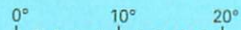


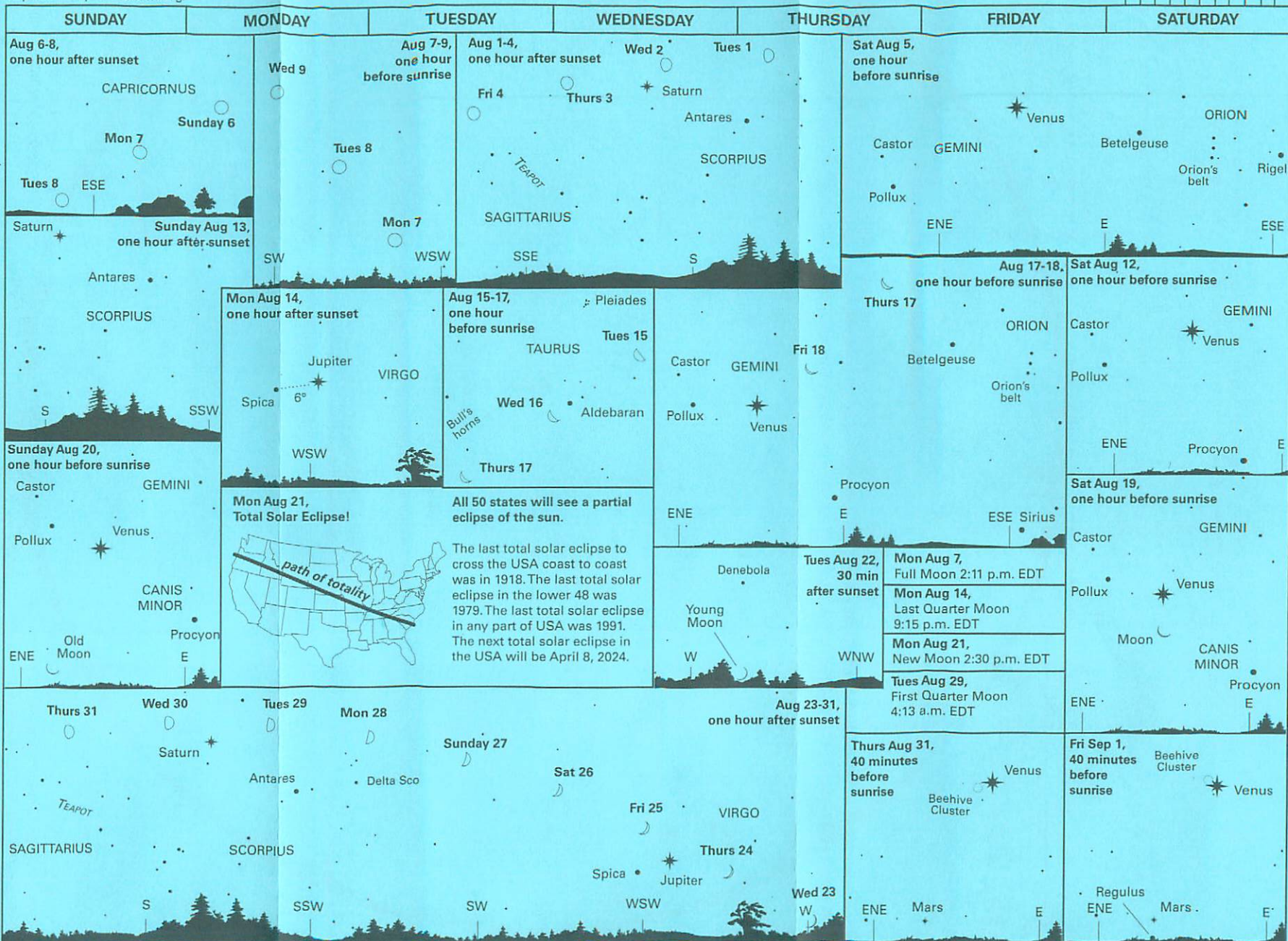
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SKY CALENDAR AUGUST 2017

An aid to enjoying the changing sky

Use this scale to measure angular distances between objects on diagrams below.



