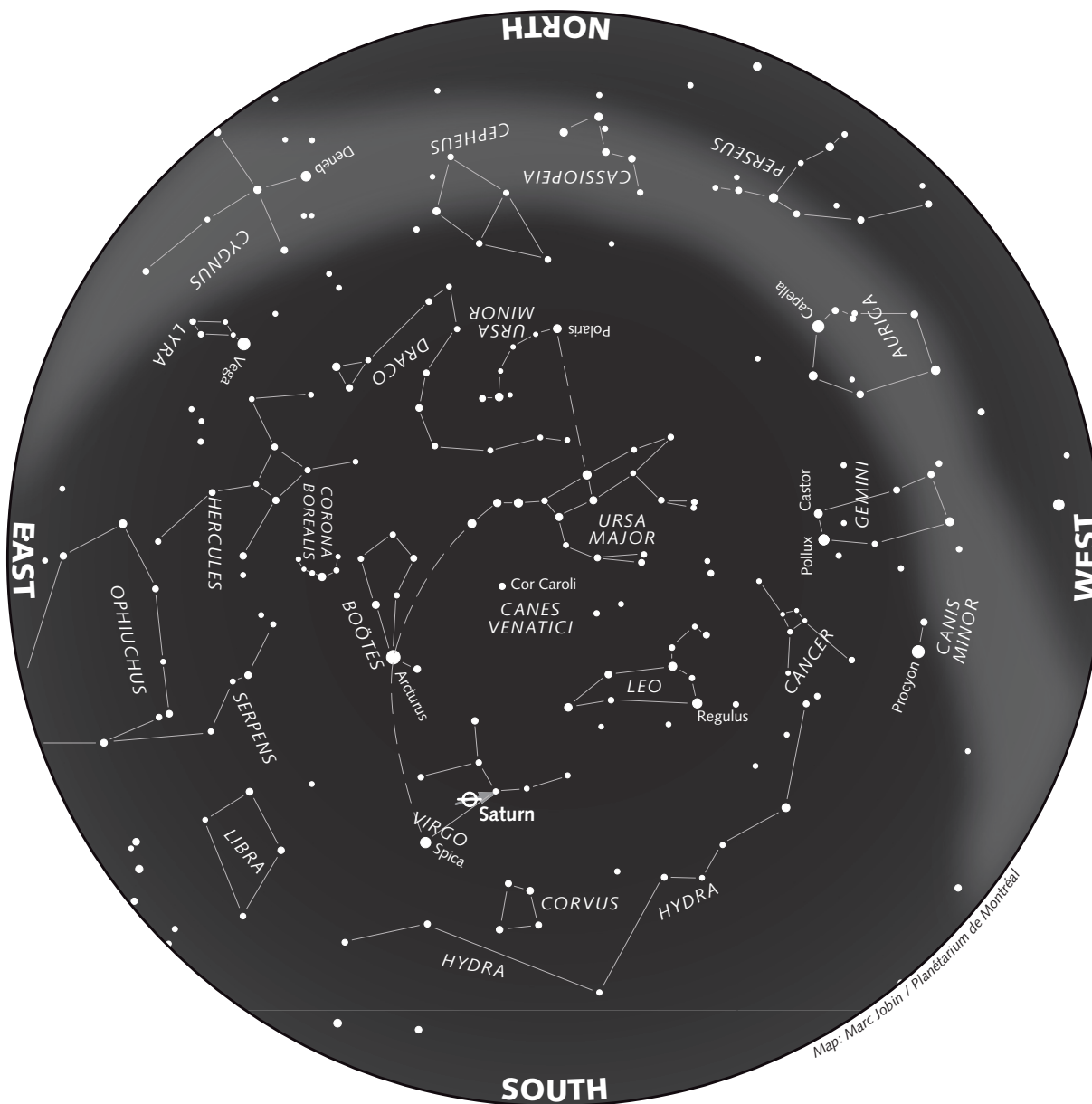


## The Starry Sky — Spring 2011



Map: Marc Jobin / Planétarium de Montréal

### 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.

Visit our Website: [planetarium.montreal.qc.ca](http://planetarium.montreal.qc.ca)

### 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

*Saturn is all alone in the evening sky, and at its best this spring. Meanwhile, at dawn, there is a traffic jam of planets low on the eastern horizon.*

## Saturn dominates the evening

The ringed planet is at opposition on April 3, just a few days after the spring equinox. For a few weeks surrounding this date, **Saturn** is visible all night long: the planet rises above the eastern horizon at twilight, culminates in the south around midnight, and descends toward the western horizon where it sets at daybreak. Then, over the following weeks, we find Saturn higher in the sky as night falls, and the planet culminates earlier and earlier in the evening.

