

PLANET VISIBILITY

2022 – 2023

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 2022 – June 2023.

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.

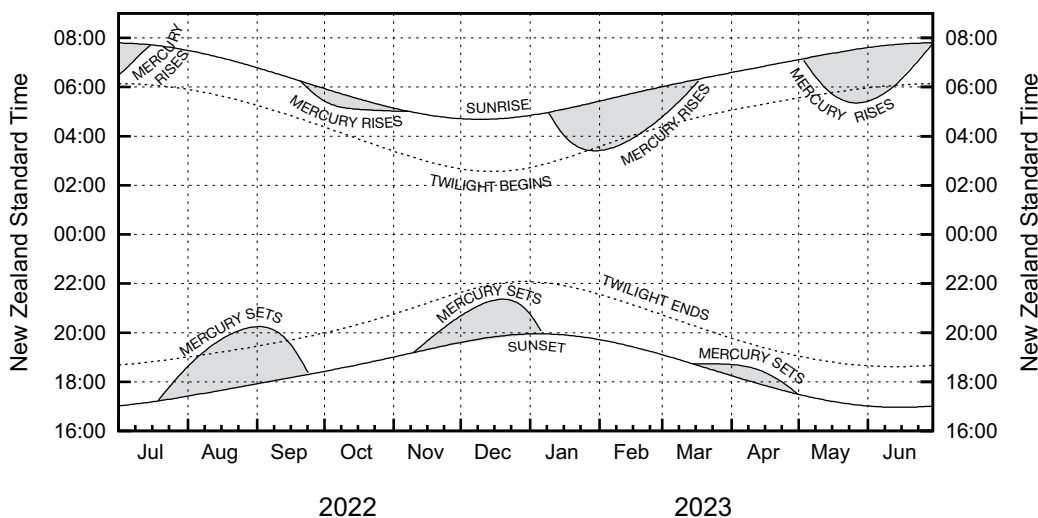
In addition to the planet information, the diagrams show the time of sunset and sunrise as well as the end and start of astronomical twilight which is the time when the Sun is 18° below the horizon. The shaded area of each diagram indicates the range of dates/times that the planet is visible in the night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

Appearance of the planets

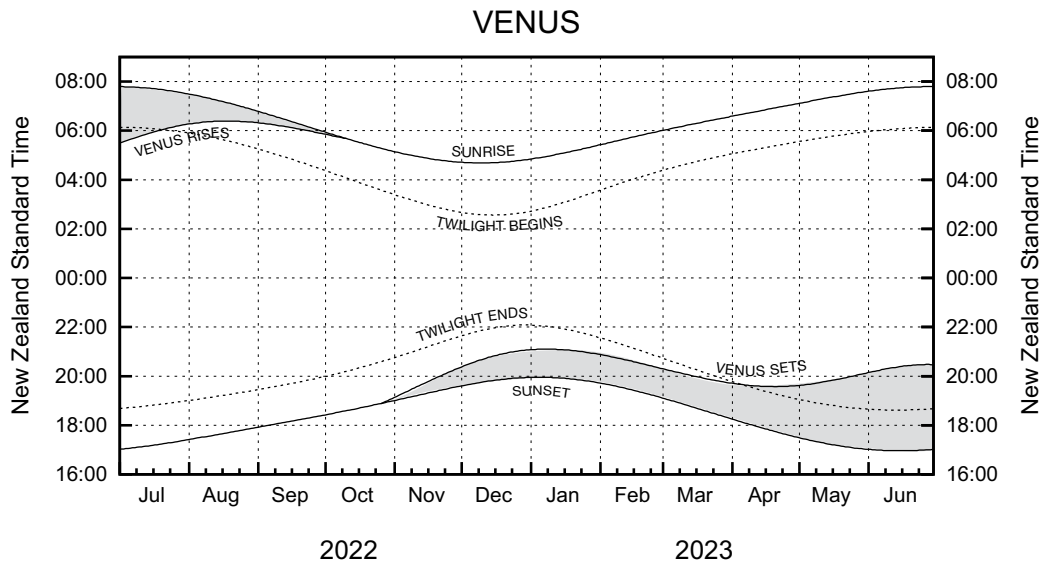
Unless they are near to the horizon, planets can be distinguished from the twinkling stars by their more steady appearance. Twinkling is caused by turbulence in the atmosphere which has a greater effect on the light coming from point sources (stars) than on the light from much closer planets which are 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.

