

Walsall Astronomical Society



October 2025

What's Up Monthly Publication



What's on this month



As autumn settles in, we can now embrace the longer, darker nights—perfect for stargazing. The Summer Triangle has moved to the western sky, while some deep-sky treasures like the Double Cluster and the Andromeda Galaxy shine high overhead. Keep an eye out for the Hyades and Pleiades, which will rise before midnight, before the mighty Orion starts to make its grand entrance in the night sky!

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

Thursday 2nd October: External Lecture - Professor Andrew Blain - The WISE Mission, Infra-Red Galaxies

Thursday 9th October: General Club Meeting, for discussion and support - Observing with telescopes if clear

Thursday 16th October: General Club Meeting, for discussion and support - Observing with telescopes if clear

Friday 17th - Sunday 19th October: Star Camp at Brow Farm Campsite - Please ask for more details or if you would like to attend please complete the form [Here](#)¹

Thursday 23rd October: General Club Meeting, for discussion and support - Observing with telescopes if clear

Thursday 30th October: What's Up for November

List of Lovell Lecture Series 2025 [HERE](#)² for those interested.

Lunar Eclipse Viewing Event



On the 7th September we held a viewing event for the Lunar Eclipse on Barr Beacon. While the cloud cover didn't break and we weren't able to see any of the moon until the event was

¹<https://forms.office.com/Pages/ResponsePage.aspx?id=kLyl-YVoEUyGx2qO3FuG4msCgEISpl9AntDNddOyLOxUQzFCTjhUWTRLSDFXNDRRWVJQUUQwMVIPRy4u>

²[https://www.jodrellbank.net/events/lovell-lecture-series/?utm_source=email&utm_medium=eshot&utm_campaign=Lovell Lecture&utm_content=Asteroid The me&dm_i=1DU9,8UZMY,AMCEUN,10W9TB,1](https://www.jodrellbank.net/events/lovell-lecture-series/?utm_source=email&utm_medium=eshot&utm_campaign=Lovell+Lecture&utm_content=Asteroid+The+me&dm_i=1DU9,8UZMY,AMCEUN,10W9TB,1)

nearly over, there was a great turn out from club members and the general public! It was brilliant to see club members interacting with members of the public and sharing information about the club and the hobby, so a big thanks to all of you! Here's hoping for clear skies for the next event!

Members Gallery



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**³

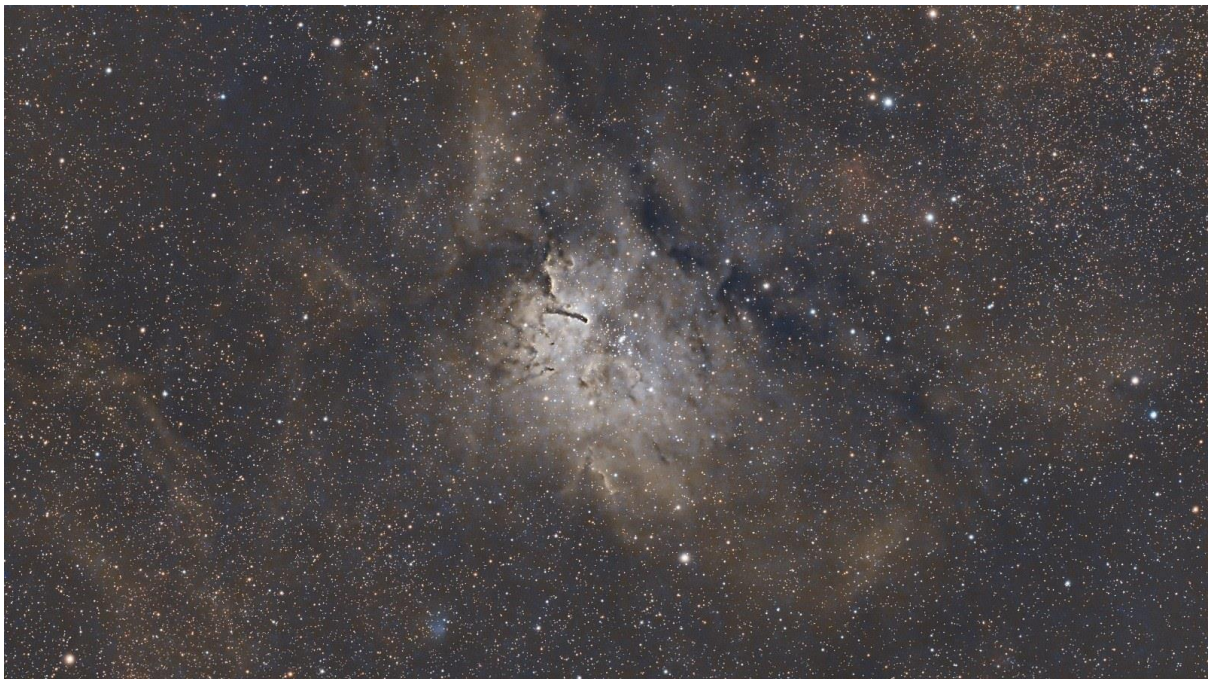
³<https://www.facebook.com/groups/251803274136388>



