The Pocket Planetarium ★

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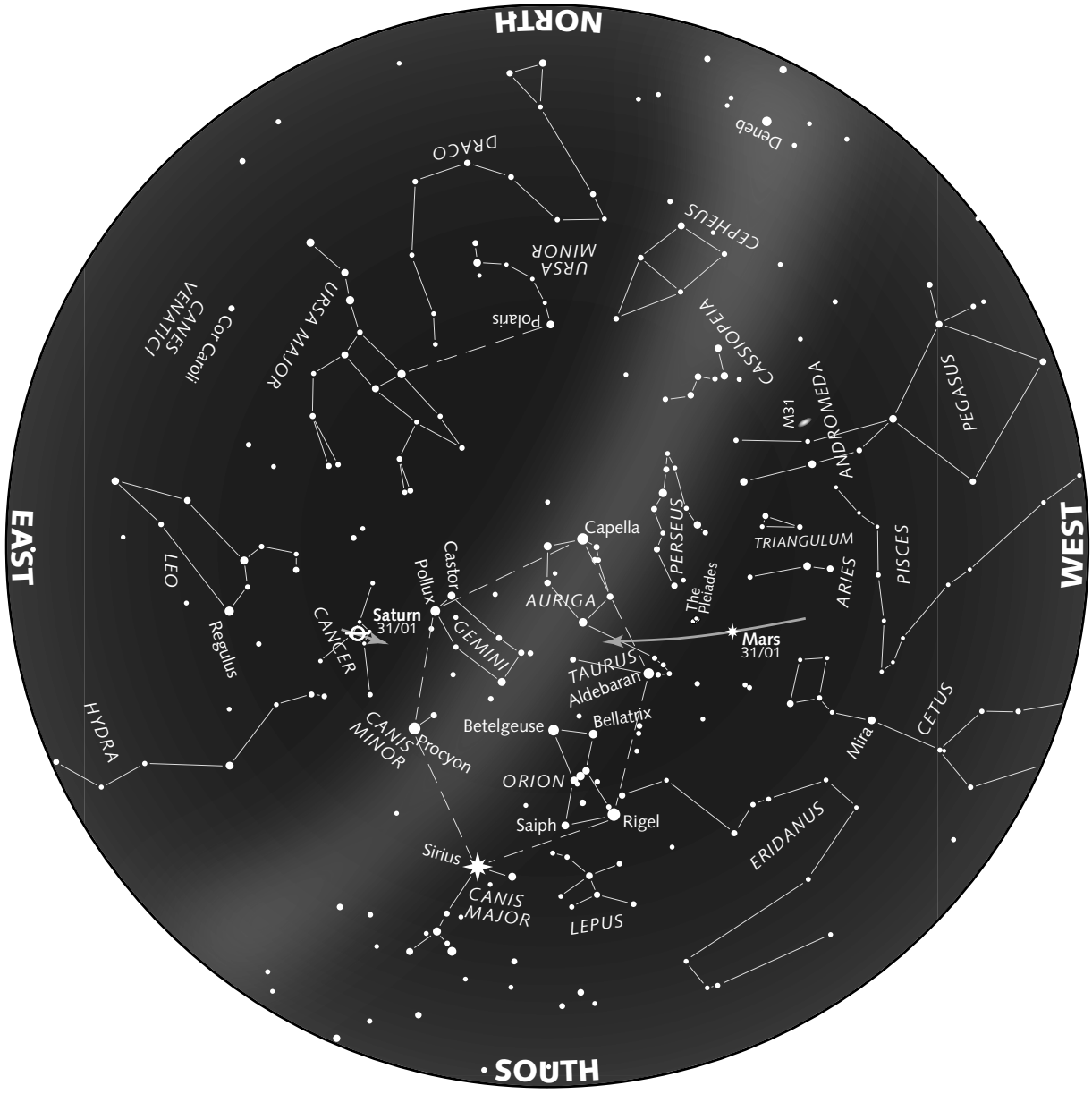
The Starry Sky — Winter 2005-06



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.

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

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The Sky This Winter

This season, the planets are spaced well apart from each other in the sky. From sunset to sunrise, at any given moment during the night, at least one planet will be visible.

Saturn stars this winter

At the start of winter, **Saturn** appears during the evening above the east-northeast horizon. When it reaches opposition on January 27, the ringed planet will be visible throughout the night. It culminates at an altitude of more than 60 degrees, reaching this maximum height around midnight in January, and progressively earlier during the following months. Saturn is best observed when it is highest in the sky: This marks the ideal time for viewing the planet in a small telescope.

