



June 2023 Astronomy Report



- **Moon:**
 - Phases
 - Moon Quiz (with prizes!)

- **Planets:**
 - Evening planets - Venus, Mars
 - Venus continues its best display of the year
 - Mars fading, met with Beehive Cluster
 - Morning planets - Saturn, Jupiter, Neptune, Uranus, Mercury
 - Outer planets rising earlier, Saturn transitioning to an evening planet by end of month
 - Mercury disappears by end of month

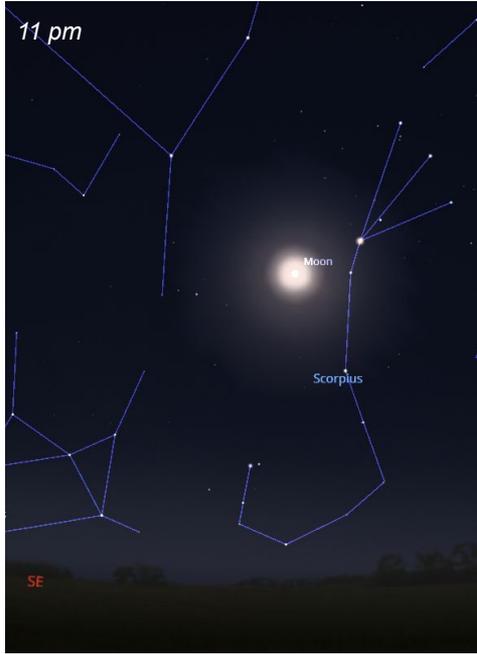
- **Summer Solstice:**
 - June 21, 7:58 PDT

- **Hot off the Press:**
 - Fomalhaut rings
 - Supernova in Pinwheel Galaxy

- **Constellations:**
 - Dark Sky Star Party, June 17

Moon - Phases

June 3 - Full Moon (Scorpius)



June 10 - Last Quarter (Aquarius)



June 18 - New Moon

June 26 - First Quarter (Virgo)



Significant negative declination, tracing the lowest arc the Full Moon will take this year

*Perigee (227K miles) - 6th
Apogee (252K miles) - 22th*

Moon Quiz

Question 1: how many humans have visited the Moon?

Moon Quiz

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Answer: 24

Moon Quiz

Question 2: what year did the last Apollo trip take place?

Moon Quiz

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Answer: 1972



Moon Quiz

Question 3: what is the temperature range when in full Sun and in darkness?

Moon Quiz

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Answer: 540F (260F in full Sun, -280F in darkness)

Moon Quiz

Question 4: how fast is the Moon drifting away from Earth?

Moon Quiz

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Answer: 3.8 cm/per year (~1.5")



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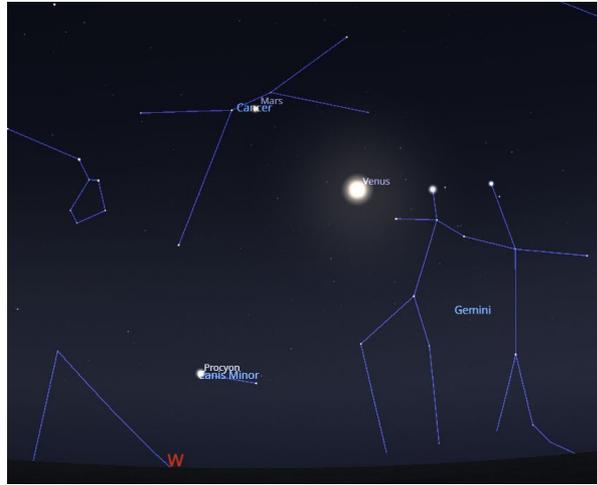


