



# July 2025 Astronomy Report



- **Moon:**
  - Phases
  - Major Lunar Standstill (*what the?!*)
  
- **Planets:**
  - Evening: Mercury and Mars
  - Morning: Venus, Saturn, Neptune, Uranus and Jupiter (end of month)
  
- **Comets/Asteroids/Meteor Showers:**
  - Southern Delta Aquariids
  - Comet chasing website: “another month of few comets, requires at least 12.5” telescope at end of month”
  - Vesta asteroid
  
- **Dark Sky Star Party:**
  - July 26
  
- **Public Viewing:**
  - Brite Lake, July 19
  - Cub Lake, August 2

# ***Moon*** - Phases

*July 2 - First Quarter (Virgo)*



*July 10 - Full Moon (Sagittarius)*



*July 18 - Last Quarter (Aries)*



*July 24 - New Moon*

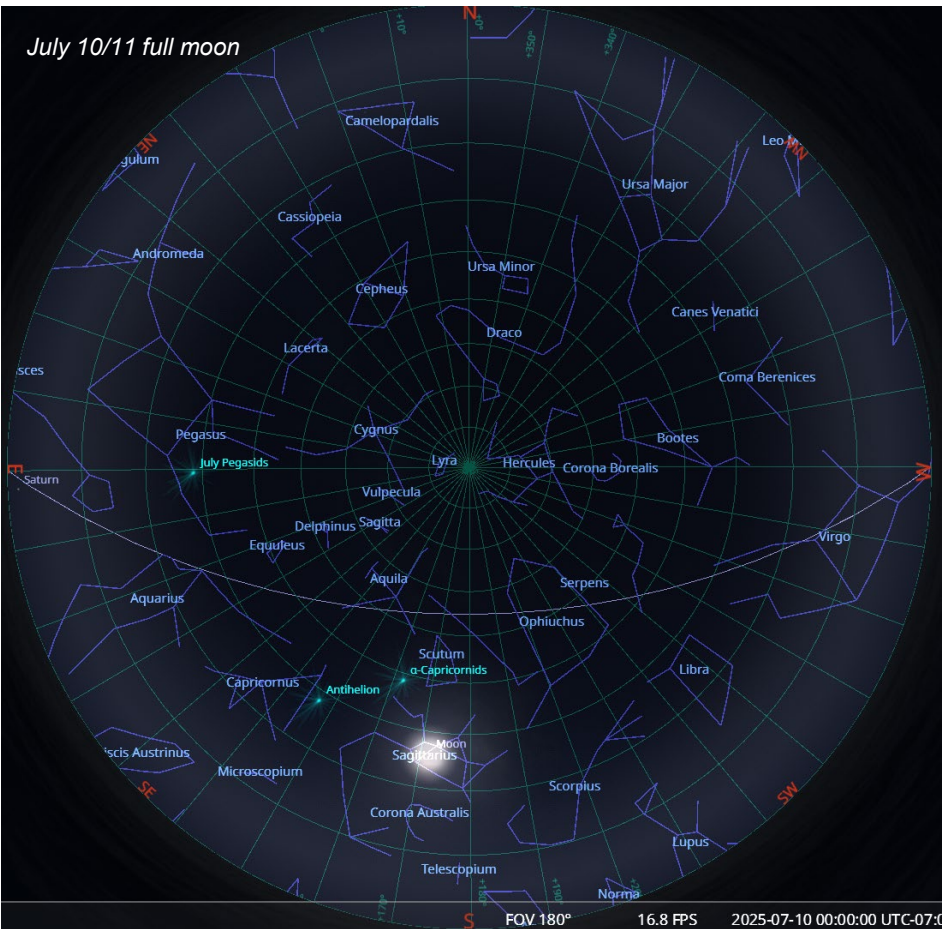
*Apogee (251K miles) - 4th*

*Perigee (229K miles) - 20th*

# Moon - Major Lunar Standstill

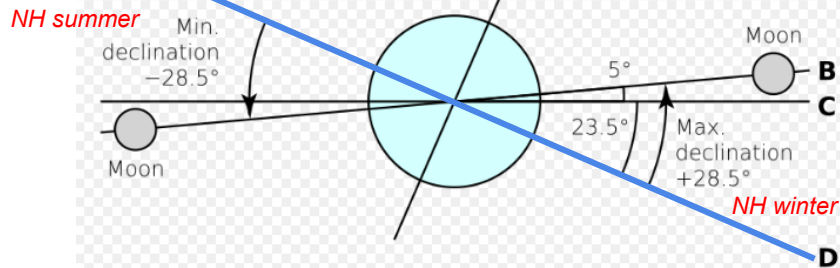
18.6 year cycle

July 10/11 full moon



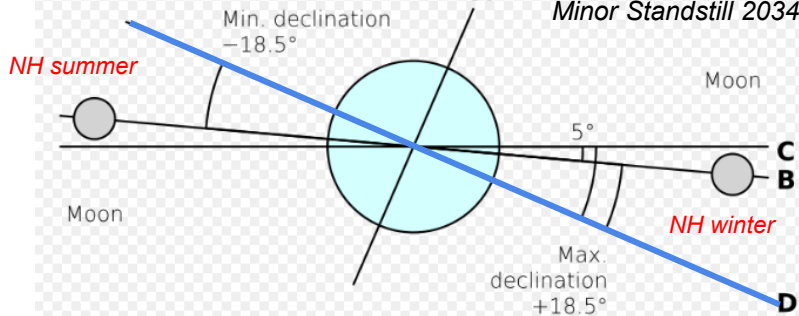
## 1. At major lunar standstill

Major Standstill 2025



## 2. At minor lunar standstill

Minor Standstill 2034



A — Earth's rotational axis

B — Plane of the Moon's orbit around Earth the (edge-on)

The Moon is shown at two diametrically opposite positions

C — Plane of the Earth's orbit around the Sun (edge-on)

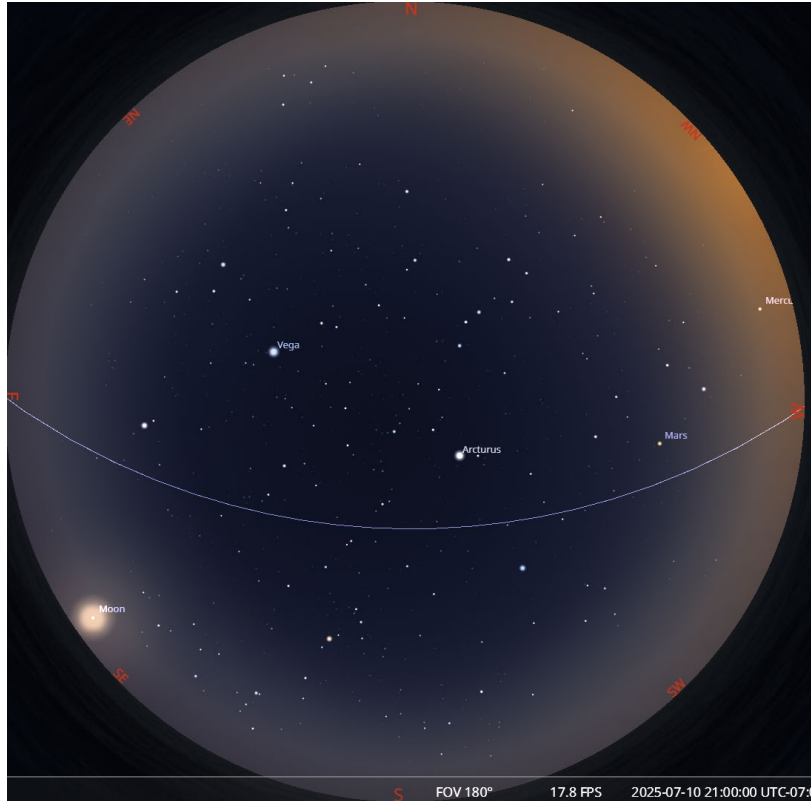
D — Plane of the Earth's equator (edge-on)

