

Walsall Astronomical Society



November 2025

What's Up Monthly Publication

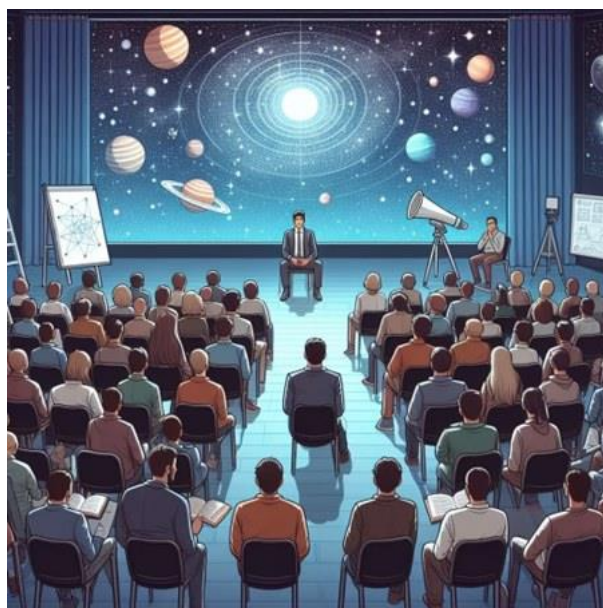


November:

Step into November, a month where the air grows crisp and the night sky truly begins to sparkle! ✨ As the leaves fall away, they reveal an even grander show above our heads, offering a perfect opportunity for us to explore some of the most iconic **constellations** of the season. This month, we'll be turning our telescopes and binoculars toward celestial legends like the magnificent **Orion the Hunter**, the steadfast **Taurus the Bull**, and the stunning **Pleiades star cluster**—truly a feast for the eyes and a great way to deepen your connection with the cosmos.

We are now among the “wet” constellations, Capricornus the water goat, Pisces the fishes, Piscis Austrinus the southern fish with brilliant Formalhaut in its mouth, (it means mouth of the fish) Eridanus the River, Cetus the Whale and Aquarius the water bearer.

What's on in November



Thursday 6th November : External Lecture - Dr Ian Whittaker from Nottingham and Trent Uni. Talk on: Solar Physics

Thursday 13th November: Andrew Thornett : Radio Astronomy options for our club and the equipment. Talk called: "Proposed club RA projects Walsall Astro Society"

- This month we have a mix of external and internal talks. General Club Meeting, for discussion and support with Observing if clear 🍷.

Don't forget to send us any 📷 images you have taken or post them on the Facebook Group!¹

Thursday 20th November: General Club Meeting, for discussion and support - Observing with telescopes if clear

Thursday 27th November: General Club Meeting, for discussion and support - Observing with telescopes if clear

A huge thank you to every single member who joined us this weekend for our Winter Star Party!

While the clouds decided to stick around all weekend after a change in wind direction, they certainly did not dampen our spirits!

It was truly great to see so many of you sharing your knowledge, talking about equipment, and just enjoying the great company (plus great food at The Bridges Pub).

Your enthusiasm is what makes our club shine, no matter what the weather is doing! Thank you for proving that the best part of stargazing is the community, not just the stars!

¹<https://www.facebook.com/groups/251803274136388>

Quote of the weekend

"We all looked at the weather before we set out, but we still came"

Goes to show what a good time we have come rain or shine.

Want to join the next adventure? If you missed this one and are interested in coming to our next star party, just come down to the clubhouse during our regular meeting times to find out more details! We'd love to have you.

#LastMinute.Com: We may look to do an impromptu weekend event over the coming weeks and head to a dark sky location if we see the weather is looking good.

Walsall Astro - Star Camp October 2025



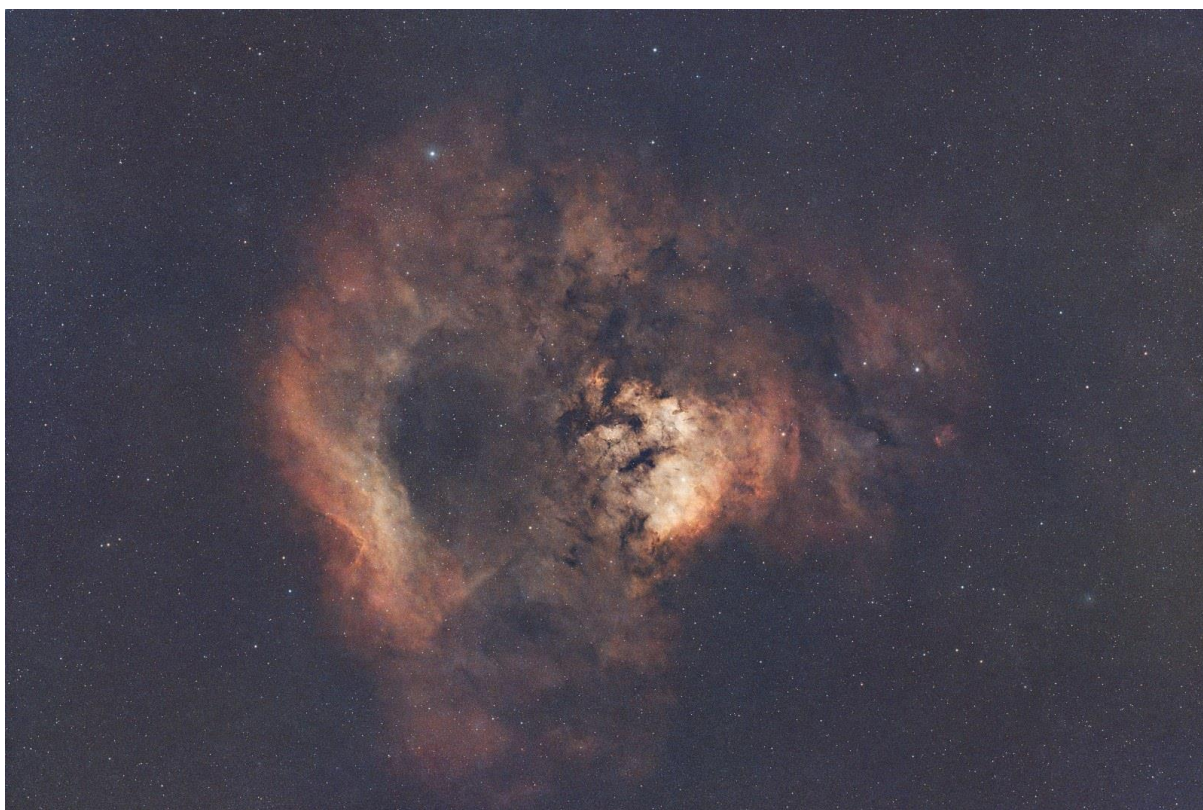
Star Party Thank You:

Members Gallery - To do

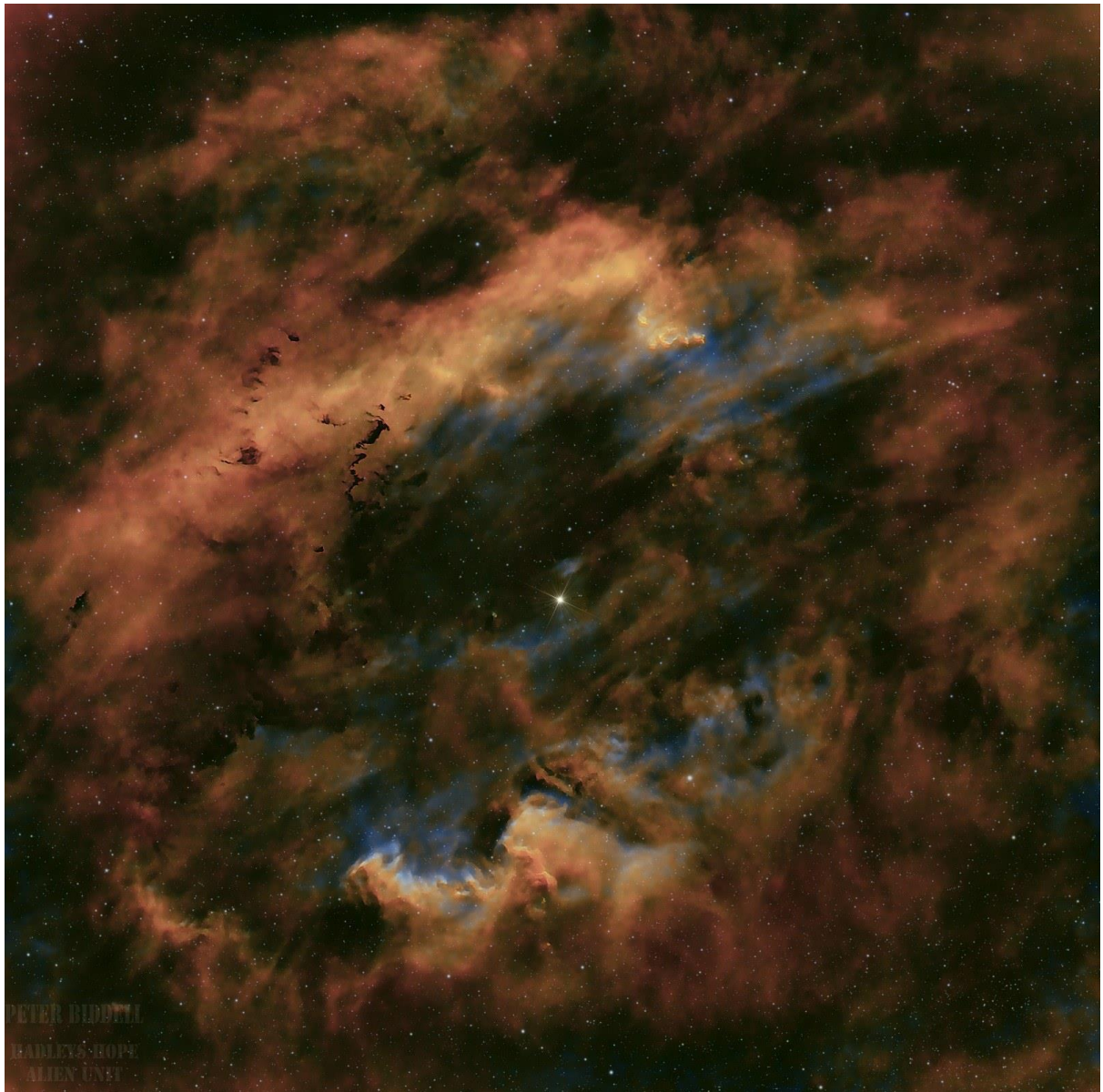


This section is to display some of the images that our own club members have taken during the previous month. Please feel free to submit any images via email, or post on the Facebook Group **Here**²

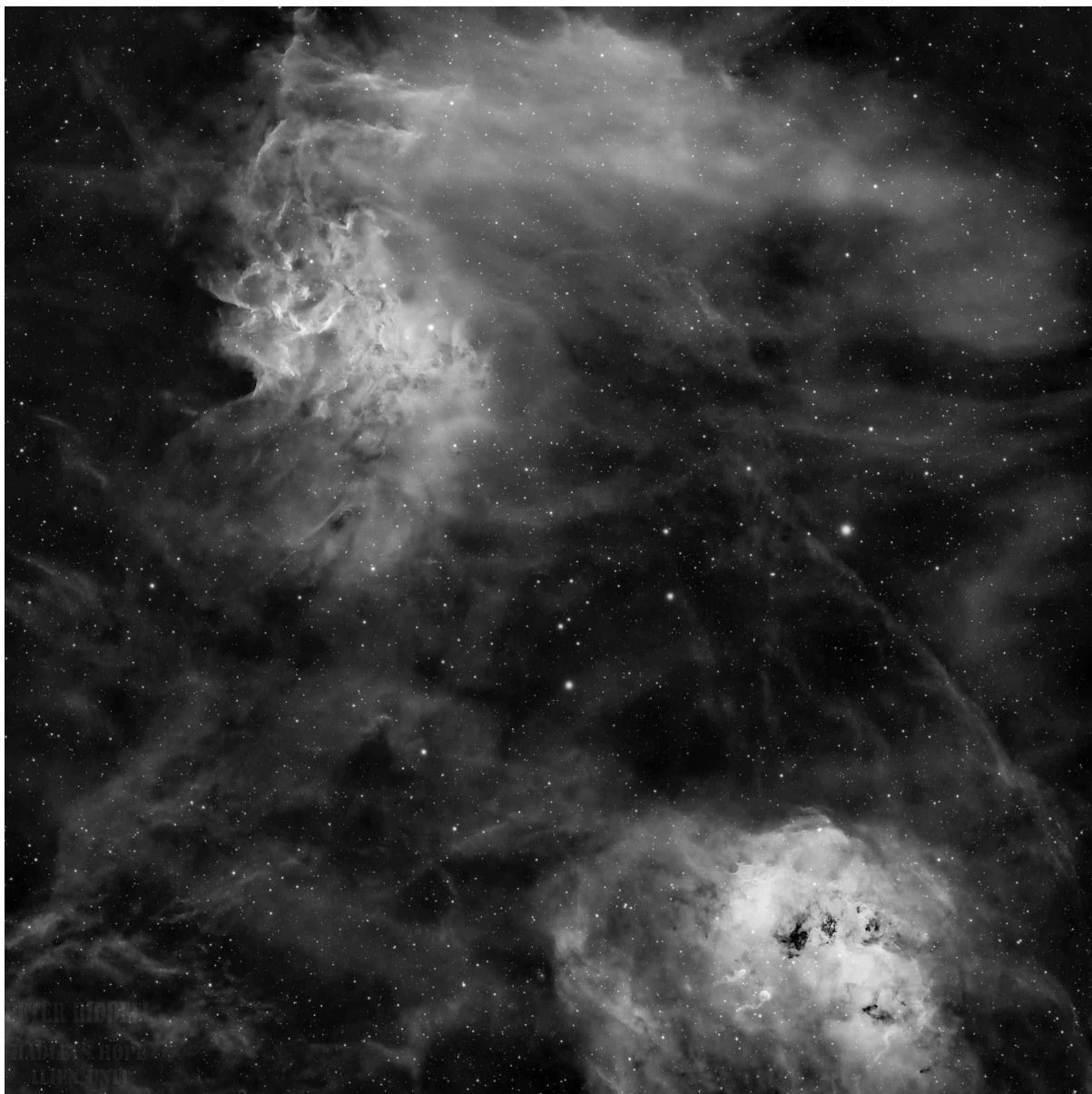
²<https://www.facebook.com/groups/251803274136388>



