The Pocket Planetarium ★

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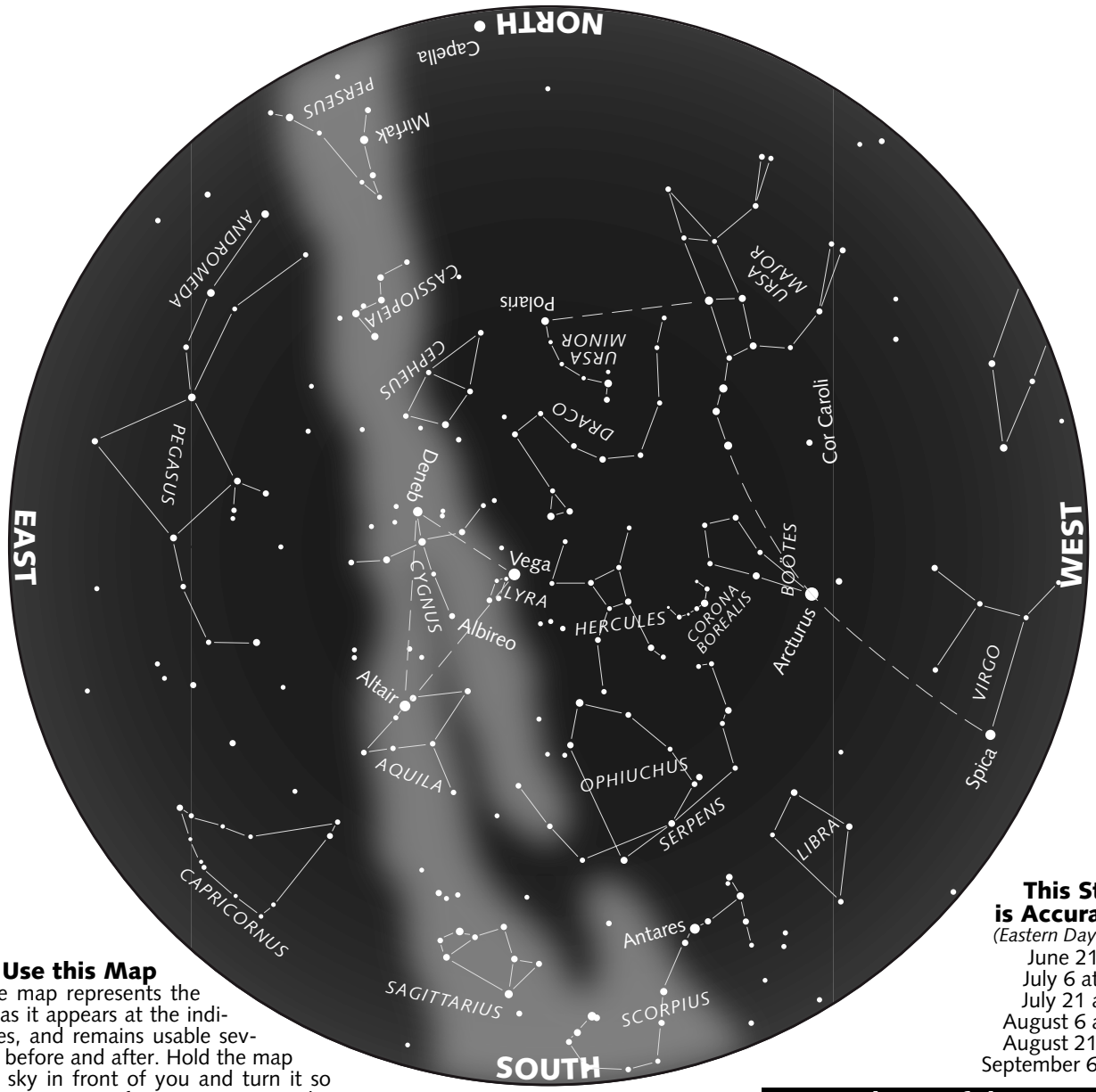
The Starry Sky — Summer 2004



Map: Marc Jobin / Planétarium de Montréal

This Star Map is Accurate on...
(Eastern Daylight Time)
June 21 at 1 a.m.
July 6 at midnight
July 21 at 11 p.m.
August 6 at 10 p.m.
August 21 at 9 p.m.
September 6 at 8 p.m.

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 contellations. The light band outlines the Milky way.

Seasonal Milestones

The **summer solstice** occurs on June 20 at 20:57 EDT. The **autumn equinox** will take place on September 22 at 12:30. Summer 2004 will last 93d 15h 33m.

The Earth will be at **aphelion** (the point in its orbit farthest from the Sun) on July 5 at 07:00. The Earth-Sun distance will then be 152,095,300 kilometres.

