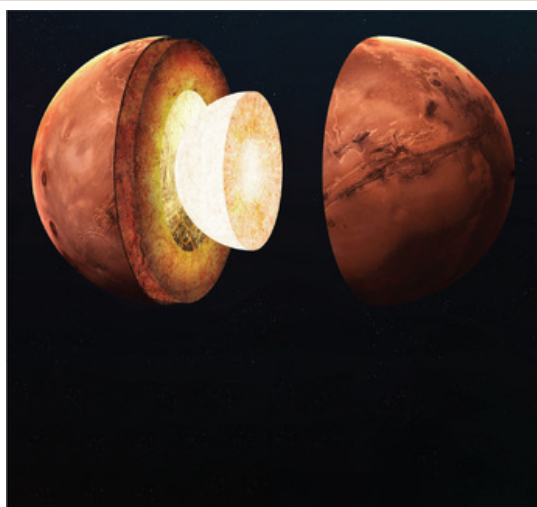


SKYWATCHER NEWSLETTER



A NEW STUDY SUGGESTS A SOLID CORE IS HIDDEN WITHIN MARS'S MOLTEN OUTER CORE. IMAGE: VADIM SADOVSKI/SHUTTERSTOCK



Night Sky Notes: Night Sky Notes: The Great Rift

By Dave Prosper

Updated by Kat Troche

Summer skies bring glorious views of our own Milky Way galaxy to observers blessed with dark skies. For many city dwellers, their first sight of the Milky Way comes during trips to rural areas - so if you are traveling away from city lights, do yourself a favor and look up!

To observe the Milky Way, you need clear, dark skies and enough time to adapt your eyes to the dark. Photos of the Milky Way are breathtaking, but they usually show far more detail and color than the human eye can see - that's the beauty and quietly deceptive nature of long exposure photography. For Northern Hemisphere observers, the most prominent portion of the Milky Way rises in the southeast as marked by the constellations Scorpius and Sagittarius. Take note that, even in dark skies, the Milky Way isn't easily visible until it rises a bit above the horizon, and the thick, turbulent air obscures the view. The Milky Way is huge, but it is also rather faint, and our eyes need time to truly adjust to the dark and see it in any detail. Avoid bright lights as they will ruin your night vision. It's best to attempt to view the Milky Way when the Moon is at a new or crescent phase; a full Moon will wash out any potential views.

LATEST NEWS

A fascinating article just came out in the latest Science magazine from the AAAS. Further analysis of the InSight mission data, which ended operations on Mars 3 years ago, has provided more evidence for the internal structure of Mars. The seismometer package recorded marsquakes resonating through the planet which provides evidence of the internal structure based on the travel duration and arrival times of the waves. There has previously been models of Mars with a liquid core however the recent data indicates it may actually have a solid inner core much like the Earth but lacks the tectonics to enable convection to take place in its mantle. More to come on this fascinating topic!

Until next month and hopefully 20 years more of the WAC... SLK



THE VERA C. RUBIN OBSERVATORY, LOCATED AT CERRO PACHÓN, CHILE, UNDER THE MILKY WAY. THE BRIGHT HALO OF GAS AND STARS ON THE LEFT SIDE OF THE IMAGE HIGHLIGHTS THE VERY CENTER OF THE MILKY WAY GALAXY. THE DARK PATH THAT CUTS THROUGH THIS CENTER IS KNOWN AS THE GREAT RIFT, BECAUSE IT GIVES THE APPEARANCE THAT THE MILKY WAY HAS BEEN SPLIT IN HALF. IMAGE CREDIT: RUBINOBS/NOIRLAB/SLAC/NSF/DOE/AURA/B. QUINT

Keeping your eyes dark-adapted is especially important if you want to not only see the haze of the Milky Way, but also the dark lane cutting into that haze, stretching from the Summer Triangle to Sagittarius. This dark detail is known as the Great Rift, and is seen more readily in very dark skies, especially dark, dry skies found in high desert regions. What exactly is the Great Rift? You are looking at massive clouds of galactic dust lying between Earth and the interior of the Milky Way.

Other "dark nebulae" of cosmic clouds pepper the Milky Way, including the famed Coalsack, found in the Southern Hemisphere constellation of Crux. Many cultures celebrate these dark clouds in their traditional stories along with the constellations and the Milky Way. One such story tells of a Yacana the Llama, and her baby, wandering along a river that crossed the sky - the Milky Way. The bright stars Alpha and Beta Centauri serve as the Llama's eyes, with the dark sections representing the bodies of mother and baby, with the baby below the mother, nursing.

Where exactly is our solar system within the Milky Way? Is there a way to get a sense of scale? The "Our Place in Our Galaxy" activity can help you do just that, with only birdseed, a coin, and your imagination.

