Texas Hill Country:
Crossroads of the Eclipses

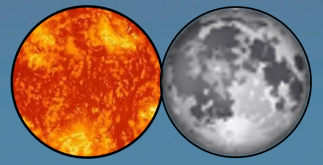
City of San Saba
Town Hall Information Meeting
March 4, 2024

hill country alliance

City of San Saba
Town Hall Information Meeting

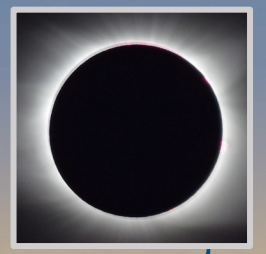
Points of Contact
Observations and Effects

TOTAL SOLAR ECLIPSE

First Contact	Second Contact	Third Contact	Fourth Contact
			
start of eclipse 1st partial phase begins Moon starts covering Sun	beginning of totality 1st partial phase ends moon fully covers Sun	end of totality 2nd partial phase begins moon starts uncovering Sun	end of eclipse 2nd partial phase ends moon fully uncovers Sun

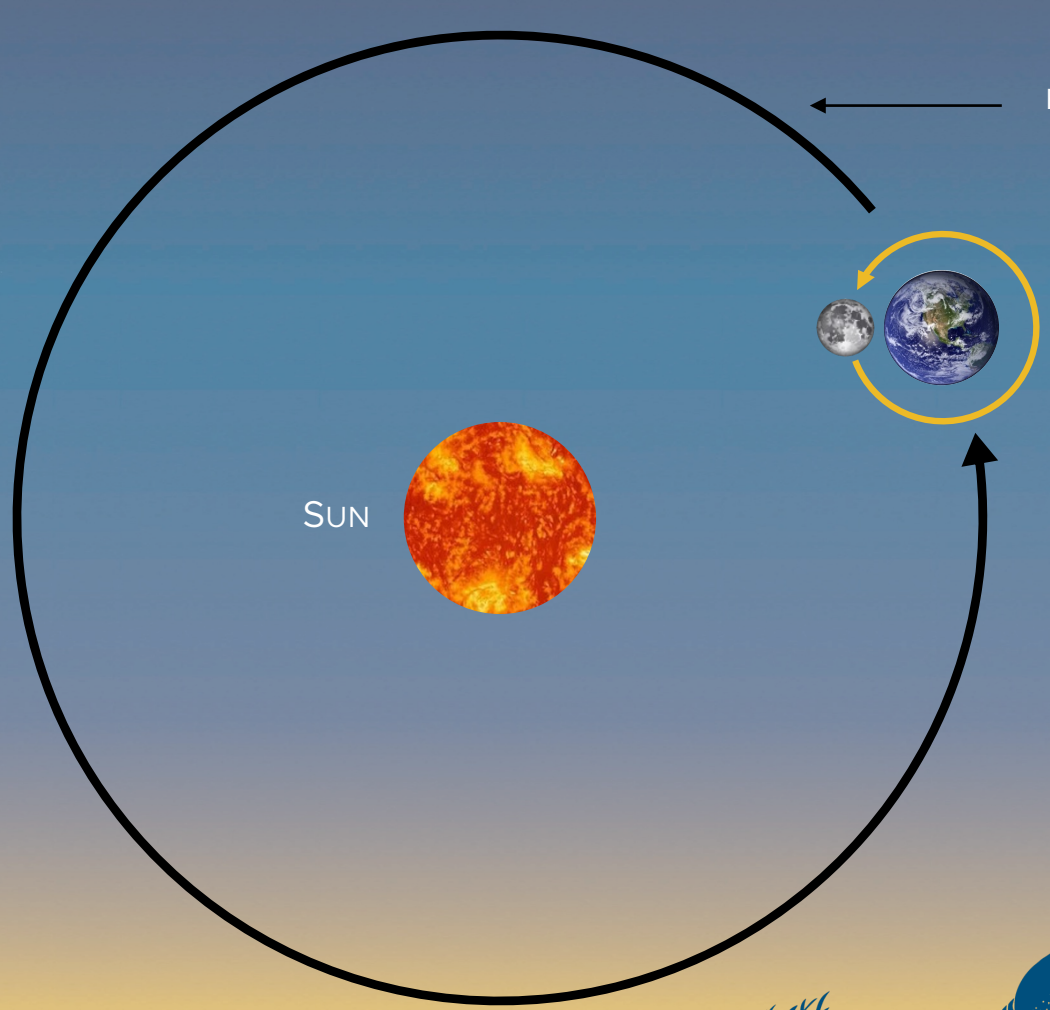
Light & Shadow – Nature – Temperature & Weather – Solar Activity – Shadow Bands – Baily's Beads – Diamond Ring – Totality – Corona Exposure – Planets & Stars - 360° of Sunset

