



July 2023 Astronomy Report



- **Moon:**
 - Phases

- **Planets:**
 - Evening planets - Venus, Mars, Mercury
 - Visible right after sunset, set against Leo
 - Mars fading, on its way to the far side of the solar system from Earth
 - Morning planets - Saturn, Jupiter, Neptune, Uranus
 - Saturn rising shortly before midnight beginning of July, before 10 pm by end of July
 - Jupiter rises ~ 2 hours after Saturn, shortly after midnight by end of July

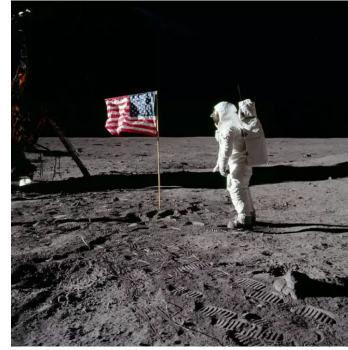
- **Meteor Shower:**
 - Southern Delta Aquariid

- **Dark Sky Star Party:**
 - Amberwood Court, July 15

- **Public Viewing:**
 - Cub Lake, July 22

Moon - Phases

Happy Freedom Month!



July 3 - Full Moon (Sagittarius)



July 9 - Last Quarter (Pisces)



July 17 - New Moon

July 25 - First Quarter (Virgo)



Perigee (224K miles) - 4th
Apogee (252K miles) - 20th



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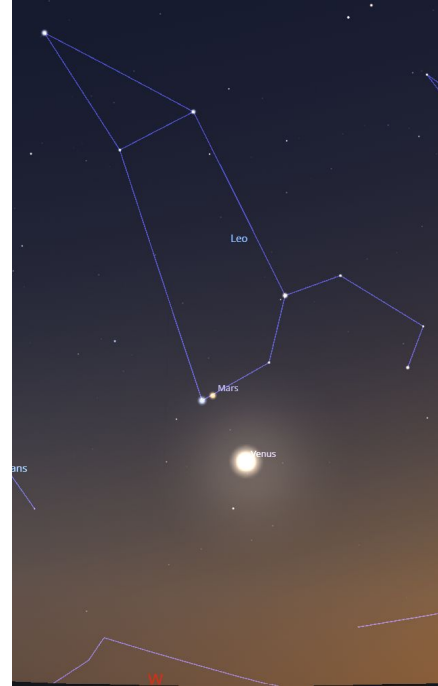
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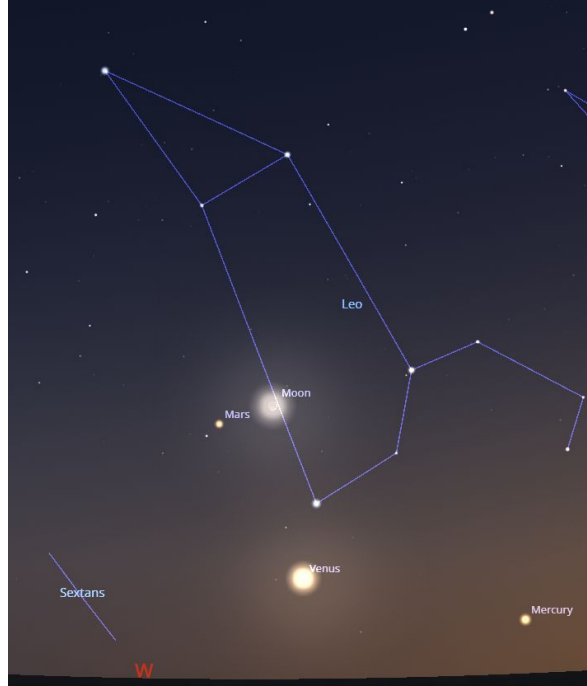
Early Evening: Venus, Mars, Mercury - (Leo)

*Venus reaches greatest illumination on July 7; sets shortly after sunset by end of July
Mars fading as it continues its slow journey on the far side of the solar system from Earth*

