MARCH 2025

WEYMOUTH ASTRONOMY

VOLUME 19 #8

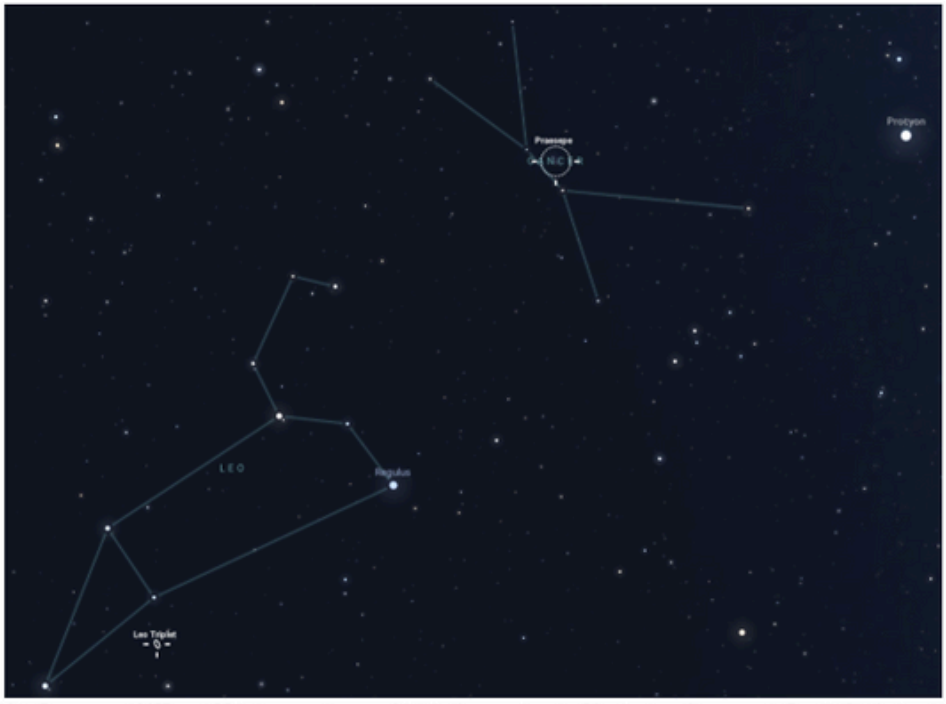
SKYWATCHER NEWSLETTER

LATEST NEWS

This morning started the pair of eclipses occuring in March. Hopefully you were able to catch a glimpse of the partial lunar eclipse at moonset today and fingers crossed for clear skies on the 29th for the partial solar eclipse. More details on page 4.

We are almost at the Spring Equinox, a good time to watch for aurora as the Earth and Sun's magnetic fields align, allowing more charged particles from the solar wind to enter Earth's atmosphere.

Until next month... SLK



M44 in Cancer and M65 and 66 in Leo can be seen high in the evening sky 60 minutes after sunset. Credit: Stellarium Web

March's Night Sky Notes: Messier Madness

By Kat Troche

March is the start of spring in the Northern Hemisphere; with that, the hunt for Messier objects can begin!

Showing a large portion of M66, this Hubble photo is a composite of images obtained at visible and infrared wavelengths. The images have been combined to represent the real colors of the galaxy. Credit: NASA, ESA and the Hubble Heritage (STScI/AURA)-ESA/Hubble Collaboration; Acknowledgment: Davide De Martin and Robert Gendler

What Are Messier Objects?

During the 18th century, astronomer and comet hunter Charles Messier wanted to distinguish the 'faint fuzzies' he observed from any potential new comets. As a result, Messier cataloged 110 objects in the night sky, ranging from star clusters to galaxies to nebulae. These items are designated by the letter 'M' and a number. For example, the Orion Nebula is Messier 42 or M42, and the Pleiades are Messier 45 or M45. These are among the brightest 'faint fuzzies' we can see with modest backyard telescopes and some even with our eyes.

