



# January 2024 Astronomy Report



- **Moon:**
  - Phases
  - Disturbances in the Sea of Tranquility
- **Meteor Watch:**
  - Quadrantid Meteor Shower
- **Planets:**
  - Morning planets
    - Mercury, Venus & Mars congregate with a near conjunction between Mercury & Mars
    - Moon occults Antares within this congregation
  - Evening planets
    - Jupiter & Saturn dominant as usual
    - Uranus & Neptune binocular targets
- **Dark Sky Star Party:**
  - Location - TBD, January 13
- **Public Viewing:**
  - Cub Lake, November 18

# Moon - Phases

January 3 - Last Quarter (Virgo)



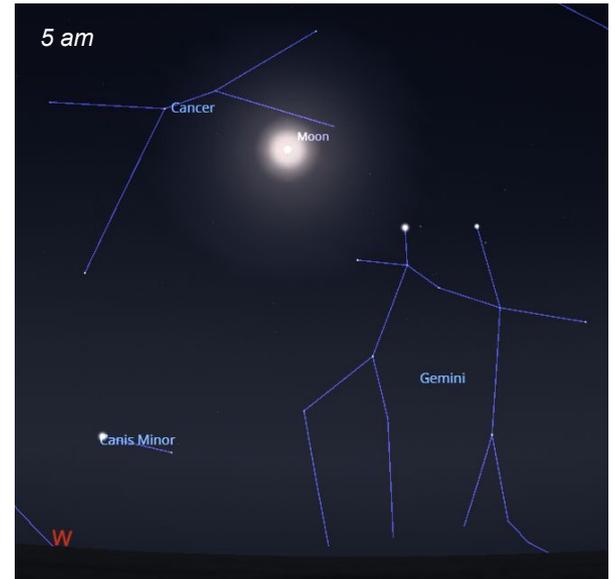
Apogee (252K miles) - 1st, 29th  
Perigee (225K miles) - 13th

January 11 - New Moon

January 17 - First Quarter (Pisces)



January 25 - Full Moon (Cancer)



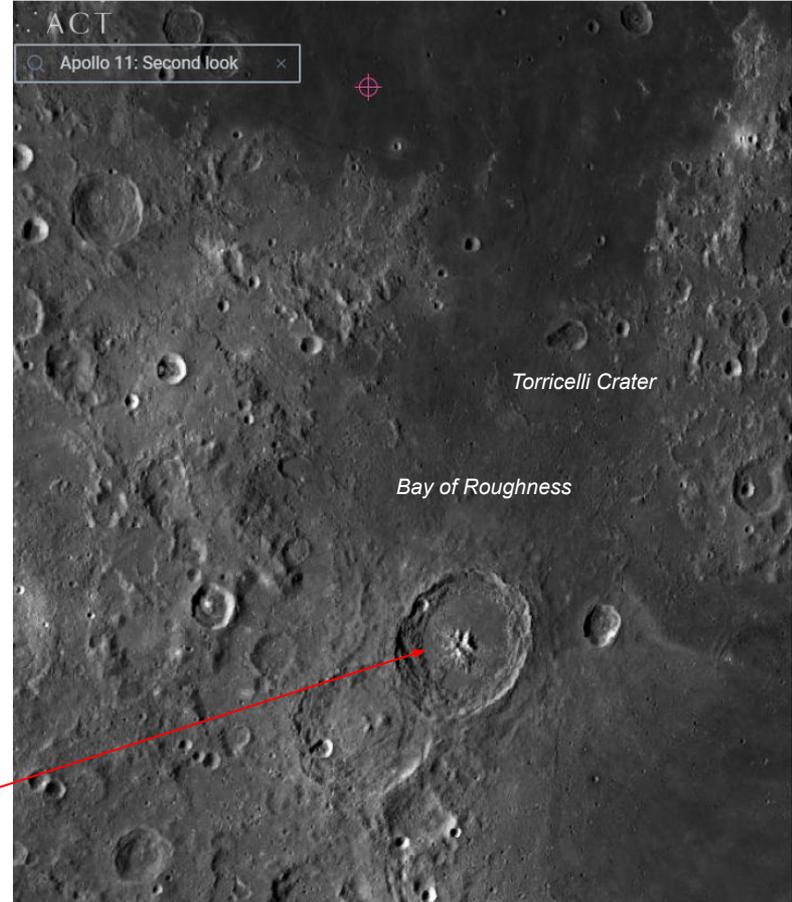
# ***Moon*** - Impacts disturb Tranquility

