

# Walsall Astronomical Society



July 2026

## What's Up Monthly Publication



## What's on this month



As high summer settles over the UK, stargazers face the annual challenge of brief, fleeting nights dominated by persistent twilight. True astronomical darkness remains elusive across much of the country, requiring observers to wait until the midnight hours to catch the sky at its best. However, the warm, mild July evenings make outdoor sessions a comfortable delight. While the atmosphere can occasionally suffer from summer haze, stable high-pressure systems frequently bring exceptional transparency and crystal-clear, steady seeing conditions. The night sky carries an unmistakable seasonal charm, characterized by a deep velvety blue glow and the majestic rise of the core Milky Way stretching across the southern horizon. It is a wonderful time to grab a lawn chair and enjoy some casual, relaxed scanning of our beautiful cosmic backyard.

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

**Thursday 2nd July:** Lecture - Mike Lewis - How Stars Are Born: From Nebula to Supernova

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

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

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

**Thursday 30th July:** What's Up presentation on what to look out for in August

List of Lovell Lecture Series 2025 [HERE](#)<sup>1</sup> for those interested.

## Noctilucent clouds

Keep your eyes on the twilight sky this month — **Noctilucent clouds** are back, and they're one of nature's most mysterious and ethereal spectacles. These rare, electric-blue clouds shimmer high in the **mesosphere**, around 80 km above Earth, making them the highest clouds in our atmosphere. Visible only during **deep twilight**, they often appear after sunset in the **northern horizon**, glowing with an almost metallic sheen. Formed from ice crystals clinging to meteor dust, Noctilucent clouds are a beautiful blend of space and weather. They're most visible in June and July, especially from the UK — so don't miss them!

Image below captured by Tom Gormley - 27/6/26 - Derbyshire

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<sup>1</sup>[https://www.jodrellbank.net/events/lovell-lecture-series/?utm\\_source=email&utm\\_medium=eshot&utm\\_campaign=Lovell\\_Lecture&utm\\_content=Asteroid\\_Theme&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_Theme&dm_i=1DU9,8UZMY,AMCEUN,10W9TB,1)

More information HERE<sup>2</sup>



*1 - Noctilucent Clouds*

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<sup>2</sup><https://www.bbc.com/news/articles/ce9xx4nnl2go>

