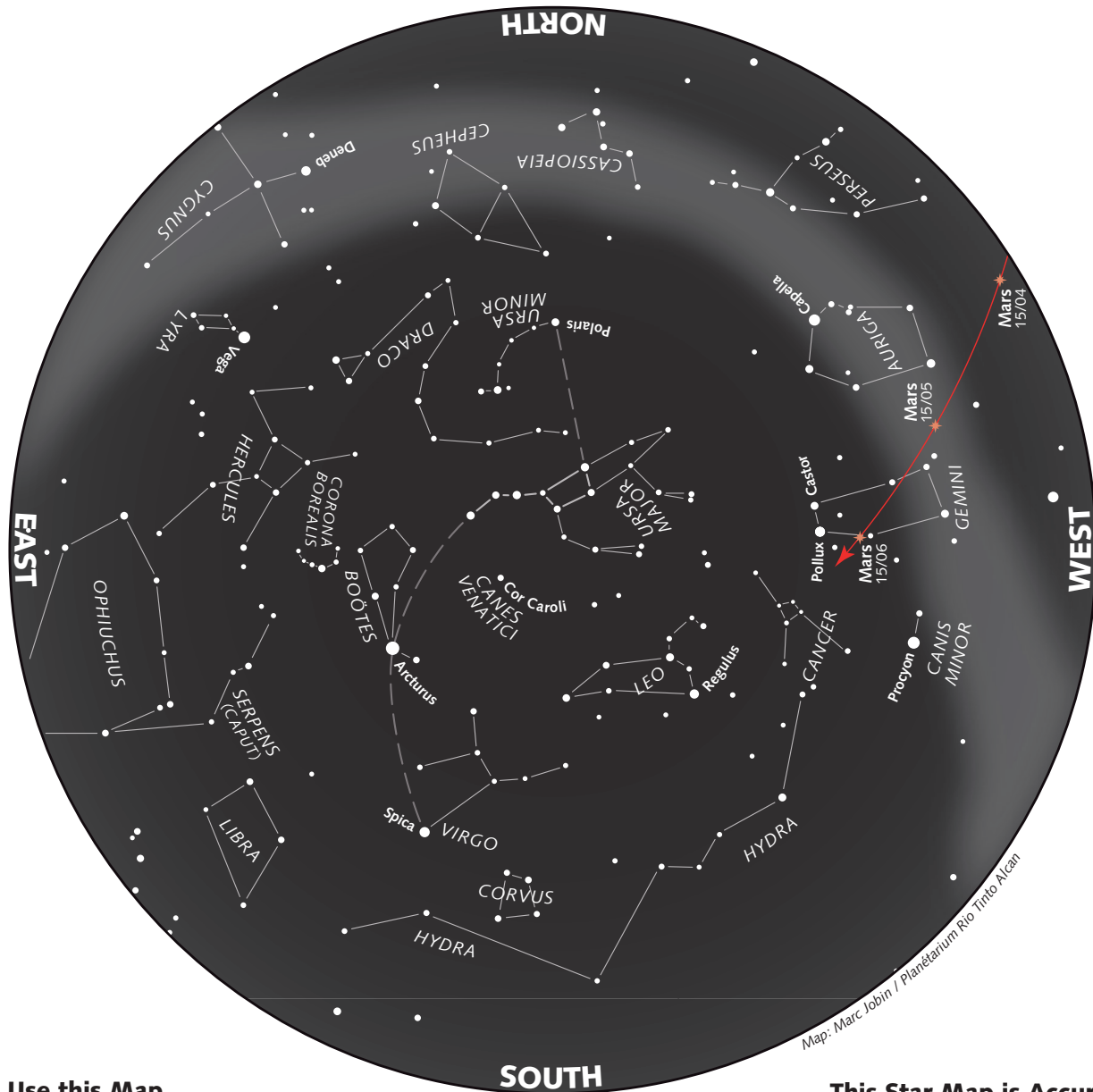


The Starry Sky — Spring 2019



How to Use this Map

The above 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 light-coloured area outlines the Milky Way.

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This Star Map is Accurate on...

(Eastern Daylight Time)

- March 21 at 1 a.m.
- April 6 at midnight
- April 21 at 11 p.m.
- May 6 at 10 p.m.
- May 21 at 9 p.m.

The Sky This Spring

This spring, Mars continues to shine solo in the evening sky, until Jupiter shows up in May.

Saturn makes its appearance in the second half of the night.

Mars grows dim in the evening sky

Mars is visible in the early evening this spring. Right now, the red planet is nearly at its greatest distance from Earth, on the opposite side of the sun. It is therefore much dimmer than it was last summer, when it was closest to us. Mars lights up as twilight fades to darkness, about one hour after sunset. It appears due west like a tiny dot of orange light, somewhat fainter than the brightest stars in the spring sky. The only thing that distinguishes it from the fixed backdrop of distant stars is its changing position from one night to the next. In fact, Mars appears to be fleeing the sun as it dashes eastward among the constellations.