January 16, 8 pm



*Theophilus Crater*

*Lunar Reconnaissance Orbiter Camera image*



*Torricelli Crater*

*Bay of Roughness*

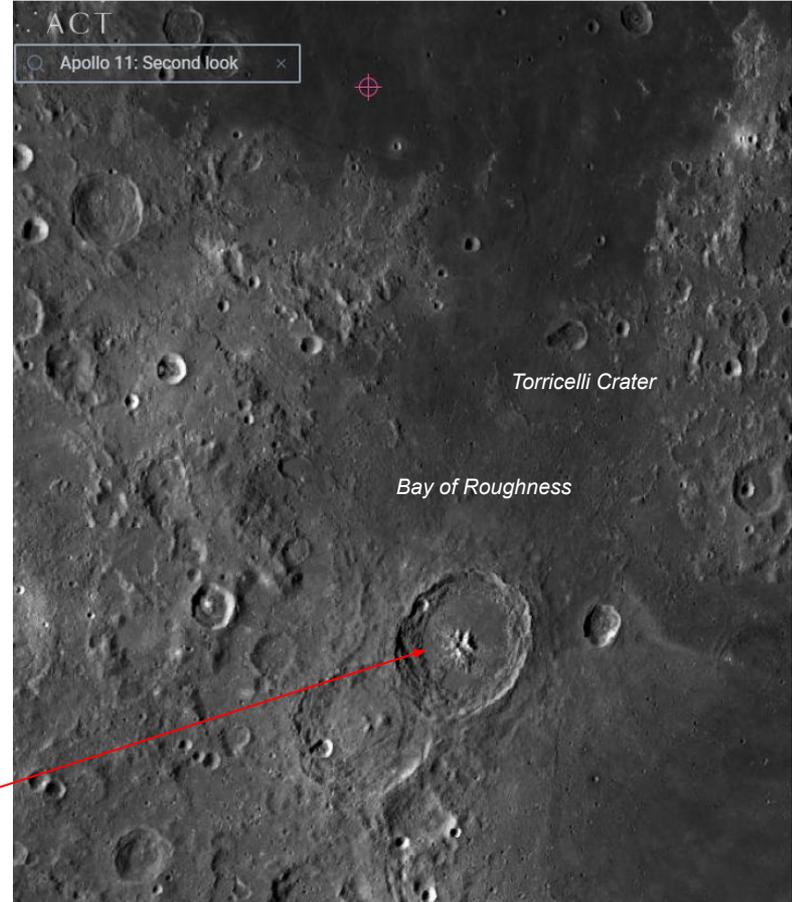
# ***Moon*** - Impacts disturb Tranquility

January 16, 8 pm



*Theophilus Crater*

*Lunar Reconnaissance Orbiter Camera image*



*Torriceili Crater*

*Bay of Roughness*

**Quiz:** *Who was Torricelli?*

# Meteor Watch - Quadrantid Meteor Shower

- active 12/28 - 1/12; peak date January 4 (25 - 30 meteors per hour)
- associated with asteroid 2003EH1 (extinct comet)



