

Astronomical Highlights 2018

Eclipses

Of the 5 eclipses that occur in 2018 (3 partial solar, 2 total lunar), only the beginning partial phase of the total lunar eclipse of **January 31** will be visible at all from Hampton Roads.

Planets

Mars will make its closest approach to Earth since 2003 this year at 0.38 AU. Opposition occurs on **July 27**, with closest approach on **July 31**. At closest approach, Mars will reach a diameter of 24.3 arcseconds. In comparison, Jupiter will reach 44.8 arcseconds at opposition **May 9**, while Saturn will reach 18.4 arcseconds at opposition **June 27**. Venus reaches greatest brilliancy in the evening sky **Sept. 21** as it grows to a thinning crescent.

Meteor Showers

The Perseids will peak this year on **August 12**, close to New Moon and should thus be the best shower of the year. Other major showers with at least some favorable moonless hours of observation include the **April 22** Lyrids and **December 14** Geminids.

Lunar Occultations

From Hampton Roads, the brightest star occulted multiple times by the Moon this year is +2.8 magnitude Deneb Algedi (delta Capricorni). Occultations of the star occur on **July 2**, **September 21**, and **December 12**. Also occulted this year is M44 Praesepe on **December 24-25**.

Lunar Grazes

At least 3 graze paths pass through our region. On **February 9** the moon grazes +6.7 magnitude XZ22479 in Ophiuchus. On **December 14** the moon grazes +5.0 magnitude psi-3 Aquarii. Finally, on **December 21**, the moon grazes +6.2 magnitude XZ5862 in Taurus. The exact graze paths will be published at a later date.

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WKDAY	DATE	EVENT
WED	31-Jan	Total Lunar Eclipse. Partial phase begins at 6:48 AM EST with moon altitude 3 degrees. Moon sets at 7:11 AM. Due to low altitude and strong twilight, this event will be difficult to observe.
FRI	9-Feb	Moon graze of 6.7-mag. star XZ22479 in Ophiuchus at 6:00 AM EST.
SUN	22-Apr	Lyrid Meteor Shower peak (zhr=18-90) is predicted to occur at 2 PM EDT. Meteors are visible April 14-30. Moon will be First Quarter and sets at 2:38 AM EDT.
WED	9-May	Jupiter reaches opposition at -2.5 magnitude and with a disk diameter of 43.8 arcsecond.
WED	27-Jun	Saturn reaches opposition at 0.0 magnitude and with a disk diameter of 18.4 arcsecond (42 arcsecond for the rings).
MON	2-Jul	Moon occults +2.8-magnitude Deneb Algedi (Delta Capricorni). Bright limb disappearance occurs at 00:06 AM (alt. 12). Dark limb reappearance occurs at 00:30 AM EDT (alt. 16).
FRI	27-Jul	Mars reaches opposition at -2.8 magnitude and with a disk diameter of 24.3 arcsecond.
TUE	31-Jul	Mars at closest approach at -2.8 magnitude and with a disk diameter of 24.3 arcsecond.
SUN	12-Aug	Perseid Meteor Shower peak (zhr=110) is predicted to occur between 16:00 to 04:00 EDT 8/13. Meteors from this shower are visible July 17 - August 24. Moon is New on Aug. 11 and so should not interfere with observation.
FRI	21-Sep	Venus reaches greatest brilliancy in evening sky at -4.8 magnitude, with a diameter of 39.6 arcsecond. The growing crescent Venus approaches Inferior Conjunction October 26.
FRI	21-Sep	Moon occults +2.8-magnitude Deneb Algedi (Delta Capricorni). Dark limb disappearance occurs at 6:57 PM EDT (alt. 14).
WED	12-Dec	Moon occults +2.8-magnitude Deneb Algedi (Delta Capricorni). Dark limb disappearance occurs at 8:16 PM EDT (alt. 14). Bright limb reappearance occurs at 9:10 PM (alt. 5).
THU	13-Dec	Geminid Meteor Shower peak (zhr=120) is predicted to occur at 7:30 AM EST 12/14 (daytime), so that morning before should provide numerous meteors. Meteors are visible December 4-17. Radiant is highest at 2 AM. Moon will be near First Quarter and sets at 10:41 PM EST.
FRI	14-Dec	Moon graze of 5.0-mag. XZ31467/psi-3 Aquarii at 6:55 PM EDT.
FRI	21-Dec	Moon graze of 6.2-mag. XZ5862 in Taurus at 4:15 AM EST.
MON	24-Dec	Moon occults M44 Praesepe (Beehive Cluster) beginning 11 PM. Passage is through the edge of the cluster.