

## SKYWATCHER NEWSLETTER

## LATEST NEWS

Happy New Year! For something a little different to start the year I thought it was worth mentioning the Tesla Starman which was launched near 7 yrs ago. lot of information is available about its trajectory on various observational astronomy sites. A few are mentioned below.

There have been several observational events this month already with a conjunction of Venus, Occultation of Saturn and one of Mars taking place the 13th visible from North America although we'll see a conjunction. Keep the binoculars handy! Until next month... SLK

<https://britastro.org/community/observing-calendar>

BAA Monthly Observing Calendar Link



<https://www.whereisroadster.com>



Where is Starman going to be in the future?

Plot Elon Musk's Tesla Roadster with Starman on their journey between Mars and Earth.

Where is Starman

### SpaceX Roadster (Starman)

Complete realtime information about SpaceX Roadster (Starman) for astronomy and science enthusiasts at all levels.

[theskylive.com](https://theskylive.com)

<https://www.heavens-above.com/Tesla.aspx>



## 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.

### 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.



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

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.

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](https://www.stellarium.net) or the Astronomical League's '[Moon Occults Mars](https://www.astronomicalleague.org)' [chart](https://www.astronomicalleague.org) 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.

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## LOCAL EVENTS

15 Jan - FA - The Sun's Life Story - James Fradgely

Feb 4 - WAS - Katrin Raynor - Exploring Space & Astronomy through Philately (stamp collecting!)

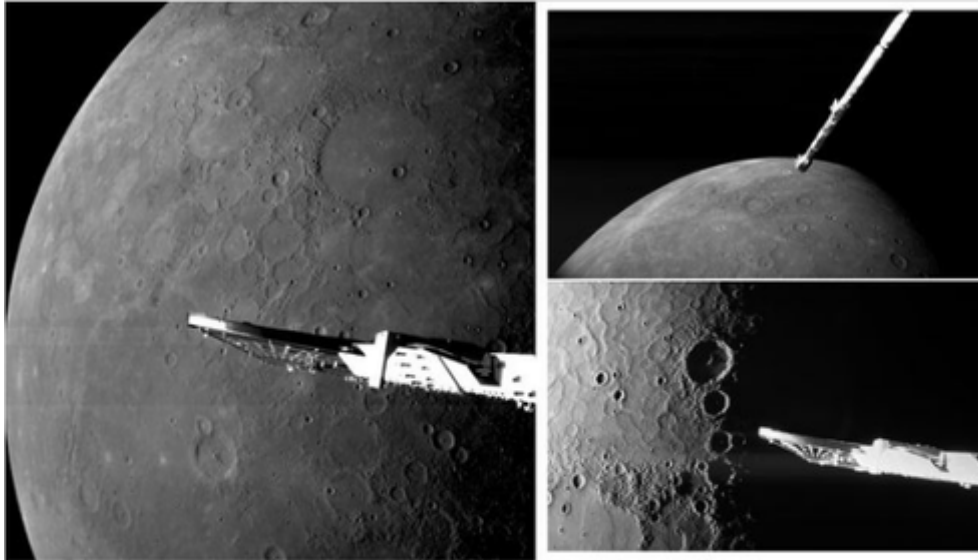
19 Feb - FA - Spectroscopy and the Sun - Robin Magner

Mar 4 - WAS - Kate Earl - Apollo missions 1-20: The successes and the failures

19 Mar - FA - A Career in Astronomy. The Sky at Night, Voyager and Mariner Missions - Gary Hunt

MORE TO COME IN 2025!

VISIT OUR WEBSITE FOR THE LATEST CLUB INFORMATION



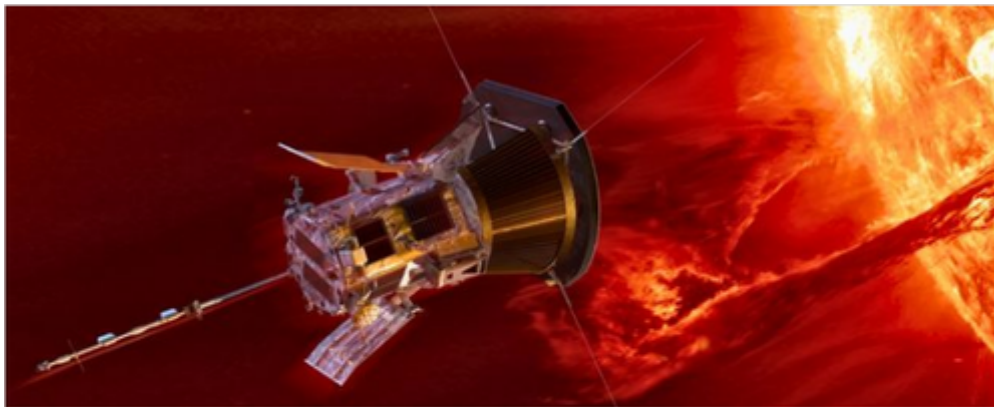
### Mercury looks stunning in images from BepiColombo spacecraft's 6th and final flyby