Stargazers can catalog these items on evenings closest to the new moon. Some even go as far as having "Messier Marathons," setting up their telescopes and binoculars in the darkest skies available to them, from sundown to sunrise, to catch as many as possible. Here are some items to look for this season:

M44 in Cancer and M65 and 66 in Leo can be seen high in the evening sky 60 minutes after sunset. Credit: Stellarium Web

Messier 44 in Cancer: The Beehive Cluster, also known as Praesepe, is an open star cluster in the heart of the Cancer constellation. Use Pollux in Gemini and Regulus in Leo as guide stars. A pair of binoculars is enough to view this and other open star clusters. If you have a telescope handy, pay a visit two of the three galaxies that form the Leo Triplet - M65 and M66. These items can be seen one hour after sunset in dark skies.

Messier 3 Canes Venatici: M3 is a globular cluster of 500,000 stars. Through a telescope, this object looks like a fuzzy sparkly ball. You can resolve this cluster in an 8-inch telescope in moderate dark skies. You can find this star cluster by using the star Arcturus in the Boötes constellation as a guide.

Messier 87 in Virgo: Located just outside of Markarian's Chain, M87 is an elliptical galaxy that can be spotted during the late evening hours. While it is not possible to view the supermassive black hole at the core of this galaxy, you can see M87 and several other Messier-labeled galaxies in the Virgo Cluster using a medium-sized telescope.

Continued on page 2....

LOCAL EVENTS

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

28 Mar - FA - 19:00 - 06:00 Messier Challenge 2025 Abbots Well Carpark
Come and join us!

29 Mar - FA - 09:45 - 12:15 Partial Solar Eclipse Abbots Well Carpark
Right after the Messier Challenge!

1 April - WAS - Michael Foulkes – Uranus – Herschel's Planet (In Person)

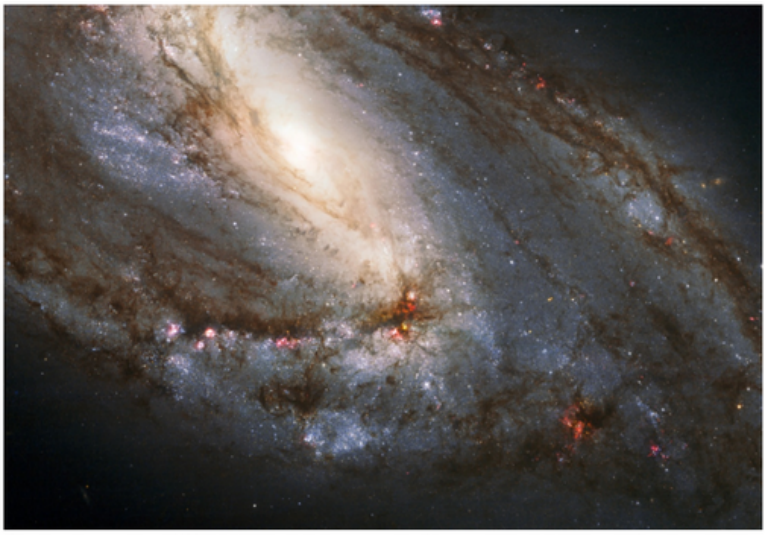
16 Apr - FA - 19:30 - 22:00 The Elm Tree
The UK Space Agency and its Missions

16 Apr - CADAS - Apr 16 Professor Chris Lintott

6 May - WAS - Prof. Brad Gibson – How the universe will end (In Person)

MORE TO COME IN 2025!

Continued from page 1:



Showing a large portion of M66, this Hubble photo is a composite of images obtained at visible and infrared wavelengths. The images have been combined to represent the real colors of the galaxy. Credit: NASA, ESA and the Hubble Heritage (STScI/AURA)-ESA/Hubble Collaboration; Acknowledgment: Davide De Martin and Robert Gendler

Messier 76 in Perseus: For a challenge, spot the Little Dumbbell Nebula, a planetary nebula between the Perseus and Cassiopeia constellations. With an apparent magnitude of 12.0, you will need a large telescope and dark skies. You can find both M76 and the famous Andromeda Galaxy (M31) one hour after sunset, but only for a limited time, as these objects disappear after April. They will reappear in the late-night sky by September.

