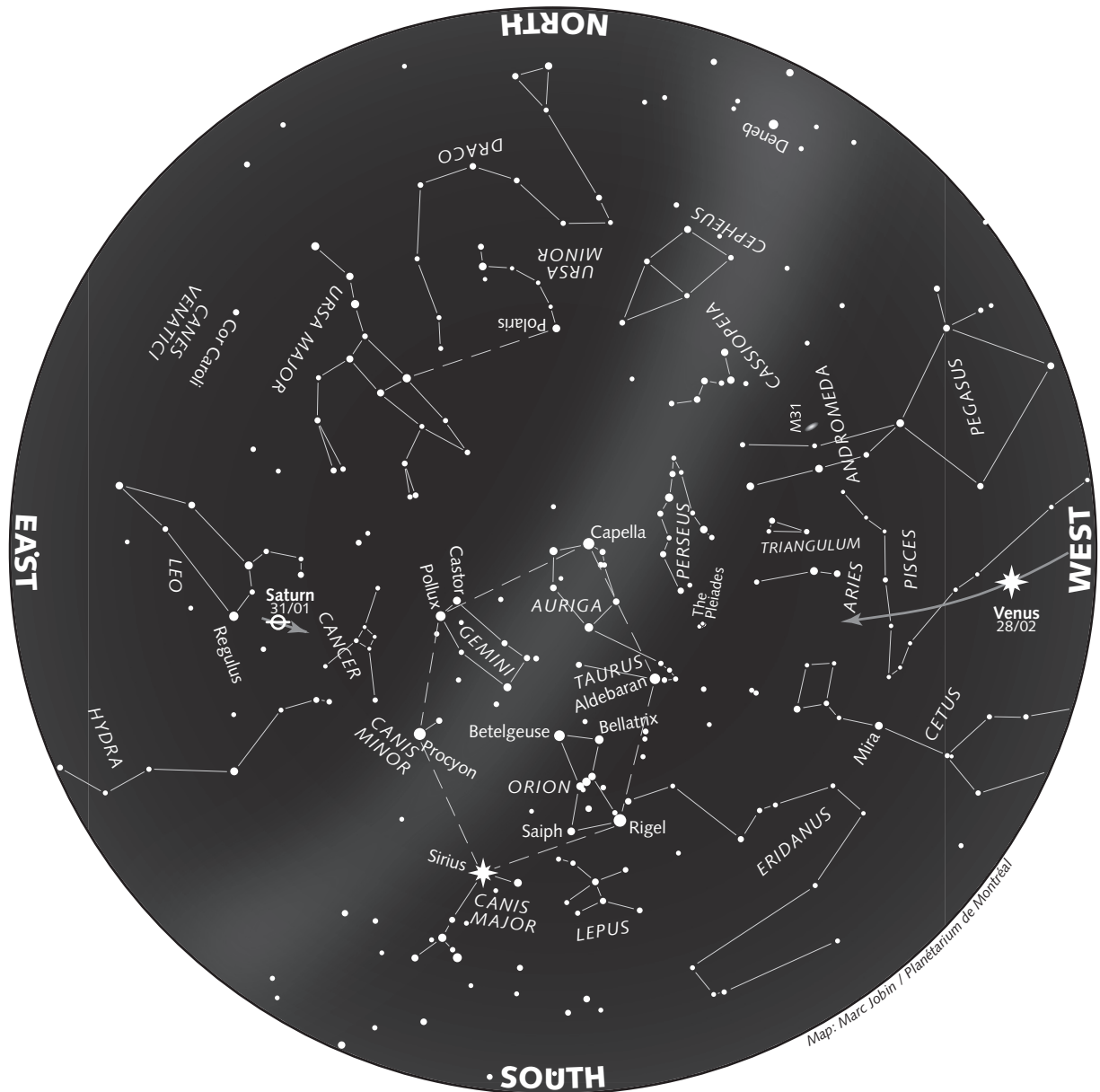


The Starry Sky — Winter 2006-07



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: www.planetarium.montreal.qc.ca

This Star Map is Accurate 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.

The Sky This Winter

After a lacklustre autumn, winter blasts in with the return of not one, but two bright planets, which appear to bolster Saturn.

Venus, the evening star

Venus appears as the brilliant "evening star" until next July. As winter begins, the planet gradually reappears above the southwest horizon at twilight. (On December 21, after sunset, the thin crescent Moon can be seen 4 degrees to its left.) From early January to mid-March, Venus slowly moves from the southwest to the west, and gains in altitude from 6 degrees to 25 degrees 30 minutes after sunset. Though the planet remains small, as seen through a telescope, dramatic changes in size and phase will occur later in the spring.

A crescent Moon affords some spectacular pairings with Venus this winter: On the evening of January 20, the two celestial objects will be just 2½ degrees apart, and they'll cross paths twice more, on February 19 and March 21.