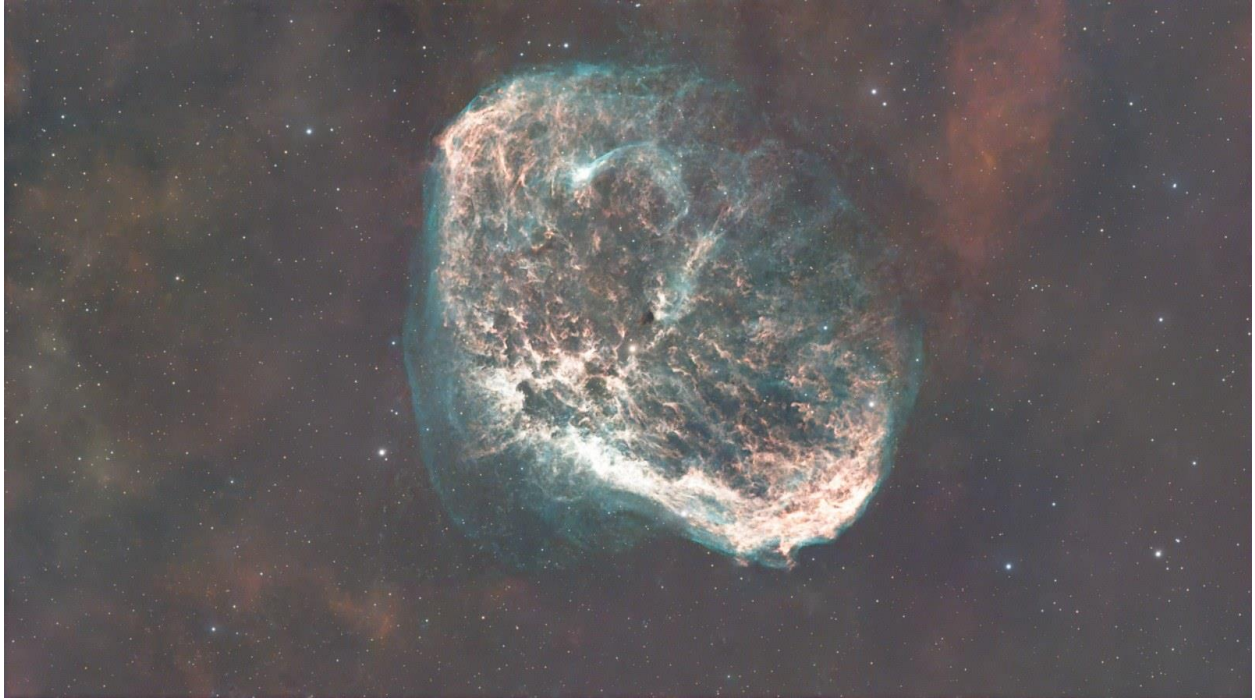
## Members Gallery



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**<sup>3</sup>

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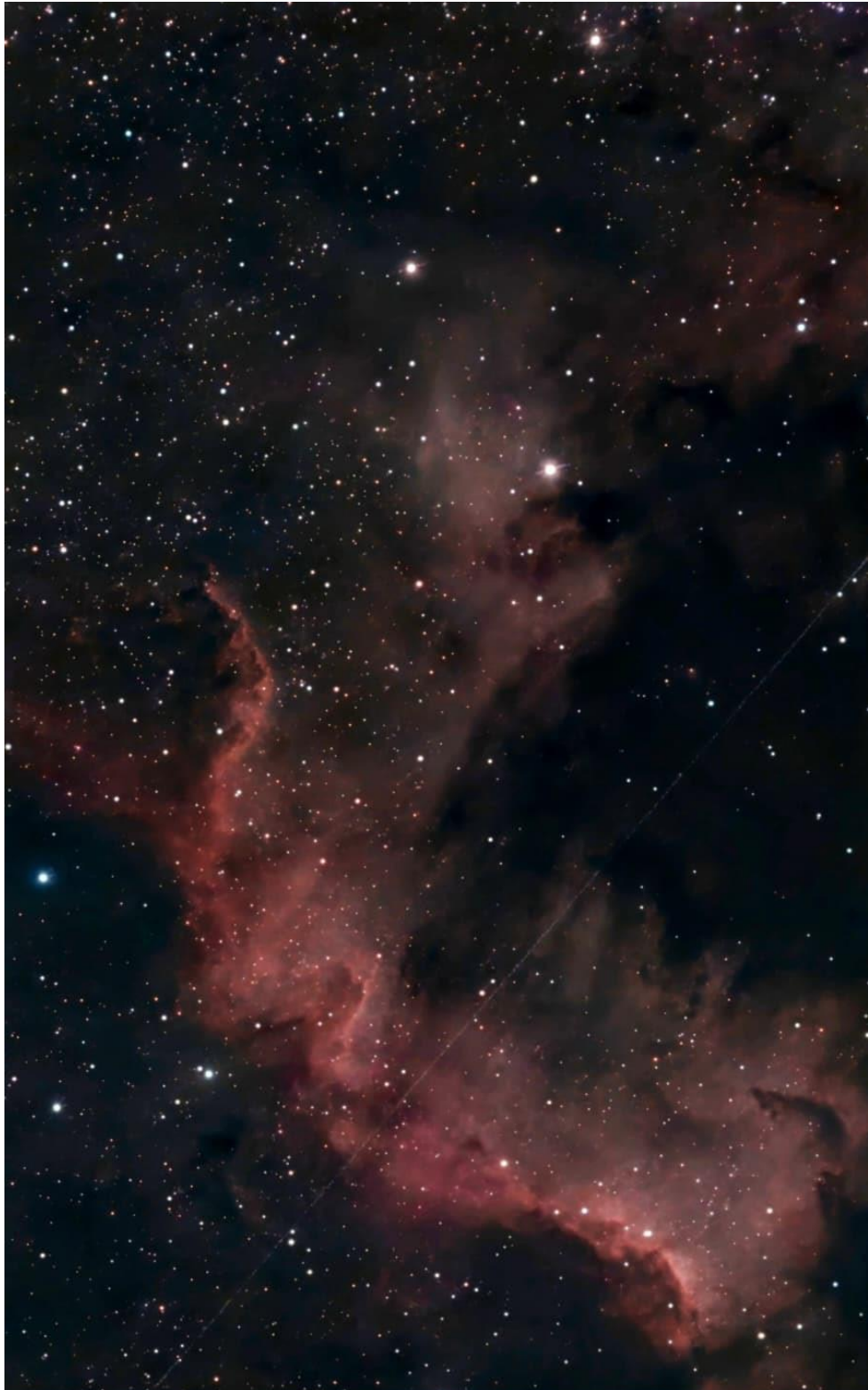
<sup>3</sup><https://www.facebook.com/groups/251803274136388>



*2 - Crescent Nebula - Keith Thompson*



*3 - North America Nebula - Keith Thompson*



Seestar S50 

NGC 7000

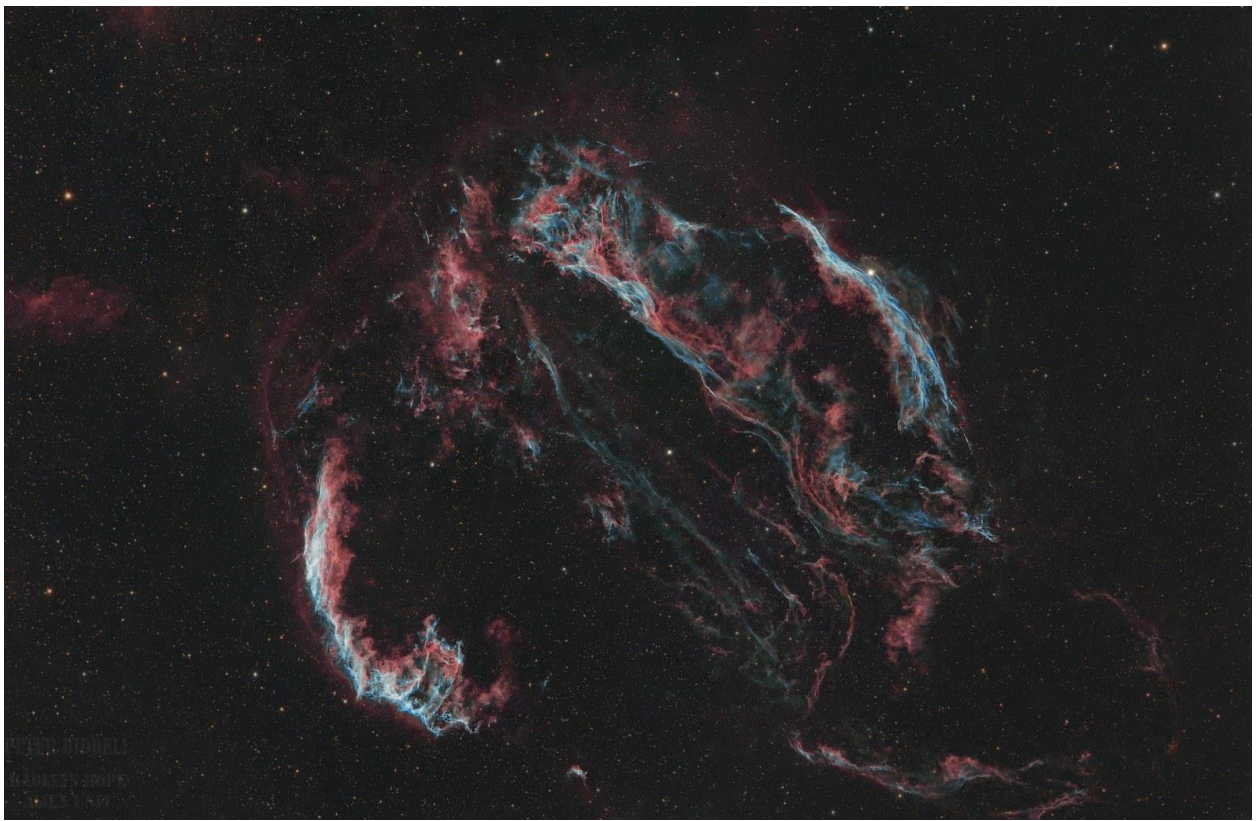
Alain DeNoise/01°W,52°N/2026-06-11 03:11