*crescent Moon shouldn't be much of an issue*



# January 2024 Astronomy Report



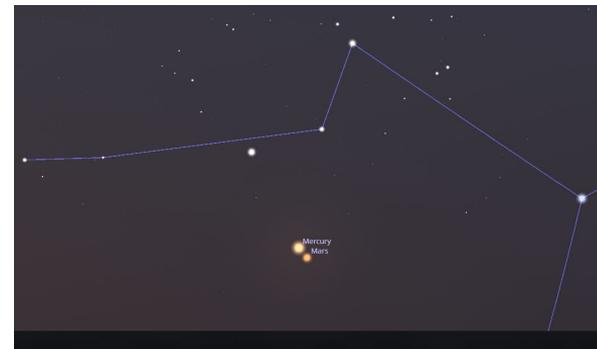
- **Moon:**
  - Phases
  - Disturbances in the Sea of Tranquility
- **Meteor Watch:**
  - Quadrantid Meteor Shower
- **Planets:**
  - Morning planets
    - Mercury, Venus & Mars congregate with a near conjunction between Mercury & Mars
    - Moon occults Antares within this congregation
  - Evening planets
    - Jupiter & Saturn dominant as usual
    - Uranus & Neptune binocular targets
- **Dark Sky Star Party:**
  - Location - TBD, January 13
- **Public Viewing:**
  - Cub Lake, November 18

# **Morning: Mercury/Venus/Mars - (Scorpius, Ophiuchus, Sagittarius )**

*Venus rises 3 hours before the Sun, placing it high in SE sky before twilight; approaching Sun throughout month*

*Moon occults Antares on the 8th (5:30 am - 6:30 am)*

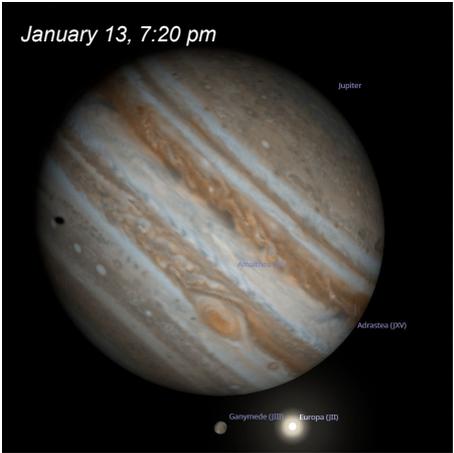
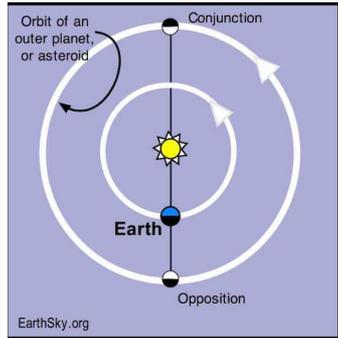
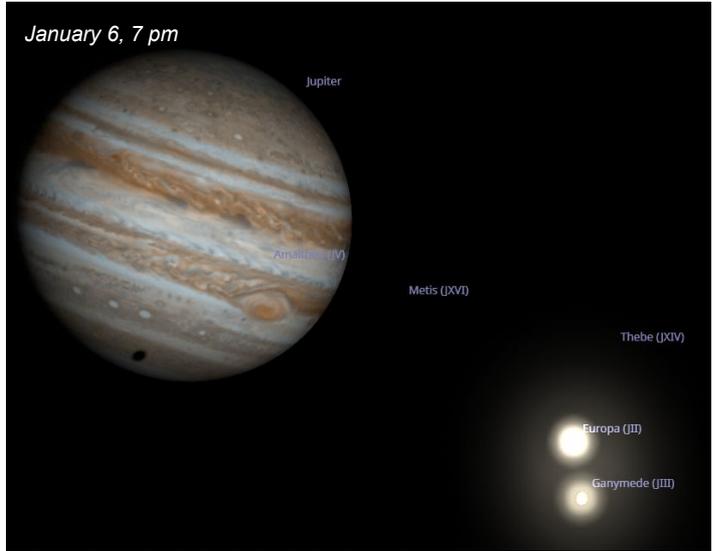
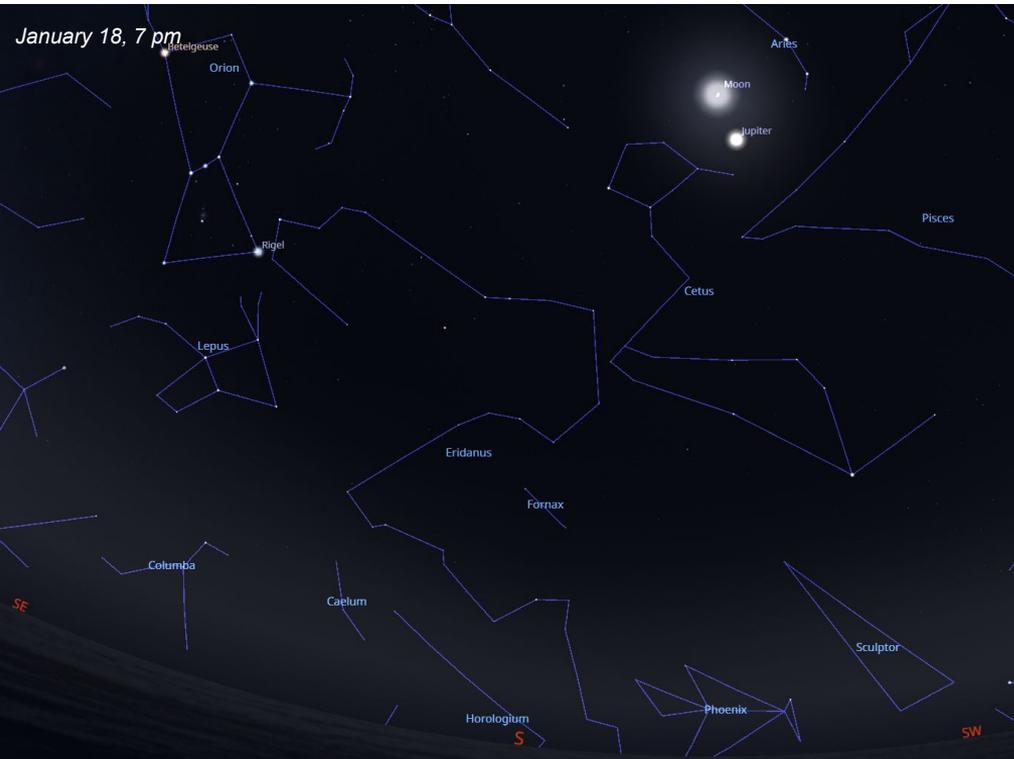
*Mercury & Mars reappear in morning sky this month; rare pairing on the 27th (telescope needed to view, very low on horizon)*



