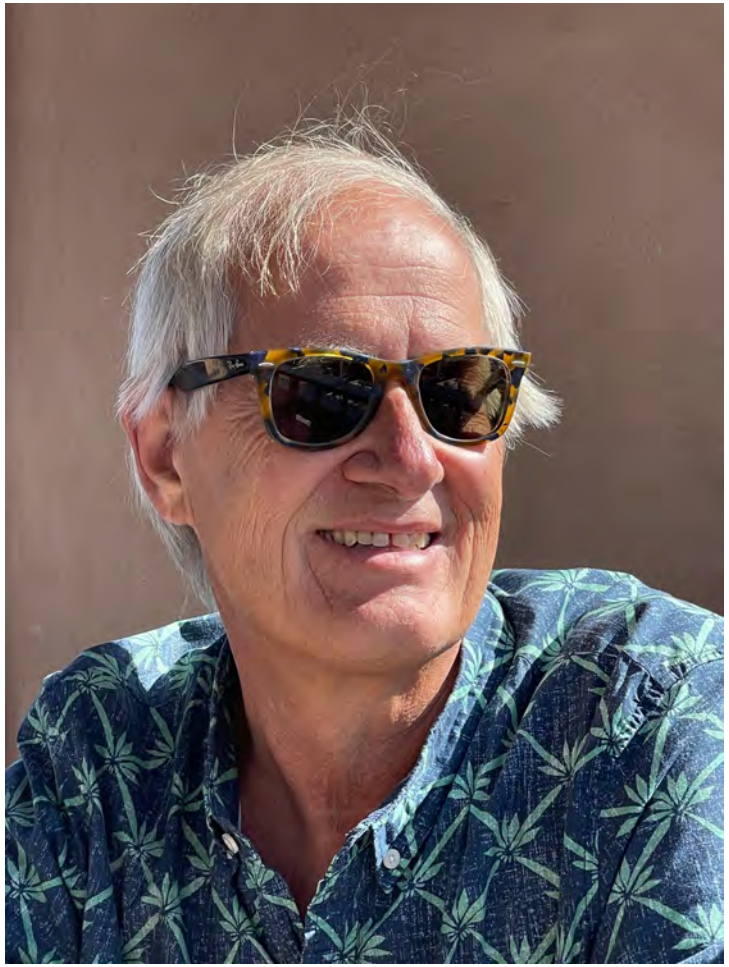
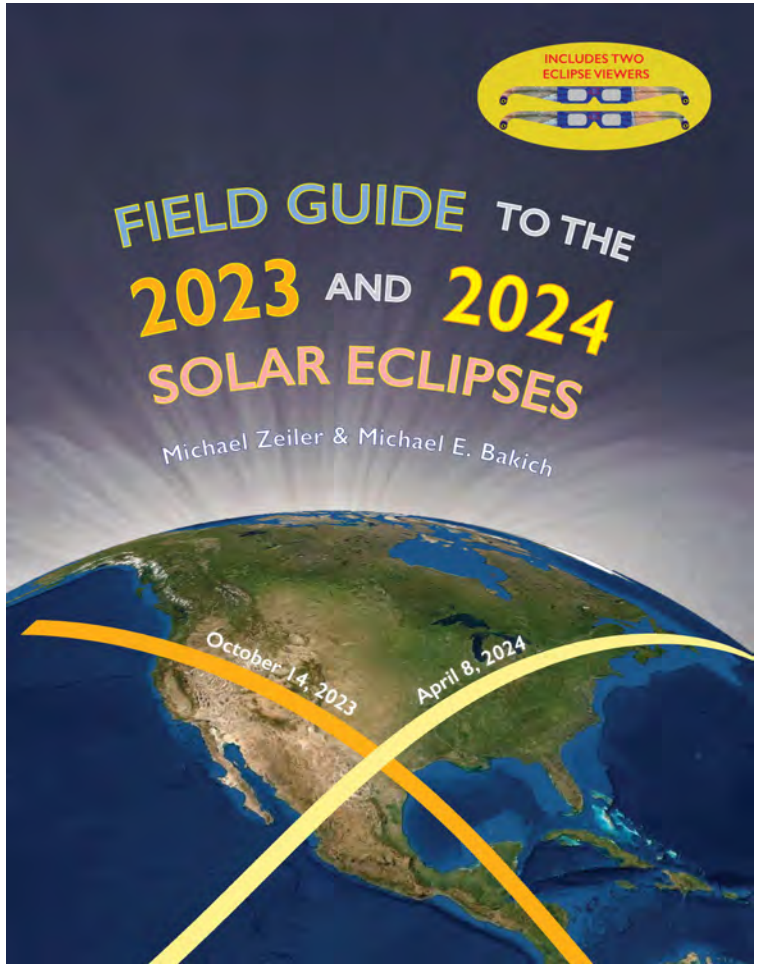
A Tour of the North American Solar Eclipses of 2023 and 2024

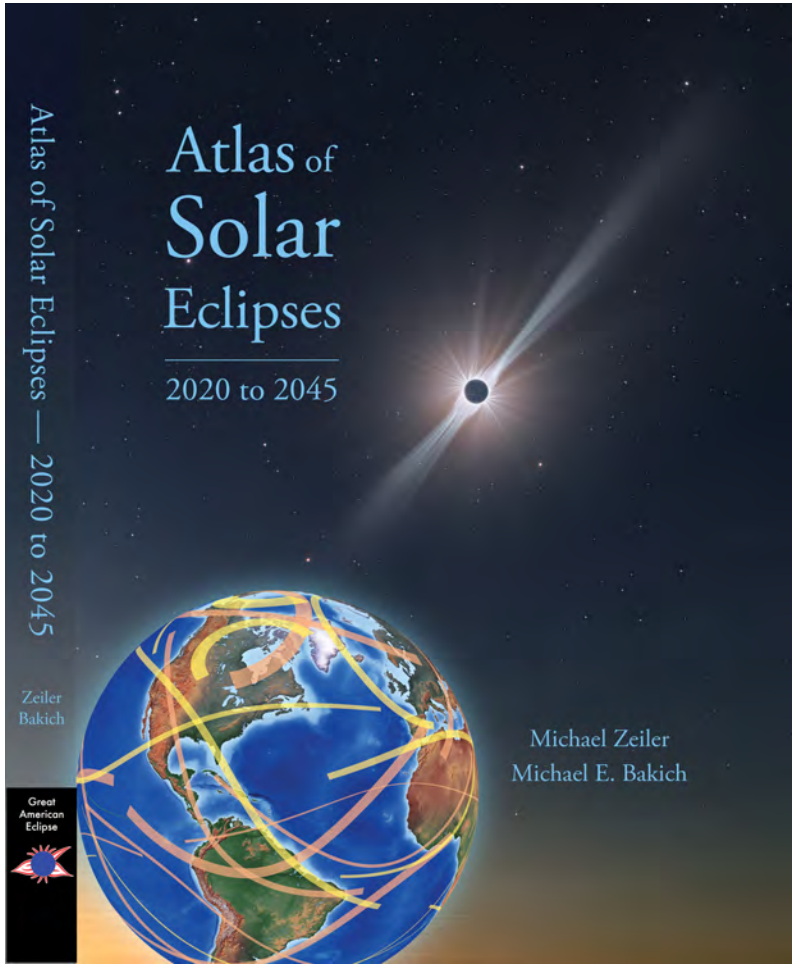
Presentation at the
AAS Solar Eclipse
Planning Workshop

Michael Zeiler
April 8, 2022

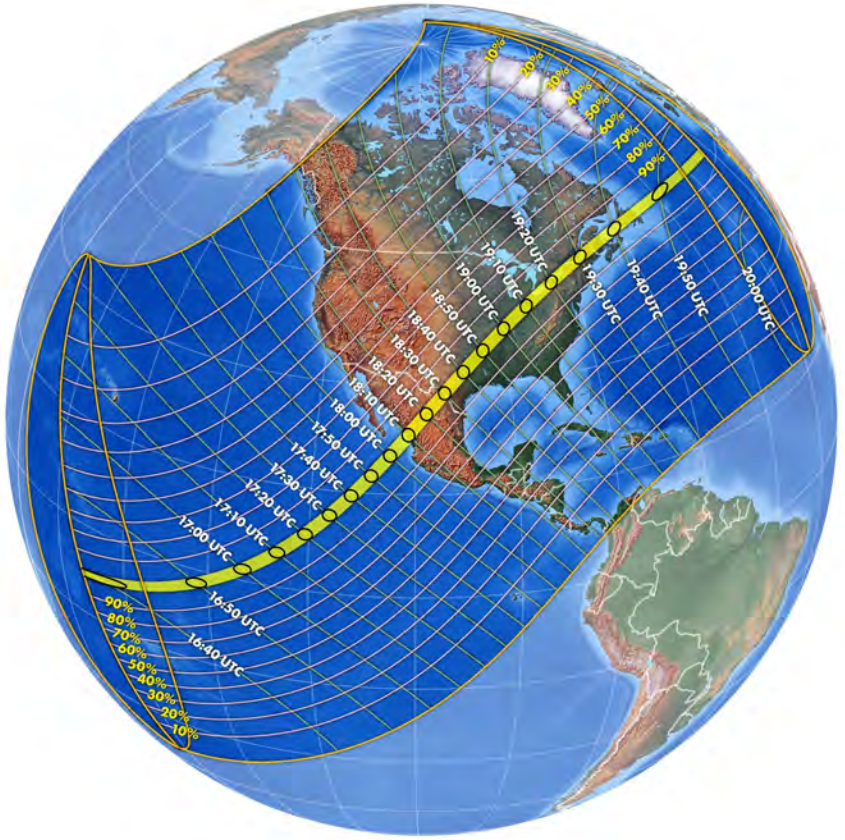
Michael Zeiler, GreatAmericanEclipse.com







Annular Solar Eclipse
October 14, 2023



Total Solar Eclipse
April 8, 2024

What does an eclipse map tell you?

1727, Mexico – Earliest eclipse map in the Americas. California as an island

The times that the eclipse begins and ends

The times of peak eclipse

How long the eclipse lasts

The magnitude of partial eclipse

How high the eclipse is in the sky

Where the eclipse begins at sunrise and ends at sunset

Reading an eclipse map

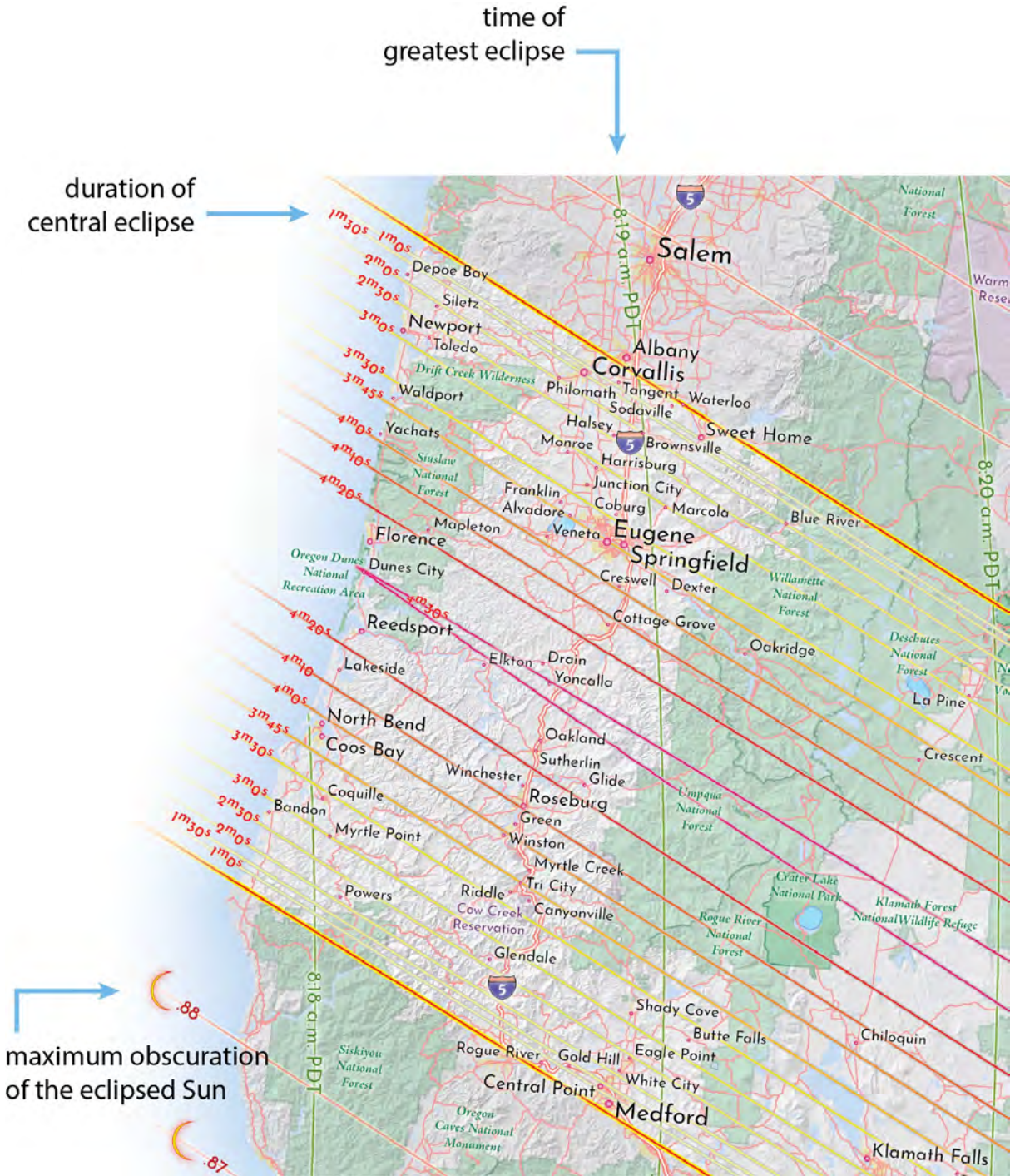
Precise limit lines between partial and total/annular eclipse

Easy to estimate durations

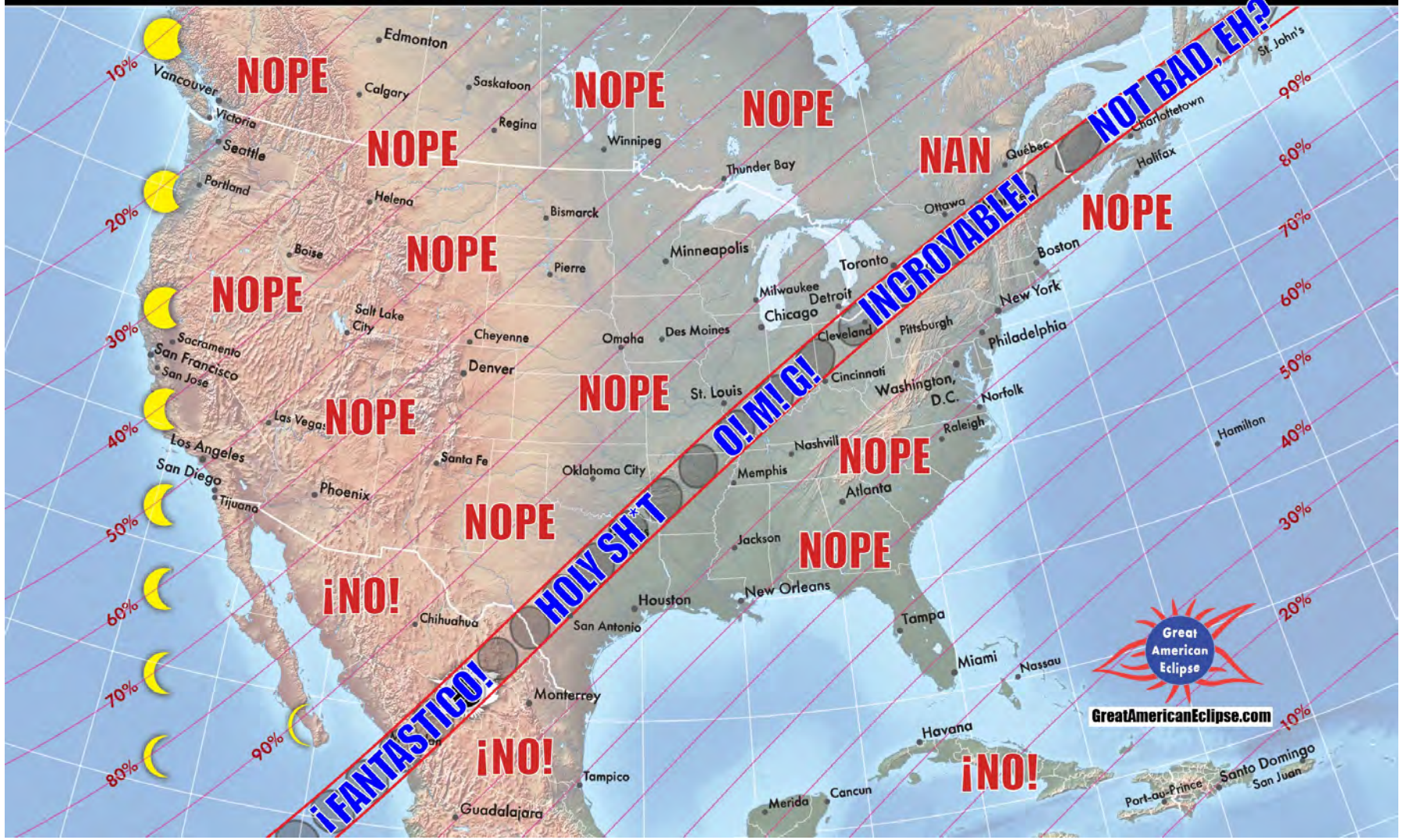
Local times of greatest eclipse

Target the center of the path while keeping mobility options open

Combine map reading with climate study, Eclipsophile.com

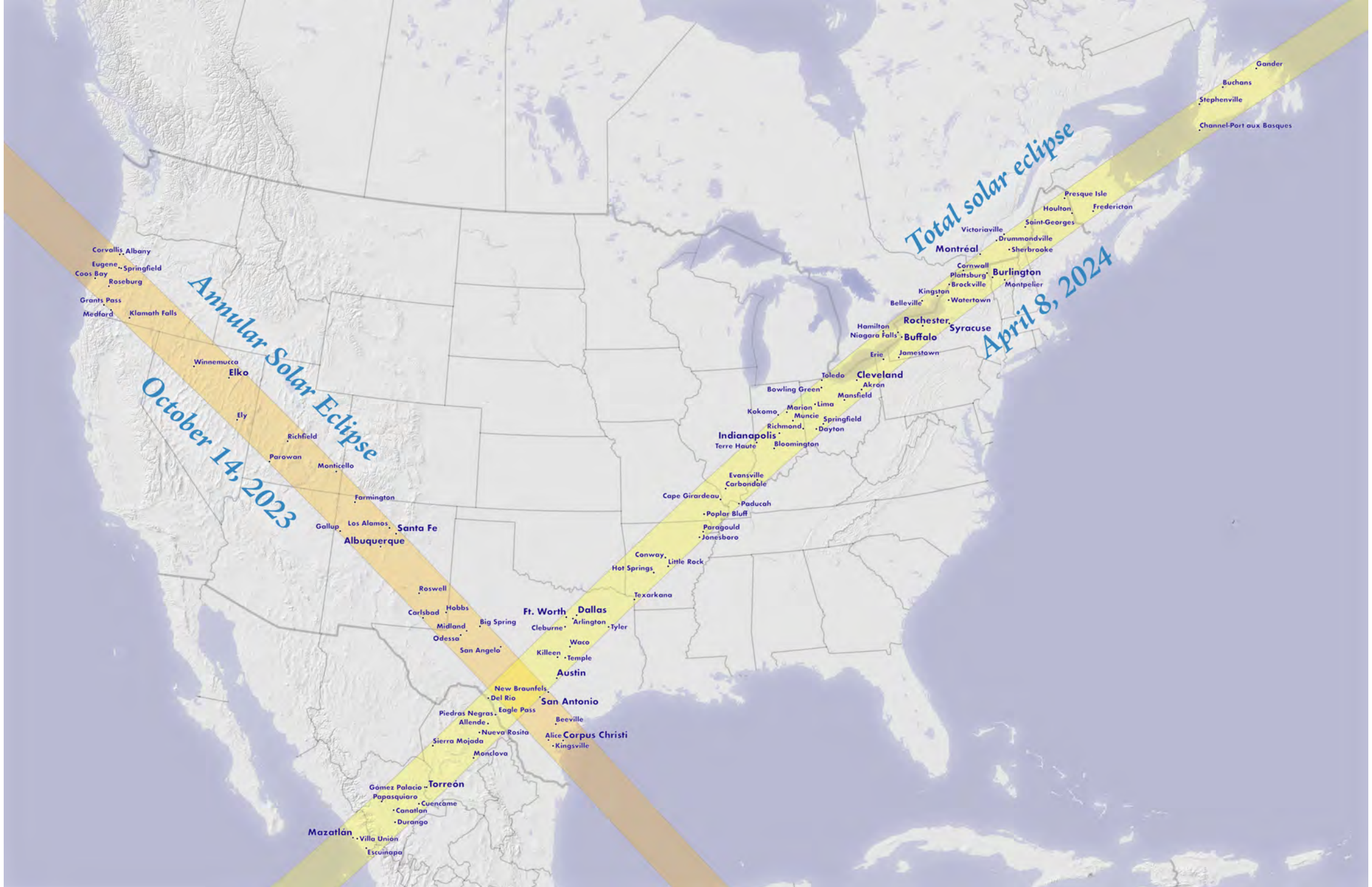


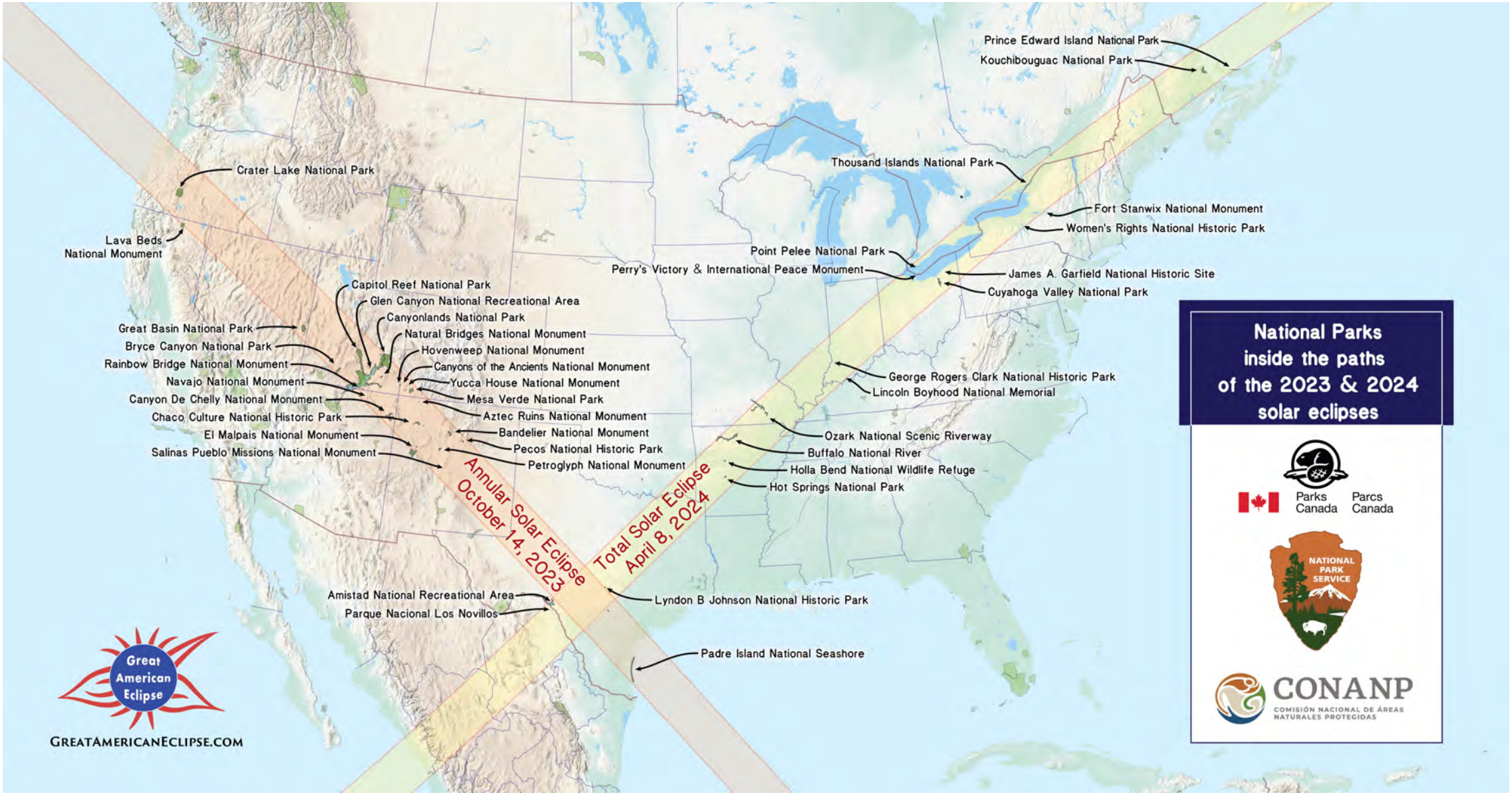
HOW TO READ A MAP OF THE APRIL 8, 2024 TOTAL SOLAR ECLIPSE



Essential resources

- Eclipse.aas.org - Eye-safety instructions, portal to trust-worthy sites and reliable sources of eclipse filters
- Eclipsewise.com – Authoritative predictions of solar and lunar eclipses over millenia. By Fred Espenak
- Eclipsophile.com – The single-best source for eclipse climate and weather. Each eclipse has a detailed synopsis on weather prospects. By Jay Anderson and Jennifer West
- Eclipse2024.org - Excellent 3d and sky models of the eclipse plus comprehensive information on local events. By Dan McGlaun
- xjubier.free.fr - Eclipse maps implemented on the Google Maps platform. Whenever a location is selected, the app will calculate and display detailed eclipse circumstance. By Xavier Jubier
- GreatAmericanEclipse.com - Source of eclipse maps and information about solar eclipses, especially the coming North American solar eclipses of 2023 and 2024.


