

Newsletter October 2025

And just like that, the seasons have changed and nights are getting shorter, but there is still a lot going on and plenty to observe in the night sky. This month we will focus on our closest neighbour the moon.

Several different countries are planning missions to land on the moon and even establish a moon base. We have included short descriptions and links if you are interested in finding out more about these projects.

Every culture in the world has stories and legends about the moon so there are some of these included on the last page for you to enjoy.

And of course some fun facts you might not know about our moon.

We learnt a lot of useful information from the Moth and Butterfly trust talk last month, such as how damaging wasps are to our native insects. So we encourage you to report and if possible destroy any wasp nests if you find them this summer.



Coming up this month:

- ✚ 3rd Oct: Comet 3I Atlas fly's by Mars
- ✚ 4th Oct : Glenorchy Fishing comp
- ✚ 7th Oct : Full moon
- ✚ 21st Oct: New moon
- ✚ 21st Oct Comet C2025 A6 (Lemmon) makes its closest approach to Earth
- ✚ 27th Oct: Labour day

Here is a link to the Moth and Butterfly trust [survey of wasps](#)

If you are planning your garden then here is a list of butterfly and insect friendly plants to consider planting.

Natives such as: Hebe, Manuka, Kowhai, Harakeke, Cabbage tree, and especially consider Pohuehue.

Perennials such as: Holly hock, Cornflower, Aster and Rose

Annuals such as: Alyssum, Zinnia, Cleome, Penstemon and don't forget many herbs like Borage, Bee balm, Rosemary, Sage and Mints are also attractive to butterflies and other pollinators.

World Astronomy News

Moon Missions!!!

The race to the moon is back on apparently.

At least five countries – the United States, Russia, China, India, and Japan – have successfully soft-landed spacecraft on the Moon, with several more countries and organizations actively planning and pursuing lunar missions and landings by 2030. The push for lunar exploration is increasing, with over 100 lunar missions planned by both governments and private companies in the coming years.



Photo credit: NASA

Both China and America have plans in place for people to walk on the moon by 2030.

A goal of several space agencies, including NASA's Artemis program aims to build a permanent human presence on the Moon starting with the Lunar Gateway space station and an Artemis Base Camp at the lunar south pole, utilizing technologies like SpaceX's Starship. Other entities, such as China and Russia through the International Lunar Research Station (ILRS) project, and SpaceX with its Starship-based mobile habitats, also have plans for lunar outposts. These missions are designed to foster scientific research, test deep-space technologies, and prepare for future exploration of Mars

Artemis II is planned to be the first crewed test flight of SLS and the Orion spacecraft. The four crew members will perform extensive testing in Earth orbit, and Orion will then be boosted into a free-return trajectory around the Moon, which will return Orion to Earth for re-entry and splashdown. Launch is scheduled for no later than April 2026.

Meanwhile

In 2024, China's space program achieved its most active year for launches with 68 successful missions, exceeding the previous year's record. The Tiangong Space Station hosted two crewed and two cargo missions, while the Chang'e-6 mission successfully brought lunar samples from the Moon's far side back to Earth. China also released its National Mid- and Long-term Plan for Space Science (2024–2050), outlining future goals including lunar exploration, the construction of an international lunar research station (ILRS), and space science missions through to 2050



Photo credit: NASA

HOT TIP Check out this link <https://www.space.com/> for all kinds of interesting space news, and images.

In other news

NASA has announced that they may have discovered potential bio signatures on Mars. A sample collected by NASA's Perseverance Mars rover from an ancient dry riverbed in Jezero Crater could preserve evidence of ancient microbial life. Taken from a rock named "Cheyava Falls" last year, the sample, called "Sapphire Canyon," contains potential bio signatures. This finding by Perseverance is the closest we have ever come to discovering ancient life on Mars.

Learn the night sky

This month...

The Moon will be full on October the 7th and the New Moon is on October the 21st. With daylight savings now in operation, dark night isn't until 9:34pm on the first of October and 10:28pm on the 31st of October

FUN MOON FACTS:

A day on the Moon—from sunrise to sunset—lasts about two whole weeks. Then, the night drags on for another two weeks. The Moon takes roughly 27.3 days to orbit the Earth, and because it's tidally locked, we always see the same side facing us.

