

APRIL 8, 2024

ECLIPSE OVER TEXAS

LIVE FROM WACO



Fact Sheet

Totality will be Visible from 15 States

All 48 of the contiguous states in the U.S. will experience at least a partial eclipse, and 15 of them will experience totality. The center of the path of totality enters Texas and runs through Maine.

Totality Lasts 4 Minutes, 13 Seconds in Waco

The partial phase of the eclipse begins at 12:20 pm CDT and totality begins 1 hour, 18 minutes later and lasts 4 minutes, 13 seconds. Timing for the entire eclipse:

- 12:20 pm CDT First Contact (partial eclipse begins)
- 1:38 pm CDT Totality begins
- 1:42 pm CDT Totality ends
- 3:00 pm CDT Last contact (Partial eclipse ends)

Waco is an Ideal Place to See the Eclipse

- The nearer to the center of the path of totality, the longer totality lasts. Waco is ideally located very near the center and so allows a longer time of totality, more than 4 minutes.
- Long-term climate data for early April gives Texas a higher chance of clear weather for the eclipse than in other places along the path of totality.
- Waco is easily accessible by several modes of transportation.
- While the eclipse itself happens on Monday, April 8, Waco will host a variety of related activities throughout the weekend leading into it.

This is the Last Total Solar Eclipse Visible from the Continental United States in 20 Years

The last one occurred on August 21, 2017, and the next one won't happen until August 23, 2044. It will be the first visible from Waco since July 29, 1878, and the last of this millennium—no total solar eclipse will be visible from Waco until after the year 3000.

You can Safely View Totality

When the Moon completely covers the Sun (totality), you can (and should, for the best experience) safely view the eclipse without solar glasses or filters. At all other times (partial eclipse), solar glasses or filters must be used. For more information about safely viewing the eclipse, see the American Astronomical Society's "How to View a Solar Eclipse Safely" web page at <https://eclipse.aas.org/eye-safety>.

You can See a Lot During the Eclipse

Even in its partial phase, the eclipse of the Sun results in environmental changes like sharper shadows, cooler temperatures, and the sounds of animals that usually come out only at nighttime. The experience of totality is even more breathtaking, with a 360-degree sunset, the wisps of the solar corona, and bright stars and planets that can be seen in the middle of the day.

You Don't Need a Telescope to View the Eclipse

During the partial phases of the eclipse, telescopes or binoculars equipped with certified solar filters can provide up-close views of the partially eclipsed Sun. However, during totality, the best views are had without any optical magnification, as the solar corona can extend several Moon diameters out from the eclipsed Sun.

Eclipses Occur when the Sun, Earth, and Moon are Aligned

A solar eclipse happens only during New Moon, when the Moon passes between the Sun and Earth. Because the Moon's orbit is tilted compared to that of Earth, the three bodies don't always line up perfectly. When they do, the Moon casts a shadow on Earth that either fully or partially obscures the Sun's light in some areas.

A lunar eclipse occurs only during the Full Moon, when Earth is between the Moon and Sun. If the alignment is just right, the Moon moves into Earth's shadow and is fully or partially obscured, but Earth's atmosphere bends some of the light (especially the longer red wavelengths) into the shadow, giving a lunar eclipse its characteristic ruddy hue.

Total Solar Eclipses are Possible Because the Sun and Moon Appear the Same Size

The Sun has a diameter about 400 times greater than that of the Moon, but it also happens to be 400 times farther from Earth than the Moon. This means that the two bodies, as seen from Earth, appear to be about the same size. If the Moon was farther away from Earth, then the Sun would appear larger and thus could never be covered by the Moon.

Scientists Identify Four Types of Solar Eclipses

The type depends on how closely the Moon, Sun, and Earth align and the distance from the Moon to Earth at the moment of the eclipse.

- Total - The Sun is completely obscured from view
- Partial - Only part of the Sun is obscured
- Annular - The Moon is far enough away that it doesn't completely cover the Sun; the center of the Sun is obscured but the outer edges are visible as a "ring of fire"
- Hybrid – Combination of a total and annular eclipse, with one transitioning to the other

Total Solar Eclipses Occur Every 18 months (on Average)

The path from which such events are visible is narrow and varies with each eclipse, so total solar eclipses are visible from the same geographical area on Earth only about once every 375 years on average.

Contact

Website: <https://eclipseovertexas2024.com/>

Email for Festival Coordinator Sonja Gonzalez: sonja_gonzalez@lowell.edu