"BepiColombo's main mission phase may only start two years from now, but all six of its flybys of Mercury have given us invaluable new information about the little-explored planet."

**S** Space / Jan 9

*Hot off the press!*

<https://tinyurl.com/4rf7bcxp>

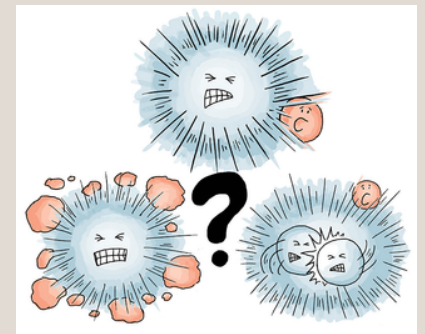


### NASA Confirms: Parker Probe Survives 'Touching Sun' in Record-Breaking Flyby

We'll learn so much from this incredible milestone.

**S** ScienceAlert / Dec 30, 2024

<https://tinyurl.com/4mcx2ftw>



### WAC Upcoming Events

FEB 14 - DAVID STRANGE  
THE LIFE & TIMES OF NORMAN  
LOCKYER

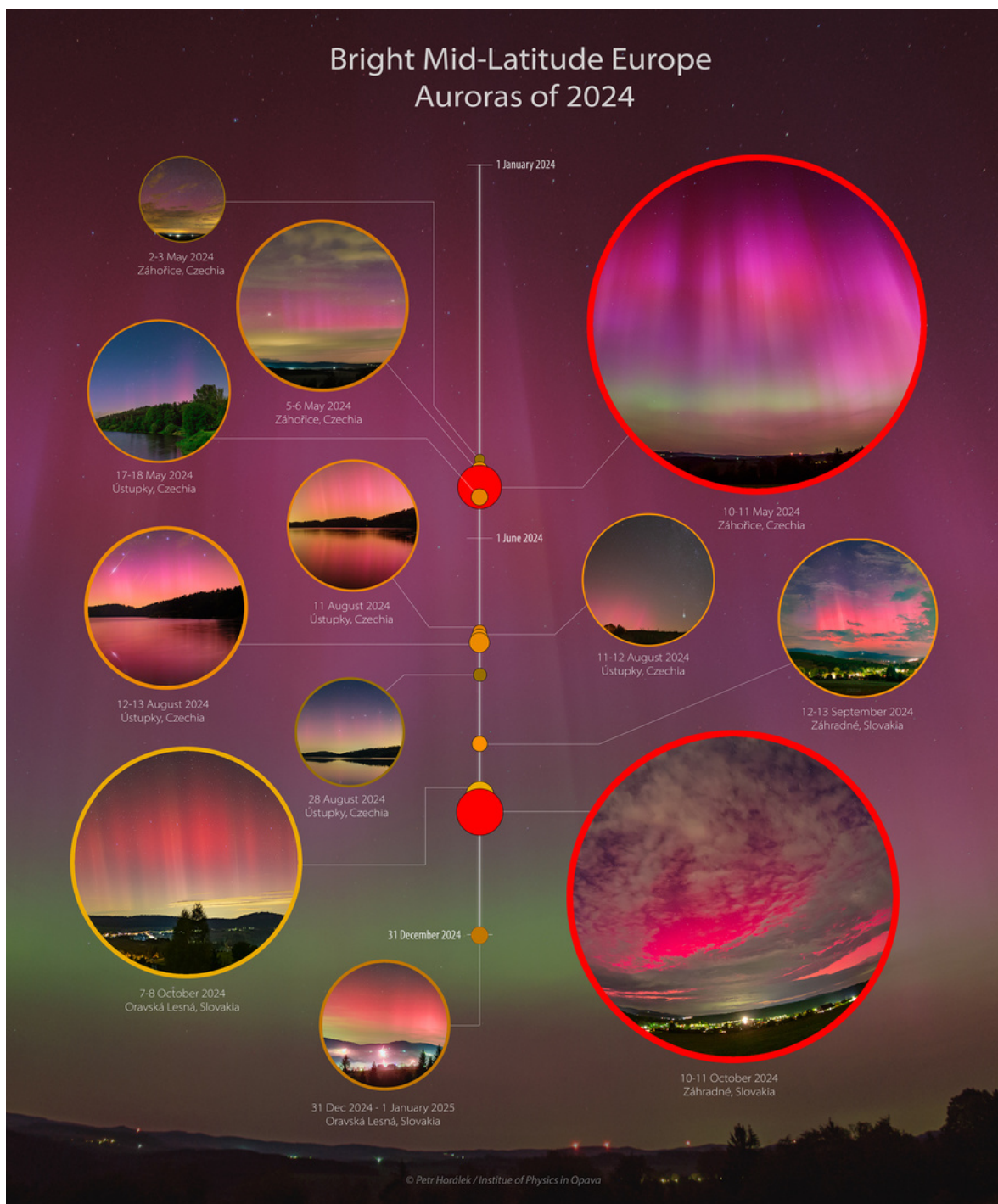
MAR 14 - JOE WILLIAMS (EXETER  
UNIVERSITY) EXOPLANETS.