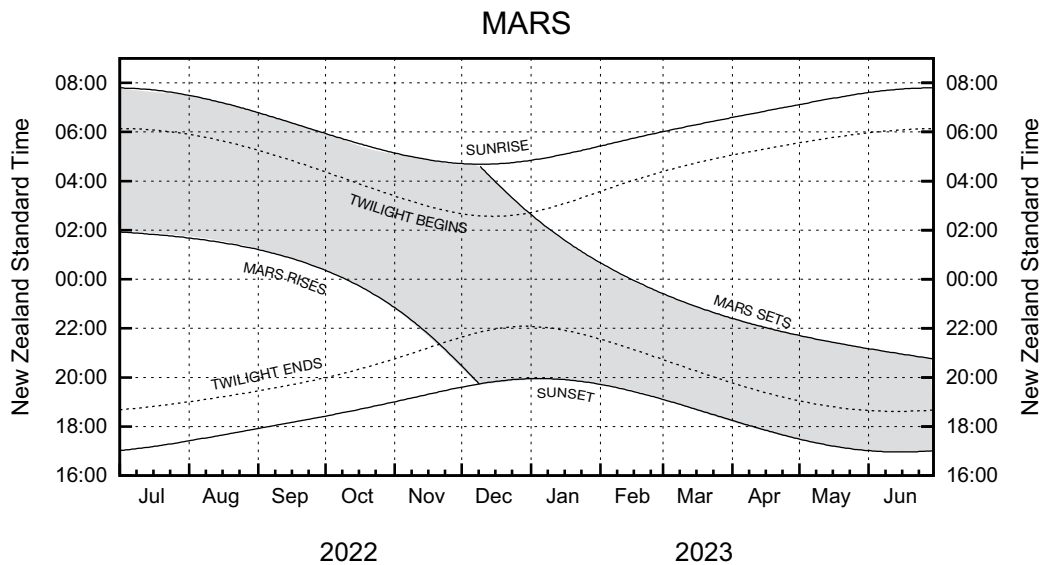
MERCURY



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-May and mid-June when the planet rises before twilight begins. Another favourable appearance occurs between late January and late February. Other morning appearances during the first half of July and October are less favourable as Mercury rises during the dawn period. The best time to see Mercury in the evening will occur from early August to mid-September when it sets after twilight has ended. Other evening appearances during November/December and March/April are less favourable as Mercury sets before twilight ends.