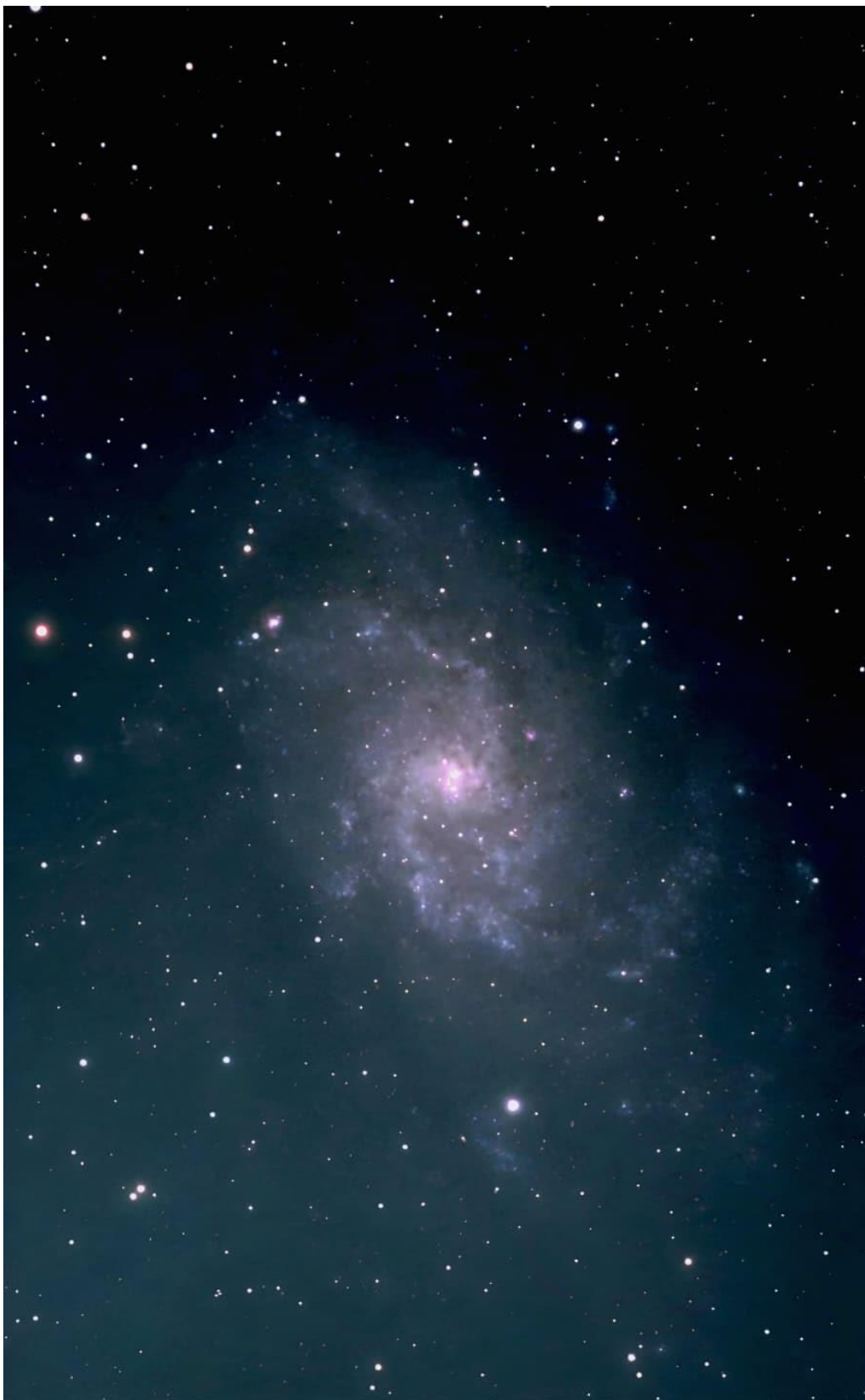
1 - Ghost of Cassiopeia - IC 63 - Peter Biddell