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Evening Planets:
 Jupiter can be spotted in the WSW. As the month progresses, bright Jupiter drops lower each evening. Jupiter sets just under three hours after sunset at the end of August. The star Spica is to the left of the planet. Saturn can be found towards the south. The star Antares is to the lower right of the ringed planet. Mercury is briefly visible low in the west in the first week of the month.

Morning Planets: Venus shines brightly in the east all month. Watch for the waning crescent Moon near Venus Aug 18 and 19. Venus rises about three hours before sunrise. Look for Mars 20° to the lower left of Venus in the last day of the month. Mars will become easier to spot next month.

The partial lunar eclipse August 7 is not visible from the USA. It will be visible for observers in Asia, Africa and Australia.

The waning gibbous Moon will interfere with the Perseid meteor shower which peaks the night of Aug 11 into the morning of Aug 12.

The astronomical highlight of this month and this year is the **total solar eclipse, August 21**. The path of totality over land starts in Oregon at 10:16 a.m. PDT and leaves the USA in South Carolina at 2:48 p.m. EDT covering 12 states. The width of the path is between 62 and 71 miles. The closer you are to the center of the path, the longer the eclipse will last. Totality will last 2 minutes and 40 seconds at its greatest duration. For detailed maps and times of the eclipse in your area, visit MrEclipse.com. Be sure to use proper eye protection during the partial phase of the eclipse.

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All 50 states will see a partial eclipse of the sun.
 The last total solar eclipse to cross the USA coast to coast was in 1918. The last total solar eclipse in the lower 48 was 1979. The last total solar eclipse in any part of USA was 1991. The next total solar eclipse in the USA will be April 8, 2024.

Subscription: \$12.00 per year, starting anytime, from Sky Calendar, Abrams Planetarium, Michigan State University, 755 Science Rd, East Lansing, MI 48824 or online at abramsplanetarium.org/skycalendar/

