



July 2010

11:00 p.m. on July 1
 10:00 p.m. on July 15
 9:00 p.m. on August 1

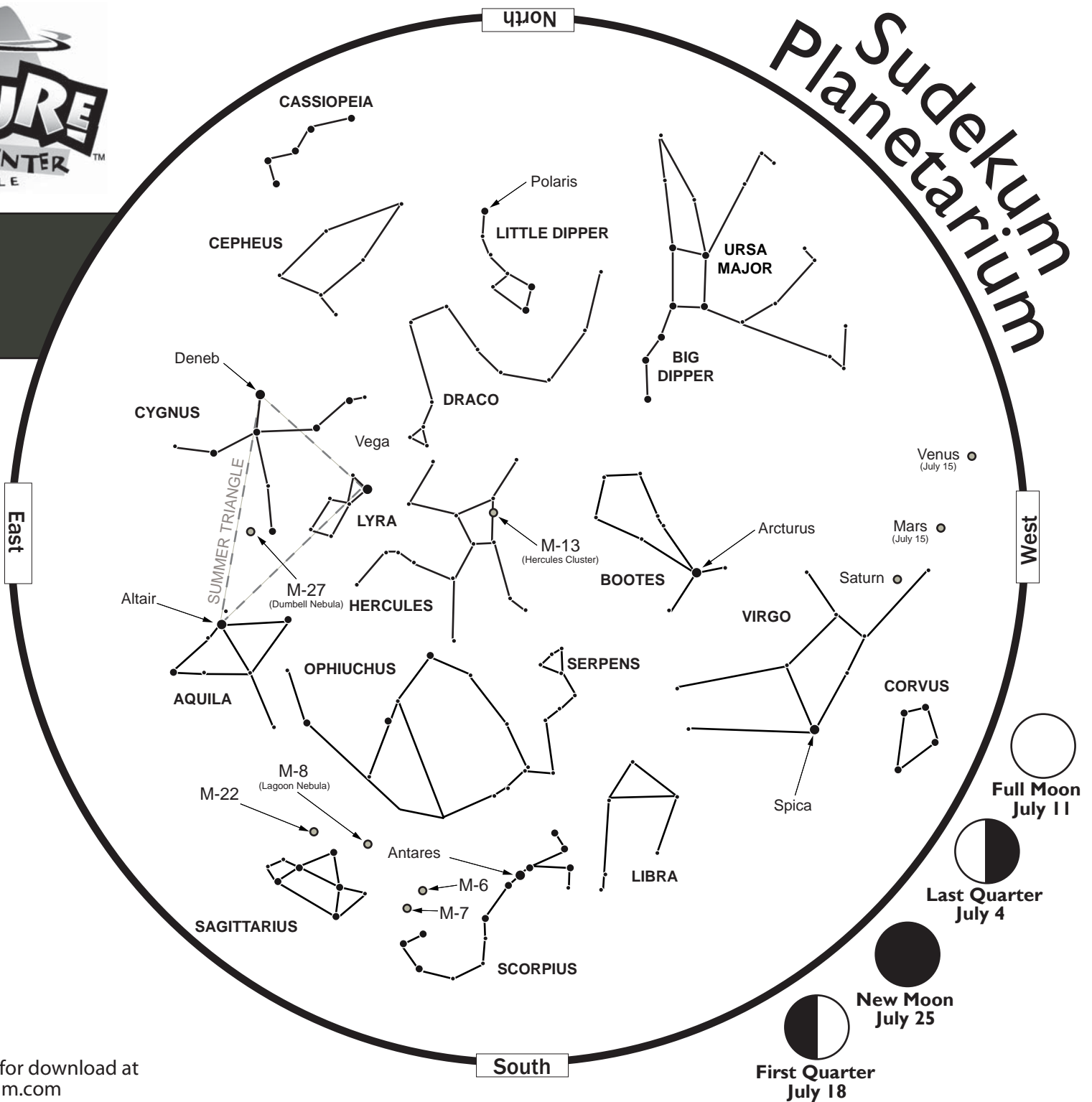
To use this chart: hold the chart in front of you and turn it so the direction you are facing is at the bottom of the chart.

- **Bright Stars**
- **Medium Bright Stars**
- **Faint Stars**

Scan the sky with binoculars:
 the darker the sky, the better.

- M-4: Globular star cluster in Scorpius
- M-6 and M-7: Open star clusters in Scorpius
- M-8: The Lagoon Nebula
- M-13: The Hercules open star cluster
- M-22: Globular star cluster in Sagittarius

From Nashville:		
	Sunrise	Sunset
July 1	5:34 AM	8:08 PM
July 15	5:41 PM	8:04 AM
August 1	5:54 PM	7:52 AM



THE NEW SUDEKUM PLANETARIUM

JUDITH PAYNE TURNER THEATER

July 2010

Seven Planets in One Night

On the evening of July 12, the Sun will set just after 8:00 pm. If you have a very clear western horizon, with no trees or clouds, you might be able to catch a glimpse of the elusive planet **Mercury**. Because it is the closest planet to the Sun, Mercury never appears very far away from the Sun's blinding light as seen from Earth. On this particular evening, Mercury will be just 8 degrees above the western horizon at 8:15 pm. A very slim **crescent Moon** will be hanging just below and to the left of Mercury. You may need binoculars to see either or both of these objects, but their delicate beauty in the twilight sky is worth the effort.

