# Our Solar System (Aug. 2007)

As August begins, Venus and Saturn are briefly visible very low in the west for a short time after sunset. After the first week of the month, they will have vanished into the solar glare. Venus reaches inferior conjunction with the Sun on August 18, and Saturn reaches superior conjunction on August 21.

Shortly after sunset, Jupiter becomes prominent in the south. It sets about 1:15 AM EDT on August 1st, and about two hours earlier by month's end. While above the horizon, it is the only bright planet visible until Mars comes up after midnight. The red color of Antares, 5° to Jupiter's south, contrasts with Jupiter's whitish-yellow glow. During the month Jupiter dims somewhat from magnitude -2.4 to -2.2, and in a telescope its disk shrinks slightly from 42 to 38 arcseconds across. As it gets lower above the horizon, fine details on its disk will become more difficult to see. Nevertheless, major features such as its dark equatorial belts should be visible. (Over the past several months, both Earth-based observations and imaging by the Hubble Space Telescope show significant changes in the giant planet's cloud bands; the causes for this are unknown, but amateur astronomers may be able to make an important contribution by monitoring developments on the planet.) Also easily visible should be Jupiter's four large moons, Io, Europa, Ganymede, and Callisto.

Neptune reaches opposition on August 13, so it rises at sunset, reaches its highest point at midnight, and sets just as the Sun is rising. It also attains its greatest brightness (magnitude 7.8) and its maximum diameter in a telescope (2.4 arcseconds across). It spends the month within a binocular field of 3.6-magnitude Gamma Capricorni, and about 3° to the northeast of 4th-magnitude Iota Capricorni. By month's end the three form a squat isosceles triangle.

Uranus rises about an hour later than Neptune. It starts the month less than a degree from 4.2-magnitude Phi Aquarii. On the 24th it approaches to within just 15 arcminutes - half the diameter of a Full Moon - of the star. At magnitude 5.7, Uranus is considerably brighter than Neptune, and should be easily visible to the unaided eye under dark sky conditions. Its 3.7-arcsecond-wide disk is easily visible in backyard telescopes.

Mars rises around 12:30 EDT as August begins, and about an hour earlier on the 31st. It brightens slightly from magnitude +0.5 to +0.3, and its disk swells from 7.1 to 8.1 arcseconds across. Though the planet's disk is still small, some amateurs have seen it well enough to report dust storms arising in certain areas. These storms have affected the operation of the solar-powered Mars rovers Spirit and Opportunity by dimming sunlight available for the rovers' solar cells.

As August begins, Mercury will be shining at magnitude -1 low in the east. It rises an hour and a quarter before the Sun on the 1st, but only 45 minutes before sunrise on the 8th. By the second week of August, it will disappear into the Sun's glare. It reaches superior conjunction with the Sun on August 15.

Dwarf Planets/Asteroids

The "dwarf planet" Pluto is 7.6° northeast of the Trifid Nebula (M20) and 3.7° northeast of open cluster M23. Even with these landmarks, however, 14th-magnitude Pluto will be very difficult to find.

Starting about a degree NNW of Nu Scorpii, the bright asteroid 4 Vesta moves rapidly across Scorpius during the month. On the 18th, it flies only 8 arcminutes below the 4th-magnitude star Psi Ophiuchi. On the 29th, it buzzes to within only about 20 arcminutes to the NNE of Jupiter.

http://www.cfa.harvard.edu/press/skyreport/solar_system.html