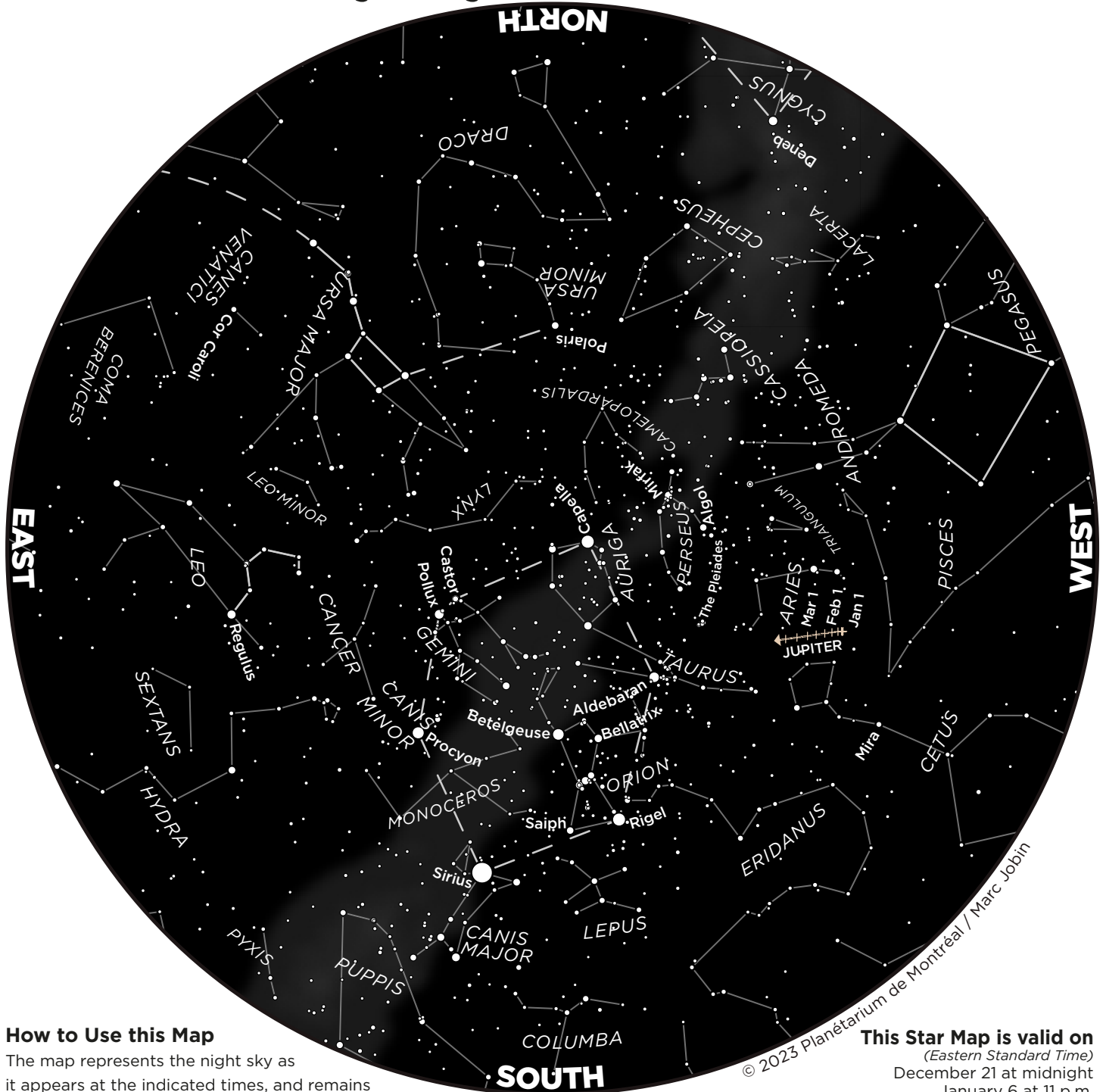


The Starry Sky – Winter 2023-24



How to Use this Map

The map represents the night sky as it appears at the indicated times, and remains usable several hours before and after.

Hold the map up to the sky in front of you and turn it so the direction you are facing appears at the bottom. Lines identify the constellations. The shaded area outlines the Milky Way.

This Star Map is valid on

(Eastern Standard Time)

December 21 at midnight

January 6 at 11 p.m.

January 21 at 10 p.m.

February 6 at 9 p.m.

February 21 at 8 p.m.

March 6 at 7 p.m.

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The Sky This Winter

Jupiter lights up our evenings, Venus blazes at dawn,

Saturn bows out, and Mercury salutes us before sunrise.