1 - NGC 7822 - Teddy Bear Nebula - Keith Thompson



2 - SH2-119 The Clamshell Nebula - Peter Biddell



3 - IC405 Flaming Star Nebula and IC410 Teh Tadpole Nebula - Peter Biddell



Seestar S50 

C2025 A6 (Lemmon)

Nigelstar/01°W,52°N/2025-10-29 18:53

3min



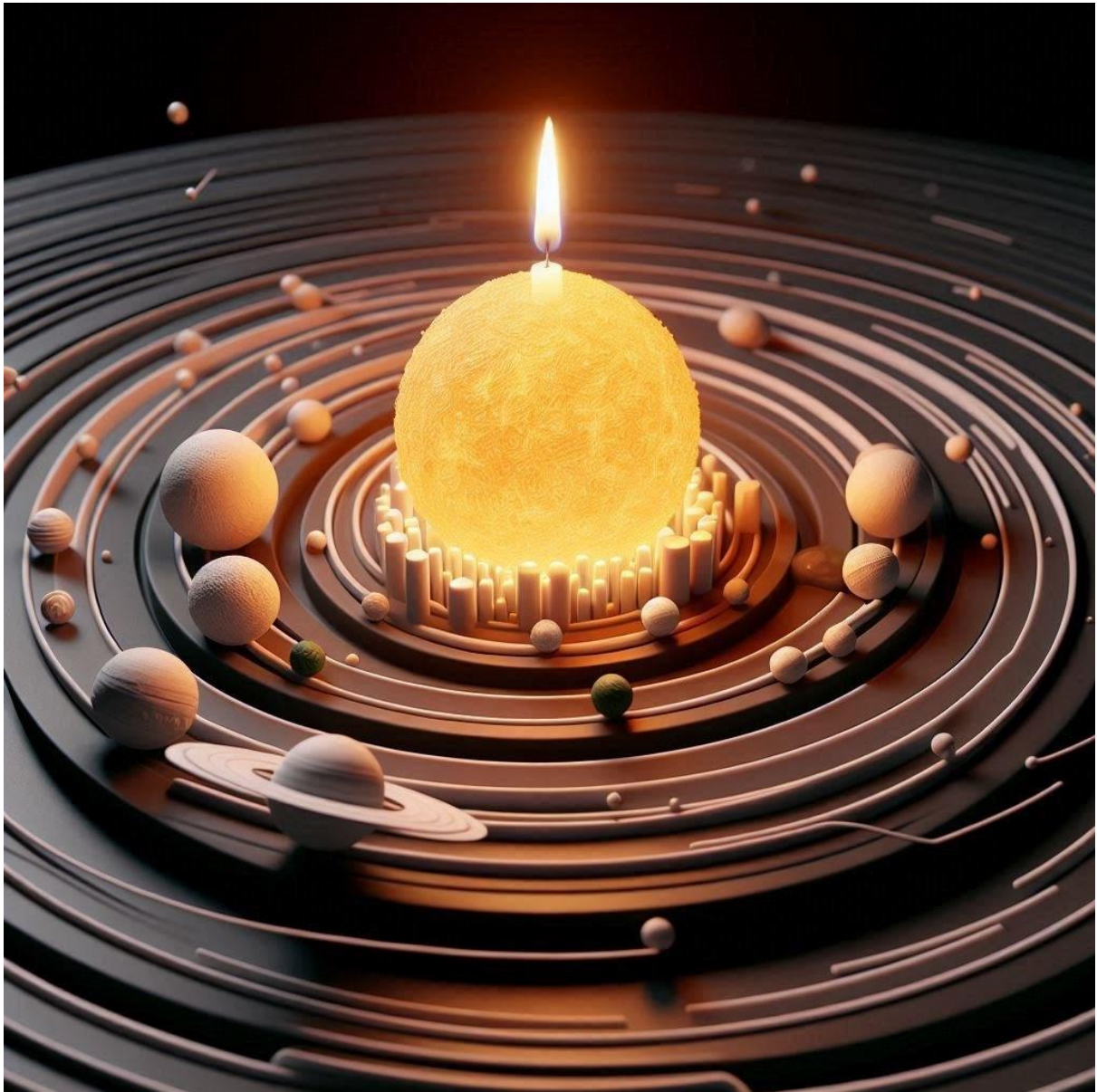
Seestar S50 

M 45

Nigelstar/01°W,52°N/2025-10-30 02:37

54min

Anniversaries - November



Major Space Exploration Anniversaries for November





Significant historical anniversaries in November include:

- **November 2, 2000 (25th Anniversary in 2025):** The **first crew, Expedition 1**, arrived at the **International Space Station (ISS)**, marking the beginning of continuous human presence in space.