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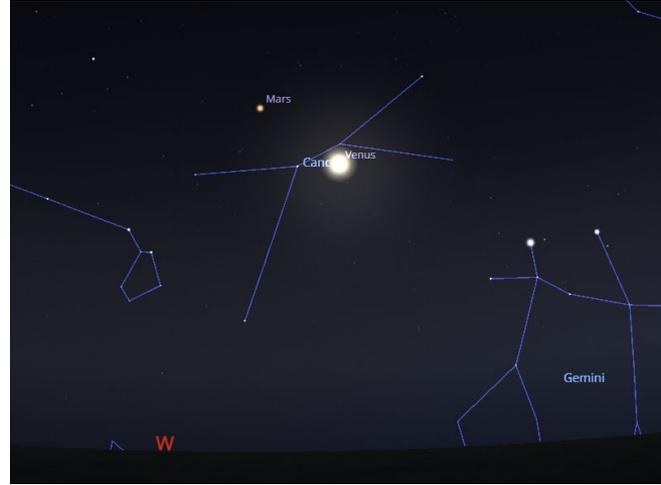
Evening: Mars & Venus - Beehive Cluster, crescent Moon

Venus highly visible all month - greatest elongation on June 4; sets at 11pm by June 20; chasing Mars during month (no conjunction)
Mars is fading during June, starts the month in Cancer, moves into Leo by the end (sets shortly after Venus)