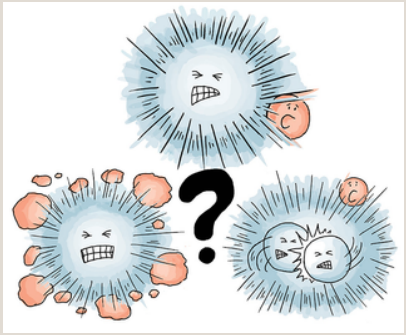
Plan Ahead

When gearing up for a long stargazing session, there are several things to remember, such as equipment, location, and provisions:

- Do you have enough layers to be outdoors for several hours? You would be surprised how cold it can get when sitting or standing still behind a telescope!
- Are your batteries fully charged? If your telescope runs on power, be sure to charge everything before you leave home and pack any additional batteries for your cell phone. Most people use their mobile devices for astronomy apps, so their batteries may deplete faster. Cold weather can also impact battery life.
- Determine the apparent magnitude of what you are trying to see and the limiting magnitude of your night sky. You can learn more about apparent and limiting magnitudes with our Check Your Sky Quality with Orion article.
- When choosing a location to observe from, select an area you are familiar with and bring some friends! You can also connect with your local astronomy club to see if they are hosting any Messier Marathons. It's always great to share the stars!
- You can see all 110 items and their locations with NASA's Explore the Night Sky interactive map and the Hubble Messier Catalog, objects that have been imaged by the Hubble Space Telescope.

Locate M3 and M87 rising in the east after midnight. Credit: Stellarium Web

Locate M76 and M31 setting in the west, 60 minutes after sunset. Credit: Stellarium Web

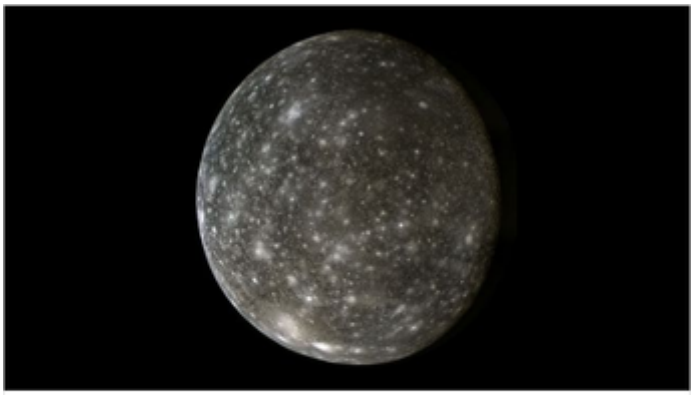


WAC Upcoming Events

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

MAY 9 - AGM FOLLOWED BY TOM HINDE - OBSERVING (AND CONTROLLING) THE QUANTUM WORLD (IN-PERSON AND ZOOM)

JUNE 13 - MARY MCINTYRE - WOMEN IN ASTRONOMY (IN-PERSON AND ZOOM)

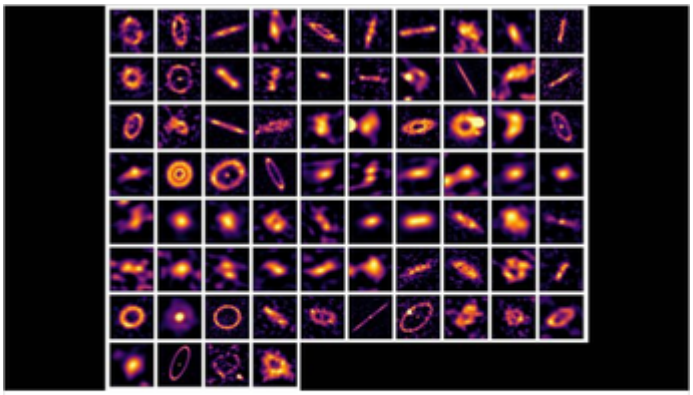


Jupiter's Moon Callisto Is Very Likely an Ocean World

A closer look at previously disregarded observations reveals stronger evidence that a deep ocean lies beneath Callisto's icy surface.

Eos / Feb 18

https://tinyurl.com/37yeuv82



Dusty Belts Provide Clearer Insights into Exoplanet Formation

Millimeter-wavelength observations of dust and pebbles in 74 star systems hint that planetary migrations might be more common than we realized.

https://tinyurl.com/5x363dhj

SOLAR MAX -- IS A SECOND PEAK COMING? Last October, NOAA and NASA announced that Solar Max has arrived. Only half the sun got the memo. The majority of solar activity has been happening in just one of the sun's hemispheres--the south. The solar superstorm of May 10, 2024, for instance, was caused by a monster southern sunspot.