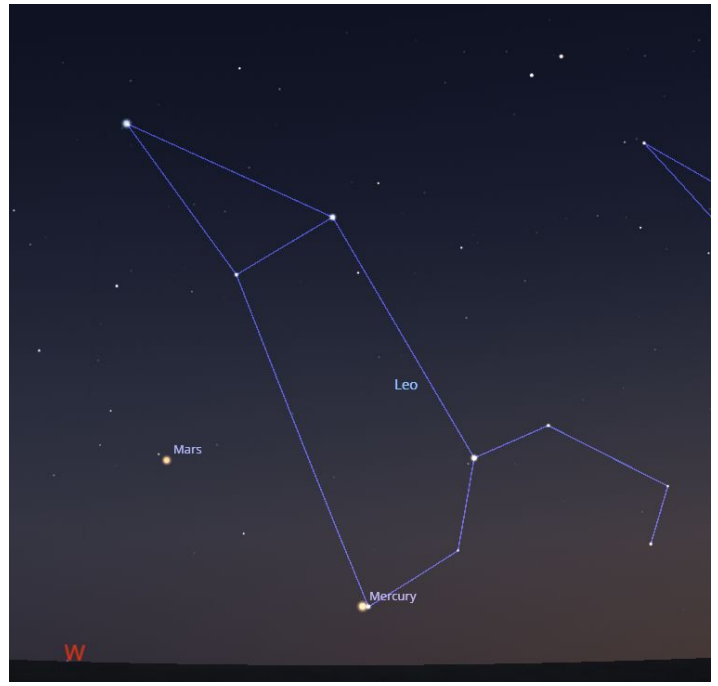
July 9, 9 pm



July 20, 9 pm



July 28, 9 pm



Late Evening / Early Morning: Saturn (Aquarius)

Saturn rises shortly before midnight in early July and couple of hours earlier by end of July

July 6, 11:30 pm



July 7



July 8



July 9



all times midnight

July 10



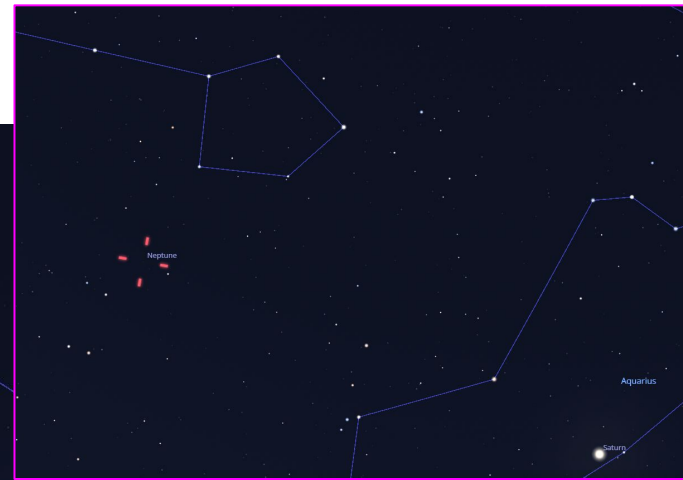
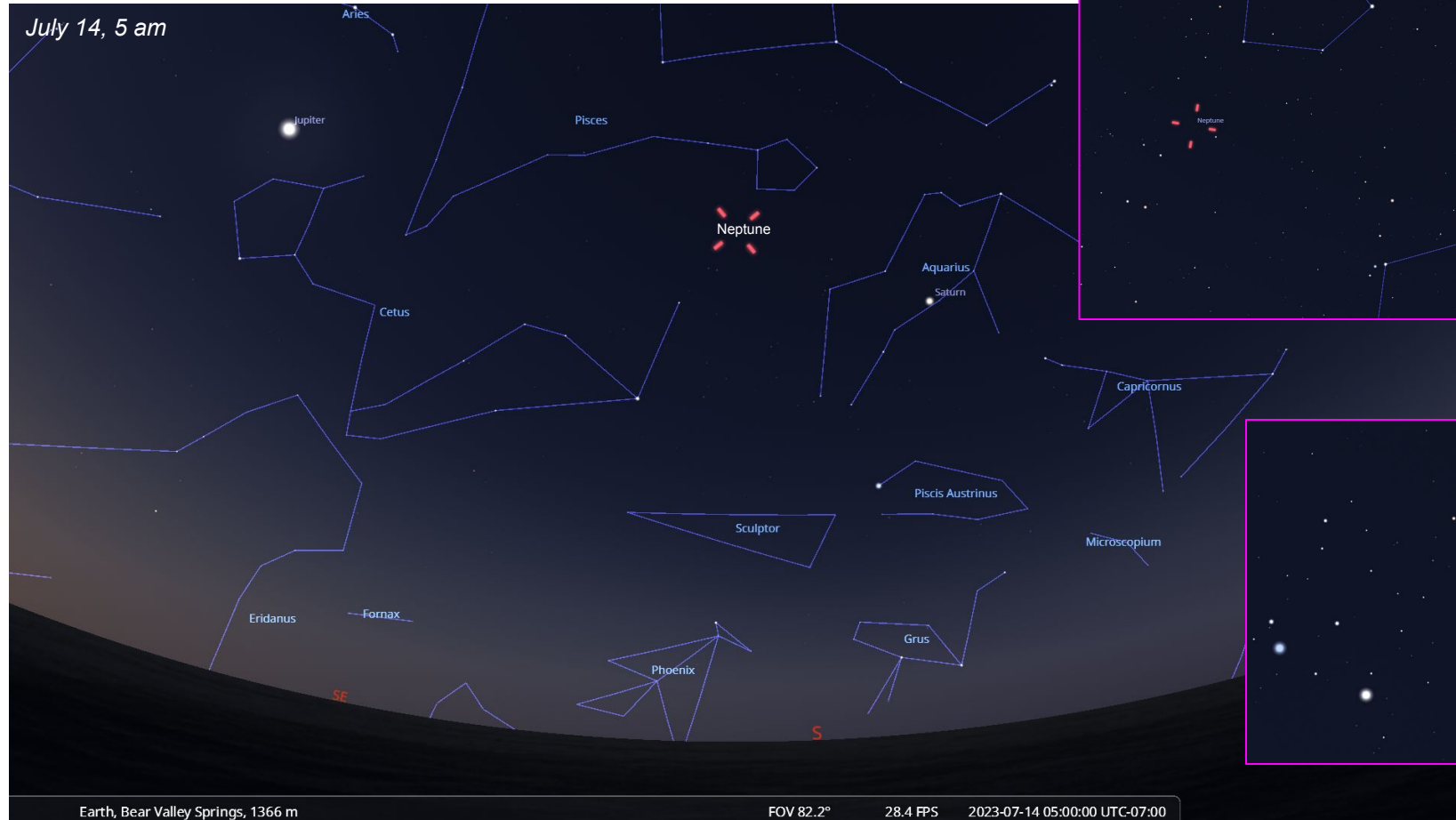
Morning: Jupiter, Uranus, Moon