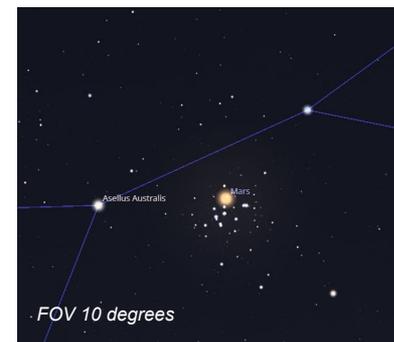
June 2, 9:30 pm



June 12, 9:30 pm



June 21, 9:30 pm

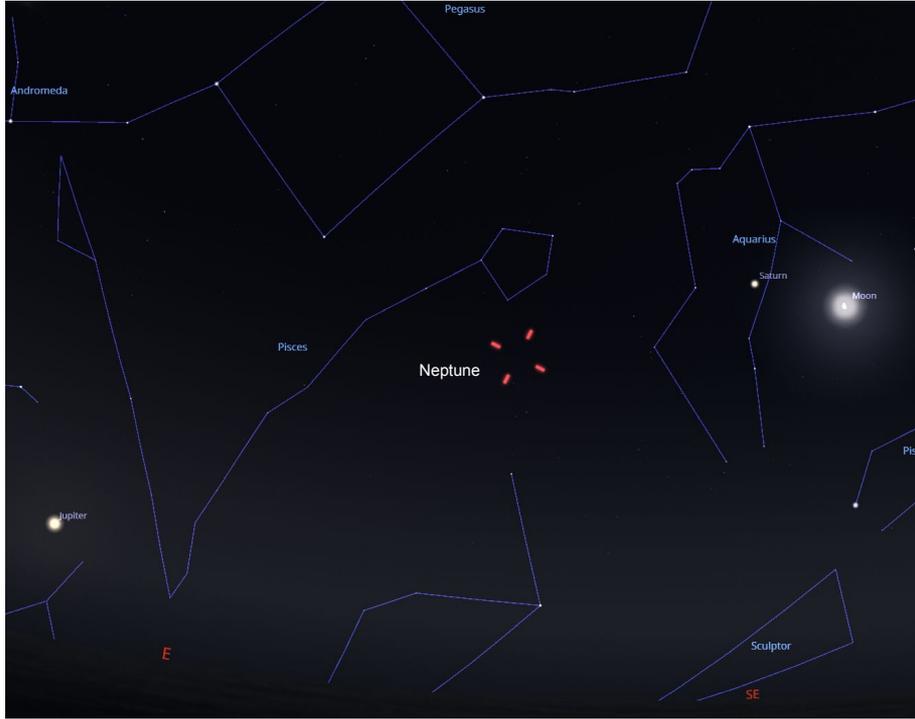


June 30, 10 pm

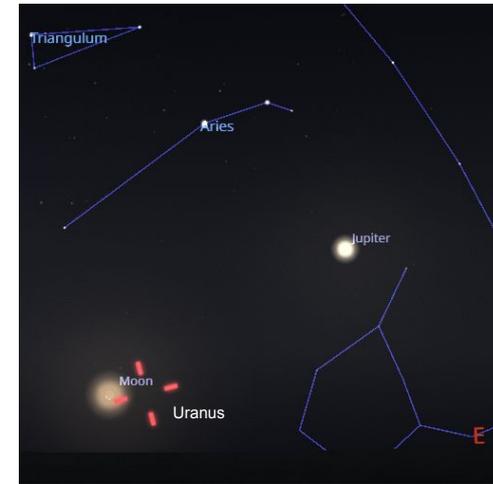


Morning: Outer planets, waning last qtr Moon; June 9 - 15

June 9, 4 am



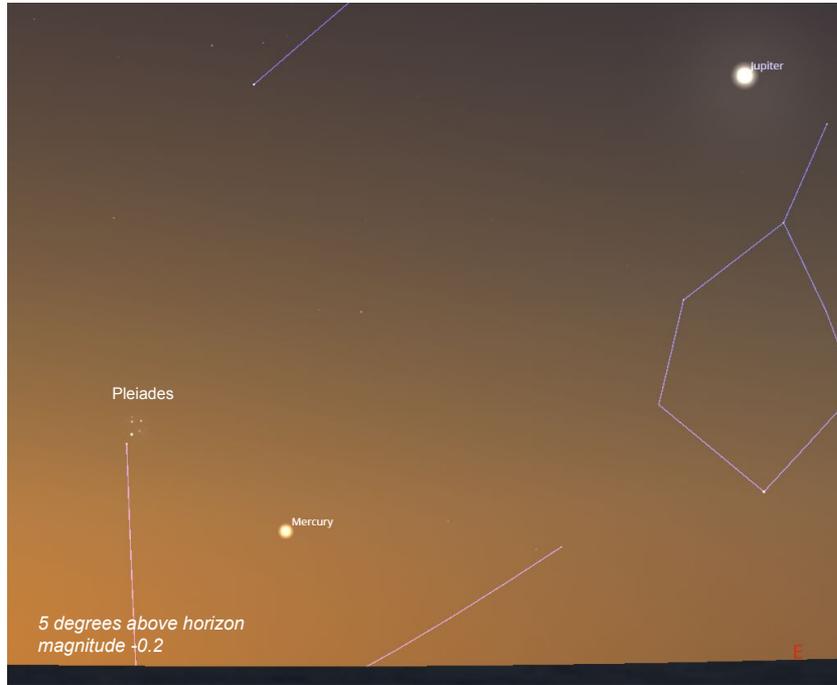
June 15, 4 am



Planets rise earlier through the month, by June 30 Jupiter rises before 3 am, and Saturn before midnight

Morning: Mercury, June 10 - 16

June 10, 5 am



June 16, 5 am



By end of month Mercury disappears from view as it approaches Sun.



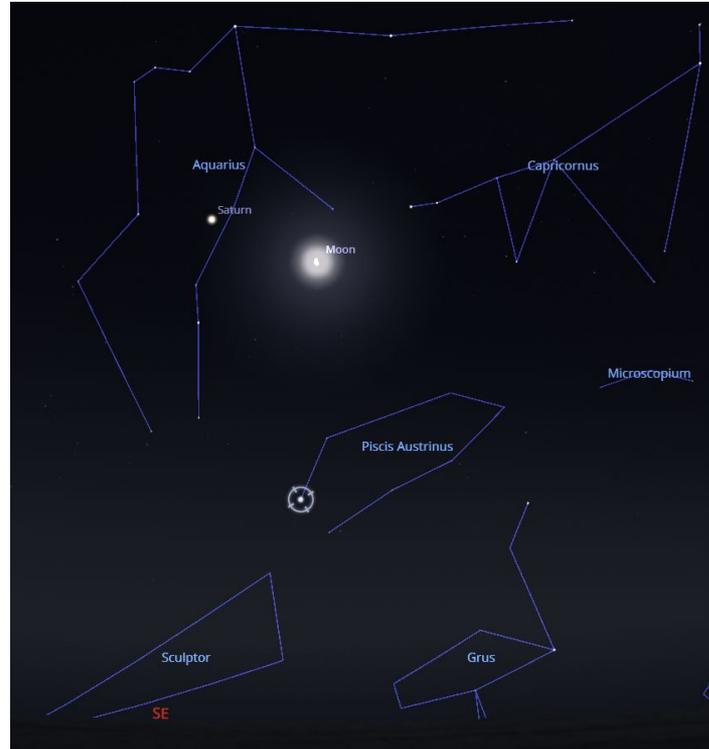
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Fomalhaut: new JWST finding