117min

4 - North America Nebula, Cygnus Wall - Tony Jakeman



5 - Moon and Venus - Mike Lewis



6 - Cygnus Loop (Veil Nebula's) - Peter Biddell



7 - Crescent and Tulip Nebula - Peter Biddell

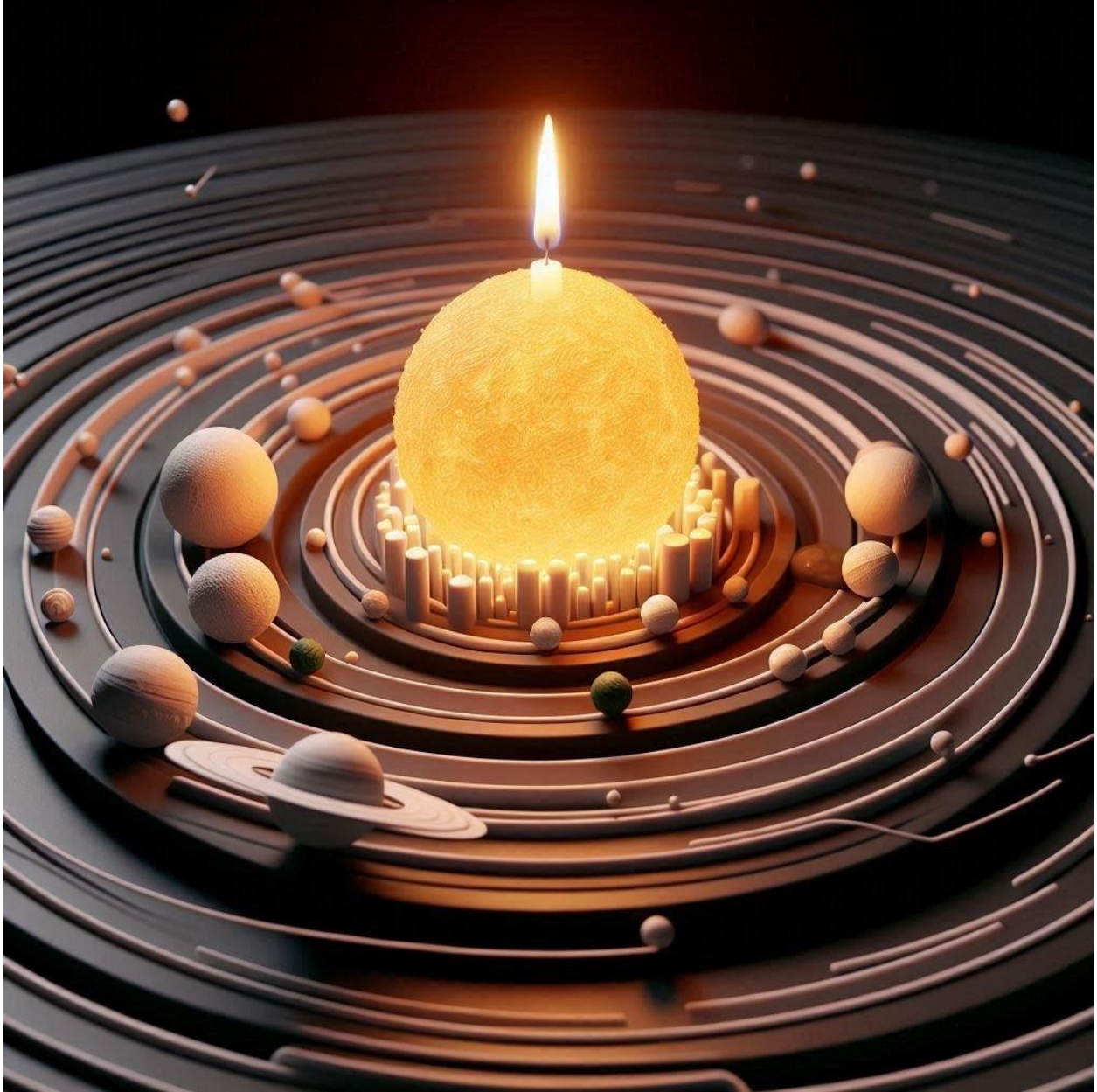


Logan Noble

DWARF mini  
2026.06.09 02:00 | 2.0°W 53.2°N

Moon | 2 s  
1/30s | 80 | Astro

## Anniversaries - July



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

- **July 1, 2004 – Cassini Enters Saturn's Orbit:** Beginning a 13-year mission that transformed our understanding of the ringed planet and its moons.

