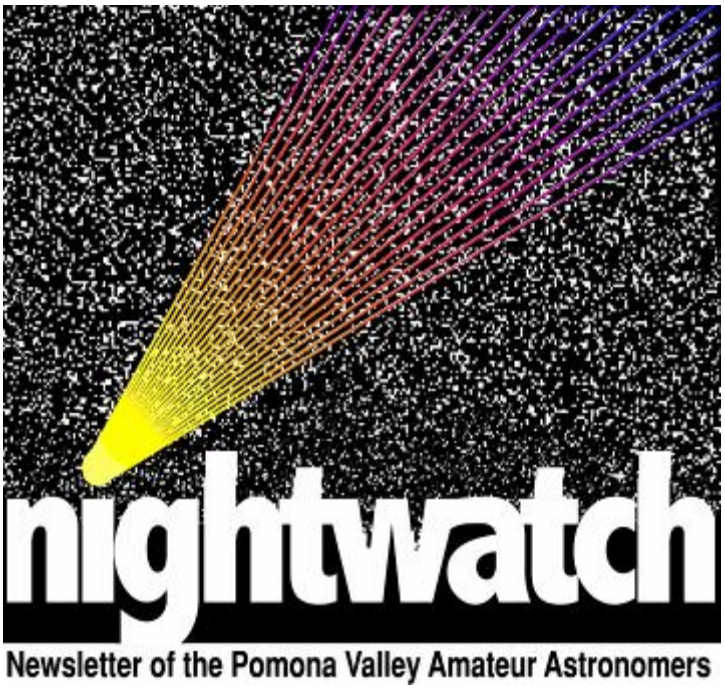


Newsletter of the Pomona Valley Amateur Astronomers

A man gazing on the stars is proverbially at the mercy of the puddles in the road. ***Alexander Smith***

CHECK OUT PVAAs YOUTUBE CHANNEL

Volume 45 Number 1 ***nightwatch*** **January 2025**

Club Events Calendar

Jan 8	**Board Meeting 6:15 PM**
Jan 17	**General Meeting 7:30 PM Tim Thompson "Edwin Hubble and Extragalactic Stellar Systems"**
Jan 25	**Star Party – Salton Sea Mecca Beach**
Feb 7	**General Meeting 7:30 PM**
Feb 22	**Star Party – Anza Borrego**
Feb 29	**Board Meeting 6:15 PM**
Mar 5	**Board Meeting 6:15 PM**
Mar 14	**General Meeting 7:30 PM**
Mar 29	**Star Party – Salton Sea Mecca Beach**
Apr 2	**Board Meeting 6:15 PM**
Apr 5	**Cahuilla/Joat Park in Claremont**
Apr 11	**General Meeting 7:30 PM**
Apr 26	**Star Party–GMARS**
Apr 30	**Board Meeting 6:15 PM**
May 9	**General Meeting 7:30 PM**
May 24	**Star Party – GMARS**
Jun 4	**Board Meeting 6:15 PM**
Jun 13	**General Meeting 7:30 PM**
Jun 21	**Star Party – White Mountain**
July 2	**Board Meeting 6:15 PM**
July 11	**General Meeting 7:30 PM**
July 26	**Star Party – TBD**
July 30	**Board Meeting**
Aug 8	**General Meeting 7:30 PM**
Aug 23	**Star Party – TBD**
Aug 27	**Board Meeting**
Sep 5	**General Meeting 7:30 PM**
Sept 20	**Star Party – TBD**

PVAA Officers and Board

Officers

President ….....	Mathew Wedel	909-767-9851
Vice President ..	Joe Hillberg	909-949-3650
Secretary	position is currently open	
Treasurer	Gary Thompson	909-935-5509

Board

Jim Bridgewater (2026).....	909-599-7123
Richard Wismer(2026)	
Ron Hoekwater (2025).....	909-706-7453
Howard Maculsay (2025)……	909-913-1195

Directors

Membership / Publicity....	Gary Thompson .	909-935-5509
Outreach	Jeff Schroeder	909-758-1840
Programs	Ron Hoekwater	909-391-1943

XMas Party Pix - Gary Thompson

Xmas Party Pix - Lucy Stover

NASA Night Sky Notes January 2025

This article is distributed by NASA's Night Sky Network (NSN).
The NSN program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit nightsky.jpl.nasa.gov to find local clubs, events, and more!

