

9 spectacular night sky events to see in 2024

Andrew Fazekas :: 12/6/2023

Sky-watchers are in for a treat next year, as an array of celestial marvels will light up the heavens in 2024. The main attractions that will captivate hundreds of millions include a total eclipse of the sun and spectacular meteor showers—and throughout the year, [dazzling auroras are expected to be more common as the sun nears solar maximum](#). Also keep an eye out for a captivating pairings of the moon with the nearest and brightest planets, visible without any aids. And if that's not enough, not one but two comets may grace our skies.

Here are the best sky-watching events worth circling on your calendar this year.

January 18: Jupiter and the moon dance together

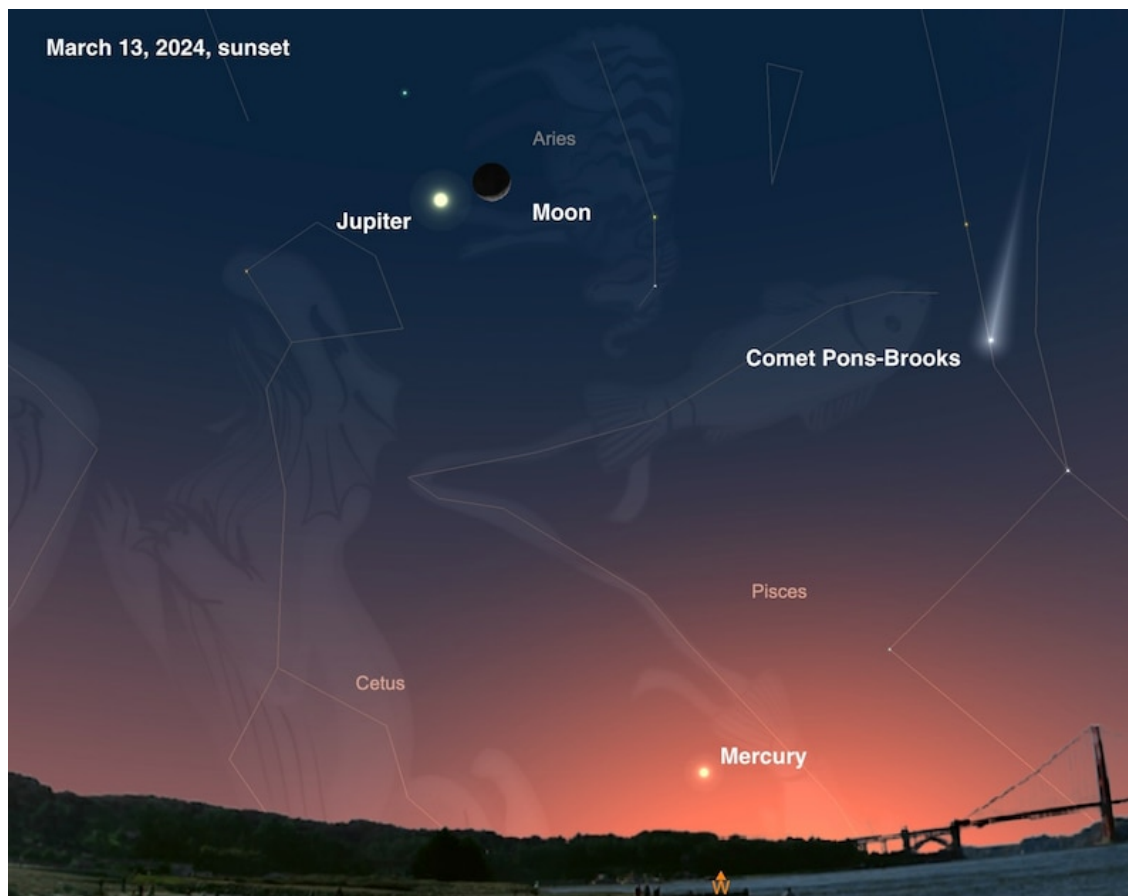


Illustration by Andrew Fazekas

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The year kicks off with an eye-catching pairing of two bright neighboring worlds: the moon and Jupiter. The largest planet in the solar system will dominate the early evening sky on January 18, appearing beside a glowing half-moon. If you miss the January pairing, don't worry, as Jupiter and the moon will meet again in the sky on February 14, March 13, and April 10 in a series of conjunctions that follow the moon's monthly cycles around the Earth. Each

pairing will be unique in its own right, with the moon presenting itself in various phases and orientations next to the Jovian giant. Train binoculars on Jupiter to spy its own retinue of four large moons lined up beside it.