# Evening: Jupiter - (Cetus)

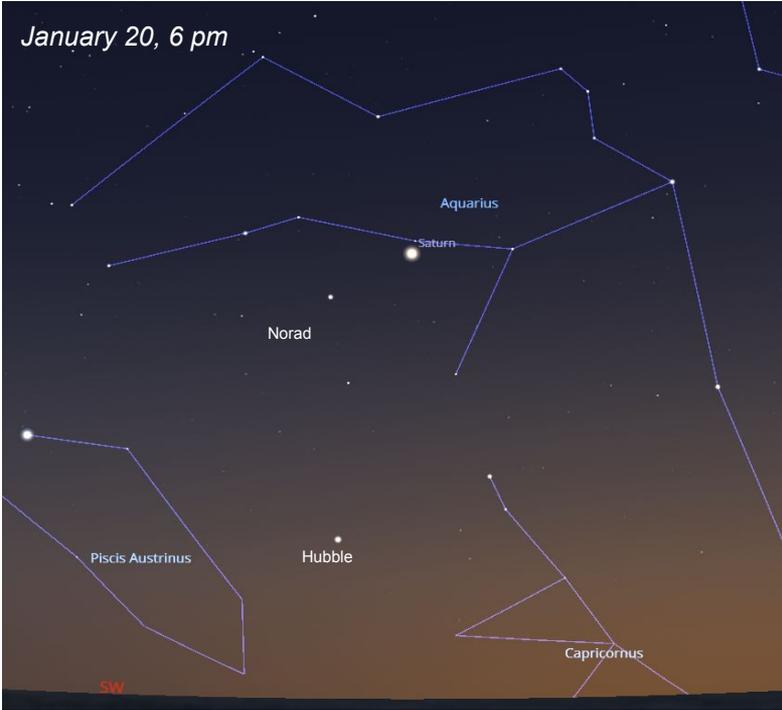
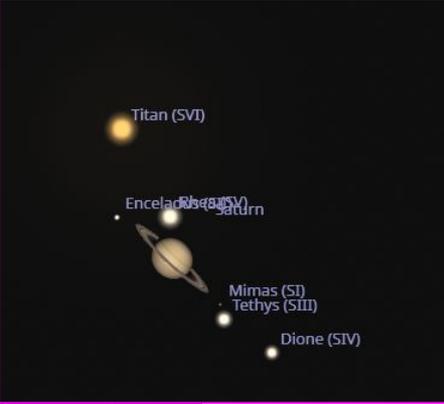
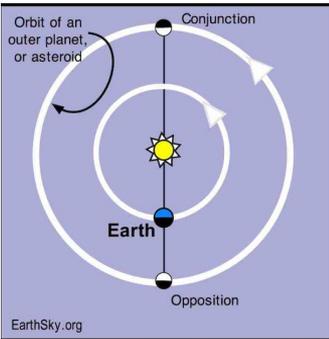
Jupiter high in SE sky at twilight; sets by midnight by end of January