Contrary to popular belief, the Moon doesn't have a permanent "dark side." Both sides get sunlight at different times during the month. In fact, the far side of the Moon is bathed in sunlight during the New Moon phase.

The changing phases of the Moon? Those happen because sunlight reflects off its surface at varying angles as the Moon orbits the Earth.



The moon

Photo credit: Brian Boyle

In the Morning sky this month

Jupiter is the bright morning star at the moment.

In the Evening Sky

A new comet has appeared in the evening sky, but sadly it is very faint. Called C 2025 A6 (Lemmon) you may be able to see it with binoculars soon after sunset about 41 degrees from the sun.

The Milky Way is our edgewise view of the galaxy and at this time of year runs North to South on the Western side of the sky. We can still see the galactic centre which is the fat bulge near the constellation of Sagittarius

On moonless evenings, look for the Zodiacal light in the West. It looks like a faint broad

column of light reaching up towards the Milky Way
It is sunlight reflecting off meteoric dust in the plane of the solar system.

Let's talk about the Moon

Such as...Why do people say the moon is made of cheese?

The earliest record of this bizarre notion comes from a medieval Slavic fable in which a ravenous wolf chases a seemingly hapless fox, hoping to score an easy meal. The fox convinces his pursuer that the moon's reflection on a nearby pond is actually a block of cheese floating on its surface and that the wolf must drink all of its water to acquire the tasty treat. Guzzling his way to the prize, the wolf eventually drinks too much and bursts, leaving the fox alive and victorious.

The image (above right) is from the 1902 French sci fi movie "trip to the moon" written and directed by Georges Méliès

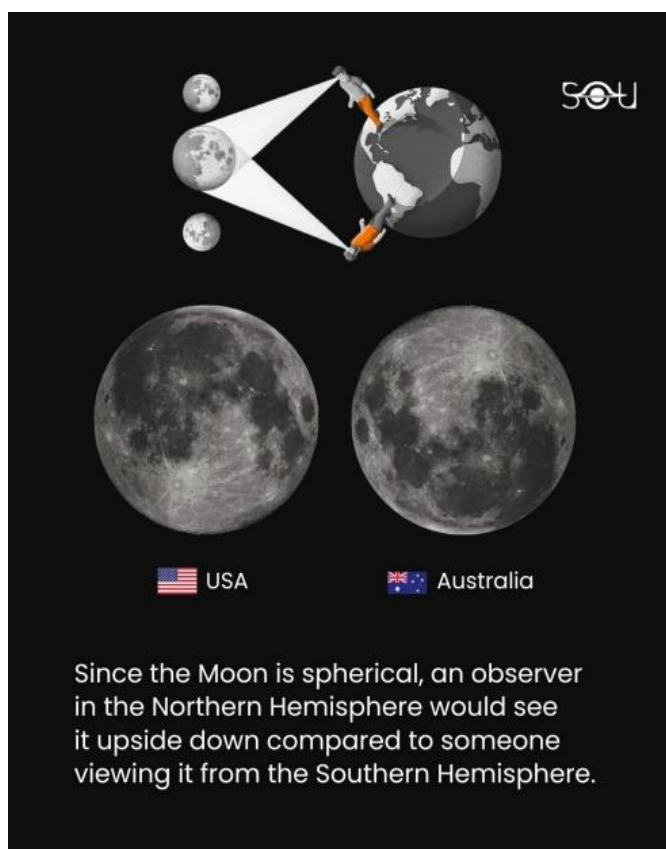


"The moon is made of green cheese" was most often used to express incredulity.

"The Earth is flat!"...

"Oh sure, and the moon is made of green cheese"...

