



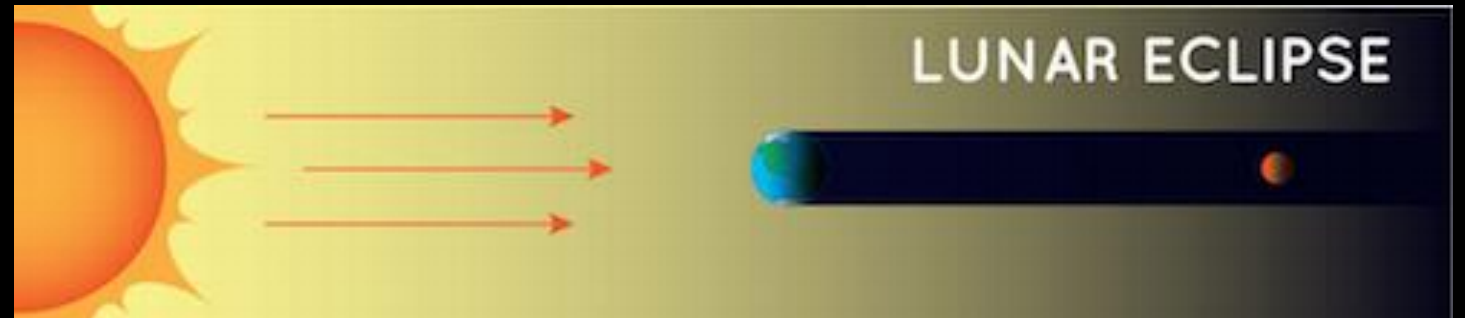
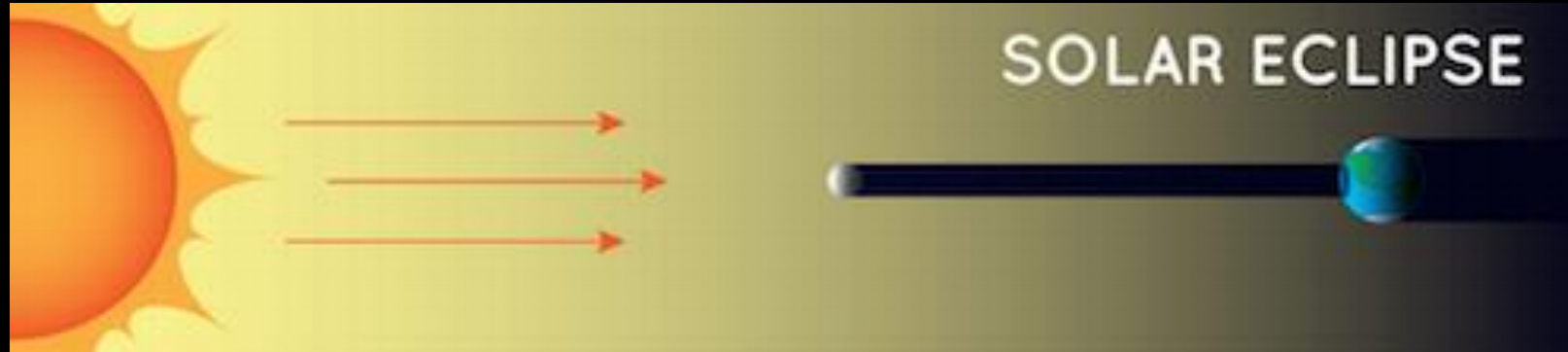
**Partial Solar Eclipse
August 21, 2017
Bleser Park Avon Lake**



**THE COUNT DOWN IS ON!!
TOTAL SOLAR ECLIPSE - APRIL 8, 2024**



Two Types of Eclipses



Solar eclipses are possible because the Sun and the Moon have the same *apparent size* in the sky.



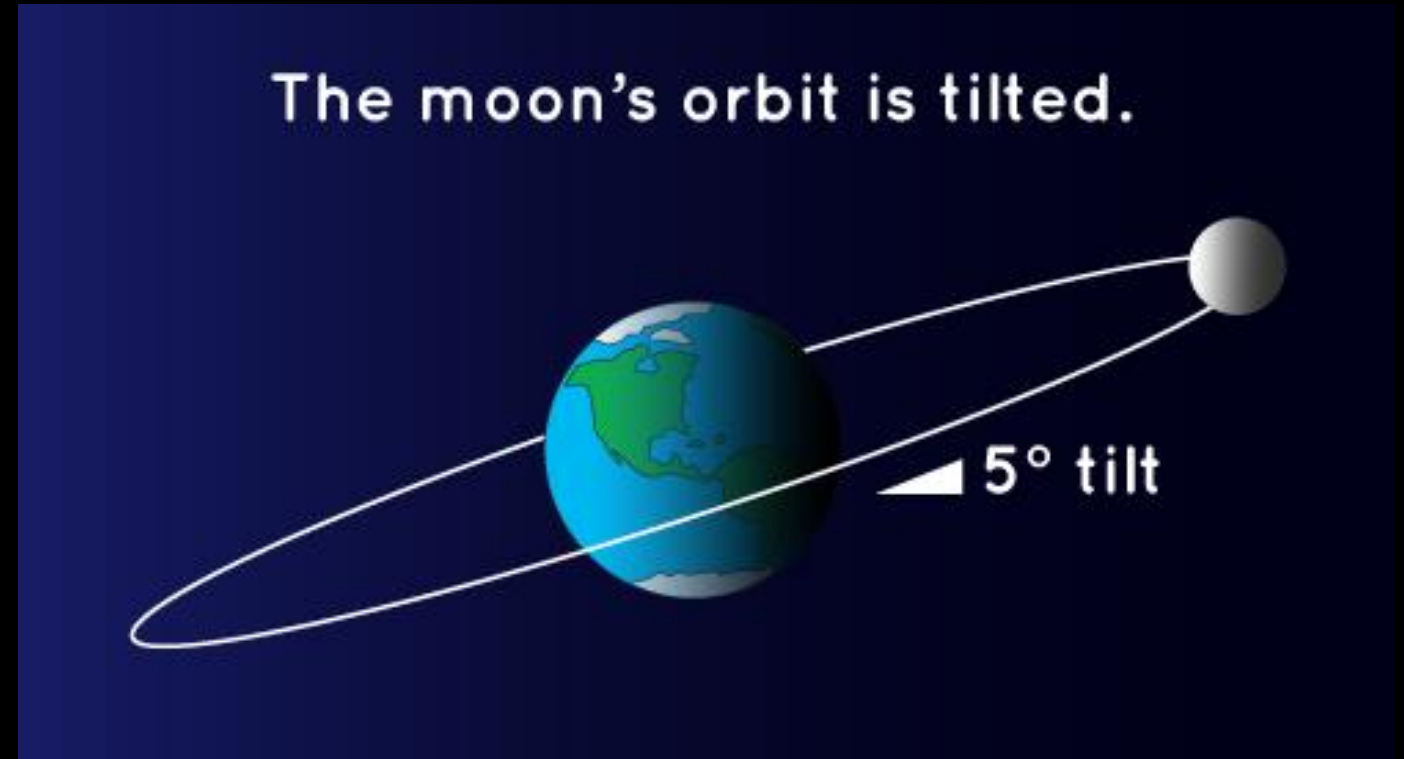
The Sun's diameter is about 400 times wider than that of the Moon, but the Sun is also about 400 times farther away from Earth.

Why Not Every Month

We do not see an eclipse every month due to the slight tilt of the Moon's orbit in relation to Earth's orbit around the Sun.