2 - Dumbell Nebula - M27 - Mike Lewis



3 - SH2-86 - Keith Thompson



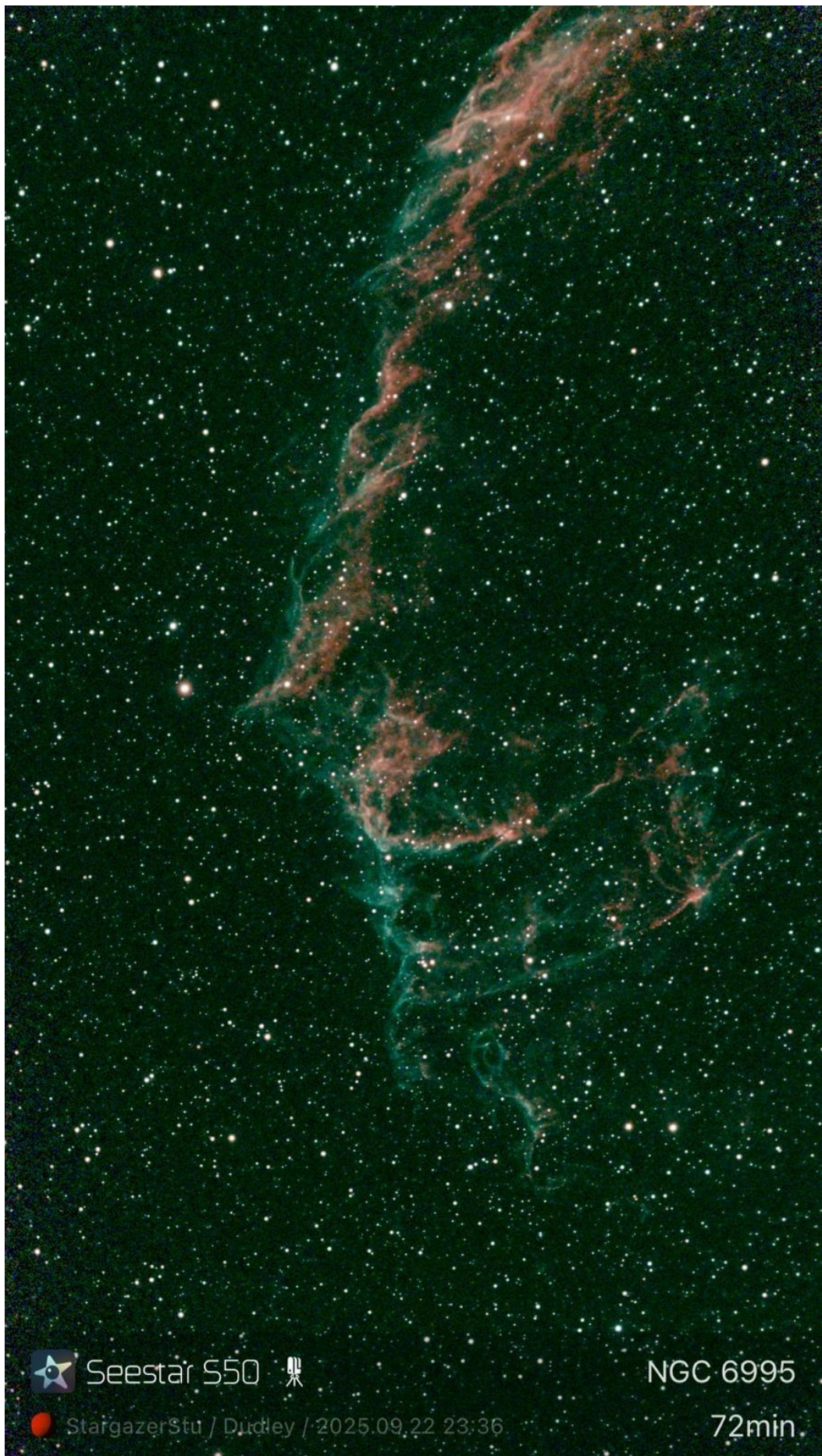
Seestar S50 

M 33

 Nigelstar/01°W,52°N/2025-09-14 02:15

160min

4 - Triangulum Galaxy - M33 - Tony Jakeman



Seestär S50 𠂆

NGC 6995



StargazerStu / Durdley / 2025.09.22 23:36

72min

5 - Eastern Veil Nebula - NGC 6995 - Stu Selwood



6 - Lion Nebula - SH2-132 - Keith Thompson

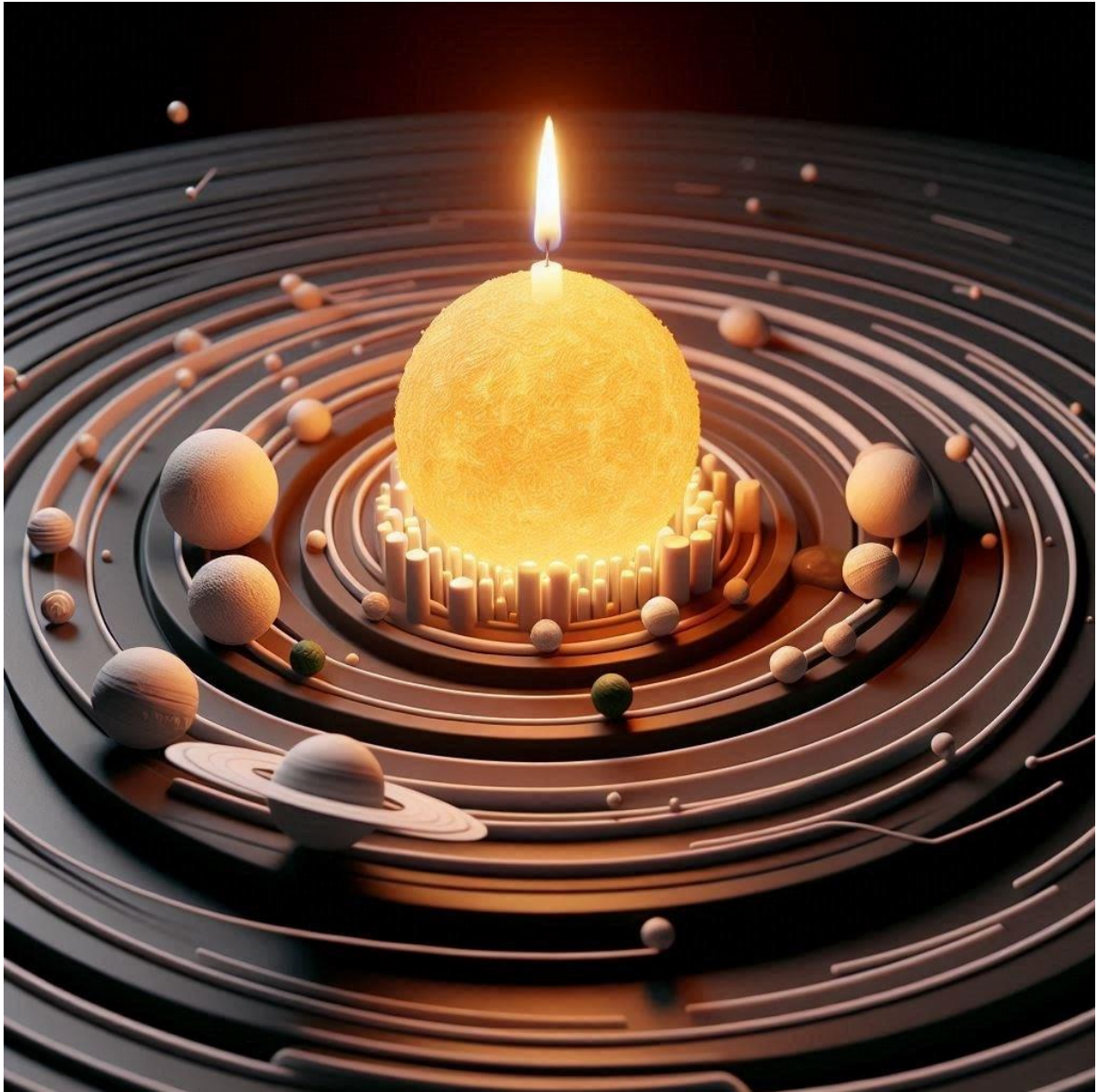


7 - Horsehead Nebula - IC434 - Peter Biddell



8 - Andromeda Galaxy - M31 - Tony Jakeman

Anniversaries - October



Here are some significant astronomy anniversaries that occurred in June throughout history:

- **October 1, 1958 - NASA becomes operational** : NASA officially opens for business, being operational and taking over civil aerospace and aviation research from NACA.
- **October 5, 1957 – Sputnik 1 is Launched:** The Soviet Union launched the Earth's first artificial satellite, shocking the United States who believed they would be the first to accomplish this.
- **October 7, 1959 – First ever images of the Dark side of the Moon:** The Soviet probe Luna 3 returned the first every images of the far side of the Moon, revealing terrain that had never been seen before.

- **October 11, 1968 – Apollo 7 is launched:** The first crewed mission of the Apollo program, which tested functionality of the Command Module in Low-earth orbit
- **October 15, 1997 – Cassini-Huygens is Launched:** Launched for a 20 year mission, focusing on exploring Saturn and it's moons.
- **October 24, 1946 – First pictures of Earth from Space:** Grainy black and white images were taken of Earth from space, with a camera mounted on a German V2 rocket, launched from New Mexico.

These anniversaries highlight key discoveries, milestones, and events that shaped the field of astronomy and space exploration.