On April fool's day in 2002, NASA claimed to have proven once and for all that the moon was made of cheese by releasing a photo-shopped image with an expiry date printed on one of the moon's craters



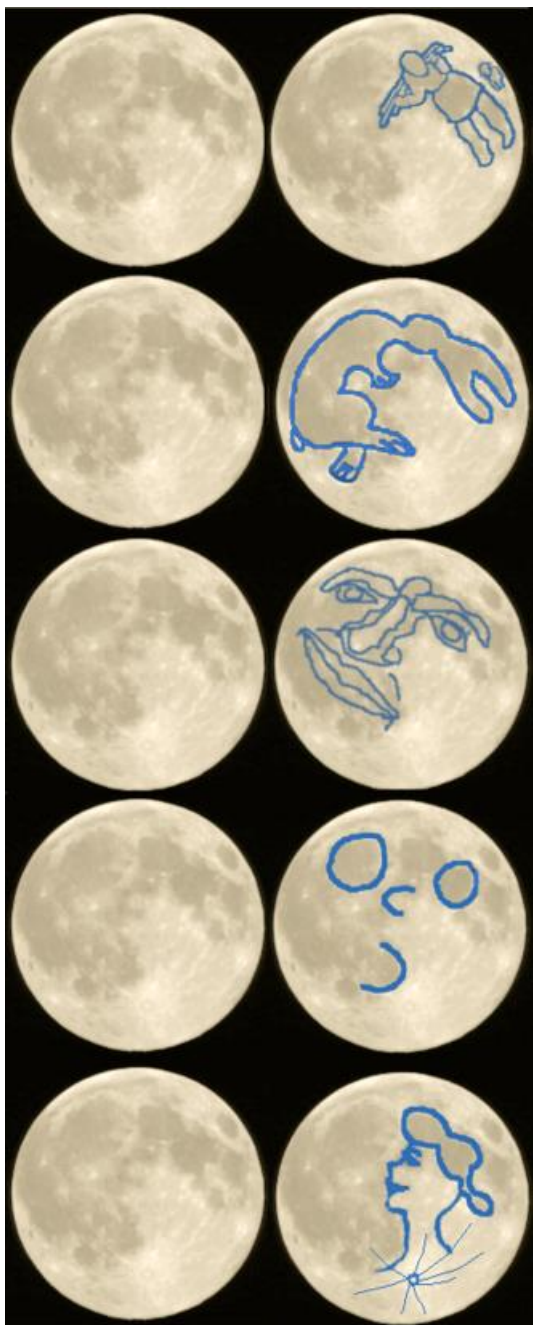
Who is the Man in the Moon?

There's no official "man" in the Moon — but it's possible to spot a man's face in any full — or even full-ish — moon. One thing's for sure, it won't be the same man they see in the northern hemisphere.

In New Zealand, the Moon is "upside down" from the point of view of northern hemisphere viewers. We see a jolly man's face in the full moon, while their guy looks a bit alarmed.



Moon Stories



Every culture in the world has a moon story and sees a different image in the moon.

Here are a few for you to enjoy.

Scandinavia

Hyuki (Jack) and Bil (Jill) were sent up the hill to fetch a pail of water from a magical well. Water from this well inspired poetry and prophecy. The children were spotted by the man who carries the Moon across the sky each night in his chariot. He scooped them up into his chariot and carried them away. The two children can still be seen there today, along with their bucket and pole.

Australia

Back in the Dreamtime, Bahloo (Moon) visited the Earth and saw two young women who invited him to ride in their canoe. He was unsteady in the little craft and fell into the water. Embarrassed by his clumsiness, he hid. Although he now shines brightly every month, he remembers this little accident and shrinks away to gather his courage.

Mexico

In ancient times, an Aztec god chose to set himself on fire and jump into the sky to light the cold, dark world. He became the Sun. A second god, jealous of the praise that the new Sun was getting, did the same. All of that light angered a third god who threw a rabbit at the second Sun's face to dim his light, making him the Moon.

Polynesia

Have you ever seen a rainbow at night formed by moonlight instead of sunlight? Legend has it that Hina, a Polynesian woman who was on her way to get some fresh water, did. She had always wanted to live in the heavens, so she walked along the rainbow and didn't stop until she reached Moon. She lives there now and can be seen beating her tapa board to make cloth.

You can find many more Moon online. Here are a few websites to explore.

[Rona and the Moon story](#) from New Zealand

Various moon stories Myths and superstitions from around the world

[Other Moon tales](#) audio links