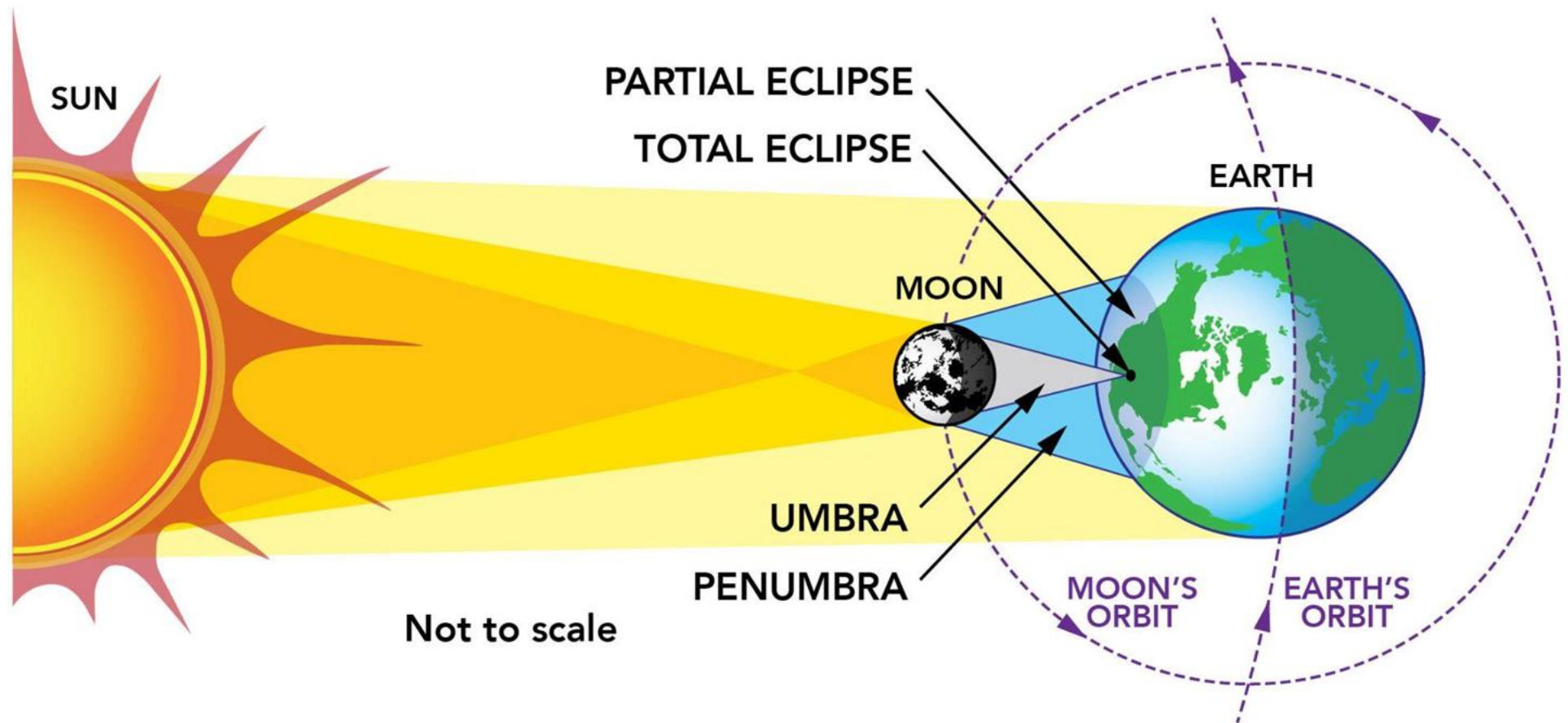
The Moon is either above or below Earth.

Only a few times a year do the Sun, Earth & Moon line up perfectly.