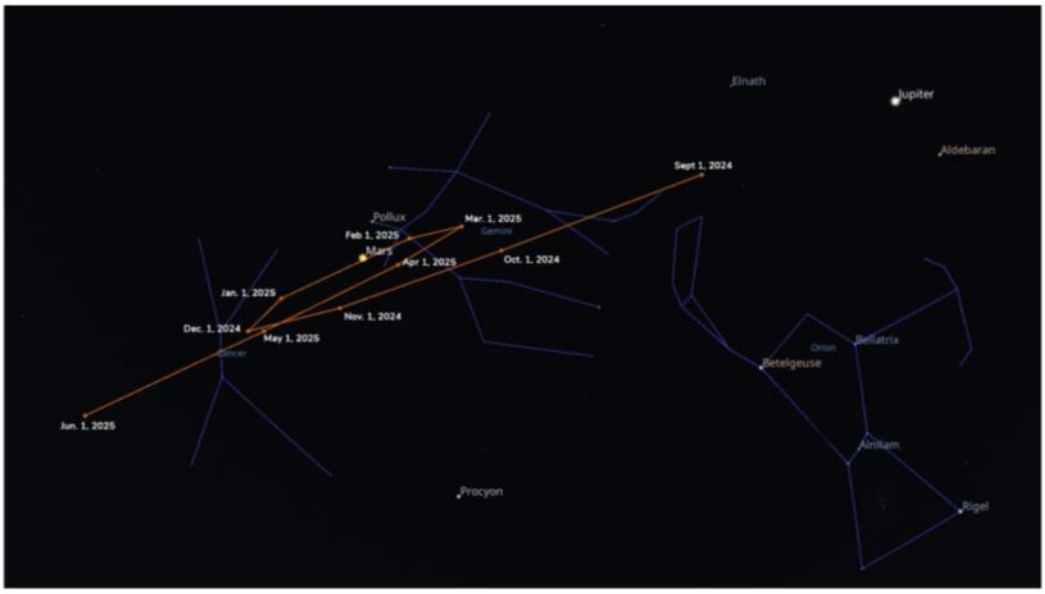
January's Night Sky Notes: The Red Planet

By Kat Troche

Have you looked up at the night sky this season and noticed a bright object sporting a reddish hue to the left of Orion? This is none other than the planet Mars! January will be an excellent opportunity to spot this planet and some of its details with a medium-sized telescope. Be sure to catch these three events this month.

Martian Retrograde

Mars entered retrograde (or backward movement relative to its usual direction) on December 7, 2024, and will continue throughout January into February 23, 2025. You can track the planet's progress by sketching or photographing Mars' position relative to nearby stars. Be consistent with your observations, taking them every few nights or so as the weather permits. You can use free software like Stellarium or Stellarium Web (the browser version) to help you navigate the night as Mars treks around the sky. You can find Mars above the eastern horizon after 8:00 PM local time.



This mid-January chart shows the path of Mars from September 2024 to June 2025 as it enters and then exits in retrograde motion. Mars appears to change its direction of motion in the sky because Earth is passing the slower-moving Mars in its orbit. Credit: Stellarium

NASA Night Sky Notes January 2025

Hide and Seek

On the night of January 13th, you can watch Mars 'disappear' behind the Moon during an occultation. An occultation is when one celestial object passes directly in front of another, hiding the background object from view. This can happen with planets and stars in our night sky, depending on the orbit of an object and where you are on Earth, similar to eclipses.

A simulated view of the Moon as Mars begins its occultation on January 13, 2025. Credit: Stellarium