Annular Solar Eclipse
October 14, 2023
Total solar eclipse
April 8, 2024
Corvallis
Albany
Eugene
Springfield
Coos Bay
Roseburg
Grants Pass
Medford
Klamath Falls
Winnemucca
Elko
Ely
Richfield
Parowan
Monticello
Farmington
Gallup
Los Alamos
Santa Fe
Albuquerque
Roswell
Carlsbad
Hobbs
Midland
Odessa
Big Spring
San Angelo
Ft. Worth
Dallas
Arlington
Cleburne
Tyler
Waco
Killeen
Temple
Austin
New Braunfels
Del Rio
San Antonio
Piedras Negras
Eagle Pass
Allende
Beeville
Nueva Rosita
Alice
Corpus Christi
Kingsville
Sierra Mojada
Monclova
Gómez Palacio
Torreón
Papasquiaro
Cuencame
Canatlan
Durango
Mazatlán
Villa Unión
Escuinapa
Texarkana
Conway
Little Rock
Hot Springs
Cape Girardeau
Paducah
Poplar Bluff
Paragould
Jonesboro
Evansville
Carbondale
Indianapolis
Terre Haute
Bloomington
Richmond
Dayton
Springfield
Kokomo
Marion
Lima
Muncie
Bowling Green
Toledo
Cleveland
Akron
Mansfield
Erie
Jamestown
Hamilton
Niagara Falls
Buffalo
Rochester
Syracuse
Belleville
Kingston
Watertown
Cornwall
Plattsburg
Brockville
Burlington
Montpelier
Victoriaville
Drummondville
Sherbrooke
Montréal
Saint-Georges
Houlton
Presque Isle
Fredericton
Gander
Buchans
Stephenville
Channel-Port aux Basques


Prince Edward Island National Park
Kouchibouguac National Park
Thousand Islands National Park
Fort Stanwix National Monument
Women's Rights National Historic Park
Crater Lake National Park
Lava Beds National Monument
Point Pelee National Park
Perry's Victory & International Peace Monument
James A. Garfield National Historic Site
Cuyahoga Valley National Park
Capitol Reef National Park
Glen Canyon National Recreational Area
Canyonlands National Park
Natural Bridges National Monument
Hovenweep National Monument
Canyons of the Ancients National Monument
Yucca House National Monument
Mesa Verde National Park
Aztec Ruins National Monument
Bandelier National Monument
Pecos National Historic Park
Petroglyph National Monument
Great Basin National Park
Bryce Canyon National Park
Rainbow Bridge National Monument
Navajo National Monument
Canyon De Chelly National Monument
Chaco Culture National Historic Park
El Malpais National Monument
Salinas Pueblo Missions National Monument
George Rogers Clark National Historic Park
Lincoln Boyhood National Memorial
Ozark National Scenic Riverway
Buffalo National River
Holla Bend National Wildlife Refuge
Hot Springs National Park
Annular Solar Eclipse
October 14, 2023
Total Solar Eclipse
April 8, 2024
Amistad National Recreational Area
Parque Nacional Los Novillos
Lyndon B Johnson National Historic Park
Padre Island National Seashore
National Parks inside the paths of the 2023 & 2024 solar eclipses
Parks Canada
Parcs Canada
NATIONAL PARK SERVICE
CONANP
COMISIÓN NACIONAL DE ÁREAS NATURALES PROTEGIDAS
Great American Eclipse
GREATAMERICANECLIPSE.COM


ANNULAR SOLAR ECLIPSE
OCTOBER 14, 2023
TOTAL SOLAR ECLIPSE
APRIL 8, 2024
THE SCIENCE FACTORY
SAN JUAN COLLEGE
LOS ALAMOS NATURE CENTER
SANTA FE COMMUNITY COLLEGE
NEW MEXICO MUSEUM OF NATURAL HISTORY AND SCIENCE
ROSWELL MUSEUM AND ART CENTER
MUSEUM OF THE SOUTHWEST
ANGELO STATE UNIVERSITY
PLANETARIUM TORREON
ESCUELA NAUTICA MERCANTE CAP. ALT. ANTONIO GOMEZ MAQUEO
FORT WORTH MUSEUM OF SCIENCE AND HISTORY
TARLETON STATE UNIVERSITY
TEXAS A&M UNIVERSITY
UNIVERSITY OF TEXAS AT ARLINGTON
TYLER JUNIOR COLLEGE
NAVARRO COLLEGE
CENTRAL TEXAS COLLEGE
TEXAS MUSEUM OF SCIENCE & TECHNOLOGY
SAN ANTONIO COLLEGE
UNIVERSITY OF CENTRAL ARKANSAS
HENDERSON STATE UNIVERSITY
EVANSVILLE MUSEUM
CHARLES W. BROWN PLANETARIUM - BALL STATE UNIVERSITY
BUTLER UNIVERSITY
EAST CENTRAL EDUCATIONAL SERVICE CENTER
ARMSTRONG AIR & SPACE MUSEUM
BOONSHOFT MUSEUM OF DISCOVERY
UNIVERSITY OF TOLEDO
BOWLING GREEN STATE UNIVERSITY
UNIVERSITY OF FINDLAY
KENT STATE UNIVERSITY
CLEVELAND MUSEUM OF NATURAL HISTORY
ROBERT MCCULLOUGH SCIENCE CENTER
PENN STATE BEHREND
EDINBORO UNIVERSITY OF PENNSYLVANIA
ALLEGHENY COLLEGE
WILLIAM J. MCCALLION PLANETARIUM
WILLIAMSVILLE SPACE LAB PLANETARIUM
ROCHESTER MUSEUM & SCIENCE CENTER
SUNY GENESEO
SUNY OSWEGO
MUSEUM OF SCIENCE & TECHNOLOGY
RIO TINTO ALCAN PLANETARIUM
SUNY PLATTSBURGH
SUNY POTSDAM
FAIRBANKS MUSEUM & PLANETARIUM
FRANCIS MALCOLM SCIENCE CENTER
PLANETARIUMS INSIDE THE PATHS OF THE 2023 & 2024 SOLAR ECLIPSES
DATA SOURCE: WWW.APLF-PLANETARIUMS.ORG
Great American Eclipse
GREATAMERICANECLIPSE.COM

2 GREAT TEXAN ECLIPSES

OCTOBER 14, 2023

APRIL 8, 2024

Two solar eclipses criss-cross Texas in 6 months! This is a rare and exceptional circumstance for any particular spot on Earth. Consequently, Texas will be a magnet for perhaps several million visitors from across the nation and around the world.

Millions of people saw the total solar eclipse of August 21, 2017 which crossed the USA from Oregon to South Carolina. Nearly everyone who saw totality in 2017 agrees that it was a peak life experience and the most beautiful sight you can see in the sky. Texas is uniquely situated for a repeat experience.

On October 14, 2023, an annular solar eclipse begins over the Pacific Ocean and reaches the USA at Oregon. After passing through California, Nevada, Utah, Colorado, Arizona, and New Mexico, the path of annular solar eclipse bisects Texas. People near the middle of the path of annular solar eclipse will see the dramatic view of the Sun as a brilliant ring for nearly five minutes.

On April 8, 2024, a total solar eclipse first touches the Pacific coast of Mexico at Mazatlan. After racing across Mexico, the total solar eclipse first darkens Texas at Eagle Pass. People near the middle of the path of the total solar eclipse will enjoy a generous duration of over four minutes, nearly twice the durations of totality as the August 21, 2017 eclipse.

Viewing the eclipses

Annular Solar Eclipse of October 14, 2023

The annular solar eclipse begins in Texas in the late morning. People inside the path of annular solar eclipse will have the opportunity to view the incredible sight of the Sun as a dazzling ring with a maximum duration of 4 minutes, 52 seconds.

At all stages of this eclipse, you must wear solar eclipse glasses or other safe solar viewing method. Learn to view an eclipse safely at **eclipse.aas.org/eye-safety**.

While you will notice the sky dim and shadows become crisp, the Sun will not be completely eclipsed. Use approved solar filters securely fitted on binoculars for a dazzling show of Baily's Beads and the rolling annulus.

The eclipse will begin with a small nibble of the Moon's profile against the Sun's disk. The partial stage of eclipse will last about 1 hour and 20 minutes. The annular stage of eclipse in Texas will last up to 4 minutes and 52 seconds, as indicated on the map. After the annular stage of eclipse, the closing partial stage of eclipse will last about one hour and 20 minutes.

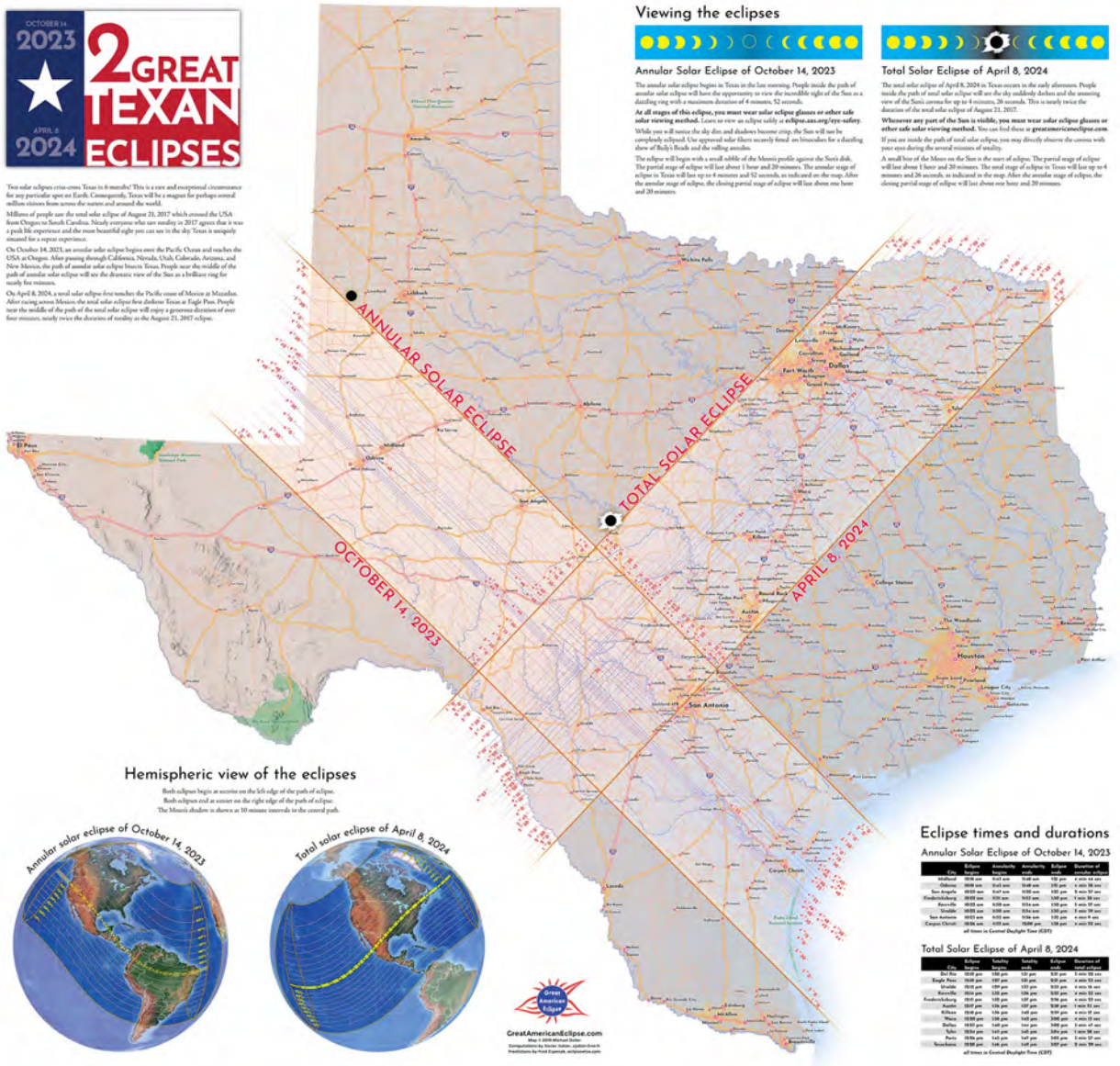
Total Solar Eclipse of April 8, 2024

The total solar eclipse of April 8, 2024 in Texas occurs in the early afternoon. People inside the path of total solar eclipse will see the sky suddenly darken and the stunning view of the Sun's corona for up to 4 minutes, 26 seconds. This is nearly twice the duration of the total solar eclipse of August 21, 2017.

Whenever any part of the Sun is visible, you must wear solar eclipse glasses or other safe solar viewing method. You can find these at **greatamericaneclipse.com**.

If you are inside the path of total solar eclipse, you may directly observe the corona with your eyes during the several minutes of totality.

A small bite of the Moon on the Sun is the start of eclipse. The partial stage of eclipse will last about 1 hour and 20 minutes. The total stage of eclipse in Texas will last up to 4 minutes and 26 seconds, as indicated in the map. After the annular stage of eclipse, the closing partial stage of eclipse will last about one hour and 20 minutes.



Hemispheric view of the eclipses

Both eclipses begin at sunrise on the left edge of the path of eclipse.
Both eclipses end at sunset on the right edge of the path of eclipse.
The Moon's shadow is shown at 10 minute intervals in the central path.

GreatAmericanEclipse.com

Eclipse times and durations

Annular Solar Eclipse of October 14, 2023

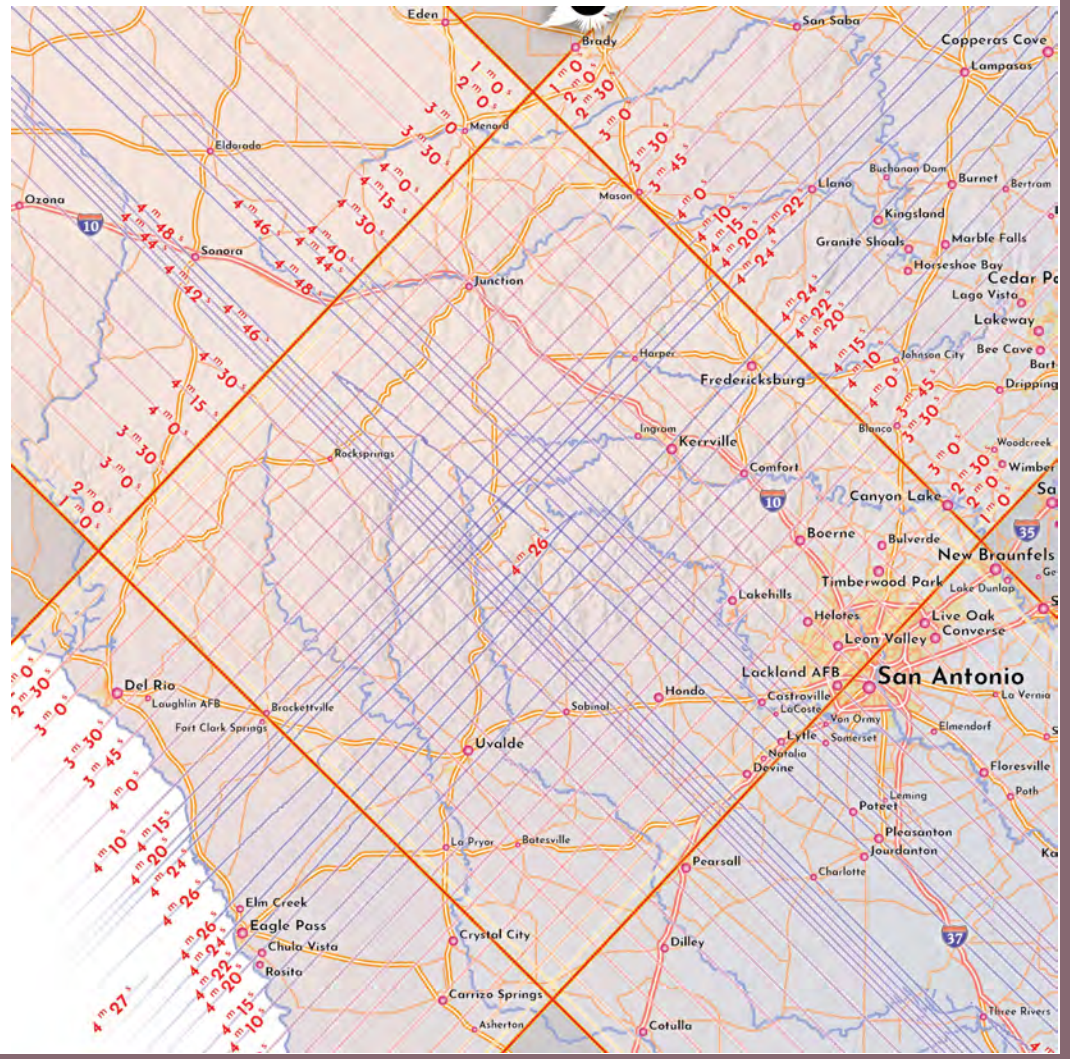
City	Eclipse begins	Annularity begins	Annularity ends	Eclipse ends	Duration of annular eclipse
Midland	10:08 am	11:43 am	11:48 am	1:32 pm	4 min 44 sec
Odessa	10:08 am	11:43 am	11:48 am	1:32 pm	4 min 56 sec
San Angelo	10:03 am	11:47 am	11:52 am	1:32 pm	5 min 57 sec
Fredericksburg	10:01 am	11:51 am	11:57 am	1:32 pm	5 min 56 sec
Kerrville	10:01 am	11:50 am	11:54 am	1:30 pm	4 min 59 sec
Uvalde	10:01 am	11:48 am	11:54 am	1:30 pm	5 min 59 sec
San Antonio	10:01 am	11:51 am	11:56 am	1:31 pm	4 min 41 sec
Corpus Christi	10:01 am	11:49 am	11:54 pm	1:30 pm	4 min 52 sec

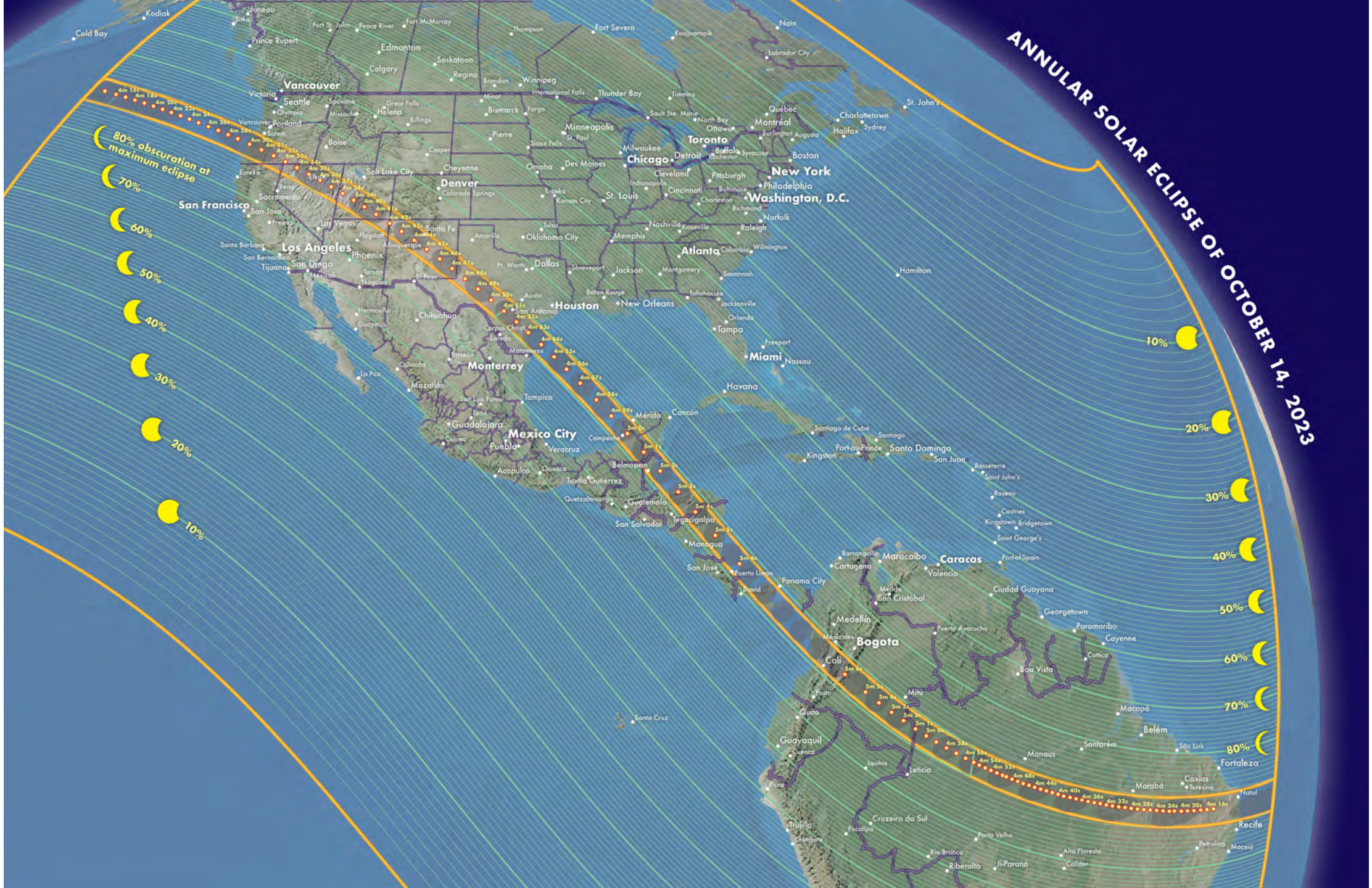
all times in Central Daylight Time (CDT)