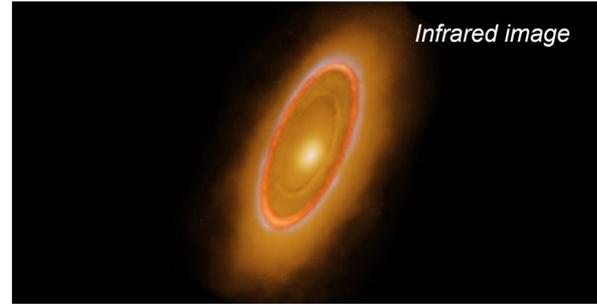
June 9, 4 am



25 light years distant
440 million years old, expected life span 1 billion years

Webb Telescope Finds a Star Cloaked in 3 Rings of Ruined Worlds

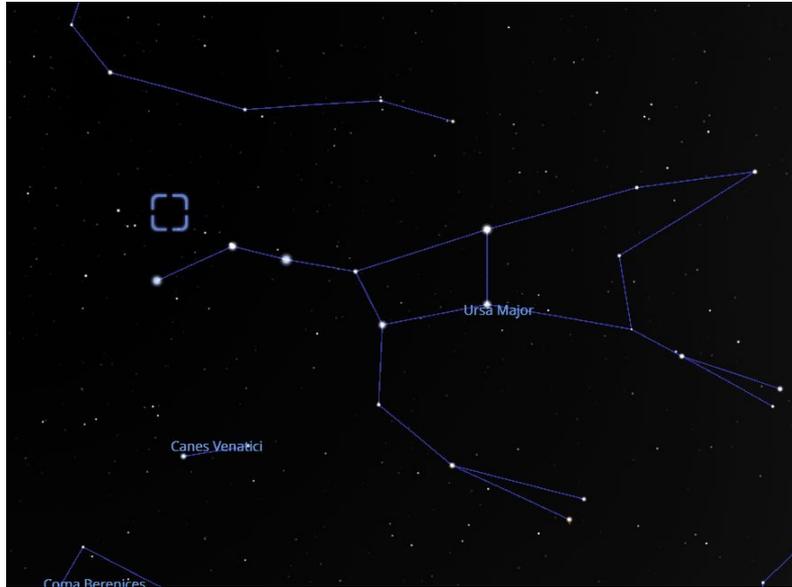
"Fomalhaut is a dynamic star wreathed in cosmic chaos".



- Inner ring analogous to asteroid belt between Mars & Jupiter
- Outer ring analogous to Kuiper belt beyond Neptune
- Mysterious intermediate ring (debris belt) unlike anything in our solar system
 - Our solar system tranquil by comparison
 - Large gas giants "cleared stuff out"
 - "If there are planets there, they're getting smacked around by asteroids all the time"

Pinwheel Galaxy: new supernova (SN 2023ixf)

Dark Sky Star Party, June 17



*21 MM light years distant
Visible with small telescopes
Supernova discovered in May 2023*

Before:



Long Island, New York-based astrophotographer Steven Bellavia produced this composite animation of the Pinwheel Galaxy using an image taken on April 21 and comparing it to another image taken on May 21, which clearly shows the supernova appearing. (Image credit: Steven Bellavia)

After:



Long Island, New York-based astrophotographer Steven Bellavia produced this composite animation of the Pinwheel Galaxy using an image taken on April 21 and comparing it to another image taken on May 21, which clearly shows the supernova appearing. (Image credit: Steven Bellavia)



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June constellations

Dark Sky Star Party - Amberwood Ct, June 17

Ps 19:2

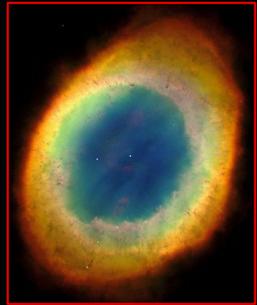
1 - Pinwheel Galaxy



3 - Blue Horsehead Nebula



2 - Ring Nebula



4 - M13