April 8: A total solar eclipse crosses North America

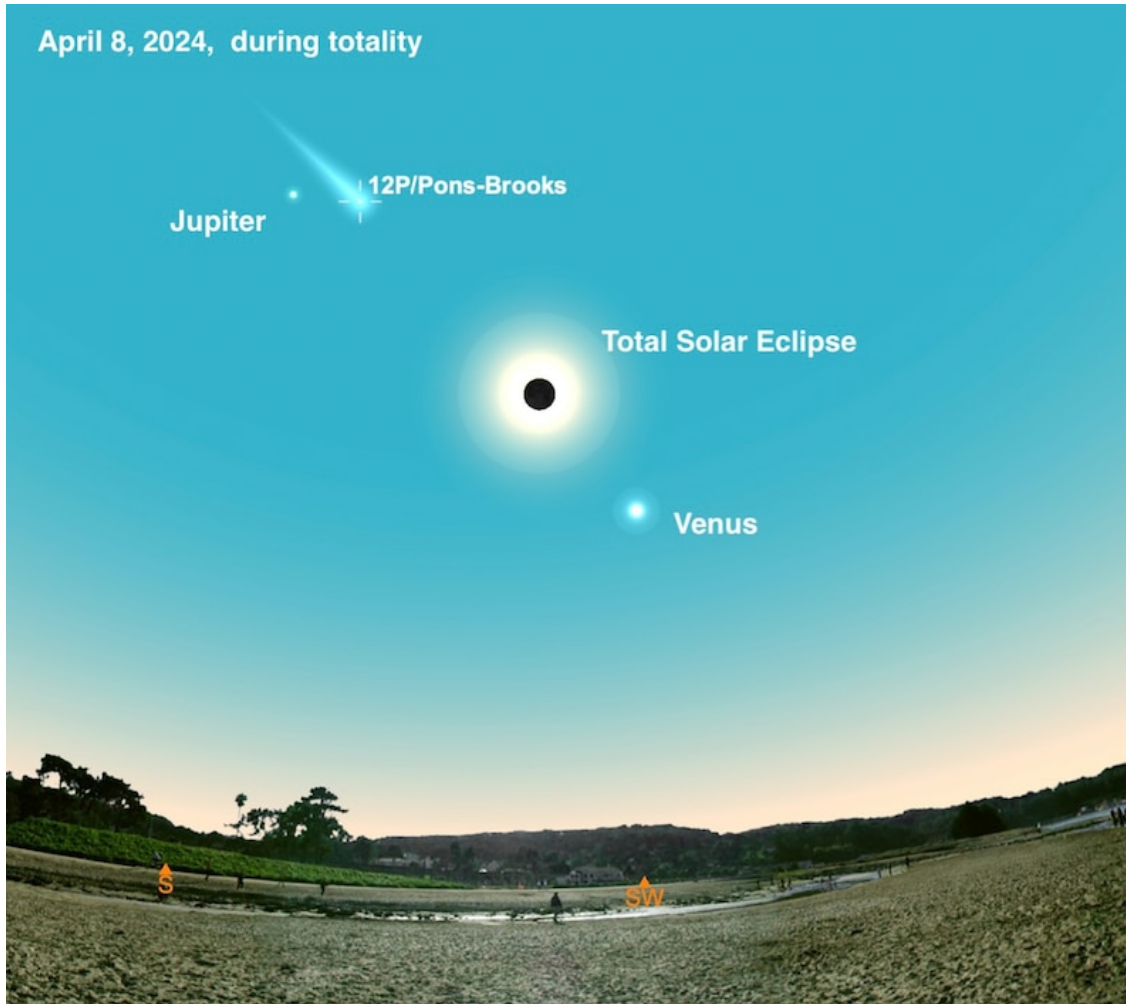


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The premier celestial event of the year will be a breathtaking [total solar eclipse](#) that will darken the skies for millions of watchers across North America as the moon completely covers the sun. The path of totality, where the entire disk of the sun is blotted out by the moon, will sweep across four states of Mexico, 15 U.S. states running from Texas to Maine, and five Canadian provinces in the eastern part of the country. Totality will grace the skies of several major cities, including Mazatlán, Austin, Dallas, Indianapolis, Cleveland, Buffalo, and Montreal. The total phase of the eclipse hits the Pacific coast of Mexico at 11:07 a.m. Mountain time (18:07 UTC), then progresses to the northeast, reaching Texas at 12:27 p.m. Central time (18:27 UTC), Maine at 2:28 p.m. Eastern time (19:28 UTC), and finally Newfoundland at 3:58 p.m. local time (19:28 UTC). The duration of totality varies along the path, lasting up to four minutes and 28 seconds near the town of Torreón, Mexico, while most places in the center of the path will experience three-and-a-half to four minutes of darkness.

Remember, witnessing this cosmic phenomenon [requires proper eye protection](#). Find [a clear viewing spot within the path of totality](#), and the 2024 total eclipse of the sun promises an unforgettable experience.

