

[Astronomy Things To See During August 2017 \(For UK Observers\)](#)

Moon:

Full:	7 th August 7:10pm
Last Quarter:	15 th August 2:15am
New:	21 st August 7:30pm (slight partial solar eclipse visible at sunset from the UK)
First Quarter:	29 th August 9:13am

The Lunar "X" and "V" are visible at around 08:00 UT which is several hours before the Moon rises, so we can't observe them from the UK this month

Lunar conjunctions & occultations:

Note: When the Moon is waxing it is visible in the western sky after sunset. When near Full Moon it is visible most of the night. When it is waning, it is visible in the eastern sky before sunrise

1 st August	Waxing Gibbous Moon lies close to Beta Scorpii & Antares
2 nd /3 rd August	Waxing Gibbous Moon lies close to Saturn
9 th August	Waning Gibbous Moon lies close to Neptune & Lambda Aquarii
13 th August	Waning Gibbous Moon lies close to Uranus
14 th August	Waning Gibbous Moon occults Xi ² Ceti
15 th August	Last Quarter Moon occults 5 Tauri
16 th August	Waning Crescent Moon occults some bright stars in the Hyades cluster
18 th August	Waning Crescent Moon lies close to Alhena
19 th August	Waning Crescent Moon lies close to Venus & Ceres
24 th August	Waxing Crescent Moon occults Porrima
25 th August	Waxing Crescent Moon lies close to Jupiter & Spica
27 th August	Waxing Crescent Moon lies between Alpha & Beta Librae
29 th August	First Quarter Moon lies close to Antares & Saturn
30 th August	Waxing Gibbous Moon lies close to Saturn again

Planetary Observations:

Mercury – is not easily observable this month

Venus – rising at around 2:30am at the start of August (around 3am by the end of the month), mag -3.9 Venus dominates the predawn sky as it moves through Gemini. On 2nd August it will just 2.5 degrees from the open cluster M35. On the morning of 19th August, the Waning Crescent Moon lies very close to Venus. On 25th August, Caster and Pollux lie directly above it. On 31st August, Venus lies just 2.2 degrees from M44 the Beehive Cluster

Mars – is not easily observable this month

Jupiter – located in Virgo, Jupiter is visible in the west after sunset and sets at around 10pm. At mag -1.7 it should be easy to spot amongst the faint stars of Virgo. On 12th August, Jupiter lies close to Theta Virginis, and on 25th August the Waxing Crescent Moon lies close to Jupiter & Spica

Saturn – located in Ophiuchus, Saturn is visible low in the south after sunset and sets at around 1am. Its magnitude this month is +0.4 which isn't especially bright, but with good binoculars or a small telescope you will have no trouble seeing Saturn's rings. On 2nd and 3rd August, the Waxing Gibbous Moon lies close to Saturn and on 29th & 30th August the Waxing Gibbous Moon again lies close to Saturn

Neptune – located in Aquarius, Neptune rises at around 9pm. At mag +7.8 you will need binoculars or a telescope to spot it

Uranus – located in Pisces, Uranus rises at around 10pm. At mag +5.8 you will need binoculars or a telescope to spot it. On 13th August the Waning Gibbous Moon lies close to Uranus

Pluto – located in Sagittarius, Pluto is visible low in the south after sunset and it sets at around 3am. At mag +14.2 you will need a large telescope to spot it

Ceres – located in Gemini, Ceres rises at around 3am and remains visible until the dawn twilight. On 4th August, Ceres lies close to Epsilon Geminorum. Between 9th and 14th August, Ceres lies very close to Venus, and on 19th August, the Waning Crescent Moon also lies nearby, making an excellent photo opportunity

Vesta – is not easily observable this month

Pallas – during its brief apparition for 2017, Pallas is visible throughout August and the first half of September. Moving from Cetus into Eridanus this month, it rises in the east at around 1am and remains visible until it becomes lost in the dawn twilight. It will be around mag +8 during August so you will need binoculars or a small telescope to spot it

Flora – becoming visible during the 2nd half of August, Flora is a dawn object located in Taurus. It will get brighter later in the year, but during August it will be mag +9.4 so you will definitely need good binoculars or a small telescope to spot it

Other Observations:

Noctilucent Cloud Season Comes To An End – although the peak of NLC season is during June & July, you may still see NLCs during the first half of August. At an altitude of around 8 times higher than other clouds, they are right on the edge of space. If visible, they can be seen around 60 – 120 minutes after sunset in the north west or 60 – 120 minutes before sunrise in the north east, but only between the end of May and mid August. They appear to glow a gorgeous white/blue whilst all the other clouds are in shadow, giving them their name “night shining clouds”. They are unpredictable, but if you get a good display, you will agree that they are well worth staying up late or getting up early for!