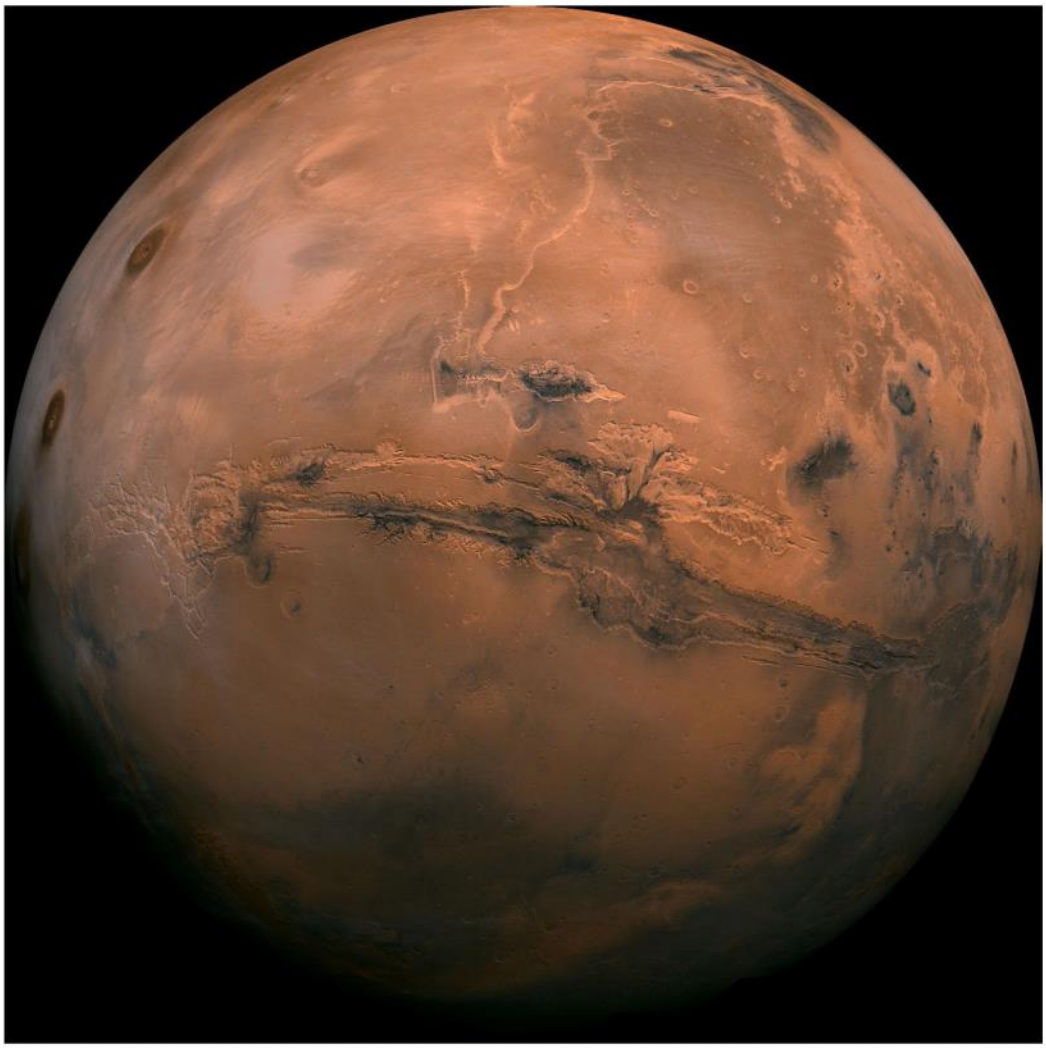
Depending on where you are within the contiguous United States, you can watch this event with the naked eye, binoculars, or a small telescope. The occultation will happen for over an hour in some parts of the US. You can use websites like Stellarium Web or the Astronomical League's 'Moon Occults Mars' chart to calculate the best time to see this event.

Closer and Closer

As you observe Mars this month to track its retrograde movement, you will notice that it will increase in brightness. This is because Mars will reach **opposition** by the evening of January 18th. Opposition happens when a planet is directly opposite the Sun, as seen from Earth. You don't need to be in any specific city to observe this event; you only need clear skies to observe that it gets brighter. It's also when Mars is closest to Earth, so you'll see more details in a telescope.

NASA Night Sky Notes January 2025

Want a quick and easy way to illustrate what opposition is for Jupiter, Saturn, Mars, or other outer worlds? Follow the instructions on our Toolkit Hack: Illustrating Opposition with Exploring the Solar System page using our Exploring Our Solar System activity!



A mosaic of the Valles Marineris hemisphere of Mars projected into point perspective, a view similar to that which one would see from a spacecraft. The mosaic is composed of 102 Viking Orbiter images of Mars. Credit: NASA/JPL-Caltech

Mars has fascinated humanity for centuries, with its earliest recorded observations dating back to the Bronze Age. By the 17th century, astronomers were able to identify features of the Martian surface, such as its ice caps and darker regions. Since the 1960s, exploration of the Red Planet has intensified with robotic missions from various space organizations. Currently, NASA has five active missions, including rovers and orbiters, with the future focused on human exploration and habitation. Mars will always fill us with a sense of wonder and adventure as we reach for its soil through initiatives such as the Moon to Mars Architecture and the Mars Sample Return campaign.

