

The 2023 & 2024 Solar Eclipses through the eyes of NASA

Lunar topography data from NASA's Lunar Reconnaissance Orbiter and the Japan Aerospace Exploration Agency's SELENE lunar orbiter were used to precisely calculate the location of the Moon's shadow for the 2023 and 2024 solar eclipses. The planetary coordinates are from NASA's Jet Propulsion Laboratory Developmental Ephemeris 421. Earth imagery from NASA's Blue Marble Next Generation series were used to create the terrain and Earth's night imagery from NASA's Black Marble were used under the eclipse path.

2023 Annular Solar Eclipse
 Sunday, October 14, 2023

2024 Total Solar Eclipse
 Monday, April 8, 2024

Credit: Michael Gorman and the Scientific Visualization Studio (SVS), in collaboration with the NASA Heliophysics Activation Team (HAT-HEAT), part of NASA Science Activation, provided eclipse calculations by Emily Wang, NASA-Goddard Space Flight Center.

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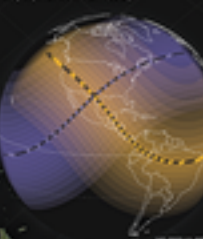
2023 Path of Annularity October 14, 2023

Along a path about 140 miles wide, the Sun will appear as a "ring of fire" in the sky. Annularity will last up to 5 minutes depending on the viewer's location within the path.

2024 Path of Totality April 8, 2024

Along a path about 110 miles wide, the Moon will completely block the Sun in the sky. Totality will last up to 4 minutes and 28 seconds depending on the viewer's location within the path.

Outside of these paths, viewers within the 48 contiguous U.S. states and many other areas will see a partial solar eclipse (in the shaded areas below).



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