The Moon

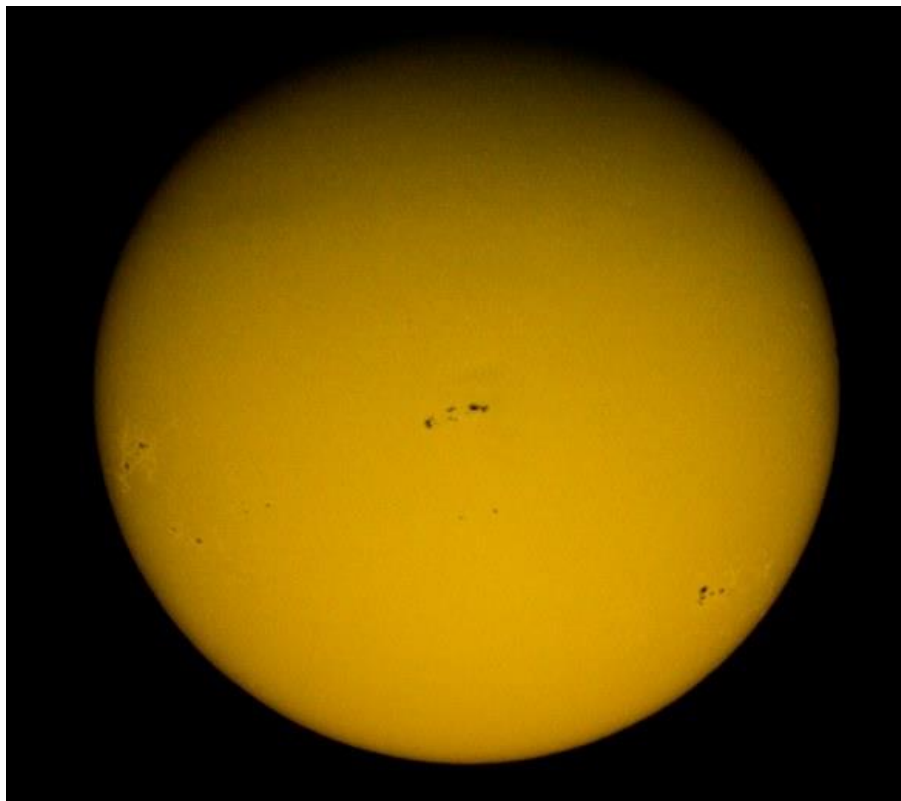


Full Moon		7th October
Last Quarter		13th October
New Moon		21st October
1st Quarter		29th October

Full Moon Phase Calendar details (Here⁴)

The full moon on the 7th will be a Supermoon

The Sun



Solar Activity Highlights for October 2025

1. **Solar Cycle Peak Continues** - October 2025 remains within the peak phase of Solar Cycle 25, which NOAA/NASA had forecast to peak around July 2025 (+/- 8 months) with a smoothed sunspot number near 115

⁴<https://www.moongiant.com/calendar/October/2025/>

crondallweather.co.uk+2nasa.gov+2nypost.com+2⁵ntrs.nasa.gov+11swpc.noaa.gov+11swpc.noaa.gov+11⁶.

2. **Increased Sunspot Activity** Expect higher frequencies of sunspots and M-class to occasional X-class flares en.wikipedia.org+2nasa.gov+2weather.gov+2⁷.

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.

⁵https://www.nasa.gov/news-release/solar-cycle-25-is-here-nasa-noaa-scientists-explain-what-that-means/?utm_source=chatgpt.com

⁶https://www.swpc.noaa.gov/products/solar-cycle-progression?utm_source=chatgpt.com

⁷https://www.nasa.gov/news-release/solar-cycle-25-is-here-nasa-noaa-scientists-explain-what-that-means/?utm_source=chatgpt.com

The Planets



Here's a summary of the positions and visibility of the planets in October 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.

Evening Sky

- **Mercury:** Greatest elongation is on the 29th, low on the horizon in the West around 4.45pm
- **Mars:** Very close to the sun so be careful, visible around 4.45pm in the West

- **Jupiter:** Rises around 11pm in Gemini and then visible all night, and very bright at magnitude -2.
- **Saturn:** Visible most of the night near Pisces, setting around 4am at magnitude +0.6
- **Uranus:** Visible all night in Taurus, between the Pleiades and Hyades. Magnitude +5.7 so will be visible through binoculars.
- **Neptune:** Visible all night, near Saturn at magnitude +7.8. Difficult to see with Binoculars, so a small telescope is recommended
- **Pluto:** Visible before midnight near Capricorn at magnitude +15.5 so a telescope will be required for viewing.

Morning Sky

- **Venus:** A brilliant “morning star,” rising about 5.30am at magnitude -3.9.

September offers a wonderful window to see both inner and outer planets.

Comets, Meteors & Asteroids



Meteor Showers

October offers excellent opportunities for **meteor shower observing**, including:

- **Draconids** - 6th - 10th October, peaking on the 8th, however there will be a full moon on the 7th so will be difficult to see. Associated with Comet 21/P Giacobini-Zimmer.
- **Orionids** - 2nd October - 7th November, peaking on the 22nd October. Rate per hour of 15, and these will be fast meteors with fine trains. Associated with Comet Halley.
- **Taurids** - Southern Taurids 10th September - 20th November - Northern Taurids 20th October - 10th December. Rate of 5 per hour, but bright and slow

Asteroids

No bright asteroids visible with the naked eye this month

Binocular/Telescope level Asteroids

- **1 Ceres** - Will be at opposition with magnitude +7 in Cetus

Comets

In **October 2025**, there are a few comets visible with binoculars and telescopes

- **C/2025 R2 SWAN** - Which will be visible all night, with magnitude +7, in the constellation Scutum
- **C/2025 A6 LEMMON** - Set to be visible in the North-West below The Plough. It's currently at around magnitude 8, but researchers believe it may reach magnitude +3 by the end of October, so will be visible by the naked eye to those in darker skies.