Europa & Ganymede transit Jupiter together with their shadows several times this month



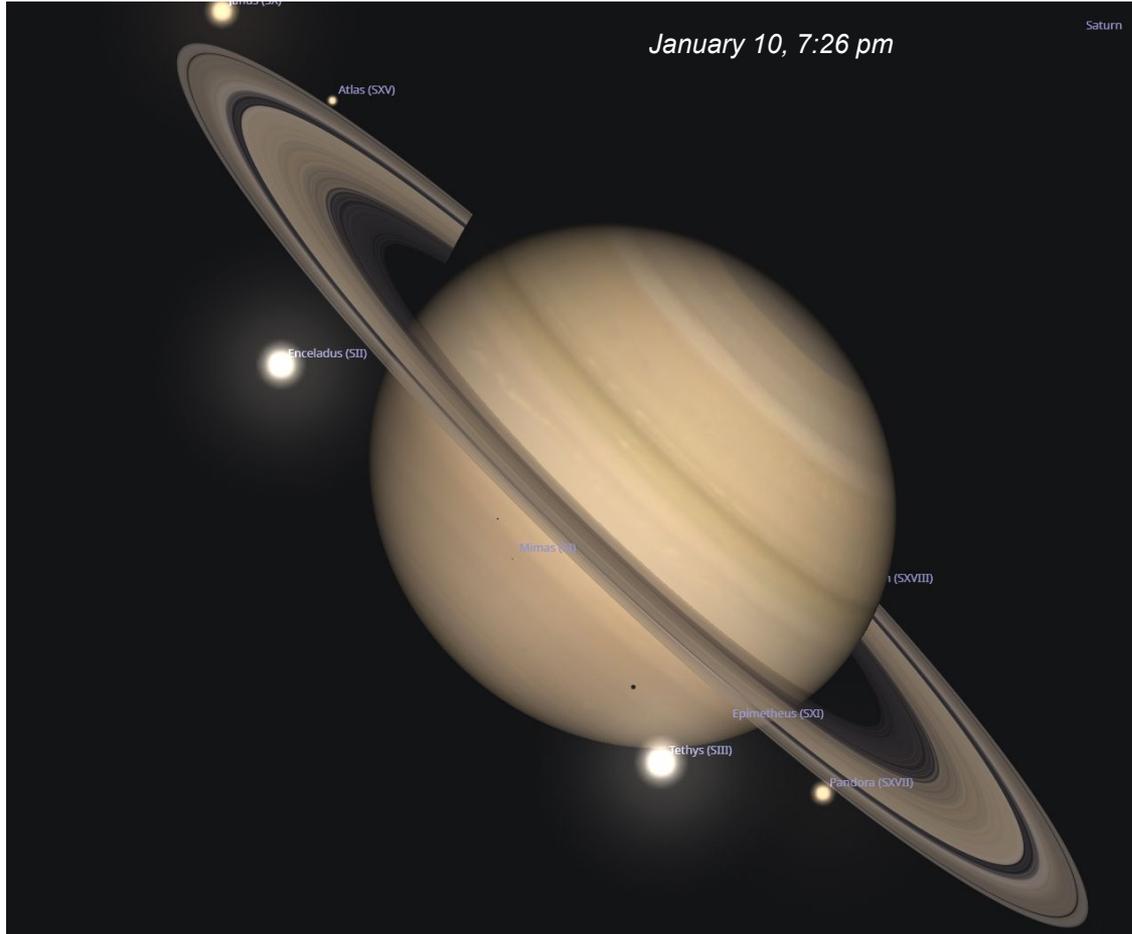
# Evening: Saturn - (Aquarius)