April: A bright comet passes close to Earth

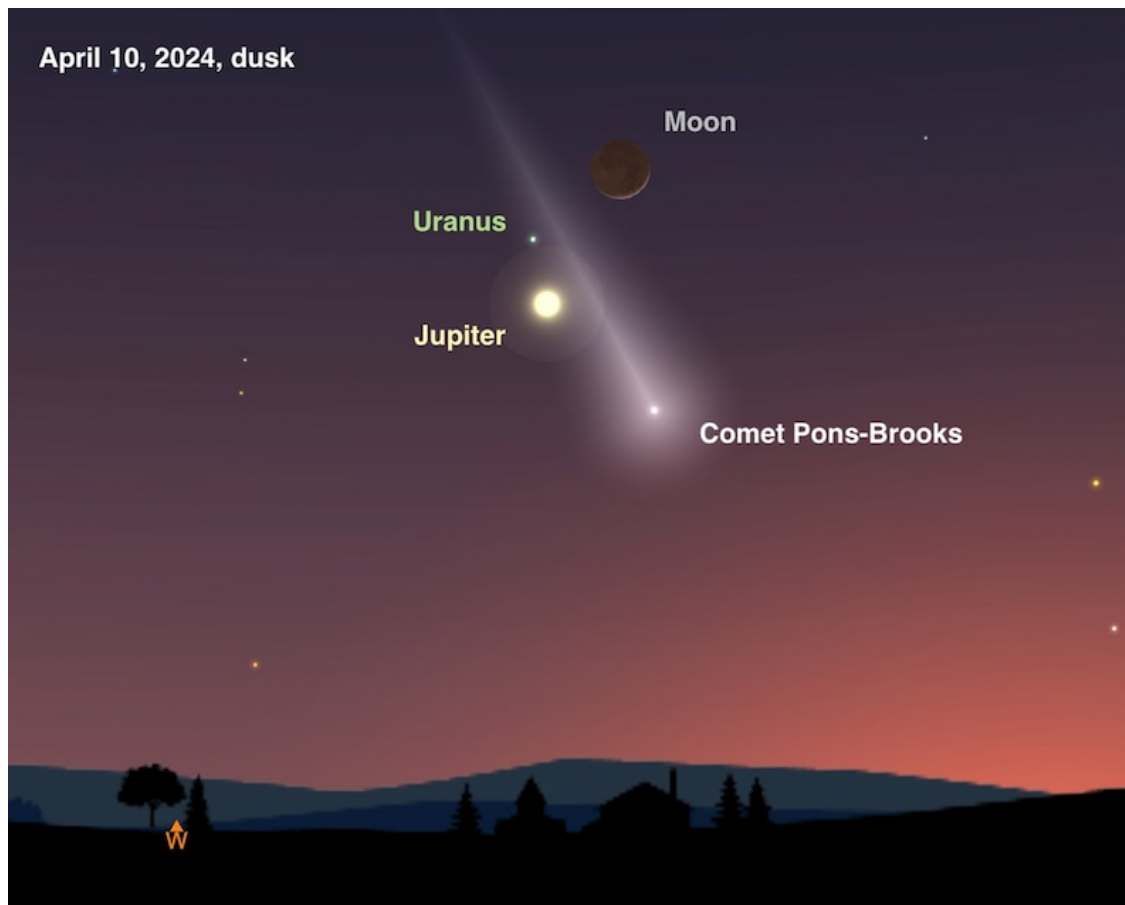


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A giant comet, three times the size of Mount Everest, named 12P/Pons-Brooks is quickly making its way toward the inner solar system. The cryovolcanic comet, made up mostly of ice, dust, and gas, underwent multiple outbursts in 2023, and it has surprised astronomers with its rapid increase in brightness. In March, as the comet gets closer to the sun, it is expected to really pick up pace from the increased pull of our star's gravity. By April it could even become visible with the unaided eye just after sunset in the western sky. Look for it on April 12, when the comet will appear to swing by brilliant Jupiter, making it much easier to track down. And nine days later, on April 21, comet Pons-Brooks will reach its closest point to the sun and may peak in brightness, providing one of the best opportunities to catch a glimpse.

Also be sure to look for the comet during the April 8 total solar eclipse, when it will appear close to the eclipsed sun, potentially visible with binoculars or even with the naked eye if it flares up—a rare celestial duo that promises to be an unforgettable sky show!