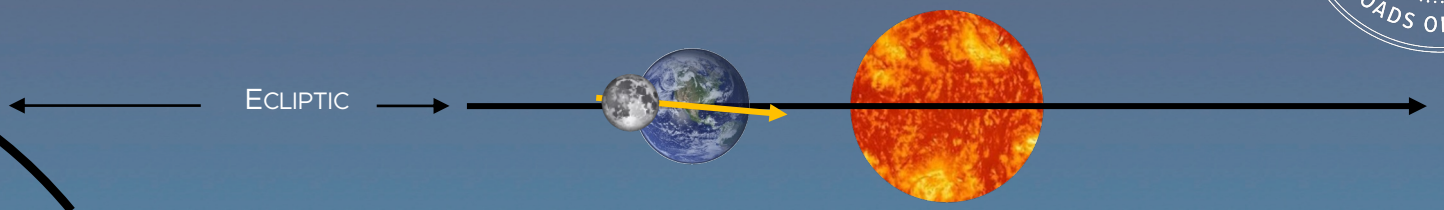


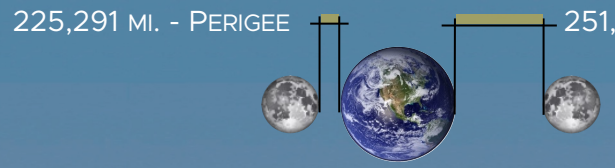



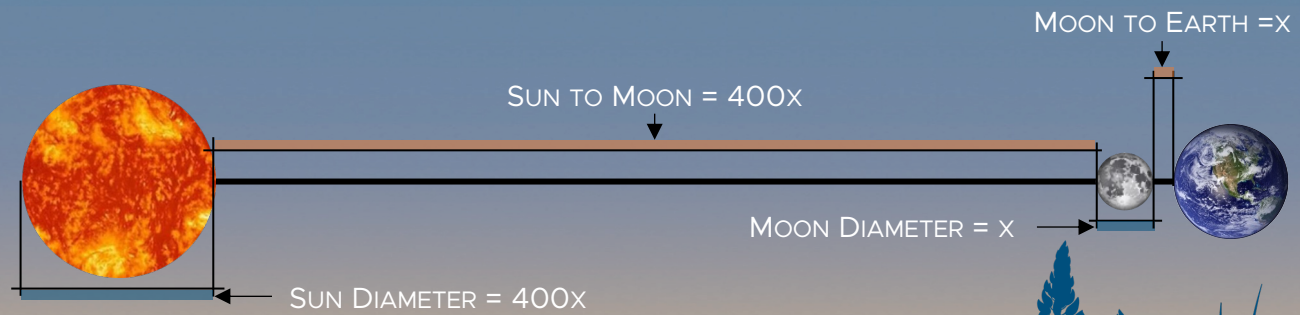
The Science of Solar Eclipses

The Sun, The Moon, and The Earth







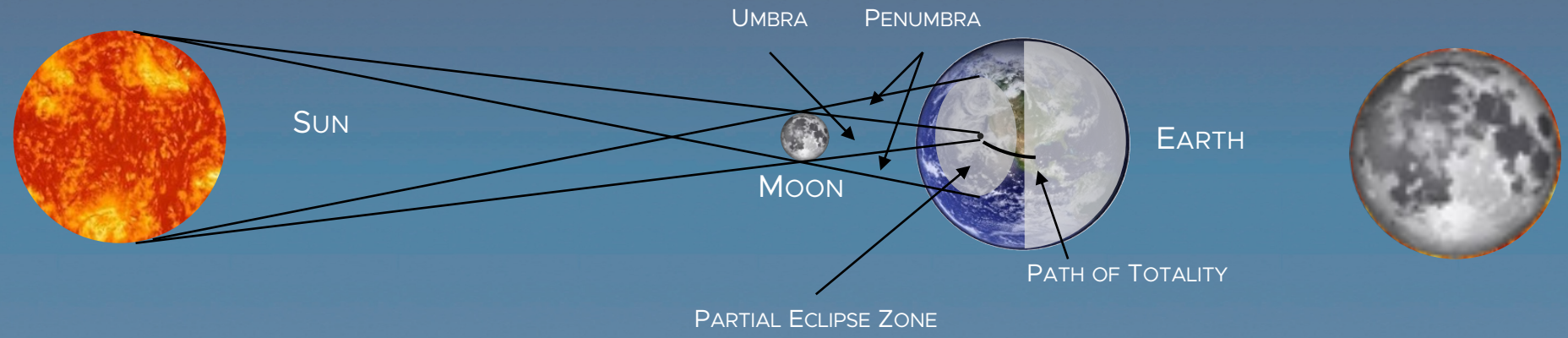


City of San Saba
Town Hall Information Meeting

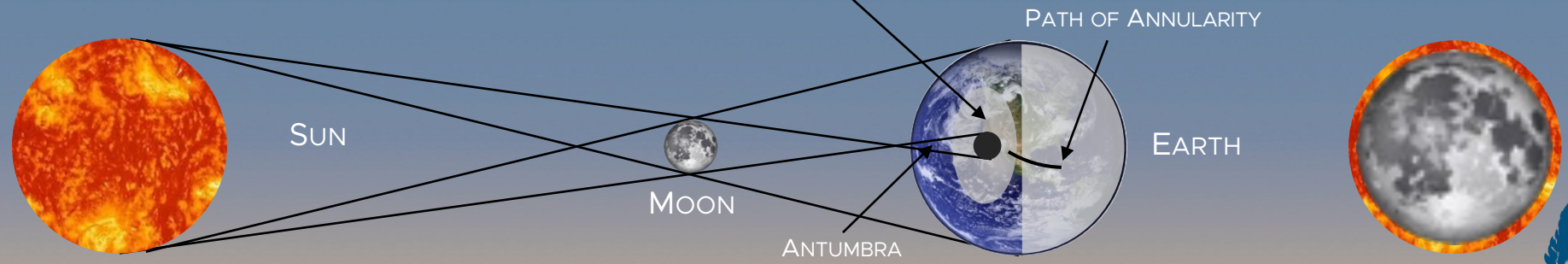
Anatomy of a Solar Eclipse

Total vs Annular