Deep Sky Targets



For Telescopes & Astrophotography

October is with bringing shorter days and better levels of astronomical darkness (as can be seen [HERE](#)⁸).

As discussed at the What's Up talk last Thursday here are some great targets to have a go at. Good luck all!

Target Name followed by a Google Search Link to take a look.

⁸<https://www.timeanddate.com/sun/uk/walsall?month=8&year=2025>

- **M27 (Dumbbell Nebula)** – In Vulpecula, bright and easy to spot.  [View Images](#)⁹
- **M57 (Ring Nebula)** – In Lyra, a classic planetary nebula, small but bright.  [View Images](#)¹⁰
- **Andromeda Galaxy (M31)** – Rising earlier each night, it's a great late-night target.  [View Images](#)¹¹
- **M33 (Triangulum Galaxy)** – A bit fainter than M31, but visible under dark skies.  [View Images](#)¹²
- **Sagittarius Star Cloud (M24)** – A dense, bright patch of the Milky Way, great in binoculars or wide-field telescopes.  [View Images](#)¹³
- **The Dark Shark Nebula (LDN 1235)** – A faint dark nebula in Cepheus, resembling a shark in Astro photos.  [View Images](#)¹⁴
- **Stephan's Quintet** – A compact group of interacting galaxies in Pegasus.  [View Images](#)¹⁵

If you can find somewhere with a low southern horizon it may offer a final chance to try to get:

- **Lagoon Nebula (M8)** – A bright emission nebula in Sagittarius, visible even in small scopes.  [View Images](#)¹⁶
- **Trifid Nebula (M20)** – Near M8, this nebula combines emission, reflection, and dark nebulae.  [View Images](#)¹⁷
- **Omega Nebula (M17)** – Also known as the Swan Nebula, a bright and detailed emission nebula.  [View Images](#)¹⁸

For Binoculars

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.

⁹<https://www.google.com/search?q=Dumbbell+Nebula+M27+astrophoto&tbm=isch>

¹⁰<https://www.google.com/search?q=Ring+Nebula+M57+astrophoto&tbm=isch>

¹¹<https://www.google.com/search?q=Andromeda+Galaxy+M31+astrophoto&tbm=isch>

¹²<https://www.google.com/search?q=Triangulum+Galaxy+M33+astrophoto&tbm=isch>

¹³<https://www.google.com/search?q=Sagittarius+Star+Cloud+M24+astrophoto&tbm=isch>

¹⁴<https://www.google.com/search?q=Dark+Shark+Nebula+LDN+1235+astrophoto&tbm=isch>

¹⁵<https://www.google.com/search?q=Stephan's+Quintet+galaxies+astrophoto&tbm=isch>

¹⁶<https://www.google.com/search?q=Lagoon+Nebula+M8+astrophoto&tbm=isch>

¹⁷<https://www.google.com/search?q=Trifid+Nebula+M20+astrophoto&tbm=isch>

¹⁸<https://www.google.com/search?q=Omega+Nebula+M17+astrophoto&tbm=isch>

Bright Star Clusters

C42 Search¹⁹

M15 Search²⁰

M2 Search²¹

C47 Search²²

M14 Search²³

NGC 6760 Search²⁴

NGC 6366 Search²⁵

NGC 6712 Search²⁶

The Moon

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

¹⁹<https://www.google.com/search?q=Astrobin+C42>

²⁰<https://www.google.com/search?q=Astrobin+M15>

²¹<https://www.google.com/search?q=Astrobin+M2>

²²<https://www.google.com/search?q=Astrobin+C47>

²³<https://www.google.com/search?q=Astrobin+M14>

²⁴<https://www.google.com/search?q=Astrobin+NGC+6760>

²⁵<https://www.google.com/search?q=Astrobin+NGC+6366>

²⁶<https://www.google.com/search?q=Astrobin+NGC+6712>

Bills Bulletin



hi guys

There have been some very good articles this month so here they are I hope you enjoy

Sun

A more active sun?

