

The astronomical sky over Edinburgh and Lothian this November

The Sun passes through two constellations in November, there are three meteor showers, we see the last supermoon of 2024 and Uranus comes closest to Earth and provides the best view of the Ice Giant all year.

The Sun leaves Libra (The Scales) on 22 November at 8.40 pm and enters Scorpius (The Scorpion). However, the Sun does not dwell in this constellation but leaves Scorpius (The Scorpion) and enters Ophiuchus (The Serpent Bearer) on 29 November at 9:04 am which was reconnected to the ecliptic zodiac by the IAU one hundred years ago. Daylight shortens from 09:11 (9.181 hours) on 1 November to 07:26 (7.434 hours) on 30 November so we gain 1 hour and 45 minutes of night time by month's end.

The new Moon appears on 1 November at 12:47 pm in Libra (The Scales) beginning a new Lunar (synodic) month which will last 29 days, 17 hours and 34 minutes.

The first quarter of the new cycle shows up on 9 November at 5:55 am in Capricornus (The Sea Goat). Lunar perigee (closest to Earth) on 14 November at 11:24 am finds the Moon some 360,122 km away from Earth—around 24,278 km closer than average—subtending an angle of 33.2 arc-minutes. The full Beaver Moon makes an appearance on 15 November at 9:29 pm in Aries (The Ram). November's full Moon is also the last supermoon of the calendar year. The Moon enters last quarter on 23 November at 1:28 am in Leo (The Lion). Lunar apogee (furthest from Earth) that occurs on 26 November at 12:03 pm and takes the Moon to 405,281 km away from Earth—around 20,881 km further than average—subtending an angle of 29.5 arc-minutes. The Moon encounters Pollux in Gemini (The Twins) in the wee hours of 20 November and Regulus in Leo (The Lion) around midnight on 23 November.

For the inferior planets: Mercury reaches greatest eastern elongation on 16 November. Although it gets 83 million km closer to Earth, it fades from -0.35 magnitudes to +1.89 magnitudes as the illuminated side turns away from us. Setting so closely after the Sun, it is lost in the Sun's twilight glare. Venus, however, remains an evening planet, for an hour or so after sunset, and gets 30 million km closer to Earth brightening from -4.0 to -4.2 magnitudes. She crosses the boundary from Ophiuchus (The Serpent Bearer) into Sagittarius (The

Archer) on 8 November.

Mars is the bobby-dazzler in November in Cancer (The Crab). Mars gets 32 million km closer and brightens from +0.1 magnitudes to -0.5 (gaining 75% in brightness), rising earlier as the month progresses. The Red Planet lies 2.3 degrees east of the waning gibbous Moon on 20 November at 10:28 pm.

Jupiter and Uranus are visible all night, all month long. Jupiter never leaves Taurus (The Bull) but comes 27 million km closer to Earth and brightens to -2.8 magnitudes. Uranus, the Ice Giant, is also in Taurus (The Bull) and will be 4.2 degrees south of the full Moon on 15 November but, as always, requires binoculars or a telescope to see it at +5.6 magnitudes. It is worth setting up your preferred ocular device, though, as it will be closest to the Earth at 2.8 billion km on 16 November and at opposition on 17 November at 2:45 am. This will be the best view all year.

Saturn, in Aquarius (The Water Bearer), recedes by 70 million ending at +0.95 magnitudes. The Ringed Planet conjuncts with the waxing gibbous Moon on 10 November in the late evening hours but will be occulted after it sets. It returns to a direct orbit mid-month and, in the latter half of the month, we lose Saturn completely. Neptune, the blue giant and windiest planet, remains in Pisces (The Fishes) and will be 0.6 degrees north of the

waxing gibbous Moon on 12 November at 1:56 am.

The Southern Taurid meteor shower is radiant from one of the Bull's hooves near the star 'Tau o-1' on the map provided. These meteors peak on the night of 5-6 November and 'Tau o-1' rises around 1 hour after Sunset so the shower should be viewable all night. The ZHR is low but the waxing crescent Moon is only 10% illuminated. The Northern Taurids, radiant from near M45 (The Pleiades), peak a week later but the 78% waxing gibbous Moon will spoil the show. The parent comet is 2P/Encke, co-discovered by Mechain and Messier in 1786, is named after the astronomer who first calculated the body's orbit.

