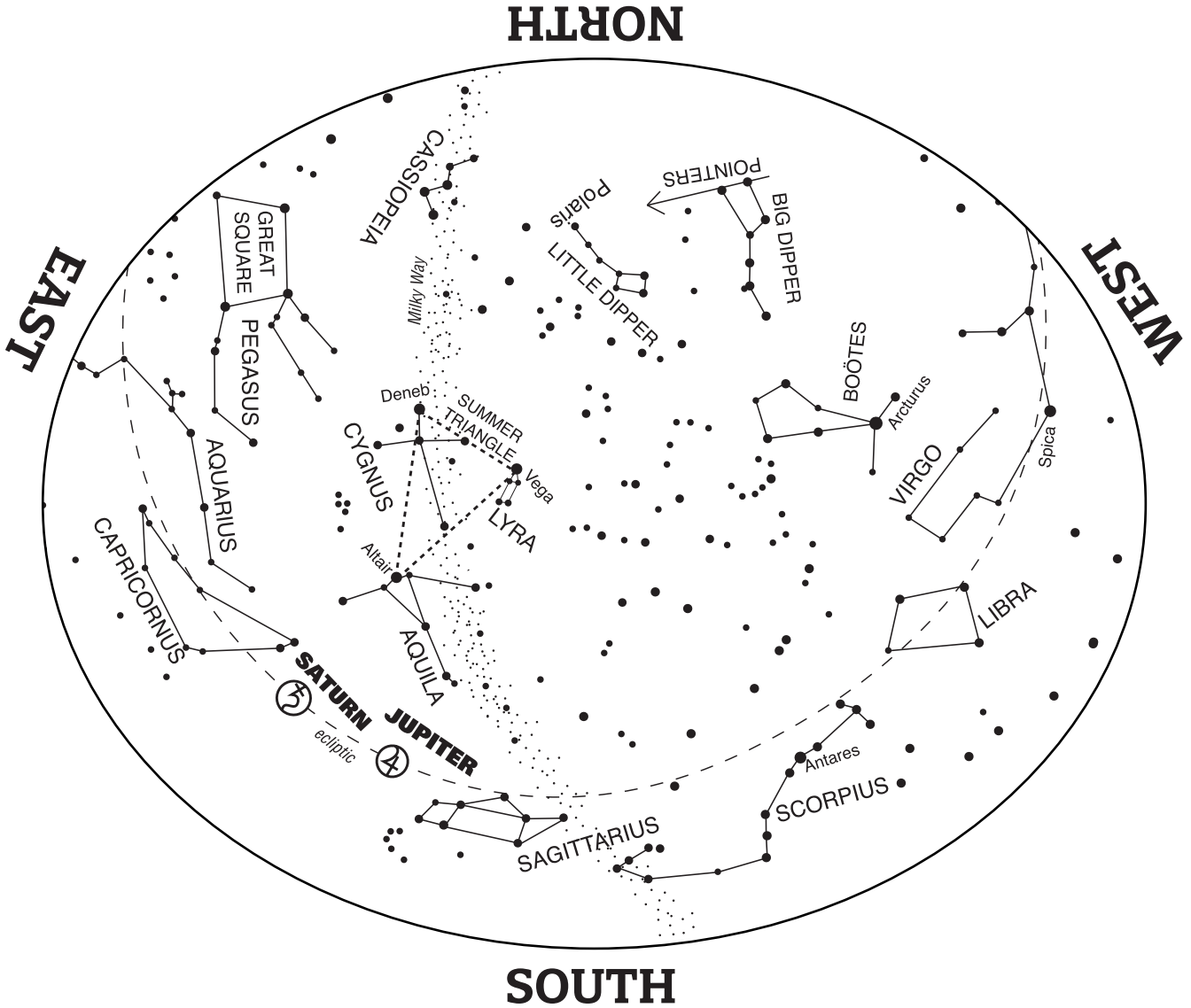


Starmap

JULY/AUGUST 2020



601 Light Street • Baltimore's Inner Harbor
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TO USE MAP:

Hold the map in front of you so that the direction you are facing is on the bottom. The stars on the lower half on the map will match up with the stars in the sky. The center of the map is directly overhead in the sky. Constellation and star pattern names are all capitalized. Names of stars have only the first letter capitalized. The map is valid within an hour of:
11:30pm Mid-July EDT
9:30pm Mid-August EDT

MAGNITUDE is a measure of a star's brightness. The lower the number, the brighter the star

- 1st or brighter magnitude star
- 2nd magnitude star
- 3rd magnitude star
- 4th or fainter magnitude star

ECLIPTIC:

The imaginary path of the Sun through the year. Constellations of the Zodiac surround the Ecliptic and the Moon and planets appear along it.