Earth-Moon distance not to scale

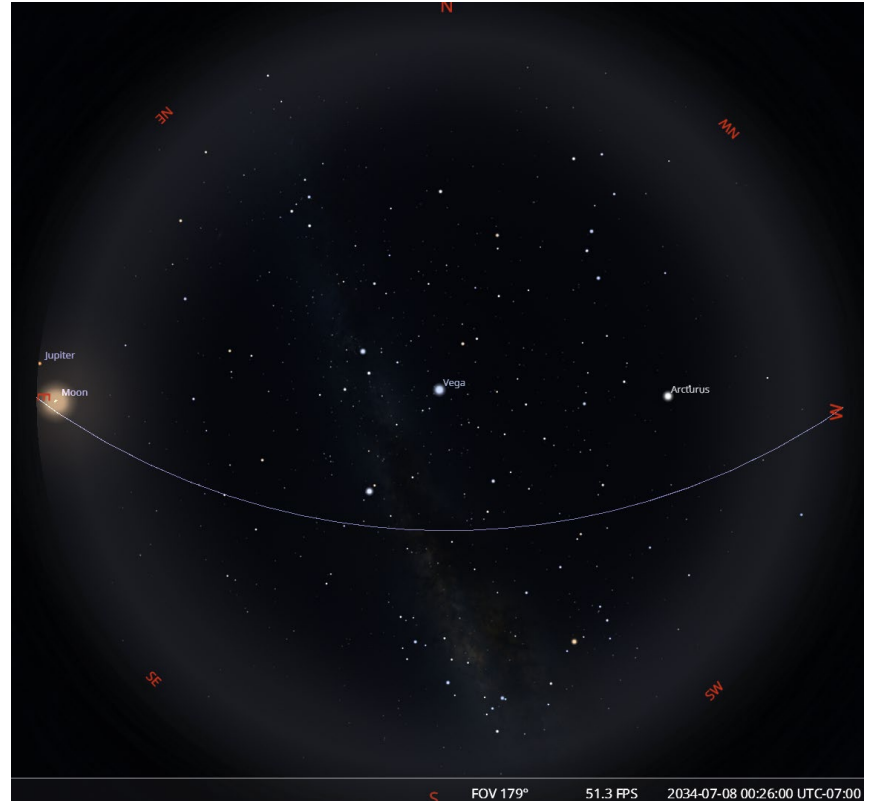
Credit: Wikipedia

# ***Moon*** - Major Lunar Standstill

*Major Standstill July 2025 (full moon)*



*Minor Standstill July 2034 (full moon)*





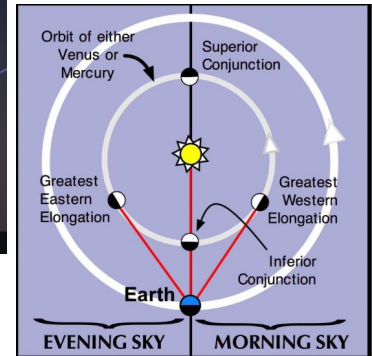
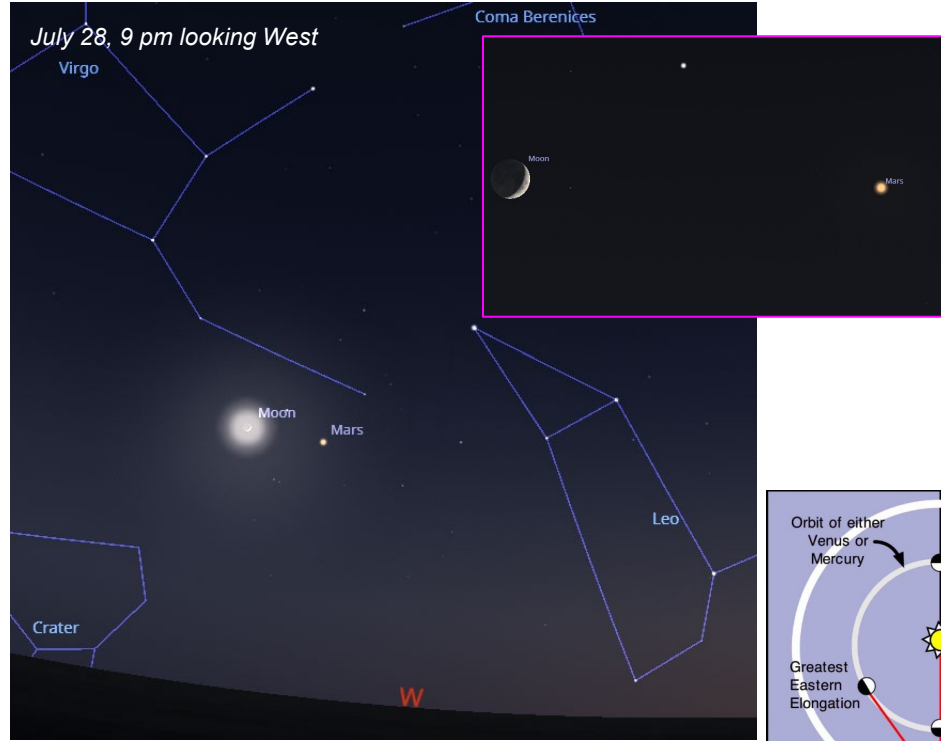
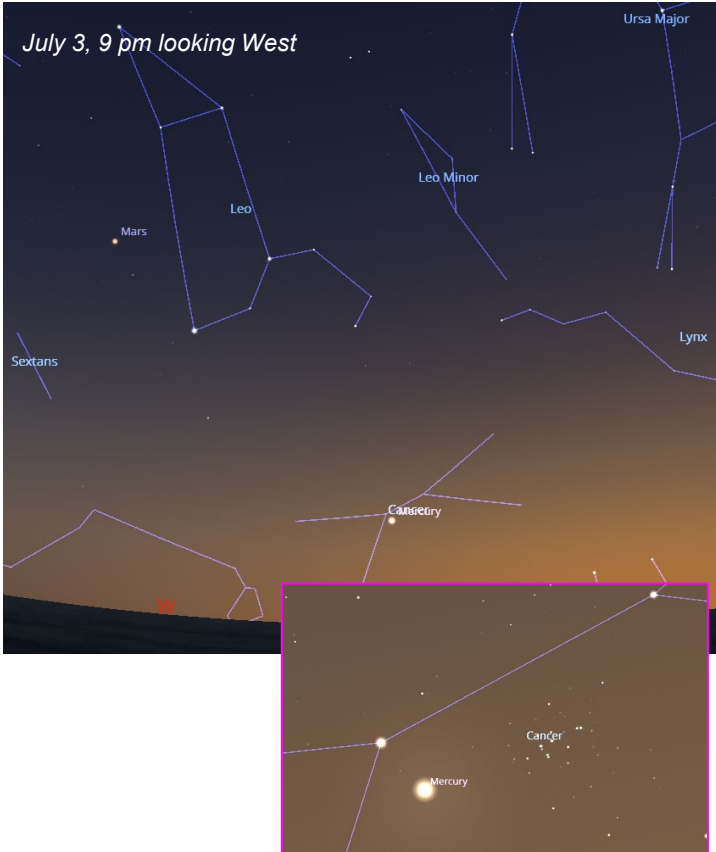
# July 2025 Astronomy Report



- **Moon:**
  - Phases
  - Major Lunar Standstill (*what the?!*)
- **Planets:**
  - Evening: Mercury and Mars
  - Morning: Venus, Saturn, Neptune, Uranus and Jupiter (end of month)
- **Comets/Asteroids/Meteor Showers:**
  - Southern Delta Aquariids
  - Comet chasing website: “another month of few comets, requires at least 12.5” telescope at end of month”
  - Vesta asteroid
- **Dark Sky Star Party:**
  - July 26
- **Public Viewing:**
  - Brite Lake, July 19
  - Cub Lake, August 2