- **July 4, 1997 – Mars Pathfinder lands on Mars:** Delivering the Sojourner rover to the Martian surface.
- **July 5, 1687 - Isaac Newton's *Philosophiæ Naturalis Principia Mathematica* is published:** Formulating the laws of motion and universal gravitation.
- **July 14, 2015 – New Horizons Flyby of Pluto:** After a near 10 year journey, New Horizons passes over the the surface of Pluto taking images and data of the dwarf planet.
- **July 20, 1969 – First Moon Landing:** The Eagle lander module from Apollo 11 lands on the Moon, making Neil Armstrong and Buzz Aldrin the first people to step on the lunar surface.
- **July 23, 1999 – Chandra X-Ray Observatory is launched:** From the Space Shuttle Columbia, the Chandra observatory starts its planned 5 year mission, which has now nearly reached 26 years long!
- **July 29, 1958 – NASA is established:** The Eisenhower administration split their military and civil spaceflight programs, creating MASA.

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

## The Moon



🌑 Last Quarter - 7th July

🌒 New Moon - 14th July

🌓 1st Quarter - 21st July

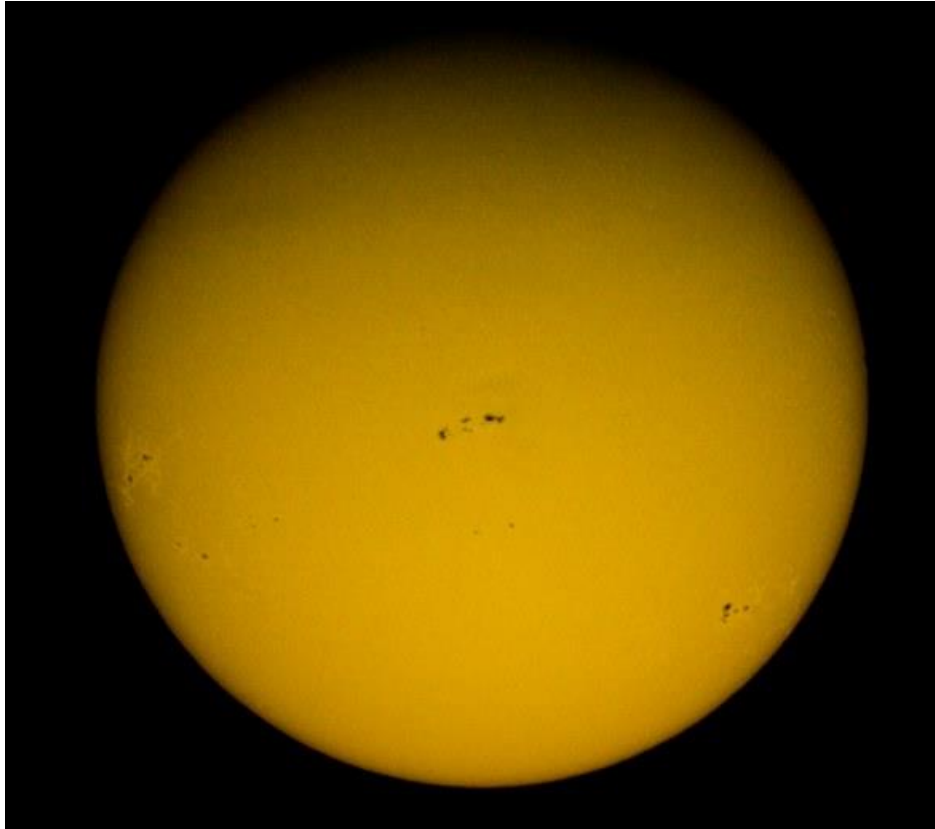
🌕 Full Moon - 29th July

Full Moon Phase Calendar details (Here<sup>4</sup>)

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

## The Sun



**Aurora** - Solar activity in June 2026 is forecast to be high as we reside near the peak of **Solar Cycle 25**. Expect frequent sunspots and a high probability of M-class and X-class solar flares. This level of activity increases the likelihood of geomagnetic storms, which can trigger aurora borealis sightings even in the southern parts of the UK.

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 commitee members.

## The Planets



Here's a summary of the positions and visibility of the planets in July 2026 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 none specialist equipment is very dangerous.

### Mercury

Mercury plunges back toward the Sun. It remains entirely obscured by daylight and bright twilight glare, tracking too close to the solar horizon to be safely

### **Venus**

Venus is poorly placed, as it remains lost in the blinding glare of the Sun. It sets shortly after sunset or tracks through the sky during peak daylight hours, making any attempts at naked-eye or telescopic observation dangerous

### **Mars**

Mars rises in the early morning hours during July, shining as a distinct reddish colour in the eastern sky before sunrise. The planet is steadily brightening each week

### **Jupiter**

Jupiter is visible low in the east during the pre-dawn hours, shining brilliantly against the twilight sky in the constellation Gemini. While it sits low on the horizon, its four large Galilean moons can easily be seen with a basic pair of binoculars or small telescope.

### **Saturn**

Saturn is well-placed for observing throughout July, rising in the late evening and climbing high into the southern sky by dawn. It remains a spectacular target for small telescopes, showcasing its rings at a very shallow, near edge-on angle and revealing several bright icy moons.

### **Uranus**

Uranus rises in the early morning hours, positioned closely to Mars in the constellation Taurus early in the month. Spotting this distant ice giant requires binoculars or a telescope, where it appears as a faint, pale greenish-blue dot.

### **Neptune**

Neptune rises during the late evening hours in July, remaining visible through the rest of the night. Because of its extreme distance and faint magnitude, finding the planet requires a telescope to see.

July offers a wonderful window to see both inner and outer planets, especially if you enjoy predawn sky-watch sessions.