Saturn already visible after sunset only 30° high in SW, sets by 7:30 pm by end of month  
 Beautiful views with thin crescent moon on the 13th and the 14th  
 Distance to Saturn increases during the month



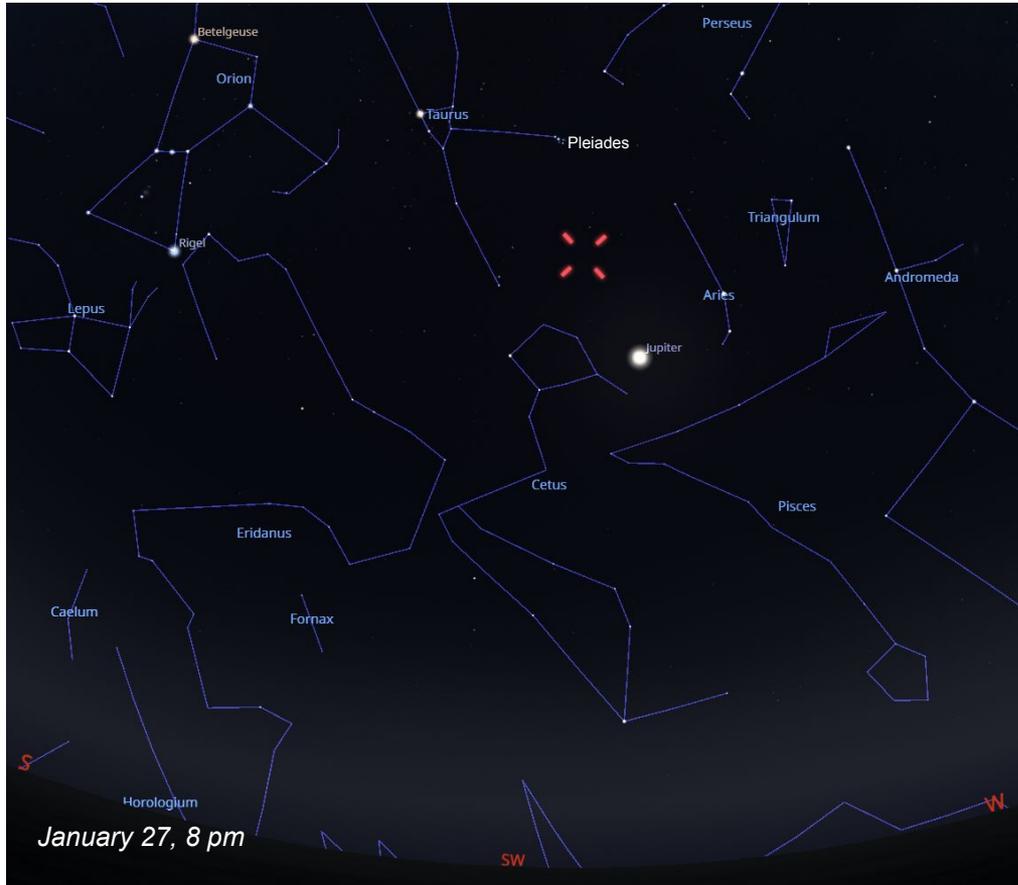
# Evening: Saturn - (Aquarius)