Moon's Shadow: Umbra & Penumbra

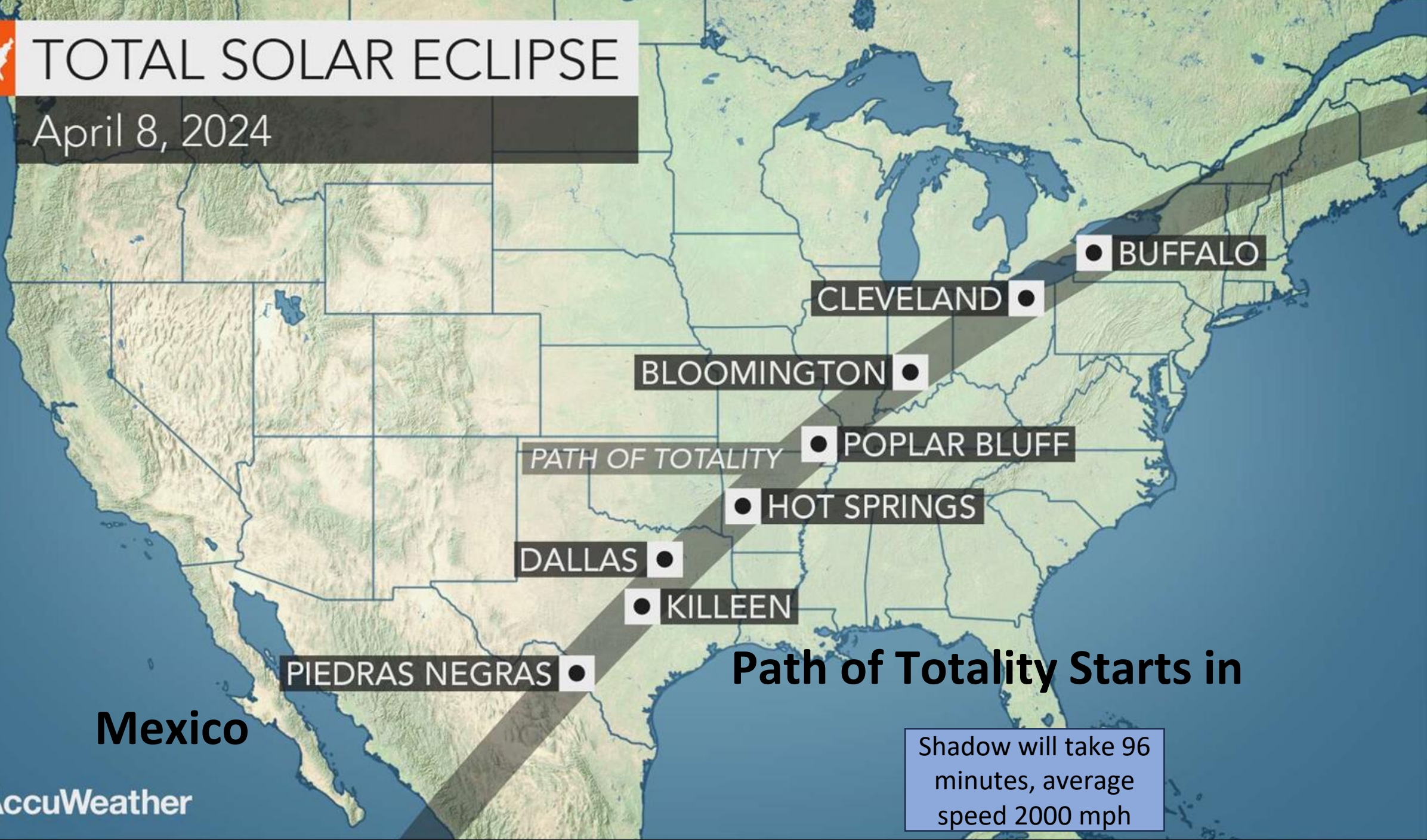
TOTAL SOLAR ECLIPSE





TOTAL SOLAR ECLIPSE

April 8, 2024



● BUFFALO

CLEVELAND ●

BLOOMINGTON ●

PATH OF TOTALITY ● POPLAR BLUFF

● HOT SPRINGS

DALLAS ●

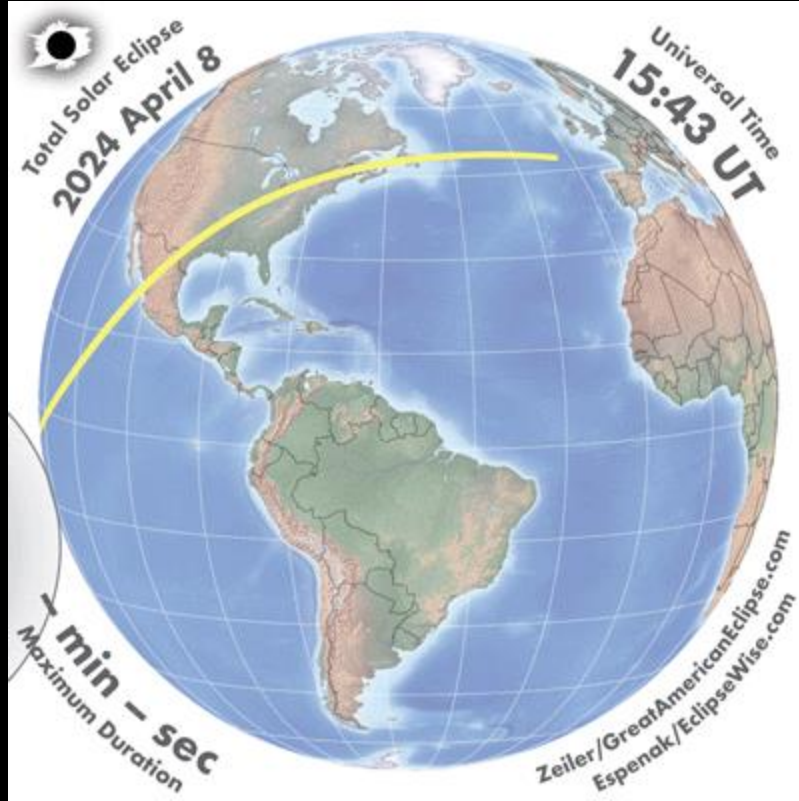
● KILLEEN

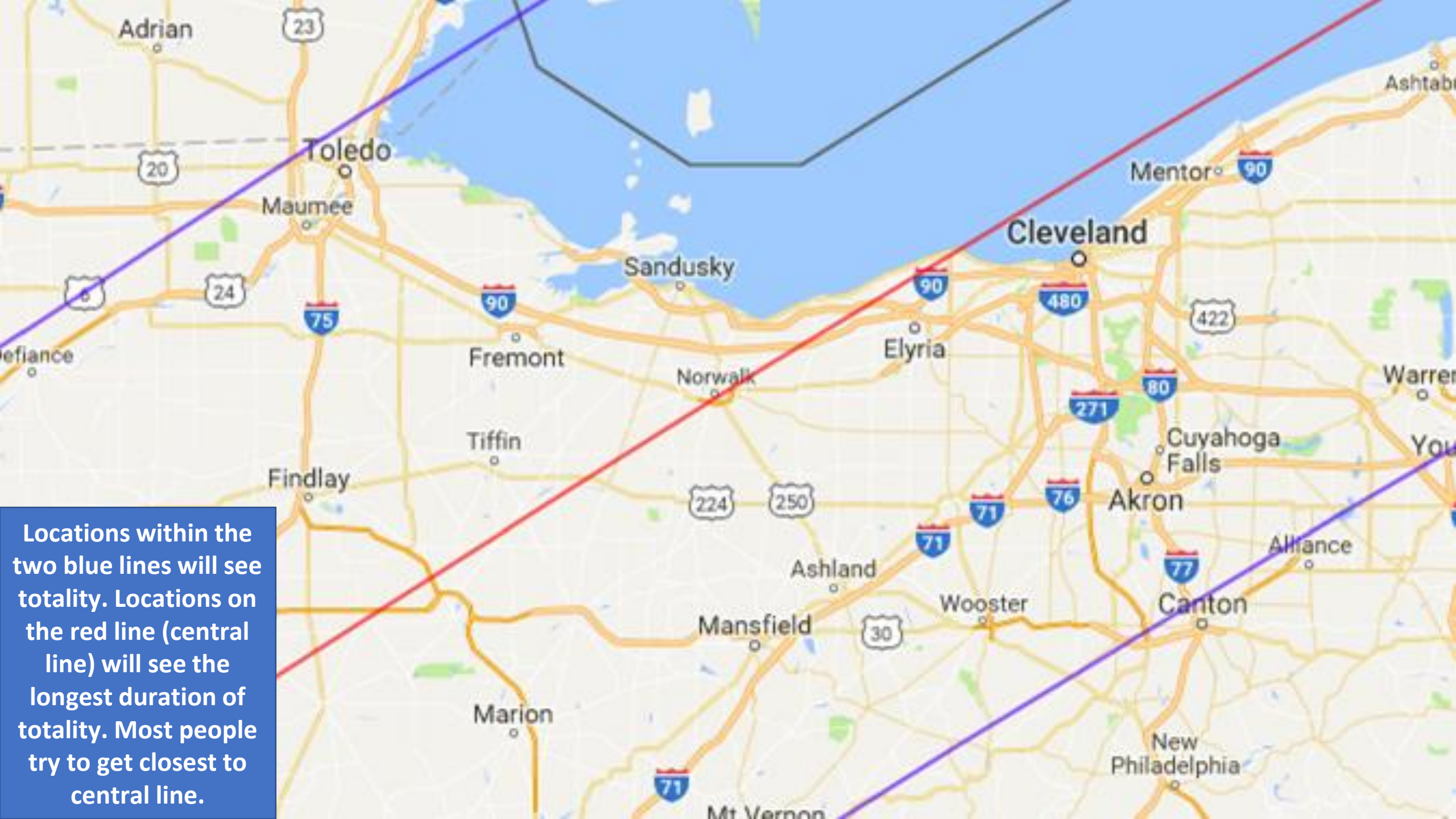
PIEDRAS NEGRAS ●

Path of Totality Starts in

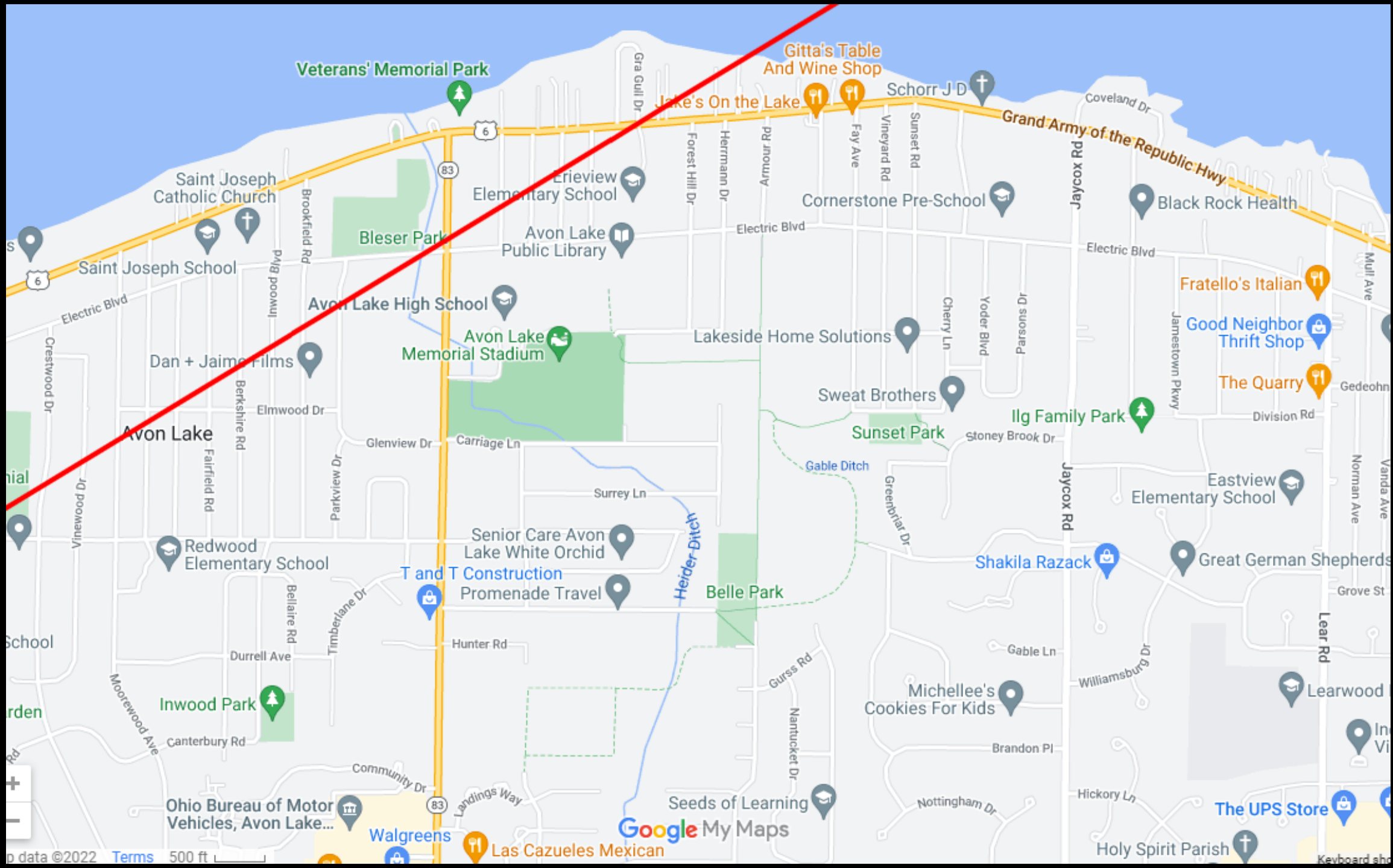
Shadow will take 96 minutes, average speed 2000 mph