Starmap

JULY/AUGUST 2020

IN THE JULY/AUGUST SKY

July 2

Moon near Antares

**July 4**

Full Moon

Earth at aphelion

(See *Celestial Highlights*)**July 5**Moon near Jupiter
and Saturn(See *Celestial Highlights*)**July 11**Venus near Aldebaran
(morning)**July 11-12**

Moon near Mars (morning)

**July 12**

Last quarter Moon

July 14

Jupiter in opposition

(See *Celestial Highlights*)**July 17**

Moon near Venus (morning)

July 19Moon near Mercury
(morning)**July 20**

New Moon

Saturn in opposition

(See *Celestial Highlights*)**July 22**Mercury at greatest
elongation (morning)**July 26**

Moon near Spica

**July 27**

First quarter Moon

July 29

Moon near Antares

August 1Moon near Jupiter
and Saturn(See *Celestial Highlights*)**August 3**

Full Moon

August 9

Moon near Mars (morning)

**August 11**

Last quarter Moon

August 12

Perseid meteor shower

(See *Celestial Highlights*)

Venus at greatest

elongation (morning)

August 13Moon near Aldebaran
(morning)**August 15**Moon near Venus
(morning)**August 17**Superior conjunction
of Mercury(See *Celestial Highlights*)**August 18**

New Moon

**August 25**

First quarter Moon

Moon near Antares

August 28

Moon near Jupiter

(See *Celestial Highlights*)**August 29**

Moon near Saturn

(See *Celestial Highlights*)**MERCURY****When:**Morning sky, July 17 -
August 8**Where:**

East-Northeast

Constellation:

Gemini, Cancer, Leo

**VENUS****When:**

Morning sky

Where:

East

Constellation:

Taurus, Orion, Gemini

**MARS****When:**After midnight, July
Late night to dawn, August**Where:**

East to South

Constellation:

Pisces, Cetus, Pisces

**JUPITER****When:**All night, July
Evening sky to pre-dawn,
August**Where:**

Southeast to southwest

Constellation:

Sagittarius

**SATURN****When:**All night, July
Evening sky to pre-dawn,
August**Where:**

Southeast to southwest

Constellation:

Sagittarius

CELESTIAL HIGHLIGHTS

Earth at Aphelion, July 4 - Aphelion is a planet's farthest point from the Sun in its annual elliptical orbit. This year, Earth reaches aphelion on July 4, with a distance of 94,508,169 miles, making it about 3,000,000 miles farther from the Sun than perihelion, when we are at our closest distance, in January. Despite the variable distance between the Earth and the Sun, changing temperatures and seasons are caused by the tilt of the Earth.

Planet Oppositions and Conjunctions with Sun - The astronomical term opposition describes when an object appears opposite the sun in the sky as seen from Earth. Planets at opposition are visible all night. Jupiter goes into opposition July 14 and Saturn goes into opposition July 20. In contrast, conjunction means that two objects appear in the same place in the sky as seen from Earth. Planets in conjunction with the sun are not visible. Mercury is in conjunction with the Sun on August 17.

Perseids Meteor Shower peaks August 12 - While the peak occurs on August 12, some meteors may be visible July 17 - August 24. Look to the north-eastern sky after dark to watch for Perseid meteors.

Planet and Moon Pairings - The word "planet" means wanderer in Greek, because throughout the year you can see the planets and the Moon move across the background of stars each night. As the planets and the Moon wander in the sky they sometimes look to be close to each other from our perspective on Earth. Jupiter and Saturn are in the same part of the sky. Jupiter is the brighter of the two. Continue to watch them until their very close conjunction December 21. The Moon passes by Jupiter and Saturn three times during July and August. After all three celestial objects rise late in the evening, past 10:00pm EDT, of July 5, the Moon will be between and below Jupiter and Saturn. Less than a month later, August 1, the Moon will be below Jupiter and Saturn will be left of the two. The next night, the Moon will have moved so that Saturn is in between the Moon on its left and Jupiter to the right. Then the Moon will again pass by Jupiter on August 28 and Saturn on August 29.

The bi-monthly STARMAP is available on the web at <https://www.mdsci.org/learn/resources/starmaps/>

**CROSBY RAMSEY MEMORIAL OBSERVATORY
INFO 410-545-2999**

Free public observing nights are held Fridays 7:00-10:30pm.
Please call after 5:00pm on Friday for observing conditions.