Saturn sinks lower at twilight

Saturn's evening visibility comes to an end this winter. In late December, the ringed planet can still be seen approximately 30 degrees above the south-southwestern horizon at twilight, after which it sets at about 9 p.m. At magnitude +1, Saturn isn't particularly bright, but it still rules over Aquarius and the neighbouring constellations, where it currently resides.

To help you locate it, look for the waxing Moon 6 degrees to the upper left of Saturn **on the evening of January 14**; the duo is clearly visible in the southwest at twilight before it sets around 8 p.m. You will probably have a much harder time spotting the two celestial bodies **on February 10 at twilight**, when the very thin lunar crescent lies 3½ degrees below Saturn: Binoculars can help you locate them low on the west-southwestern horizon, only 30 minutes after sunset.

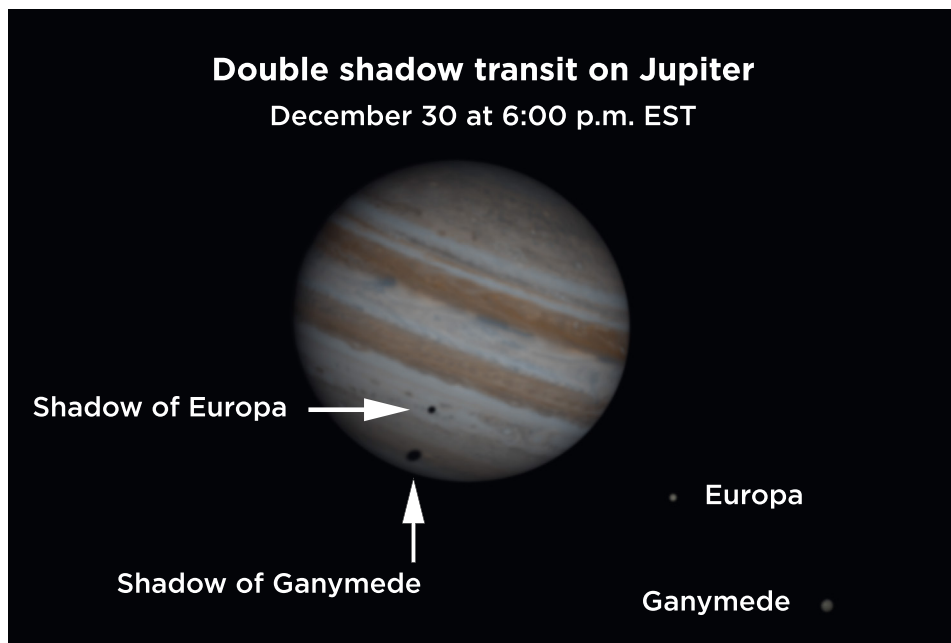
Saturn moves toward the setting Sun from one evening to the next: Note how the planet appears lower and lower in the darkening sky and sets earlier and earlier. In late January, it is visible for only an hour and a half at nightfall and is completely lost in the twilight glow around mid-February. Saturn slips behind the Sun (solar conjunction) on February 28, then gradually reappears at dawn in April.

Jupiter shines in the evening

Apart from the Moon, **Jupiter** (magnitude -2.7 in December) is by far the most luminous celestial object that can be seen in the first half of the night this winter. What's more, the giant planet is in Aries this year, completely dominating this region of sky devoid of bright stars: No wonder it attracts so much attention as soon as darkness gathers! As winter gets underway, Jupiter can be found very high in the southeast at nightfall and sets in the west at around 3 a.m.

In January, it culminates in the south in the early evening, 57 degrees above the horizon. It's the perfect time to aim a telescope at it: Look through the eyepiece and you'll discover a globe striped with light and dark cloud bands, and the famous Galilean moons whose position changes hourly as they move around the largest planet in the Solar System. You're in for hours of fascinating observations!