Saturn in opposition

Saturn spends this winter near Regulus, the brightest star in Leo. It can be found above the eastern horizon in the evening, and climbs high to the south by midnight. On February 10, the ringed planet is directly opposite the Sun and remains in the sky all night long. The planets are most favourably positioned for telescopic observation during

the weeks surrounding their opposition: This is when Mars, Jupiter and Saturn appear their best. Saturn is one of the most sought-after targets for small telescopes, and the reason why is evident: Its spectacular rings are without equal in our solar system. Right now, the rings are tilted 13 degrees revealing their southern face.

A waning gibbous Moon can be seen not far from Saturn during the nights of January 5 to 6 and 6 to 7. On February 2, at twilight, the full Moon rises next to Saturn (less than one degree apart) and accompanies the ringed planet throughout the night. The Moon and Saturn are reunited once more on March 1 at nightfall, at which time the celestial pair will be about 30 degrees above the eastern horizon.

Jupiter reappears in the morning sky

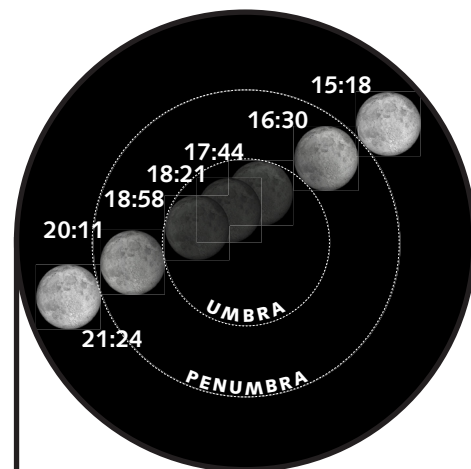
At the end of December, Jupiter rises an hour-and-a-half before the Sun and can be seen shining above the southeast horizon at dawn. But as winter progresses, the giant planet rises earlier and earlier and gains altitude: By March, Jupiter culminates in the dawn sky 22 degrees above the southern horizon. The giant planet straddles the border between Scorpius and Ophiuchus and is not far from the bright star Antares. A crescent Moon appears near Jupiter on the mornings of January 15 and February 12. On March 11 & 12 the last quarter Moon will again cross the same region of sky.

A visit from Mercury

Mercury makes a brief appearance in the evening sky this winter. It can be seen at twilight, above the west-southwest horizon between January 24 and February 14. Brilliant Venus serves as a guide from January 31 to February 7, when Mercury is less than 7 degrees below the "evening star." Look for Mercury near the start of this window of opportunity, since the tiny planet will be brightest then. After the first week of February, it will fade rapidly and will be harder to spot in the glow of twilight.

Mars visible at dawn

Mars will be visible throughout the winter at dawn. Though the Red Planet crosses three constellations over the next few months (Ophiuchus, Sagittarius and Capricornus), its position relative to the horizon changes little. Look for a faint orange "star" very low in the southeast about an hour before sunrise. At the end of December, Mars is to the lower left of Jupiter. Be sure not to confuse Mars with the red star, Antares (which



Total eclipse of the Moon

A total lunar eclipse, the first visible from Quebec in nearly three years, will take place on the evening of March 3. However, the initial phases of this event will already be well underway at moonrise over the province.

In Montreal, the Moon will rise around 17:38, just a few minutes before the start of totality, which occurs at 17:44. Dimmed by its passage through the Earth's shadow, the rising Moon will be hard to spot, since the sky will still be light (sunset is at 17:42). Of course, a clear sky free of haze, humidity and clouds would make early observation easier. Nonetheless, a little haze can give the Moon a rather dramatic appearance. To make the most of this event, you'll need an unobstructed view of the eastern horizon, which is where moonrise will occur. Be sure to keep your binoculars handy...

As the sky darkens, and the eclipsed Moon rises, its orange colour will become more evident. Mid-eclipse will occur at 18:21, and totality will end at 18:58. The waning partial phases will end at 20:11, providing plenty of time to watch, in fascination, as the Earth's shadow gradually sweeps over the lunar surface.

is somewhat brighter and farther to the right). The gap between Mars and Jupiter increases rapidly thereafter. A thin crescent Moon appears near Mars on January 16, February 14 & 15, and March 15 & 16.

Happy observing!

Research, text and illustrations:

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Translation: **Louie Bernstein**

Seasonal Milestones

The **winter solstice** occurs on December 21 at 19:22 EST, and the **spring equinox** will arrive on March 20, at 20:07 EDT. Winter 2006/2007 will last exactly 88d 23h 45m.

On January 3, at 15:00 EST, the Earth will be at **perihelion**, 147,093,602 km from the Sun.

The change to **Eastern Daylight Time** will take place three weeks earlier than usual this year: During the night of Sunday, March 11, clocks move ahead one hour.

Phases of the Moon

(Eastern Standard Time, except *= Daylight Time)

Last quarter	New moon
Dec. 12 at 9:32	Dec. 20 at 9:01
Jan. 11 at 7:45	Jan. 18 at 23:01
Feb. 10 at 4:51	Feb. 17 at 11:14
March 11 at 23:54*	March 18 at 22:43*
First quarter	Full moon
Dec. 27 at 9:48	Jan. 3 at 8:57
Jan. 25 at 18:01	Feb. 2 at 0:45
Feb. 24 at 2:56	March 3 at 18:17
March 25 at 14:16*	April 2 at 13:15*