Total Solar Eclipse of April 8, 2024

City	Eclipse begins	Totality begins	Totality ends	Eclipse ends	Duration of total eclipse
Del Rio	11:55 pm	1:28 pm	1:31 pm	3:01 pm	3 min 33 sec
Eagle Pass	11:49 pm	1:27 pm	1:31 pm	3:01 pm	4 min 53 sec
Uvalde	11:51 pm	1:29 pm	1:33 pm	3:03 pm	4 min 36 sec
Kerrville	11:54 pm	1:30 pm	1:34 pm	3:03 pm	4 min 53 sec
Fredericksburg	11:55 pm	1:30 pm	1:35 pm	3:04 pm	4 min 53 sec
Austin	11:57 pm	1:31 pm	1:35 pm	3:04 pm	4 min 51 sec
Killeen	11:58 pm	1:31 pm	1:35 pm	3:04 pm	4 min 37 sec
Waco	11:58 pm	1:31 pm	1:35 pm	3:05 pm	4 min 35 sec
Dallas	11:57 pm	1:30 pm	1:34 pm	3:05 pm	4 min 47 sec
Tyler	11:54 pm	1:31 pm	1:35 pm	3:04 pm	4 min 38 sec
Paris	11:56 pm	1:32 pm	1:37 pm	3:05 pm	4 min 37 sec
Texarkana	11:58 pm	1:34 pm	1:39 pm	3:07 pm	4 min 39 sec

all times in Central Daylight Time (CDT)




ANNULAR SOLAR ECLIPSE OF OCTOBER 14, 2023
80% obscuration at maximum eclipse
70%
60%
50%
40%
30%
20%
10%
Vancouver
Seattle
Portland
San Francisco
Los Angeles
San Diego
Las Vegas
Phoenix
Denver
Salt Lake City
Albuquerque
Santa Fe
Dallas
Houston
San Antonio
Austin
Oklahoma City
Kansas City
St. Louis
Chicago
Minneapolis
Toronto
Detroit
Cleveland
Pittsburgh
New York
Philadelphia
Washington, D.C.
Boston
Montréal
Atlanta
Nashville
Memphis
New Orleans
Miami
Tampa
Orlando
Jacksonville
Charlotte
Raleigh
Norfolk
Monterrey
Mexico City
Guadalajara
Puebla
Veracruz
Cancún
Mérida
Havana
Nassau
Kingston
Port-au-Prince
Santo Domingo
San Juan
Caracas
Maracaibo
Barranquilla
Cartagena
Valencia
Panama City
San José
San Salvador
Guatemala
Tegucigalpa
Managua
Belmopan
Bogota
Medellín
Cali
Quito
Guayaquil
Lima
Trujillo
Cruzeiro do Sul
Manaus
Belém
Fortaleza
Recife
Natal
Georgetown
Paramaribo
Cayenne
Boa Vista
Macapá
Santarém
Marabá
Teresina
São Luís
Maceió
Petrolina
Porto Velho
Rio Branco
Riberalta
Ji-Paraná
Alta Floresta
Colíder
Iquitos
Leticia
Pucallpa
Chimbote
Piura
Cuenca
Santa Cruz
Ciudad Guayana
Maracaibo
Hamilton
Halifax
Sydney
Charlottetown
St. John's
Labrador City
Nain
Kuujjuarapik
Fort Severn
Thunder Bay
Winnipeg
Regina
Saskatoon
Calgary
Edmonton
Prince Rupert
Cold Bay
Kodiak
Juneau
Sitka
Fort St. John
Peace River
Fort McMurray
Thompson
Timmins
Sault Ste. Marie
North Bay
Ottawa
Québec
Sioux Falls
Omaha
Des Moines
Milwaukee
Buffalo
Rochester
Syracuse
Burlington
Augusta
Pierre
Bismarck
Minot
Fargo
Great Falls
Helena
Billings
Missoula
Spokane
Olympia
Victoria
Vancouver
Salem
Boise
Casper
Cheyenne
Colorado Springs
Eureka
Elko
Reno
Sacramento
San Jose
Fresno
Santa Barbara
San Bernardino
Tijuana
Mexicali
Tucson
Nogales
Flagstaff
Amarillo
Topeka
Shreveport
Jackson
Montgomery
Savannah
Columbia
Wilmington
Charleston
Richmond
Baltimore
Indianapolis
Cincinnati
Knoxville
Tallahassee
Baton Rouge
Ft. Worth
El Paso
Chihuahua
Hermosillo
Guaymas
La Paz
Culiacán
Mazatlán
Torreón
Matamoros
Laredo
Corpus Christi
Tampico
San Luis Potosí
León
Colima
Acapulco
Oaxaca
Tuxtla Gutiérrez
Quetzaltenango
Campeche
Belmopan
Freeport
Santiago de Cuba
Santiago
Basseterre
Saint John's
Roseau
Castries
Kingstown
Bridgetown
Saint George's
Port-of-Spain
Barranquilla
Cartagena
Puerto Limon
David
Mérida
San Cristóbal
Puerto Ayacucho
Manizales
Cottica
Pasto
Mitú
Tarapoto
Pucallpa
Porto Velho
Rio Branco
Riberalta
Ji-Paraná
Alta Floresta
Colíder
Petrolina
Maceió
Caxias
Teresina
Marabá
Santarém
Manaus
Belém
Macapá
Fortaleza
Natal
Recife
Iquitos
Leticia
Piura
Cuenca
Guayaquil
Quito
Santa Cruz
Trujillo
Chimbote
Cruzeiro do Sul
Pucallpa
Porto Velho
Rio Branco
Riberalta
Ji-Paraná
Alta Floresta
Colíder
4m 16s
4m 18s
4m 20s
4m 22s
4m 24s
4m 26s
4m 28s
4m 30s
4m 32s
4m 34s
4m 36s
4m 37s
4m 38s
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4m 57s
4m 58s
4m 59s
5m 0s
5m 1s
5m 2s
5m 3s
5m 4s
5m 5s
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4m 58s
4m 56s
4m 54s
4m 52s
4m 48s
4m 44s
4m 40s
4m 36s
4m 32s
4m 28s
4m 24s
4m 20s
4m 16s


ANNULAR SOLAR ECLIPSE
OCTOBER 14, 2023
During an annular solar eclipse, the apparent size of the Moon's disk is slightly smaller than the apparent size of the Sun. Therefore the Sun appears as a brilliant ring if you are inside the path of annularity. This is a striking and otherworldly sight, but you must use eclipse glasses, solar filters, or other safe viewing method during all stages of eclipse.
Inside the path of annularity, times of duration are given. The antumbral shadow of the Sun is shown at 6 minute intervals. Outside the path, the marked times indicate the moment of greatest eclipse. The percentage values and figures show the degree of maximum obscuration of the Sun.
PATH OF ANNULAR SOLAR ECLIPSE
CENTRAL DURATION 3 MINUTES 51 SECONDS
CENTRAL DURATION 4 MINUTES 29 SECONDS
CENTRAL DURATION 4 MINUTES 17 SECONDS
CENTRAL DURATION 3 MINUTES 51 SECONDS
CENTRAL DURATION 3 MINUTES 29 SECONDS
CENTRAL DURATION 2 MINUTES 57 SECONDS
CENTRAL DURATION 2 MINUTES 24 SECONDS
CENTRAL DURATION 1 MINUTE 44 SECONDS
CENTRAL DURATION 1 MINUTE 4 SECONDS
9:16 AM PDT
9:31 AM PDT
10:22 AM MDT
10:37 AM MDT
10:51 AM MDT
10:33 AM MDT
10:06 AM MDT
10:19 AM MDT
11:42 AM CDT
11:45 AM CDT
11:48 AM CDT
11:51 AM CDT
11:54 AM CDT
11:57 AM CDT
12:00 PM CDT
12:03 PM CDT
12:06 PM CDT
9:15 AM PDT
85%
80%
75%
70%
65%
60%
55%
50%
45%
WASHINGTON
OREGON
CALIFORNIA
IDAHO
NEVADA
MONTANA
WYOMING
UTAH
ARIZONA
COLORADO
NEW MEXICO
NEBRASKA
KANSAS
OKLAHOMA
TEXAS
IOWA
MISSOURI
ILLINOIS
KENTUCKY
TENNESSEE
MISSISSIPPI
LOUISIANA
BAJA CALIFORNIA
BAJA CALIFORNIA SUR
SONORA
CHIHUAHUA
COAHUILA
NUEVO LEON
TAMAULIPAS
DURANGO
ZACATECAS
SAN LUIS POTOSI
SINALOA
Seattle
Portland
San Francisco
Los Angeles
San Diego
Las Vegas
Phoenix
Salt Lake City
Denver
Albuquerque
Dallas
Houston
Chicago
St. Louis
Nashville
Memphis
Omaha
Monterrey
Great American Eclipse
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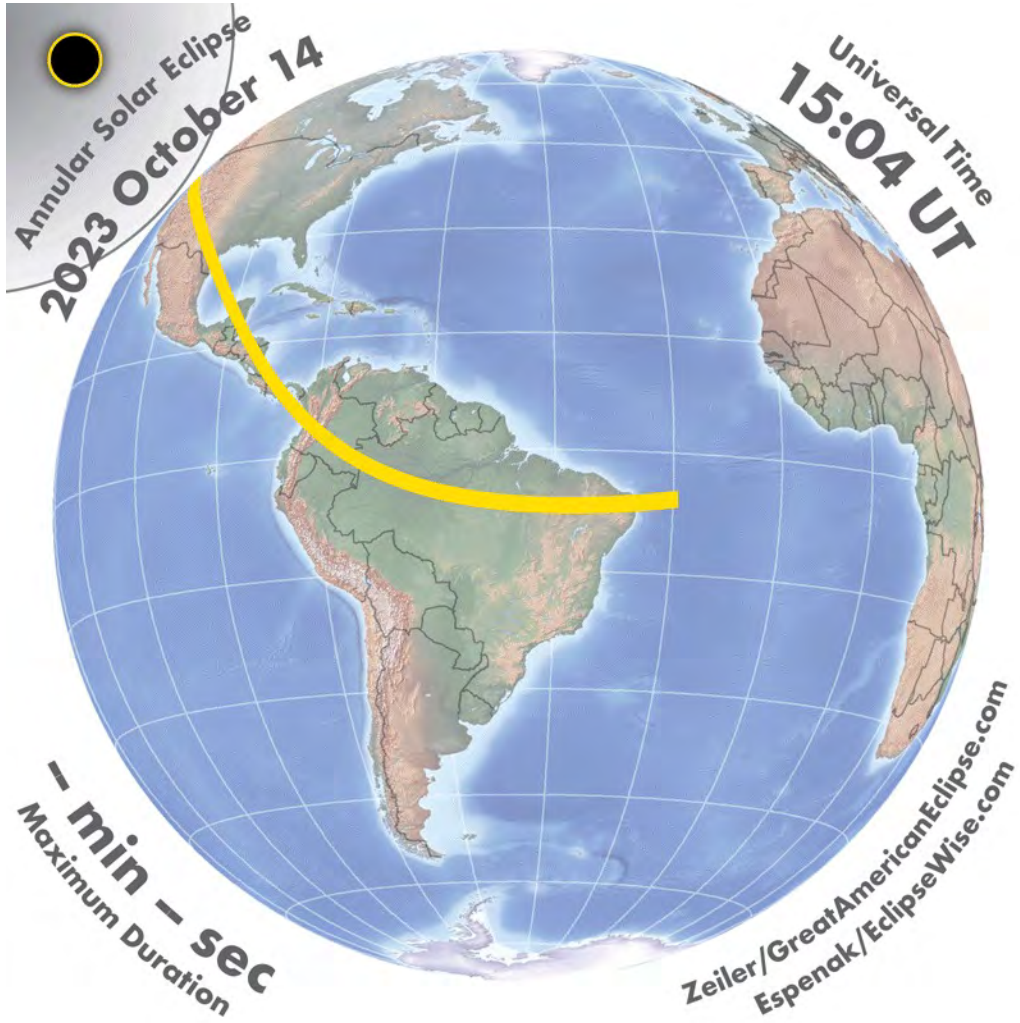
Predictions by Fred Espenak, eclipsewise.com

Annular Solar Eclipse of October 14, 2023



A century of solar eclipses

Animated GIFs of
224 partial, annular, and total solar eclipses

A collaboration between
Fred Espenak, eclipsewise.com, and
Michael Zeiler, greatamericaneclipse.com

Ring of Fire Eclipse

OVER THE WESTERN USA

OCTOBER 14, 2023

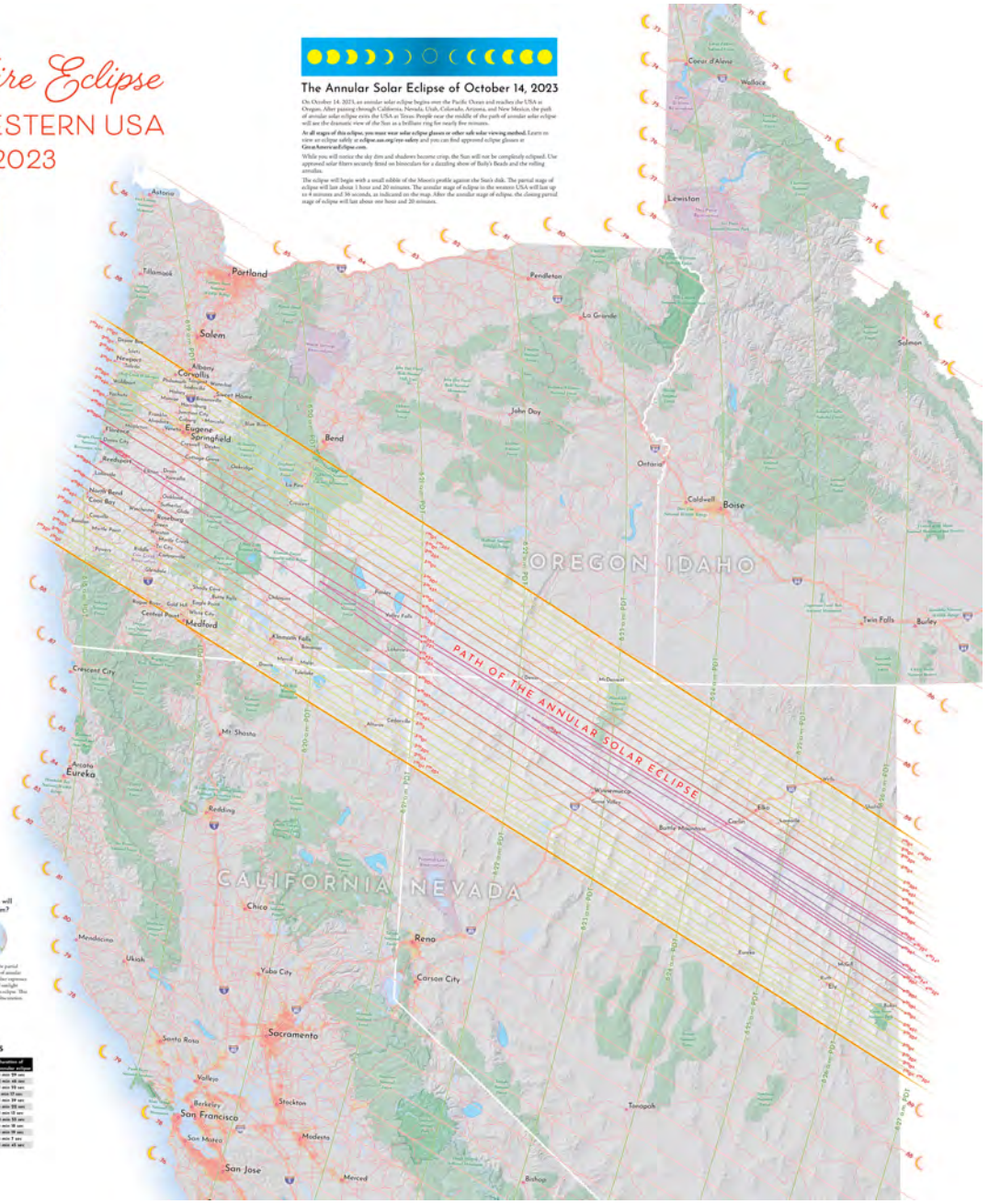
The Annular Solar Eclipse of October 14, 2023

On October 14, 2023, an annular solar eclipse begins over the Pacific Ocean and reaches the USA in Oregon. After passing through California, Nevada, Utah, Colorado, Arizona, and New Mexico, the path of annular solar eclipse exits the USA at Texas. People near the middle of the path of annular solar eclipse will see the dramatic view of the Sun as a brilliant ring for nearly five minutes.

At all stages of this eclipse, you must wear solar eclipse glasses or other safe solar-viewing method. Learn to view an eclipse safely at **eclipse.aas.org/eye-safety** and you can find approved eclipse glasses at **GreatAmericanEclipse.com**.

While you will notice the sky dim and shadows become crisp, the Sun will not be completely eclipsed. Use approved solar filters securely fitted on binoculars for a dazzling show of Baily's Beads and the rolling annulus.

The eclipse will begin with a small nibble of the Moon's profile against the Sun's disk. The partial stage of eclipse will last about 1 hour and 20 minutes. The annular stage of eclipse in the western USA will last up to 4 minutes and 38 seconds, as indicated on the map. After the annular stage of eclipse, the closing partial stage of eclipse will last about one hour and 20 minutes.



GreatAmericanEclipse.com

Key to eclipse features

How long will the annular eclipse last?

Curves inside the path of annular eclipse indicate the duration of how long the Moon's figure is wholly within the Sun.

What time is peak eclipse?

Curves which indicate the midpoint of annular eclipse inside the path and rates of maximum partial eclipse outside the path of annular eclipse.

How much will sunlight dim?

The eclipse will be partial outside the path of annular eclipse. The number expresses the brightness of sunlight during maximum eclipse. This is called eclipse obscuration.

Eclipse times and durations

City	Eclipse begins	Annularity begins	Annularity ends	Eclipse ends	Duration of annular eclipse
Oregon Dunes N.R.A. OR	9:05 a.m.	9:55 a.m.	9:59 a.m.	10:48 a.m.	4 min 39 sec
Bandon OR	9:04 a.m.	9:54 a.m.	9:59 a.m.	10:48 a.m.	5 min 46 sec
Coos Bay OR	9:04 a.m.	9:54 a.m.	9:59 a.m.	10:48 a.m.	5 min 59 sec
Corvallis OR	9:05 a.m.	9:57 a.m.	9:59 a.m.	10:50 a.m.	1 min 57 sec
Eugene OR	9:05 a.m.	9:56 a.m.	9:59 a.m.	10:49 a.m.	3 min 39 sec
Crater Lake N.P. OR	9:05 a.m.	9:57 a.m.	9:59 a.m.	10:49 a.m.	2 min 59 sec
Klamath Falls OR	9:05 a.m.	9:57 a.m.	9:59 a.m.	9:49 a.m.	1 min 51 sec
Alturas CA	9:05 a.m.	9:59 a.m.	9:59 a.m.	9:49 a.m.	0 min 51 sec
Winnemucca NV	9:06 a.m.	9:59 a.m.	9:59 a.m.	9:47 a.m.	0 min 38 sec
Battle Mountain NV	9:06 a.m.	9:59 a.m.	9:59 a.m.	9:48 a.m.	0 min 58 sec
Ely NV	9:07 a.m.	9:59 a.m.	9:59 a.m.	9:50 a.m.	0 min 7 sec
Great Basin N.P. NV	9:07 a.m.	9:56 a.m.	9:58 a.m.	9:53 a.m.	3 min 45 sec

all times in Pacific Daylight Time (PDT)

Ring of Fire Eclipse
OVER THE FOUR CORNERS
OCTOBER 14, 2023

The Annular Solar Eclipse of October 14, 2023

On October 14, 2023, an annular solar eclipse begins over the Pacific Ocean and reaches the USA at Oregon. After passing through California, Nevada, Utah, Colorado, Arizona, and New Mexico, the path of annular solar eclipse exits the USA at Texas. People near the middle of the path of annular solar eclipse will see the dramatic view of the Sun as a brilliant ring for nearly five minutes.

At all stages of the eclipse, you must wear solar eclipse glasses or other safe solar viewing method. Learn to view an eclipse safely at **eclipse.aas.org/eye-safety** and you can find approved eclipse glasses at **GreatAmericanEclipse.com**.

While you will notice the sky dim and shadows become crisp, the Sun will not be completely eclipsed. Use approved solar filters securely fitted on binoculars for a dazzling show of Baily's Beads and the rolling annulus.

The eclipse will begin with a small, nibble of the Moon's profile against the Sun's disk. The partial stage of eclipse will last about 1 hour and 20 minutes. The annular stage of eclipse in the Four Corners region will last up to 4 minutes and 46 seconds, as indicated on the map. After the annular stage of eclipse, the closing partial stage of eclipse will last about one hour and 20 minutes.