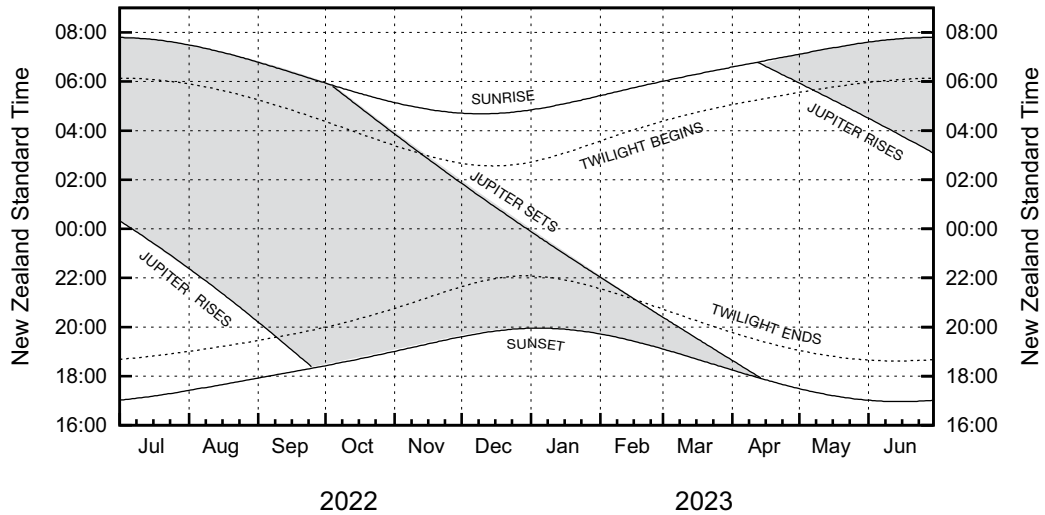


VENUS will be visible against the brightening morning twilight at the start of July and become increasingly difficult to see through August as the planet aligns with the Sun. Throughout the period November to early April, Venus will set in the west during evening twilight. Venus will then become increasingly prominent in the western sky through to the end of June.



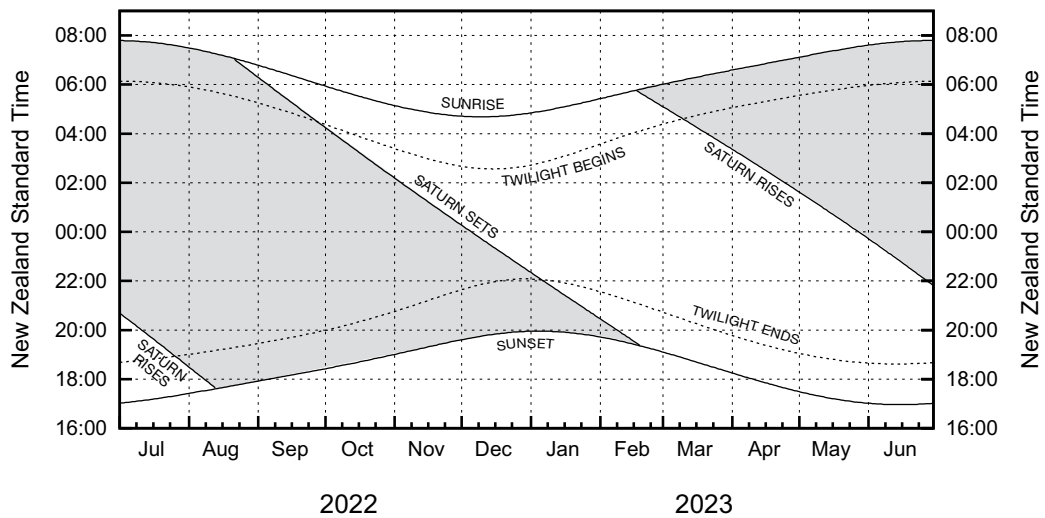
MARS will rise at 2 a.m. at the start of July, before midnight from mid-October and at sunset early December when the planet will be visible throughout the night. The red planet will then commence to set earlier in the morning hours and from mid-February Mars will set before midnight. The planet will continue to be visible in the western sky through to the end of June as it will set some 2 hours after the end of twilight.

JUPITER



JUPITER will rise at midnight at the beginning of July and at sunset late September when the planet will be visible throughout the night. The giant planet will then start setting earlier in the morning hours and from the beginning of January, Jupiter will set before midnight. Throughout March the planet will set during the evening twilight and be lost from view. By early May, Jupiter will rise as twilight begins and by the end of June it will rise at 3 a.m. At the beginning of March, Jupiter will be close to a brighter Venus.

SATURN



SATURN rises shortly before 9 p.m. at the beginning of July and will be visible throughout the night during mid-August. The ringed planet will then start setting during the early morning hours and then in the evening from the beginning of December. During January, Saturn will set before twilight ends and will become lost from view. Saturn will then reappear in the eastern sky ahead of sunrise from early March. By late May, Saturn will rise at midnight and at 10 p.m. at the end of June.