Perseid Meteor Shower – one of the highlights of our astronomical calendar, the Perseid meteor shower is active from 23rd July until 20th August, with the peak of the shower falling on Saturday night of 12th/13th August. Under ideal conditions you can expect to see around 30 meteors per hour, but this year we have the Gibbous Moon (just 5 days past full) bleaching the sky so it will be difficult to spot the fainter meteors. However, don't let that stop you from going and observing because brighter meteors will still easily punch through the moonlight. The radiant of the Perseids is close to the border between Perseus/Cassiopeia/Camelopardalis, quite close to the Double Cluster. But that doesn't mean you need to watch that area to see meteors, as they can appear anywhere in the sky. In fact, your best chance will be to look north towards Ursa Minor and Ursa Major, the opposite side of the sky from the bright Moon. If you want to try and photograph the shower, point your camera about 30-40 degrees away from the radiant and about 45 degrees up (to avoid low light pollution and haze). And be very wary of highly exaggerated press articles claiming that this will be the best meteor shower for over a hundred years!

Multiple Lunar Occultations – As you will have seen in the list above, there are several stars occulted by the Moon this month.
13th/14th August, at 00:55 BST, Xi² Ceti will emerge from the shadow limb of the Moon
15th August just before 04:50 BST, 5 Tauri will emerge from the dark limb of the Last Quarter Moon
16th August – between 02:35 BST and 07:39 BST, several bright stars from The Hyades Cluster are occulted. The final star to be occulted is Aldebaran, which disappears at 06:42 BST and emerges at 07:39 BST. Although this takes place in daylight, it will be easy to observe with a telescope
24th August – 21:00 BST Porrima will disappear behind the shadow side of the Waxing Crescent Moon as they both set in the west.

Please note: Exact timings of these events will vary according to your latitude, so check Stellarium, or your copy of Astronomy Now or Sky at Night Magazine for exact timings for your location

Partial Solar Eclipse – you must've been living in a cave if you haven't heard about the total solar eclipse visible across North America on 21st August by now! However, you may not have realised that a partial eclipse is visible from the UK near to sunset. The Moon's shadow can be seen partially covering the Sun's lower edge from around 19:40 BST until the Sun sets at around 20:22 BST. **Please do not attempt to view this event without the correct solar observation equipment. If you don't have access to proper eclipse glasses or have a solar filter for your telescope, you can use a projection method to observe it instead. But make sure you follow the instructions carefully if you do this!**

Minor Planet Florence Flyby – Minor Planet 3122 Florence will reach binocular visibility towards the end of August and into the beginning of September. On 31st August it will be at its brightest, but reaches its closest point to Earth the next night as it passes from Aquarius into Delphinus. It is thought that Florence is 4 km in diameter so as it passes within 8 million km of Earth it will be unusually bright, peaking at around mag +8.7 which is easily within binocular range. See if you can observe it over multiple nights and plot its movement relative to the background stars

Milky Way – August is a great month for observing the Milky Way as we start to get more hours of darkness. This gives us the opportunity to observe the region around Scorpius and Sagittarius, which are absolutely packed full of deep sky objects which are easy to find. For more details about what you see in this region, take a look at Night Scenes 2017 by Paul Money

Binocular Tour – This month's Sky at Night Binocular Tour by Stephen Tonkin is focused on the sky around Cepheus. There are 2 objects to spot if you have 15 x 70 binoculars. The first is the double star θ 2. You can resolve the double in much smaller binoculars, but 15 x 70s will really show the colour contrast between the two stars, one being very orange/red, the fainter one yellow/white. Next look for NGC 7160. Set within a small open cluster, this contact binary pair contains the slightly variable EM Cephei. There are 4 further objects to look for with 10 x 50 binoculars. First is Delta Cephei. This famous star varies in magnitude from +3.6 - +4.5 with a period of 5.37 days. The star itself is a double which can be resolved with binoculars, with the brighter one a deep yellow colour and the secondary a fainter, white star. Next is Herchel's Garnet Star, Mu Cephei, so named for its deep red colour. If you have a dark, transparent night, see if you can find IC 1396, a mag +3.5 open cluster. It is easier to spot at low magnification, but if you have larger binoculars, try holding up a UHC filter to eye piece to help see the nebulosity. Finally, is NGC 7243, an open cluster set within a beautiful part of the Milky Way. For full details on how to find these objects, look at this month's edition of Sky at Night Magazine