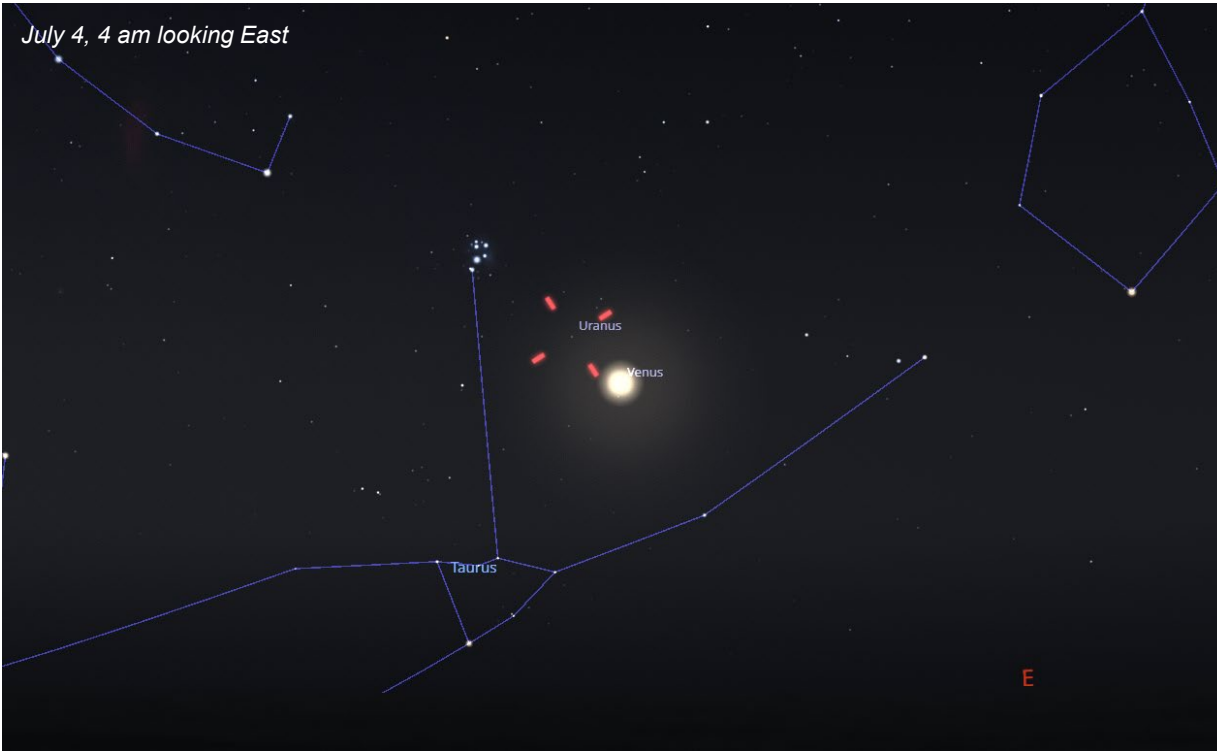
# Evening Planets: Mars/Mercury - (Leo, Cancer)

Mercury reaches greatest eastern elongation from the Sun on the 4th. Its visibility diminishes during July and reaches inferior conjunction at the end of the month. Mars travels from Leo to Virgo and becomes lower in the sky during July.



# Morning Planets: Venus/Uranus - (Taurus)

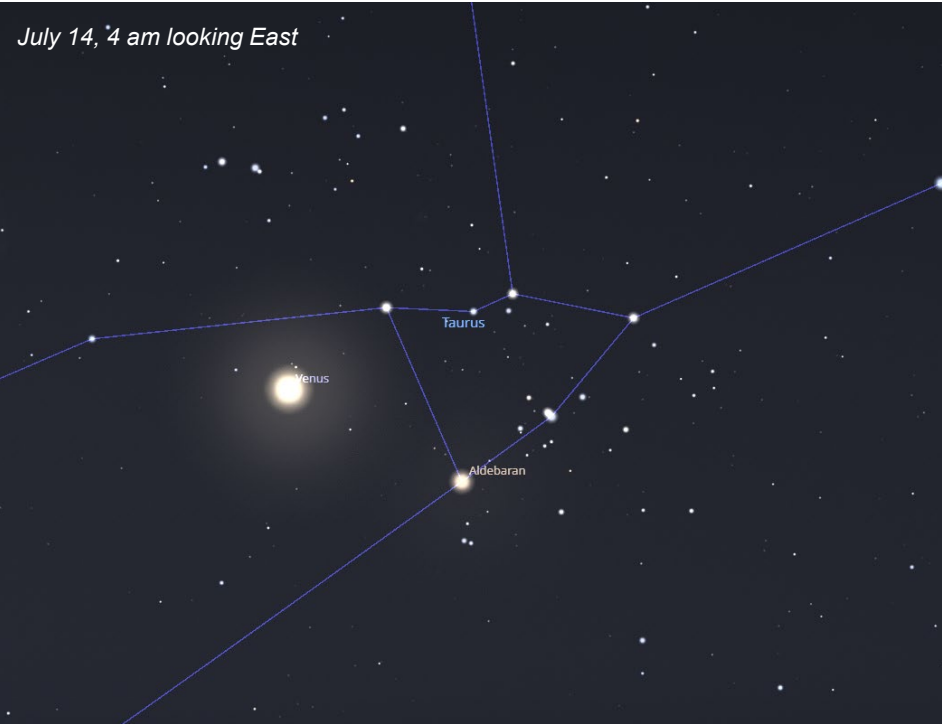
*Venus and Uranus are located in the same region of Taurus in early July. Uranus shines at magnitude 5.8, making it an easy binocular object. A telescope will show the ice giant's pale bluish-green, 3.5"-wide disk.*