May 4: The Eta Aquarids meteor shower peaks

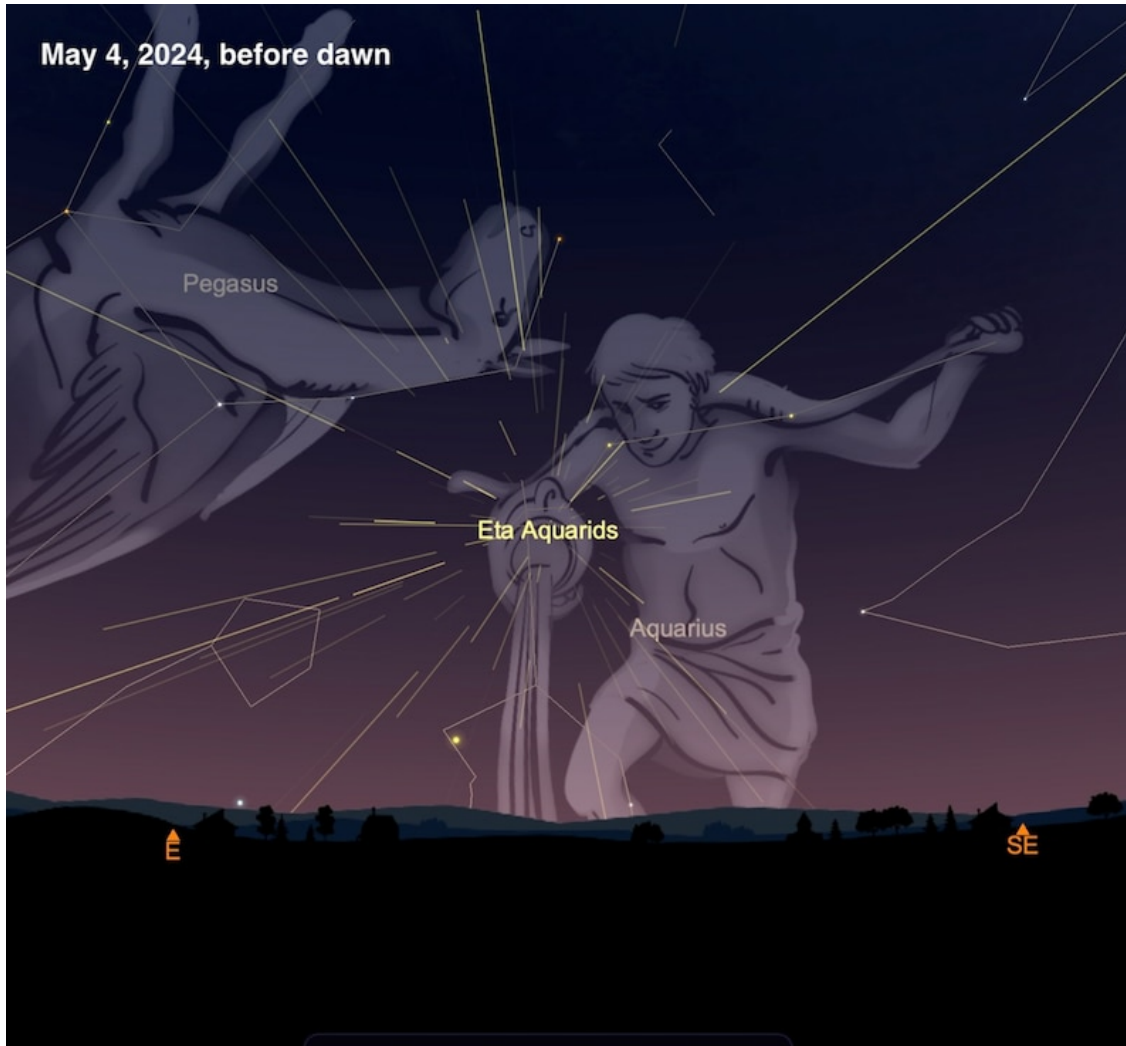


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Shooting star enthusiasts won't want to miss the Eta Aquarid meteor shower in 2024, as the sky conditions promise to be ideal for the peak of the shower. The best views are expected in the predawn hours of May 4, when the waning crescent moon will not rise until just before dawn, meaning particularly dark skies will allow stargazers to glimpse even the faintest shooting stars. The shower's radiant—where the individual meteors appear to originate—will be close to the southeastern horizon within the shower's namesake constellation Aquarius. Because of this location, the sky show slightly favors observers in the Southern Hemisphere.

Remember to pick a location far from light pollution, and give your eyes at least 20 minutes to adjust. Sky-watchers across Southern Hemisphere can expect to see an impressive display of 20 to 30 shooting stars per hour, while observers to the north can anticipate 10 to 20 per hour in the predawn hours of May 4. Although this is not the most abundant shower, the Aquarids have the distinction of originating from the residual dust cloud left behind by Comet Halley, which last visited near Earth back in 1986.