- **November 3, 1957 (68th Anniversary in 2025):** The Soviet Union launched **Sputnik 2**, which carried the dog **Laika**, the first animal to orbit the Earth.
- **November 3, 1973 (52nd Anniversary in 2025):** NASA launched **Mariner 10**, which became the first space probe to reach the planet **Mercury**.
- **November 7, 1996 (29th Anniversary in 2025):** NASA launched the **Mars Global Surveyor** mission.
- **November 15, 1988 (37th Anniversary in 2025):** The first and only spaceflight of the Soviet spaceplane **Buran** took place.

The Moon - To do



Full Moon		7th October
Last Quarter		13th October
New Moon		21st October
1st Quarter		29th October

Full Moon Phase Calendar details (Here³)

The full moon on the 7th will be a Supermoon

The Sun - November



Solar Activity Highlights for November 2025

Predicting specific solar events is challenging, but based on the current state of **Solar Cycle 25** and forecasts from space weather centers, the outlook for November 2025 suggests **continued elevated activity** with the potential for geomagnetic storms.

³<https://www.moongiant.com/calendar/October/2025/>

Here are the key highlights and predictions for solar activity in November 2025:

1. Solar Cycle Status: Peak/Decline Phase

- **Solar Maximum is Near (or Just Past):** The sun is either at or very near the peak of Solar Cycle 25, which means overall solar activity—sunspots, solar flares, and Coronal Mass Ejections (CMEs)—is high.
- **Activity Exceeds Initial Predictions:** Solar Cycle 25 has been stronger than initially predicted, leading to more frequent and intense space weather events than were typical of the previous cycle.
- **High Sunspot Numbers:** While the official smoothed maximum may have occurred around late 2024 or mid-2025, sunspot numbers remain high. Even as the cycle transitions into its declining phase, large, complex sunspot regions capable of producing major flares are still common.

2. Space Weather Events (Flares and CMEs)

- **M-Class and X-Class Flare Potential:** Solar activity is expected to remain high enough to produce **M-class (moderate) flares** with a chance of more powerful **X-class (strong) flares**. These flares can cause shortwave radio blackouts on the sunlit side of Earth.
- **Coronal Mass Ejections (CMEs):** The elevated flaring and sunspot activity means the Sun will continue to launch CMEs, which are massive clouds of solar plasma. If a CME is Earth-directed, it can cause a geomagnetic storm.

3. Geomagnetic Storm and Aurora Forecast

- **High Potential for Geomagnetic Storms:** NOAA's forecasts for the end of October into early November indicate a likelihood of active conditions and **G1 (Minor) to G2 (Moderate) geomagnetic storms** due to recurrent **Coronal Hole High-Speed Streams (CH HSS)** and potential CME impacts.

- **Peak Storm Periods (Private Forecasts):** Some private space weather forecasts highlight specific periods of elevated geomagnetic activity that could lead to visible aurora displays at lower latitudes:
 - **November 1–3:** Weak to Moderate disturbances.
 - **November 11–12 (Main Peak):** Forecasted for Medium to Strong storms (**Kp 5–6**) with a high probability of viewing the **Northern Lights (Aurora Borealis)** in regions where they are not typically seen.
 - **November 17–18:** Minor fluctuations.

In summary, November 2025 is expected to be an active month for the Sun, offering increased chances for aurora sightings but also a risk of minor to moderate space weather impacts on radio communications and power grids.



What to Watch For

- **Sunspots:** High-resolution solar filters or solar scopes reveal increasingly active sunspot groups.
- **Flares & CMEs:** Use solar telescopes or online observatories to track M- and X-class flares.
- **Aurora Potential:** Monitor auroral alerts (Kp index ≥ 5) following any CME hits—northern UK may catch rare Northern Lights.
- **Radio Effects:** Amateur radio operators might experience shortwave disruptions during geomagnetic or flare events.

Aurora Watch UK is a great phone app, that can alert you when the auroral activity is increasing,

Always use the correct solar filters when viewing the Sun, if you have any doubt, please contact us or talk to one of the club committee members.

The Planets - November



Here's a summary of the positions and visibility of the planets in November 2025 as seen from the UK:

CAUTION - This time of the year some of the planets are close to the sun. Looking at the sun through any non-specialist equipment is very dangerous.

November 2025 Night Sky Highlights (Mid-Northern Latitudes)

 **Evening Sky (Immediately After Sunset)**

- **Mercury: Not visible.** The planet is rapidly sinking into the sunset glow following its October elongation. It will pass behind the Sun (inferior conjunction) on November 20th and will be virtually impossible to see in the evening.
- **Mars: Very Difficult.** The Red Planet is extremely low on the western horizon and sets shortly after the Sun. You'll need an exceptionally clear, unobstructed view right at sunset to catch a brief glimpse.
- **Saturn: Excellent.** The Ringed Planet is well-placed for evening viewing. Look for it high in the **South** after sunset. It will remain visible until it sets in the west around **1:00 AM**.
- **Neptune: Good.** This distant planet is located near Saturn. Use binoculars or a small telescope to spot it near Saturn's position in the **South-Southwest**. It sets around **1:30 AM**.



Late Night & Morning Sky (After Midnight)

- **Jupiter: Excellent.** Shining brilliantly at magnitude approx -2.4\$, Jupiter is the brightest object in the night sky after the Moon. It rises in the **East** around **8:00 PM** and is visible throughout the night, reaching its highest point in the south before dawn.
- **Uranus: Excellent.** The planet is at its brightest and best-placed as it reaches **Opposition on November 21st**. You can find it visible all night long in the constellation **Taurus** (near the Pleiades and Hyades clusters). It is visible through binoculars (magnitude approx +5.7\$).
- **Venus: Good.** Look for the dazzling Morning Star (magnitude approx -3.9\$) low in the **East** for a short period before sunrise. It is the last of the major planets to rise.
- **Pluto: Difficult.** Due to its extreme faintness (magnitude approx +15.5\$), you will need a large telescope and precise star charts to locate it low in the **Southwest** after sunset.



Key Celestial Events

- **November 5: Full Moon** (The "Beaver Moon"), which is also a **Supermoon**, appearing slightly larger and brighter than average.
- **November 17-18: Peak of the Leonid Meteor Shower.** Though a relatively minor shower (10-15 meteors per hour), it is best viewed in the hours before dawn.
- **November 21: Uranus at Opposition**, marking the best time of the year to observe the ice giant.