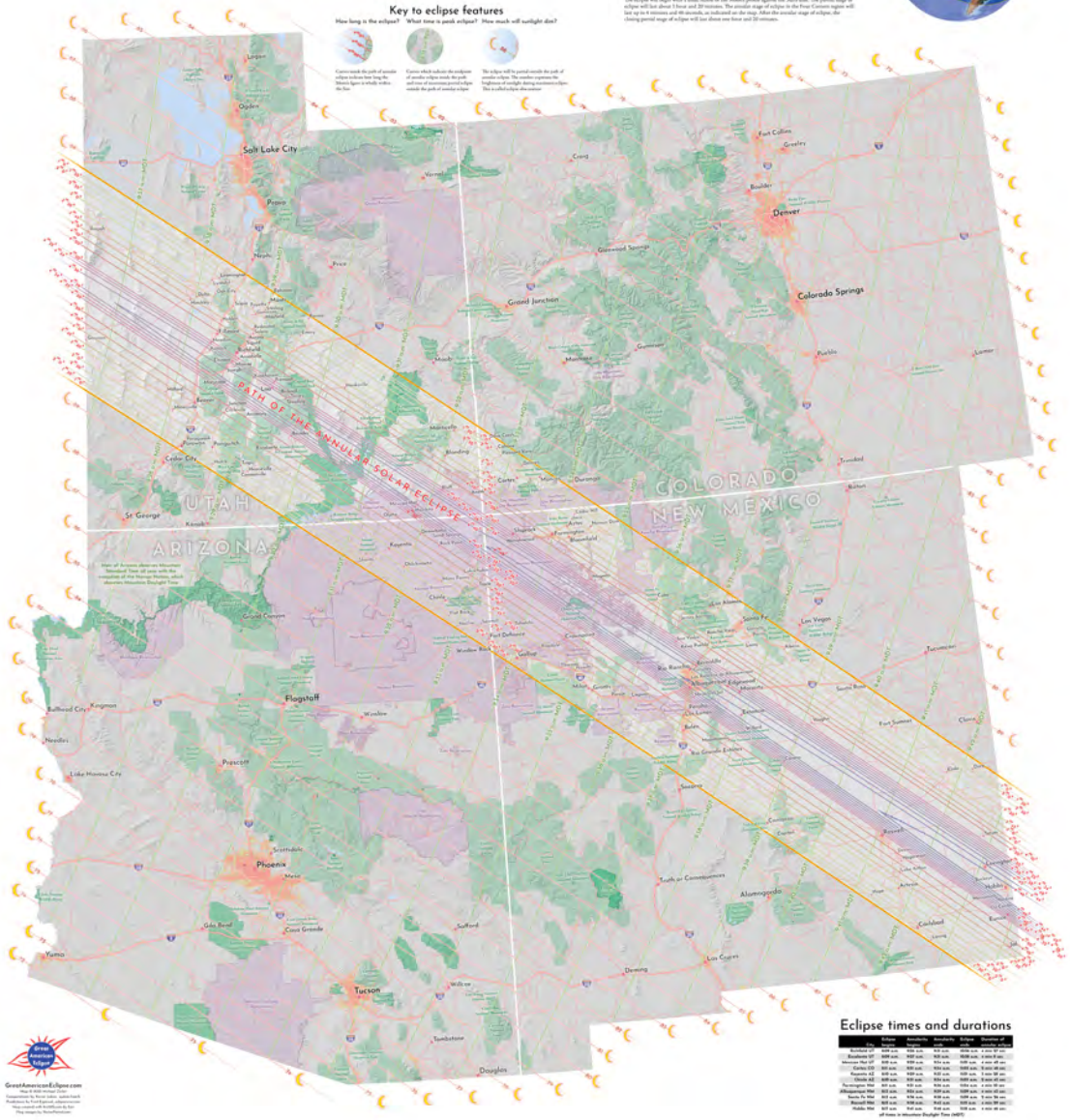
Key to eclipse features

How long is the eclipse? What time is peak eclipse? How much will sunlight dim?

Curves inside the path of annular eclipse indicate how long the eclipse figure is totally within the Sun

Curves which indicate the midpoint of annular eclipse inside the path and time of maximum partial eclipse outside the path of annular eclipse

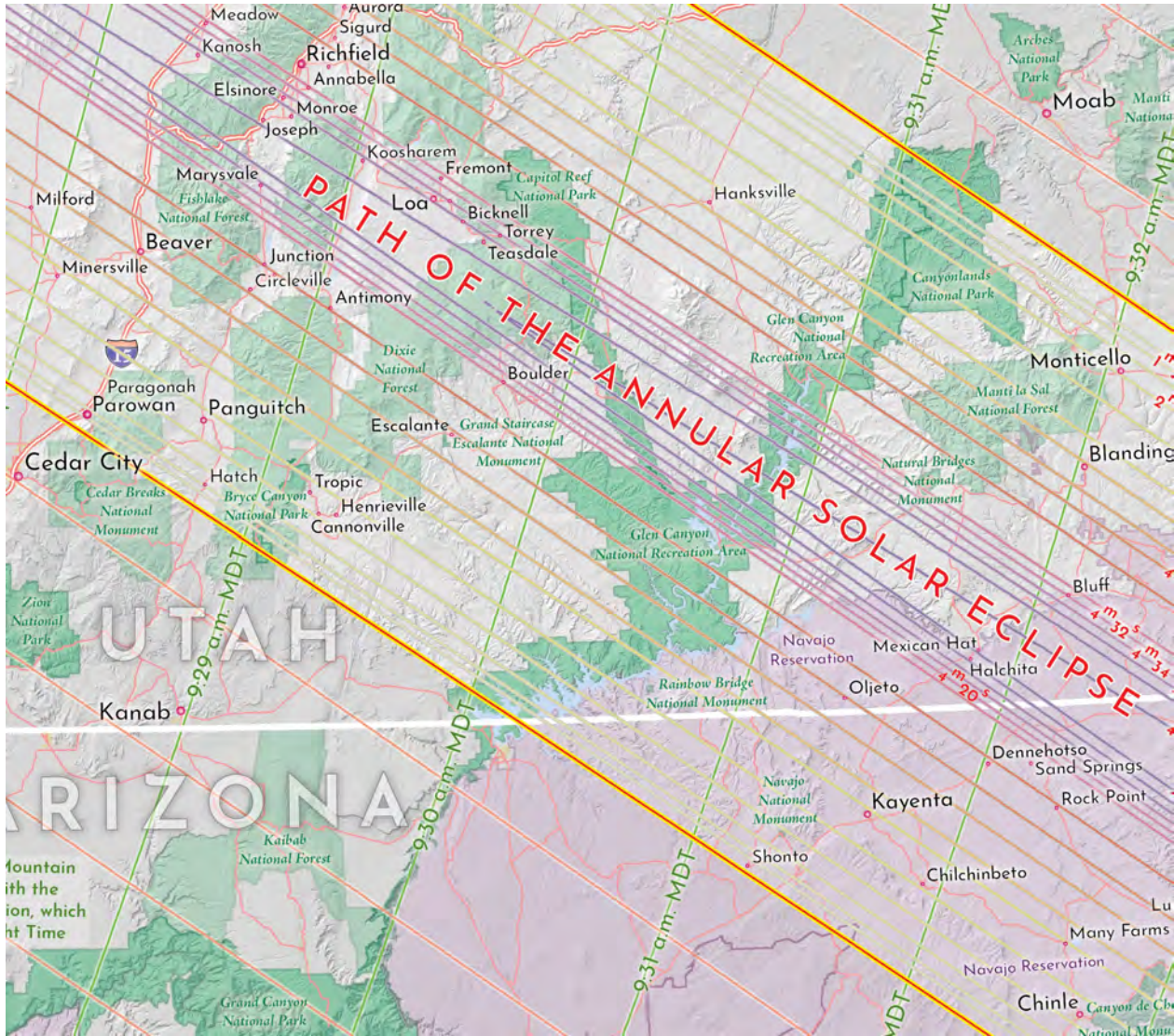
The eclipse will be partial outside the path of annular eclipse. The curves represent the brightness of sunlight during maximum eclipse. The so-called eclipse obscuration

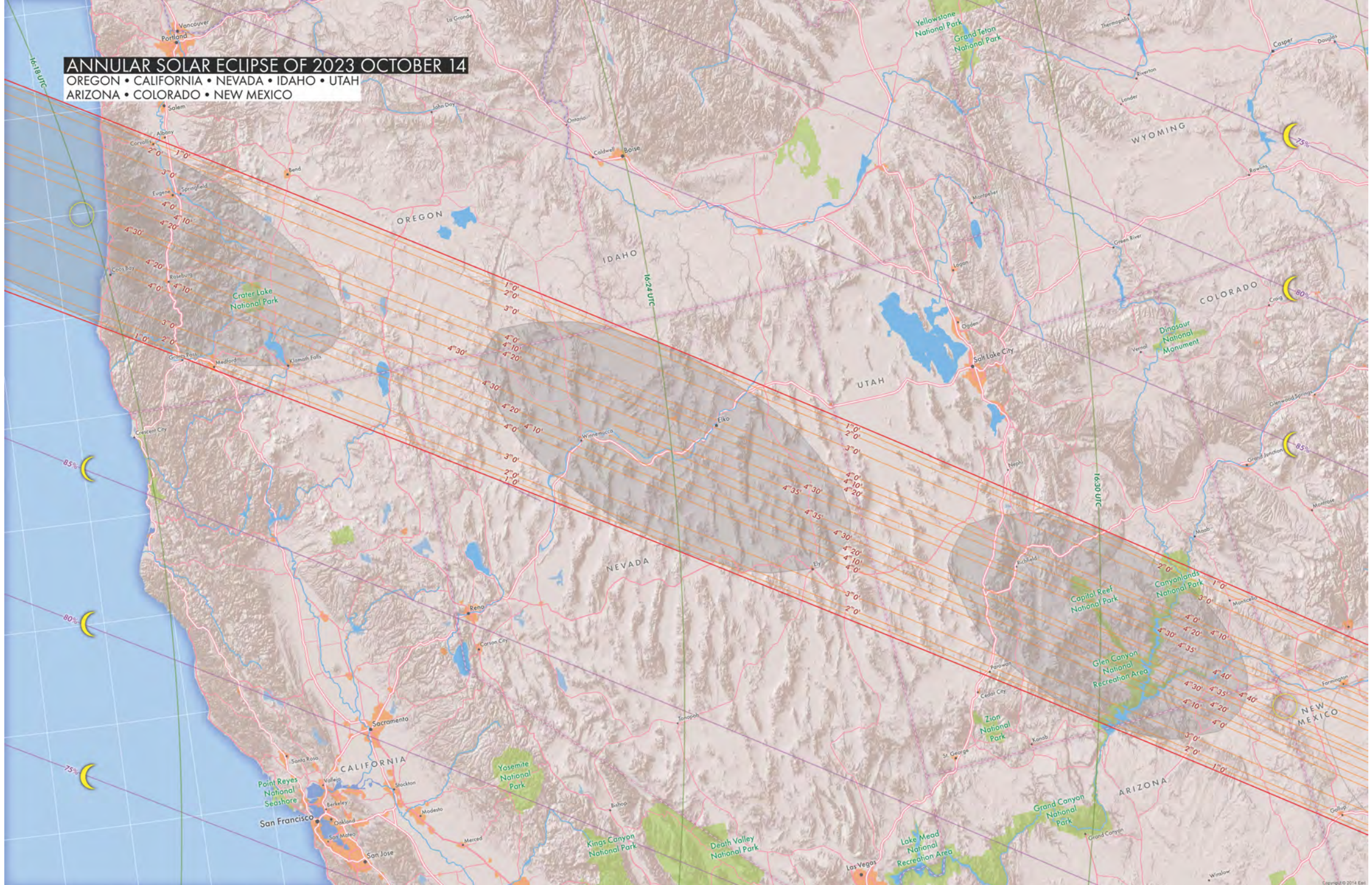


Eclipse times and durations

City	Eclipse Begins	Annularity Begins	Annularity Ends	Eclipse Ends	Duration of Annularity
Rockland OR	8:08 a.m.	9:16 a.m.	9:21 a.m.	10:36 a.m.	4 min 57 sec
Escalante UT	8:09 a.m.	9:17 a.m.	9:21 a.m.	10:38 a.m.	4 min 31 sec
Monticello UT	8:09 a.m.	9:18 a.m.	9:24 a.m.	10:39 a.m.	4 min 45 sec
Cortez CO	8:11 a.m.	9:21 a.m.	9:26 a.m.	10:43 a.m.	5 min 18 sec
Tsayatoh AZ	8:09 a.m.	9:20 a.m.	9:25 a.m.	10:41 a.m.	5 min 18 sec
Chinle AZ	8:09 a.m.	9:19 a.m.	9:24 a.m.	10:41 a.m.	5 min 43 sec
Farmington NM	8:11 a.m.	9:21 a.m.	9:26 a.m.	10:43 a.m.	5 min 18 sec
Albuquerque NM	8:12 a.m.	9:23 a.m.	9:28 a.m.	10:44 a.m.	4 min 45 sec
Santa Fe NM	8:12 a.m.	9:24 a.m.	9:28 a.m.	10:44 a.m.	5 min 36 sec
Roswell NM	8:13 a.m.	9:25 a.m.	9:31 a.m.	10:46 a.m.	4 min 59 sec
Hobbs NM	8:13 a.m.	9:26 a.m.	9:31 a.m.	10:46 a.m.	4 min 48 sec

all times in Mountain Daylight Time (MDT)




ANNULAR SOLAR ECLIPSE OF 2023 OCTOBER 14
OREGON • CALIFORNIA • NEVADA • IDAHO • UTAH
ARIZONA • COLORADO • NEW MEXICO
16:18 UTC
16:24 UTC
16:30 UTC
OREGON
IDAHO
NEVADA
UTAH
WYOMING
COLORADO
NEW MEXICO
ARIZONA
CALIFORNIA
Portland
Vancouver
Salem
Albany
Corvallis
Eugene
Springfield
Bend
Coos Bay
Roseburg
Grants Pass
Medford
Crater Lake National Park
Klamath Falls
Crescent City
La Grande
John Day
Ontario
Caldwell
Boise
Elko
Winnemucca
Reno
Carson City
Ely
Tonopah
Sacramento
Santa Rosa
Vallejo
Berkeley
Oakland
San Francisco
San Mateo
San Jose
Stockton
Modesto
Merced
Bishop
Yosemite National Park
Point Reyes National Seashore
Kings Canyon National Park
Death Valley National Park
Las Vegas
Lake Mead National Recreation Area
Grand Canyon National Park
Grand Canyon
Yellowstone National Park
Grand Teton National Park
Thermopolis
Casper
Douglas
Riverton
Lander
Rawlins
Montpelier
Green River
Logan
Ogden
Salt Lake City
Vernal
Dinosaur National Monument
Craig
Glenwood Springs
Grand Junction
Nephi
Richfield
Capitol Reef National Park
Canyonlands National Park
Monticello
Moab
Montrose
Panaca
Cedar City
Zion National Park
St. George
Kanab
Glen Canyon National Recreation Area
Farmington
Gallup
Winslow
75%
80%
85%

Arizona

The lunar antumbra touches the Arizona border at 9:29 a.m. MDT approximately 37 miles east of Page, a city of some 7,500 residents. This location was one site where numerous observers gathered to watch the May 20, 2012, annular eclipse beneath a completely clear sky. The antumbra covers a section of northeastern Arizona that measures slightly less than 6,200 square miles. This region contains about a dozen small towns.

Page itself lies outside the path. Anyone there will see the Moon cover 89 percent of the Sun's disk. Eclipse chasers who base there probably will choose to drive south 72 miles along State Route 98 and then another 93 miles east on U.S. Highway 160 to Red Mesa, a census-designated place with a population of 386. From that location along the center line, annularity will last 4 minutes 41 seconds with the Sun 33º high in the southeast.


LOWELL OBSERVATORY, FLAGSTAFF, ARIZONA
Credit: Littlefieldemery/Wikimedia Commons

Flagstaff will be another base of operations for eclipse chasers. Although this city is not favored by the lunar antumbra, anyone staying there can drive 68 miles north on U.S. Hwy. 89, and then take U.S. Hwy. 160 to the path. And if you prefer to view an extended display of Baily's beads, just drive eight miles past Shonto Marketplace, which will place you at the southern limit.

Colorado

Three minutes after the antumbra touches Arizona, it enters Colorado about 12 miles northwest of Dove Creek. The best spot in the state to view the eclipse is the far southwestern corner, where U.S. Highway 160 crosses over into Arizona. At that point, annularity will last 4 minutes 30 seconds.

Photographers who wish to include some historical terrain in their eclipse shots might want to head to Canyons of the Ancients National Monument. The duration of annularity drops to 3 minutes 15 seconds, but the density of archaeological remains is the highest of any region in the U.S. Framing the Sun 33º above Painted Hand Pueblo, for example, would capture a dramatic scene.

Eclipse chasers wishing to spend some time in this area might base in Durango, a city of nearly 20,000. It lies just off the path's northern limit and will receive an 89-percent partial eclipse. One option for travelers is to head a few miles west to the path's edge at the unincorporated community of Hesperus, where a worthy display of Baily's beads is guaranteed with the Sun 33º high at mid-eclipse.


CANYONS OF THE ANCIENTS NATIONAL MONUMENT, COLORADO


ALBUQUERQUE BALLOON FIESTA, NEW MEXICO

New Mexico

The first large city covered by the antumbra during this eclipse will be Albuquerque. Its half million residents will enjoy 4 minutes 44 seconds of annularity with the Sun 36° above the southeastern horizon.

Santa Fe lies closer to the northern limit of the eclipse, with an inviting view of Baily's beads a short distance northwards. An enticing venue will be St John's College which hosts the world's only operational armillary sphere, modeled after the historic instrument used by 16th century astronomer Tycho Brahe. Annularity in Santa Fe will be a bit shorter than in Albuquerque, lasting 2 minutes 44 seconds. Still, at mid-eclipse, 10:37 MDT, 90 percent of the solar disk will be hidden by the Moon.

For seasoned eclipse chasers looking to try something new, perhaps this is the eclipse to view from one of its limits. For example, from Santa Fe, one could head up the nearby Sangre de Cristos mountains to Ski Santa Fe. This location will provide dazzling views of Baily's beads along with panoramic views. From this vantage, viewers with approved filters on binoculars or telescopes will be able to experience an extended progression of Baily's beads, perhaps as long as a minute. This also might provide a wonderful opportunity to record a video of the event.

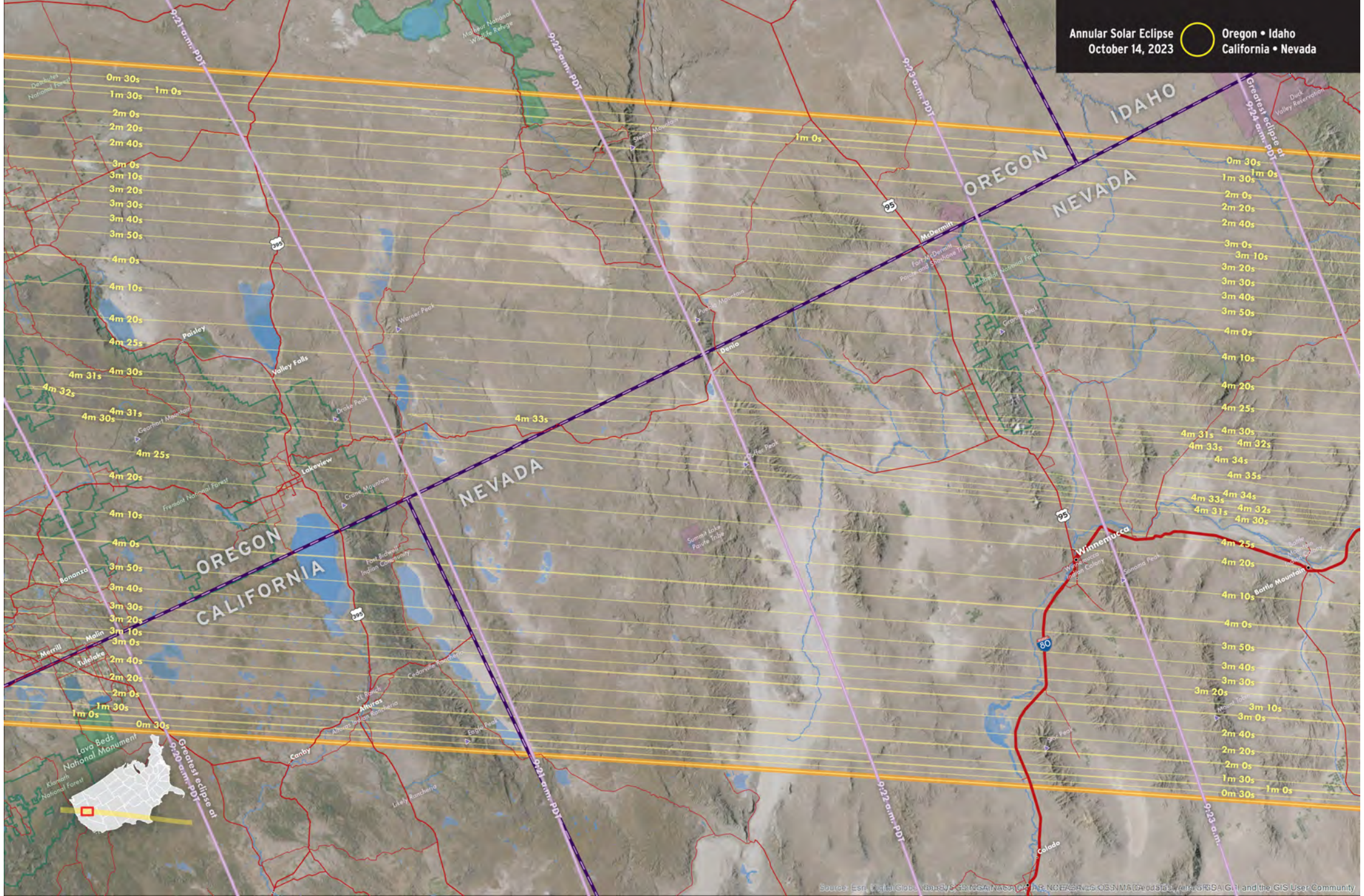
New Mexico will be a prime destination for eclipse chasers, and both Albuquerque and Santa Fe will serve as the base for many. It's a good bet that lots of eclipse-related community activities will occur, especially along three major highways that cut through the eclipse path: Interstate 40, Interstate 25, and U.S. Hwy. 54. I-40 alone stretches more than 250 miles diagonally through the antumbra.

Those with a sense of irony might choose to view the annular eclipse from the village of Corona. Or perhaps you have a sense of humor and would enjoy the festivities in Roswell, where, in 1947, a "flying disc" supposedly crashed about 30 miles north of the city. Roswell businesses now target tourists interested in science fiction and extraterrestrial life. As far as the eclipse is concerned, however, Corona will enjoy 4 minutes 36 seconds of annularity, and downtown Roswell will enjoy 4 minutes 30 seconds with the Sun nearly 40° above the southeastern horizon in both locations.

Chaco Cultural National Historic Park will be an appealing venue for eclipse viewing. These are the best-preserved pre-Columbian ruins in the country with sites of archeo-astronomical significance.

Climate data for the entire path through New Mexico is quite favorable. Albuquerque, Santa Fe, and Roswell boast October monthly precipitation totals of 1.02, 1.33, and 1.23 inches, and a percent of possible sunshine around 80 percent.