## Comets, Meteors & Asteroids



### Meteor Showers

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

- **Delta Aquariids** (July 12 – August 23) - Visible from the UK throughout late July, reaching its official peak on July 30, 2026. Debris from Comet 96P/Machholz produces up to 15 meteors per hour that stream out from the radiant in Aquarius. While the radiant stays relatively low for northern observers, dark rural sites can still yield excellent views of these steady, long-tailed summer meteors.

- **Perseids** (July 17 - August 24) - The iconic Perseid meteor shower begins its annual run on July 17th, building up toward its spectacular mid-August peak, 12th August . Traced back to the dust trail left behind by Comet 109P/Swift-Tuttle, observers in the UK can spot early Perseids shooting outward from the constellation Perseus during the midnight hours.

## Asteroids

### Bright Binocular level Asteroids

- **1 Ceres** - The dwarf planet and largest asteroid in the main belt, 1 Ceres, will be well-placed for observing from the UK throughout July 2026. Glowing steadily at a accessible magnitude of approximately 7.4, Ceres can be easily located using binoculars or a small telescope from a dark site, appearing as a slow-moving star as it tracks across the background stellar fields.

## Comets

- **Comet 10P/Tempel 2** - A reliable Jupiter-family periodic comet that will serve as an excellent target for UK observers throughout July 2026. Approaching its perihelion, the comet is expected to brighten steadily to around magnitude 7.0, making it readily detectable in binoculars or small telescopes under dark sky conditions. It will emerge low in the evening sky after sunset, presenting a glowing coma and a modest dust tail that will appeal directly to regional amateur astrophotographers.

## Deep Sky Targets



For Telescopes & Astrophotography

Well, July is with us and towards the end of this month we will start to get some better astronomical levels of darkness (as can be seen [HERE](#)<sup>5</sup>) with the summer milky way prominent

### Galaxies

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<sup>5</sup><https://www.timeanddate.com/sun/uk/walsall>

Andromeda Galaxy (M31) — Climbing steadily higher in the northeastern sky during the midnight hours, this massive spiral galaxy is visible to the naked eye.

Triangulum Galaxy (M33) — A face-on spiral galaxy that serves as a fantastic imaging target under dark, transparent July skies.

Bode's Galaxy (M81) — Located in Ursa Major, this bright, classic grand-design spiral galaxy remains well-placed for northern hemisphere telescopes.

## **Nebula**

The Ring Nebula (M57) — Located in Lyra, this iconic planetary nebula resembles a tiny, glowing smoke ring when viewed through amateur telescopes.

The Dumbbell Nebula (M27) — A large, bright planetary nebula in Vulpecula that shows an hourglass shape through small telescopes.

The Veil Nebula (NGC 6960 / 6992) — A vast, intricate supernova remnant in Cygnus that glows beautifully in long-exposure wide-field astrophotography.

## **Shapeless Catalogue**

The Tulip Nebula (Sh2-101) — An emission nebula in Cygnus that perfectly mimics the shape of a glowing tulip flower in deep-sky exposures.

The Elephant's Trunk Nebula (Sh2-131) — A dense concentration of interstellar gas and dust embedded within the larger Cepheus nebula complex.

## **[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.

## **Star Clusters**

The Wild Duck Cluster (M11) — One of the richest, most compact open clusters in the sky, located in Scutum and resolving beautifully in binoculars.

The Coat Hanger Cluster (Collinder 399) — A delightful asterism in Vulpecula that perfectly resembles a clothes hanger when viewed through binoculars.

The Hercules Globular Cluster (M13) — A spectacular, dense ball of several hundred thousand stars that appears as a bright, fuzzy patch in hand-held binoculars.

## **The Moon**

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

## Bills Bulletin



Hi guys

It's been another busy month for research. There has been a lot happening even though the nights are short. The following articles are a selection of what is out there but hopefully they cover a range of subjects that are of interest, they were to me 😊

## Sun

New way to image the sun

Small optical component could change how telescopes view the sun<sup>6</sup>

Sun changes before flare

Scientists find strange changes on sun hours before a powerful X9 solar flare: 'I was not expecting what I found' | Space<sup>7</sup>

## Earth

El Niño

<https://apple.news/AZWgluQl8Qum8je7eCpgQwQ>

ESA - Pacific warming signals El Niño has stirred<sup>8</sup>

Before Stonehenge there were poles

[https://apple.news/ATaQyxZFQQyeTwp5nrjFq\\_A](https://apple.news/ATaQyxZFQQyeTwp5nrjFq_A)

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<sup>6</sup><https://phys.org/news/2026-06-small-optical-component-telescopes-view.html>

<sup>7</sup>[https://www.space.com/astronomy/sun/scientists-find-strange-changes-on-sun-hours-before-a-powerful-x9-solar-flare-i-was-not-expecting-what-i-found?utm\\_term=825DC990-AC0A-4242-B560-686B53262EF5&lrh=0fdb430f297c622e41ae6c9b1a3b23440ae416ed91fb32cb2a25ee373f4299e&utm\\_campaign=58E4DE65-C57F-4CD3-9A5A-609994E2C5A9&utm\\_medium=email&utm\\_content=71C7071A-2740-4DAB-BAB0-518EF20CA133&utm\\_source=SmartBrief](https://www.space.com/astronomy/sun/scientists-find-strange-changes-on-sun-hours-before-a-powerful-x9-solar-flare-i-was-not-expecting-what-i-found?utm_term=825DC990-AC0A-4242-B560-686B53262EF5&lrh=0fdb430f297c622e41ae6c9b1a3b23440ae416ed91fb32cb2a25ee373f4299e&utm_campaign=58E4DE65-C57F-4CD3-9A5A-609994E2C5A9&utm_medium=email&utm_content=71C7071A-2740-4DAB-BAB0-518EF20CA133&utm_source=SmartBrief)