Aug 12 and 13: The peak of the Perseids

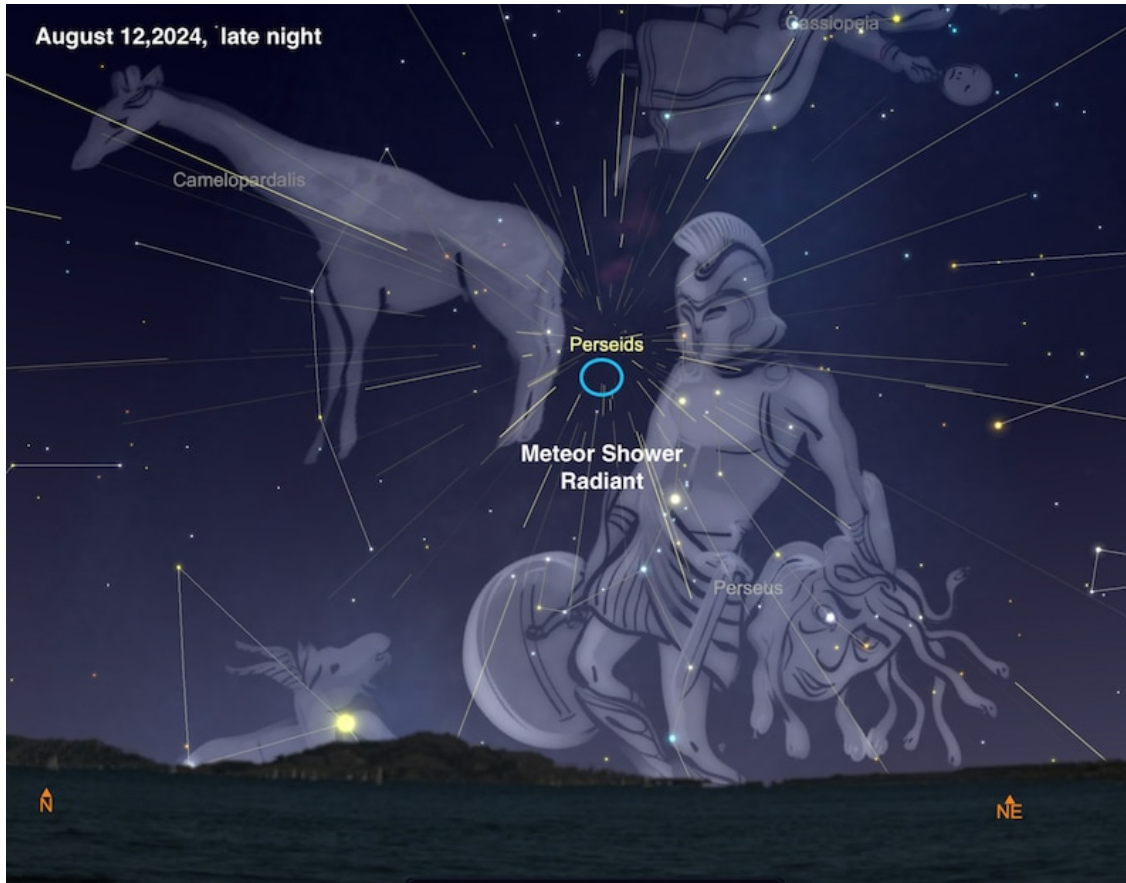


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Every mid-August, Earth travels through a cloud of debris shed by the comet Swift–Tuttle, producing a flurry of shooting stars in the sky as small meteors burn up in the atmosphere. This is the Perseid meteor shower, and it can produce up to 60 shooting stars per hour in a typical year. This year promises to be particularly good for the Perseids, since the shower's peak will coincide with a dark, moonless sky. The waxing gibbous moon will set around midnight, ushering in excellent viewing conditions later in the night and predawn hours. The Northern Hemisphere is favored for this shower, since the meteors appear to radiate from the constellation Perseus, which lies close to the horizon for those in far southern latitudes.

The best viewing spots are as far from light pollution as possible, but even from a suburban backyard or park, dozens of shooting stars should be visible each hour under clear skies.

September and October: The arrival of Comet C/2023 A3 (Tsuchinshan-ATLAS)



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Comet chasers are closely monitoring the celestial body A3 Tsuchinshan-ATLAS, [first spotted back in February 2023](#), which is expected to become a stunning sight late in 2024. By early summer, it'll be visible in the evening sky, observable with small backyard telescopes. As September approaches, the comet's orbit will bring it near both the sun and Earth for the first time in 80,000 years. Astronomers expect that it could brighten, possibly becoming visible through binoculars or even to the naked eye, appearing low in the eastern sky before sunrise in southern latitudes.