You may even get to see the **shadows** cast by one or more of the moons on

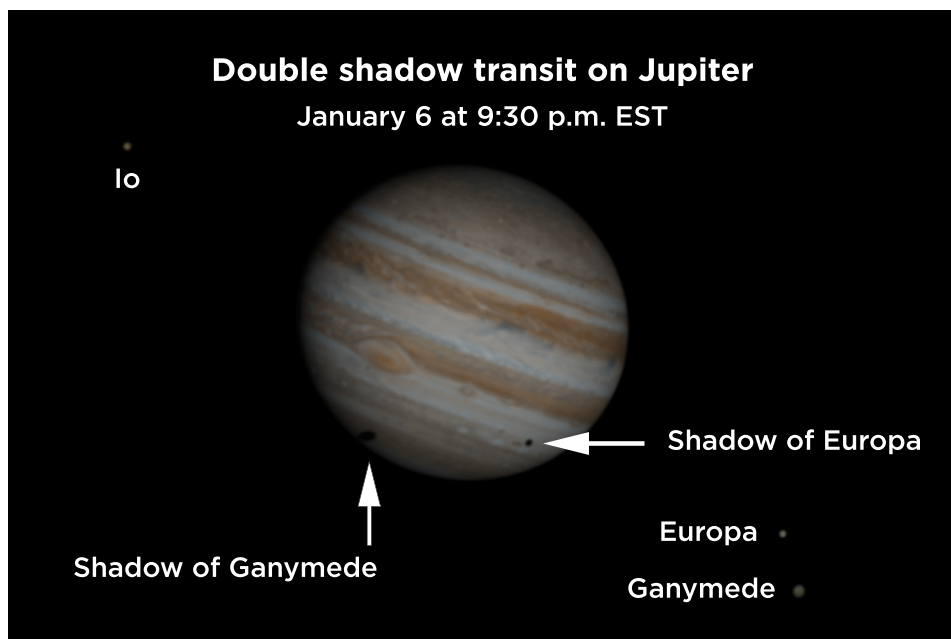


the planet's clouds: This will be the case **on December 30** between 5:16 p.m. and 6:57 p.m. (EST), when **two** dark spots—the shadows of Europa and Ganymede—appear *simultaneously* on Jupiter. The same two moons will be involved in a similar configuration **on January 6** between 9:19 p.m. and 9:55 p.m.

As winter unfolds, the giant planet appears lower in the southwest at nightfall

and disappears earlier and earlier beneath the horizon. By springtime, Jupiter stands only 30 or so degrees high in the west at twilight.

Jupiter and the Moon will form a striking duo in the sky several times this winter. **On the night of December 21-22**, the waxing gibbous Moon moves to within 4½ degrees to the lower right of Jupiter, as the pair sets on the western horizon. **On**



Winter 2023-24

January 18 at twilight, the waxing gibbous Moon lies a mere 2½ degrees to the upper left of the planet, but the gap widens over the following hours. **On the evening of February 14**, the lunar crescent comes to within 3½ degrees of the giant planet as the two celestial bodies sink toward the western horizon. Lastly, **in the early evening of March 13**, the thin lunar crescent lies only 3 degrees to the right of Jupiter; the duo shines in the west-southwest at twilight and sets in the west-northwest around 10 p.m.

Venus disappears by night's end

Dazzling **Venus** has been visible toward night's end and at dawn since late August, but this Morning Star apparition is drawing to a close. With each passing day, Venus moves toward the Sun and the horizon, and the beautiful planet hangs ever lower in the dawn sky. On New Year's morning, it can still be seen 20 degrees high, a half-hour before sunrise. In early February, its height drops by half to an altitude of 10 degrees. In early March, Venus can be found less than 5 degrees above the horizon and is increasingly hard to spot in the oncoming daylight. By mid-March, it is completely lost in the glow of dawn. Venus passes behind the Sun (superior conjunction) on June 4, and will gradually reappear in the evening sky this summer.

On January 8 at dawn, the thin waning Moon lies 7 degrees to the lower right of Venus; look for them low on the southeastern horizon, 60 minutes before sunrise. A

similar configuration occurs **on February 7 at dawn**, but the Moon will be even closer to the horizon only 30 minutes before sunrise; you may notice the discreet presence of Mars, 7 degrees to the lower left of Venus. **On the mornings of February 21, 22 and 23**, Mars will pass less than 1 degree south of Venus, which will serve as your guide to the Red Planet.

Mercury at dawn

As the closest planet to the Sun, **Mercury** never strays far from our star's brilliance. With its very rapid orbital period, the tiny planet has several periods of visibility each year, alternating between the morning sky, shortly before sunrise, and the evening sky, just after sunset.

In early winter, Mercury graces us with a very good showing in the morning sky **from December 28 to January 28**; the gap between Mercury and the Sun is at its widest on January 12. The tiny planet is significantly brighter during the last days of this apparition, making it easier to spot (in principle); but as it falls back toward the horizon, the planet is simply too low to be visible after the 28th. **On January 9 at dawn**, the very thin waning Moon lies 7½ degrees to the lower right of Mercury; the pair can be found very low on the southeastern horizon, 45 minutes before sunrise.

Mars emerges at dawn

Mars was in solar conjunction behind our star on November 18. The Red Planet is still washed out by our Sun's brilliance this

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winter, but gradually pulls away from it by mid-season, passing very close to Venus **from February 21 to 23**. By mid-March, it becomes increasingly visible at dawn: Look for the +1.2 magnitude planet very low on the east-southeastern horizon, about 45 minutes before sunrise. Binoculars will come in handy. Mars's visibility will improve in the spring.

