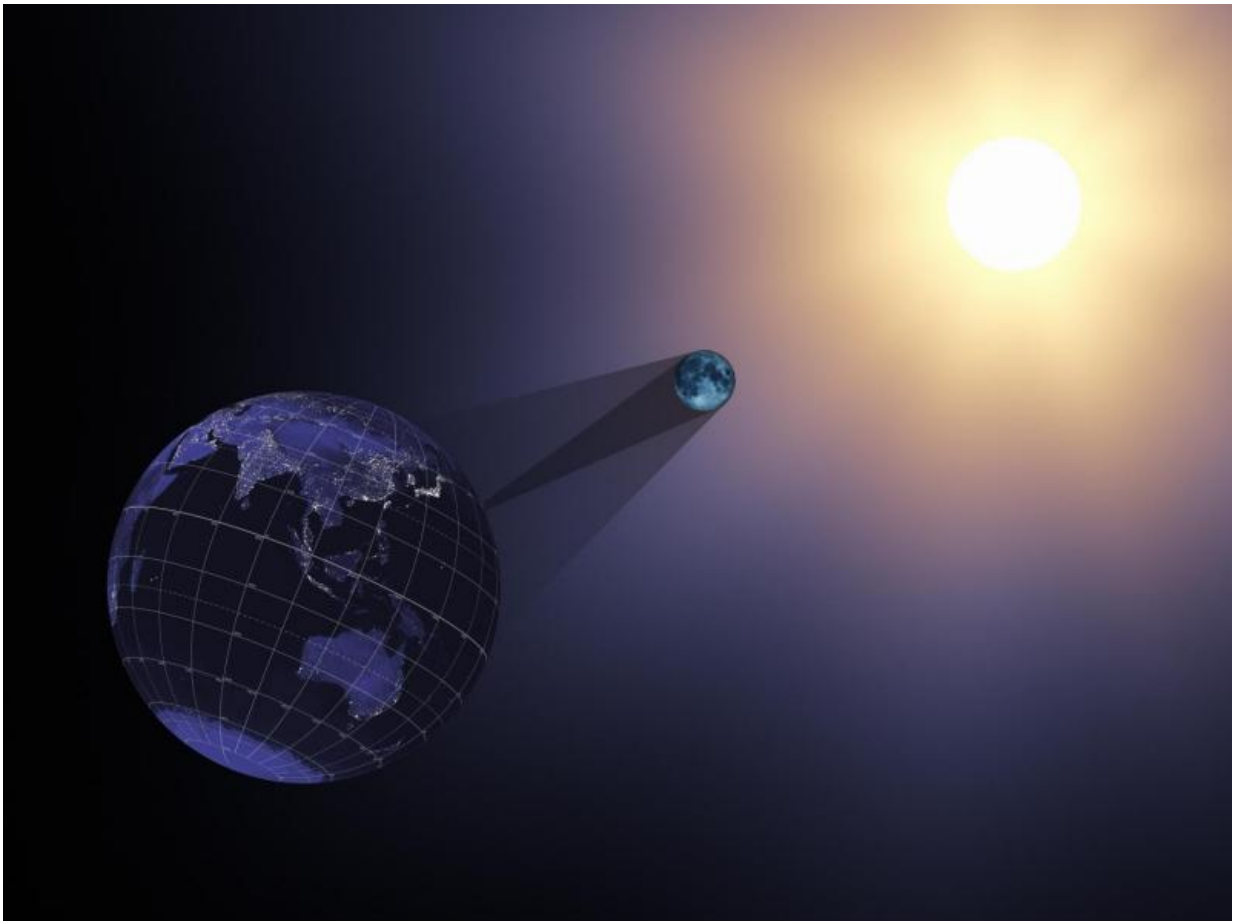


Image: Visualization of the August 21, 2017 total solar eclipse

June 22 2017



Credit: NASA's Scientific Visualization Studio

On August 21, 2017, the Earth will cross the shadow of the moon,

creating a total solar eclipse. Eclipses happen about every six months, but this one is special. For the first time in almost 40 years, the path of the moon's shadow passes through the continental United States. This visualization shows the Earth, moon, and sun at 17:05:40 UTC during the eclipse.

In the animation from which this still was taken, the Earth, moon, sun, and shadow cones are viewed through a telescopic lens on a virtual camera located far behind the Earth. Long focal lengths like the one used here appear to compress the distance between near and far objects. Despite appearances, the geometry of the scene is correct.

The moon's umbra cone is roughly 30 Earth diameters long, barely enough to reach the Earth, while the sun is almost 400 times farther away.

More information: 2017 Eclipse State Maps, 2017 Total Solar Eclipse in the U.S.: svs.gsfc.nasa.gov/4314

Provided by NASA

Citation: Image: Visualization of the August 21, 2017 total solar eclipse (2017, June 22) retrieved 24 April 2024 from <https://phys.org/news/2017-06-image-visualization-august-total-solar.html>

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