

The Great North American Eclipses of 2023 & 2024



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 positions are from NASA's Jet Propulsion Laboratory Development Ephemeris 421. Earth imagery from NASA's Blue Marble: Next Generation series were used to create the terrain and Earth at night imagery from NASA's Black Marble were used under the eclipse paths.

2023 Annular Solar Eclipse
Saturday, October 14, 2023

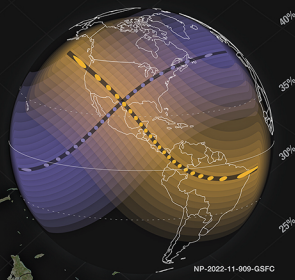
2024 Total Solar Eclipse
Monday, April 8, 2024

Credit: Michala Garrison and the Scientific Visualization Studio (SVS), in collaboration with the NASA Heliophysics Activation Team (NASA HEAT), part of NASA's Science Activation portfolio.
Eclipse calculations by Ernie Wright, NASA Goddard Space Flight Center

2023 Path of Annularity October 14, 2023
Along a path about 125 miles wide, the Sun will appear as a "ring of fire" in the sky. Annularity lasts up to 6 minutes depending on the viewer's location within this path.

2024 Path of Totality April 8, 2024
Along a path about 115 miles wide, the Moon will completely block the Sun in the sky. Totality lasts up to about 4 minutes and 28 seconds depending on the viewer's location within this 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).

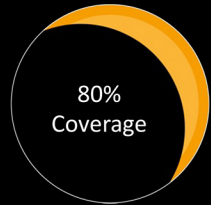
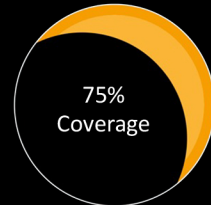
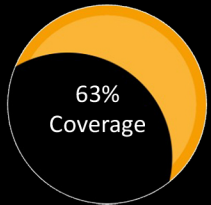


Percentage of Obscuration in Nebraska (2024 Eclipse)



Eclipse Timing (April 8, 2024)

Location	Time	Duration
Scottsbluff (MDT)	Begins: 11:33AM Max: 12:45PM Ends: 1:57PM	2h 24m
Kearney (CDT)	Begins: 12:35AM Max: 1:50PM Ends: 3:04PM	2h 29m
Omaha / Lincoln (CDT)	Begins: 12:40PM / 12:38PM Max: 1:55PM / 1:53PM Ends: 3:10PM / 3:08PM	2h 30m



Find More: solar.system.nasa.gov/eclipses

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