Should the comet survive its journey around the sun, the prime time for observers across the Northern Hemisphere kicks off around October 12. As it rises higher into the evening sky every night, the comet will gradually become more visible. Predicting a comet's behavior is challenging, but already Tsuchinshan-ATLAS, still far from its closest approach to Earth, shows signs of being an impressive visitor to our skies.

September 17: The ringed planet joins the moon



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The last four months of the year will offer up an exquisite sequence of celestial alignments, as the moon and Saturn converge once a month, starting on September 17. The stunning sight, visible with the unaided eyes, will repeat on October 14 and 15, November 11, and December 8. The two bright worlds will be visible soon after sunset, and the gap between them will be perfect for lower-magnification binoculars, with both objects easily observable together, though they will not be close enough to view together in a telescope. The contrast in color will also make the pair visually impressive, with the silvery lunar glow next to the distinct yellow tint of the giant planet.

Oct 2: A ring of fire in the sky

Lucky viewers in the Western Hemisphere will be treated to the second solar eclipse of 2024. The path of the ring of fire, or annular eclipse, mostly crosses the Pacific Ocean, limiting visibility from land to a few locations. The first sighting from land of the annual eclipse will occur on picturesque Easter Island at 2:07 p.m. local time (19:07 UTC). Residents there will witness an impressive 6 minutes and 23 seconds of annularity—the maximum part of the eclipse where the moon is in front of the solar disk, leaving a ring of sunlight around its edge. This phenomenon occurs when the moon is farther from Earth than during a total solar eclipse, and therefore appears smaller in the sky.

The eclipse will then sweep across parts of southern Chile and quickly move over the Andes mountains into Argentina. Meanwhile, a partial eclipse of the sun will be visible for millions of watchers throughout most of southern South America.