Annular Solar Eclipse
October 14, 2023
Oregon
California
Greatest eclipse at 9:18 am PDT
Greatest eclipse at 9:21 am PDT
9:19 am PDT
9:20 am PDT
9:20 am
9:19 am
Lincoln City
Newport
Depoe Bay
Siletz
Toledo
Waldport
Yachats
Florence
Oregon Dunes National Recreation Area
Dunes City
Reedsport
Coos Bay
North Bend
Lakeside
Bandon
Coquille
Myrtle Point
Port Orford
Gold Beach
Albany
Corvallis
Lebanon
Sweet Home
Jefferson
Falls City
Waterloo
Brownsville
Halsey
Harrisburg
Monroe
Junction City
Marcola
Springfield
Eugene
Coburg
Fronklin
Alvadore
Veneta
Cottage Grove
Creswell
Lowell
Oakridge
Mapleton
Siuslaw National Forest
Willamette National Forest
Drain
Yoncalla
Elkton
Oakland
Sutherlin
Winchester
Glide
Roseburg
Green
Winston
Myrtle Creek
Tri City
Riddle
Canyonville
Glendale
Grants Pass
Powers
Siskiyou National Forest
Selma
Sisters
Tumalo
Bend
North Sister
Middle Sister
South Sister
Broken Top
Mount Bachelor
Newberry National Volcanic Monument
Deschutes National Forest
Pilot Butte
La Pine
Crescent
Diamond Peak
Umpqua National Forest
Mount Bailey
Mount Thielsen
Crater Lake National Park
Mount Scott
Rogue River-National Forest
Cow Creek Band of Umpqua Tribe
Coquille Indian Tribe
Klamath Tribes
Klamath Forest National Wildlife Refuge
Yamsay Mountain
Fremont National Forest
Gearhart Mountain
Chiloquin
Pelican Butte
Mount McLoughlin
Aspen Butte
Shady Cove
Butte Falls
Eagle Point
Central Point
Medford
Phoenix
Talent
Ashland
Bonanza
Merrill
Malin
Tulelake
Lava Beds National Monument
Dorris
Canby
XL Ranch
Paisley
Valley Falls
OREGON
CALIFORNIA
0m 30s
1m 0s
1m 30s
2m 0s
2m 20s
2m 40s
3m 0s
3m 10s
3m 20s
3m 30s
3m 40s
3m 50s
4m 0s
4m 10s
4m 15s
4m 20s
4m 22s
4m 24s
4m 26s
4m 28s
4m 30s
4m 31s
4m 32s


Annular Solar Eclipse
October 14, 2023
Oregon • Idaho
California • Nevada
IDAHO
OREGON
NEVADA
CALIFORNIA
Greatest eclipse at 9:24 a.m. PDT
Greatest eclipse at 9:20 a.m. PDT
9:21 a.m. PDT
9:22 a.m. PDT
9:23 a.m. PDT
0m 30s
1m 0s
1m 30s
2m 0s
2m 20s
2m 40s
3m 0s
3m 10s
3m 20s
3m 30s
3m 40s
3m 50s
4m 0s
4m 10s
4m 20s
4m 25s
4m 30s
4m 31s
4m 32s
4m 33s
4m 34s
4m 35s
Lava Beds National Monument
Paisley
Valley Falls
Lakeview
Denio
McDermitt
Winnemucca
Battle Mountain
Bonanza
Merrill
Tulelake
Canby
Alturas
Colado
95
395
80


Annular Solar Eclipse
October 14, 2023
Nevada
Utah • Arizona
NEVADA
UTAH
UTAH
ARIZONA
Greatest eclipse at 10:27 a.m. MDT
Greatest eclipse at 10:31 a.m. MDT
10:27 a.m. MDT
10:28 a.m. MDT
10:29 a.m. MDT
10:30 a.m. MDT
9:26 a.m. PDT
Nephi
Fillmore
Richfield
Beaver
Panguitch
Parowan
Cedar City
Manti
Castle Dale
Green River
Hanksville
Page
Milford
Delta
Kanab
Escalante
Boulder
Torrey
Loa
Bicknell
Junction
Marysvale
Circleville
Antimony
Henrieville
Tropic
Alton
Glendale
Orderville
Big Water
Kanarraville
Enoch
Paragonah
Minersville
Oak City
Scipio
Holden
Meadow
Aurora
Salina
Sigurd
Redmond
Emery
Ferron
Clawson
Huntington
Cleveland
Price
Helper
Wellington
Sunnyside
Dragerton
Vernon
Eureka
Mona
Levan
Fountain Green
Fairview
Mount Pleasant
Spring City
Ephraim
Sterling
Gunnison
Centerfield
Foyeth
Lynndyl
Leamington
Hinckley
Deseret
Garrison
Baker
Callao
Gandy
Partoun
Wendover Air Force Base
Dugway Proving Ground
Great Basin National Park
Capitol Reef National Park
Glen Canyon National Recreation Area
Grand Staircase Escalante National Monument
Bryce Canyon National Park
Cedar Breaks National Monument
Canyonlands National Park
Natural Bridges National Monument
Rainbow Bridge National Monument
Navajo National Monument
Navajo Nation
Wahweap
LeChee
Fish Lake National Forest
Manti-La Sal National Forest
Dixie National Forest
Wasatch-Cache National Forest
Capitol Reef National Forest
Indian Peaks Band
Cedar City Band
0m 30s
1m 0s
1m 30s
2m 0s
2m 20s
2m 40s
3m 0s
3m 10s
3m 20s
3m 30s
3m 40s
3m 50s
4m 0s
4m 10s
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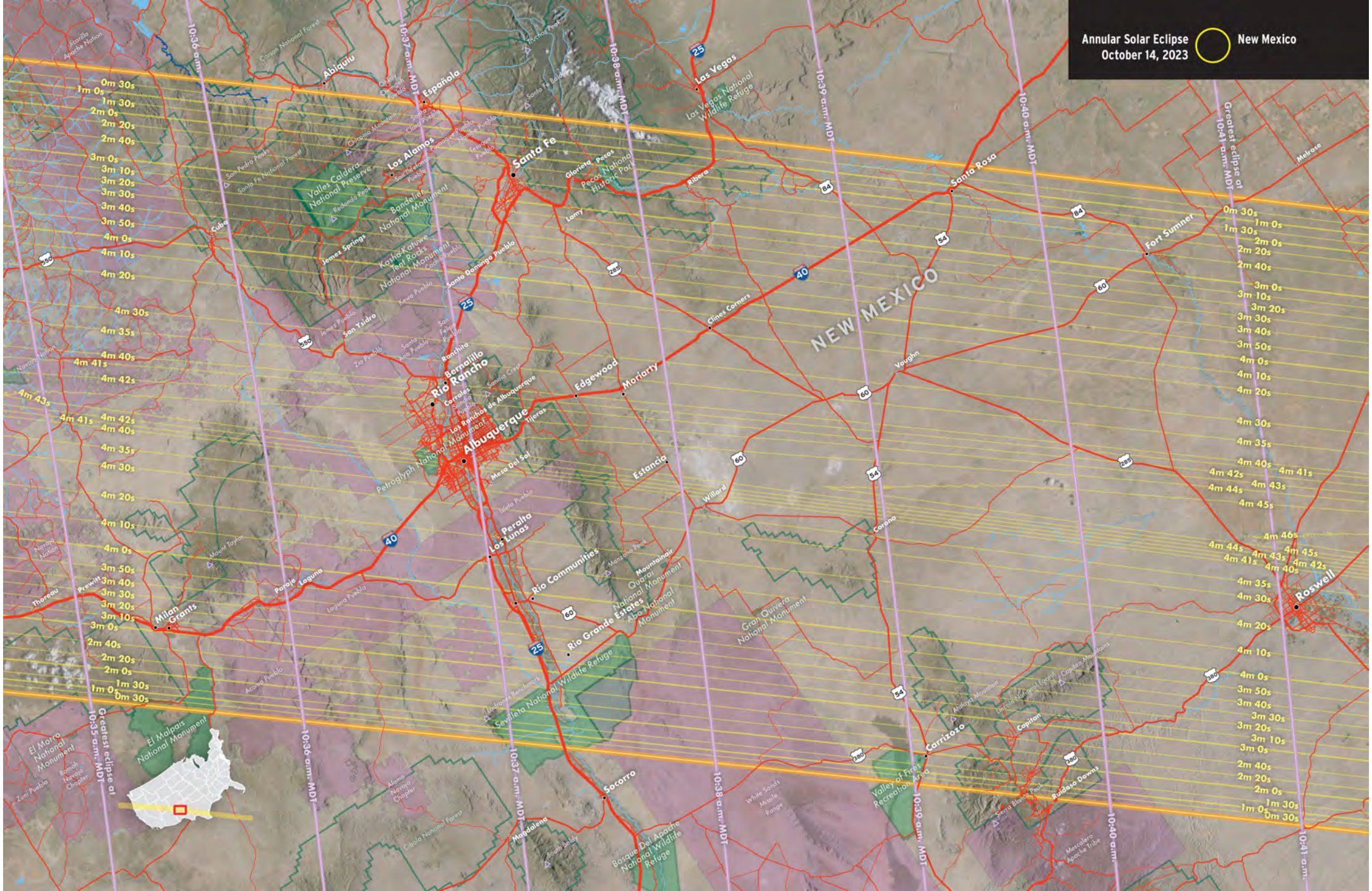
4m 38s
4m 39s
4m 40s
4m 41s


Annular Solar Eclipse
October 14, 2023
New Mexico
NEW MEXICO
Greatest eclipse at 10:35 a.m. MDT
10:36 a.m. MDT
10:37 a.m. MDT
10:38 a.m. MDT
10:39 a.m. MDT
10:40 a.m. MDT
10:41 a.m. MDT
Greatest eclipse at 10:41 a.m. MDT
Albuquerque
Santa Fe
Las Vegas
Española
Abiquiu
Los Alamos
Rio Rancho
Bernalillo
Edgewood
Moriarty
Estancia
Willard
Vaughn
Santa Rosa
Fort Sumner
Roswell
Carrizozo
Ruidoso Downs
Cloudcroft
Tularosa
Alamogordo
Mescalero
Capitan
Corona
Clines Corners
Glorieta
Pecos
Lamy
Ribera
Melrose
Los Lunas
Peralta
Rio Communities
Rio Grande Estates
Mountainair
Gran Quivira
Socorro
Magdalena
Milan
Grants
Thoreau
Prewitt
Mesa Del Sol
Tijeras
Los Ranchos de Albuquerque
Corrales
Ranchos
Cuba
San Ysidro
Jemez Springs
Jemez Pueblo
Santo Domingo Pueblo
Cochiti Pueblo
Keres Pueblo
San Felipe Pueblo
Santa Ana Pueblo
Zia Pueblo
Santa Clara Pueblo
Ohkay Owingeh
Nambe Pueblo
Pojoaque Pueblo
Tesuque Pueblo
Santa Fe Ski Basin
Sandia Crest
Sandia Pueblo
Isleta Pueblo
Laguna Pueblo
Acoma Pueblo
Zuni Pueblo
Ramah Navajo Chapter
Alamo Navajo Chapter
Navajo Nation
Mount Taylor
Manzano Peak
Redondo Peak
Chicoma Mountain
Pedernal Peak
Sierra Blanca Peak
Capitan Mountains
Lincoln National Forest
Valles Caldera National Preserve
Bandelier National Monument
Kasha-Katuwe Tent Rocks National Monument
Petroglyph National Monument
Los Alamos National Historical Park
Los Vegas National Wildlife Refuge
Sevilleta National Wildlife Refuge
Bosque Del Apache National Wildlife Refuge
Quarai Abo National Monument
Gran Quivira National Monument
El Malpais National Monument
El Morro National Monument
Valley of Fires Recreation Area
White Sands Missile Range
Jicarilla Apache Nation
Mescalero Apache Tribe
Carson National Forest
Santa Fe National Forest
Cibola National Forest
0m 30s
1m 0s
1m 30s
2m 0s
2m 20s
2m 40s
3m 0s
3m 10s
3m 20s
3m 30s
3m 40s
3m 50s
4m 0s
4m 10s
4m 20s
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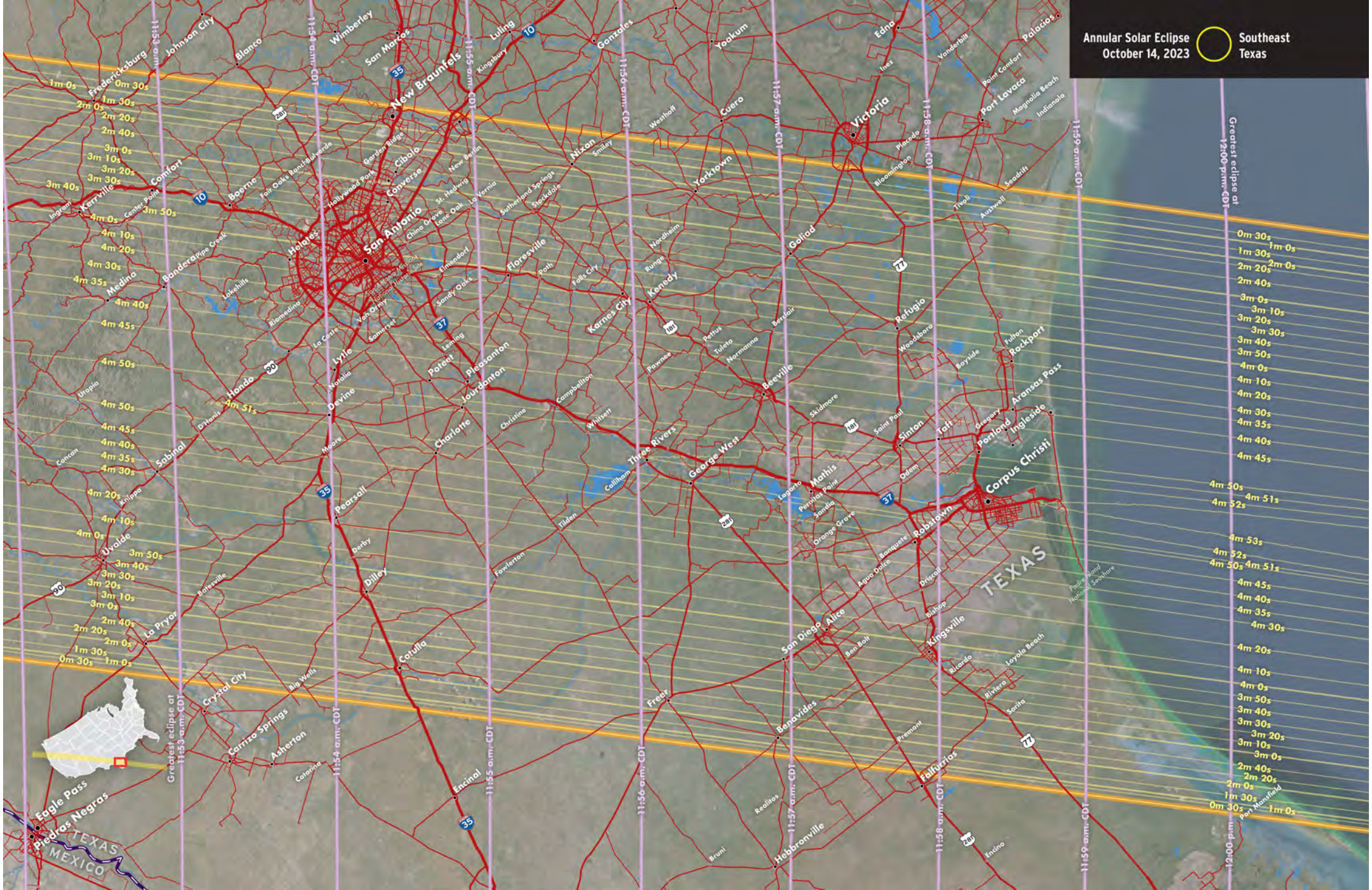
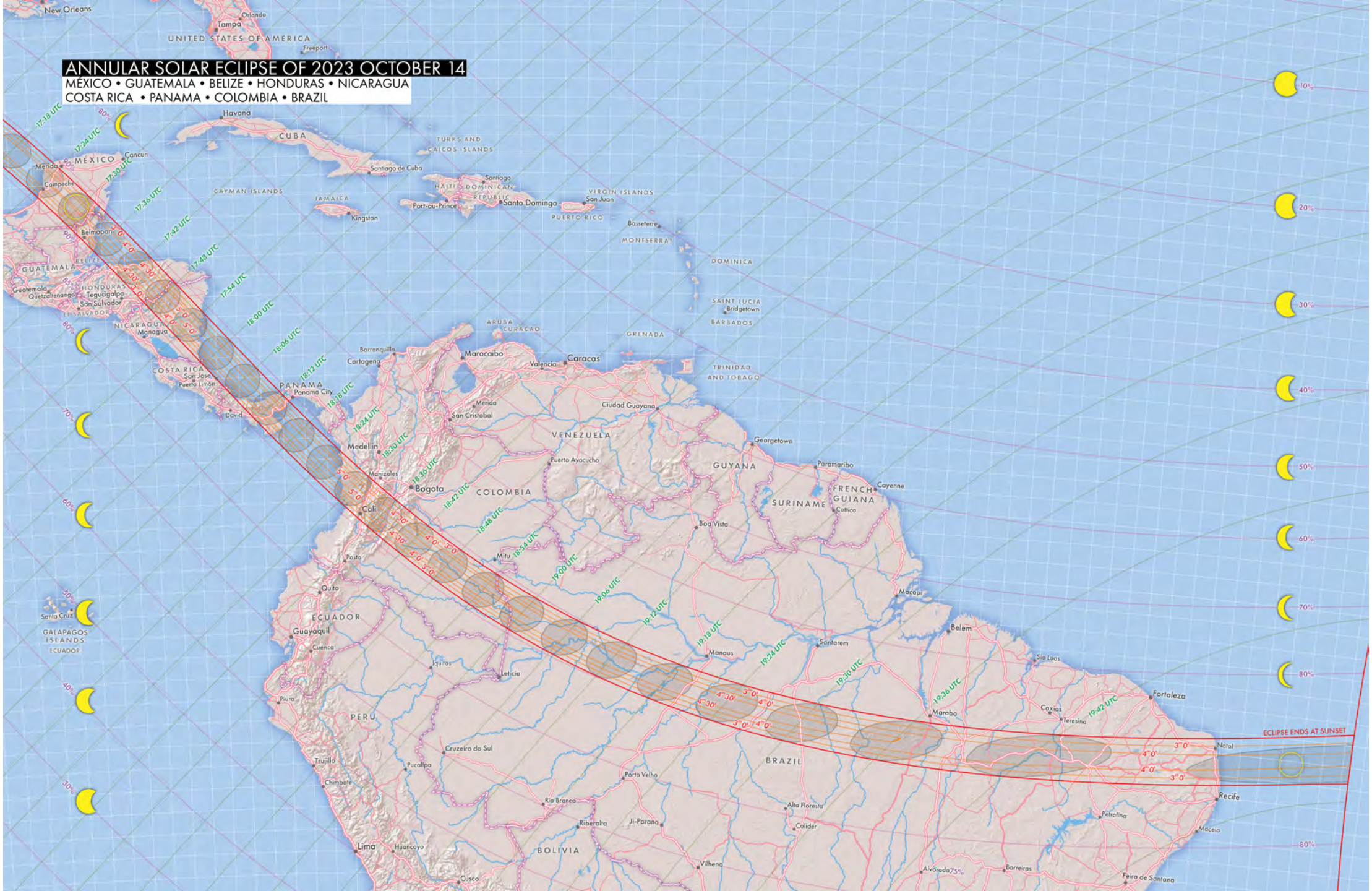
4m 42s
4m 43s
4m 44s
4m 45s
4m 46s


Annular Solar Eclipse
October 14, 2023
Southeast
Texas
San Antonio
New Braunfels
Victoria
Corpus Christi
Eagle Pass
Piedras Negras
TEXAS
MEXICO
Greatest eclipse at 12:00 p.m. CDT
11:53 a.m. CDT
11:54 a.m. CDT
11:55 a.m. CDT
11:56 a.m. CDT
11:57 a.m. CDT
11:58 a.m. CDT
11:59 a.m. CDT


ANNULAR SOLAR ECLIPSE OF 2023 OCTOBER 14
MÉXICO • GUATEMALA • BELIZE • HONDURAS • NICARAGUA
COSTA RICA • PANAMA • COLOMBIA • BRAZIL
ECLIPSE ENDS AT SUNSET
UNITED STATES OF AMERICA
CUBA
MÉXICO
GUATEMALA
BELIZE
HONDURAS
EL SALVADOR
NICARAGUA
COSTA RICA
PANAMA
COLOMBIA
VENEZUELA
GUYANA
SURINAME
FRENCH GUIANA
ECUADOR
PERU
BRAZIL
BOLIVIA
GALAPAGOS ISLANDS
ECUADOR
CAYMAN ISLANDS
JAMAICA
HAITI
DOMINICAN REPUBLIC
PUERTO RICO
VIRGIN ISLANDS
TURKS AND CAICOS ISLANDS
MONTSERRAT
DOMINICA
SAINT LUCIA
BARBADOS
GRENADA
TRINIDAD AND TOBAGO
ARUBA
CURACAO
New Orleans
Orlando
Tampa
Freeport
Havana
Cancun
Merida
Campeche
Belmopan
Guatemala
Quetzaltenango
Tegucigalpa
San Salvador
Managua
San Jose
Puerto Limón
Panama City
David
Barranquilla
Cartagena
Maracaibo
Valencia
Caracas
Medellin
Manizales
Bogota
Cali
Pasto
Quito
Guayaquil
Cuenca
Iquitos
Leticia
Piura
Trujillo
Chimbote
Pucallpa
Cruzeiro do Sul
Lima
Huancayo
Cusco
Riberalta
Rio Branco
Porto Velho
Ji-Parana
Alta Floresta
Colider
Vilhena
Alvorada
Barreiras
Feira de Santana
Ciudad Guayana
Puerto Ayacucho
Georgetown
Paramaribo
Cayenne
Cottica
Boa Vista
Mitu
Macapi
Belem
Santarem
Manaus
Sio Luas
Fortaleza
Caxias
Teresina
Moraba
Natal
Petrolina
Maceio
Recife
Santiago de Cuba
Santiago
Port-au-Prince
Santo Domingo
San Juan
Kingston
Basseterre
Bridgetown
Santa Cruz
Merida
San Cristobal
17:18 UTC
17:24 UTC
17:30 UTC
17:36 UTC
17:42 UTC
17:48 UTC
17:54 UTC
18:00 UTC
18:06 UTC
18:12 UTC
18:18 UTC
18:24 UTC
18:30 UTC
18:36 UTC
18:42 UTC
18:48 UTC
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19:00 UTC
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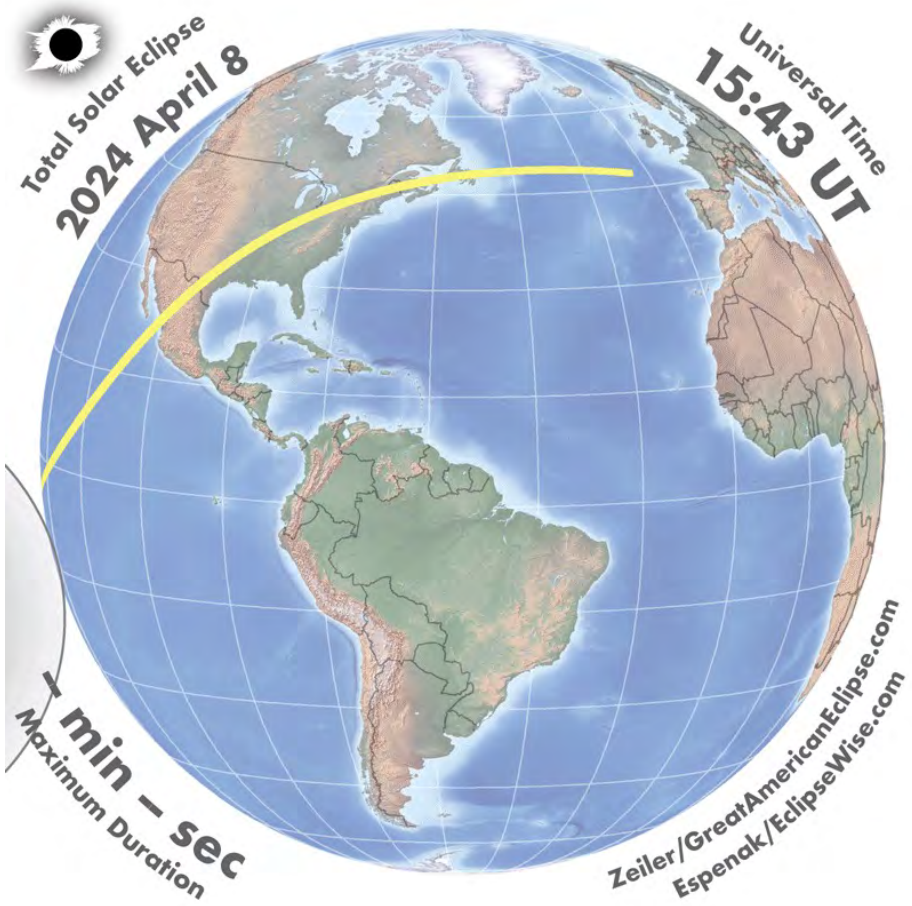
19:30 UTC
19:36 UTC
19:42 UTC
10%
20%
30%
40%
50%
60%
70%
80%
80%
90%
80%
70%
60%
50%
40%
30%
5° 0'
4° 30'
4° 0'
3° 0'