<sup>8</sup>[https://www.esa.int/Applications/Observing\\_the\\_Earth/Pacific\\_warming\\_signals\\_El\\_Nino\\_has\\_stirred#msdynmkt\\_trackingcontext=51fd8953-bbe7-43b8-bfb0-e391800b0100](https://www.esa.int/Applications/Observing_the_Earth/Pacific_warming_signals_El_Nino_has_stirred#msdynmkt_trackingcontext=51fd8953-bbe7-43b8-bfb0-e391800b0100)

Solar storms can change earths rainfall

<https://sendy.universetoday.com/l/YH9ymnU1ShzDli10b76myA/TbGIF1Mae5763HQ3420ZoqSQ/7yvnmdC0TLNNqgf5SFxG2A>

## **Moon**

There is far more iron than cheese on the moon

Flash-Melted Glass from Chang'e-5 Reveals a High Levels of Iron on the Moon - Universe Today<sup>9</sup>

## **Planetary**

Terraforming Mars try the game

Can you terraform Mars? Try Nature's game<sup>10</sup>

If you want to find evidence there was life on Mars look for left handed amino acids

Finding Organics on Mars Isn't Enough. ExoMars Will Look for Their "Handedness." - Universe Today<sup>11</sup>

## **Asteroids**

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<sup>9</sup><https://www.universetoday.com/articles/flash-melted-glass-from-change-5-reveals-a-high-levels-of-iron-on-the-moon>

<sup>10</sup>[https://www.nature.com/immersive/d41586-026-01978-8/index.html?utm\\_source=Live+Audience&utm\\_campaign=8020bccdb1-nature-briefing-daily-20260626&utm\\_medium=email&utm\\_term=0\\_-33f35e09ea-49516740](https://www.nature.com/immersive/d41586-026-01978-8/index.html?utm_source=Live+Audience&utm_campaign=8020bccdb1-nature-briefing-daily-20260626&utm_medium=email&utm_term=0_-33f35e09ea-49516740)

<sup>11</sup><https://www.universetoday.com/articles/finding-organics-on-mars-isnt-enough-exomars-will-look-for-their-handedness>

Massive earth impact caused 8 million years of heating

The Long-Lived Chicxulub Hydrothermal System Lasted 8 Million Years - Universe Today<sup>12</sup>

## **Exoplanet**

Black holes have planets

'We were astonished': Millions of exoplanets could be born near active supermassive black holes | Space<sup>13</sup>

A star has recently eaten a planet

Astronomers Find Stellar Evidence of an Engulfed Planet - Universe Today<sup>14</sup>

## **Astro biology**

Mass life extinction cane caused by close encounters with dwarf planets

Did Gravitational Tides Cause Earth's Extinctions? - Universe Today<sup>15</sup>

## **Milky Way**

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<sup>12</sup><https://www.universetoday.com/articles/the-long-lived-chicxulub-hydrothermal-system-lived-8-million-years>

<sup>13</sup>[https://www.space.com/astronomy/exoplanets/we-were-astonished-millions-of-exoplanets-could-be-born-near-active-supermassive-black-holes?utm\\_term=825DC990-AC0A-4242-B560-686B53262EF5&lrh=0fdb430f297c622e41ae6c9b1a3b23440ae416ed91fb32cb2a25ee373f4299e&utm\\_campaign=58E4DE65-C57F-4CD3-9A5A-609994E2C5A9&utm\\_medium=email&utm\\_content=71C7071A-2740-4DAB-BAB0-518EF20CA133&utm\\_source=SmartBrief](https://www.space.com/astronomy/exoplanets/we-were-astonished-millions-of-exoplanets-could-be-born-near-active-supermassive-black-holes?utm_term=825DC990-AC0A-4242-B560-686B53262EF5&lrh=0fdb430f297c622e41ae6c9b1a3b23440ae416ed91fb32cb2a25ee373f4299e&utm_campaign=58E4DE65-C57F-4CD3-9A5A-609994E2C5A9&utm_medium=email&utm_content=71C7071A-2740-4DAB-BAB0-518EF20CA133&utm_source=SmartBrief)

<sup>14</sup><https://www.universetoday.com/articles/astronomers-find-stellar-evidence-of-an-engulfed-planet>

<sup>15</sup><https://www.universetoday.com/articles/did-gravitational-tides-cause-earths-extinctions>

Globular cluster or disc relic Webb shows the way

[https://www.esa.int/Science\\_Exploration/Space\\_Science/Webb/Webb\\_Hubble\\_reveal\\_relic\\_of\\_our\\_galaxy\\_s\\_formation](https://www.esa.int/Science_Exploration/Space_Science/Webb/Webb_Hubble_reveal_relic_of_our_galaxy_s_formation)

Looking at the core of the galaxy

Euclid View of Milky Way Heart Previews Core Survey by NASA's Roman - NASA<sup>16</sup>

## Galaxies

Webb catches multiple merger

James Webb Space Telescope catches 6 galaxies merging into one of the largest galaxies in the universe | Space<sup>17</sup>

M82 Webb and Hubble combined

NASA's Webb Pinpoints Millions of Stars Within Cigar Galaxy - NASA Science<sup>18</sup>

The first galaxies must have grown by having dust and gas funnelled into them but how ?

