

Get ready for a total lunar eclipse

October 3 2014, by Tanya Hill



The magnificent changing moon during a total eclipse. Credit: Phil Hart

Look up towards the east on Wednesday night (October 8) and a total lunar eclipse will be visible from across Australia.

The moon will slowly move through Earth's shadow, as the sun, Earth and moon fall into line with each other.

The [eclipse](#) occurs during the early evening, making it the perfect opportunity to head outdoors and watch it happen with family and

friends. Best of all, you don't need any special equipment to see it.

From Western Australia the eclipse will have begun by the time the moon rises. In Perth, the moon will be almost fully eclipsed as it first appears above the eastern horizon. Totality will occur just a few minutes later.

Further north around Broome, the moon rises earlier so just on half of the moon will be eclipsed at moonrise.

The rest of Australia will see the whole eclipse, from start to finish, with the moon visible in the eastern sky.

A lunar eclipse occurs at the same moment for every location on Earth, so the differences in time depend only on the local timezone.

Red moon, red planet, red star

During totality, when the Earth lies directly between the sun and the moon, the moon will take on a bright reddish-orange glow. This is because some sunlight still manages to reach the moon but has to travel through the Earth's atmosphere to get there.

As sunlight passes through Earth's atmosphere all the blue light is scattered away leaving behind only red light. The atmosphere also refracts or bends this light so that it is redirected into the Earth's shadow and bathes the moon in a coppery glow.

Queensland (AEST)

Start partial eclipse: 7:15pm
Start totality: 8:25pm
End totality: 9:24pm
End partial eclipse: 10:34pm

Western Australia (AWST)

Moonrise 6:19pm (Perth)
Start totality: 6:25pm
End totality: 7:24pm
End partial eclipse: 8:34pm

Northern Territory (ACST)

Start partial eclipse: 6:45pm
Start totality: 7:55pm
End totality: 8:54pm
End partial eclipse: 10:04pm

South Australia (ACDT)

Start partial eclipse: 7:45pm
Start totality: 8:55pm
End totality: 9:54pm
End partial eclipse: 11:04pm

NSW, ACT, Victoria and Tasmania (AEDT)

Start partial eclipse: 8:15pm
Start totality: 9:25pm
End totality: 10:24pm
End partial eclipse: 11:34pm

During totality, an astronaut on the moon would see the Earth's atmosphere lit up as a red ring of light.

Exactly what the moon will look like for us here on Earth depends on conditions in the atmosphere. At present the atmosphere is fairly clear of airborne particles like dust from desert storms or volcanoes. So this eclipse is expected to turn the moon a bright orange-red.

Furthermore, eclipses are very much a leisurely event so there's also the chance to do some stargazing and planet watching. There are a number of bright stars to be found near the eclipsed moon, including the northern hemisphere's famous [Summer Triangle](#) made from the bright stars [Vega](#), [Deneb](#) and [Altair](#).

High above the moon the bright star [Fomalhaut](#) which belongs to the

constellation of the southern fish, also known as [Piscis Austrinus](#), catches the eye.

Looking towards the west, the [red planet](#) Mars is still reasonably close to the red supergiant star [Antares](#). Closer to the horizon Saturn can also be found just below the claws of [Scorpius](#).

As totality ends, the other thing to watch out for is just how bright the moon appears as it slowly emerges from the Earth's shadow.

What next?

Lunar eclipses and solar eclipses come in pairs around a fortnight apart. The solar eclipse that is paired with this lunar one will occur on October 23. It will be a [partial solar eclipse](#) - the [moon](#) will block about 80% of the sun's diameter - and be visible across Canada and the USA.

Australia's next [total lunar eclipse](#) will occur next year, on April 4. But it'll be a quick one with only a few minutes of totality rather than the usual hour or so.

At any rate be sure to take the opportunity to view this one while you can. A number of planetariums and observatories around the country are [hosting eclipse events](#) so the experience can be shared with others.

And if the weather doesn't cooperate in your local area, you can also follow the eclipse via live streaming by [Sydney Observatory](#), [Slooh](#) or the [Virtual Telescope](#).

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