NASA Analysis Shows Sun's Activity Ramping Up - NASA²⁷

Moon

Moonquakes and landslides

<https://apple.news/AE8iQffp4SYyEXlqpieEZbw>

Atoms from Earth's atmosphere are rusting the moon

The Moon is rusting — thanks to 'wind' blown all the way from Earth²⁸

Lunar magnetic anomalies have been known since Apollo missions but how they form is debatable. Here basin impacts could be the cause with anomalies related to antipodal basins

Lunar Crustal Magnetization Sourced via the Delivery of Iron-rich Ejecta from Basin-forming Impacts - IOPscience²⁹

Could sloshing have brought a deep rock to the moon's surface

New analysis of Apollo sample rewrites a chapter of the moon's early history³⁰

²⁷https://www.nasa.gov/science-research/heliophysics/nasa-analysis-shows-suns-activity-ramping-up/?utm_source=newsletter&utm_medium=email&utm_campaign=nn202537

²⁸https://www.nature.com/articles/d41586-025-03051-2?utm_source=Live+Audience&utm_campaign=4a7965f98b-nature-briefing-daily-20250923&utm_medium=email&utm_term=0_-33f35e09ea-49516740

²⁹<https://iopscience.iop.org/article/10.3847/PSJ/addf36>

³⁰<https://phys.org/news/2025-09-analysis-apollo-sample-rewrites-chapter.html>

Planetary

Callisto interactions with Jupiter aurora is difficult for Juno to detect but a shift in the aurora position has helped

In situ and remote observations of the ultraviolet footprint of the moon Callisto by the Juno spacecraft | Nature Communications³¹

Star eats planet

NASA's Hubble Sees White Dwarf Eating Piece of Pluto-Like Object - NASA Science³²

Tracks on Mars

<https://apple.news/AjCKGE98ST-GEig-lwuyzGw>

Callisto has been mapped in sub millimetre wavelengths and it is more thermally active than we thought

A Close Look at an Ancient Moon - AAS Nova³³

Could a glancing blow have created Mercury

Collision between two bodies of similar mass may explain the formation of Mercury³⁴

Asteroids

³¹<https://www.nature.com/articles/s41467-025-62520-4>

³²https://science.nasa.gov/missions/hubble/nasas-hubble-sees-white-dwarf-eating-piece-of-pluto-like-object/?utm_source=newsletter&utm_medium=email&utm_campaign=nn202537

³³<https://aasnova.org/2025/09/05/a-close-look-at-an-ancient-moon/>

³⁴<https://phys.org/news/2025-09-collision-bodies-similar-mass-formation.html>

Lucy and Donald Johnson

Lucy's Main Belt Target Has Its Features Named - Universe Today³⁵

Regions on Asteroid Explored by NASA's Lucy Mission³⁶

Rapid life recolonisation after impacts

Microbial Life Colonizes Post-Impact Craters And Thrives For Millions Of Years - Universe Today³⁷

Asteroids that orbit with Venus could cause a threat to earth

'Invisible' asteroids near Venus may threaten Earth in the future³⁸

Occultation of quaoar gives new constraints on rings and atmosphere

Constraints on Quaoar's Rings and Atmosphere from JWST/NIRCam Observations of a Stellar Occultation - IOPscience³⁹

Comets

Comet swan

³⁵<https://www.universetoday.com/articles/lucys-main-belt-target-has-its-features-named>

³⁶https://science.nasa.gov/solar-system/regions-on-asteroid-explored-by-nasas-lucy-mission-get-official-names/?utm_source=newsletter&utm_medium=email&utm_campaign=nn202537

³⁷<https://www.universetoday.com/articles/microbial-life-colonizes-post-impact-craters-and-thrives-for-millions-of-years>

³⁸<https://phys.org/news/2025-09-invisible-asteroids-venus-threaten-earth.html>

³⁹<https://iopscience.iop.org/article/10.3847/PSJ/add02>

New Bright Comet SWAN Could Perform a Surprise October Show - Universe Today⁴⁰

A comet air explosion could have wiped out mammoths and an early human culture

New Evidence Says An Exploding Comet Wiped Out The Clovis Culture And Triggered The Younger Dryas - Universe Today⁴¹

More on 3I atlas

Interstellar comet 3I/ATLAS | BBC Sky at Night Magazine⁴²

Exoplanet

6000 and counting

NASA's Tally of Planets Outside Our Solar System Reaches 6,000 - NASA⁴³

Exoplanet Catalog - NASA Science⁴⁴

Sometimes you just can't see the planet

Searching for Planets Orbiting  Eridani with JWST/NIRCam - IOPscience⁴⁵

⁴⁰<https://www.universetoday.com/articles/new-bright-comet-swan-could-perform-a-surprise-october-show>

⁴¹<https://www.universetoday.com/articles/new-evidence-says-an-exploding-comet-wiped-out-the-clovis-culture-and-triggered-the-younger-dryas>

⁴²<https://www.skyatnightmagazine.com/news/comet-3i-atlas-c-2025-n1>

⁴³https://www.nasa.gov/universe/exoplanets/nasas-tally-of-planets-outside-our-solar-system-reaches-6000/?utm_source=newsletter&utm_medium=email&utm_campaign=nn202537

⁴⁴https://science.nasa.gov/exoplanets/exoplanet-catalog/?utm_source=newsletter&utm_medium=email&utm_campaign=nn202537