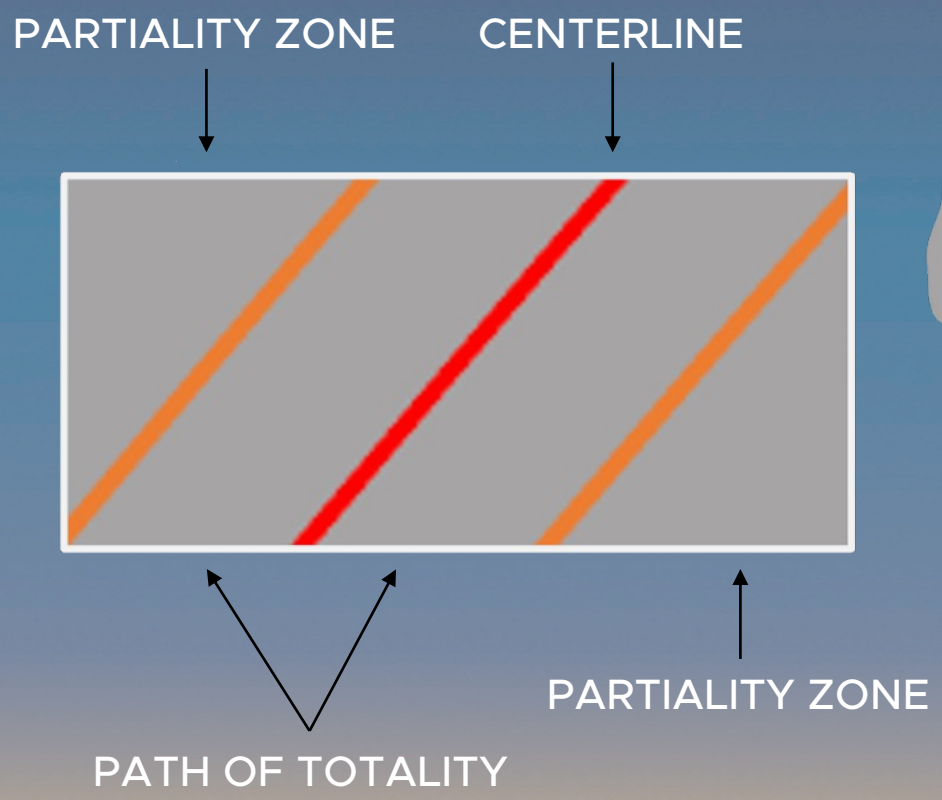
TOTAL SOLAR ECLIPSE

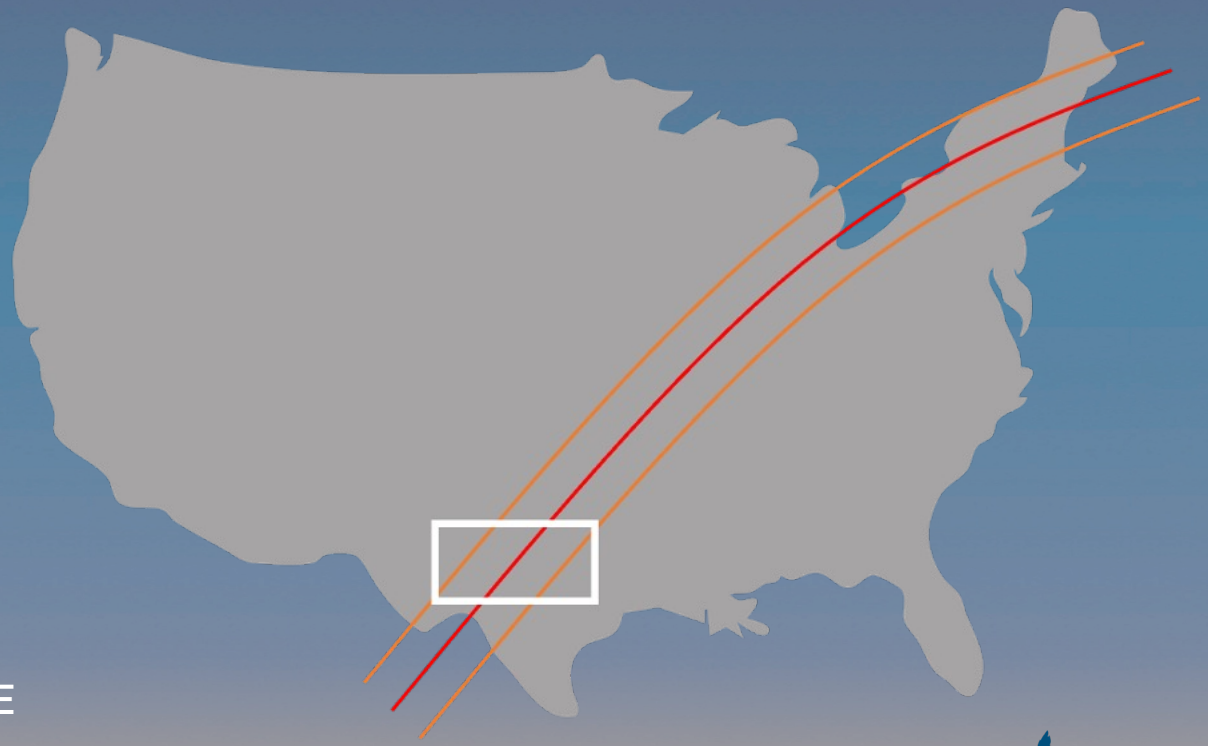


ANNULAR SOLAR ECLIPSE



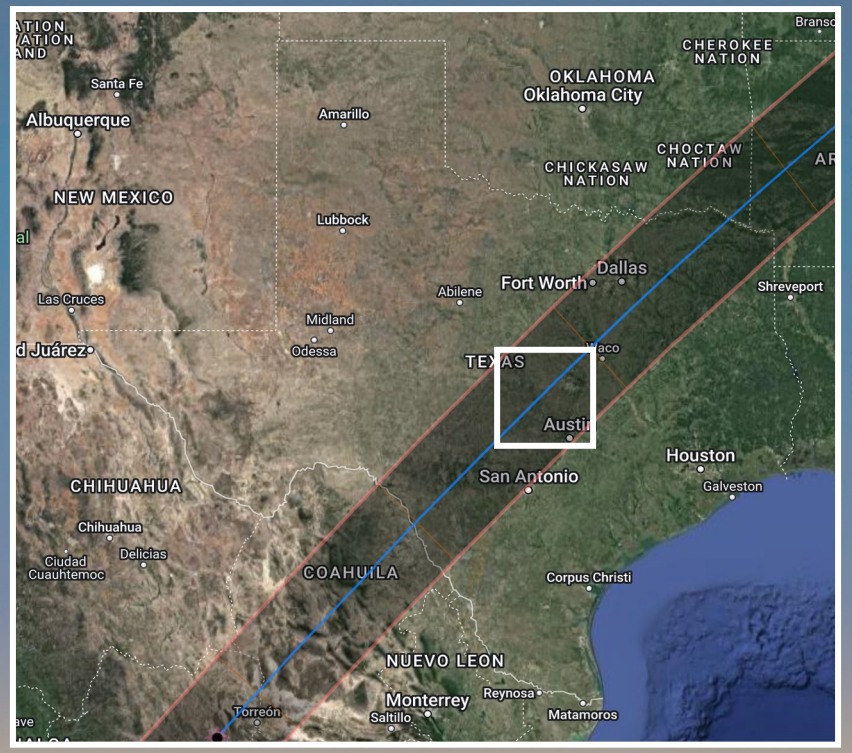
Path of an Eclipse

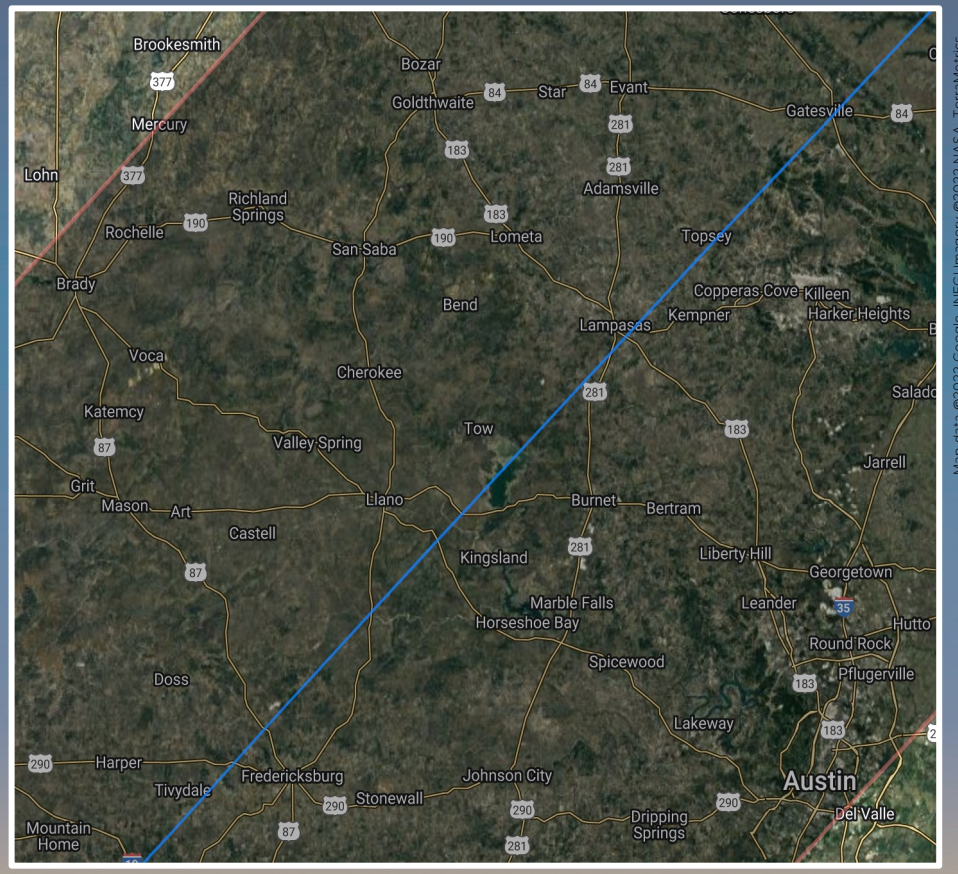




Total Solar Eclipse

April 8, 2024





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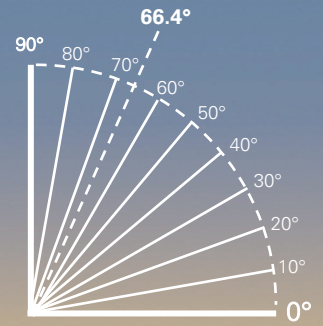
Town Hall Information Meeting

