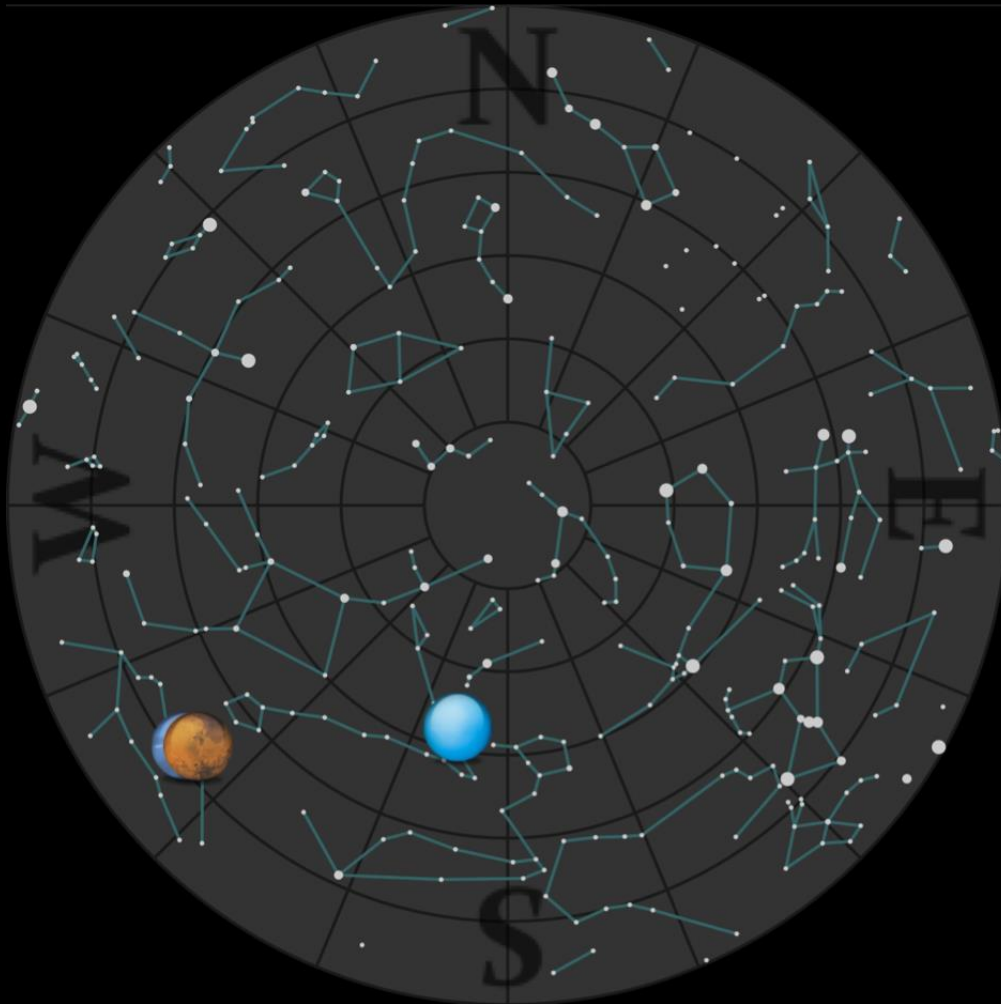


What's Up?