Saturn can be found in the constellation of Cancer, near the star cluster M44, also known as "the Beehive." During the last week of January, and for the following two weeks, the planet skirts M44 as it slowly journeys across the sky. At their closest, the two objects are less than one degree apart. Under a dark sky, if Saturn is not too bright, the Beehive cluster is discernable to the naked eye as a faint luminous haze. With binoculars, individual stars can be resolved in "the Beehive," making this a beautiful event. In a telescope, at the lowest magnification possible, the two objects can be seen in the same field of view.

The Moon will be close to Saturn during the nights of January 14 to 15, and 15 to 16; as well as February 10 to 11, and 11 to 12; and again on the evening of March 10 to 11.

Venus moves from twilight to dawn

As the cold winter months begin, **Venus** brightens the western sky as the Evening Star. In fact, at the end of autumn the brilliant planet was higher in the twilight sky than it has been for many months. However, this situation is short-lived as the planet's visibility is waning.

Before vanishing though, Venus offers a parting New Year's gift: **On January 1, at twilight,** the dazzling planet appears next to a sliver-thin crescent Moon above the southwestern horizon. This marks one of the last opportunities to see the Evening Star this winter. On the days that follow, Venus moves progressively closer to the horizon and disappears in the Sun's glare. The planet is at inferior conjunction, between the Sun and the Earth, on January 13.

Venus reappears a few days later, but this time in the morning sky. For the remainder of winter, the brilliant planet can be found at dawn near the south-east horizon. Venus will remain our Morning Star until next autumn.

Mercury in the evening sky

During the second half of February, circumstances are excellent for observing **Mercury.** Starting on February 13 or 14, look for the tiny planet in the twilight, above the western horizon, 30 minutes after sunset. Don't delay though: Mercury descends rapidly and sets shortly after the Sun. Though the separation between the two is greatest (18 degrees) on February 24, the elusive planet is brightest and easiest to find around mid-month. Thereafter, observation becomes increasingly difficult: As Mercury approaches the Sun it becomes progressively harder to see.

Mars gets farther and fainter

After last November's spectacular opposition, the distance between the Earth and **Mars** has been rapidly increasing. The Red Planet is now too small to reveal any detail in an amateur telescope. And the more it recedes, the fainter it gets: Mars was outstandingly brilliant this past fall, but now it resembles the surrounding bright stars. However, its rapid motion from night to night against the starry background makes the Red Planet easy to spot.

From February 14 to 19, Mars passes less than two degrees beneath the Pleiades star cluster, in the constellation of Taurus. To the naked eye, or in binoculars, the planet's orange tint contrasts nicely with the brilliant young, blue-white cluster stars. At the beginning of March, Mars approaches Aldebaran, the brightest star in Taurus. This is an excellent opportunity to compare the two. Note their nearly identical colour and brightness: Aldebaran is, in fact, a red giant star.

On January 8, the Moon is near Mars; then, on February 5 & March 5, the Moon moves between Mars and the Pleiades. As night falls, the Red Planet is already high in the south and sets in the northwest well after midnight.

Jupiter makes a comeback

This winter, **Jupiter** is well up after midnight. As the year begins, the giant planet stands about 20 degrees above the south-east horizon by 5:00 in the morning. It culminates in the south, at an elevation of barely 28 degrees, just before dawn in February, and around 4:00 a.m. in March.

Jupiter is the celestial "guest of honour" this spring, and we'll be covering it in more detail next issue. Meanwhile, the Moon appears near Jupiter on the mornings of December 26 & 27, January 23 & 24, February 20, and March 19.

Happy observing!

Research, text and illustrations:
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Translation: **Louie Bernstein**

Seasonal Milestones

The **winter solstice** occurs on December 21, 2005 at 13:35 EST. The **spring equinox** will take place on March 20, 2006 at 13:26. Winter 2005/2006 will last 88d 23h 51m.

On January 4, at about 11:00 a.m. EST, the Earth will reach **perihelion**. The Earth-Sun distance will then be 147,103,625 km — the closest in 2006.

Phases of the Moon

(Eastern Standard Time)

New moon	**First quarter**
Dec. 1 at 10:01	Dec. 8 at 4:36
Dec. 30 at 22:12	Jan. 6 at 13:56
Jan. 29 at 9:15	Feb. 5 at 1:29
Feb. 27 at 19:31	March 6 at 15:16
Full moon	**Last quarter**
Dec. 15 at 11:15	Dec. 23 at 14:36
Jan. 14 at 4:48	Jan. 22 at 10:14
Feb. 12 at 23:44	Feb. 21 at 2:17
March 14 at 18:35	March 22 at 14:10

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