Mexico





Locations within the two blue lines will see totality. Locations on the red line (central line) will see the longest duration of totality. Most people try to get closest to central line.



Veterans' Memorial Park

Gitta's Table
And Wine Shop

Jake's On the Lake

Schorr J D

Grand Army of the Republic Hwy

Saint Joseph
Catholic Church

Erievue
Elementary School

Cornerstone Pre-School

Black Rock Health

Saint Joseph School

Bleser Park

Avon Lake
Public Library

Avon Lake High School

Avon Lake
Memorial Stadium

Lakeside Home Solutions

Fratello's Italian

Good Neighbor
Thrift Shop

The Quarry

Dan + Jaime Films

Sweat Brothers

Ilg Family Park

Avon Lake

Sunset Park

Eastview
Elementary School

Senior Care Avon
Lake White Orchid

T and T Construction
Promenade Travel

Belle Park

Shakila Razack

Great German Shepherds

Redwood
Elementary School

Hunter Rd

Michelle's
Cookies For Kids

Learwood

Inwood Park

Ohio Bureau of Motor
Vehicles, Avon Lake...

Walgreens

Las Cazuelas Mexican

Google My Maps

Seeds of Learning

Nottingham Dr

The UPS Store

Holy Spirit Parish

April 8, 2024 Timeline for Avon Lake
Totality Duration - 3 minutes & 53 seconds
Total Event Duration 2 hours & 30 minutes



Partial Eclipse Begins 1:59 pm
Full Eclipse Begins 3:13 pm
Maximum Eclipse 3:15 pm
Full Eclipse Ends 3:17 pm
Partial Eclipse Ends 4:28 pm





**Last Time Ohio had a Total Solar Eclipse 1806
Next One for Ohio 2099,
Next for Northeast Ohio 2444**

There are five stages in a total solar eclipse:

1. Partial eclipse begins (1st contact): The Moon becomes visible over the Sun's disk. It looks like the Moon has taken a bite out of the Sun.

1. Total eclipse begins (2nd contact): The Moon covers the entire disk of the Sun. Observers in the Moon's umbral path may be able to see the diamond ring effect and Baily's beads just before totality.

1. Totality and maximum eclipse: The Moon completely covers the disk of the Sun. Only the Sun's corona is visible. This is the most dramatic stage of a total solar eclipse. At this time, the sky goes dark, temperatures can fall, and birds and animals often go quiet. The midpoint of time of totality is known as the maximum point of the eclipse.

1. Total eclipse ends (3rd contact): The Moon starts moving away, and the Sun reappears. Those fortunate enough to be in the Moon's umbral can see Baily's beads and the diamond ring effect just after totality ends.

1. Partial eclipse ends (4th contact): The eclipse ends as the Moon leaves the Sun's disk.



A total solar eclipse is about as bright as the full Moon — and just as safe to look at. But the Sun at any other time is dangerously bright. View it only through special-purpose solar filters that comply with the transmission requirements of the ISO 12312-2 international standard for filters for direct viewing of the Sun.