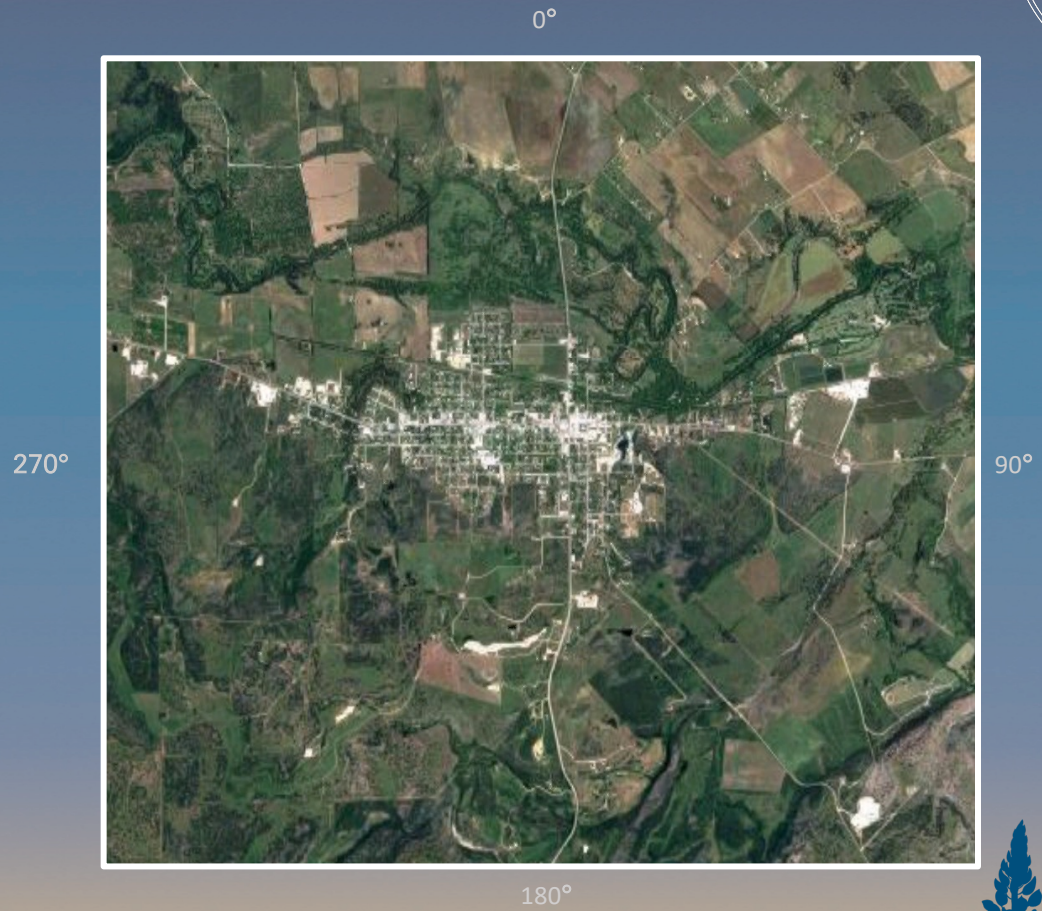
Total Solar Eclipse – San Saba
April 8, 2024

Event	Time	Azimuth	Altitude
1st Contact	12:17:34	137.0° SE	60.0°
2nd Contact	1:35:03	179.1° S	66.4°
Maximum	1:36:57	180.3° S	66.4°
3rd Contact	1:38:51	181.0° S	66.4°
4th Contact	2:57:43	223.1° SW	59.7°

Eclipse Duration – 2h 40m

Totality – 3m 46s





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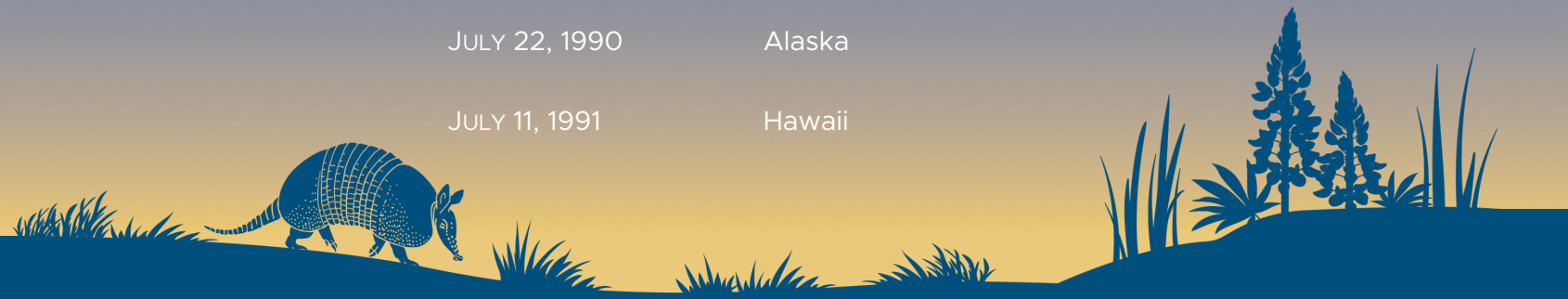
Total Solar Eclipses in the US

20th Century

DATE	PATH OF TOTALITY
June 8, 1918	Washington, Oregon, Idaho, Utah, Wyoming, Colorado, Kansas, Oklahoma, Arkansas, Louisiana, Mississippi, Alabama, Florida
September 10, 1923	California
January 24, 1925	Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Michigan, Wisconsin, Minnesota
June 29, 1927	Alaska
April 28, 1930	California, Oregon, Nevada, Washington, Idaho, Utah, Montana, Wyoming, North Dakota
August 31, 1932	Vermont, New Hampshire, Maine, Massachusetts
February 4, 1943	Alaska
July 9, 1945	Montana, Idaho, Oregon
May 9, 1948	Alaska

DATE	PATH OF TOTALITY
September 12, 1950	Alaska
June 30, 1954	Michigan, Wisconsin, Minnesota, South Dakota, Iowa, Nebraska
October 2, 1959	Massachusetts, Vermont, New Hampshire
July 20, 1963	Alaska, Maine
March 7, 1970	Florida, Georgia, South Carolina, North Carolina, Virginia, Maryland, Massachusetts
July 10, 1972	Alaska
February 26, 1979	Oregon, Washington, Idaho, Montana, North Dakota
July 22, 1990	Alaska
July 11, 1991	Hawaii