Jupiter rises shortly before 2 am in early July and shortly after midnight by end of July



~2 degrees below the Moon

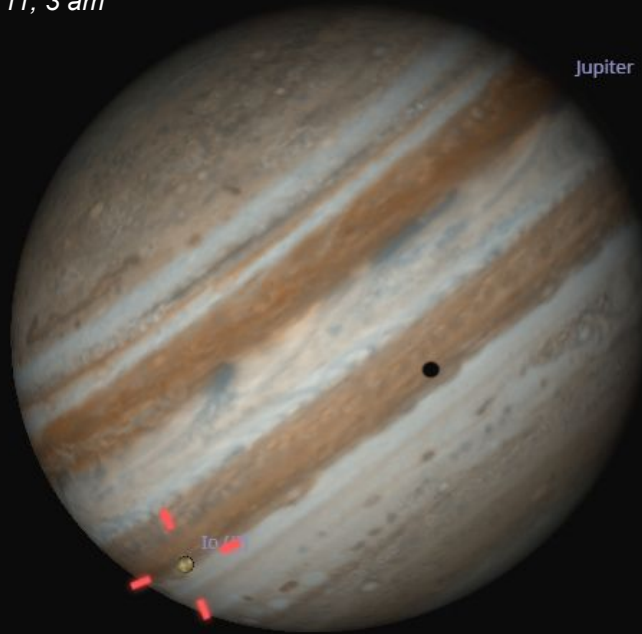
Morning: Jupiter, Neptune, Saturn



Morning: Jupiter transits

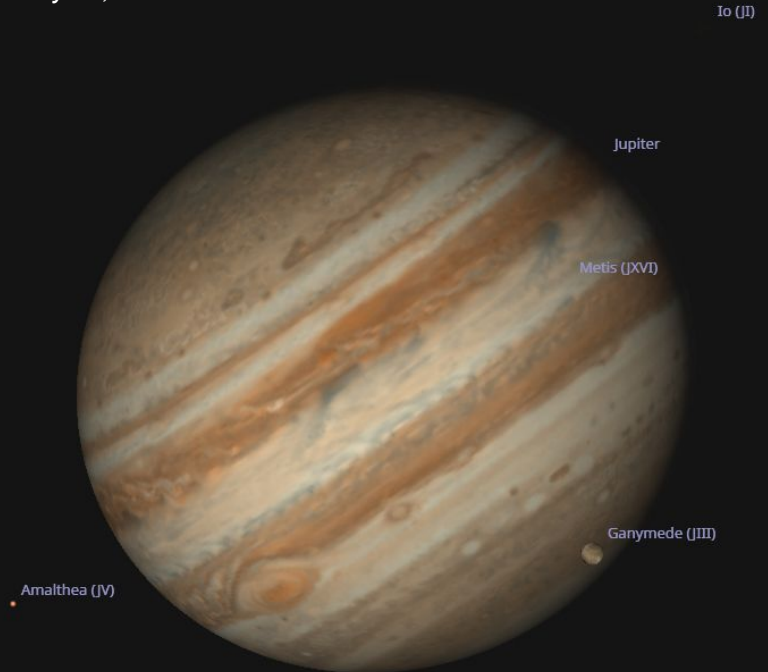
Io

July 11, 3 am



Ganymede

July 19, 1:30 am





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Meteor Shower - Southern Delta Aquariid

- derived from 96P/Machholz Comet, discovered in 1986 at Loma Prieta, CA