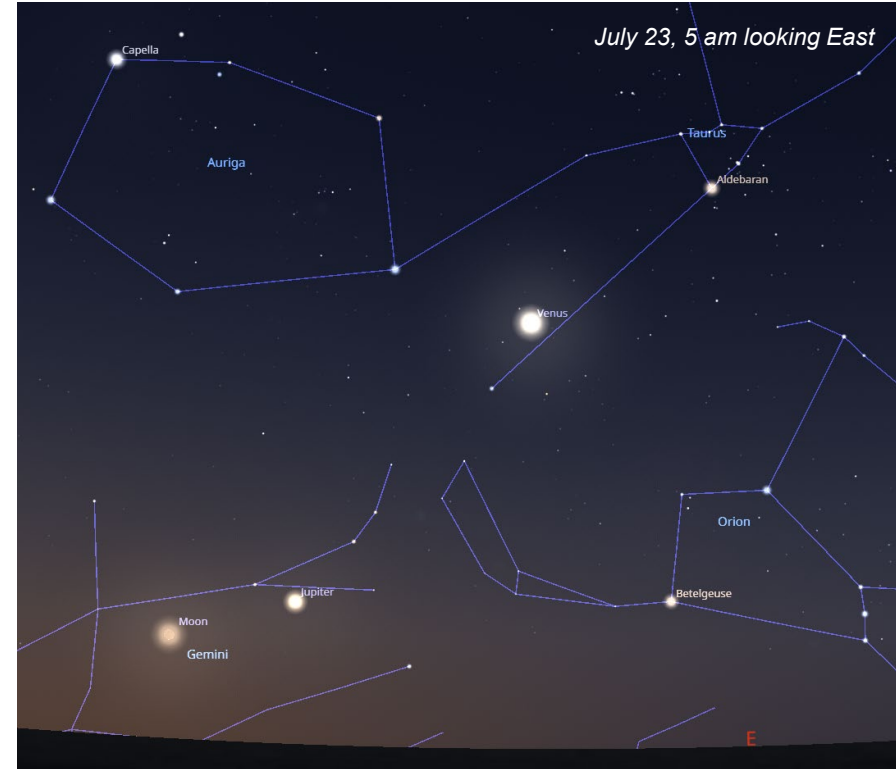
# ***Morning Planets: Venus/Jupiter - (Taurus, Gemini)***

*Venus moves east during July and spends the last three days in northwestern Orion as it approaches Jupiter, which reappears in late July within Gemini.*

*July 14, 4 am looking East*



*July 23, 5 am looking East*



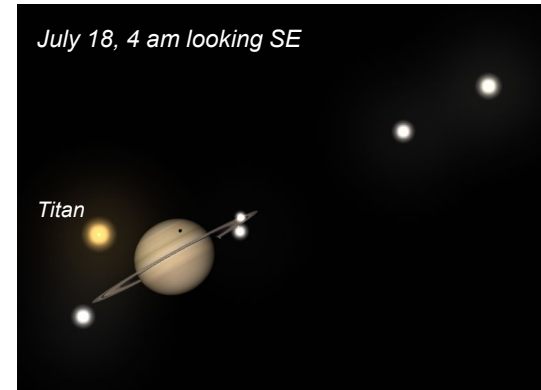


# Morning Planets: Saturn/Neptune - (Pisces)

Saturn & Neptune remain close together throughout July. They rise together around midnight at the beginning of July and by 10:30 pm at the end of the month.