December 4: Venus and a crescent moon snuggle after sunset

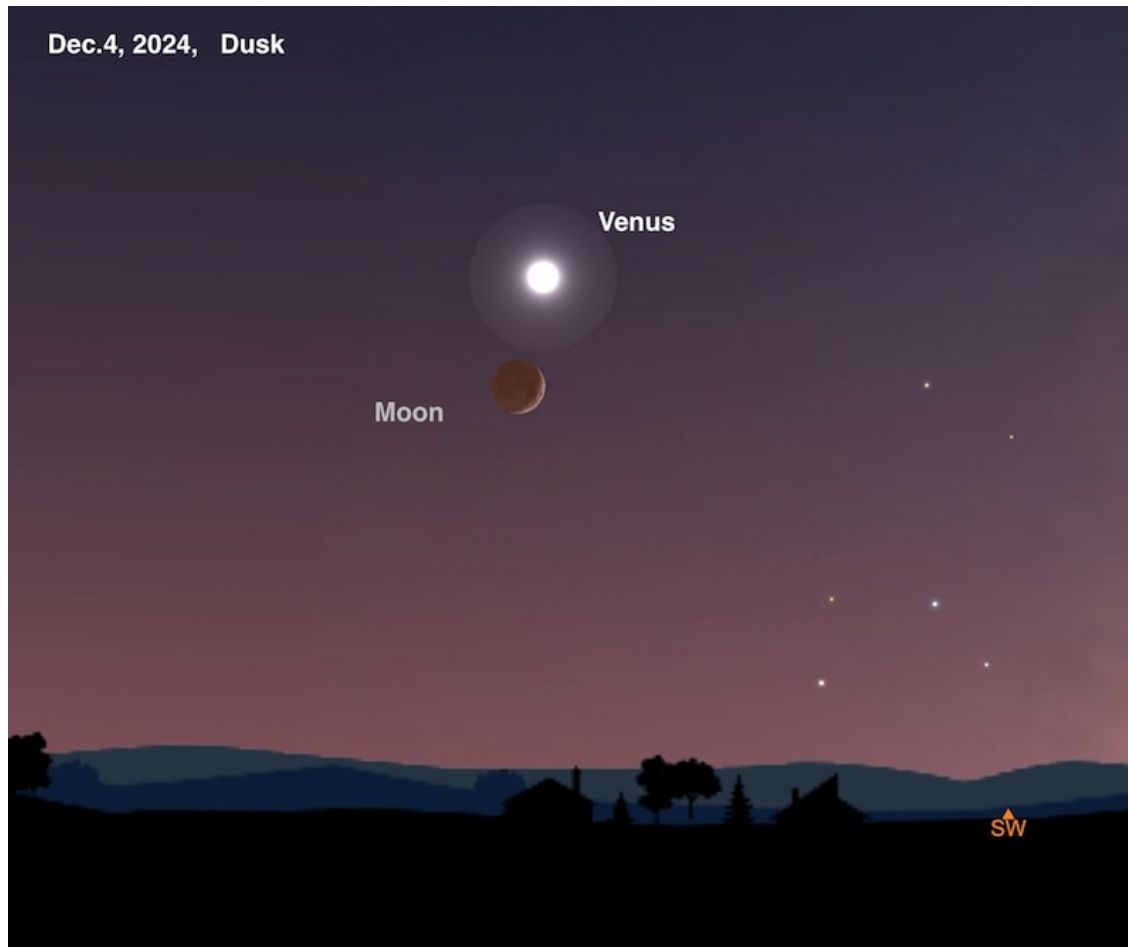


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An early holiday gift is in store for stargazers as the two brightest objects after the sun, the moon and Venus, join forces in the early evening skies. These two worlds will be close enough to view together through binoculars, and as an added attraction, Venus will appear as a miniature version of the quarter-moon through small backyard telescopes. All you need to do to enjoy the celestial alignment is search for the moon just after the sun goes down on December 4.

Clear Skies!

Andrew Fazekas, the Night Sky Guy, is the lead author of the National Geographic [Stargazer's Atlas](#) and the best-selling second edition of [The Backyard Guide to the Night Sky](#). Follow him on [Twitter](#), [Facebook](#), [Instagram](#), and [YouTube](#).