Diamond ring effect

TOTAL SOLAR ECLIPSE

Sun's corona

Baily's beads

During a Total Solar Eclipse We Can See the Sun's Corona or Atmosphere



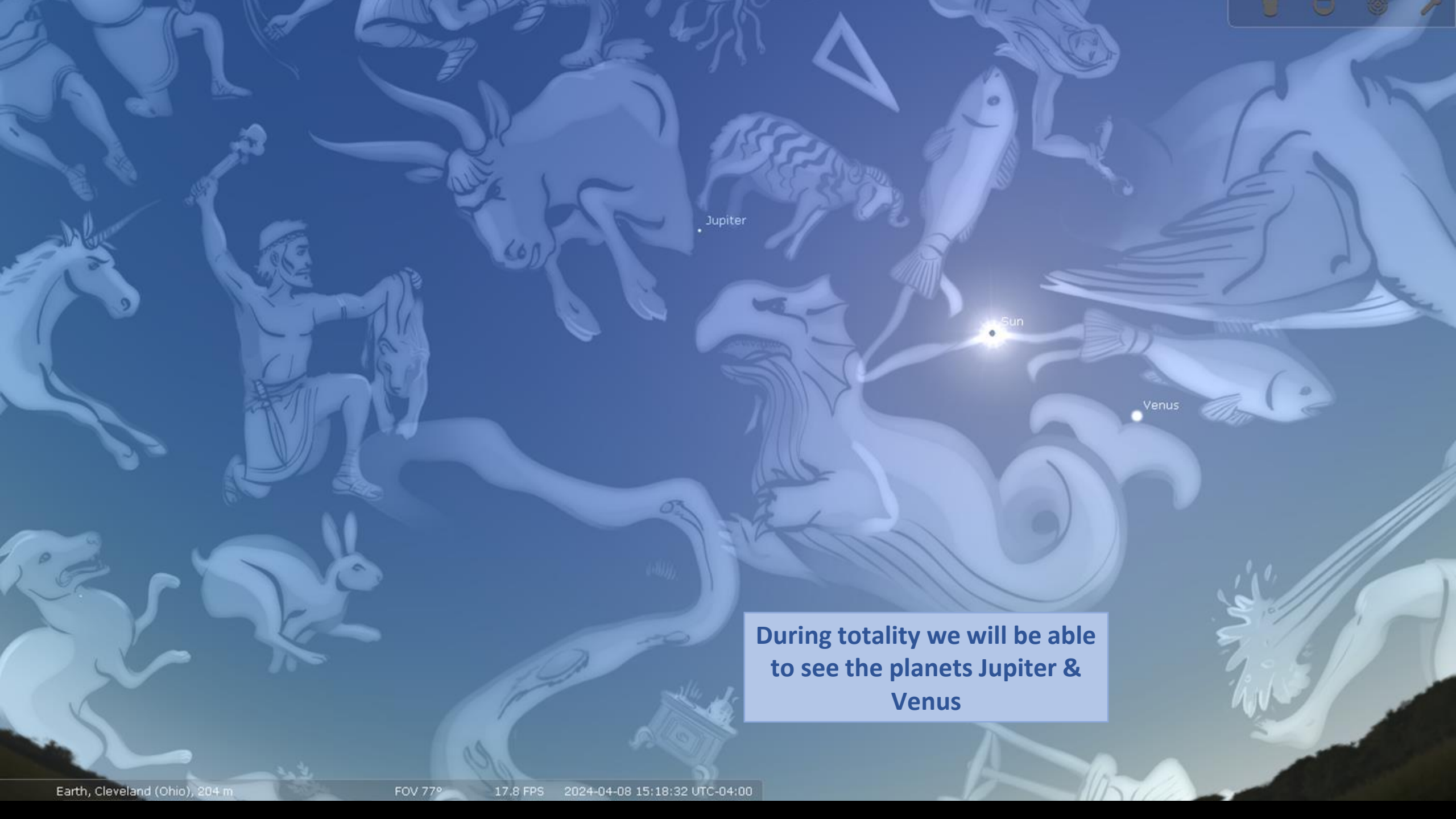


2017

TOTAL SOLAR ECLIPSE
TIMELAPSE

USING ECLIPSMART SOLAR FILTERS





Jupiter

Sun

Venus

During totality we will be able to see the planets Jupiter & Venus

Jupiter

Sun

Venus



(C) 1999 Tunc Tezel
& Ahmet Un



ECLIPSE 2017 TEMPERATURES

OBSCURATION %

93.9%

GREENSBORO, NC

12° DROP

94.2%

WINSTON-SALEM, NC

8° DROP

92.8%

RALEIGH, NC

6° DROP

SOURCE: NWS RALEIGH, NC

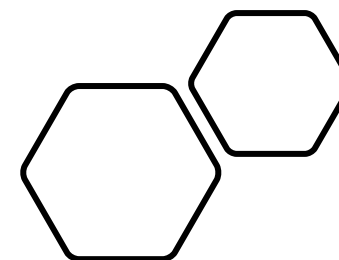


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Safe Solar Viewing Is # 1!!!

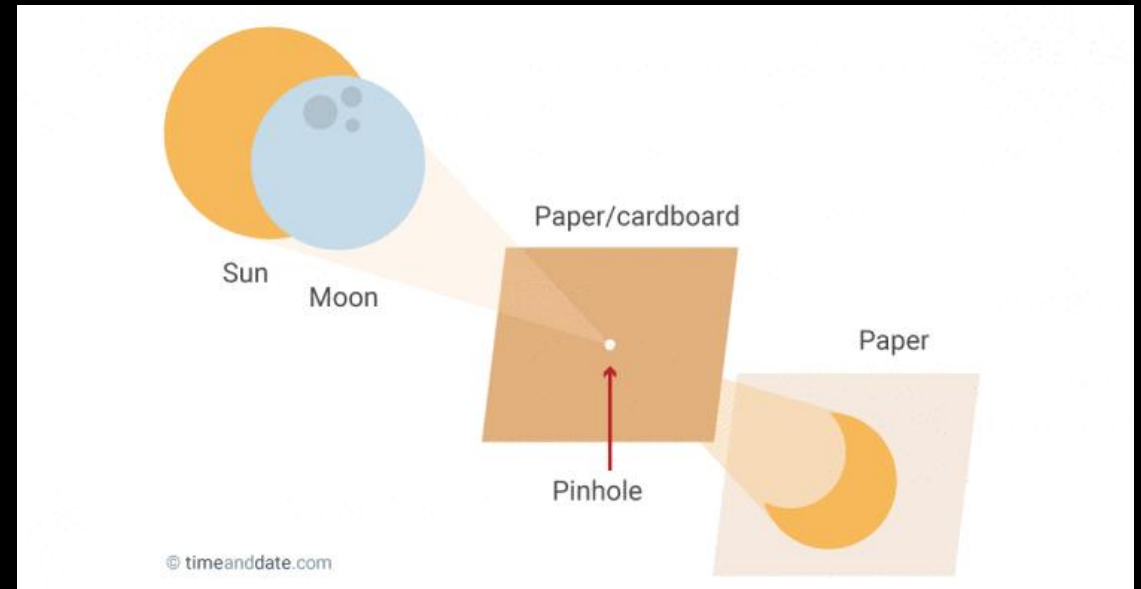
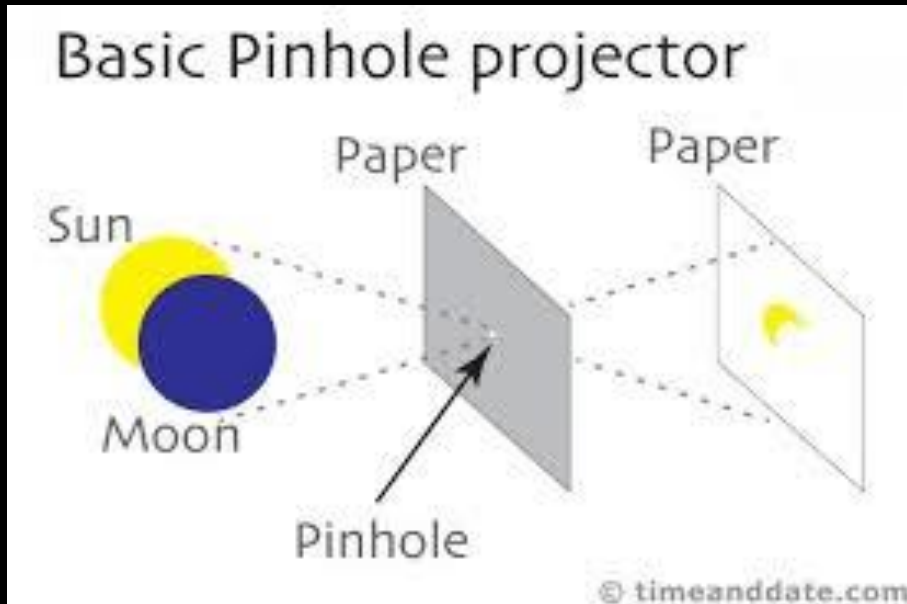


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**YOU MUST WEAR SOLAR
FILTER ECLIPSE
GLASSES (CERTIFIED CODE
ISO 12312-2) WHEN
LOOKING AT THE SUN!! THE
ONLY TIME YOU CAN LOOK
DIRECTLY AT THE SUN IS
DURING TOTALITY!**

