**The Night Sky in November**

Bright planets light up the western evening sky while bright stars appear in the east. Soon after sunset brilliant Venus appears in the west, followed by Jupiter a little higher & later. Later still, Saturn appears well above Jupiter & Venus & in line with them. On Nov 1 a very faint Mercury will be left of Venus but it quickly falls lower in the twilight, disappearing by the end of the week. Venus sets about two hours after the Sun through November. Jupiter and Saturn slip down the sky toward Venus. Around Nov 23 golden Jupiter and silver Venus will make an eye-catching pair, less than two degrees apart. On Nov 2 the Moon will cross in front of Saturn in the twilight.

On Nov 11 Mercury will be visible crossing the face of the sun from east to west (an event called a transit). This will be a big deal in other parts of the world, but from NZ Mercury is so close to the rising sun that it will not be easy to see (in Auckland visible from 6:05 - 7:04 am).

There are two meteor showers this month. The Taurid meteor showers peaks in late October through mid-November. They’re sometimes called the [Halloween Fireballs](https://cosmicpursuits.wpengine.com/381/the-halloween-fireballs/), visible as 5-10 bright, slow-moving fireballs every hour any time of night. The Leonid meteor shower peaks in mid Nov, visible in the early morning, but partly obscured by the waning gibbous Moon, and has been less spectacular this year.

Canopus, the second brightest star is well up the southeast sky at dusk. Sirius, also known as the dog star, is the brightest star and rises a little south of east. It appears in the later evening at the beginning of the month. By month's end it is in the sky at dusk, twinkling like a diamond as the air disperses its white light. Right of Sirius is the triangle of bright stars that make the big dog's hind quarters.

Left of Sirius is the constellation of Orion, with 'The Pot' at its centre. Rigel, a bluish supergiant star, is directly above the line of three stars; Betelgeuse, a red-giant star, is straight below. Left again is orange Aldebaran. Still further left is the Matariki star cluster (also called the Pleides, the Seven Sisters, Subaru and many other names). Six stars are visible to the eye; many more are seen in binoculars. The cluster is 440 light years away and around 70 million years old.

The Milky Way galaxy is low in the sky, visible around the horizon from the northwest, through west and south and around into the eastern sky. It is our edgewise view of the galaxy, the pancake of billions of stars of which the Sun is just one. The broadest, brightest part is in the west between Jupiter and Saturn. That's where the thick hub of the galaxy lies, 30 000 light years away, mostly hidden by clouds of smoke-like dust. The thin nearby edge of the Milky Way is below Orion on the opposite side of the sky.

Low in the south are the Pointers, Beta and Alpha Centauri, and Crux the Southern Cross, upside down. In some Maori star lore the bright southern Milky Way makes the canoe of Maui with Crux being the canoe's anchor hanging off the side. In this picture the hook of the Scorpion's tail, left of Jupiter, is the canoe's prow and the Clouds of Magellan are its sails. Alpha Centauri our closest naked-eye star; 4.3 light years away. It is actually two Sun-like stars orbiting each other every 80 years.

The Clouds of Magellan, (Larger and Smaller), high in the southern sky, are two small galaxies about 180 000 light years away. They are easily seen by eye on a dark moonless night, although they are much smaller than our Milky Way galaxy

Very low in the north is the Andromeda Galaxy. It appears as a spindle of light, faintly visible to the eye in a dark sky and easily seen in binoculars. It is similar in size and shape to our galaxy but is a little bigger and nearly three million light years away.

<https://www.rasnz.org.nz/Downloadable/SkyCharts/allCharts2019-11.pdf>

<https://cosmicpursuits.com/night-sky-this-month/>