LOCAL EVENTS

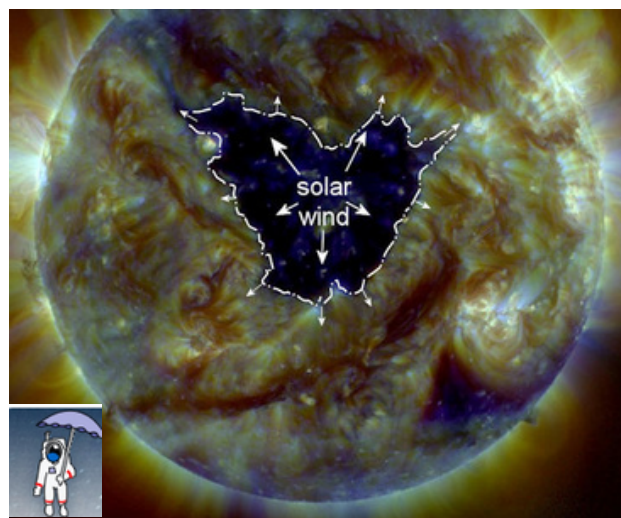
- 17 Sept - FA - Dark Matter - Why we think 95% of the Universe is Missing - Elizabeth Cunningham
- 7 Oct - WAS - The Bob Mizon Memorial Lecture - Prof. Martin Hendry - An astronomer's guide to the periodic table Via Zoom
- 15 Oct - FA - Bok Globules - Dark Nebulae - Club Speaker Ross Gould
- 4 Nov - WAS - Steve Plant UK Space Agency In Person
- 19 Nov - FA - Metals in Space - John Arnold (Leeds Astronomical Society)
- 2 Dec - WAS - Members Talks - Members in Person/Zoom
- Sat, 13 Dec 2025, 20:00 - 02:00 Geminid Meteor Shower - FA - Knowlton Observatory - Club meeting at Knowlton observatory for observing the Geminid meteor shower, the most prolific shower of the year in 2025.

VISIT OUR WEBSITE FOR THE LATEST CLUB INFORMATION

Continued from page 1:



IN THE ACTIVITY, "OUR PLACE IN OUR GALAXY", IF THE MILKY WAY WERE SHRUNK DOWN TO THE SIZE OF NORTH AMERICA, OUR SOLAR SYSTEM WOULD BE ABOUT THE SIZE OF A QUARTER. AT THAT SCALE, POLARIS - WHICH IS ABOUT 433 LIGHT YEARS DISTANT FROM US - WOULD BE 11 MILES AWAY. IMAGE CREDIT: ASTRONOMICAL SOCIETY OF THE PACIFIC



A BUTTERFLY-SHAPED HOLE IN THE SUN'S ATMOSPHERE: A hole has opened in the sun's atmosphere, and it is venting a stream of solar wind toward Earth. NASA's Solar Dynamics Observatory photographed the 500,000-km-wide butterfly-shaped gap on Sept. 11th.

This is a "coronal hole" -- a region in the sun's atmosphere where magnetic fields open up and allow solar wind to escape. Coronal holes look dark because hot plasma normally contained there is missing. The gaseous material is "on the loose" and on its way to Earth.

A stream of solar wind flowing from this coronal hole should reach Earth on Sept. 14th. Its arrival could spark G1 to G2-class geomagnetic storms. The odds of storming are increased by the "Russell-McPherron effect," which links the magnetic fields of the sun and Earth during weeks around equinoxes. spaceweather.com

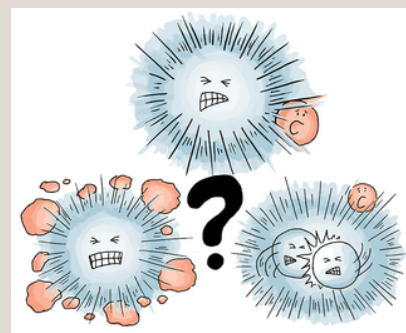


How an Interstellar Interloper Spurred Astronomers into Action

Valuable lessons from previous interstellar objects allowed scientists to develop a more rapid response when the third one arrived in July.

