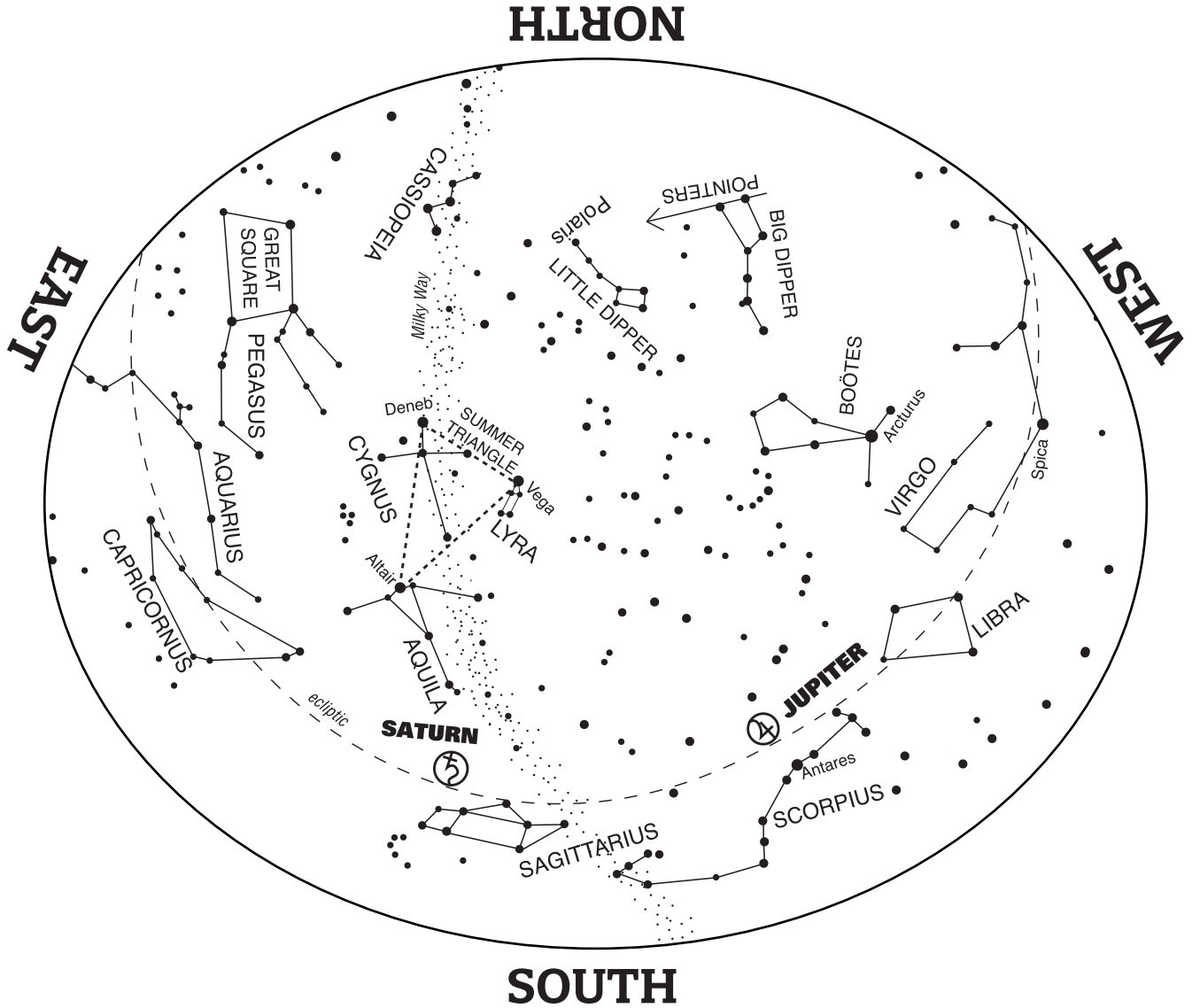


# Starmap

JULY/AUGUST 2019



601 Light Street • Baltimore's Inner Harbor  
410.685.5225 • www.marylandsciencecenter.org



**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

- 1<sup>st</sup> or brighter magnitude star
- 2<sup>nd</sup> magnitude star
- 3<sup>rd</sup> magnitude star
- 4<sup>th</sup> 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 2019

## IN THE JULY/AUGUST SKY

- **July 2**  
New Moon
- July 3**  
Moon near Mercury
- July 4**  
Earth at Aphelion  
(See *Celestial Highlights*)
- July 5**  
Mercury near Mars
- ☾ **July 9**  
First quarter Moon  
  
Saturn in opposition  
(See *Celestial Highlights*)
- July 13**  
Moon near Jupiter  
(See *Celestial Highlights*)
- July 15**  
Moon near Saturn
- ☉ **July 16**  
Full Moon
- July 21**  
Inferior conjunction  
of Mercury  
(See *Celestial Highlights*)
- ☾ **July 24**  
Last quarter Moon  
(See *Celestial Highlights*)
- July 27**  
Moon near Aldebaran  
(morning)
- **July 31**  
New Moon
- ☾ **August 7**  
First quarter Moon
-  **August 9**  
Mercury greatest  
elongation (morning)  
  
Moon near Jupiter
- August 11**  
Moon near Saturn  
(See *Celestial Highlights*)
- August 12**  
Jupiter near Antares  
  
Annual Perseid  
meteor shower  
(See *Celestial Highlight*)
- August 14**  
Superior conjunction  
of Venus  
(See *Celestial Highlights*)
- ☉ **August 15**  
Full Moon
- ☾ **August 23**  
Last quarter Moon
- August 24**  
Moon near Aldebaran  
(morning)
- **August 30**  
New Moon

 = Observatory events


### MERCURY

**When:**  
40 min. after sunset,  
1st week July  
Before sunrise, August

**Where:**  
Very low in west, 1st  
week July  
Low in East, August

**Constellation:**  
Cancer, Gemini,  
Cancer, Leo



### VENUS

**When:**  
Morning sky, early July  
Not visible, August

**Where:**  
Low in east, early July

**Constellation:**  
Taurus, Gemini,  
Cancer, Leo



### MARS

**When:**  
Evening sky, July  
Not visible, August

**Where:**  
Very low in west, July

**Constellation:**  
Cancer, Leo



### JUPITER

**When:**  
Evening sky to  
pre-dawn, July  
Evening sky, August

**Where:**  
Southeast to southwest

**Constellation:**  
Ophiuchus



### 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 to the Sun in its annual elliptical orbit. This year, Earth reaches aphelion on July 4, with a distance of 94,513,213 miles making it farther to the Sun than the average distance of 93,000,000 miles. Despite the variable distance between the Earth and the Sun, changing temperatures and seasons are caused by the tilt of the Earth.

**Perseids Meteor Shower peaks August 12** - Usually one of the best meteor showers of the year, this year most of the meteors will be washed-out by the almost Full Moon. 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 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. Saturn goes into opposition July 9. In contrast, conjunction means that two objects appear in the same place in the sky as seen from Earth. Mercury is in conjunction with the Sun on July 21. Venus is in conjunction with the Sun on August 14. Planets in conjunction with the sun are not visible.

**Planet Conjunctions with Moon** - The sun doesn't get to have all the fun with the planets, the Moon joins Jupiter and Saturn in the southeastern part of the sky each month. Look for Jupiter and the Moon on July 13 and August 9, and Saturn with the Moon on July 15 and August 11.

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.