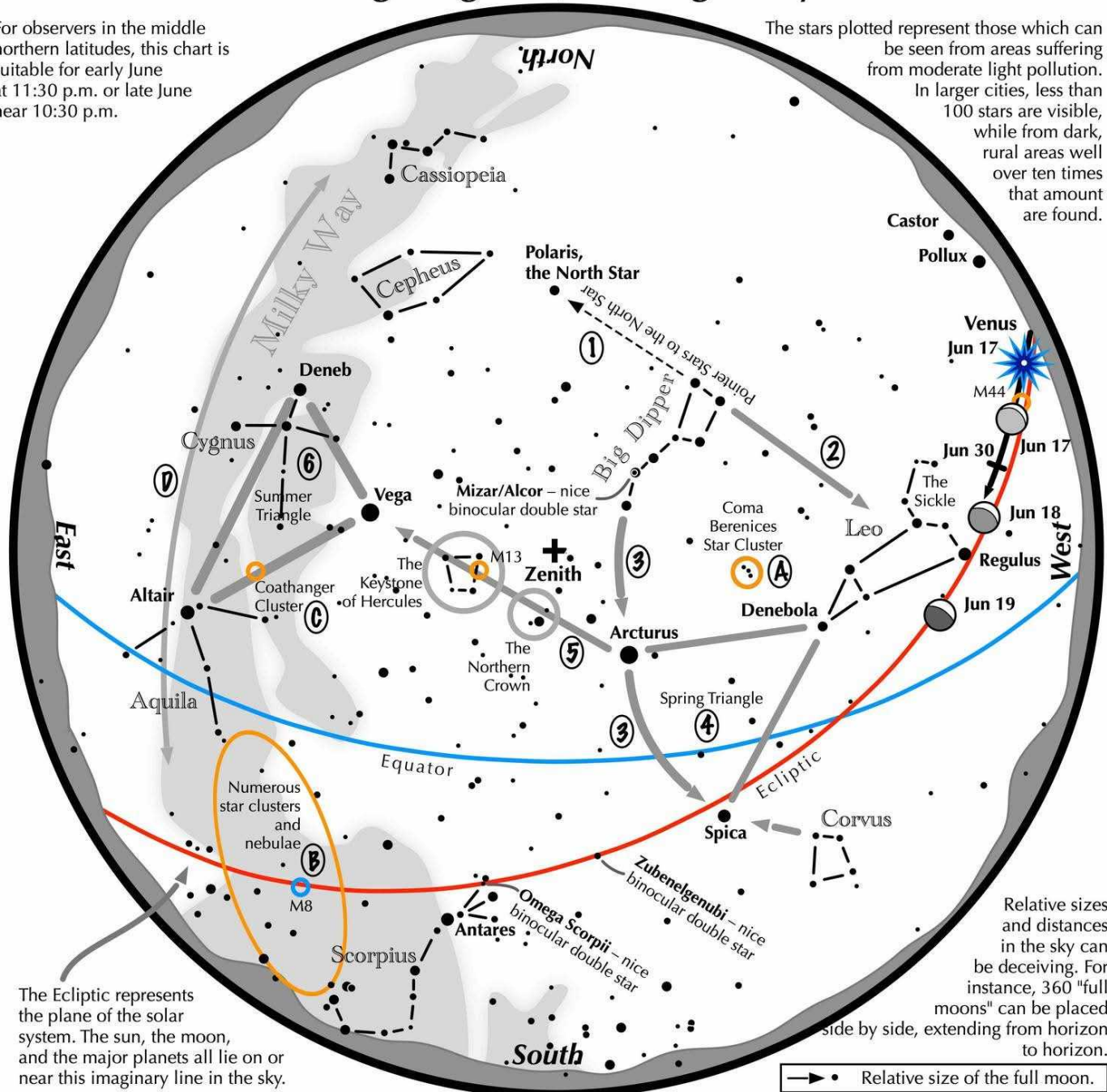
Lead host in ***Bold Italic***

Navigating the June Night Sky

2026

For observers in the middle northern latitudes, this chart is suitable for early June at 11:30 p.m. or late June near 10:30 p.m.

The stars plotted represent those which can be seen from areas suffering from moderate light pollution. In larger cities, less than 100 stars are visible, while from dark, rural areas well over ten times that amount are found.



The Ecliptic represents the plane of the solar system. The sun, the moon, and the major planets all lie on or near this imaginary line in the sky.

Navigating the June night sky: Simply start with what you know or with what you can easily find.

- 1 Extend a line north from the two stars at the tip of the Big Dipper's bowl. It passes by Polaris, the North Star.
- 2 Draw another line in the opposite direction. It strikes the constellation Leo high in the west.
- 3 Follow the arc of the Dipper's handle. It first intersects Arcturus, the brightest star in the June evening sky, then Spica.
- 4 Arcturus, Spica, and Denebola form the Spring Triangle, a large equilateral triangle.
- 5 To the northeast of Arcturus shines another star of the same brightness, Vega. Draw a line from Arcturus to Vega. It first meets "The Northern Crown," then the "Keystone of Hercules." A dark sky is needed to see these two dim stellar configurations.
- 6 High in the east are the three bright stars of the Summer Triangle: Vega, Altair, and Deneb.

Binocular Highlights

- A: Between Denebola and the tip of the Big Dipper's handle, lie the stars of the Coma Berenices Star Cluster.
- B: Between the bright stars of Antares and Altair, hides an area containing many star clusters and nebulae.
- C: 40% of the way between Altair and Vega, twinkles the "Coathanger," a group of stars outlining a coathanger.
- D: Sweep along the Milky Way for an astounding number of faint glows and dark bays.





Vera C Rubin Observatory

IC410 Tadpole Nebula

Constellation Auriga
12400 light-years to Earth
Magnitude 7.8
40' x 30' Across

Dusty emissions nebula

- Peoria, No Moon
- Williams Optics 120mm Triplet
- Skywatcher EQ6 Mount, Auto-guided
- 0.8 Flattener/Reducer
- 624mm Focal Length (w/reducer)
- f/5.2 (w/reducer)
- Optolong L-Ultimate 3nm H α & OIII
- ZWO ASI2600MC Duo
- 3 hr 50 minutes total exposure
- 46 5-minute subs
- Deep Sky Stacker
- Lightroom Multiple Adjustments
- Output to High Fidelity JPG Files
- Final Adjustments for On-Screen

Feb 15, 2026