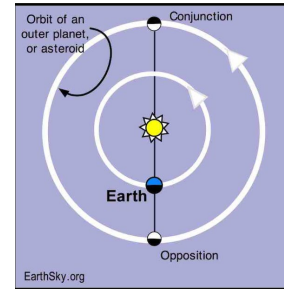


*Titan's shadow crosses  
Saturn twice this month.*



# Morning “Planet”: Pluto - (Capricornus)

*Pluto reaches opposition on July 25th, 3.2 billion miles from Earth. July is the best opportunity to see it (but still requires a large telescope and dark observing conditions).*





# July 2025 Astronomy Report



- **Moon:**
  - Phases
  - Major Lunar Standstill (*what the?!*)
- **Planets:**
  - Evening: Mercury and Mars
  - Morning: Venus, Saturn, Neptune, Uranus and Jupiter (end of month)
- **Comets/Asteroids/Meteor Showers:**
  - Southern Delta Aquariids
  - Comet chasing website: "another month of few comets, requires at least 12.5" telescope at end of month"
  - Vesta asteroid
- **Dark Sky Star Party:**
  - July 26
- **Public Viewing:**
  - Brite Lake, July 19
  - Cub Lake, August 2

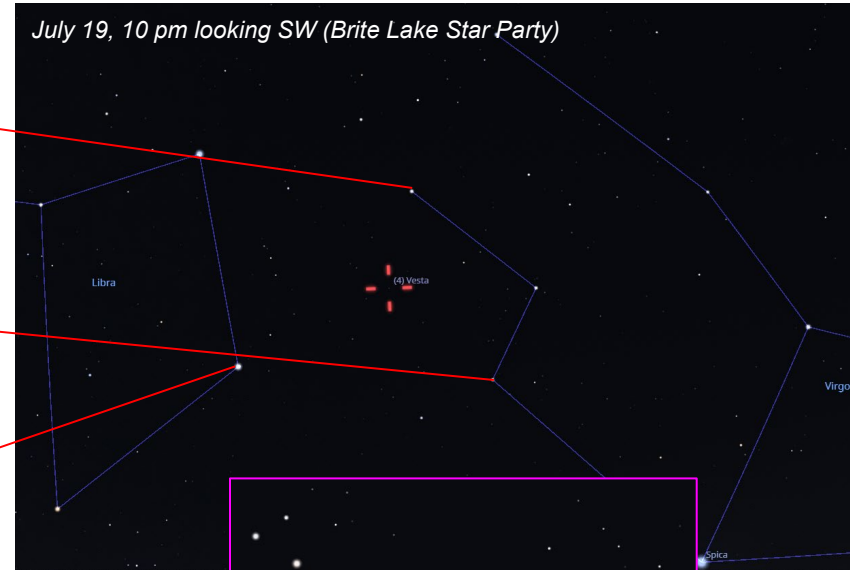
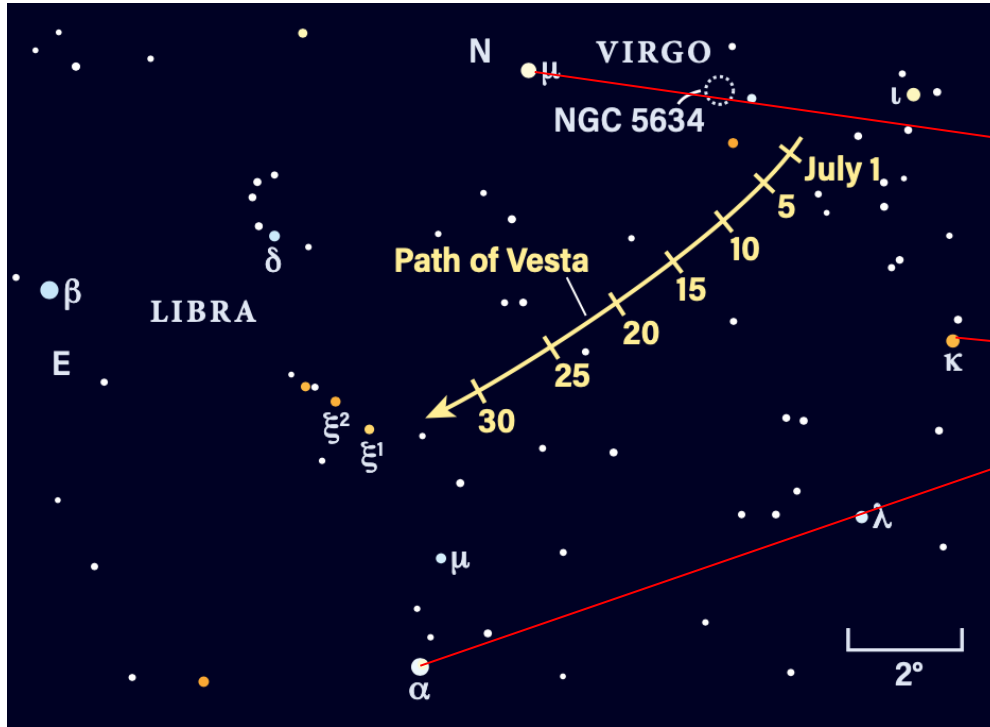
# Meteor Shower - Southern Delta Aquariid - (Aquarius)