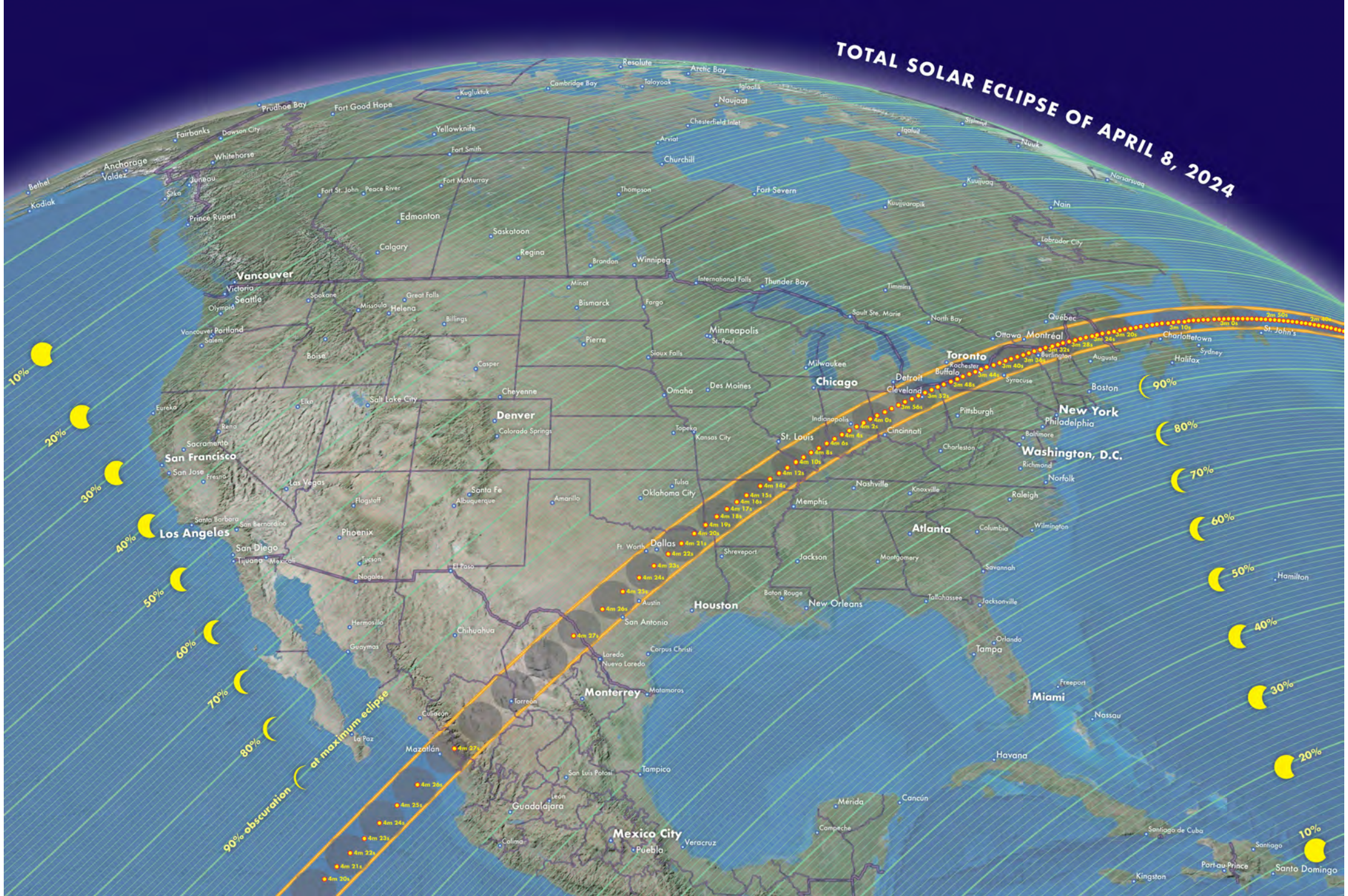
Total Solar Eclipse of April 8, 2024

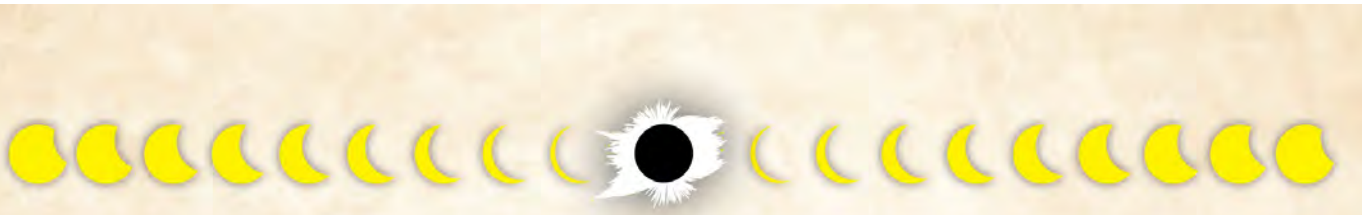


A century of solar eclipses

Animated GIFs of
224 partial, annular, and total solar eclipses

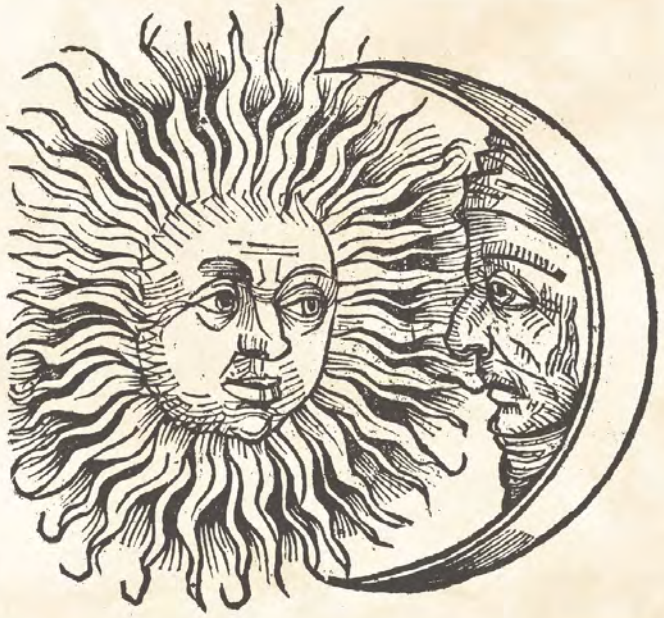
A collaboration between
Fred Espenak, eclipsewise.com, and
Michael Zeiler, greatamericaneclipse.com


TOTAL SOLAR ECLIPSE OF APRIL 8, 2024
Resolute
Arctic Bay
Cambridge Bay
Taloyoak
Igloolik
Kugluktuk
Naujaat
Prudhoe Bay
Fort Good Hope
Chesterfield Inlet
Iqaluit
Pangnirtung
Nuuk
Fairbanks
Dawson City
Yellowknife
Arviat
Whitehorse
Fort Smith
Churchill
Anchorage
Valdez
Bethel
Kodiak
Juneau
Sitka
Fort St. John
Peace River
Fort McMurray
Thompson
Fort Severn
Kuujjuaq
Kuujjuarapik
Nain
Prince Rupert
Edmonton
Saskatoon
Labrador City
Calgary
Regina
Brandon
Winnipeg
Vancouver
Victoria
Seattle
Olympia
Spokane
Missoula
Great Falls
Helena
Billings
Minot
International Falls
Thunder Bay
Timmins
Bismarck
Fargo
Sault Ste. Marie
North Bay
Québec
Ottawa
Montréal
Vancouver
Portland
Salem
Boise
Pierre
Minneapolis
St. Paul
Sioux Falls
Charlottetown
Sydney
Halifax
St. John's
Toronto
Rochester
Buffalo
Syracuse
Burlington
Augusta
Casper
Milwaukee
Chicago
Detroit
Cleveland
Boston
Omaha
Des Moines
Cheyenne
Salt Lake City
Elko
Eureka
Reno
Denver
Colorado Springs
Indianapolis
Pittsburgh
New York
Philadelphia
Baltimore
Topeka
Kansas City
Cincinnati
St. Louis
Sacramento
San Francisco
San Jose
Fresno
Las Vegas
Tulsa
Oklahoma City
Nashville
Knoxville
Charleston
Washington, D.C.
Richmond
Norfolk
Raleigh
Santa Fe
Albuquerque
Amarillo
Memphis
Flagstaff
Santa Barbara
San Bernardino
Los Angeles
Phoenix
Atlanta
Columbia
Wilmington
San Diego
Tijuana
Mexicali
Tucson
Nogales
El Paso
Ft. Worth
Dallas
Shreveport
Jackson
Montgomery
Savannah
Hamilton
Baton Rouge
New Orleans
Houston
Austin
San Antonio
Tallahassee
Jacksonville
Hermosillo
Chihuahua
Guaymas
Orlando
Tampa
Laredo
Nuevo Laredo
Corpus Christi
Freeport
Miami
Monterrey
Matamoros
Torreón
Culiacán
Nassau
La Paz
Mazatlán
Havana
San Luis Potosí
Tampico
León
Guadalajara
Mérida
Cancún
Compeche
Mexico City
Puebla
Veracruz
Colima
Santiago de Cuba
Santiago
Port-au-Prince
Santo Domingo
Kingston
10%
20%
30%
40%
50%
60%
70%
80%
90%
90% obscuration
at maximum eclipse
4m 27s
4m 26s
4m 25s
4m 24s
4m 23s
4m 22s
4m 21s
4m 20s
4m 21s
4m 22s
4m 23s
4m 24s
4m 25s
4m 26s
4m 27s
4m 20s
4m 16s
4m 15s
4m 16s
4m 17s
4m 18s
4m 19s
4m 12s
4m 10s
4m 8s
4m 6s
4m 4s
4m 2s
4m 0s
3m 56s
3m 52s
3m 48s
3m 44s
3m 40s
3m 36s
3m 32s
3m 28s
3m 24s
3m 20s
3m 10s
3m 0s
2m 50s
2m 40s



Save the Date

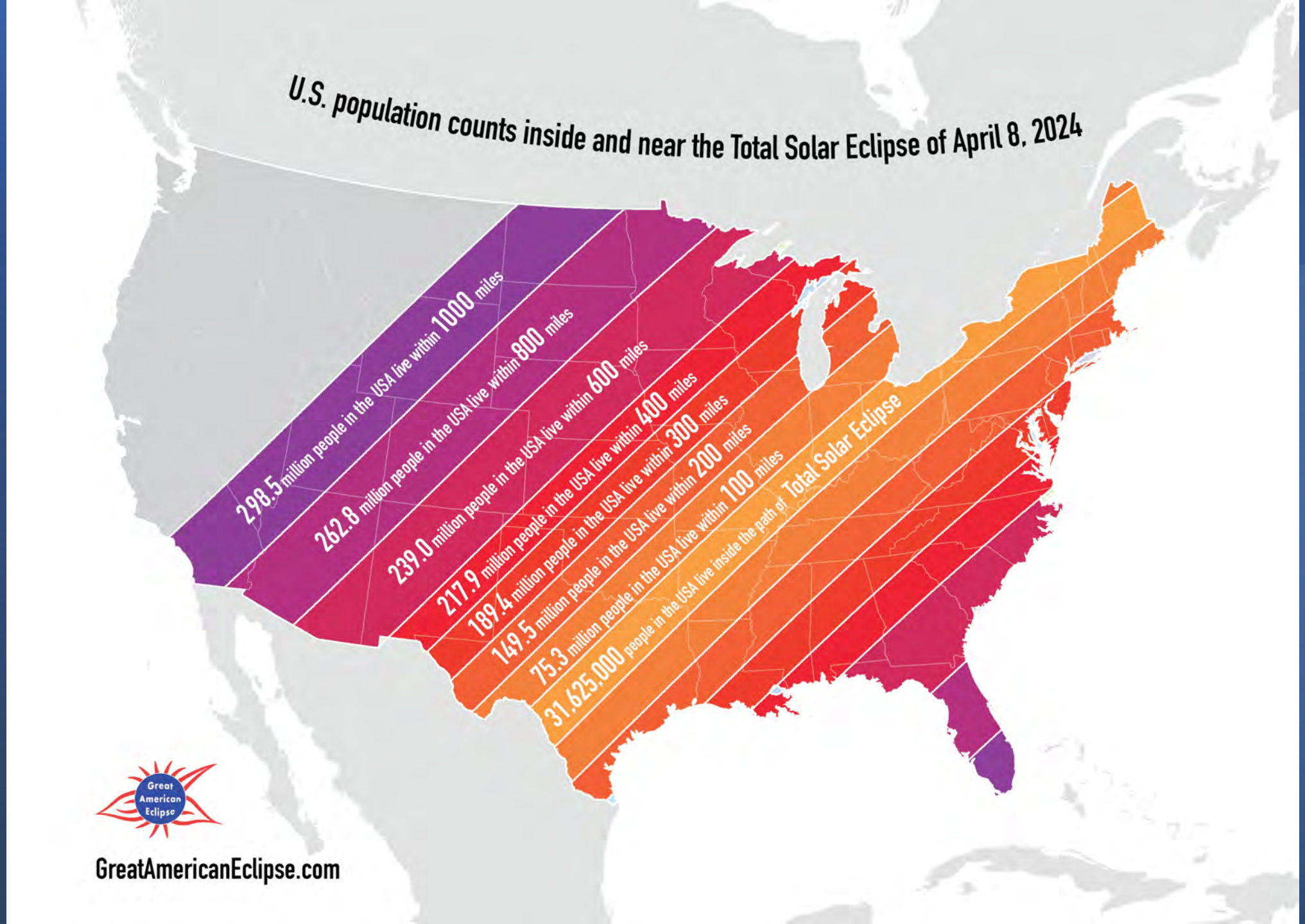
Join Us in Celebrating
the Union of the
Sun and Moon

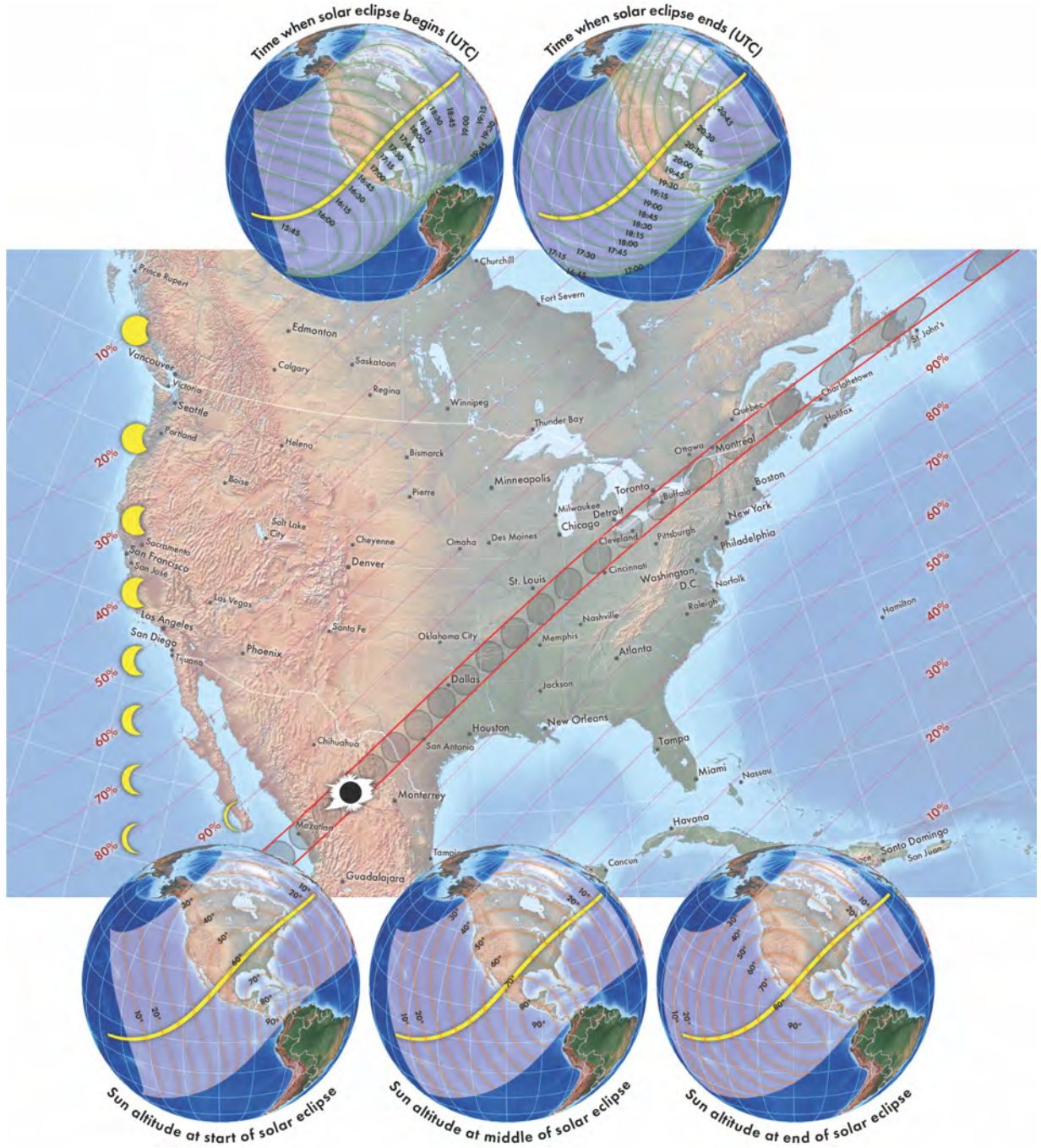


April 8, 2024

Great American Eclipse

RSVP at GreatAmericanEclipse.com

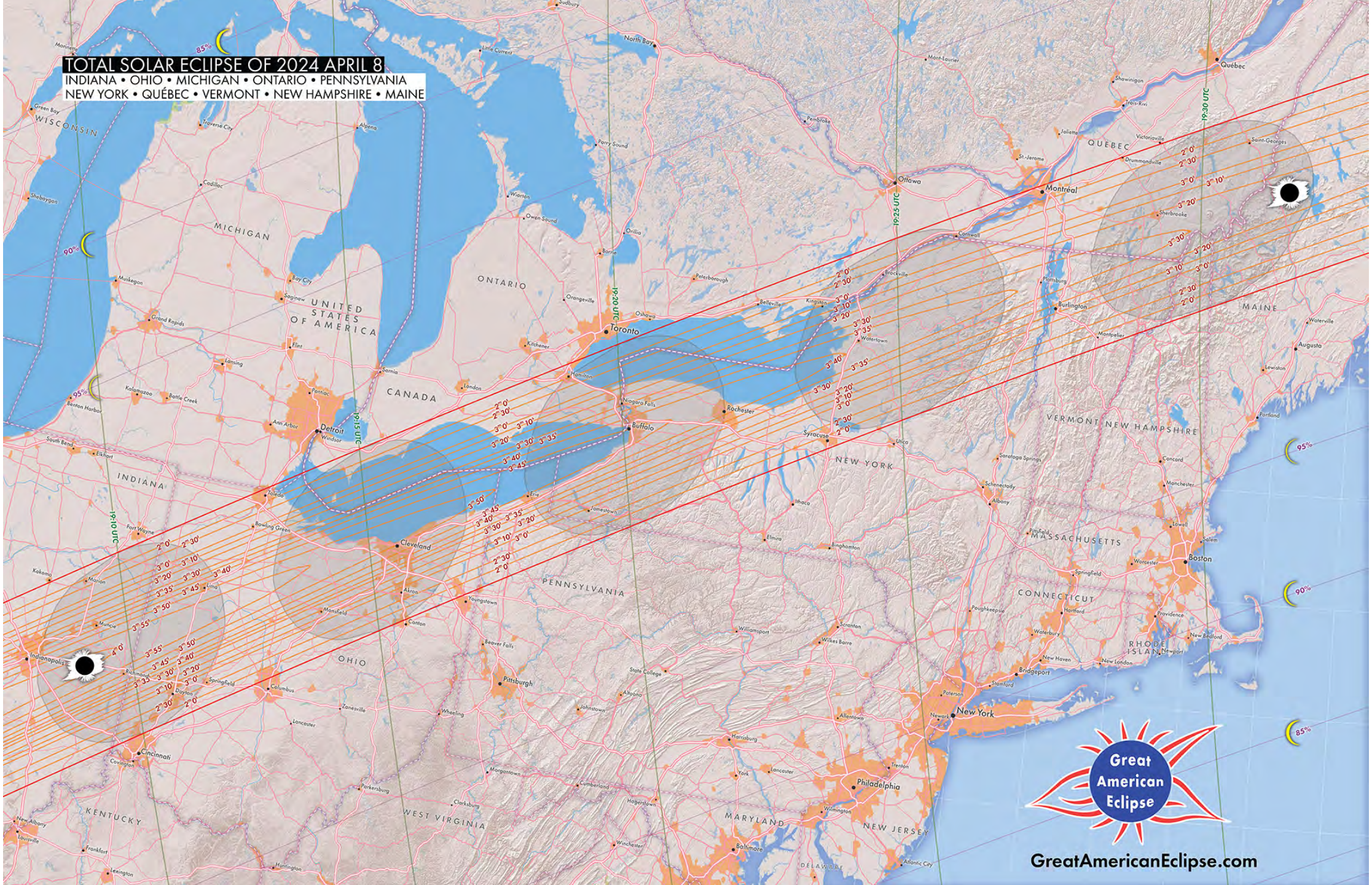

U.S. population counts inside and near the Total Solar Eclipse of April 8, 2024
298.5 million people in the USA live within 1000 miles
262.8 million people in the USA live within 800 miles
239.0 million people in the USA live within 600 miles
217.9 million people in the USA live within 400 miles
189.4 million people in the USA live within 300 miles
149.5 million people in the USA live within 200 miles
75.3 million people in the USA live within 100 miles
31,625,000 people in the USA live inside the path of Total Solar Eclipse
Great American Eclipse
GreatAmericanEclipse.com