- active July 12 - August 19; peak date July 30 (~dozen meteors/hour, best to watch just before dawn after Moon sets)
- may be accompanied by early Perseids





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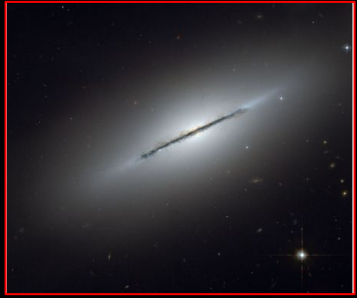
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July Dark Sky Party Amberwood Court, July 15

Ps 19:2

1 - Spindle Galaxy (M102) 10 pm



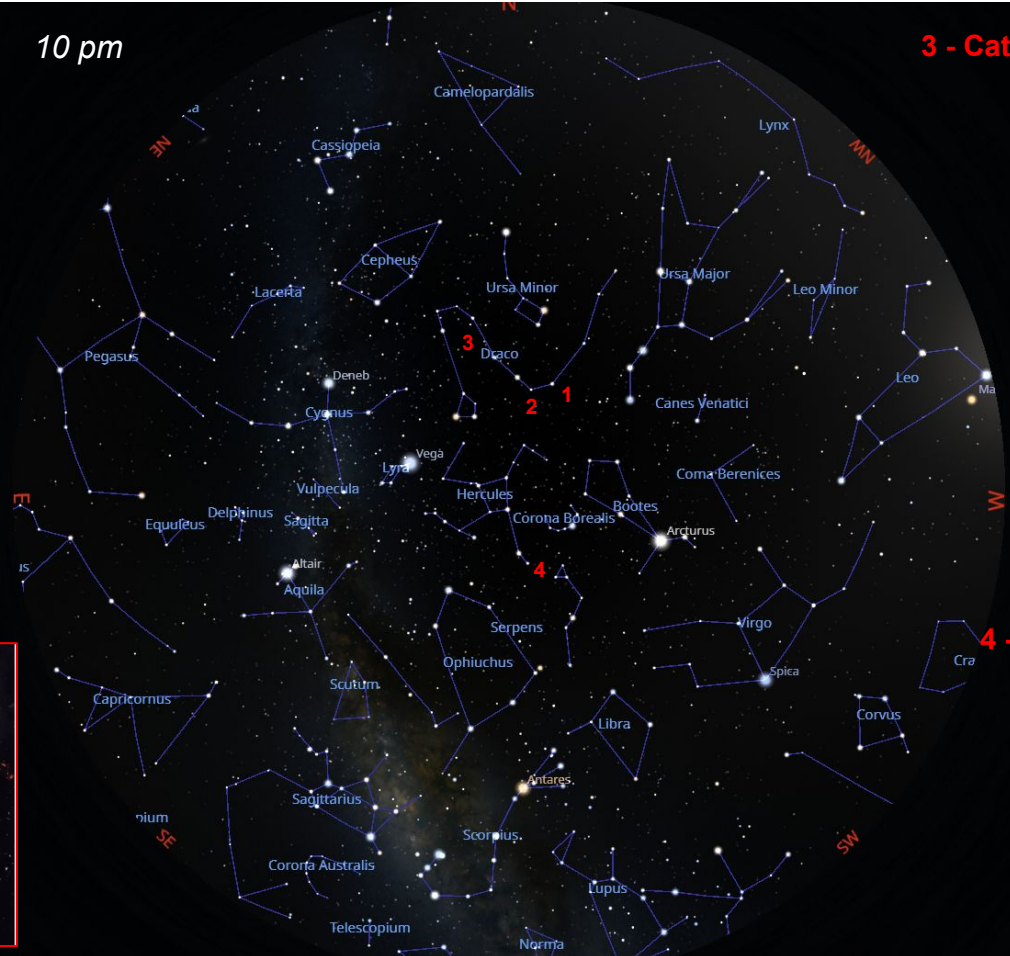
3 - Cat's Eye Nebula (NGC 6543)



