

Tonight's Sky: July 2018

Your guide to constellations, deep-sky objects, planets, and events: Tonight's Sky.

Highlights of the July sky:

Venus hangs in the west at dusk with eye-catching brilliance.

On the 15th, it lies right above the slender crescent moon.

Venus's own moon-like phase is visible through a backyard telescope.

Saturn and Jupiter dominate the southern sky at sunset.

A modest telescope reveals the rings of Saturn and the prominent cloud bands of Jupiter.

On July 27, Mars reaches its long-awaited opposition.

During opposition, which occurs about every two years, Mars lies opposite the Sun in our sky, rises at sunset, and is visible all night.

During opposition, the disk of Mars appears larger than usual in telescopes, and offers the best view of its features: the south polar cap this year and dark features that shift as the planet rotates.

With Mars nearing its closest approach to the Sun, this year's opposition will be the most favorable since 2003.

The summer night sky is filled with a treasure chest of bright jewels.

Scorpius is a striking constellation, one of the few that distinctly resembles the object after which it was named.

The Scorpion is easy to trace in the sky. Its head, curved tail, and venomous stinger are prominent.

At the Scorpion's heart lies a reddish star. Its color closely resembles that of Mars, known to the Greeks as Ares.

Ancient Greek stargazers, contemplating these two crimson objects, named the star Antares, which means "rival of Ares."

A prominent and lovely globular cluster in small telescopes, M4 lies just to the right of Antares in Scorpius.

Globular clusters are collections of hundreds of thousands of closely packed and gravitationally bound stars.

The center of our galaxy lies in the direction of the great constellation Sagittarius, the Archer. This area of the sky overflows with stars, globular star clusters, and bright and dark nebulae.

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Look for Sagittarius by finding the group of stars commonly known as the Teapot. The handle, top, and spout are easy to find. Under dark skies, the Milky Way seems to rise out of the Teapot's spout.

Many deep-sky targets reside in this area of the summer night sky. A quick glance with binoculars reveals some spectacular objects.

The Lagoon Nebula's gas and dust is brilliantly illuminated by the energy of the hot, young stars inside it.

In the three-lobed Trifid Nebula, dark dust lanes appear etched against the radiance of glowing gas.

The Omega Nebula glows brightly but we cannot see its hottest stars, embedded deep inside. Infrared telescopes, peering through the gas and dust, can detect them.

M22, one of the brightest globular clusters in the sky, is visible to the naked eye. It is a relatively nearby globular cluster, only about 10,000 light-years distant.

On July 13, portions of Australia and Antarctica will be treated to a partial solar eclipse as the Moon passes between Earth and the Sun.

Two weeks later, on the 27th, Europe, Asia, and Africa will witness a total lunar eclipse when the Moon slips into Earth's shadow.

If you are in the U.S., you will be able to view the annual Delta Aquarid meteor shower, which peaks on the night of July 27 to 28.

Up to about 20 meteors per hour streak from the constellation of Aquarius.

This year, the full moon sitting close by will wash out the fainter meteors, but the brightest should still be visible.

The night sky is always a celestial showcase. Explore its wonders from your own backyard.