Two transits by Tethys and Mimas on January 10; only 11° above SW horizon

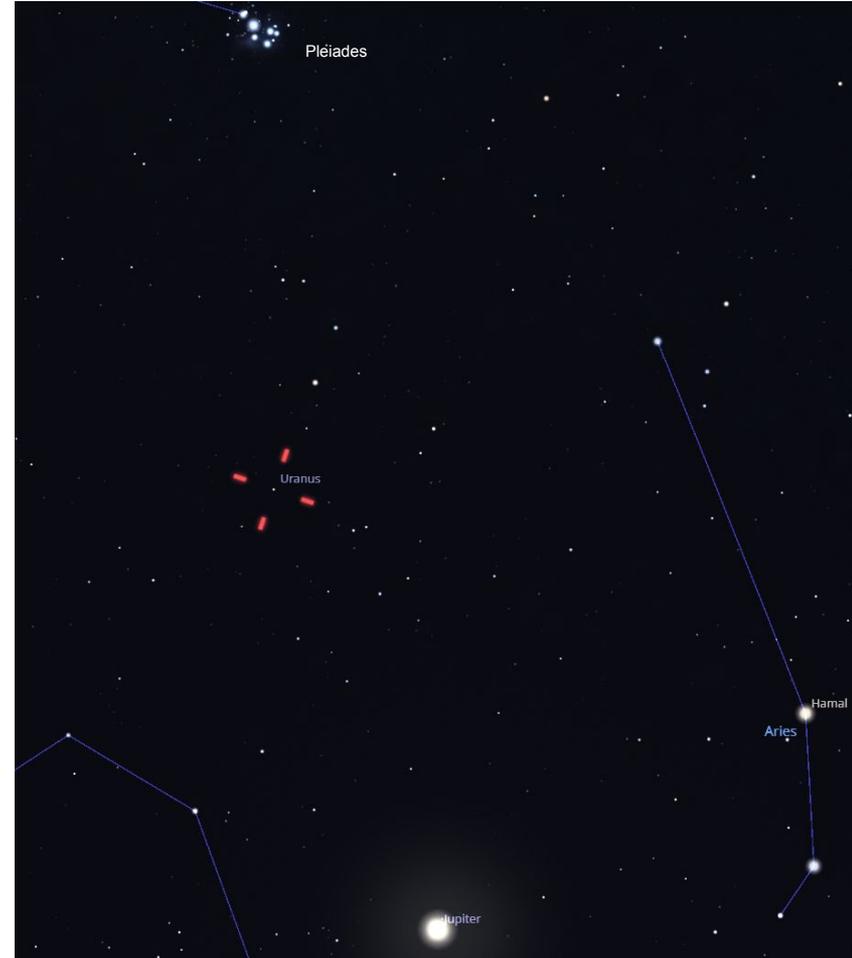


# Evening: Uranus - (Cetus, Taurus)

Uranus viewed between the Pleiades and Jupiter in SW sky



This month "an easy binocular object".



# Evening: Neptune - (*Pisces*)

Neptune visible in early evening in Pisces, sets by 8:30 pm by end of January



*Visible with binoculars*





# January 2024 Astronomy Report



- **Moon:**
  - Phases
  - Disturbances in the Sea of Tranquility
  
- **Meteor Watch:**
  - Quadrantid Meteor Shower
  
- **Planets:**
  - Morning planets
    - Mercury, Venus & Mars congregate with a near conjunction between Mercury & Mars
    - Moon occults Antares within this congregation
  - Evening planets
    - Jupiter & Saturn dominant as usual
    - Uranus & Neptune binocular targets
  
- **Dark Sky Star Party:**
  - Location - TBD, January 13
  
- **Public Viewing:**
  - Cub Lake, November 18

# January Dark Sky Party Location TBD, January 13

Ps 19:2

## 1 - M43 (Orion Nebula)



1344 light years from Earth (naked eye, binoculars) massive star formation, highly studied area hundreds of stars <1MM yrs old

## 2 - M1 (Crab Nebula)



6500 light years from Earth (telescope) supernova explosion, 1st observed by Chinese astronomers in 1054 AD core is rapidly rotating neutron star that spins 30X/second, bluish glow