Comets, Meteors & Asteroids - November



Meteor Showers - November

November offers excellent opportunities for meteor shower observing.

November Meteor Showers Visible in the UK

- The Northern Taurids, due to peak on 12 November with around five meteors per hour from the trails of comet 2P/Encke or associated objects.
- The Leonids, due to peak on the evening of 17 November with up to 15 meteors per hour from the trail of the comet 55P/Tempel-Tuttle.
- Early Geminids, due to peak on the morning of 14 December with up to 150 meteors per hour from the trail of the asteroid 3200 Phaethon.

Asteroids - November

While no **bright naked-eye asteroids** are predicted to be visible from the UK in November 2025, there are a few that will be within the range of a small telescope or strong binoculars:

Asteroids Visible with Optical Aid

The best asteroid target for UK observers in November 2025 will be **12 Victoria**.

- **12 Victoria**
- **Brightness:** Reaches opposition on November 5th, shining at about **magnitude +9.9**.
- **Viewing Requirement:** You will need a **small telescope** (3-inch aperture or greater) to spot it.
- **Location:** It will be visible within the constellation of **Aries** throughout November.
- **Note:** Finding an asteroid usually involves using a detailed star chart for its exact path over several nights, as it will look like a faint "star" that slowly moves against the background stars.

Comets - November

The primary target for UK comet observers in November 2025 is **Comet C/2025 A6 (Lemmon)**. (Fading fast)

1. Comet C/2025 A6 (Lemmon) 🍋

- **Visibility:** Expected to be visible in **binoculars** and may be glimpsed with the **naked eye** (magnitude +4 to +5) from a dark location, particularly during the first half of the month.
- **Peak Time:** Best viewed in **early November** as it reaches perihelion (closest point to the Sun) around November 8, before it begins to fade and sink lower.
- **Viewing Location:** Look in the **evening sky** after sunset, low towards the **west/south-west**.
- **Note:** Comet brightness predictions can be uncertain, but this remains the brightest and most favorable comet for Northern Hemisphere observers in November.

2. Other Fainter Comets (Telescope Required)

These comets are expected to be fainter (magnitude +8 to +12) and will require a **small telescope** or powerful binoculars to observe:

- **210P/Christensen** :Expected to peak around mid-November. Visible low in the **pre-dawn eastern sky**.
- **C/2025 R2 (SWAN)**: Fading from its peak in October, but may still be observable. Look low in the **south-west** during the evening.
- **C/2024 E1 (Wierchoś)**: Gradually brightening toward its 2026 peak. Will be a challenging target from the UK, becoming very low and difficult to observe by the end of November.

Deep Sky Targets - November



For Telescopes & Astrophotography - November

The night sky in November begins the transition to winter and offers some of the best deep-sky objects for UK observers, many of which are visible even from light-polluted areas.

Here is a list of popular astronomy targets for November, along with a link to a Google picture search for each item.

- **Andromeda Galaxy (M31) - Constellation Andromeda**
 - *Description:* The nearest major galaxy to the Milky Way (2.5 million light-years away). It is the most distant object you can see with the unaided eye under dark conditions, appearing as a faint, fuzzy smudge.

- *Visibility:* **Naked Eye** (Dark skies only), **Binoculars** (Large hazy patch), **Telescope**.
 - *Picture Search:* Google Image Search for Andromeda Galaxy⁴
- **The Pleiades (M45) - Constellation Taurus**
 - *Description:* Also known as the **Seven Sisters**, this is a stunning, bright, blue-white open star cluster easily visible in the eastern sky. Under ideal conditions, you can count six or seven stars, but binoculars reveal hundreds.
 - *Visibility:* **Naked Eye** (prominent), **Binoculars** (best view).
 - *Picture Search:* Google Image Search for Pleiades Star Cluster⁵
- **Orion Nebula (M42) - Constellation Orion**
 - *Description:* The signature deep-sky object of winter, this stellar nursery begins to rise earlier in November. It is visible as a fuzzy patch in the "sword" of Orion, hanging below the three belt stars. A telescope reveals glowing gas and the **Trapezium Cluster** of four bright, young stars at its heart.
 - *Visibility:* **Naked Eye** (Fuzzy patch), **Binoculars**, **Telescope**.
 - *Picture Search:* Google Image Search for Orion Nebula⁶
- **Double Cluster (NGC 869 & NGC 884) - Constellation Perseus**
 - *Description:* Located between the constellations **Perseus** and **Cassiopeia**, this is a spectacular pair of brilliant open star clusters. They are easily visible to the naked eye as a slightly elongated fuzzy patch, but binoculars or a small telescope separate the two dazzling groups.
 - *Visibility:* **Naked Eye** (Fuzzy patch), **Binoculars** (Best view).
 - *Picture Search:* Google Image Search for Double Cluster Perseus⁷

⁴<https://www.google.com/search?q=https://www.google.com/search%3Ftbn%3Disch%26q%3DAndromeda%2BGalaxy%2BM31>

⁵<https://www.google.com/search?q=https://www.google.com/search%3Ftbn%3Disch%26q%3DPleiades%2BStar%2BCluster%2BM45>

⁶<https://www.google.com/search?q=https://www.google.com/search%3Ftbn%3Disch%26q%3DOrion%2BNebula%2BM42>

⁷<https://www.google.com/search?q=https://www.google.com/search%3Ftbn%3Disch%26q%3DDouble%2BCluster%2BPerseus>

- **Hyades Star Cluster - Constellation Taurus**

- *Description:* A large, V-shaped open cluster that forms the head of **Taurus the Bull**. The bright, reddish star **Aldebaran** forms the bull's eye, although it is not physically part of the cluster. The V-shape is easily seen.
- *Visibility:* **Naked Eye** (Very prominent), **Binoculars**.
- *Picture Search:* Google Image Search for Hyades Star Cluster⁸

- **Triangulum Galaxy (M33)**

- **Description:** The third-largest galaxy in the Local Group. It is a stunning face-on spiral, but its low surface brightness makes it a challenging but rewarding target.
- **Constellation:** Triangulum.
- **Visibility:** Requires a **dark sky and binoculars or a small telescope**; appears as a very large, faint, hazy patch.
- **Picture Search:** Google Image Search for Triangulum Galaxy M33⁹

- **Bode's Galaxy (M81) & Cigar Galaxy (M82)****Description:** A famous pair of gravitationally interacting galaxies. M81 is a grand spiral, and M82 is an irregular, starburst galaxy seen edge-on.
- **Constellation:** Ursa Major.
- **Visibility:** These are visible in the northern sky and can often be found in the **same low-power telescopic view**.
- **Picture Search:** Google Image Search for Bode's Galaxy M81 and Cigar Galaxy M82¹⁰