City of San Saba
Town Hall Information Meeting

Total Solar Eclipses in the US

21st Century

DATE	PATH OF TOTALITY
August 21, 2017	Oregon, Idaho, Wyoming, Nebraska, Kansas, Missouri, Illinois, Kentucky, Tennessee, North Carolina, Georgia, South Carolina
April 8, 2024	**Texas, Oklahoma, Arkansas, Missouri, Illinois, Kentucky, Indiana, Ohio, Pennsylvania, New York, Vermont, New Hampshire, Maine**
March 30, 2033	Alaska
April 9, 2043	Alaska
August 22-23, 2044	Montana, North Dakota, South Dakota
August 12, 2045	Florida, Georgia, Alabama, Mississippi, Louisiana, Arkansas, Missouri, Oklahoma, Kansas, **Texas**, Colorado, Utah, Nevada, California

DATE	PATH OF TOTALITY
March 30, 2052	**Texas**, Louisiana, Mississippi, Alabama, Florida, Georgia, South Carolina
May 11, 2078	**Texas**, Louisiana, Mississippi, Alabama, Florida, Georgia, South Carolina, North Carolina, Virginia
May 1, 2079	Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, Pennsylvania, New Jersey, Delaware, Maryland
May 11, 2097	Alaska
September 14, 2099	Montana, North Dakota, South Dakota, Minnesota, Wisconsin, Michigan, Illinois, Indiana, Ohio, Pennsylvania, West Virginia, Maryland, Virginia, North Carolina

City of San Saba
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Total Solar Eclipses - Worldwide

The Next 50 Years

DATE	PATH OF TOTALITY
August 12, 2026	Arctic, Western Europe
August 2, 2027	Africa, Europe, Middle East
July 22, 2028	Oceania
November 25, 2030	Africa, Oceania
March 30, 2033	North America, Russia
March 20, 2034	Africa, Middle East, Asia
September 2, 2035	Asia
July 13, 2037	Oceania
December 26, 2038	Oceania
December 15, 2039	Antarctica
April 30, 2041	Africa
April 20, 2042	Asia

DATE	PATH OF TOTALITY
April 9, 2043	Asia
August 23, 2044	Arctic, North America
August 12, 2045	North America, Central America, South America
August 2, 2046	South America, Africa
December 5, 2048	South America, Africa
March 30, 2052	Mexico, United States
September 12, 2053	Europe, Africa, Middle East
July 24, 2055	Southern Africa
January 5, 2057	Atlantic, Indian Ocean
December 26, 2057	Antarctica
May 11, 2059	South America

DATE	PATH OF TOTALITY
April 30, 2060	Africa
April 20, 2061	Asia
August 24, 2063	Asia
August 12, 2064	South America
December 17, 2066	Oceania
May 31, 2068	Oceania
April 11, 2070	Asia
September 23, 2071	Central America, South America
September 12, 2072	Asia
August 3, 2073	South America
January 16, 2075	South America

City of San Saba
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Solar Eclipses - City of San Saba

21st Century and Beyond

DATE	#	TYPE	DETAILS
4/9/2024 – 1/1/2100	**29**	**Partial**	
November 15, 2077	1	Annular	7 minutes 54 seconds - Annularity
1/1/2100 – 1/1/3000	**324**	**Partial**	
September 5, 2165	1	Annular	7 minutes 22 seconds - Annularity
October 8, 2238	**1**	Annular	3 minutes 47 seconds - Annularity
March 27, 2294	1	Annular	7 minutes 42 seconds - Annularity
October 2, 2722	1	Annular	6 minutes 13 seconds - Annularity
November 3, 2795	1	Annular	8 minutes 26 seconds - Annularity
October 6, 2898	1	Annular	1 minutes 13 seconds - Annularity
October 18, 2935	1	Annular	6 minutes 59 seconds - Annularity

Opportunities and Achievements

Safe Solar Viewing

DIRECT

- Solar Glasses
- Solar Cards
- #14 Welder Glass
- 2x Power Eclipse Viewers
- Binoculars with Solar Filters
- Telescope with Solar Filter
- Solar Telescope

INDIRECT

- Pinhole Projector
- Punch Card
- Colander
- Pasta/Slotted Spoon
- Disco Ball
- Leaves in Trees
- Ritz Cracker

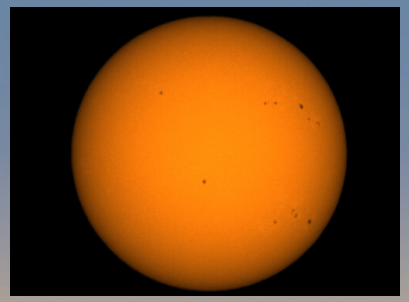
Telescopes and Solar Scopes

Types and Filters

White Light

Hydrogen Alpha

White Light (Digital)



Smart Phones and Digital Cameras

How to Capture

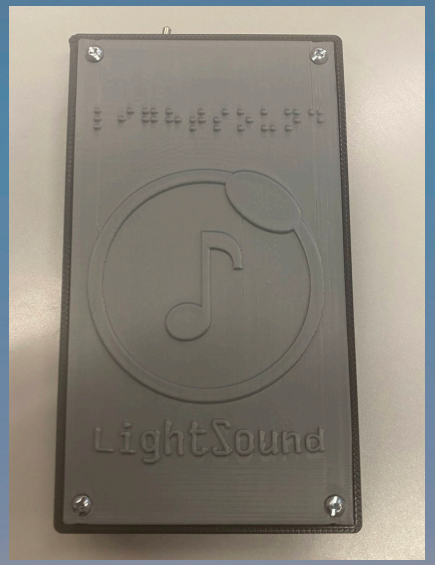
Telescope Cell Phone Adapter

Solar Snap Cell Phone Filter

Neutral Density Solar Filter

Totality for All

Solar Eclipses and Accessibility



ECLIPSE
SOUNDSCAPES.ORG

TEXAS HILL COUNTRY
2023
2024
CROSSROADS OF THE ECLIPSES

City of San Saba
Town Hall Information Meeting

Get Involved

Solar Eclipses and Citizen Science

Texas Hill Country 2023 2024 Crossroads of the Eclipses

GLOBE Observer
Choose your protocol:
Eclipse

Eclipse Megamovie

SunSketcher™

scistarter.com

HamSCI

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Town Hall Information Meeting

Get Involved

Solar Eclipses and Your Community

TEXAS HILL COUNTRY 2023 2024 CROSSROADS OF THE ECLIPSES

ASP ECLIPSE STARS

SEAL
Solar Eclipse Activities for Libraries

ECLIPSE AMBASSADORS

City of San Saba
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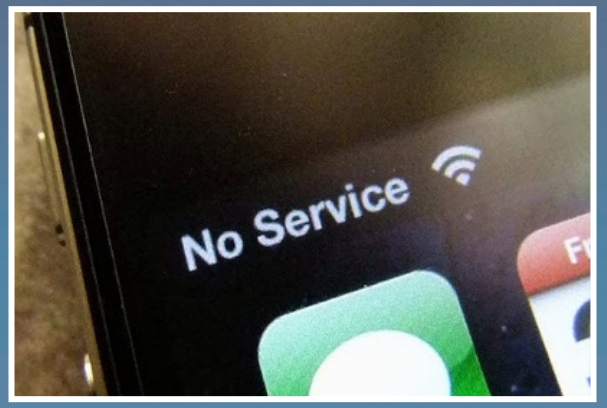
Uncertainties and Challenges