Simple Activities



Safe Eclipse Viewing: Pinhole Viewer

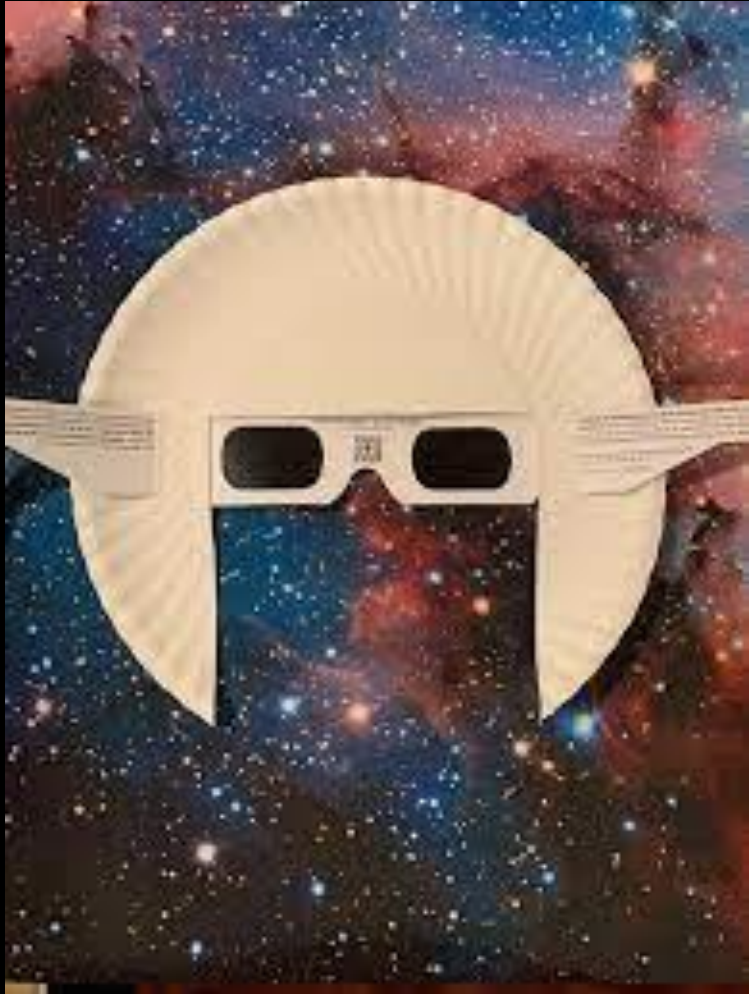




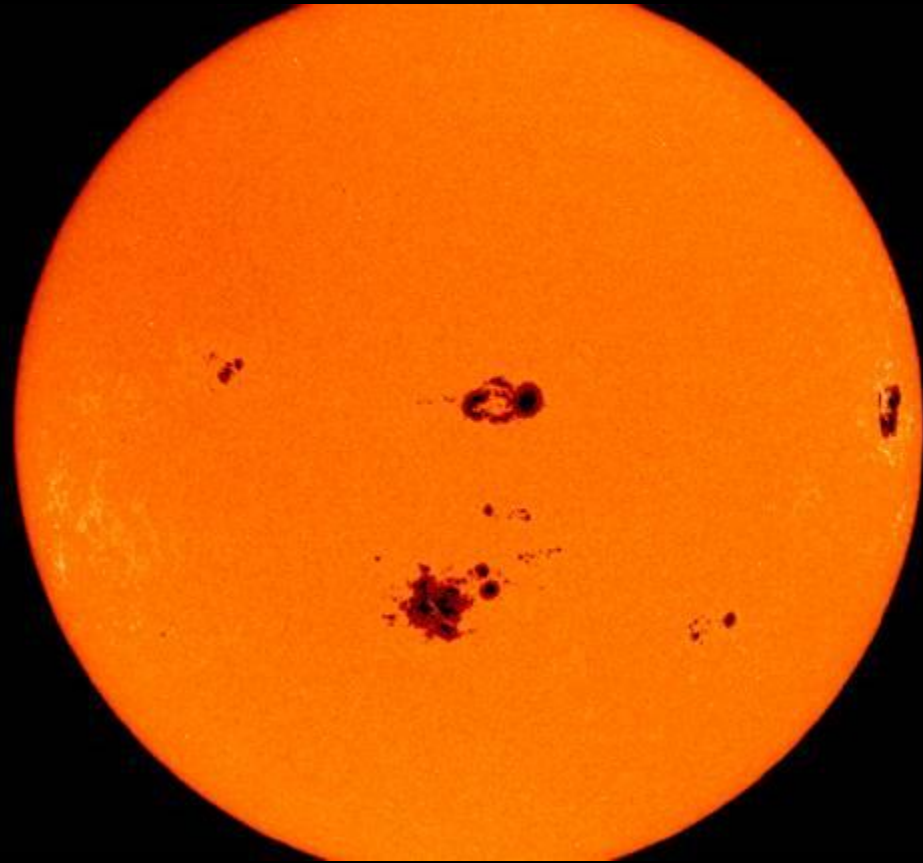
Safe Eclipse Viewing: Shadows



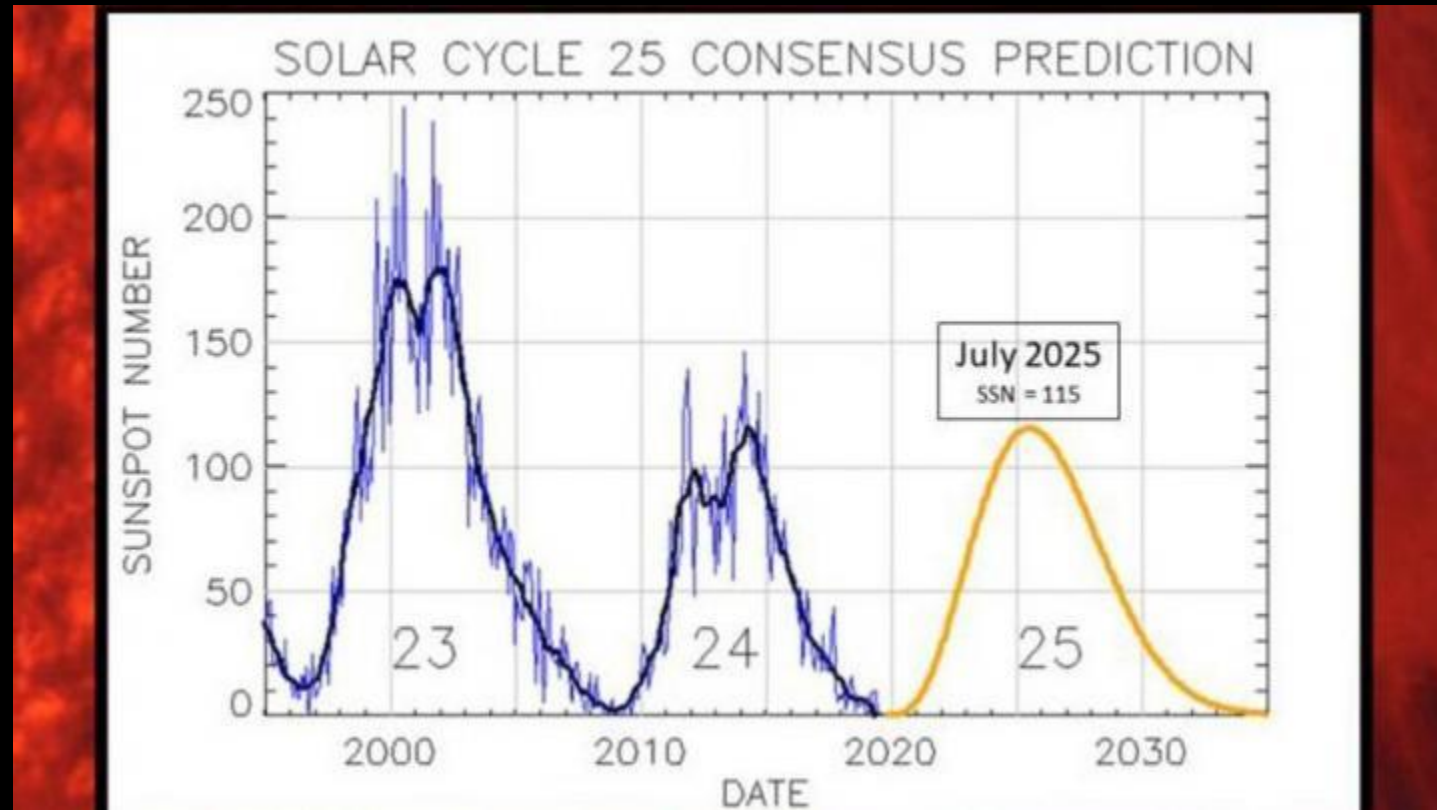
Credit: Emily Maletz for the NISE Network



