

# Total Lunar Eclipse

4 April 2015

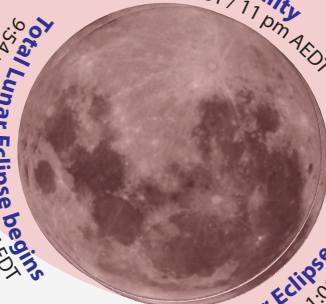
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**Penumbral Lunar Eclipse begins**  
7 pm AEST / 8 pm AEDT



**Partial Lunar Eclipse begins**  
8:15 pm AEST / 9:15 pm AEDT



**Mid-totality**  
10 pm AEST / 11 pm AEDT

**Total Lunar Eclipse begins**  
9:54 pm AEST / 10:54 pm AEDT

**Total Lunar Eclipse ends**  
10:06 pm AEST / 11:06 pm AEDT



**Partial Lunar Eclipse ends**  
11:45 pm AEST / 12:45 am AEDT 5 April



**Penumbral Lunar Eclipse ends**  
1:01 am AEST 5 April / 2:01 am AEDT 5 April

A total lunar eclipse will occur in the early evening of Saturday 4 April 2015 and will be visible across Australia. The eclipse is best observed from Eastern Australia. Western Australian observers will miss the initial stages of the eclipse.

At it's simplest, a lunar eclipse occurs when the Moon temporarily passes through the shadow of the Earth, and the Moon's surface takes on the colour of the Earth's shadow. Depending on the phase (or stage) of the eclipse, part or all of the Moon may be darkened and colourless, or even become faint orange or red.



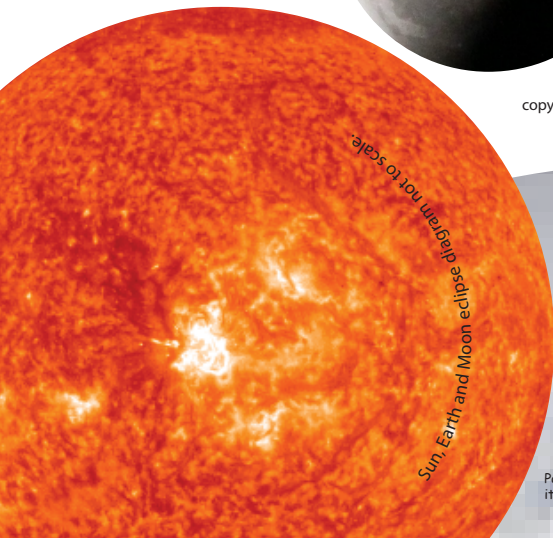
**Partially eclipsed Moon**  
October 2014. Photo  
copyright Paul Floyd [www.nightskyonline.info](http://www.nightskyonline.info)

A Lunar Eclipse can only occur when the Moon, Earth and Sun temporarily align. This almost occurs every month and coincides with the time of Full Moon. However, an eclipse doesn't happen each month because the orbit of the Moon is tilted approximately 5 degrees relative to the plane in which the Earth orbits the Sun. This means that the Moon usually passes above or below the Earth's shadow and there is no lunar eclipse. This will be the first lunar eclipse for 2015. The second lunar eclipse occurring during 2015 will not be visible from Australia.

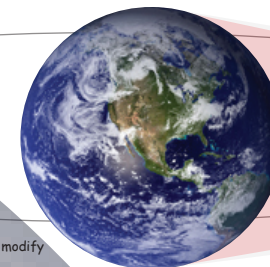


**Eclipsed Moon at totality**  
December 2011. Photo  
copyright Paul Floyd  
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Total lunar eclipses can be quite dramatic. Casual skywatchers may expect that the Moon would merely darken and take on a dark grey appearance during a Total Lunar Eclipse. However, the Moon actually takes on a dark orange or even in extreme cases a dark 'blood' red colour (if there is a lot of volcanic dust in the Earth's atmosphere). This is caused by the Earth's atmosphere bending light into its shadow. Blue light is scattered easiest and doesn't make it into the Earth's shadow. Red light is scattered least and is bent most into the Earth's shadow. Hence, the Moon takes on an orange or reddish appearance during a total lunar eclipse.



Paul Floyd [www.nightskyonline.info](http://www.nightskyonline.info) October 2014. You are free to reproduce and distribute this resource for non-commercial purposes but not to modify it in any way without permission from the author. Full licence conditions at <http://creativecommons.org/licenses/by-nc-nd/3.0/>.



Earth's umbra

Earth's penumbra

Photo credits: Earth, Moon and Sun images courtesy NASA.