2 - Tadpole Galaxy



4 - Hercules Galaxy Cluster





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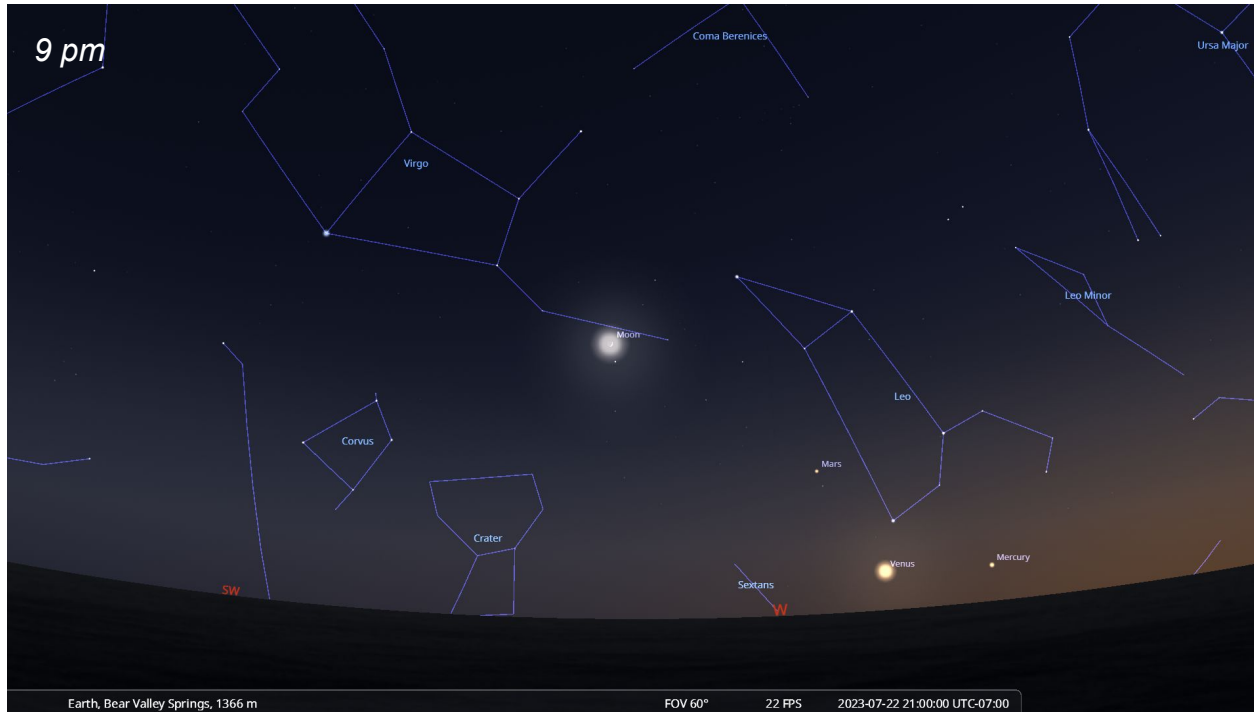
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July Public Viewing

Cub Lake, July 22



Venus, Mercury set by 9:15 pm
Mars sets by 10pm
Moon sets by 11pm