Total Solar Eclipse
Visitor Estimation - Nationwide

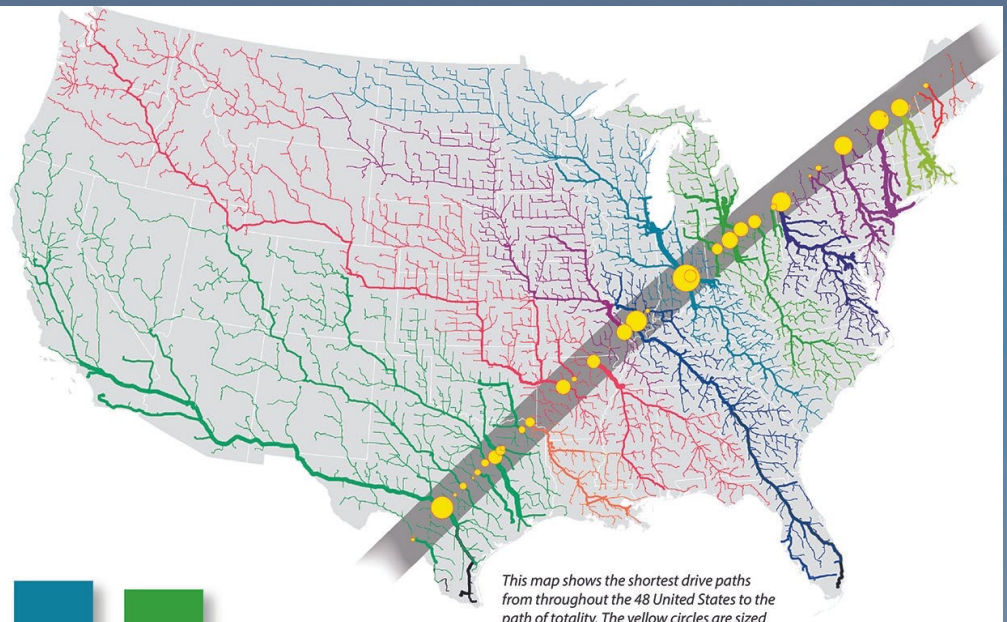
Eclipse Visitation Model Predicts One to Four Million Americans Will Travel to the Path of Totality

A total solar eclipse crosses North America from Mazatlan to Newfoundland on April 8, 2024.

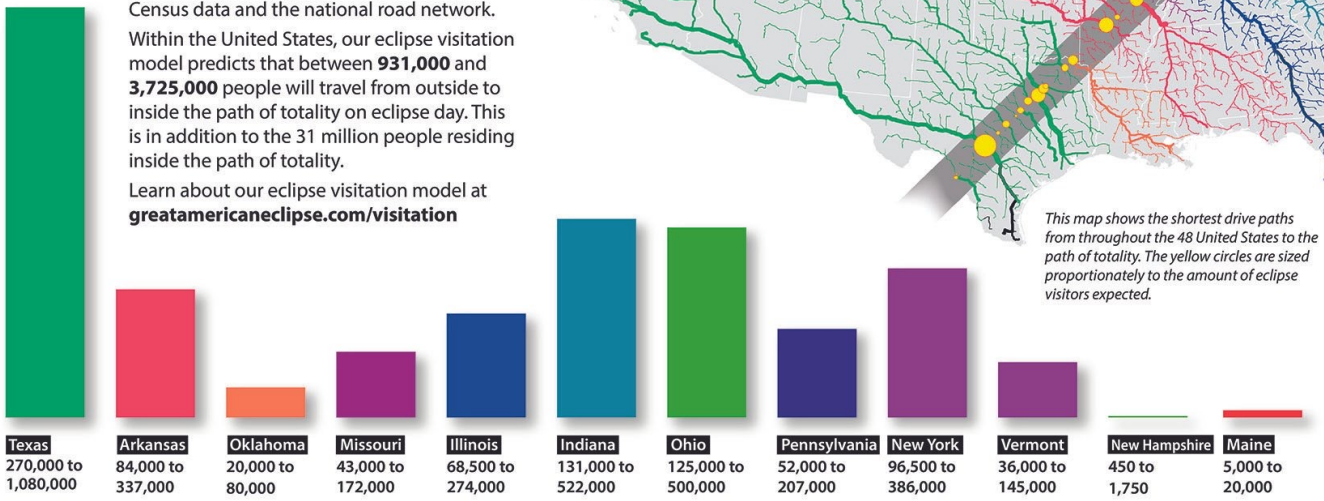
We built an eclipse visitation model using ArcGIS software applied on US Bureau of the Census data and the national road network.

Within the United States, our eclipse visitation model predicts that between **931,000** and **3,725,000** people will travel from outside to inside the path of totality on eclipse day. This is in addition to the 31 million people residing inside the path of totality.

Learn about our eclipse visitation model at **greatamericaneclipse.com/visitation**



This map shows the shortest drive paths from throughout the 48 United States to the path of totality. The yellow circles are sized proportionately to the amount of eclipse visitors expected.



Texas	Arkansas	Oklahoma	Missouri	Illinois	Indiana	Ohio	Pennsylvania	New York	Vermont	New Hampshire	Maine
270,000 to 1,080,000	84,000 to 337,000	20,000 to 80,000	43,000 to 172,000	68,500 to 274,000	131,000 to 522,000	125,000 to 500,000	52,000 to 207,000	96,500 to 386,000	36,000 to 145,000	450 to 1,750	5,000 to 20,000