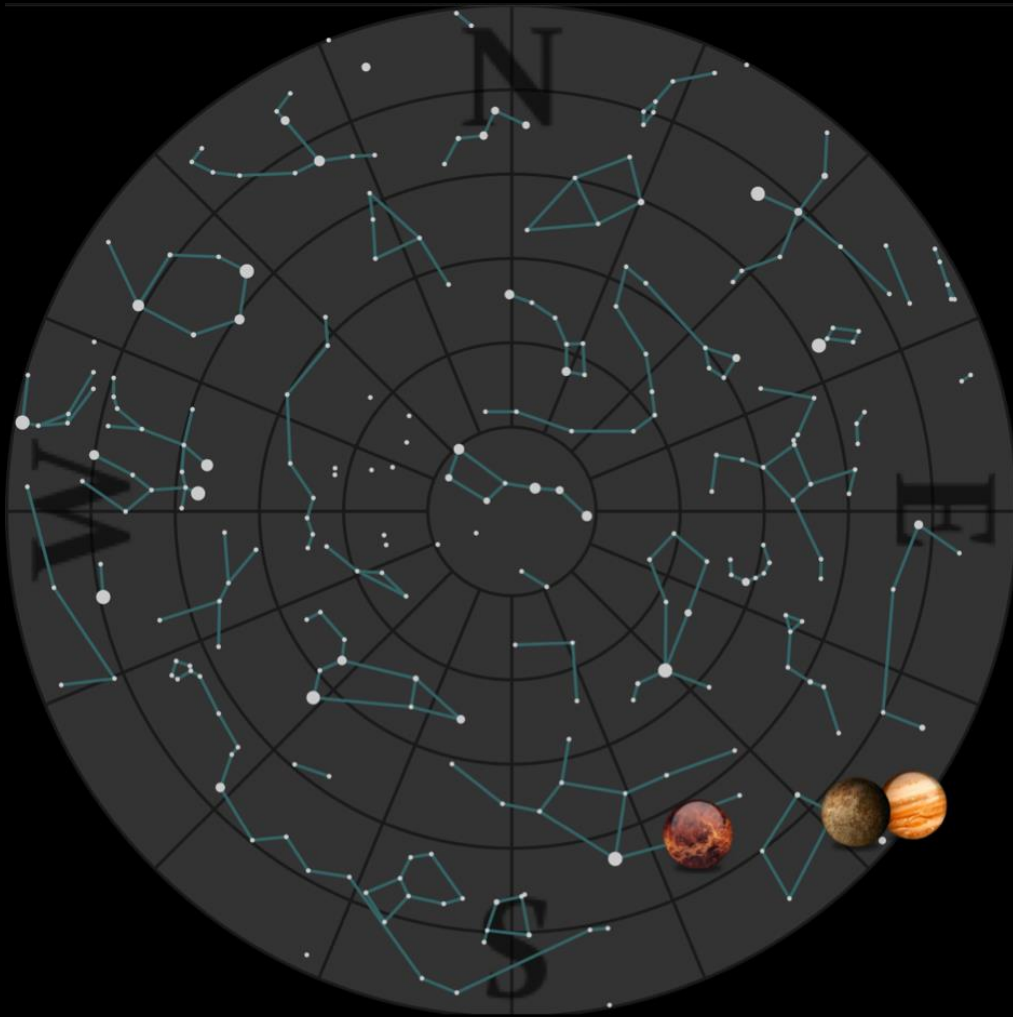
2018 December 10 to 2019 January 28

Bill Barton, FRAS

•The Sky 21:00
Tonight







•The Sky 07:00
Tomorrow



Inner Solar System

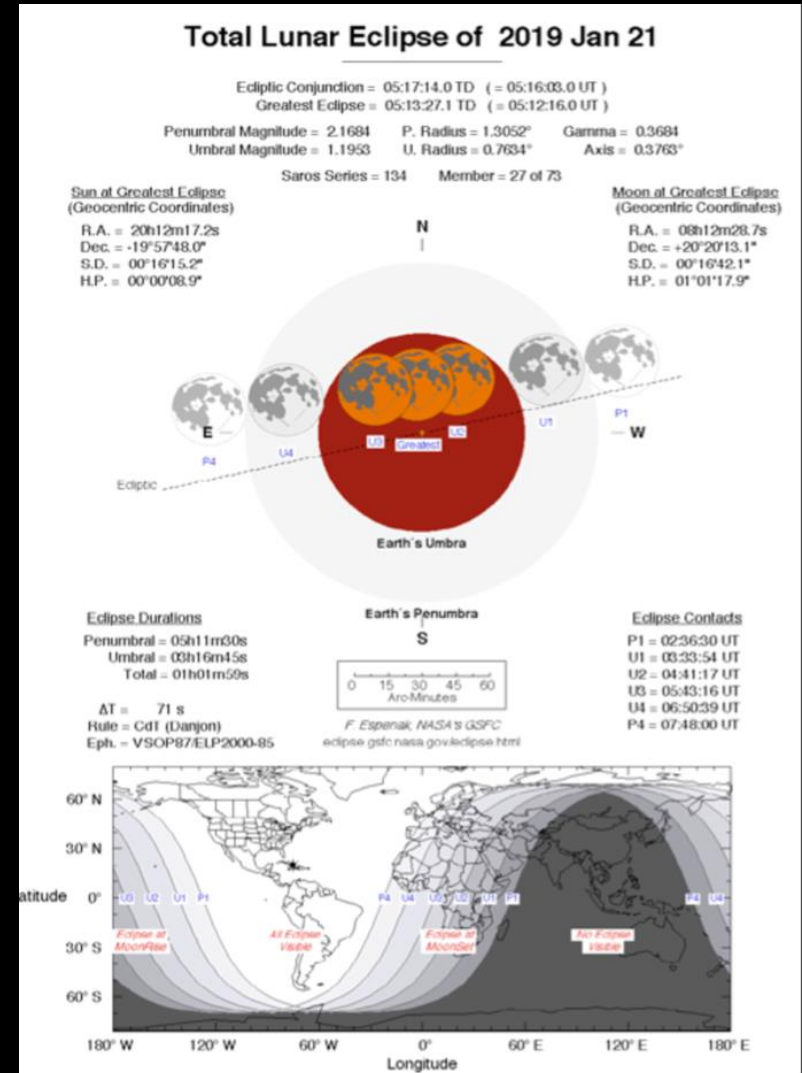
- Sun
 - Declination decreasing until
 - Solstice December 21, perihelion January 03
- Mercury
 - In morning sky in December
 - Maximum elongation from Sun on December 15 (21°)
 - Superior conjunction January 30
 - currently rising 06:00, setting 15:05
- Venus
 - In morning sky until superior conjunction on August 14, 2019
 - Greatest elongation January 06 (47°)
 - Currently rising 03:50, setting 14:10

