

On September 24th the Sun crossed the equator on its journey south. Continuing its journey, the sun will be around 4.5° south of the equator on October 1st and by the end of the month will have reached 13.5° south. The effect of this on the UK is that the days will get noticeably shorter.

At the beginning of October, the Sun will rise around 7 am British Summer Time (BST) and will set around 6.30 pm BST giving about eleven and a half hours of daylight. At the end of the month it will rise around 8 am BST and will set around 5.30 pm BST giving about nine and a half hours of daylight. A complicating factor is that British Summer Time ends on October 27th. Although this will not affect the length of daylight, we will be putting the clocks back an hour, giving us an extra hour in bed. The result of this will be that at the end of October the Sun will rise around 7am Greenwich Mean Time (GMT) and will set around 4.30 pm GMT.

The Moon will reach first quarter on October 5th and will be full on October 13th. It will reach last quarter on October 21st and will be new on October 28th.

On the night of the 18th/19th the Moon will pass in front of the bright star zeta Tauri. This star shines at magnitude +3 so is normally an easy naked eye object. The Moon will be seen to close in on the star as midnight approaches. The Moon will be a few days past full so its bright limb will reach the star first. The glare of the Moon will make the star difficult to see at the point of disappearance so a pair of binoculars will be needed to follow it. It will disappear behind the Moon around 1.23 am BST and around 2.12 am BST will reappear from behind the dark limb. These events are known as occultations and demonstrate that the Moon is moving along its orbit round the Earth.

The Planets

Mercury and Venus are not well placed for observation this month as they are too close to the Sun. Mars is also close to the Sun but is drawing away and will become a morning object and should become visible before sunrise before the end of the month.

Jupiter has disappeared into the glare of sunset.

Saturn is still visible in the early evening but by the end of the month will have followed Jupiter into the sunset glare.

Planets continued

Uranus and Neptune are visible as binocular objects.

Uranus comes to opposition on October 28th when it will be south at midnight - true midnight, as British Summer Time will have ended by then. Uranus will be found shining at magnitude +5.9 among the stars of Aries.

Neptune is to be found shining at magnitude +7.8 among the stars of Aquarius.

Comets

There are three comets in the skies at the moment.

Comet 2018 W2 Africano is traveling south and could possibly be in range of large binoculars. It is moving rapidly and thus will need to be observed early in the month. It will pass the south east corner of the Great Square of Pegasus heading for Pisces at the end of September.

Comet 2017 T2 PanSTARRS is moving slowly north from Taurus into Auriga. On the nights of 27th 28th and 29th of October it will pass, by about one degree east, of the open cluster M36.

Comet 2018 N2 passes between the galaxies M33 and M31. At the beginning of October, it will be around 4° north east of M33 near the stars of Triangulum. By the end of the month it will be around 3° south of M31. Websites such as Comet Watch give finder charts for these objects. All should be visible in modest amateur telescopes.

Meteor Showers

There are two meteor showers this month. They are not large but are worth looking out for.

The Draconids occur on the night of the 8th and 9th October. Following convention, they are named after the constellation from which they appear to emanate, in this case Draco the Dragon.

The meteors will appear from around the Dragons head and about 10 meteors per hour might be expected. Unfortunately, the moons light will swamp out viewing the fainter meteors until the moon sets at 1am BST.

The Orionids emanate from a point between Orion's Betelgeuse and the constellation Gemini.

They are not as clearly defined as the Draconids as meteors can be seen throughout October.

However, they peak on the night of the 21st and 22nd October and, like the Draconids, produce around 10 meteors per hour with viewing impaired by moonlight this year.

The Stars

This month marks the first signs of the winter constellations, the first of which is the Pleiades or Seven Sisters Open Star Cluster. It can already be seen in the later part of the evening appearing as a fuzzy patch rising in the east. It is quickly followed by the Hyades, an older, more widely spread cluster in front of which shines the brilliant red star Aldebaran.

Aldebaran and the Hyades are often depicted as the head and red eye of Taurus the Bull.

As the weeks pass we will see Orion the Hunter and Gemini the Twins move on to centre stage and winter will be just around the corner.

Until next month clear skies.