Eos / Sep 9

<https://tinyurl.com/mtfsn36t>



WAC Upcoming Events

14 NOV - JO RICHARDSON FRAS - THE JWST - A MIRRORED MARVEL (IN-PERSON AND ZOOM)

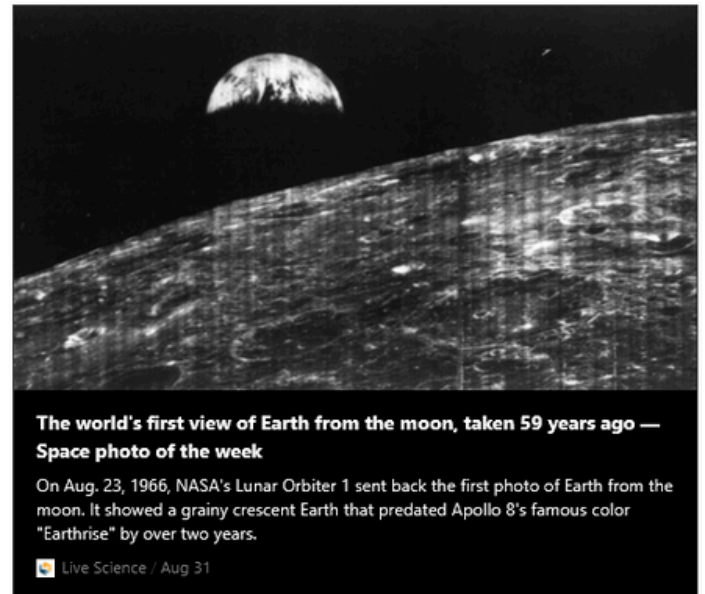
12 DEC - DR. JEN GUPTA - SPECTROSCOPY THE STORY OF THE DISCOVERY OF THE FIRST QUASAR (3C273) (IN-PERSON AND ZOOM)

MORE TO COME IN 2026!

WEYMOUTH ASTRONOMY



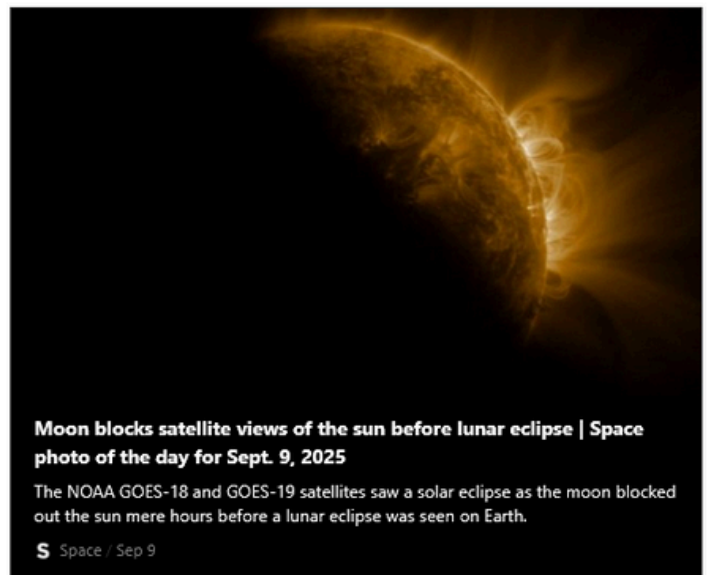
<https://science.nasa.gov/missions/teess/astronomers-map-stellar-polka-dots-using-nasas-teess-kepler/>



<https://www.livescience.com/space/the-moon/the-worlds-first-view-of-earth-from-the-moon-taken-59-years-ago-space-photo-of-the-week>



<https://www.leravi.org/voyagers-next-record-nasa-spacecraft-will-soon-reach-a-full-light-day-from-earth-a-first-in-human-history-1456/>



<https://www.space.com/stargazing/eclipses/moon-blocks-satellite-views-of-the-sun-before-lunar-eclipse-space-photo-of-the-day-for-sept-9-2025>

Solar Activity update: The sunspot activity has been sporadic in recent weeks in white light viewing. The image (left) is from 30/8 displaying a significant active region that is Earth facing. The image from 8 Sept (right) illustrates the recent reduction of sunspots.

Both images taken with a Seestar S50 smartscope and Baader astrofilm filter. 30s video which was stacked using the built in software tools. No other processing applied.

~SLKarl




WAC Members Corner

THE TOTAL LUNAR ECLIPSE ON THE 7 SEPTEMBER CERTAINLY DID NOT DISAPPOINT WHEN VIEWED FROM PORTLAND BILL.

SEVERAL SUPER IMAGES WERE TAKEN BY WAC MEMBERS TO DOCUMENT THE EVENT. SUBMITTED ON THE WHATSAPP WAC GROUP BY MIKE VINCENT. AMAZING THE WEATHER COOPERATED!

7 Sep 2025, 19:46



Max View in Weymouth, England

Global Event:	Total Lunar Eclipse
Local Type:	Total Lunar Eclipse in Weymouth, England
Begins:	Sun, 7 Sep 2025, 19:38
Maximum:	Sun, 7 Sep 2025, 19:46 1.089 Magnitude
Ends:	Sun, 7 Sep 2025, 21:55
Duration:	2 hours, 16 minutes

All times shown on this page are local time.