May See Sunspots While Observing the Sun During the Eclipse



Could Hit Maximum Sometime in 2024



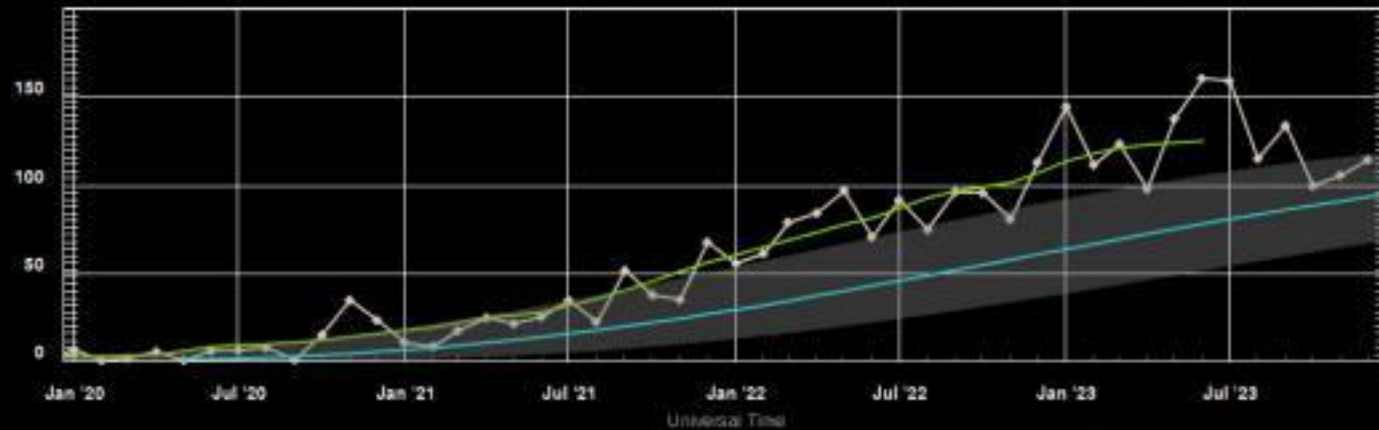
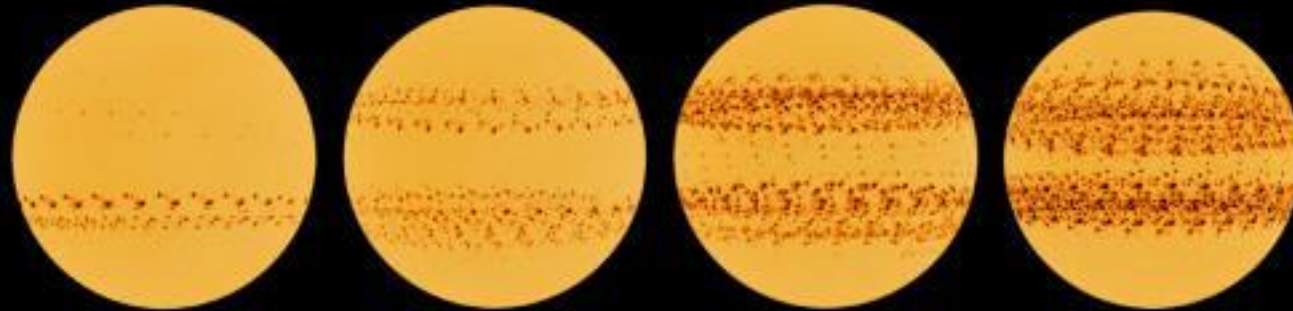
Sunspots in solar cycle 25

2020

2021

2022

2023

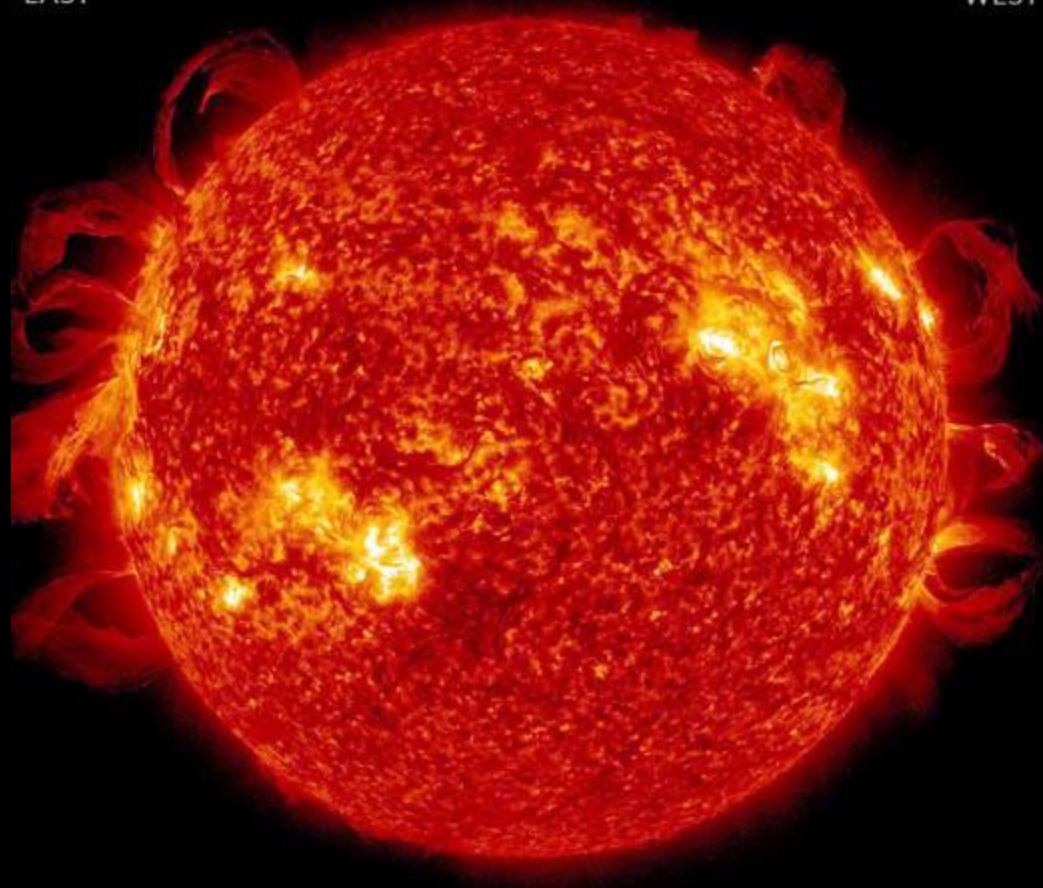


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Edited by Ali Ebrahimi Seraji