APR 11 - HUGH ALLEN  
SPECTROSCOPY 'CRACKING  
STARLIGHT'S HIDDEN CODE'

MORE TO COME IN 2025!



SPACEWEATHER.COM 6 JAN 2025



MID-LATITUDE AURORAS IN EUROPE: 2024 was a big year for space weather. NOAA and NASA announced that Solar Max has arrived, and photographer Petr Horálek saw the proof in the skies of central Europe:

"In 2024, more than 30 auroras were recorded from Central Europe. I was lucky to capture them across Czechia and Slovakia (latitude ~50 degrees north). In this collection, circles mark the dates of each display on a vertical timeline, with larger circles denoting better naked-eye visibility."

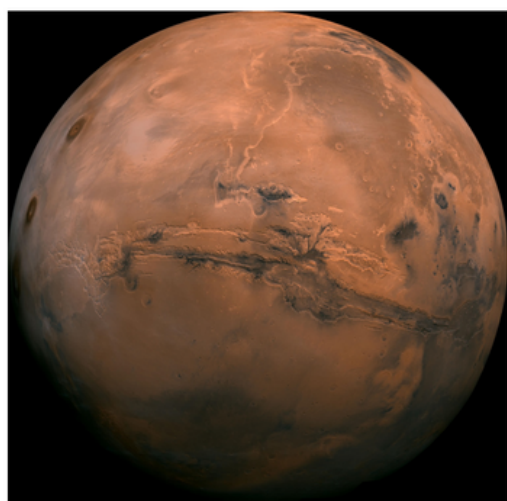
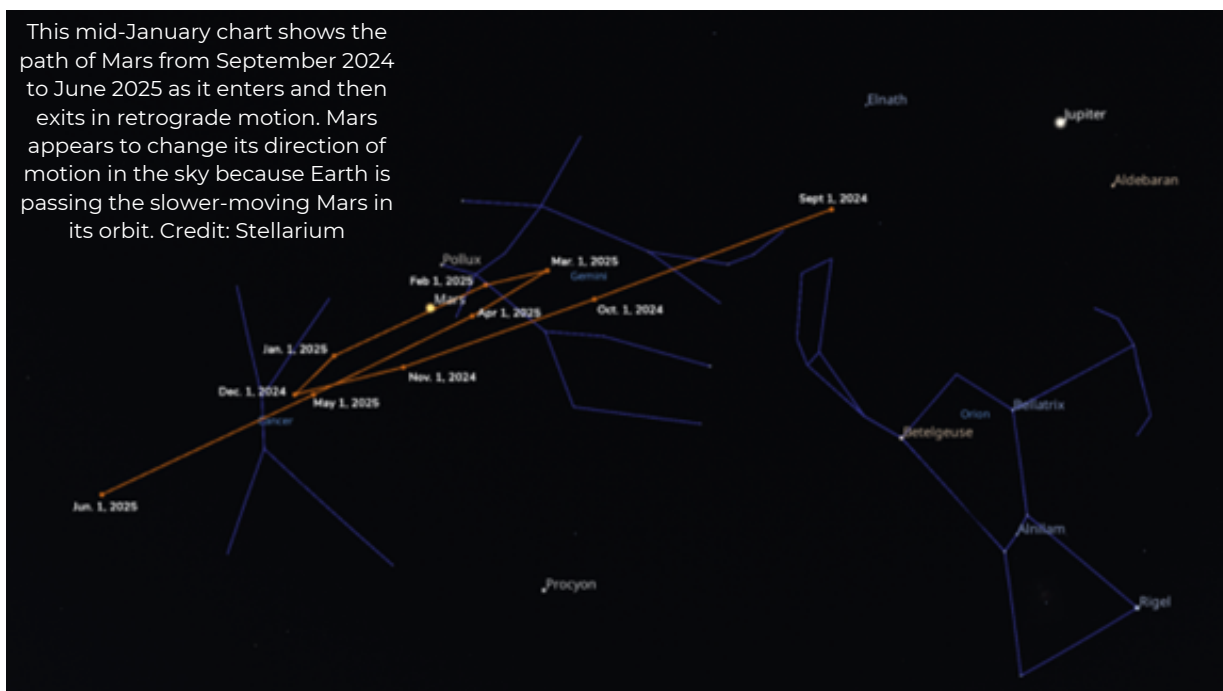
"The colors show the intensity of the observed aurora during the time of the observation," he says. "While dark orange refers to active geomagnetic storms (G2), bright orange refers to the strong ones (up to G3), and red colors the severe to extreme ones (G4+). Also, you can see some of the auroras occurred during the Perseid meteor shower."