⁴⁵<https://iopscience.iop.org/article/10.3847/1538-3881/adf727>

Astro biology

You need sulphur derivatives and carbon monoxide for life precursor molecules to form.
Now they have been found in the horse head nebula

The Sulfur Plume in the Horsehead Nebula: New Detections of S₂H, SH⁺, and CO⁺ -
IOPscience⁴⁶

Milky Way

Gaia is plying the paths of stars from mergers of galaxies with Milky Way to discover the history of our galaxy's formation

Clusters and Chains of Stars Reveal a Dynamic Milky Way - Universe Today⁴⁷

Jets in the low metal areas of Milky Way

Webb Spots a Massive Stellar Jet in the Outer Milky Way - Universe Today⁴⁸

We may have found dark matter blob in the Milky Way

First Dark Matter Sub-Halo Found In The Milky Way - Universe Today⁴⁹

⁴⁶<https://iopscience.iop.org/article/10.3847/2041-8213/addbd3>

⁴⁷<https://www.universetoday.com/articles/clusters-and-chains-of-stars-reveal-a-dynamic-milky-way>

⁴⁸<https://www.universetoday.com/articles/webb-spots-a-massive-stellar-jet-in-the-outer-milky-way>

⁴⁹<https://www.universetoday.com/articles/first-dark-matter-sub-halo-found-in-the-milky-way>

Galaxies

Fly with a Gaia simulation

Make Like A Spacecraft And Fly Through Gaia's 3D Map Of Stellar Nurseries - Universe Today⁵⁰

Gamma ray bursts could have two distinct phases

A tale of two pulses: Observational evidence for two distinct polarized emission sites in gamma-ray burst outflow⁵¹

Cosmology

Gravity waves double

Scientists Release the Latest Gravitational-wave Detections - Sky & Telescope⁵²

Detected gravity waves prove theories correct

Black Hole Merger Provides Clearest Evidence Yet that Einstein, Hawking, and Kerr were Right - Universe Today⁵³

What's a black widow pulsar ?

⁵⁰<https://www.universetoday.com/articles/make-like-a-spacecraft-and-fly-through-gaias-3d-map-of-stellar-nurseries>

⁵¹<https://phys.org/news/2025-09-tale-pulses-evidence-distinct-polarized.html>

⁵²https://skyandtelescope.org/astronomy-news/scientists-release-the-latest-gravitational-wave-detections/?utm_source=cc&utm_medium=newsletter

⁵³<https://www.universetoday.com/articles/black-hole-merger-provides-clearest-evidence-yet-that-einstein-hawking-and-kerr-were-right>

Astronomers detect a new black-widow pulsar⁵⁴

Observing

We may still be awaiting a nova in corona but in the southern hemisphere they have a new one but too low for us

Nova outburst in Centaurus – Astronomy Now⁵⁵

Space flight

Getting to the nearest star

The Quiet Demise of Breakthrough Starshot, a Billionaire's Interstellar Mission to Alpha Centauri | Scientific American⁵⁶

⁵⁴<https://phys.org/news/2025-09-astronomers-black-widow-pulsar.html>

⁵⁵<https://astronomynow.com/2025/09/24/nova-outburst-in-centaurus/>

⁵⁶https://www.scientificamerican.com/article/the-quiet-demise-of-breakthrough-starshot-a-billionaires-interstellar/?utm_source=Live+Audience&utm_campaign=bf54535f0c-nature-briefing-daily-20250917&utm_medium=email&utm_term=0_-33f35e09ea-49516740

Schedules, links and contacts



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- **TV - BBC Sky at night** ([Here⁵⁷](#))
 - **Upcoming Space Launches** ([Here⁵⁸](#))
 - **Moon Phases** ([Here⁵⁹](#))
 - **Dark Sky Calendar** ([Here⁶⁰](#))

⁵⁷<https://www.bbc.co.uk/programmes/b006mk7h>

⁵⁸<https://spaceflightnow.com/launch-schedule/>

⁵⁹<https://www.moongiant.com/calendar/november/2024/>

- *Clear Outside - Astronomy weather forecast (Here⁶¹)*
 - *Cloud radar map (Here⁶²)*
 - *Beginners guide (Here⁶³)*
 - *Walsall Astronomy Facebook Group (Here⁶⁴)*
 - *Walsall Astronomy Website (Here⁶⁵)*
 - *Contact: Info@walsallastro.com⁶⁶*
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⁶⁰<https://gostargazing.co.uk/dark-sky-calendar/>

⁶¹<https://clearoutside.com/forecast/50.70/-3.52>

⁶²<https://www.yourweather.co.uk/weather-maps/nubes-ukn.html>

⁶³<https://www.skyatnightmagazine.com/advice/astronomy-for-beginners>

⁶⁴<https://www.facebook.com/groups/251803274136388>

⁶⁵<https://walsallastro.com/>

⁶⁶<mailto:Info@walsallastro.com>