- **Nebulae and Asterisms 🌠 Orion Nebula (M42)**

⁸<https://www.google.com/search?q=https://www.google.com/search%3Ftbn%3Disch%26q%3DHyades%2BStar%2BCluster>

⁹<https://www.google.com/search?q=https://www.google.com/search%3Ftbn%3Disch%26q%3DTriangulum%2BGalaxy%2BM33>

¹⁰<https://www.google.com/search?q=https://www.google.com/search%3Ftbn%3Disch%26q%3DBode%27s%2BGalaxy%2BM81%2Band%2BCigar%2BGalaxy%2BM82>

- **Description:** A massive, spectacular stellar nursery where new stars are being born. It is the signature deep-sky object of the emerging winter sky.
 - **Constellation:** Orion.
 - **Visibility:** Visible to the **naked eye** as a fuzzy spot in Orion's "sword." A telescope will show the glowing cloud and the tiny **Trapezium Cluster** at its core.
 - **Picture Search:** Google Image Search for Orion Nebula M42¹¹
- **Dumbbell Nebula (M27)**
 - **Description:** A planetary nebula, formed from the outer layers of a dying star. It is relatively bright and well-defined, resembling a cosmic hourglass or apple core.
 - **Constellation:** Vulpecula.
 - **Visibility:** A relatively easy target for a **small telescope**, though it is getting lower in the west as the night progresses in November.
 - **Picture Search:** Google Image Search for Dumbbell Nebula M27¹²
- **Heart Nebula (IC 1805) & Soul Nebula (IC 1848)**
 - **Description:** Two enormous, faint emission nebulae, named for their distinctive shapes. They are star-forming regions located in the plane of the Milky Way.
 - **Constellation:** Cassiopeia.
 - **Visibility:** Visually **difficult in small telescopes** due to low surface brightness, but a **favourite target for astrophotography** which captures their vivid red hydrogen-alpha glow.
 - **Picture Search:** Google Image Search for Heart and Soul Nebulae¹³

¹¹<https://www.google.com/search?q=https://www.google.com/search%3Ftbm%3Disch%26q%3DOrion%2BNebula%2BM42>

¹²<https://www.google.com/search?q=https://www.google.com/search%3Ftbm%3Disch%26q%3DDumbbell%2BNebula%2BM27>

¹³<https://www.google.com/search?q=https://www.google.com/search%3Ftbm%3Disch%26q%3DHeart%2Band%2BSoul%2BNebulae%2BIC%2B1805%2BIC%2B1848>

For Binoculars - November

With 7x50 wide angle binoculars sweep the milky-Way from Cassiopeia through Perseus and Auriga to Procyon. Enjoy the Hyades and Pleiades at the same time.

Naked Eye / Binocular Clusters (Open Clusters)

- **The Pleiades (M45, Seven Sisters)** 😊 An unmistakable, brilliant, young, blue-white open cluster in the constellation **Taurus**. It's easily seen with the naked eye and spectacular in binoculars.
- **The Hyades** The nearest open cluster to Earth, forming the prominent '**V**' shape that represents the head of the Bull in the constellation **Taurus**. It's easily visible to the naked eye.
- **The Double Cluster (NGC 869 and NGC 884)** ✨ A magnificent pair of rich open clusters in **Perseus**. They look like a fuzzy patch to the naked eye but are a stunning sight through binoculars or a small telescope.
- **M34** A large, fairly bright open cluster in **Perseus**, easily found with binoculars as it's not far from the famous Double Cluster.
- **M103** A small open cluster in the constellation **Cassiopeia** (the 'W' shape). It's a relatively easy binocular target, found near the star Ruchbah (Delta Cassiopeiae).

Telescopic Clusters (Open and Globular)

- **The Trapezium Cluster (Theta-1 Orionis)** A very young, compact cluster of four bright stars (which look like a small trapezoid) that powers the **Orion Nebula (M42)**. You need a telescope to resolve the individual stars inside the nebula.
- **NGC 7789 (Caroline's Rose Cluster)** A beautiful, rich open cluster in **Cassiopeia**, named for its looping patterns of stars that resemble a rose's petals. A small to moderate telescope provides a great view.
- **M79** The only globular cluster visible in the winter sky for UK observers, located in the constellation **Lepus** (the Hare), just below Orion. It hangs low in the south and requires a telescope to resolve its dense, spherical shape.

- **NGC 457 (The Owl Cluster or E.T. Cluster)** A charming open cluster in **Cassiopeia** that, with a little imagination (and a small telescope), looks like an owl or the alien E.T., thanks to a few bright stars forming "eyes" and "arms."

The Moon

Ideal for exploring craters, mare, and mountains at any phase.

Bills Bulletin



Hi guys

It's been a packed month for interesting research within astronomy. Here are a few of the things that I have found of interest. I hope you enjoy

Sun

Flying through a solar storm

ESA - Flying through the biggest solar storm ever recorded¹⁴

Coronal rain

Solar rain mystery cracked by researchers | EurekAlert!¹⁵

Earth

Colloidal suspensions in gravity (emulsion paint) have a shelf life dictated by how long they take to sediment out. In space this does not happen. An ISS experiment explained

ESA - This is not static noise¹⁶

Parallax from new horizons. It's far enough away to see star positions differently from us on earth

<https://arxiv.org/pdf/2506.21666> ¹⁷pdf of article

[2506.21666] A Demonstration of Interstellar Navigation Using New Horizons¹⁸

Magnetic anomaly found

¹⁴https://www.esa.int/Space_Safety/Space_weather/Flying_through_the_biggest_solar_storm_ever_recorded#msdynmkt_trackingcontext=1081a6df-1f57-4f2a-9c0a-4f7b46d90000

¹⁵<https://www.eurekalert.org/news-releases/1100452>

¹⁶https://www.esa.int/ESA_Multimedia/Images/2025/10/This_is_not_static_noise#msdynmkt_trackingcontext=672f9bd5-2f9f-43d0-9bf8-e8cfbc720000

¹⁷<https://arxiv.org/pdf/2506.21666>

¹⁸<https://arxiv.org/abs/2506.21666>

ESA - Swarm reveals growing weak spot in Earth's magnetic field¹⁹

Wee could have held back oxygen formation

How Urea and Nickel Held Back Earth's Oxygen Revolution - Universe Today²⁰

Moon

Apollo 17 samples show sulphur deposits so what does that mean?