The red planet crosses into Taurus on March 23, and passes about 3 degrees below the Pleiades cluster and its bluish stars by the end of the month. Then, for a few evenings around April 4, Mars makes its way between the Hyades and Pleiades star clusters. The crescent moon enters the scene **on the evening of April 8**, lying 7 degrees south of Mars with the two clusters on either side. Continuing its trek through the constellations, Mars enters Gemini on May 16. During this period, around mid-May, Mars and Jupiter will be at opposite ends of the sky: As the red planet sets in the northwest around 11 p.m., the giant planet climbs into view in the southeast.

But the sun's onward advance before the distant stars is still faster than that of Mars. As a result, daylight catches up with the red planet, which appears lower and

lower each evening at twilight. At the spring equinox, Mars is shining 35 degrees above the horizon one hour after sunset, but only about 5 degrees by the summer solstice (in June). **On the evening of June 18**, Mars and Mercury meet up at twilight (see **Mercury** below).

The crescent moon lies 3½ degrees to the lower left of Mars on the evening of May 7; on June 5, in the twilight glow, it appears 5½ degrees to the left and slightly higher than the planet.

Jupiter at opposition

This year, **Jupiter** lies in the constellation Ophiuchus, about 15 degrees north of the Scorpion's stinger. At the start of the season, the brilliant giant planet culminates at about 21 degrees above the southern horizon at dawn, then increasingly earlier as the weeks go by. While only visible late at night this spring, the planet rises ever earlier in the southeast. In May, it emerges before midnight and culminates before the first light of astronomical dawn. In the days around its opposition, on June 10, Jupiter is visible all night long: The giant planet rises at sunset, culminates in the middle of the night, and sets at dawn in the southwest.

The waning gibbous moon can be found less than 4 degrees to the left of Jupiter on the morning of March 27, and on the 28, the last quarter moon lies between Jupiter and Saturn. On the morning of April 23, the waning gibbous moon lies a mere 2 degrees to the upper right of Jupiter and will once again neighbour the planet in the second half of the night on May 20 and 21. **On the evening of June 16**, the full moon shines to the left of Jupiter: The duo are only 4 degrees apart when they rise at sunset, and 5 degrees when they culminate southward in the middle of the night from June 16 to 17.

Saturn follows Jupiter

It takes **Saturn** more than 29 years to complete a single orbit around the sun, making it the slowest naked-eye planet. This year, it shines in the eastern part of the constellation Sagittarius, to the left of the famous Teapot asterism. The ringed planet follows Jupiter in the sky, rising in the southeast about two hours after the giant planet. In early spring, Saturn is essentially visible at the end of the night and at dawn. But it rises increasingly earlier, and in the second half of May, it emerges above the hori-

zon before midnight and culminates southward at dawn. By spring's end, it culminates before daybreak. Saturn will be in opposition on July 9.

The waning crescent moon lies less than 3 degrees to the lower left of Saturn on the morning of March 29. The waning gibbous moon shines 3 degrees to the right of the planet on the morning of April 25. It will appear near Saturn in the second half of the night on May 22 and 23, and will pass less than 1½ degrees below Saturn **on the morning of June 18**.

Mercury at twilight

Mercury makes a solid showing in the evening sky to cap off the season. After its passage behind the sun (superior conjunction) on May 21, the tiny planet emerges at twilight during the last evenings of May: Scan the northwestern horizon a half hour after sunset for a small dot of light against the colourful twilight canvas. As the evenings progress, Mercury continues to pull away from our star and becomes easier to spot in the darkening sky. By June, the planet is visible 45 to 60 minutes after sunset. **On the evening of June 4**, use binoculars to find the thin crescent moon 6 degrees to the left of Mercury.

Be sure to watch over the next few evenings as Mercury rapidly approaches Mars. The two planets cross paths **on June 18**: Mercury, the brighter of the two (magnitude +0.2), passes only ¼ of a degree above Mars (magnitude +1.8). An hour after sunset, you'll spot the pair under Castor and Pollux (Gemini's two brightest stars), just 5 degrees above the west-northwestern horizon.

Venus lies low at dawn

This spring, **Venus** stays low over the horizon at dawn—a mere 5 degrees high 30 minutes before sunrise. Yet thanks to its bright glow, the Morning Star can still be spotted fairly easily. Venus is visible in the east-southeast at the March equinox, and then gradually creeps northward along the eastern horizon, appearing in the east-northeast at the June solstice. On the morning of April 1, the thin lunar crescent lies 9 degrees to the right of Venus.

Clear skies!

Research and text: **Marc Jobin**

Seasonal Milestones

The **spring equinox** takes place on March 20, 2019 at 5:58 p.m. EDT, and the **summer solstice** occurs on June 21 at 11:54 a.m. Spring will last exactly 92 days 17 hours 56 minutes.

Phases of the Moon

(Eastern Daylight Time)

First quarter	Full moon
March 14 at 6:27	March 20 at 21:43
April 12 at 15:06	April 19 at 7:12
May 11 at 21:12	May 18 at 17:11
June 10 at 1:59	June 17 at 4:31
Last quarter	New moon
March 28 at 0:10	April 5 at 4:50
April 26 at 18:18	May 4 at 18:45
May 26 at 12:34	June 3 at 6:02
June 25 at 5:46	July 2 at 15:16