EAST

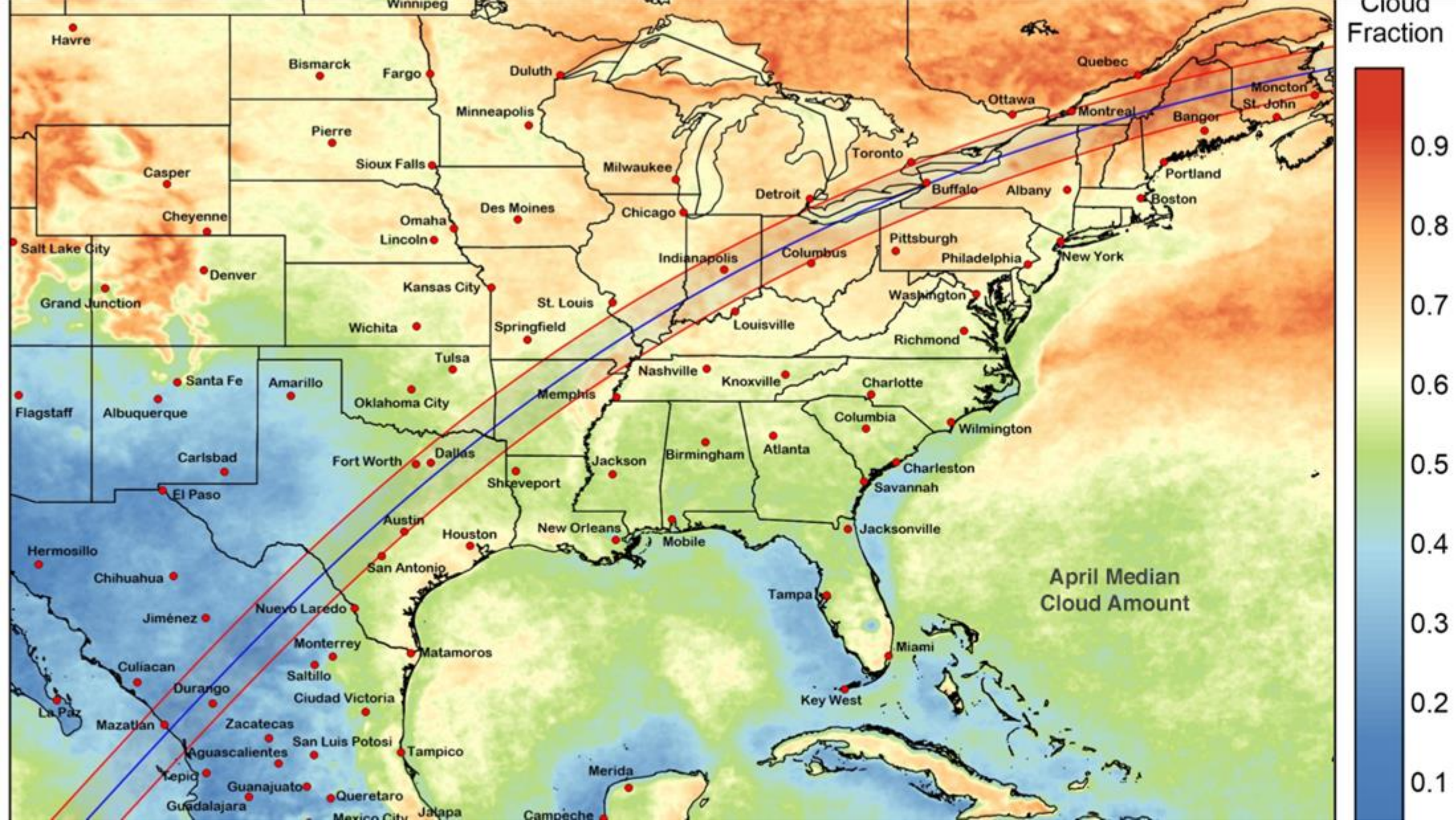
WEST



January 2024 Solar Flares

@ŞENOL ŞANLI





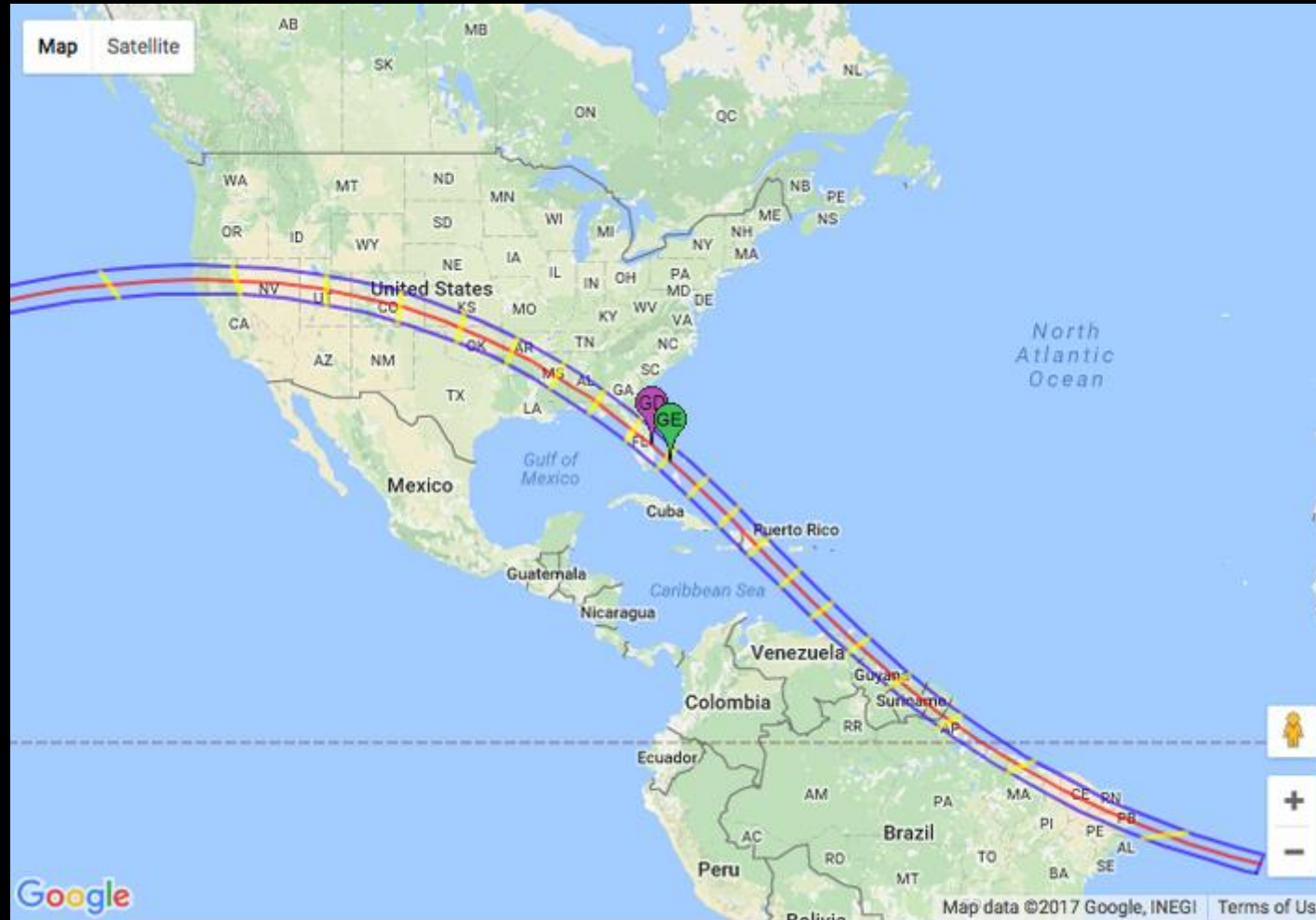
Check Your Backyard



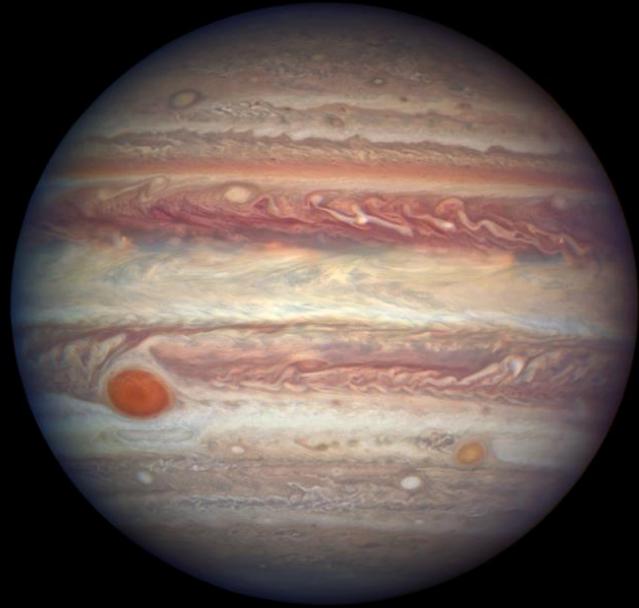
<https://www.timeanddate.com/eclipse/>

Time	Phase	Event	Direction	Altitude
1:58:52 pm Mon, Apr 8		<i>Partial Eclipse begins</i> The Moon touches the Sun's edge.	↓ 192°	↗ 55.5°
3:13:16 pm Mon, Apr 8		<i>Full Eclipse begins</i> The Sun becomes totally eclipsed.	↙ 221°	↗ 49.1°
3:15:13 pm Mon, Apr 8		<i>Maximum Eclipse</i> Moon is closest to the center of the Sun.	↙ 222°	↗ 48.8°
3:17:09 pm Mon, Apr 8		<i>Full Eclipse ends</i> The total eclipse ends.	↙ 222°	↗ 48.6°
4:28:39 pm Mon, Apr 8		<i>Partial Eclipse ends</i> The Moon leaves the Sun's edge.	↙ 242°	↗ 38.0°

Total Solar Eclipse August 12, 2045



Star Party – April 6 8:30-10:00 pm Walker Road Park!



RESOURCES

**Recommended solar glasses vendors:
eclipse.aas.org/resources/solar-filters**

Other sites:

timeanddate.org

eclipse.ohio.gov

eclipse2024.org

eclipsewise.com

thisiscleveland.com/2024-solar-eclipse

solarsystem.nasa.gov/eclipses

Nightwise.org

THANK YOU!