Research on Previously Unexamined Apollo 17 Moon Rocks Reveals Exotic Sulfur - Universe Today²¹

The South Pole aitkin basin may have formed from a north south grazing impact not the other way around

Southward impact excavated magma ocean at the lunar South Pole–Aitken basin | Nature²²

Summary

The Moon's Biggest Crater Tells a New Story - Universe Today²³

Far side rocks found by China return probe

Surprise meteorite debris uncovered on Moon's far side²⁴

¹⁹https://www.esa.int/Applications/Observing_the_Earth/FutureEO/Swarm/Swarm_reveals_growing_weak_spot_in_Earth's_magnetic_field#msdynmkt_trackingcontext=22a75b75-1d84-4bdf-a80b-5e49d5e50100

²⁰<https://www.universetoday.com/articles/how-urea-and-nickel-held-back-earths-oxygen-revolution>

²¹<https://www.universetoday.com/articles/research-on-previously-unexamined-apollo-17-moon-rocks-reveals-exotic-sulfur>

²²<https://www.nature.com/articles/s41586-025-09582-y>

²³<https://www.universetoday.com/articles/the-moons-biggest-crater-tells-a-new-story>

²⁴https://www.nature.com/articles/d41586-025-03439-0?utm_source=Live+Audience&utm_campaign=622e263c61-nature-briefing-daily-20251023&utm_medium=email&utm_term=0_-33f35e09ea-49516740

Planetary

Ariel a Uranus moon may have a subsurface ocean

Uranian moon Ariel's surface features point to a past ocean over 100 miles deep²⁵

Our planets sit slightly offset to the central plane of the ecliptic. Could this have been embedded from the systems formation?

Queen Mary-led team discovers warped planetary nurseries - Queen Mary University of London²⁶

Large Martian cloud

<https://arxiv.org/abs/2103.03919>

Planetary migration was required for the formation of earth. The initial 2to1 resonance of Jupiter and Saturn created instability enough to generate what we see. This paper explains how and some things yet to be solved older paper but interesting

<https://arxiv.org/abs/2106.05276>

A bit of Mars

<https://www.nature.com/articles/s41467-025-63518-8>

Cryo volcanic activity on Pluto

²⁵<https://phys.org/news/2025-09-uranian-moon-ariel-surface-features.html>

²⁶<https://www.qmul.ac.uk/media/news/2025/science-and-engineering/se/queen-mary-led-team-discovers-warped-planetary-nurseries.html>

Signs of Late-Stage Cryovolcanism in Pluto's Hayabusa Terra - Universe Today²⁷

Asteroids

Brownian motion is a random motion that occurs in dense gasses and fluids causing change in direction

This occurs in the asteroid belt also

A new study explains

Brownian Motion of Main-belt Asteroids on Human Timescales - IOPscience²⁸

Asteroids spin but how does it start?

https://apple.news/AhDPy3VDAT8SO8a8gCGFf_Q

Near earth asteroids are a problem 39th found

Hidden In The Sun's Glare, This Asteroid Is Uncomfortably Close To Earth - Universe Today²⁹

Comets

Following a couple of comets a summary

Two Bright Comets Converge on Northern Hemisphere Skies - Sky & Telescope³⁰

²⁷<https://www.universetoday.com/articles/signs-of-late-stage-cryovolcanism-in-plutos-hayabusa-terra>

²⁸<https://iopscience.iop.org/article/10.3847/PSJ/ae044f>

²⁹<https://www.universetoday.com/articles/hidden-in-the-suns-glare-this-asteroid-is-uncomfortably-close-to-earth>

³⁰https://skyandtelescope.org/astronomy-news/two-bright-comets-converge-on-northern-hemisphere-skies/?utm_source=cc&utm_medium=newsletter

Robots imagining i3

These robots on Mars and Jupiter are capturing images of comet 3I/ATLAS | BBC Sky at Night Magazine³¹

Exoplanet

We see exoplanets but not exomoons here is detection of potential moon formation in a planetary disk

The JWST Spies The Raw Materials For Exomoons - Universe Today³²

A Carbon-rich Disk Surrounding a Planetary-mass Companion - IOPscience³³

A few favourite exoplanets

These alien planets are astronomers' favourites: here's why³⁴

Astro biology

You need old galaxies for new life

A Galaxy's Age Determines What Type Of Planets It Can Form - Universe Today³⁵

Milky Way

The central black hole we have emits a jet but have not seen it until now and it's offset to the galactic plane by 45 degrees

³¹<https://www.skyatnightmagazine.com/news/3i-atlas-mars-october-2025>

³²<https://www.universetoday.com/articles/the-jwst-spies-the-raw-materials-for-exomoons>

³³<https://iopscience.iop.org/article/10.3847/2041-8213/ae0290#artAbst>

³⁴https://www.nature.com/articles/d41586-025-03220-3?utm_source=Live+Audience&utm_campaign=eca40e9140-nature-briefing-weekly-20251003&utm_medium=email&utm_term=0_-33f35e09ea-49516740

³⁵<https://www.universetoday.com/articles/a-galaxys-age-determines-what-type-of-planets-it-can-form>

Missing wind from Milky Way's giant black hole finally found | Science | AAAS³⁶

We may not in in for a collision

https://apple.news/Ap2VnJsZSRMe0pKDpj75_Vg

Brief history of the Seven Sisters

<https://apple.news/AXuvkpNSLTqqWSVPp3ag0rQ>

Galaxies

Amateurs can still be first to find supernovae

Dedicated Amateur Discovers Supernova in Remote Galaxy - Universe Today³⁷

Cosmology

A black hole merger kick has been detected. This is where 2 different mass black holes merge but the waves are asymmetrical

The original article is cited and is open access

A Black Hole Merger's "Kick" Was Measured For The First Time - Universe Today³⁸

An Einstein Cross gives a cloud to dark matter

³⁶https://www.science.org/content/article/missing-wind-milky-way-s-giant-black-hole-finally-found?utm_source=sfmc&utm_medium=email&utm_content=alert&utm_campaign=DailyLatestNews&et rid=744120432&et_cid=5754571

³⁷<https://www.universetoday.com/articles/dedicated-amateur-discovers-supernova-in-remote-galaxy>

³⁸<https://www.universetoday.com/articles/a-black-hole-mergers-kick-was-measured-for-the-first-time>