It makes you wonder, is the other half of Solar Max still coming? This plot of hemispheric sunspot numbers from SILSO provides some context:

Here we see all seven solar cycles of the Space Age, punctuated by current Solar Cycle 25 on the far right. The most recent cycles are double peaked, with northern sunspots (green) and southern sunspots (red) reaching their own Solar Max ~two years apart. This isn't big news. Researchers have long known that the two hemispheres of the sun are slightly out of sync. The north vs. south delay is called the "Gnevyshev gap."

This composite image of last year's sunspots shows how dominant the southern hemisphere has been:

For forecasters of the solar cycle, this raises an interesting possibility: Maybe the northern peak is still coming. Indeed, there are signs in February 2025 that the pendulum is swinging. This month's sunspots have been more evenly distributed between the two hemispheres, a sign that activity may be shifting north.

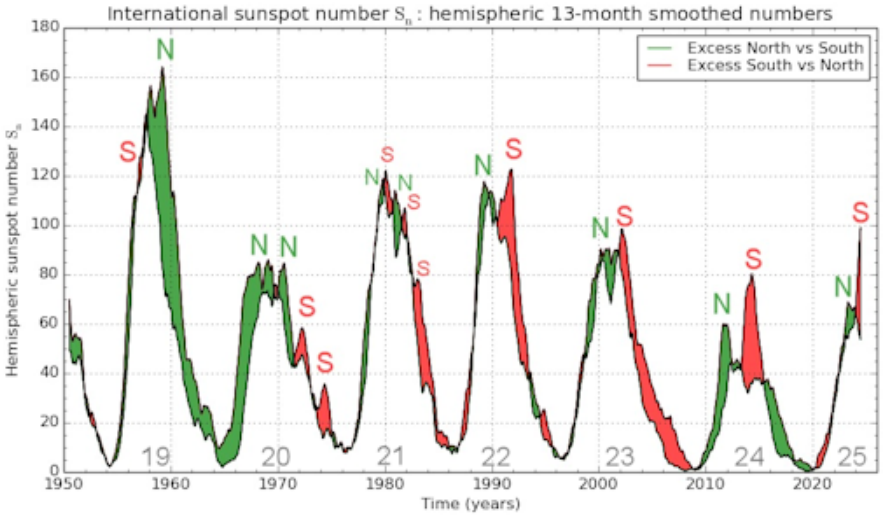
On the other hand, the northern peak might have already occured. Take another look at the first plot. There is a puny northern peak near the beginning of Solar Cycle 25. Perhaps that was it.

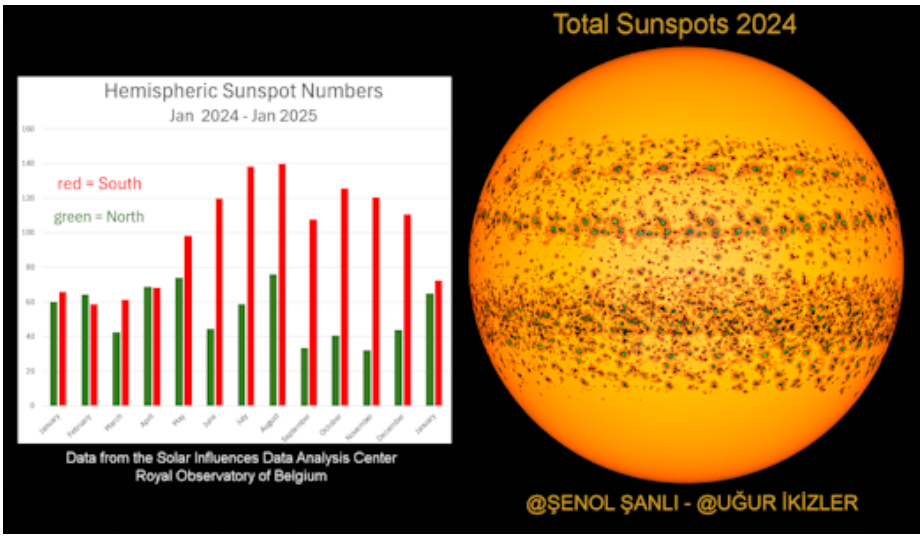
This discussion focuses attention on the north-south balance of sunspots. A northern shift in the months ahead could herald a second peak and another year or two of excellent auroras before Solar Cycle 25 finally peters out. Stay tuned!