Time when solar eclipse begins (UTC)
Time when solar eclipse ends (UTC)
Sun altitude at start of solar eclipse
Sun altitude at middle of solar eclipse
Sun altitude at end of solar eclipse
Prince Rupert
Churchill
Fort Severn
Edmonton
Vancouver
Calgary
Saskatoon
Victoria
Regina
Winnipeg
Seattle
Thunder Bay
Portland
Helena
Bismarck
Ottawa
Montreal
Quebec
Halifax
St. John's
Charlottetown
Boise
Minneapolis
Pierre
Toronto
Buffalo
Boston
Milwaukee
Detroit
New York
Chicago
Salt Lake City
Cleveland
Pittsburgh
Philadelphia
Cheyenne
Omaha
Des Moines
Sacramento
San Francisco
San Jose
Denver
Cincinnati
Washington, D.C.
Norfolk
St. Louis
Las Vegas
Raleigh
Hamilton
Nashville
Los Angeles
Santa Fe
Oklahoma City
Memphis
San Diego
Phoenix
Tijuana
Atlanta
Dallas
Jackson
Houston
New Orleans
Chihuahua
San Antonio
Tampa
Miami
Nassau
Monterrey
Mazatlan
Havana
Cancun
Santo Domingo
San Juan
Guadalajara
10%
20%
30%
40%
50%
60%
70%
80%
90%

Times and durations of eclipse

City inside path	Duration of totality	Partial eclipse begins	Total eclipse begins	Partial eclipse ends
Mazatlán, Sinaloa	4m 14s	10:51 am MDT	12:07 pm MDT	1:32 pm MDT
Durango, Durango	3m 51s	11:55 am CDT	1:12 pm CDT	2:36 pm CDT
Nazas, Durango	4m 27s	11:58 am CDT	1:15 pm CDT	2:39 pm CDT
Torreón, Coahuila	4m 15s	11:59 am CDT	1:16 pm CDT	2:41 pm CDT
Zaragoza, Coahuila	4m 27s	12:09 pm CDT	1:26 pm CDT	2:50 pm CDT
Eagle Pass, Texas	4m 23s	12:10 pm CDT	1:27 pm CDT	2:51 pm CDT
Uvalde, Texas	4m 16s	12:12 pm CDT	1:29 pm CDT	2:53 pm CDT
Kerrvile, Texas	4m 23s	12:14 pm CDT	1:32 pm CDT	2:55 pm CDT
Austin, Texas	1m 53s	12:17 pm CDT	1:36 pm CDT	2:58 pm CDT
Killeen, Texas	4m 17s	12:18 pm CDT	1:36 pm CDT	2:59 pm CDT
Fort Worth, Texas	2m 34s	12:22 pm CDT	1:40 pm CDT	3:01 pm CDT
Dallas, Texas	3m 47s	12:23 pm CDT	1:40 pm CDT	3:02 pm CDT
Little Rock, Arkansas	2m 33s	12:33 pm CDT	1:51 pm CDT	3:11 pm CDT
Jonesboro, Arkansas	2m 24s	12:37 pm CDT	1:55 pm CDT	3:14 pm CDT
Poplar Bluff, Arkansas	4m 08s	12:39 pm CDT	1:56 pm CDT	3:15 pm CDT
Cape Girardeau, Missouri	4m 06s	12:41 pm CDT	1:58 pm CDT	3:17 pm CDT
Carbondale, Illinois	4m 08s	12:42 pm CDT	1:59 pm CDT	3:18 pm CDT
Mt Vernon, Illinois	3m 40s	12:44 pm CDT	2:00 pm CDT	3:18 pm CDT
Evansville, Indiana	3m 02s	12:45 pm CDT	2:02 pm CDT	3:20 pm CDT
Terre Haute, Indiana	2m 57 s	1:48 pm EDT	3:04 pm EDT	4:21 pm EDT

City inside path	Duration of totality	Partial eclipse begins	Total eclipse begins	Partial eclipse ends
Indianapolis, Indiana	3m 46s	1:50 pm EDT	3:06 pm EDT	4:23 pm EDT
Dayton, Ohio	2m 46s	1:53 pm EDT	3:09 pm EDT	4:25 pm EDT
Wapakoneta, Ohio	3m 55s	1:54 pm EDT	3:09 pm EDT	4:25 pm EDT
Toledo, Ohio	1m 54s	1:56 pm EDT	3:12 pm EDT	4:26 pm EDT
Cleveland, Ohio	3m 50s	1:59 pm EDT	3:13 pm EDT	4:28 pm EDT
Erie, Pennsylvania	3m 43s	2:02 pm EDT	3:16 pm EDT	4:30 pm EDT
Buffalo, New York	3m 45s	2:04 pm EDT	3:18 pm EDT	4:32 pm EDT
Rochester, New York	3m 40s	2:06 pm EDT	3:20 pm EDT	4:33 pm EDT
Syracuse, New York	1m 26s	2:09 pm EDT	3:23 pm EDT	4:34 pm EDT
Hamilton, Ontario	1m 45s	2:03 pm EDT	3:18 pm EDT	4:31 pm EDT
Burlington, Vermont	3m 14s	2:14 pm EDT	3:26 pm EDT	4:37 pm EDT
Montréal, Québec	1m 12s	2:14 pm EDT	3:26 pm EDT	4:36 pm EDT
Lac-Mégantic, Québec	3m 25s	2:18 pm EDT	3:28 pm EDT	4:38 pm EDT
Island Falls, Maine	3m 20s	2:21 pm EDT	3:31 pm EDT	4:40 pm EDT
Presque Island, Maine	2m 47s	2:22 pm EDT	3:32 pm EDT	4:40 pm EDT
Grand Falls, New Brunswick	1m 10s	3:22 pm ADT	3:33 pm ADT	5:40 pm ADT
Fredericton, New Brunswick	2m 16s	3:23 pm ADT	3:33 pm ADT	5:41 pm ADT
Tignish, Prince Edward Island	3m 13s	3:27 pm ADT	3:35 pm ADT	5:43 pm ADT
Channel Port aux Basques, Labrador	2m 43s	4:02 pm NDT	5:09 pm NDT	6:15 pm NDT
Bonavista, Labrador	2m 51s	4:03 pm NDT	5:13 pm NDT	6:17 pm NDT


TOTAL SOLAR ECLIPSE OF 2024 APRIL 8
INDIANA • OHIO • MICHIGAN • ONTARIO • PENNSYLVANIA
NEW YORK • QUÉBEC • VERMONT • NEW HAMPSHIRE • MAINE
WISCONSIN
MICHIGAN
ONTARIO
QUEBEC
UNITED STATES OF AMERICA
CANADA
INDIANA
OHIO
PENNSYLVANIA
NEW YORK
VERMONT
NEW HAMPSHIRE
MAINE
MASSACHUSETTS
CONNECTICUT
RHODE ISLAND
NEW JERSEY
MARYLAND
DELAWARE
KENTUCKY
WEST VIRGINIA
Toronto
Detroit
Buffalo
Cleveland
Pittsburgh
Cincinnati
Indianapolis
Ottawa
Montréal
Québec
New York
Philadelphia
Boston
Rochester
Syracuse
Albany
Burlington
Portland
Augusta
Concord
Manchester
Providence
Hartford
Springfield
Worcester
Lowell
Salem
New Haven
Bridgeport
Stamford
Waterbury
New London
New Bedford
Newport
Trenton
Atlantic City
Baltimore
Harrisburg
Columbus
Akron
Canton
Youngstown
Toledo
Fort Wayne
Lansing
Grand Rapids
Kalamazoo
Flint
Saginaw
Bay City
Muskegon
Traverse City
Cadillac
Alpena
Sault Ste. Marie
Sudbury
North Bay
Parry Sound
Owen Sound
Barrie
Orillia
Peterborough
Oshawa
Kingston
Belleville
Brockville
Cornwall
Montreal
Sherbrooke
Drummondville
Victoriaville
Trois-Rivi
Shawinigan
Mont-Laurier
Pembroke
Little Current
Manitoulin
Green Bay
Sheboygan
Milwaukee
Chicago
Gary
South Bend
Elkhart
Benton Harbor
Battle Creek
Ann Arbor
Windsor
Sarnia
London
Kitchener
Hamilton
Niagara Falls
Jamestown
Erie
Ithaca
Elmira
Binghamton
Scranton
Wilkes Barre
Williamsport
State College
Altoona
Johnstown
Wheeling
Morgantown
Parkersburg
Clarksburg
Zanesville
Lancaster
Springfield
Dayton
Richmond
Muncie
Marion
Kokomo
Lima
Mansfield
Beaver Falls
Pittsburgh
Cumberland
Hagerstown
Winchester
Harrisburg
York
Lancaster
Allentown
Wilmington
Trenton
Paterson
Newark
New York
Stamford
Bridgeport
New Haven
New London
Waterbury
Providence
New Bedford
Newport
Poughkeepsie
Schenectady
Albany
Saratoga Springs
Utica
Syracuse
Rochester
Buffalo
Niagara Falls
Watertown
Plattsburgh
Burlington
Montpelier
Waterville
Augusta
Lewiston
Portland
Concord
Manchester
Lowell
Salem
Worcester
Springfield
Boston
Pittsfield
Lexington
Frankfort
Louisville
New Albany
Huntington
Parkersburg
Morgantown
Wheeling
Zanesville
Lancaster
Springfield
Columbus
Dayton
Richmond
Muncie
Marion
Kokomo
Lima
Fort Wayne
Bowling Green
Toledo
Erie
Jamestown
Ithaca
Elmira
Binghamton
Scranton
Wilkes Barre
Williamsport
State College
Altoona
Johnstown
Wheeling
Morgantown
Parkersburg
Clarksburg
Zanesville
Lancaster
Springfield
Dayton
Richmond
Muncie
Marion
Kokomo
Lima
Mansfield
Beaver Falls
Pittsburgh
Cumberland
Hagerstown
Winchester
Harrisburg
York
Lancaster
Allentown
Wilmington
Trenton
Paterson
Newark
New York
Stamford
Bridgeport
New Haven
New London
Waterbury
Providence
New Bedford
Newport
Poughkeepsie
Schenectady
Albany
Saratoga Springs
Utica
Syracuse
Rochester
Buffalo
Niagara Falls
Watertown
Plattsburgh
Burlington
Montpelier
Waterville
Augusta
Lewiston
Portland
Concord
Manchester
Lowell
Salem
Worcester
Springfield
Boston
Pittsfield
19:01 UTC
19:15 UTC
19:20 UTC
19:25 UTC
19:30 UTC
85%
90%
95%
Great American Eclipse
GreatAmericanEclipse.com

Michigan

Like Tennessee, Michigan will receive a minuscule amount of totality. Across roughly 50 square miles in the state's southeastern corner, where U.S. Hwy. 24 and Interstate 75 cross its border with Ohio, viewers will experience a maximum duration of 1 minute with the Sun 50° high in the southwest. Unfortunately, Detroit lies outside of the path, although it gets a 99.4-percent partial eclipse along the banks of the Detroit River.

Pennsylvania

Totality begins in the Commonwealth of Pennsylvania at 3:15:38 p.m. EDT, just south of where Interstate 90 crosses the border from Ohio. Anyone at that point will enjoy 3 minutes 44 seconds of totality with the Sun 48° high. Just east of there, the small town of West Springfield, which has a population around 3,300, receives 1 second less beneath the umbra.

The largest city in the state to enjoy totality will be Erie, which has some 100,000 residents. Residents in the downtown area will be treated to 3 minutes 42 seconds of totality. Numbers here surely will swell on eclipse day because the great city of Pittsburgh lies only 128 miles south and eclipse chasers who don't drive to Cleveland may choose instead to make the easy drive to Erie via I-79.

The longest durations of totality in the state will occur along the shore of Lake Erie. Fortunately, this 45-mile stretch is paralleled by I-90, so access is not difficult.

LIGHTHOUSE AT ST. CATHARINE'S, ONTARIO

Ontario

Almost simultaneously with touching Michigan, at 3:14 p.m. EDT, the umbra enters Ontario, Canada's most populous province. The first large city covered by the umbra is Hamilton. Any of its metropolitan population of 750,000 can experience 2 minutes 15 seconds of totality from the southeastern part of the city. There, the Sun will stand 46° above the southwestern horizon. St. Catharine's, with its 1.4 million people, will add a minute to that duration from its southeastern reaches.

Unfortunately, Canada's largest city, Toronto, with a population approaching 3 million (and a metro population of 6 million), lies just outside the path of totality. Residents who remain there on eclipse day will see the Moon cover 99.9 percent of the solar disk, surely with an extended display of Baily's beads.

Most eclipse chasers in Toronto, however, probably will head for Hamilton. Or, they'll continue farther south to the shore of Lake Erie. If it's clear on eclipse day, a great view will come from Long Point Provincial Park, which is famous for sightings of migratory birds. There totality will last 3 minutes 42 seconds with the Sun 47º high in the southwest. Other residents throughout this province who want the maximum amount of time beneath the umbra should head to Fort Erie, which lies at Ontario's border with New York. At the shoreline south of this town of 30,000, totality will last 3 minutes 45 seconds.

New York, Vermont, and New Hampshire

The next big city that will experience the Moon's umbra is Buffalo, New York, with its metropolitan population of 1.1 million. The center line passes right through downtown, bringing this city 3 minutes 46 seconds of totality. Travelers desiring information about the eclipse might want to check with the staff of Zygmunt Planetarium, which is part of the Buffalo Museum of Science.

Rochester, on the shore of Lake Ontario, also is well positioned for totality. From Strasenburgh Planetarium, part of the Rochester Museum and Science Center, the Moon will cover the Sun for 3 minutes 40 seconds. Attend a program and ask what eclipse related activities the staff has planned a day or so before the great event.

The umbra next covers upstate New York and the northern parts of Vermont and New Hampshire before entering Maine. No sizable cities lie in this region. Even Montpelier, the capital of Vermont, has only 7,500 residents who, if it's clear, will enjoy 1 minute 42 seconds of totality with the Sun 40° high in the southwest.

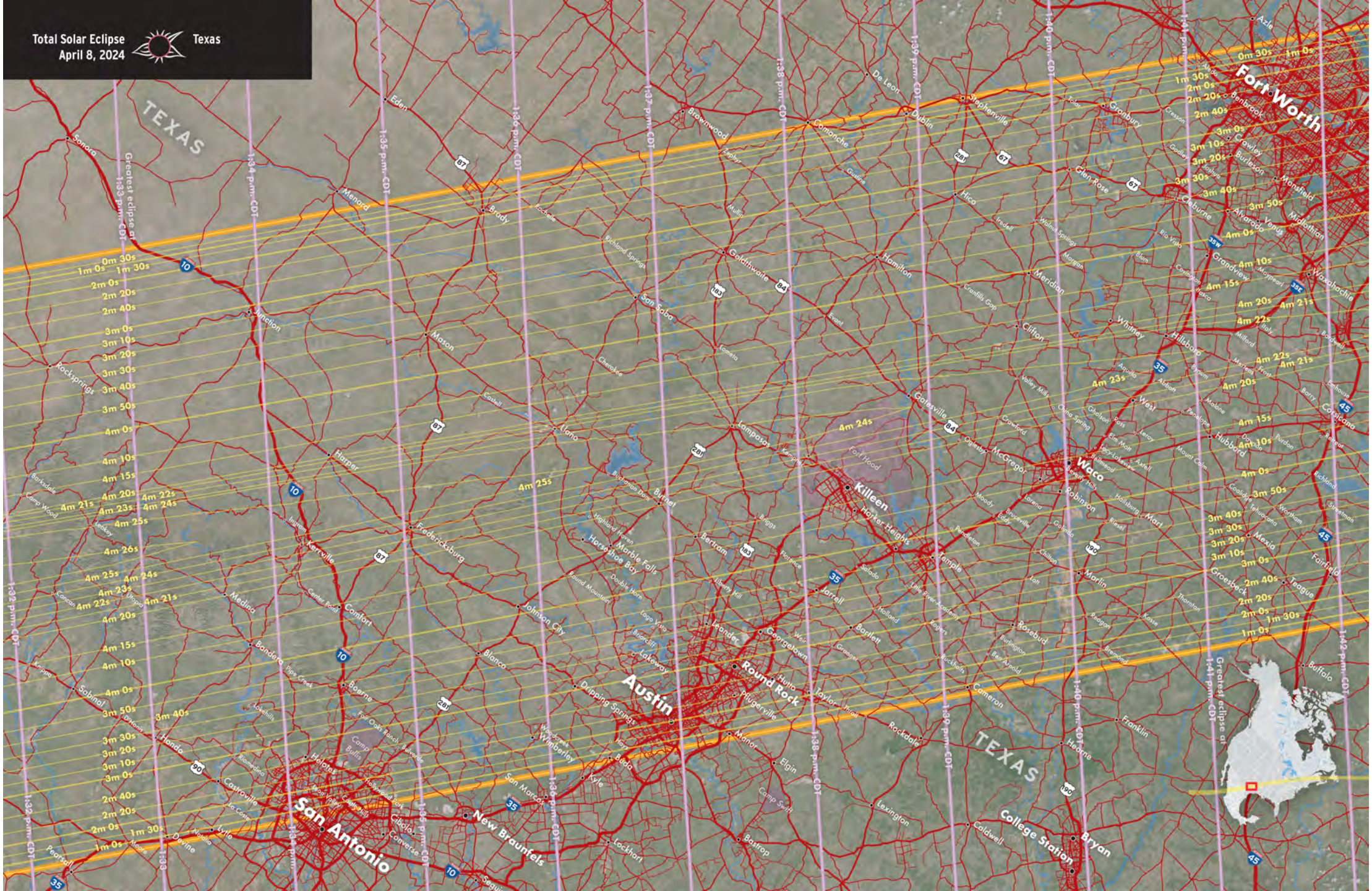
ROCHESTER, NEW YORK

If the Northeastern United States has good weather on eclipse day, the most picturesque images of the event might come from Niagara Falls. From the outlook called Terrapin Point, an eclipse watcher will enjoy 3 minutes 28 seconds of totality. Almost as important, the Sun will hang 46° high in the southwest — directly over the Falls!

Science buffs who observe or photograph the eclipse from this area surely will want to visit the Nikola Tesla Monument within Queen Victoria Park on the Canadian side of Niagara Falls. It lies only 1500 feet north of Terrapin Point.

NIAGARA FALLS, NEW YORK AND ONTARIO


Total Solar Eclipse
April 8, 2024
Sinaloa · Nayarit
Durango · Zacatecas
Greatest eclipse at 12:06 p.m. MDT
12:05 p.m. MDT
12:06 p.m.
12:07 p.m.
12:07 p.m. MDT
12:08 p.m. MDT
12:09 p.m. MDT
12:10 p.m. MDT
12:11 p.m. MDT
12:12 p.m. MDT
12:13 p.m. MDT
12:14 p.m. MDT
12:15 p.m.
Greatest eclipse at 12:15 p.m. MDT
0m 30s
1m 0s
1m 30s
2m 0s
2m 20s
2m 40s
3m 0s
3m 10s
3m 20s
3m 30s
3m 40s
3m 50s
4m 0s
4m 10s
4m 15s
4m 20s
4m 22s
4m 24s
4m 25s
4m 26s
4m 27s
SINALOA
DURANGO
NAYARIT
ZACATECAS
Mazatlán
Durango
Culiacán
La Cruz
El Soldado
Piaxtla de Abajo
Estación Dimas
Pueblo Nuevo
Tayoltita
Villa Unión
El Walamo
Agua Caliente de Gárate
El Rosario
Agua Verde
Escuinapa
Isla del Bosque
Teacapán
Quimichis
San Felipe Aztatán
Acaponeta
Huajicori
Concordia
El Roble
El Quelite
Lo Ciudad
El Salto
Nombre de Dios
Chalchihuites
Sombrerete
San Francisco del Mezquital