NASA Night Sky Notes January 2025

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Celebrating 20 Years: Night Sky Network

By Vivian White and Kat Troche

NASA's Night Sky Network is one of the most successful and longstanding grassroots initiatives for public engagement in astronomy education. Started in 2004 with the PlanetQuest program out of the Jet Propulsion Laboratory and currently supported by NASA's Science Activation, the Night Sky Network (NSN) is critical in fostering science literacy through astronomy. By connecting NASA science and missions to support amateur astronomy clubs, NSN leverages the expertise and enthusiasm of club members, who bring this knowledge to schools, museums, observatories, and other organizations, bridging the gap between NASA science and the public. Now in its 20th year, NSN supports over 400 astronomy clubs dedicated to bringing the wonder of the night sky to their communities across the U.S. and connecting with 7.4 million people across the United States and its territories since its inception.

International Observe the Moon Night, September 2024. Credit: Oklahoma City Astronomy Club/Dave Huntz

Humble Beginnings

It all started with an idea – astronomy clubs already do significant outreach, and club members know a lot about astronomy (shown definitively by founder Marni Berendsen's research), and they love to talk with the public. How could NASA support these astronomy clubs in sharing current research and ideas through informal activities designed for use in the places where amateur astronomers conduct outreach? Thanks to funding through NASA JPL's PlanetQuest public engagement program, the Night Sky Network was born in 2004, with more than 100 clubs joining in the first year.

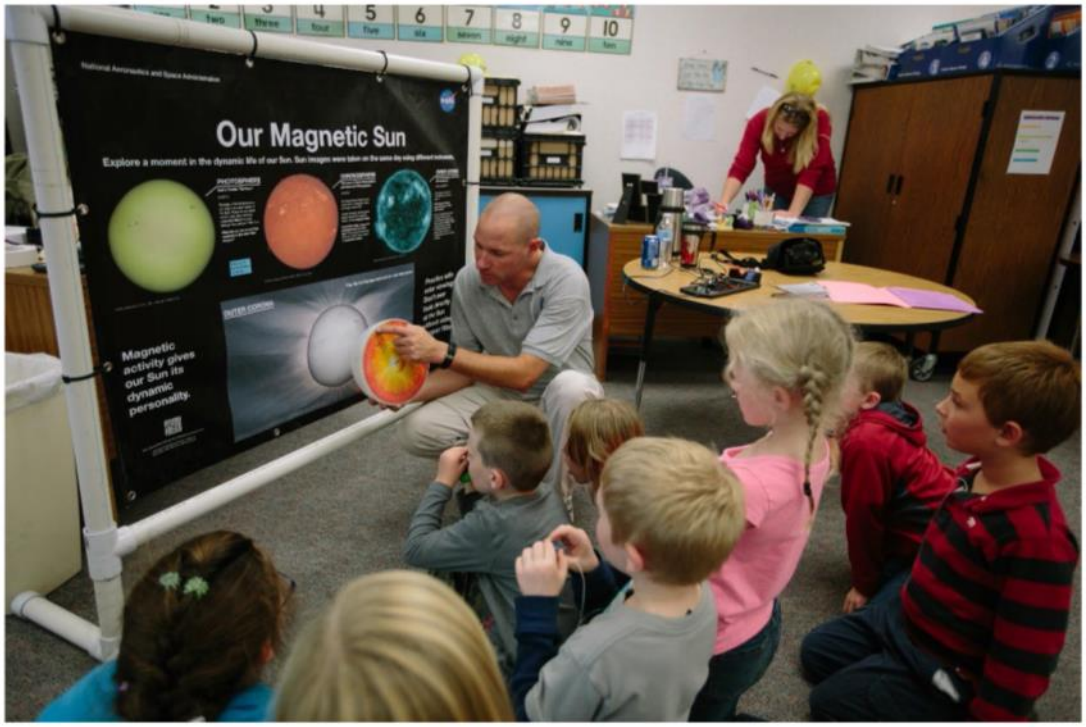
Raynham Public Observing Night, February 2004. Credit: Astronomical Society of Southern New England/Mark Gibson

As quoted from the first NSN news article, "NASA is very excited to be working closely with the amateur astronomy community," said Michael Greene, current Director of Communications and Education and former head of public engagement for JPL's Navigator Program and PlanetQuest initiatives. "Amateurs want more people to look at the sky and understand astronomy, and so do we. Connecting what we do with our missions to the sense of wonder that comes when you look up at the stars and the planets is one of our long-term objectives. We have a strong commitment to inspiring the next generation of explorers. Lending support to the energy that the amateur astronomy community brings to students and the public will allow NASA to reach many more people."

Taking off like a rocket, Night Sky Network had over 100 clubs registered on their website within the first year.