Earth

- Time
 - 00:00UT \approx 05:15ST today
 - Today sunrise 07:50, sunset 15:45
 - End of period sunrise 07:45, sunset 16:35
- Moon
 -  First Quarter, 15. January 14
 -  Full, 22, Long Night. January 21 Old
 -  Last Quarter, 29. January 27
 -  New, January 06
- Meteors
 - Geminids, peak December 14, ZHR=120
 - Quadrantids, peak January 04, ZHR=80+

Eclipses

- Partial Solar, January 06, invisible from UK
- Total Lunar, Monday January 21, all eclipse visible from UK
 - First Contact 03:34
 - Total between 04:41 & 05:43
 - Last Contact 06:51



Lunar Occultations

- None of note this period

Grazing Lunar Occultations

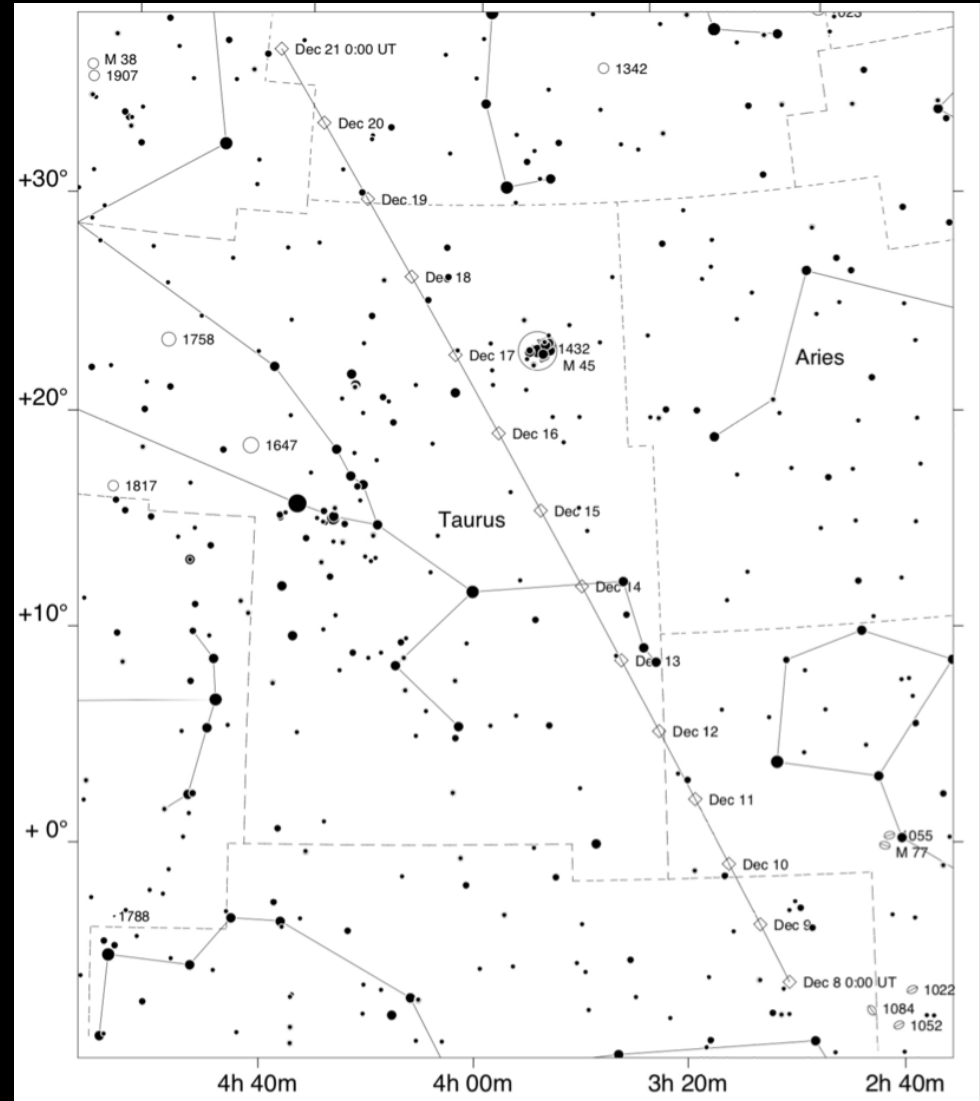
- January 1
 - SAO 158927, 05:30, south limb, lunar alt 12°
 - SAO 158942, 06:10, south limb, lunar alt 15°