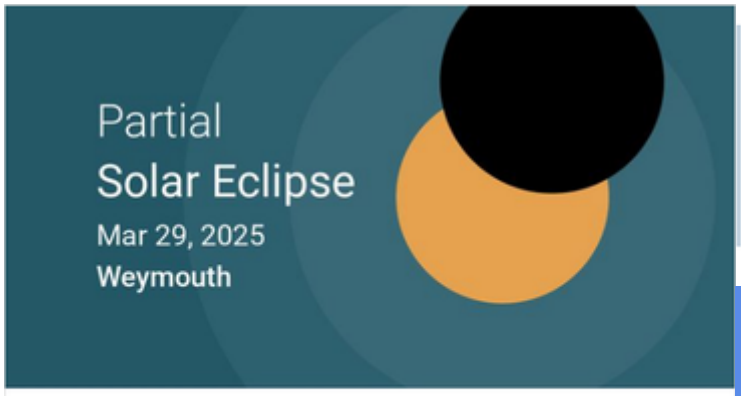
Solar Cycle Update:

Feb. 21, 2025

https://www.spaceweather.com



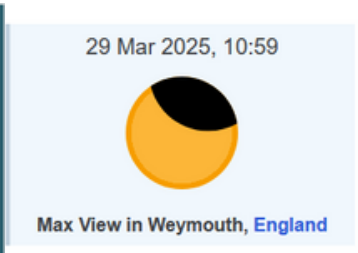




March 29, 2025 Partial Solar Eclipse in Weymouth, England, United Kingdom

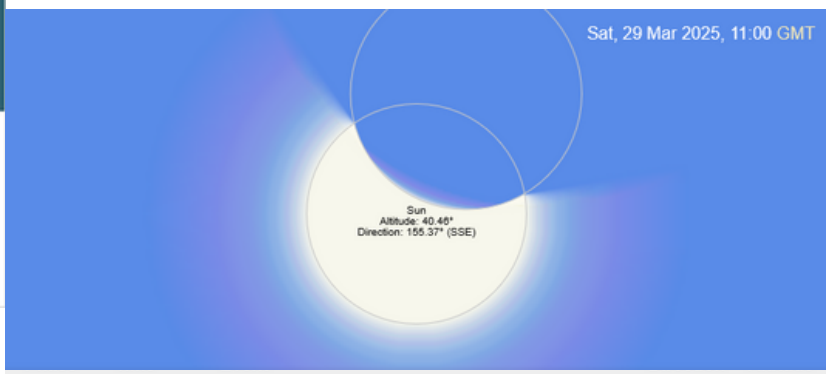
Start time, end time, animation, and detailed viewing information for the upcoming eclipse in Weymouth, England, United Kingdom

timeanddate.com



Global Event:	Partial Solar Eclipse
Local Type:	Partial Solar Eclipse in Weymouth, England
Begins:	Sat, 29 Mar 2025, 10:02
Maximum:	Sat, 29 Mar 2025, 10:59 0.435 Magnitude
Ends:	Sat, 29 Mar 2025, 11:57
Duration:	1 hour, 55 minutes

All times shown on this page are local time.



10:02:54 Sat, 29 Mar	**Partial eclipse begins** The moment the edge of the Moon touches the edge of the Sun is called first contact.	138°	35.4°
10:59:38 Sat, 29 Mar	**Maximum eclipse** The deepest point of the eclipse, with the Sun at its most hidden.	155°	40.4°
11:57:59 Sat, 29 Mar	**Partial eclipse ends** The edge of the Moon leaves the edge of the Sun.	174°	42.8°

https://www.timeanddate.com/eclipse/in/uk/weymouth?iso=20250329

Ceres's Organics Might Not Be Homegrown After All

Scientists have been unable to determine whether the dwarf planet's organics were produced by its own chemical processes or delivered by asteroids. New evidence implicates asteroids.

Eos / Feb 10

https://tinyurl.com/4da8twye

WAC Members Corner

14 March 2025 - Just before moonset there was a partial lunar eclipse visible from the UK.

Ennio was able to take this super image before it disappeared into a cloud bank low in the west. Typical!

Skymaps.com—Feel free to download the full article directly each month.