August Evening Skies

LEGEND

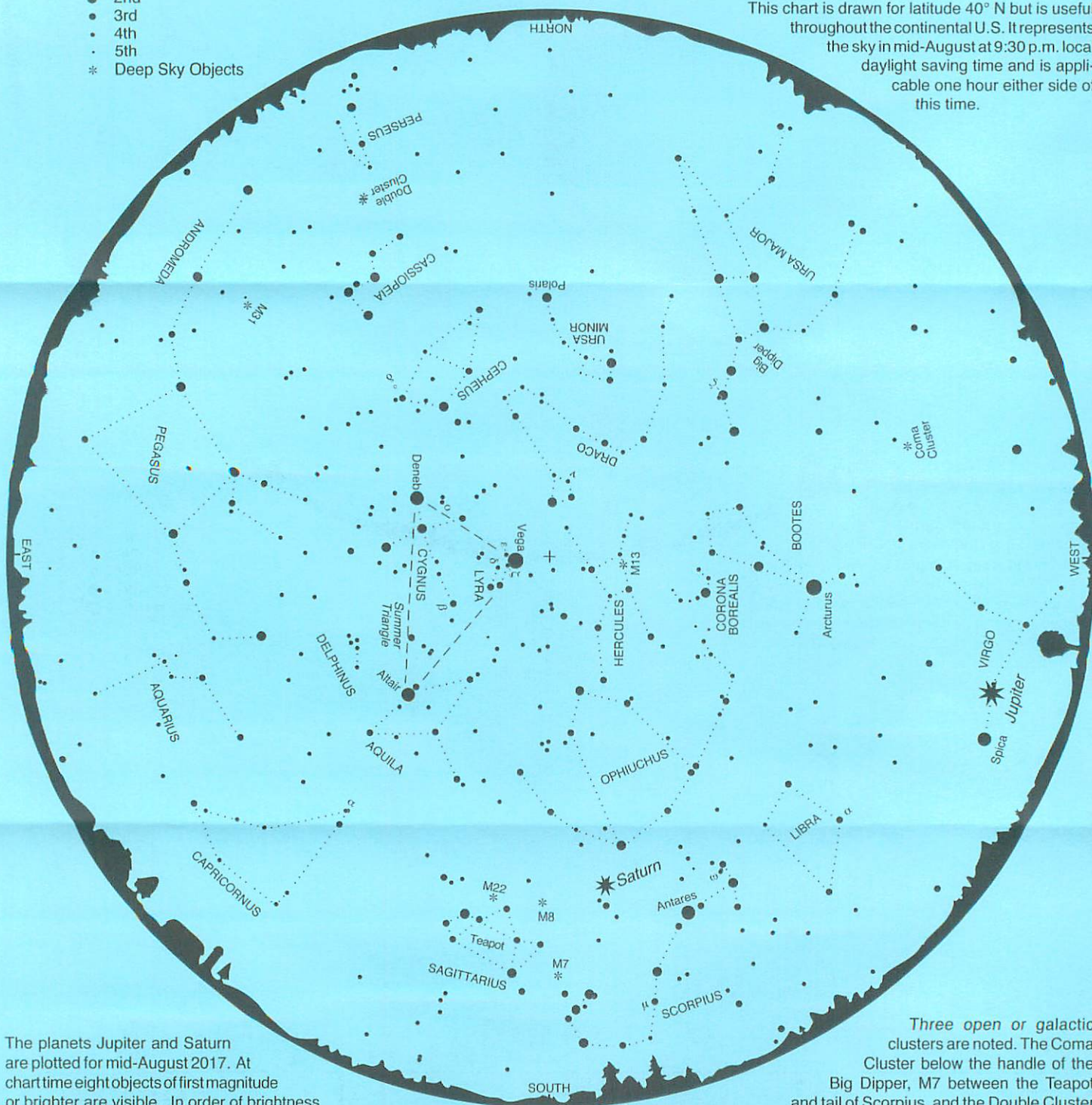
Star Magnitudes

- Zero or brighter
- 1st
- 2nd
- 3rd
- 4th
- 5th
- * Deep Sky Objects

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This chart is drawn for latitude 40° N but is useful throughout the continental U.S. It represents the sky in mid-August at 9:30 p.m. local daylight saving time and is applicable one hour either side of this time.



The planets Jupiter and Saturn are plotted for mid-August 2017. At chart time eight objects of first magnitude or brighter are visible. In order of brightness they are: Jupiter, Arcturus, Vega, Saturn, Altair, Antares, Spica, and Deneb.

Our usual monthly maps are designed for stargazers just beginning to find their way around the sky. This month's map is useful for serious stargazing from dark locations. It contains many more stars, inclusive to magnitude 4.5, and some fainter stars as needed to complete patterns or assist in locating special objects.

A selection of double stars (labeled with Greek letters) and "deep sky objects" is also plotted. All are visible with modest equipment; most are within the range of the unaided eye or binoculars.

The double stars, in order of decreasing angular separation, are ω Sco, ζ UMa, δ Lyr, α Cap, μ Sco, σ Cyg, α Lib, ϵ Lyr, ν Dra, ζ Lyr, and β Cyg.

Three open or galactic clusters are noted. The Coma Cluster below the handle of the Big Dipper, M7 between the Teapot and tail of Scorpius, and the Double Cluster in Perseus.

Two globular clusters, more compact concentrations of hundreds of thousands of stars, can be found: M13 in Hercules and M22 in Sagittarius.

M8 in Sagittarius is the Lagoon Nebula, a gas and dust cloud from which stars are forming. M31 is the famous Andromeda Galaxy. It is barely visible as a hazy spot to the unaided eye.