Total Solar Eclipse
April 8, 2024
Texas
TEXAS
TEXAS
Greatest eclipse at 1:33 p.m. CDT
Greatest eclipse at 1:44 p.m. CDT
1:32 p.m. CDT
1:34 p.m. CDT
1:35 p.m. CDT
1:36 p.m. CDT
1:37 p.m. CDT
1:38 p.m. CDT
1:39 p.m. CDT
1:40 p.m. CDT
1:42 p.m. CDT
0m 30s
1m 0s
1m 30s
2m 0s
2m 20s
2m 40s
3m 0s
3m 10s
3m 20s
3m 30s
3m 40s
3m 50s
4m 0s
4m 10s
4m 15s
4m 20s
4m 21s
4m 22s
4m 23s
4m 24s
4m 25s
4m 26s
Fort Worth
Waco
Killeen
Austin
Round Round
San Antonio
New Braunfels
College Station
Bryan
Sonora
Eden
Brownwood
De Leon
Stephenville
Granbury
Azle
Benbrook
Crowley
Burleson
Mansfield
Cleburne
Alvarado
Venus
Midlothian
Waxahachie
Glen Rose
Hico
Dublin
Comanche
Goldthwaite
Hamilton
Meridian
Clifton
Whitney
Hillsboro
Menard
Brady
San Saba
Mason
Junction
Rocksprings
Llano
Harper
Kerrville
Fredericksburg
Medina
Comfort
Johnson City
Blanco
Bandera
Boerne
Sabinal
Hondo
Castroville
Helotes
Lytle
Devine
Pearsall
Dripping Springs
Wimberley
Kyle
Buda
San Marcos
Lockhart
Bastrop
Elgin
Manor
Georgetown
Leander
Liberty Hill
Jarrell
Bertram
Burnet
Marble Falls
Horseshoe Bay
Briggs
Lampasas
Gatesville
McGregor
Robinson
Harker Heights
Temple
Belton
Troy
Moody
Mart
Mexia
Groesbeck
Fairfield
Teague
Buffalo
Marlin
Rosebud
Bartlett
Taylor
Hutto
Rockdale
Cameron
Franklin
Hearne
Lexington
Caldwell
Navasota
Normangee
Madisonville
Huntsville
Conroe
Willis
Montgomery
Magnolia
Tomball
Cypress
Houston
Pasadena
Baytown
Galveston
Texas City
League City
Pearland
Sugar Land
Katy
Richmond
Rosenberg
Sealy
Bellville
Brenham
Giddings
La Grange
Columbus
Eagle Lake
Wharton
Bay City
Palacios
Port Lavaca
Victoria
Cuero
Yoakum
Hallettsville
Shiner
Gonzales
Seguin
New Braunfels
Luling
Lockhart
Bastrop
Smithville
Elgin
Taylor
Hutto
Round Rock
Georgetown
Leander
Cedar Park
Liberty Hill
Jarrell
Florence
Salado
Belton
Troy
Temple
Harker Heights
Killeen
Fort Hood
Copperas Cove
Gatesville
Lampasas
Evant
Goldthwaite
Comanche
Dublin
Stephenville
Granbury
Glen Rose
Cleburne
Alvarado
Venus
Midlothian
Waxahachie
Grandview
Hillsboro
Whitney
Clifton
Meridian
Hamilton
Hico
Glen Rose
Granbury
Stephenville
Dublin
De Leon
Comanche
Brownwood
Eden
Menard
Brady
San Saba
Mason
Junction
Rocksprings
Sonora
Llano
Harper
Kerrville
Fredericksburg
Medina
Comfort
Johnson City
Blanco
Bandera
Boerne
Sabinal
Hondo
Castroville
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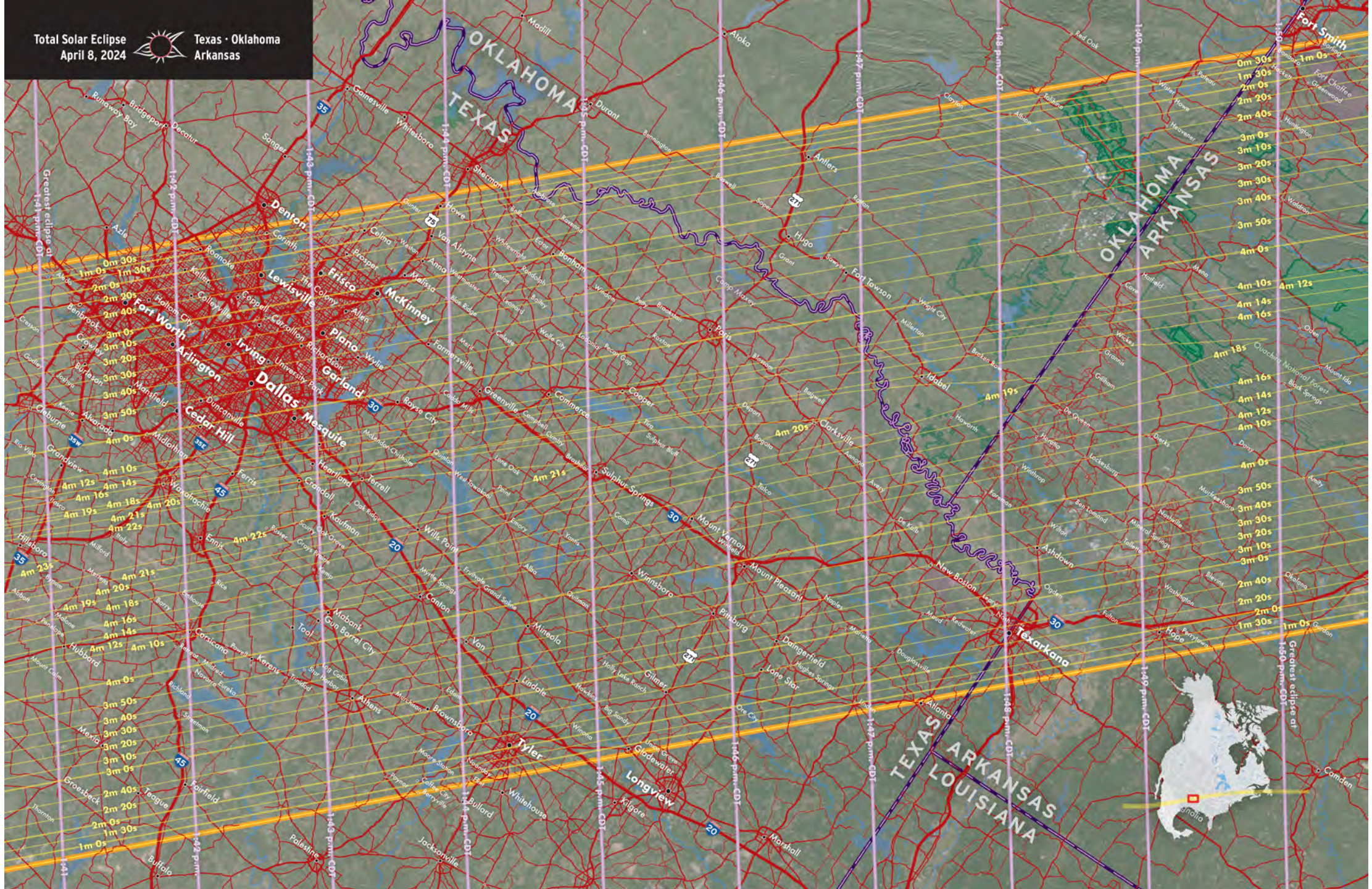
Total Solar Eclipse
April 8, 2024
Texas · Oklahoma
Arkansas
OKLAHOMA
TEXAS
OKLAHOMA
ARKANSAS
TEXAS
ARKANSAS
LOUISIANA
Greatest eclipse at 1:41 p.m. CDT
Greatest eclipse at 1:50 p.m. CDT
1:41 p.m. CDT
1:42 p.m. CDT
1:43 p.m. CDT
1:44 p.m. CDT
1:45 p.m. CDT
1:46 p.m. CDT
1:47 p.m. CDT
1:48 p.m. CDT
1:49 p.m. CDT
1:50 p.m. CDT
Fort Worth
Arlington
Dallas
Irving
Plano
Frisco
McKinney
Denton
Lewisville
Garland
Mesquite
Cedar Hill
Duncanville
Waxahachie
Ennis
Corsicana
Hillsboro
Mexia
Groesbeck
Fairfield
Buffalo
Palestine
Jacksonville
Athens
Tyler
Longview
Gladewater
Kilgore
Marshall
Whitehouse
Bullard
Brownsboro
Canton
Wills Point
Kaufman
Terrell
Forney
Greenville
Sherman
Denison
Durant
Bonham
Paris
Commerce
Cooper
Sulphur Springs
Mount Vernon
Winnsboro
Pittsburg
Mount Pleasant
Daingerfield
Gilmer
Lindale
Mineola
Quitman
Emory
Grand Saline
Alba
Yantis
Como
Talco
Clarksville
Idabel
Hugo
Antlers
Fort Towson
Atoka
Ardmore
Gainesville
Whitesboro
Bridgeport
Decatur
Runaway Bay
Azle
Roanoke
Keller
Southlake
Colleyville
Grapevine
Coppell
Carrollton
Farmers Branch
Addison
Richardson
Lewisville
The Colony
Frisco
Allen
Plano
Wylie
McKinney
Melissa
Anna
Van Alstyne
Howe
Celina
Prosper
Pilot Point
Sanger
Krum
Cross Roads
Justin
Northlake
Haslet
Westlake
Trophy Club
Roanoke
Benbrook
Crowley
Burleson
Cleburne
Alvarado
Grandview
Joshua
Godley
Cresson
Venus
Midlothian
Ferris
Red Oak
Ovilla
Glenn Heights
Cedar Hill
Duncanville
DeSoto
Lancaster
Hutchins
Wilmer
Seagoville
Combine
Forney
Terrell
Kaufman
Oak Ridge
Scurry
Rosser
Kemp
Crandall
Talty
Mabank
Gun Barrel City
Seven Points
Trinidad
Tool
Malakoff
Log Cabin
Star Harbor
Payne Springs
Eustace
Caney City
Berryville
Frankston
Neches
Bullard
Whitehouse
Jacksonville
Palestine
Rusk
Troup
Overton
Kilgore
Longview
Gladewater
Tyler
Lindale
Winona
Noonday
Flint
Bullard
Arp
New Chapel Hill
Hideaway
Lakeport
Big Sandy
Hawkins
Mineola
Quitman
Van
Grand Saline
Alba
Yantis
Como
Talco
Winnsboro
Mount Vernon
Pittsburg
Mount Pleasant
Daingerfield
Gilmer
Lone Star
Hughes Springs
Atlanta
Texarkana
New Boston
Redwater
Maud
Naples
Leary
Ogden
Ashdown
Foreman
Nashville
Murfreesboro
Ben Lomond
Mineral Springs
Wilton
Lockesburg
Winthrop
Horatio
De Queen
Gillham
Broken Bow
Wright City
Millerton
Grosmont
Wickes
Hatfield
Mena
Cove
Oden
Mount Ida
Black Springs
Ouachita National Forest
Danville
Amity
Gurdon
Okolona
Arkadelphia
Caddo Valley
Clayton
Tollette
Albion
Howe
Heavener
Poteau
Wister
Fort Smith
Greenwood
Ft. Chaffee
Huntington
Waldron
Camden
Hope
Perrytown
Fulton
Washington
Blevins
Patmos
Emmet
Bodcaw
Bradley
Stamps
Lewisville
Texarkana
Fort Smith
Camden
Atlanta
Marshall
Jefferson
Daingerfield
Gilmer
Longview
Tyler
Kilgore
Henderson
Carthage
Center
Nacogdoches
Lufkin
Crockett
Palestine
Jacksonville
Rusk
Troup
Overton
Whitehouse
Bullard
Arp
New Chapel Hill
Hideaway
Lakeport
Big Sandy
Hawkins
Mineola
Quitman
Van
Grand Saline
Alba
Yantis
Como
Talco
Winnsboro
Mount Vernon
Pittsburg
Mount Pleasant
Daingerfield
Gilmer
Lone Star
Hughes Springs
Atlanta
Texarkana
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Fort Smith
Greenwood
Ft. Chaffee
Huntington
Waldron
Camden
Hope
Perrytown
Fulton
Washington
Blevins
Patmos
Emmet
Bodcaw
Bradley
Stamps
0m 30s
1m 0s
1m 30s
2m 0s
2m 20s
2m 40s
3m 0s
3m 10s
3m 20s
3m 30s
3m 40s
3m 50s
4m 0s
4m 10s
4m 12s
4m 14s
4m 16s
4m 18s
4m 19s
4m 20s
4m 21s
4m 22s
4m 23s
4m 19s
4m 21s
4m 22s
4m 20s
4m 0s
4m 10s
4m 12s
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2m 40s
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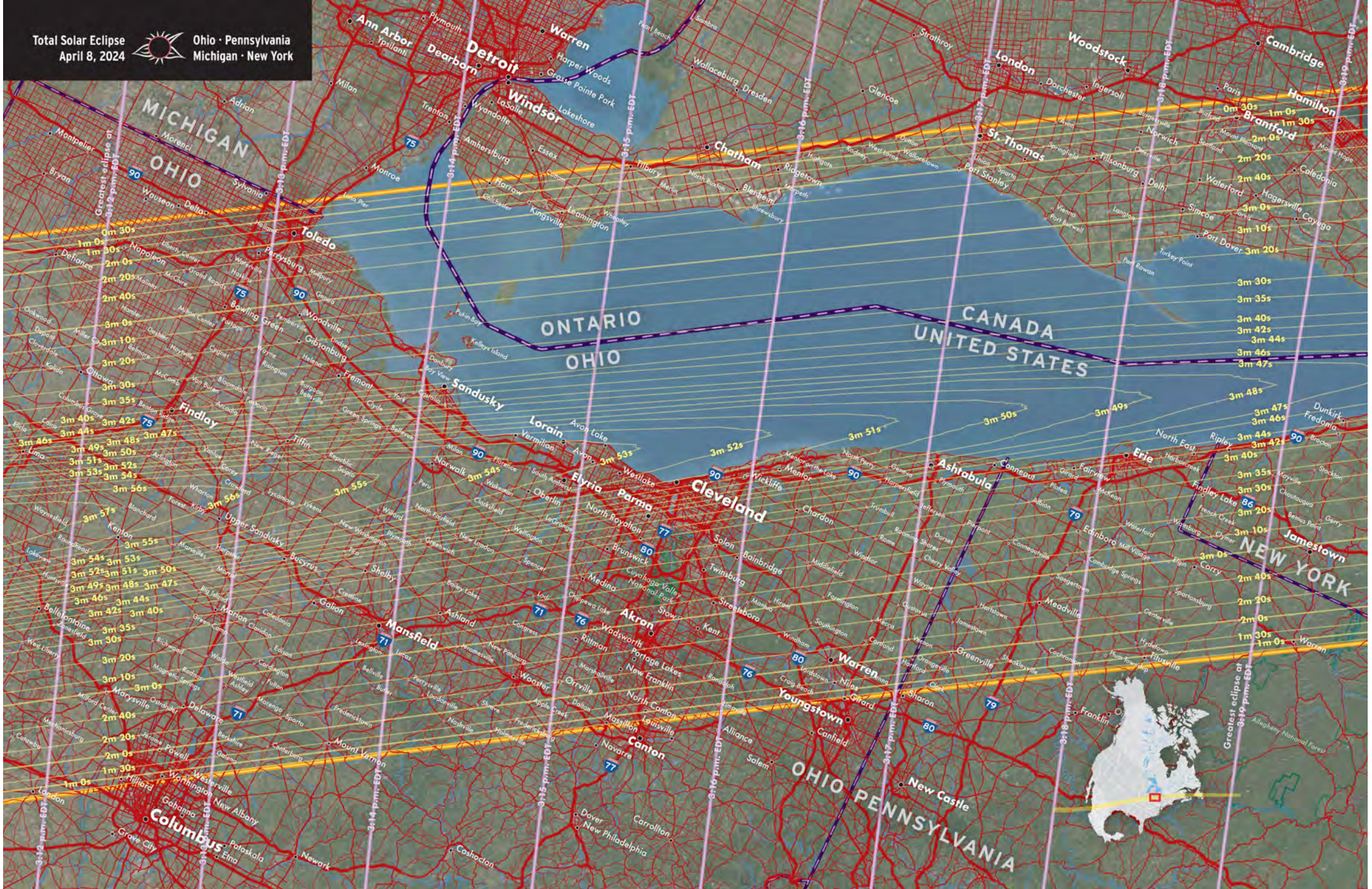
4m 23s
4m 19s
4m 20s
4m 21s
4m 22s
4m 23s
4m 0s
3m 50s
3m 40s
3m 30s
3m 20s
3m 10s
3m 0s
2m 40s
2m 20s
2m 0s
1m 30s
1m 0s

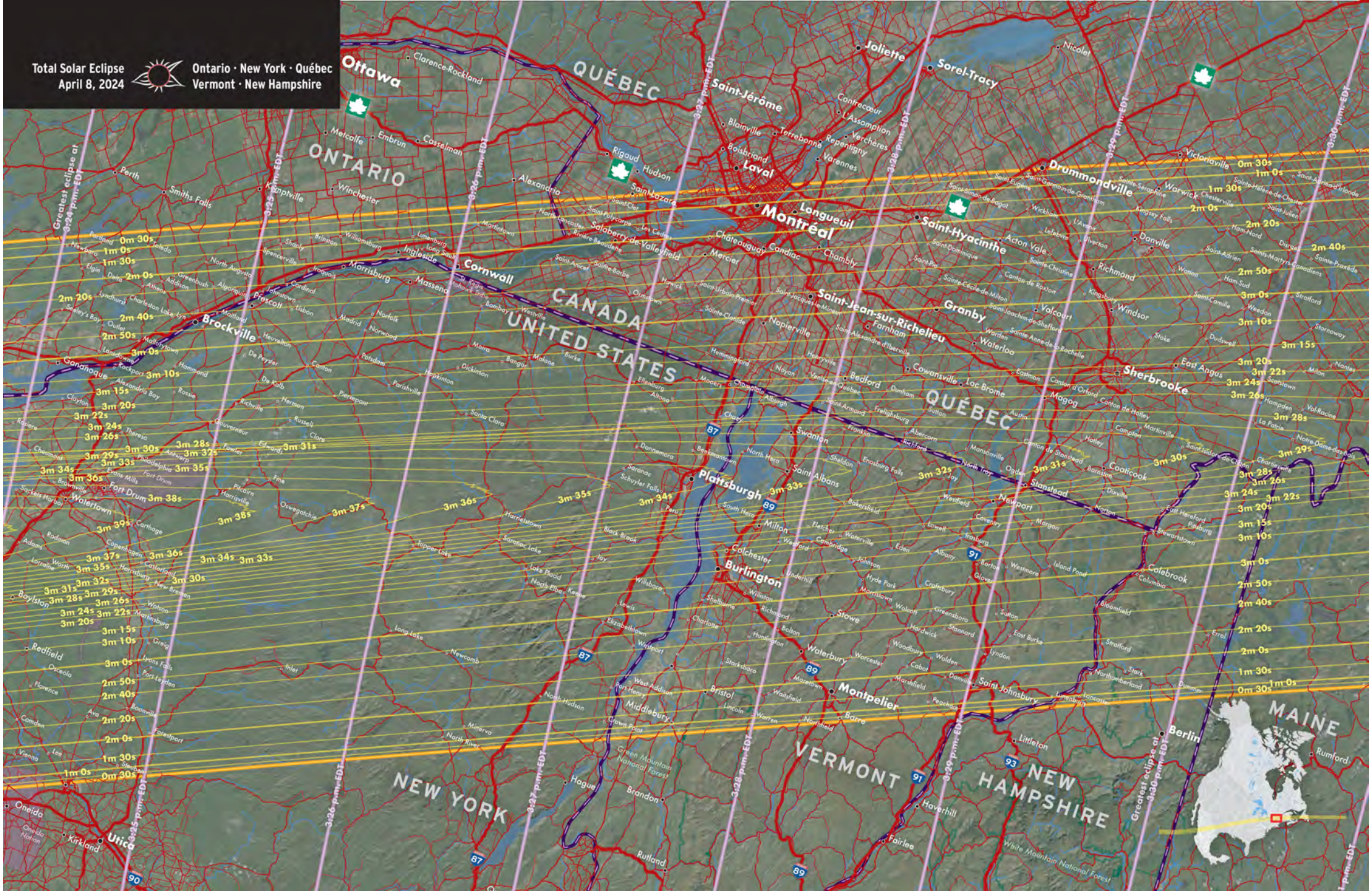
Total Solar Eclipse
April 8, 2024

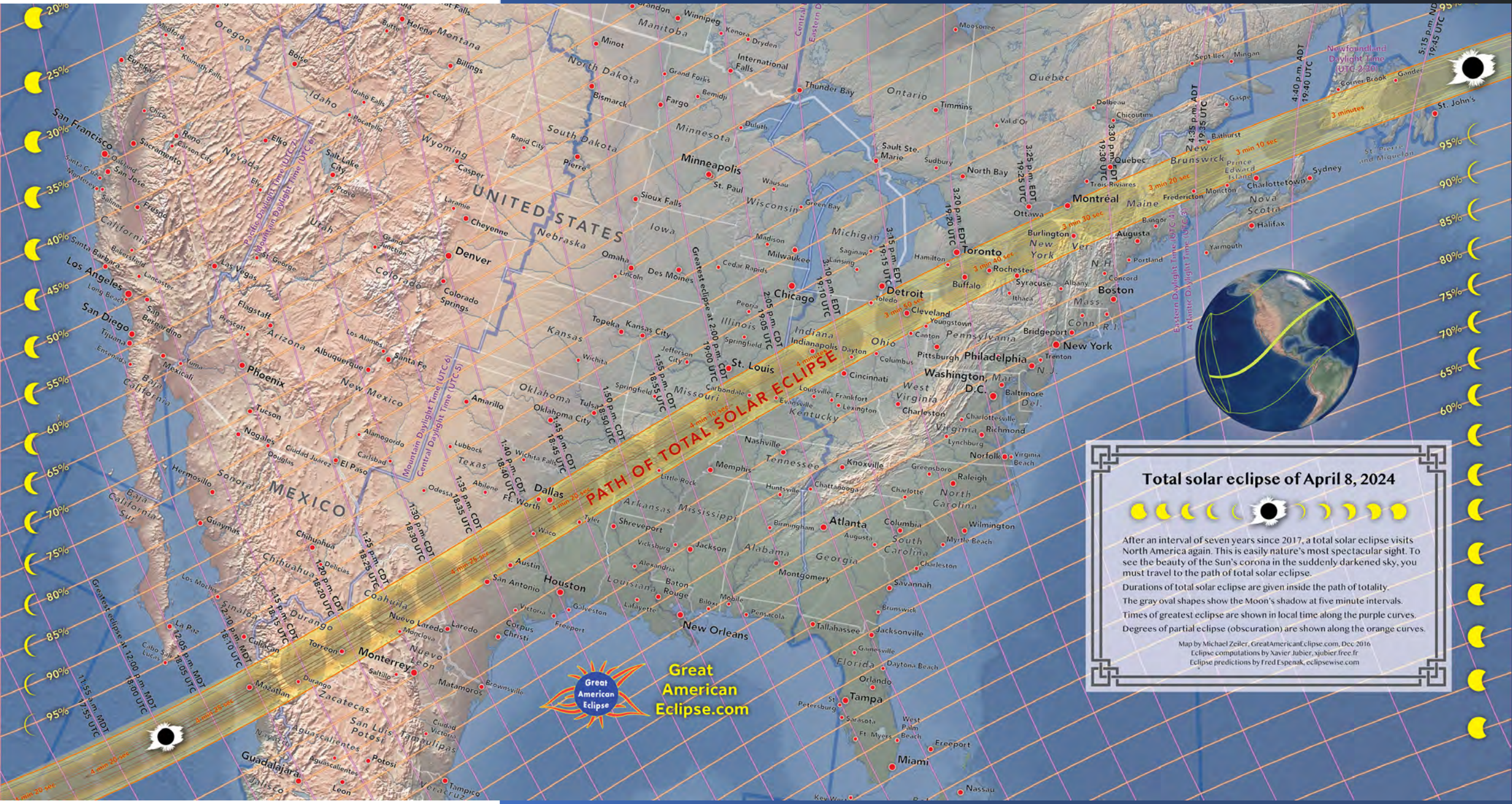
Ohio · Pennsylvania
Michigan · New York



Total Solar Eclipse
April 8, 2024

Ontario · New York · Québec
Vermont · New Hampshire




PATH OF TOTAL SOLAR ECLIPSE
Total solar eclipse of April 8, 2024
After an interval of seven years since 2017, a total solar eclipse visits North America again. This is easily nature's most spectacular sight. To see the beauty of the Sun's corona in the suddenly darkened sky, you must travel to the path of total solar eclipse.
Durations of total solar eclipse are given inside the path of totality.
The gray oval shapes show the Moon's shadow at five minute intervals.
Times of greatest eclipse are shown in local time along the purple curves.
Degrees of partial eclipse (obscuration) are shown along the orange curves.
Map by Michael Zeiler, GreatAmericanEclipse.com, Dec 2016
Eclipse computations by Xavier Jubier, xjubier.free.fr
Eclipse predictions by Fred Espenak, eclipsewise.com
Great American Eclipse
Great American Eclipse.com
Greatest eclipse at 2:00 p.m. CDT
Greatest eclipse at 12:00 p.m. MDT
UNITED STATES
MEXICO
Pacific Daylight Time (UTC-7)
Mountain Daylight Time (UTC-6)
Central Daylight Time (UTC-5)
Eastern Daylight Time (UTC-4)
Atlantic Daylight Time (UTC-3)
Newfoundland Daylight Time (UTC-2:30)

Ten-foot long eclipse map

Digital map that is ideal for education and conferences can be downloaded at the bottom of www.greatamericaneclipse.com/april-8-2024