Asteroid Occultations

- December 10
 - 479, Caprera (70km dia) & UCAC4-514-35495 (mag 7.8)
 - 20:47, 5.1 mag drop, max dur 9.8s

Comet Wirtanen

- Orbit period 5.4 years
- Perihelion 12 December 2018
- Closest approach to Earth 16 December (30 times Earth Moon distance)
- Magnitude ≈ 4 , but 1-2⁰ diameter (similar to the Andromeda Nebula)



Outer Solar System

- Mars
 - Currently rising 12:20, setting 23:20. No opposition in 2019
- Jupiter
 - Currently rising 07:00, setting 15:20. Solar Conjunction November 26, opposition on June 10, 2019
- Saturn
 - Currently rising 09:30, setting 17:20. Solar Conjunction on January 2 2019. Opposition on July 9, 2019
- Uranus
 - Currently rising 13:30, setting 03:30. Opposition on October 24, 2018
- Neptune
 - Currently rising 12:20, setting 23:10. Opposition was on September 7, 2018

Planetary Conjunction

- Mars
 - RA 23h 08m 40s, Dec $-06^{\circ} 24' 41''$, mag 0.1, 8.6" diameter
- Neptune
 - RA 23h 00m 42s, Dec $-07^{\circ} 23' 12''$, mag 7.9, 2.3" diameter
- Neptune is currently 00h 08m (02° , 4x Moon diameter) west and 01° (2x Moon diameter) south of Mars

Society Events

- Christmas Meal
 - Wednesday December 12, 8:00pm, Coach and Horses, Melton
- AGM
 - Saturday January 26, 7:30pm, Museum Street Methodist Church Hall, Blackhorse Lane
- BAA Back to Basics Workshop
 - Saturday March 02, 10:00am till 5:00pm, Museum Street Methodist Church Hall, Blackhorse Lane, £9/£12

Other Events I

- DASH
 - Observing Meeting, Sunday January 6 from 7:30, Westleton Common
 - Outreach Meeting, Friday & Saturday January 11 & 12, from 6:00, Coastguard Cottages, Dunwich
 - Discussion Meeting, Sunday January 20 from 7:30, Westleton Village Hall, Dr. Matthew Bothwell
- LYRA
 - Christmas Dinner, Tuesday December 11

Other Events II

- Athenæum Astronomical Association
 - Meetings at Nowton Park
 - Thursday December 20, 7:30pm, members fun night
 - Thursday January 10, 7:30pm, members meeting
 - Thursday January 24, 7:30pm, members meeting

Other Events III

- British Astronomical Association
 - Saturday January 26, from 2:30pm, Burlington House, Piccadilly
- Society for Popular Astronomy
 - Saturday January 26, from 2:00pm, Gustav Tuck Lecture Theatre, University College London

2019 Lookahead

- Eclipses
 - Partial Solar, January 06, invisible from UK
 - Total Lunar, Monday January 21, all eclipse visible from UK
 - Total Solar, July 02, invisible from UK
 - Partial Lunar, Tuesday July 16, eclipse at Moonrise
 - Annular Solar, December 26, invisible from UK
- Lunar Occultations
 - Saturn, Saturday February 02, RD, 06:32
 - Jupiter, Thursday November 28, RB, 10:29
- Solar Transit
 - Mercury Monday November 11, 12:35 till sunset (London)

And Finally...

- 05:33 on January 1, 2019
- 43.4 AU from the Sun
- The New Horizons spacecraft will pass within 3,500 km (2,200 mi) of 2014 MU₆₉ (Ultima Thule)
- Three times closer than the spacecraft's encounter with Pluto
- Images with a resolution down to 30 m (98 ft)
- Data will take 6 hours to reach the Earth, initially on January 1 & 2, but complete data will take the rest of 2019 to be returned