- Active July 12 - August 23; peak date July 31 (25 meteors/hour, moon below horizon)
- Joined by the start of the Perseid meteor shower on July 17, emanating from the NE at high azimuth
  - try to identify members of both showers on a clear morning



# Asteroid - Vesta - (Virgo/Libra )

*Visible with binoculars*



*"On the 19th, pretends to be the brighter component of a wide, unequal double star"*



# July 2025 Astronomy Report



- **Moon:**
  - Phases
  - Major Lunar Standstill (*what the?!*)
- **Planets:**
  - Evening: Mercury and Mars
  - Morning: Venus, Saturn, Neptune, Uranus and Jupiter (end of month)
- **Comets/Asteroids/Meteor Showers:**
  - Southern Delta Aquariids
  - Comet chasing website: "another month of few comets, requires at least 12.5" telescope at end of month"
  - Vesta asteroid
- **Dark Sky Star Party:**
  - July 26
- **Public Viewing:**
  - Brite Lake, July 19
  - Cub Lake, August 2





# July 2025 Astronomy Report



- **Moon:**
  - Phases
  - Major Lunar Standstill (*what the?!*)
- **Planets:**
  - Evening: Mercury and Mars
  - Morning: Venus, Saturn, Neptune, Uranus and Jupiter (end of month)
- **Comets/Asteroids/Meteor Showers:**
  - Southern Delta Aquariids
  - Comet chasing website: "another month of few comets, requires at least 12.5" telescope at end of month"
  - Vesta asteroid
- **Dark Sky Star Party:**
  - July 26
- **Public Viewing:**
  - Brite Lake, July 19
  - Cub Lake, August 2



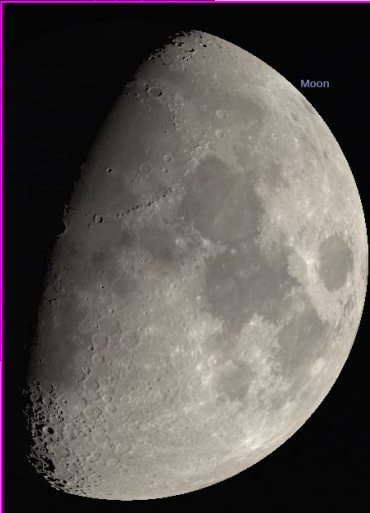
# Public Viewing

Brite Lake, July 19

Moon doesn't rise until 2 am



Cub Lake, August 2



# ***July 2025 Viewing Chronology***

- 2 - 1st Qtr moon (*10 pm*)
- 3 - Mercury/Mars (*9 pm*)
- 4 - Venus/Uranus (*4 am*)
- 10 - Full Moon (*11 pm*)
- 15 - Venus/Jupiter (*4 am*)
- 16 - Saturn/Neptune/Moon (*4 am*)
- 18 - Saturn/Titan (*4 am*); Last Qtr Moon (*5 am*)
- 19 - Brite Lake Star Party - Vesta
- 23 - Venus/Jupiter/Moon (*5 am*)
- 24 - New Moon
- 25 - Pluto (*1 am*)
- 26 - Dark Sky Star Party
- 28 - Mars/Moon (*9 pm*)
- 31 - Southern Delta Aquariids (*4 am*)
- Aug 2 - Cub Lake Public Viewing

# Backup Slide