An Exceptional Einstein Cross Reveals Hidden Dark Matter³⁹

The bootes void

There's an enormous void of nothingness in our Universe. And scientists found it by accident
| BBC Sky at Night Magazine⁴⁰

Active galactic nucleus

<https://apple.news/ACrOE5sTrQu2-Y7ouKmVBXg>

Warm inflation could solve universal problems

The beginning of the universe: Cosmic inflation with standard particle physics repertoire⁴¹

If you look to very long wavelengths you could listen to inflation

[2501.13450] Can we hear beats with pulsar timing arrays?⁴²

Telescopes

Powerful spectroscopy

New instrument at SOAR achieves first light with observations of remarkable binary star system⁴³

³⁹<https://www.iap.fr/actualites/laune/2025/EinsteinCross/EinsteinCross-en.html>

⁴⁰<https://www.skyatnightmagazine.com/space-science/bootes-void>

⁴¹<https://phys.org/news/2025-10-universe-cosmic-inflation-standard-particle.html>

⁴²<https://arxiv.org/abs/2501.13450>

A new mathematical algorithm looks to be able to remove atmospheric turbulence

Sharper than ever: New algorithm brings the stars into greater focus | Hub⁴⁴

Observing

Images from Nature

See space fireworks and lightning spaghetti — September's best science images⁴⁵

Space flight

Blue glen launcher will be reused

Blue Origin aims to land next New Glenn booster, then reuse it for Moon mission - Ars Technica⁴⁶

NASA balloon blown away

<https://apple.news/Adyltvuj1QU29v1nF3ConHw>

Hera is 1 year into its mission

⁴³<https://phys.org/news/2025-09-instrument-soar-remarkable-binary-star.html>

⁴⁴<https://hub.jhu.edu/2025/09/29/hopkins-ground-telescope-images-improved/>

⁴⁵https://www.nature.com/immersive/d41586-025-03172-8/index.html?utm_source=Live+Audience&utm_campaign=bfe730c744-nature-briefing-daily-20251001&utm_medium=email&utm_term=0_-33f35e09ea-49516740

⁴⁶https://arstechnica.com/space/2025/10/blue-origin-aims-to-land-next-new-glenn-booster-then-reuse-it-for-moon-mission/?utm_source=nl&utm_brand=ars&utm_campaign=aud-dev&utm_mailing=Ars_Daily_100325&utm_medium=email&bxid=60b1291499ae71073e7f28b1&cndid=70543978&hasha=794fdac16f317921f2692b4d2454bb95&hashb=485ff303e086bf7c57ca87c85e10cac1b386e311&hashc=0fdb430f297c622e41ae6c9b1a3b23440ae416ed91fb32cb2a25ee373f4299e&esrc=OTnewsletterpromo&utm_content=Final&utm_term=ARS_DailyDigest

ESA - Hera's first year in space⁴⁷

How did America fall behind China in the race back to the moon

How America fell behind China in the lunar space race—and how it can catch back up - Ars Technica⁴⁸

Why did NASA's chief just shake up the agency's plans to land on the Moon? - Ars Technica⁴⁹

ESA developed an artificial lunar soil see how it's used

ESA - Second Space Resources Challenge: from concept to reality at LUNA⁵⁰

⁴⁷https://www.esa.int/ESA_Multimedia/Videos/2025/10/Hera_s_first_year_in_space#msdynmkt_trackingcontext=6e42881d-4647-4c6e-bd39-f455975a0100

⁴⁸https://arstechnica.com/space/2025/10/how-america-fell-behind-china-in-the-lunar-space-race-and-how-it-can-catch-back-up/?utm_source=nl&utm_brand=ars&utm_campaign=aud-dev&utm_mailing=Ars_Orbital_100825&utm_medium=email&bxid=60b1291499ae71073e7f28b1&cndid=70543978&hasha=794fdac16f317921f2692b4d2454bb95&hashb=485ff303e086bf7c57ca87c85e10cac1b386e311&hashc=0fdb430f297c622e41ae6c9b1a3b23440ae416ed91fb32cb2a25ee373f4299e&esrc=&utm_content=Final&utm_term=ARS_OrbitalTransmission

⁴⁹https://arstechnica.com/space/2025/10/nasas-acting-leader-seeks-to-keep-his-job-with-new-lunar-lander-announcement/?utm_source=nl&utm_brand=ars&utm_campaign=aud-dev&utm_mailing=Ars_Daily_102125&utm_medium=email&bxid=60b1291499ae71073e7f28b1&cndid=70543978&hasha=794fdac16f317921f2692b4d2454bb95&hashb=485ff303e086bf7c57ca87c85e10cac1b386e311&hashc=0fdb430f297c622e41ae6c9b1a3b23440ae416ed91fb32cb2a25ee373f4299e&esrc=OTnewsletterpromo&utm_content=Final&utm_term=ARS_DailyDigest

⁵⁰https://www.esa.int/Science_Exploration/Human_and_Robotic_Exploration/Second_Space_Resources_Challenge_from_concept_to_reality_at_LUNA#msdynmkt_trackingcontext=16c34054-5ccc-46f8-8cc7-c9623a410300

Schedules, links and contacts



- **TV - BBC Sky at night** ([Here⁵¹](#))
- **Upcoming Space Launches** ([Here⁵²](#))
- **Moon Phases** ([Here⁵³](#))
- **Dark Sky Calendar** ([Here⁵⁴](#))

⁵¹<https://www.bbc.co.uk/programmes/b006mk7h>

⁵²<https://spaceflightnow.com/launch-schedule/>

⁵³<https://www.moongiant.com/calendar/november/2024/>

- *Clear Outside - Astronomy weather forecast (Here⁵⁵)*
 - *Cloud radar map (Here⁵⁶)*
 - *Beginners guide (Here⁵⁷)*
 - *Walsall Astronomy Facebook Group (Here⁵⁸)*
 - *Walsall Astronomy Website (Here⁵⁹)*
 - *Contact: Info@walsallastro.com⁶⁰*
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⁵⁴<https://gostargazing.co.uk/dark-sky-calendar/>

⁵⁵<https://clearoutside.com/forecast/50.70/-3.52>

⁵⁶<https://www.yourweather.co.uk/weather-maps/nubes-ukn.html>

⁵⁷<https://www.skyatnightmagazine.com/advice/astronomy-for-beginners>

⁵⁸<https://www.facebook.com/groups/251803274136388>

⁵⁹<https://walsallastro.com/>

⁶⁰<mailto:Info@walsallastro.com>