The Toolkits

Outreach Toolkits were developed to assist clubs with their endeavors. These kits include educational materials, hands-on activities, and guides for explaining topics in an accessible way. So far, 13 toolkits have been created on topics ranging from the scale of the universe to how telescopes work. To qualify for these free Toolkits, clubs must be active in their communities, hosting two outreach events every three months or five outreach events within a calendar year. Supplemental toolkits were also created based on special events like the solar eclipses and the 50th anniversary of Apollo's Moon landing. A new toolkit is being developed to teach audiences about solar science, and NSN is on track to support clubs well into the future.



Rye Science Day, October 2014. Credit: Southern Colorado Astronomical Society/Malissa Pacheco

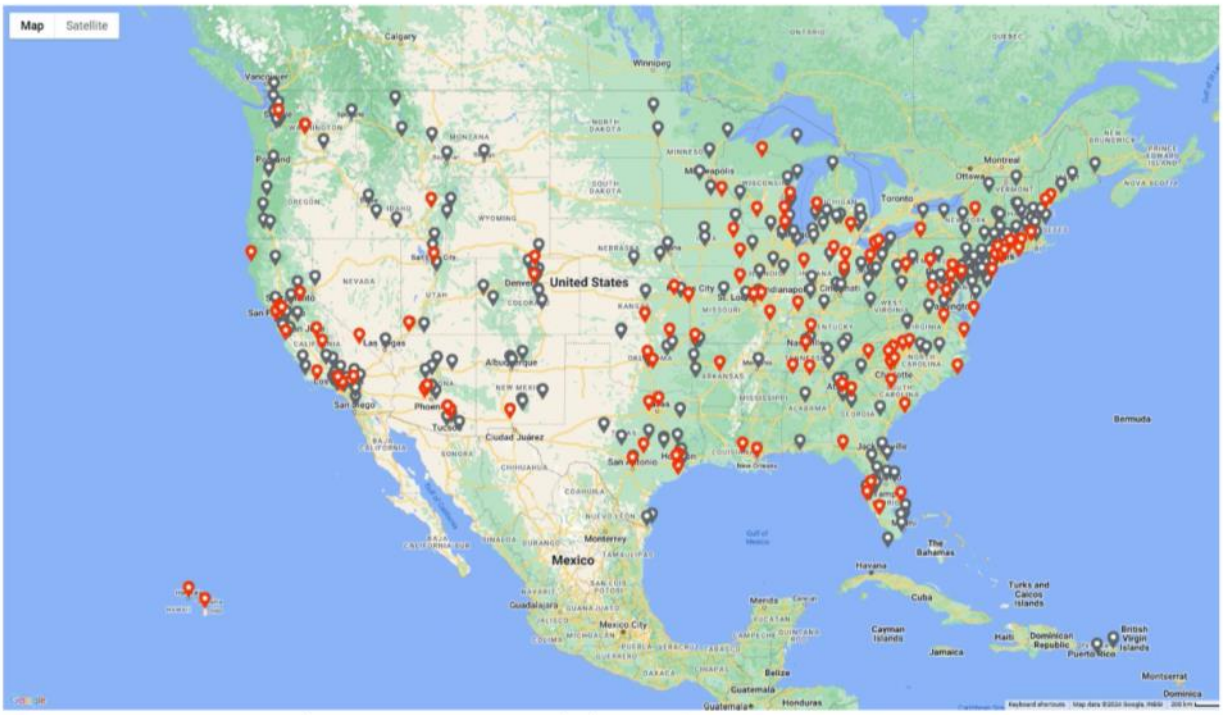
NSN also hosts archived video trainings on these toolkits and other topics via its YouTube channel and a monthly webinar series with scientists from various institutions worldwide. Lastly, a monthly segment called *Night Sky Notes* is produced for clubs to share with their audiences via newsletters and mailing lists.

NASA Night Sky Notes January 2025

Sharing the Universe

In 2007, a National Science Foundation grant funded further research into astronomy club needs. From that came three club resources: the Growing Your Astronomy Club and Getting Started with Outreach video series, an updated website with a national calendar, and club and event coordination. Now, you can find hundreds of monthly events nationwide, including virtual events you can join from anywhere.

Night Sky Network: Current and Future



Map of Night Sky Network clubs within the United States as of November 2024

As of November 2024, NSN has over 400 clubs as far north as Washington State, west as Hawaii, and south as far as Puerto Rico. Astronomy clubs worldwide share the wonder of the day and night sky with their communities, and the Night Sky Network is happy to support US clubs with public engagement tools. Through their outreach efforts, member clubs have reached more than 7 million people to date, and the community is still going strong. Find an upcoming star party near you on our new public website.