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Phases of the Moon

(Eastern Daylight Savings Time)

New moon	First quarter
June 17 at 16:27	June 25 at 15:08
July 17 at 7:24	July 24 at 23:37
August 15 at 21:24	August 23 at 6:12
Sept. 14 at 10:29	Sept. 21 at 11:54
Full moon	**Last quarter**
July 2 at 7:09	July 9 at 3:34
July 31 at 14:05	August 7 at 18:01
August 29 at 22:22	Sept. 6 at 11:11
Sept. 28 at 9:09	Oct. 6 at 6:12

The Sky This Summer

In May and June, the planets that graced the evening sky, during the first half of 2004, have departed one by one into the Sun's glare. Only Jupiter remains visible in the evening. But it, too, will disappear in August. All the action is now centered on Venus and Saturn, which illuminate the morning sky. Meanwhile, Mars is on hiatus for the next several months.

Jupiter — one last look

Jupiter remains in the constellation Leo, and is the only bright planet visible in the evening sky at the beginning of summer. Now that Venus has disappeared from view, Jupiter is the brightest nighttime object after the Moon.

Through a telescope, Jupiter puts on a spectacular show that appeals to all observers, novices included. Its four largest moons and cloud bands are easy to spot, even with a small instrument. And for the more seasoned amateur, Jupiter offers a wealth of detail.

But you had better hurry! The planet is already low on the western horizon during twilight at the end of June, and the situation deteriorates rapidly as summer progresses. By the end of July, Jupiter is difficult to see in the twilight, and it disappears completely in the glare of sunset by mid-August. Jupiter is in conjunction with the Sun on September 22.

For those who enjoy naked eye or binocular views of the sky, the crescent Moon is near Jupiter on the evening of June 23 (just 2 degrees above it) and again on July 20 & 21 (first to the right and then to the left of the planet). Two celestial encounters to appreciate in the summer twilight.

Venus, the morning star

After having spent several weeks lost in the Sun's glare, Venus finally reappears in the morning sky at the end of June. It can be seen near the east-northeast horizon one hour before sunrise. Over the following weeks, as the gap between Venus and the Sun increases, the dazzling planet climbs higher in the sky. By the end of August, it rises nearly four hours before the Sun.

A thin crescent Moon appears near Venus on the mornings of July 13 & 14, August 12 & 13, and September 10. On the **morning of September 1,** Venus appears near the planet Saturn: The two are separated by less than two degrees!

From September 12 to 15, Venus passes two degrees below the Beehive star cluster (M44) in the constellation Cancer. With binoculars, look a little to the upper left of Venus and you'll see a concentration of a few dozen faint stars.

Saturn at dawn

Saturn is in conjunction with the Sun on July 8. By August it reappears in the dawn sky above the eastern horizon, in the constellation Gemini. At the end of summer, the ringed planet rises around one o'clock in the morning and reaches a suitable altitude for observing before dawn.

The crescent Moon is near Saturn on the morning of August 13, and again on the mornings of September 9 & 10.

Mercury in the morning

Furtive Mercury made an exceptional evening appearance last March: This time early-birds will get a chance to enjoy the planet as it ventures into the morning sky. Mercury will be visible **around mid-September** above the eastern horizon. Though Mercury is the closest planet to the Sun, it will rise nearly an hour-and-a-half before the Sun does.

Happy observing!

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

The Perseids in 2004

Each summer, around mid-August, the Earth crosses a vast trail of dust deposited by Comet Swift-Tuttle along its orbit. As a result, a multitude of particles enter the upper atmosphere at extremely high-speeds and disintegrate, illuminating the air along their path. This produces the famous meteor shower known as the Perseids.

In 2004, the shower is predicted to reach its peak at 7 A.M. on August 12. Since daylight will prevail, the best time to see the Perseids will be during the pre-dawn hours on the night of August 11 to 12. In case of cloud, both the preceding and following nights offer a second choice, though the number of meteors will be reduced. A thin crescent Moon will rise around 2 A.M. but should not hinder observations appreciably.

To make the most of the Perseids, you should get as far from light polluted urban environments as possible. Choose a site that offers a wide view of the sky. Maintain your eyes' adaptation to the dark by avoiding local light sources (streetlights, headlights and flashlights). Dress warmly and protect yourself against dew and ground dampness.

Lie back and let your eyes scan the sky. The meteors can appear anywhere, but true Perseids appear to come from the constellation Perseus (which can be confirmed by backtracing their trajectory).

For more information regarding the Perseids 2004, log onto our website at

www.planetarium.montreal.qc.ca

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