Alas, the 94% illuminated Moon, very close to full, will also severely degrade observation of the Leonids, radiant from Leo (The Lion). They peak on 16-17 November and the parent comet is 55P/Tempel-Tuttle discovered in 1865.

There are no bright comets during November visible from Edinburgh and Lothian.

T CrB, the Blaze Star, continues to elude astronomers as an active recurrent nova. It is still expected to brighten 10,000-fold but predictions as to when are uncertain. We can still see Corona Borealis (The Northern Crown) in the November sky for 3-4 hours after Sunset.

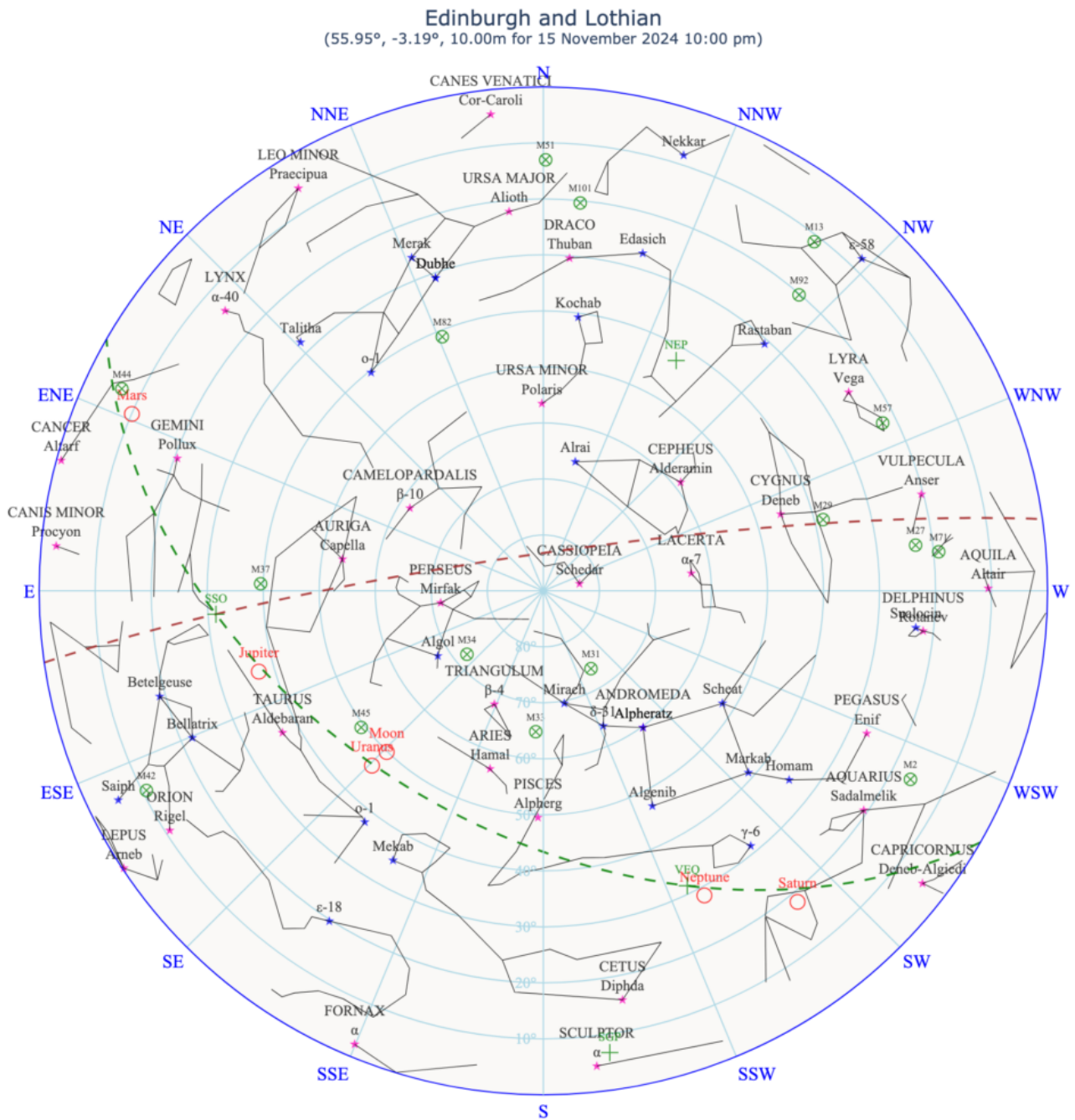
At the time of our sky map, some constellations visible are