Great American Eclipse

GreatAmericanEclipse.com

Telescopes and Binoculars
Magnifiers

Unprotected Solar Observation

OCULAR UV EXPOSURE

Solar Retinopathy: damage to the retina

Solar Keratitis: sunburn of the cornea

Photokeratitis: temporary damage to the cornea

Blurry Vision

Spotty Vision

Light Sensitivity

Headaches

Eyelid twitching due to cornea inflammation

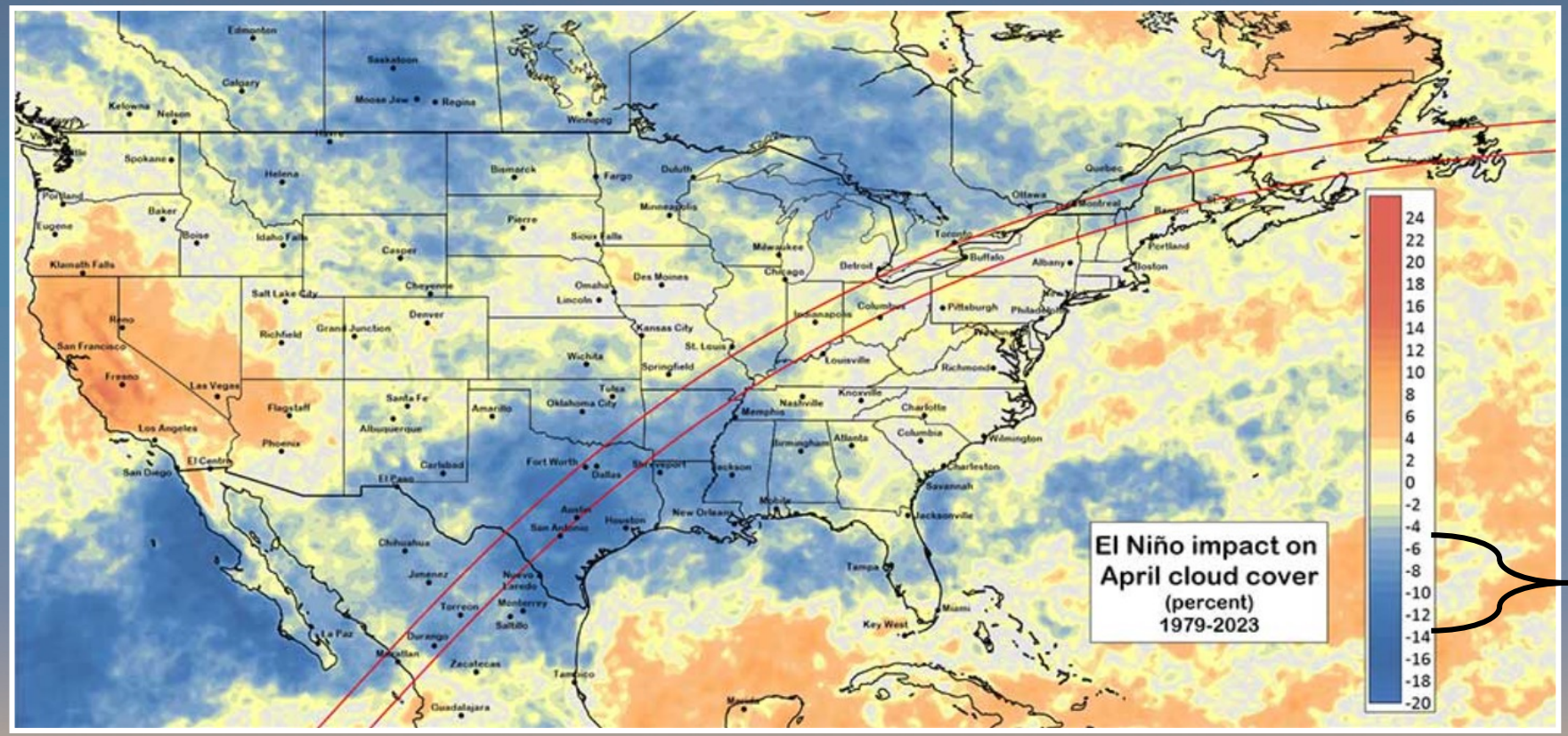
Cataracts

Macular degeneration

Eye-related cancers

© https://myvision.org/eduction/staring-at-the-sun

Forecast
Median Cloud Cover – Path of Totality



https://skyandtelescope.org/astronomy-news/el-nino-2024-total-solar-eclipse-cloud-cover/

Planning
Tips for Residents, Retail, and Lodging

CARBONDALE, ILLINOIS
- Keep it Simple
- Ensure Comfort
- Roll Out the Red Carpet

LOGISTICS
- Know Before You Go
- Supply and Demand
- The Road to Recovery

IDAHO DEPARTMENT OF TOURISM
- Know Your Numbers
- Communication is Key
- It is Never Too Early to Plan

EYE SAFETY & OBSERVING
- Compliance is Mandatory
- Timing is Key
- Everything Under the Sun

AMERICAN ASTRONOMICAL SOCIETY
- All Hands on Deck… and Then Some
- House, Don't Gouge
- Avoid Kinks in the Supply Chain

VISITORS WELCOME
- Rolling Out the Welcome Mat
- Quick Bucks & Consequences

DR. KATE RUSSO
- Prepare for the Knowns and Manage the Unknowns
- Think Outside the Box
- Don't Forget Your Community

Planning
Tips for Ranchers & Landowners

INSURANCE/LIABILITY/SECURITY
- Insurance Policy Coverage Review
- Structures and Equipment
- Law Enforcement and Emergency Services Communication

VIEWING AREA
- Capacity and Audience
- Line of Site
- Reservation Structure

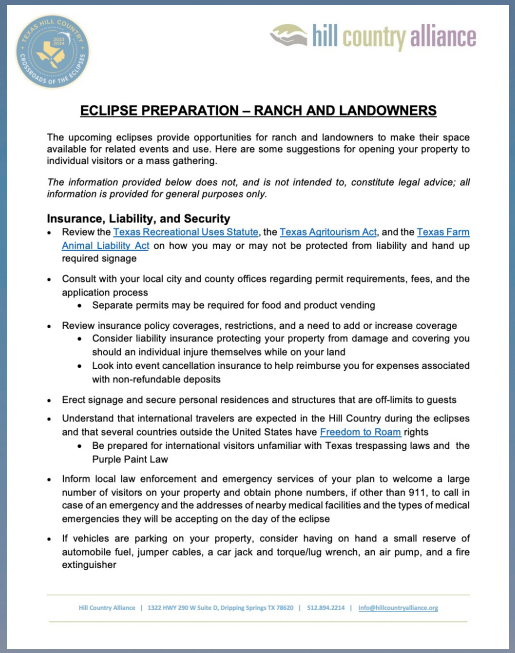
VEHICULAR ACCESS
- Ingress, Egress, and Viewing Area Restrictions
- Capacity and Emergency/Service Access
- Weather Impact

AVAILABLE RESOURCES
- Potable Water
- Waste Disposal
- Restroom Facilities

AGRICULTURE, WILDLIFE & NATURE
- Event Area Proximity to Livestock and Farming
- Wildlife and Plant Life Habitats
- Terrain Challenges, Inconsistences, and Weather Impact

REGIONAL EXPECTATIONS
- High Tourist Numbers and Increased Traffic
- Resource Shortages
- Limited Communication

GENERAL
- Safe Solar Viewing Supplies
- Clear and Visible Signage
- Local Event and Activity Knowledge
- Post Eclipse Activities
- Medical Access Protocols
- Neighbor Communication
- Financial Transaction Management
- Physical Navigation Aids
- The Personal Experience



hill country alliance

ECLIPSE PREPARATION – RANCH AND LANDOWNERS

The upcoming eclipses provide opportunities for ranch and landowners to make their space available for related events and use. Here are some suggestions for opening your property to individual visitors or a mass gathering.

The information provided below does not, and is not intended to, constitute legal advice; all information is provided for general purposes only.

