

## Planet Visibility

2023 – 2024

The following diagrams show, in graphical form, when the five “naked-eye” planets Mercury, Venus, Mars, Jupiter and Saturn are visible in the night sky during the period July 2023 – June 2024.

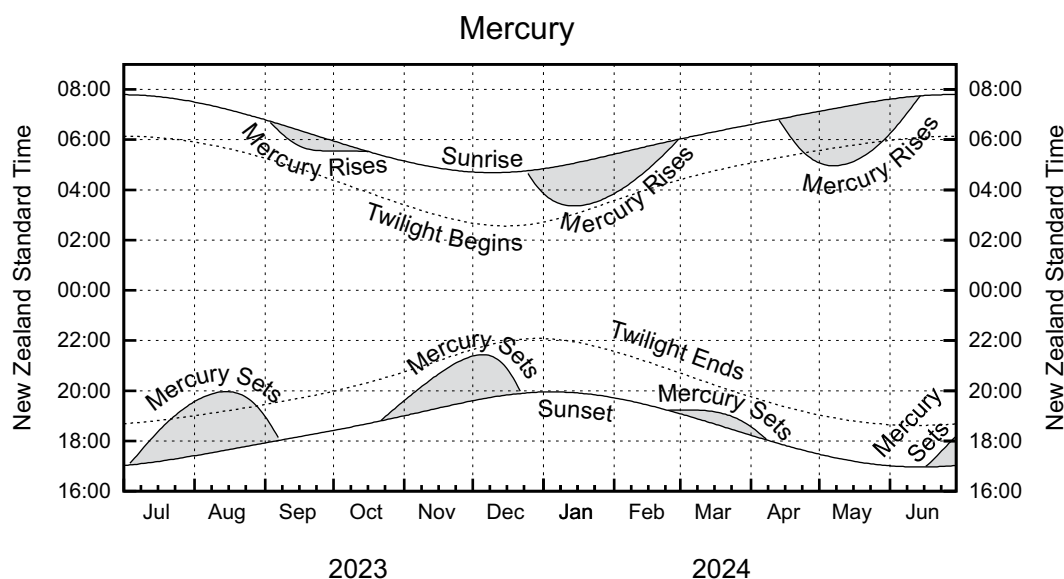
Each diagram spans the hours of darkness, covering the period from 16:00 to 08:00 with midnight being represented by the central line across the diagram. For a given date, time runs from the bottom to the top of the diagram. Times are shown in terms of New Zealand Standard Time; one hour must be added when New Zealand Daylight Time is in force. Each diagram is plotted for Wellington; time differences at other locations in New Zealand will generally not exceed an hour.

In addition to the planet information, the diagrams show the time of sunset and sunrise as well as the end and start of astronomical twilight which is the time when the Sun is 18° below the horizon. The shaded area of each diagram indicates the range of dates/times that the planet is visible in the night sky.

### Appearance of the planets

Unless they are near to the horizon, planets can be distinguished from the twinkling stars by their more steady appearance. Twinkling is caused by turbulence in the atmosphere which has a greater effect on the light coming from point sources (stars) than on the light from much closer planets which are not point sources. Another pointer to identifying planets is that they are usually one of the brightest of the objects in the night sky.

Mercury is the most difficult to see of the bright planets; due to its close proximity to the Sun it is seldom seen in fully dark skies. Venus is readily identified by its brightness – being exceeded by only the Sun and Moon. Venus is often referred to as either the Evening Star (when visible in the west after sunset) or the Morning Star (in the east before sunrise). Mars is notable for its orange-red appearance and is popularly known as the Red Planet. Jupiter’s white light always outshines all of the stars whilst pale yellow Saturn is usually the least conspicuous of the five naked-eye planets.



**Mercury** is the most difficult of the bright planets to see as it always appears near the Sun. This means it is visible only towards the horizon in the twilight sky. The best period to see Mercury in the morning sky will occur between mid-April and the end of May when the planet rises before twilight begins. Other morning appearances during September and January-February are less favourable as Mercury rises during the dawn period. The best time to see Mercury in the evening will occur from mid-July to late August when it sets after twilight has ended. Other evening appearances during November-December, March and late June are less favourable as Mercury sets before twilight ends.