## 3 - Vesta

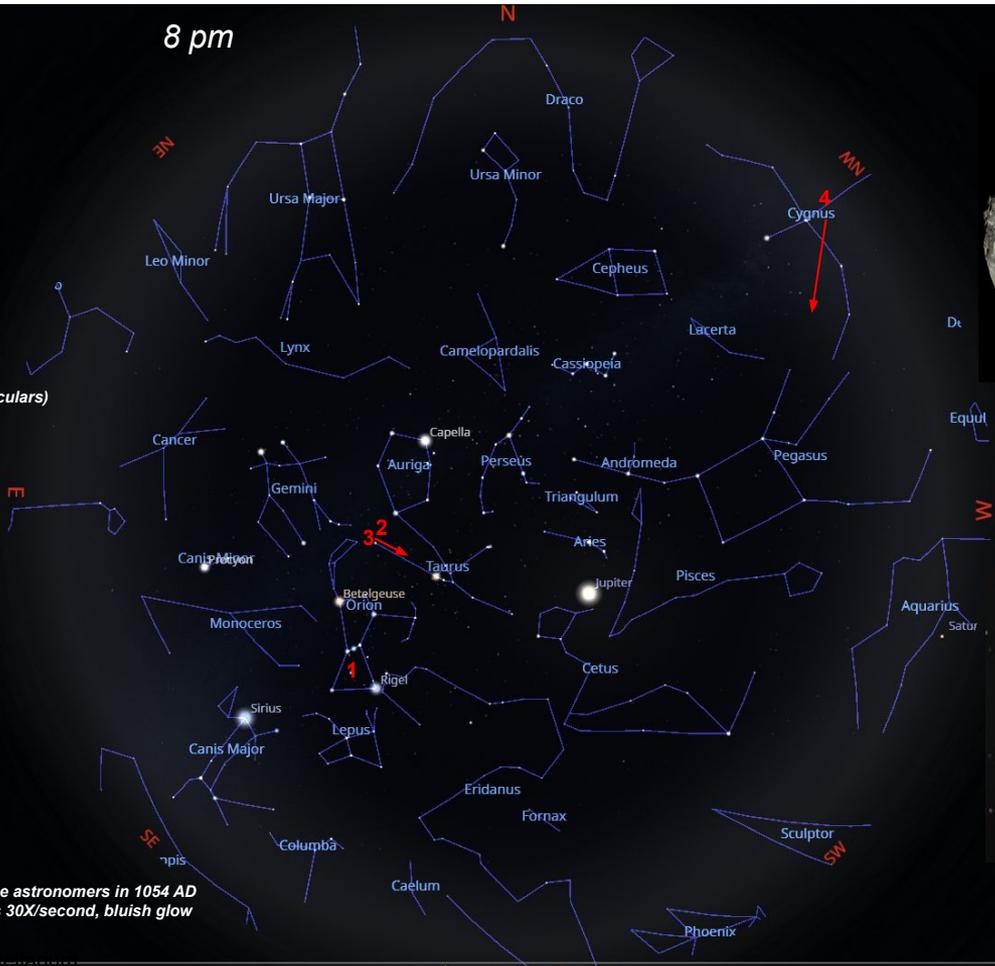


2nd largest asteroid (525 km avg diameter) visible with binoculars named after Roman goddess of home/hearth

## 4 - Comet 12P/Pons-Brooks



visible in small telescopes recent large sudden increases in brightness closest approach to Sun in April 2024





# January 2024 Astronomy Report



- **Moon:**
  - Phases
  - Disturbances in the Sea of Tranquility
- **Meteor Watch:**
  - Quadrantid Meteor Shower
- **Planets:**
  - Morning planets
    - Mercury, Venus & Mars congregate with a near conjunction between Mercury & Mars
    - Moon occults Antares within this congregation
  - Evening planets
    - Jupiter & Saturn dominant as usual
    - Uranus & Neptune binocular targets
- **Dark Sky Star Party:**
  - Location - TBD, January 13
- **Public Viewing:**
  - Cub Lake, January 20

# January Public Viewing

Cub Lake, January 20

Sun sets 5:09 pm

First Quarter Moon

8 pm

Comet  
12P/Pons-Brooks