Clear skies!

Research and text: **Marc Jobin**

SEASONAL MILESTONES

The **winter solstice** occurs on December 21, 2023 at 10:28 p.m. EST, and the **spring equinox** is due on March 19, 2024 at 11:06 p.m. EDT. Winter will last precisely 88 days 23 hours and 38 minutes.

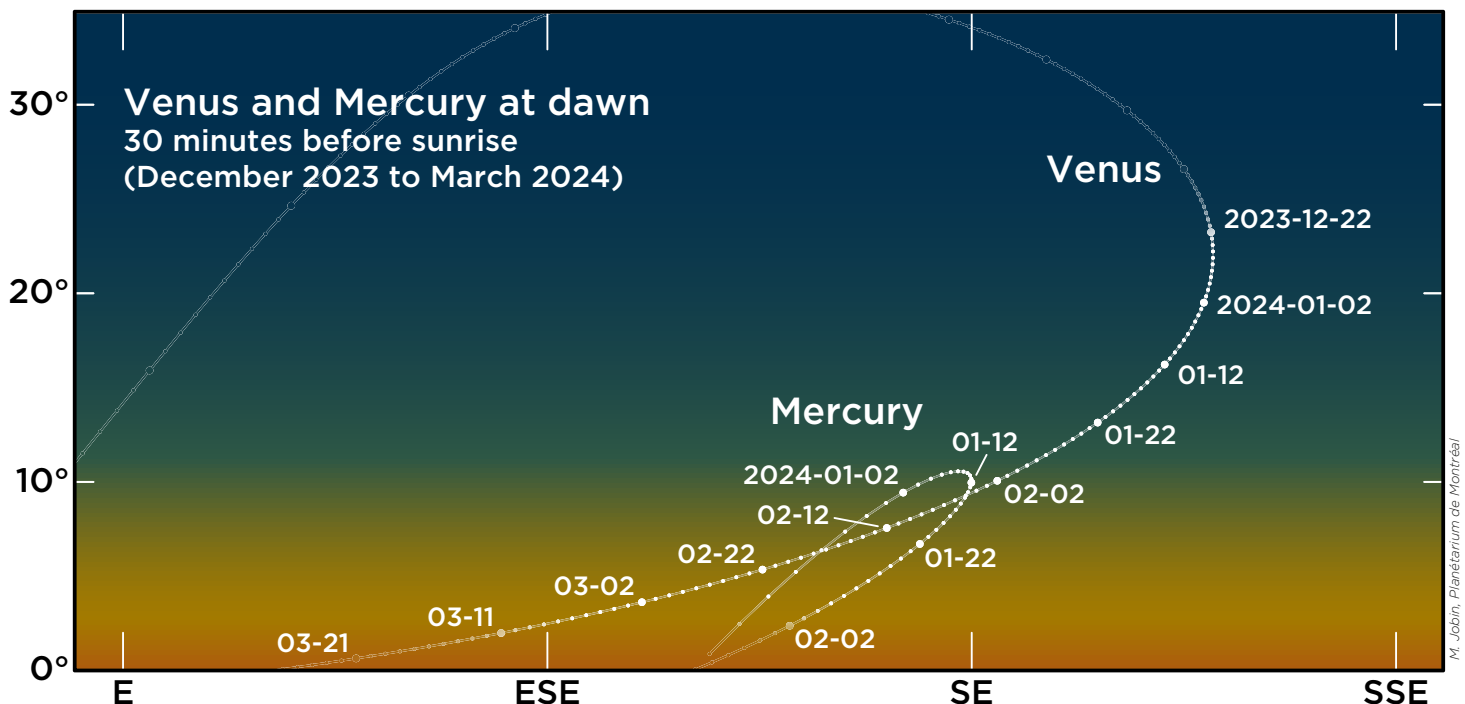
Earth reaches **perihelion** on January 2 at 7:38 p.m. Our planet is then closest to the Sun, "just" 147 100 632 km away.

The switch to Eastern Daylight Time takes place early on Sunday morning, March 10: Set your clocks ahead one hour.

PHASES OF THE MOON

*(Eastern Standard Time, except * = Daylight Time)*

New moon	First quarter
December 12 at 18:32	December 19 at 13:39
January 11 at 6:57	January 17 at 22:52
February 9 at 17:59	February 16 at 10:01
March 10 at 5:00*	March 17 at 0:11*
Full moon	Last quarter
December 26 at 19:33	January 3 at 22:30
January 25 at 12:54	February 2 at 18:18
February 24 at 7:30	March 3 at 10:23
March 25 at 3:00*	April 1 at 23:15*



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