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<sup>16</sup>[https://www.nasa.gov/missions/roman-space-telescope/euclid-view-of-milky-way-heart-previews-core-survey-by-nasas-roman/?utm\\_source=newsletter&utm\\_medium=email&utm\\_campaign=nn202625](https://www.nasa.gov/missions/roman-space-telescope/euclid-view-of-milky-way-heart-previews-core-survey-by-nasas-roman/?utm_source=newsletter&utm_medium=email&utm_campaign=nn202625)

<sup>17</sup>[https://www.space.com/astronomy/james-webb-space-telescope/james-webb-space-telescope-catches-6-galaxies-merging-into-one-of-the-largest-galaxies-in-the-universe?utm\\_term=825DC990-AC0A-4242-B560-686B53262EF5&lrh=0fdbe430f297c622e41ae6c9b1a3b23440ae416ed91fb32cb2a25ee373f4299e&utm\\_campaign=58E4DE65-C57F-4CD3-9A5A-609994E2C5A9&utm\\_medium=email&utm\\_content=7FD878DE-799C-45DD-BC30-3CE64EE08967&utm\\_source=SmartBrief](https://www.space.com/astronomy/james-webb-space-telescope/james-webb-space-telescope-catches-6-galaxies-merging-into-one-of-the-largest-galaxies-in-the-universe?utm_term=825DC990-AC0A-4242-B560-686B53262EF5&lrh=0fdbe430f297c622e41ae6c9b1a3b23440ae416ed91fb32cb2a25ee373f4299e&utm_campaign=58E4DE65-C57F-4CD3-9A5A-609994E2C5A9&utm_medium=email&utm_content=7FD878DE-799C-45DD-BC30-3CE64EE08967&utm_source=SmartBrief)

<sup>18</sup>[https://science.nasa.gov/missions/webb/nasas-webb-pinpoints-millions-of-stars-within-cigar-galaxy/?utm\\_source=newsletter&utm\\_medium=email&utm\\_campaign=nn202625](https://science.nasa.gov/missions/webb/nasas-webb-pinpoints-millions-of-stars-within-cigar-galaxy/?utm_source=newsletter&utm_medium=email&utm_campaign=nn202625)

Radio Observations Reveal the Secret of Early Galaxy Growth - Universe Today<sup>19</sup>

## Cosmology

Black hole stars

NASA Webb Finds Strongest Evidence Yet for 'Black Hole Stars' - NASA Science<sup>20</sup>

How many fundamental particles can we have

How Many Elementary Particles Are There, Really? | Quanta Magazine<sup>21</sup>

It may be easier to detect gravitational waves with new devices

<https://phys.org/news/2026-06-quantum-sensor-major-obstacle-dark.html>

Uneven universe

<https://apple.news/><sup>22</sup>

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<sup>19</sup><https://www.universetoday.com/articles/cosmic-dawn-fuel-discovery-unlocks-early-galaxy-growth-secrets-vla-fuel-discovery>

<sup>20</sup>[https://science.nasa.gov/missions/webb/nasa-webb-finds-strongest-evidence-yet-for-black-hole-stars/?utm\\_source=newsletter&utm\\_medium=email&utm\\_campaign=nn202623](https://science.nasa.gov/missions/webb/nasa-webb-finds-strongest-evidence-yet-for-black-hole-stars/?utm_source=newsletter&utm_medium=email&utm_campaign=nn202623)

<sup>21</sup>[https://www.quantamagazine.org/how-many-elementary-particles-are-there-really-20260615/?utm\\_source=Live+Audience&utm\\_campaign=25109281a5-nature-briefing-daily-20260616&utm\\_medium=email&utm\\_term=0\\_-33f35e09ea-49516740](https://www.quantamagazine.org/how-many-elementary-particles-are-there-really-20260615/?utm_source=Live+Audience&utm_campaign=25109281a5-nature-briefing-daily-20260616&utm_medium=email&utm_term=0_-33f35e09ea-49516740)

<sup>22</sup><https://apple.news/AoXOwewfLTjCGiCiXgVgowg>

Population three stars may have developed differently

The Universe's First Stars Were Shaped By Turbulence and Were Not As Massive as Thought - Universe Today<sup>23</sup>

## Telescopes

Hubble sees very early times

Hubble Space Telescope images galaxy scientists thought was impossible to find | Space<sup>24</sup>

Hubble Details Early Galaxy Transforming Neighborhood - NASA Science<sup>25</sup>

## Observing

T corona boralis could good off soon

A 'new' star could finally appear in the night sky this week, thanks to a once-in-a-lifetime explosion | Space<sup>26</sup>

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<sup>23</sup><https://www.universetoday.com/articles/the-universes-first-stars-were-shaped-by-turbulence-and-were-not-as-massive-as-thought>

<sup>24</sup>[https://www.space.com/astronomy/hubble-space-telescope/hubble-space-telescope-images-galaxy-scientists-thought-was-impossible-to-find?utm\\_term=825DC990-AC0A-4242-B560-686B53262EF5&lrh=0fdb430f297c622e41ae6c9b1a3b23440ae416ed91fb32cb2a25ee373f4299e&utm\\_campaign=58E4DE65-C57F-4CD3-9A5A-609994E2C5A9&utm\\_medium=email&utm\\_content=F08489E9-D330-47A1-B776-129391756F96&utm\\_source=SmartBrief](https://www.space.com/astronomy/hubble-space-telescope/hubble-space-telescope-images-galaxy-scientists-thought-was-impossible-to-find?utm_term=825DC990-AC0A-4242-B560-686B53262EF5&lrh=0fdb430f297c622e41ae6c9b1a3b23440ae416ed91fb32cb2a25ee373f4299e&utm_campaign=58E4DE65-C57F-4CD3-9A5A-609994E2C5A9&utm_medium=email&utm_content=F08489E9-D330-47A1-B776-129391756F96&utm_source=SmartBrief)

<sup>25</sup>[https://science.nasa.gov/missions/hubble/hubble-details-early-galaxy-transforming-neighborhood/?utm\\_source=newsletter&utm\\_medium=email&utm\\_campaign=nn202625](https://science.nasa.gov/missions/hubble/hubble-details-early-galaxy-transforming-neighborhood/?utm_source=newsletter&utm_medium=email&utm_campaign=nn202625)