Cassiopeia (The Seated Queen) at zenith, Ursa Major (The Great Bear) in the north, Orion (The Hunter) in the east, Cygnus (The Swan) in the west, and Cetus (The Sea Monster) in the south. The ecliptic hosts Cancer (the Crab), Gemini (The Twins), Taurus (The Bull), Aries (The Ram), Pisces (The Fishes), Aquarius (The Water Bearer) and Capricornus (The Sea Goat).

The Summer Triangle'—Vega in Lyra (The Lyre), Altair in Aquila (The Eagle) and Deneb in Cygnus (The Swan)—sets in the west. Circumpolar constellations—always above the horizon—include Cepheus (The King), Camelopardalis (The Giraffe), Draco (The Dragon) and Ursa Minor (The Lesser Bear).

Edinburgh and Lothian Ephemeris

1 November 12:47 pm	New Moon, Meeus lunation 307	Libra
5 November 11:00 pm	Southern Taurid (002 STA) meteor shower peaks, ZHR=5	Taurus
9 November 5:55 am	Moon at first quarter	Capricorn
10 November 10:00 pm	Saturn 2.5° above waxing gibbous Moon	Aquarius
12 November 11:00 pm	Northern Taurid (017 NTA) meteor shower peaks, ZHR=5	Taurus
12 November 1:56 am	Neptune 0.6°N of waxing gibbous Moon	Pisces
12 November 3:59 pm	Moon crosses ascending node	Pisces
14 November 11:24 pm	Lunar perigee 360,122 km	Aries
15 November 2:01 pm	Saturn at stationary direct point	Aquarius
15 November 9:29 pm	Full (Beaver) Moon	Aries
15 November 11:10 pm	Uranus 4.2°S of full Moon	Aries
16 November 8:11 am	Mercury at greatest eastern elongation at 22.5°	Ophiuchus
16 November 11:00 pm	Leonid (013 LEO) meteor shower peaks, ZHR=15	Leo
16 November 11:04 pm	Earth Uranus closest 2,778,359,103 km	Taurus
17 November 2:45 am	Uranus at opposition	Taurus
20 November 2:00 am	Pollux 1.9°N of waning gibbous Moon	Gemini
20 November 10:28 pm	Mars 2.3°E of waning gibbous Moon	Cancer
22 November 8:40 pm	Sun leaves Libra, enters Scorpio at 0.988 AU	Scorpio
23 November 12:00 am	Regulus 2.5°E of last quarter Moon	Leo
23 November 1:28 am	Moon at last quarter	Leo
25 November 9:32 pm	Moon crosses descending node	Virgo
26 November 2:12 am	Mercury at stationary retrograde point	Ophiuchus
26 November 12:03 pm	Lunar apogee 405,281 km	Virgo
29 November 9:04 am	Sun leaves Scorpio, enters Ophiuchus at 0.986 AU	Ophiuchus



The sky above Edinburgh and Lothian at 11 pm on 1 November, 10 pm on 15 November and 9 pm on 30 November. The green, dashed, line is the Ecliptic and the brown, dashed, line is the Milky Way. Asterisms below 10° may be truncated because of distortion. To use the map, face any direction and then rotate the map until that cardinal point is nearest to you. The zenith (point directly overhead) is at the center of the circle and the edge is the horizon.