Deep Sky Tour – This month's Sky at Night Deep Sky Tour is centred on the area around Sagitta. There are 3 planetary nebulae here; M27 the Dumbbell Nebula, NGC 6886 which is much smaller than M27 but still quite bright, and NGC 6905 which is similar in magnitude to NGC 6886 but is much larger. All three objects are best viewed through moderately sized telescopes. There are 2 open clusters in this region, first is NGC 6830. A 6" telescope will resolve around 15 stars, the brightest of which form a diamond shape within another diamond! A 10" telescope will resolve double that number of stars. The other open cluster is Harvard 20, which is very small and sparse and can be difficult to spot! A 6" telescope will resolve around 12 stars. The final object is M71, a mag +8 globular cluster. For full details of where to find these objects and how best to see them, pick up the current issue of Sky at Night magazine

NGC 6946 The Fireworks Galaxy – Astronomy Now's object of the month is NGC 6946, a stunning face-on spiral galaxy on the border between Cetus and Cygnus. Its four spiral arms are blue but are dotted with pinkish coloured HII star forming regions, giving some stunning colour contrast. In the past 100 years there have been 10 supernova explosions within this galaxy (the usual rate is around 1 per century!). Its overall brightness is affected by dust from the nearby Milky Way, but at mag +8.9 it should be visible through most telescopes. If you are imaging it with a small refractor, you should be able to capture the nearby open cluster NGC 6939 within the same field of view. If imaging with a larger aperture, make sure you capture lots of luminance images to help bring out the faint detail. An H-alpha narrowband filter will show up the details within the HII regions. For more information on how to observe, image or sketch this object, take a look at the current edition of Astronomy Now magazine

Sky Tour – Astronomy Now's Sky Tour this month takes you on a tour of the numerous planetary nebulae which are observable during the summer. There are 10 planetary nebulae to look for, all in the region of Cygnus, Vulpecula, Sagitta, Delphinus, Aquila and Sagittarius, including the Helix Nebula, Saturn Nebula, Little Gem and many more. For more information about these objects, take a look at the current edition of Astronomy Now magazine

Solar Observations – although the days are shortening, there is still plenty of time for solar observing. A white light filter will show sunspots, faculae and maybe some granulation. A specialist hydrogen-alpha telescope will show filaments, prominences and if you are lucky you may catch a solar flare in action. Also, if there is a lot of high level cirrus cloud around, keep a look out for solar optical phenomena such as parhelia (sundogs), 22 degree haloes and the various arcs associated with ice haloes

SAFETY WARNING: Never attempt to observe or photograph the Sun without the correct equipment. Failure to do so will result in permanent damage to your eyes or even blindness!

International Space Station – There are ISS passes visible from the UK during the first 9 days of August, then it leaves our skies for a few weeks. For the exact timings of the passes from your location, visit www.heavens-above.com Don't forget to check for Iridium flare times for your location there too.

Mayak – keep your eyes out for the new Russian satellite, Mayak, which was launched during July 2017 with the sole purpose of being the brightest satellite in the sky. Once fully deployed, it will have very large reflective panels. When these catch sunlight, they may even reach mag -10 during visible passes, which will definitely rival the ISS! It is visible from the UK throughout the whole of August. For details of pass times, check www.heavens-above.com

Comets Visible This Month:

Comet C/2015 ER61 (PanSTARRS) – This month, ER61 is much better placed for observation from the UK. Moving through Taurus, it rises in the NE at around midnight at the start of August (but by the end of the month it is rising at around 10:30pm) and reaches about 30 degrees above the eastern horizon by 3am. Between 10th – 27th August, there will be an excellent photo opportunity as the comet passes within half a degree of M45 The Pleiades. It is predicted that ER61 will still be around mag +10 during August. Click here to view the finder chart: <http://bit.ly/2hcqz6O>

There are several other comets in the mag +11 to +15 range. Details of these can be found in the links below.

For up to date information about the fainter comets which are visible, please visit:

<https://in-the-sky.org/data/comets.php>, the BAA Comets Section: <https://www.ast.cam.ac.uk/~jds/> or Seiichi Yoshida's home page: <http://www.aerith.net/index.html>

NB: All of the information in this sky guide is taken from Night Scenes 2017 by Paul L Money, Philips Stargazing 2017 by Heather Couper and Nigel Henbest, 2017 Yearbook of Astronomy by Richard Pearson and Brian Jones, Astronomy Now Magazine, Sky at Night Magazine, Stellarium, the BAA Comets Section website <https://www.ast.cam.ac.uk/~jds/>, www.inthesky.org and www.heavens-above.com Information collated by Mary McIntyre. For regular updates about the events happening in the sky this month, follow the Nightscenes Monthly Night Sky Facebook page at www.facebook.com/AstrospacePublications