<sup>26</sup>[https://www.space.com/stargazing/a-new-star-could-finally-appear-in-the-night-sky-this-week-thanks-to-a-once-in-a-lifetime-explosion?utm\\_term=825DC990-AC0A-4242-B560-686B53262EF5&lrh=0fdb430f297c622e41ae6c9b1a3b23440ae416ed91fb32cb2a25ee373f4299e&utm\\_campaign=58E4DE65-C57F-4CD3-9A5A-609994E2C5A9&utm\\_medium=email&utm\\_content=F08489E9-D330-47A1-B776-129391756F96&utm\\_source=SmartBrief](https://www.space.com/stargazing/a-new-star-could-finally-appear-in-the-night-sky-this-week-thanks-to-a-once-in-a-lifetime-explosion?utm_term=825DC990-AC0A-4242-B560-686B53262EF5&lrh=0fdb430f297c622e41ae6c9b1a3b23440ae416ed91fb32cb2a25ee373f4299e&utm_campaign=58E4DE65-C57F-4CD3-9A5A-609994E2C5A9&utm_medium=email&utm_content=F08489E9-D330-47A1-B776-129391756F96&utm_source=SmartBrief)

Spiral arm cluster buster project NASA

Help classify drawings of spiral arms with a citizen science project

Spiral Graph: Cluster Buster - NASA Science<sup>27</sup>

## Space flight

Europe has a has alternative

ESA - Conversations in the sky: Galileo's intersatellite links tested<sup>28</sup>

Robot swarms

ESA - Meet the Team: STAR-BOTS<sup>29</sup>

How to catch a swift

<https://www.nature.com/articles/d41586-026-01949-z>

NASA is paying \$30 million for a 1st-of-its-kind rescue mission to save its aging Swift telescope from falling from space Here's why | Space<sup>30</sup>

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<sup>27</sup>[https://science.nasa.gov/citizen-science/spiral-graph-cluster-buster/?utm\\_source=newsletter&utm\\_medium=email&utm\\_campaign=nn202625](https://science.nasa.gov/citizen-science/spiral-graph-cluster-buster/?utm_source=newsletter&utm_medium=email&utm_campaign=nn202625)

<sup>28</sup>[https://www.esa.int/Applications/Satellite\\_navigation/Conversations\\_in\\_the\\_sky\\_Galileo\\_s\\_intersatellite\\_links\\_tested#msdynmkt\\_trackingcontext=f4e1d6e9-e4ff-4930-867b-ee3aed160300](https://www.esa.int/Applications/Satellite_navigation/Conversations_in_the_sky_Galileo_s_intersatellite_links_tested#msdynmkt_trackingcontext=f4e1d6e9-e4ff-4930-867b-ee3aed160300)

<sup>29</sup>[https://www.esa.int/Education/ESA\\_Academy\\_Experiments\\_programme/Meet\\_the\\_Team\\_STAR-BOTS#msdynmkt\\_trackingcontext=f182e9b4-b681-4614-a34e-8ac98b820000](https://www.esa.int/Education/ESA_Academy_Experiments_programme/Meet_the_Team_STAR-BOTS#msdynmkt_trackingcontext=f182e9b4-b681-4614-a34e-8ac98b820000)

<sup>30</sup>[https://www.space.com/space-exploration/launches-spacecraft/nasa-is-paying-usd30-million-for-a-1st-of-its-kind-rescue-mission-to-the-aging-swift-telescope-before-it-falls-from-space-is-it-worth-it?utm\\_term=825DC990-AC0A-4242-B560-](https://www.space.com/space-exploration/launches-spacecraft/nasa-is-paying-usd30-million-for-a-1st-of-its-kind-rescue-mission-to-the-aging-swift-telescope-before-it-falls-from-space-is-it-worth-it?utm_term=825DC990-AC0A-4242-B560-)

## Schedules, links and contacts



- [TV - BBC Sky at night \(Here<sup>31</sup>\)](#)
- [Upcoming Space Launches \(Here<sup>32</sup>\)](#)

[686B53262EF5&lrh=0fdb430f297c622e41ae6c9b1a3b23440ae416ed91fb32cb2a25ee373f4299e&utm\\_campaign=58E4DE65-C57F-4CD3-9A5A-609994E2C5A9&utm\\_medium=email&utm\\_content=7FD878DE-799C-45DD-BC30-3CE64EE08967&utm\\_source=SmartBrief](https://www.bbc.co.uk/programmes/b006mk7h)

<sup>31</sup><https://www.bbc.co.uk/programmes/b006mk7h>

- *Moon Phases (Here<sup>33</sup>)*
  - *Dark Sky Calendar (Here<sup>34</sup>)*
  - *Clear Outside - Astronomy weather forecast (Here<sup>35</sup>)*
    - *Cloud radar map (Here<sup>36</sup>)*
    - *Beginners guide (Here<sup>37</sup>)*
  - *Walsall Astronomy Facebook Group (Here<sup>38</sup>)*
    - *Walsall Astronomy Website (Here<sup>39</sup>)*
    - *Contact: Info@walsallastro.com<sup>40</sup>*
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<sup>32</sup><https://spaceflightnow.com/launch-schedule/>

<sup>33</sup><https://www.moongiant.com/calendar/november/2024/>

<sup>34</sup><https://gostargazing.co.uk/dark-sky-calendar/>

<sup>35</sup><https://clearoutside.com/forecast/50.70/-3.52>

<sup>36</sup><https://www.yourweather.co.uk/weather-maps/nubes-ukn.html>

<sup>37</sup><https://www.skyatnightmagazine.com/advice/astronomy-for-beginners>

<sup>38</sup><https://www.facebook.com/groups/251803274136388>

<sup>39</sup><https://walsallastro.com/>

<sup>40</sup><mailto:Info@walsallastro.com>