2025 could be much the same. Solar Max typically lasts 2 to 3 years, and solar activity has shown few signs of slowing down. Stay tuned! Aurora alerts: SMS Text.

<https://www.spaceweather.com/archive.php?view=1&day=06&month=01&year=2025>

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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



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

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!

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.



## Arctic Hydrothermal Vents May Resemble Those on Enceladus

By studying hydrogen-rich vent sites on Earth, scientists could learn more about the hidden ocean of Saturn's icy moon—one of our solar system's likeliest candidates for harboring life beyond Earth.

— Eos / Dec. 17, 2024

<https://tinyurl.com/yrxbh7am>



## The Art of Doing Fieldwork on the Moon

How early-career planetary scientists are preparing to support the astronauts who will return to the lunar surface and beyond.

— Eos / Aug 12, 2024

<https://tinyurl.com/4rxrcx7y>

## WAC Members Corner



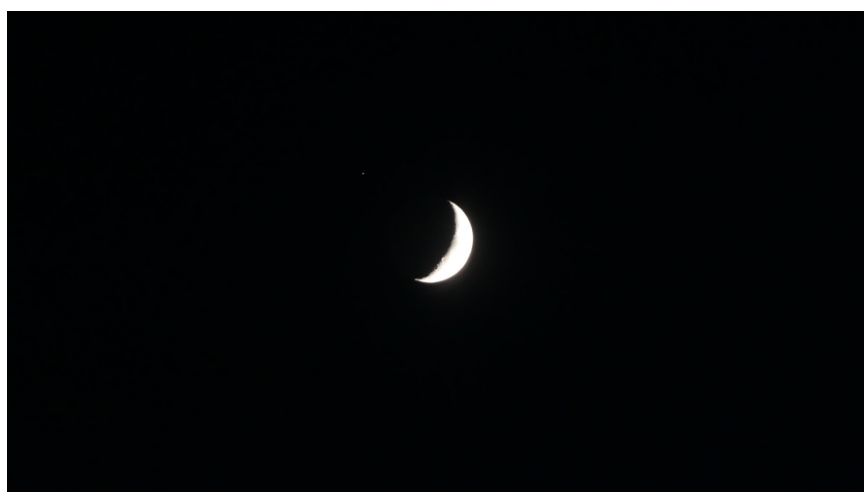
Polar stratospheric clouds (PSCs), also known as nacreous clouds from nacre, or mother of pearl, due to their iridescence, are clouds in the winter polar stratosphere.

31 December 2024 PSC spotted!



3 January 2025 conjunction of Venus and the Moon - Look closely for Saturn in the photo on the right!

## WAC Members Corner



4 January 2025 conjunction of Saturn and the Moon before the occultation took place. Re-emergence was hidden due to freezing fog.

