

Astronomical Highlights 2019

Eclipses And Transits

Of the 5 eclipses that occur in 2019 (3 solar, 2 lunar), only the Total Lunar Eclipse of **Sunday, January 20-21** will be visible at all from Hampton Roads. That event runs from 21:39 to 2:48 EST.

A Transit of Mercury across the Sun occurs on **Monday, November 11**. The entire event is visible from 7:35 to 13:04 EST. Don't miss this one as it is the last one visible in the U. S. until May 7, 2049 (2032 and 2039 Transits are overseas events). A telescope equipped with a safe solar filter is required to spot the 10 arcsecond disc of the planet.

Planets

Mercury reaches its greatest eastern elongations in the evening sky **Feb 27, Jun 23, and Oct. 20**, and greatest western elongations in the morning sky **Apr 11, Aug 9, and Nov 28**. Around these dates will be the best times to try to spot this elusive planet in twilight. Venus reaches its greatest western elongation in the morning sky on **Jan. 6** and remains in the morning sky until its **Aug. 14** superior conjunction with the Sun. Mars continues in 2019 to recede from last years close approach. The remaining superior planets are best observed near opposition, which occurs for Jupiter on **Jun 10**, for Saturn on **Jul 9**, for Neptune on **Sep 10**, and for Uranus on **Oct 28**.

Meteor Showers

The best meteor shower of the year is expected to be the **Jan 3** Quadrantids (zhr=120) with the moon a 5% waning crescent. The **May 6** Eta Aquarids (zhr=60) are also favored by a 2% waxing crescent moon. The **Jul 29** Delta Aquarids are similarly favored by an 11% waning crescent. The other major showers are all hampered by the moon this year.

Lunar Occultations/Grazes

From Hampton Roads, the brightest star occulted multiple times by the Moon this year is +2.9 magnitude Tejat Posterior (μ Geminorum). Occultations of the star occur on **Nov 15** and **Dec 13**. Also occulted this year is M44 Praesepe on **Feb 17, May 10, Aug 28, and Nov 18**. The closest graze occurs on **May 11** of +6.4 magnitude ZC1298 (Windsor, Suffolk, southwest Chesapeake). Prior to that, on **Apr 9** there is a graze of +5.1 magnitude ZC730 (97 TAU) that passes through Williamsburg and the southern Eastern Shore. Further south, on **Mar 11** there is a graze of +7.0 magnitude XZ3361 / SAO110566 that passes near Hertford, NC.