Mercury will be visible in this area of the sky through the end of July, but the Moon will only help you find it on the 12th. On the evening of **July 27**, Mercury will appear next to **Regulus**, the star that marks the heart of **Leo the lion**. Mercury will be the brighter of the two.

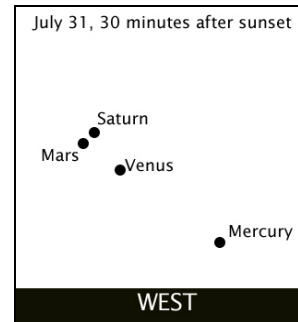
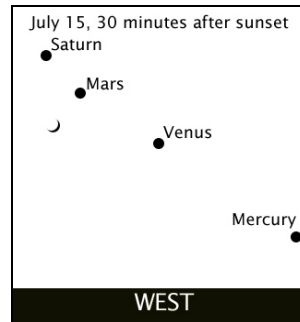
Vibrant **Venus** continues to dominate the evening sky, now through September. This bright planet may be visible very soon after sunset, but the best time to see it will be at least 45 minutes later. A pretty **crescent Moon** will sit below and to the left of Venus on the evening of **July 14**.

At the start of the month, **Saturn** is quite high in the southwestern sky as the sky darkens and sets shortly after midnight. This modest, pale yellow dot will appear lower in the sky every night until it slips into the glare of the Sun by late August. By the end of July, Saturn will set around 10:30 pm.

Venus and Saturn are fairly easy to spot. Mars is not! Mars starts the month as a dim, orange dot halfway between Venus and Saturn. On **July 15**, the **Moon** will pass below and left of Mars, but Mars will still be just an unimpressive dot.

July provides a fabulous opportunity to observe **celestial mechanics** in action. All the planets are orbiting the Sun at different speeds and different distances, so their positions in the sky are constantly changing. On **July 1**, Venus, Mars, and Saturn form a long line stretching from just above the western horizon high up into the southwestern sky. By **July 15**, these three "wandering stars" appear much closer together as a shortened line after sunset.

The real action occurs during the **last two weeks of July**. Mars and Venus are racing to catch Saturn. On **July 31**, Mars lies next to Saturn with Venus just below and left. Together they form a long, narrow triangle, which points almost directly at Mercury. That makes **four** planets visible in the 30 minutes after sunset.



As Saturn sets in the west, **Jupiter** peeks above the eastern horizon. To see this **fifth** planet, it's best to wait 45 minutes to an hour for Jupiter to rise above the trees and most of the murky atmosphere. Anyone out before sunrise can enjoy brilliant Jupiter high in the east among the dim stars of **Pisces the fish**.

With binoculars, you may just be able to spot a **sixth** planet in the sky - because **Uranus** lies very near Jupiter. Find more details and a bonus star map for Uranus on our web site!

To see **seven** planets in one night, just look down to see **Earth**.

Spectacular Summer Stars

The brilliant stars of summer make it easy to find constellations. In the east, **Vega**, **Deneb**, and **Altair** indicate the three corners of the **Summer Triangle**. Deneb marks the tail feathers of **Cygnus the swan**. This is one constellation that actually looks like what it's named after. Some people refer to this star pattern as the **Northern Cross**.

Vega is the brightest of the three stars, but its constellation of **Lyra the harp** barely resembles a stringed musical instrument. **Altair** may be familiar to science fiction fans, but **Aquila the eagle** looks more like a stingray in the sky.

Low above the southern horizon scoots **Scorpius the scorpion**. Nearby trees might hide his tail depending on your location. The heart of the scorpion is marked by the red giant star **Antares**. Because of its brightness and red color, "Anti-Ares" is often confused with Mars.

Don't forget to look for the **Big Dipper**, hanging by its handle high in the northwestern sky.

Super Summer Star Parties

The next **FREE** public star party is set for **Saturday, July 17** from **8:30 to 10:30 pm** at the **Visitor Information Center** at **Longhunter State Park**. Members of the **Barnard Seyfert Astronomical Society** will set up telescopes to provide views of Saturn, the Moon, and more.

On **Saturday, August 14**, telescopes will be set up for **FREE** observing at the **Special Events Field** at **Edwin Warner Park**, also from **8:30 to 10:30 pm**. Early that night, the Moon and Saturn will be seen with Jupiter rising shortly before the end of the program.

If the weather is cloudy, the star party will be cancelled. If the weather is questionable, call **AstroLine** at **(615) 401-5092** or check our web site before traveling. On our web site, you'll also find driving directions and a list of useful star party tips.