The period surrounding a planet's opposition is generally the best time to observe it in a telescope, since the distance between it and the Earth is at a minimum. In the case of Saturn, however, the difference is not really significant. What's more important is to observe the planet at its highest point in the sky, above the least stable layers of our atmosphere — all of which assures optimum image quality in the eyepiece of a telescope. Saturn's rings, which appeared edge on and difficult to see, barely two years ago, are now more open and offer a truly splendid show.

This spring, Saturn will be the only planet visible in the evening, and well into the night — until Venus rises at dawn (or Jupiter, somewhat later in the season). A gibbous Moon will be in Saturn's vicinity

during the night of April 16 to 17, on the evening of May 13, and again on the evenings of June 9 and 10.

## Venus the morning star

**Venus** has shone as the brilliant morning star for several months now. But the planet has lost a lot of altitude, after a promising start last autumn, since its orbit now appears less steeply inclined to the horizon. As a result, Venus only rises above the eastern horizon at dawn, slightly more than an hour before the Sun. This spring, the dazzling planet rises in the east-southeast in March, and seems to slide along the horizon, rising in the east-northeast in June. And it's only due to its great brilliance that the planet remains relatively easy to spot, so low on the horizon, in the rising glow of daybreak.

Three other planets will approach Venus, in turn, during the month of May: Jupiter, then Mercury, and finally, Mars. (See the respective sections.) The crescent Moon will appear near the brilliant planet on several occasions this spring: the morning of March 31 (the Moon will be less than 5 degrees above Venus); on April 30 and May 1 (the Moon will form a triangle with Venus and Jupiter); and finally, on May 31 (5 degrees to the left of Venus), with the Moon and Venus forming another triangle, this time with Mercury.

## The return of Jupiter

As springtime begins, the planet **Jupiter** is lost in the Sun's glare and is unobservable: It passes behind the Sun (conjunction) on April 6. The giant planet slowly emerges on the eastern horizon, 30 minutes before sunrise, around the beginning of May. Then, Jupiter gradually separates from the Sun and heads toward a rendezvous with Venus: **On the morning of May 11**, the two brightest planets will be just half-a-degree apart. Mercury, which is much fainter, will lie a degree-and-a-half below the brilliant duo. To see all three planets above the horizon, you'll need to look about 30 minutes before sunrise. Mercury will be a scant 3 degrees above the horizon: Binoculars will help you spot it.

Jupiter continues on its way, and eventually leaves the glow of dawn behind: By mid-June, the giant planet

rises two-and-a-half hours before the Sun, becoming the dominant planet, above the eastern horizon, during the pre-dawn hours. The crescent Moon will be less than 5 degrees above Jupiter, at dawn, on May 29.

## Mercury visits Venus

**Mercury** passes between the earth and the Sun (inferior conjunction) on April 9, and reappears in the morning sky at the end of the month. At first, the tiny planet is close to the horizon and difficult to spot, since its faint light is overpowered by the break of day. But from May 4 to 22, Mercury will be less than two degrees below Venus, which should help you to find it. As well, Mercury's brightness gradually increases, which will make the task easier. The two planets will be closest together **on the morning of May 18**: Try observing the pair about 30 minutes before sunrise. Though Mercury will continue to brighten, the planet re-descends toward the Sun and the horizon. Mercury will pass behind the Sun (superior conjunction) on June 13 and will reappear in the northwest, at twilight, toward the end of spring.

## Mars reappears at dawn

The red planet was behind the Sun on February 4; starting at the end of April, it slowly emerges at daybreak, above the east-northeast horizon. **Mars** is less than half-a-degree from Jupiter on the morning of May 1, but the two planets will be very difficult to spot in the glow of dawn. However, Mars moves farther and farther from the Sun, and passes just one degree below Venus on May 23; this time, brilliant Venus will help you find the red planet. Mars continues to distance itself from the Sun; by mid-June, the planet will be easy to spot in the east-northeast, near the Pleiades, about an hour before sunrise. Its next opposition won't be until March 2012: Between now and then, the red planet is too far from Earth to offer an interesting show in a telescope.

*Clear skies!*

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Adaptation: **Louie Bernstein**

## Seasonal Milestones

The **spring equinox** occurs on March 20, 2011, at 19:21 EDT, and the **summer solstice** takes place on June 21, 2010, at 13:16. Spring 2011 will last exactly 92 d 17 h 55 min.

## Phases of the Moon

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

| First quarter      | Full moon         |
|--------------------|-------------------|
| March 12 at 18:45* | March 19 at 14:10 |
| April 11 at 8:05   | April 17 at 22:44 |
| May 10 at 16:33    | May 17 at 7:09    |
| June 8 at 22:11    | June 15 at 16:14  |
| Last quarter       | New moon          |
| March 26 at 8:07   | April 3 at 10:32  |
| April 24 at 22:47  | May 3 at 2:51     |
| May 24 at 14:52    | June 1 at 17:03   |
| June 23 at 7:48    | July 1 at 4:54    |