Insurance, Liability, and Security

- Review the Texas Recreational Uses Statute, the Texas Agritourism Act, and the Texas Farm Animal Liability Act on how you may or may not be protected from liability and hand up required signage
- Consult with your local city and county offices regarding permit requirements, fees, and the application process
  - Separate permits may be required for food and product vending
- Review insurance policy coverages, restrictions, and a need to add or increase coverage
  - Consider liability insurance protecting your property from damage and covering you should an individual injure themselves while on your land
  - Look into event cancellation insurance to help reimburse you for expenses associated with non-refundable deposits
- Erect signage and secure personal residences and structures that are off-limits to guests
- Understand that international travelers are expected in the Hill Country during the eclipses and that several countries outside the United States have Freedom to Roam rights
  - Be prepared for international visitors unfamiliar with Texas trespassing laws and the Purple Paint Law
- Inform local law enforcement and emergency services of your plan to welcome a large number of visitors on your property and obtain phone numbers, if other than 911, to call in case of an emergency and the addresses of nearby medical facilities and the types of medical emergencies they will be accepting on the day of the eclipse
- If vehicles are parking on your property, consider having on hand a small reserve of automobile fuel, jumper cables, a car jack and torque/lug wrench, an air pump, and a fire extinguisher

Hill Country Alliance | 1322 HWY 290 W Suite D, Dripping Springs TX 78620 | 512.894.2214 | info@hillcountryalliance.org

City of San Saba
Town Hall Information Meeting

Planning
Emergency Services

POLICE
- Increased Visitor/Tourist Population
- Crowd Density
- Traffic Management

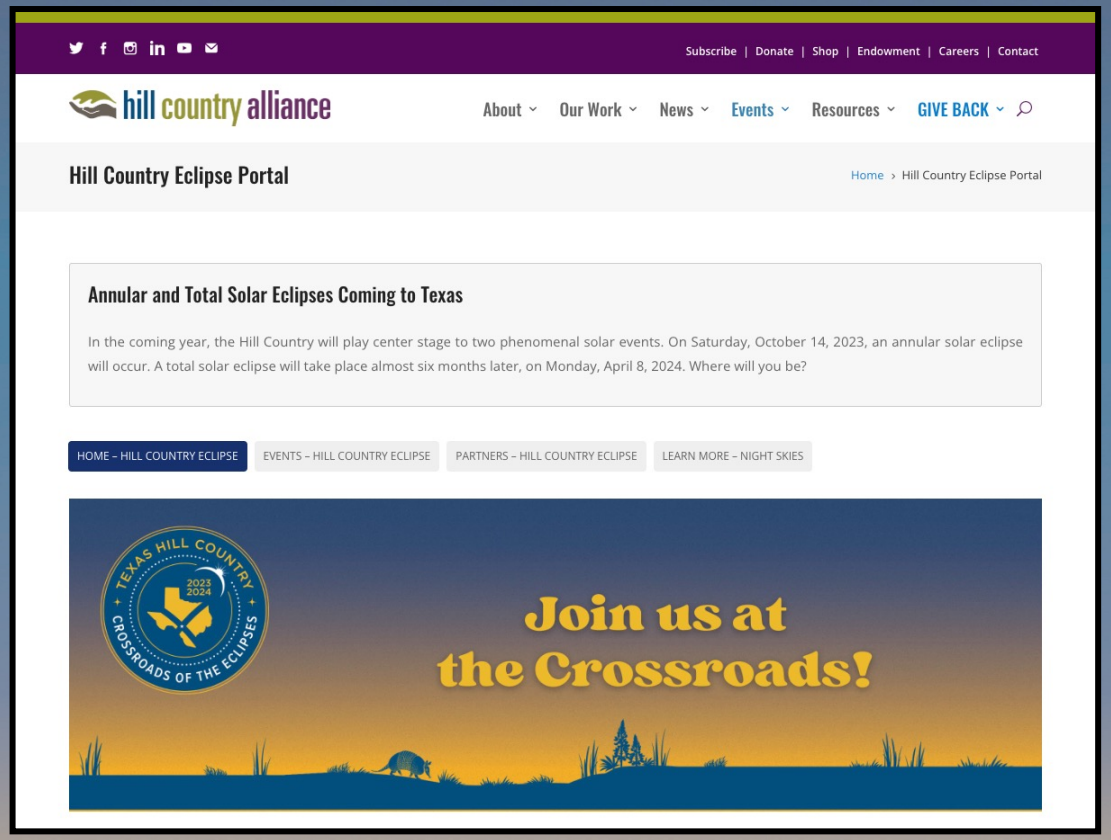
FIRE
- Roadside Vehicles
- Campsites and Event Venues

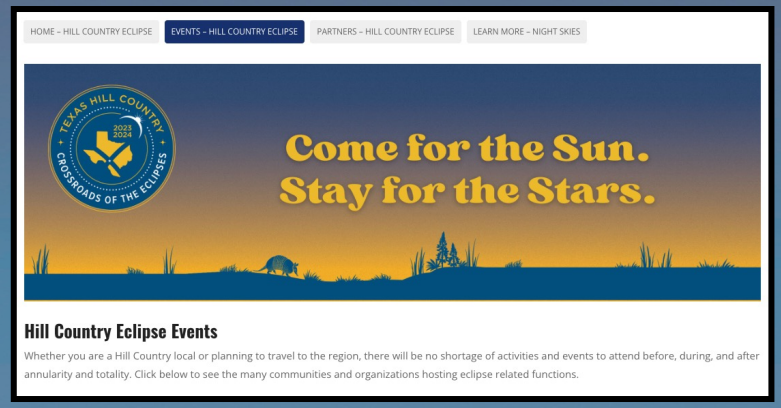
EMS/MEDICAL
- Trails and Waterways
- Event Stations and Triage Protocols
- Medical Access and Security

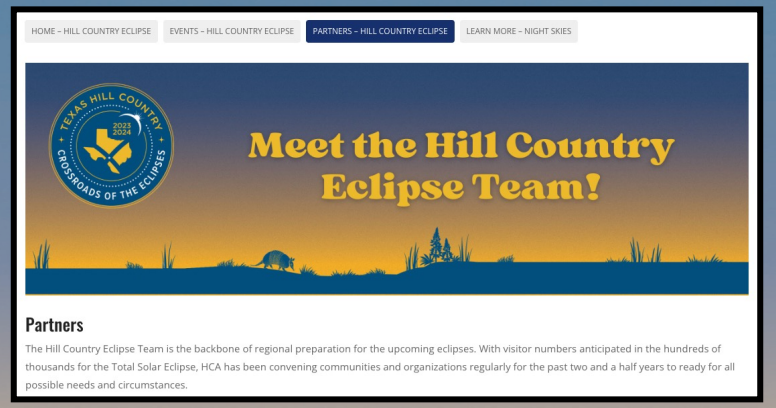
GENERAL
- Resource Shortages
- Limited Communication Capabilities
- Staffing Issues

Hill Country Eclipse Portal

Eclipses 101, Events, Partners, and more...







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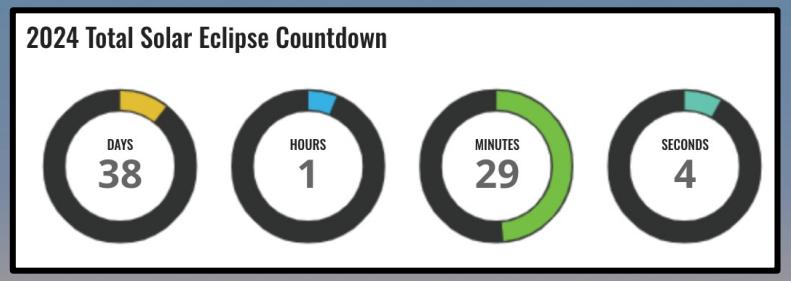
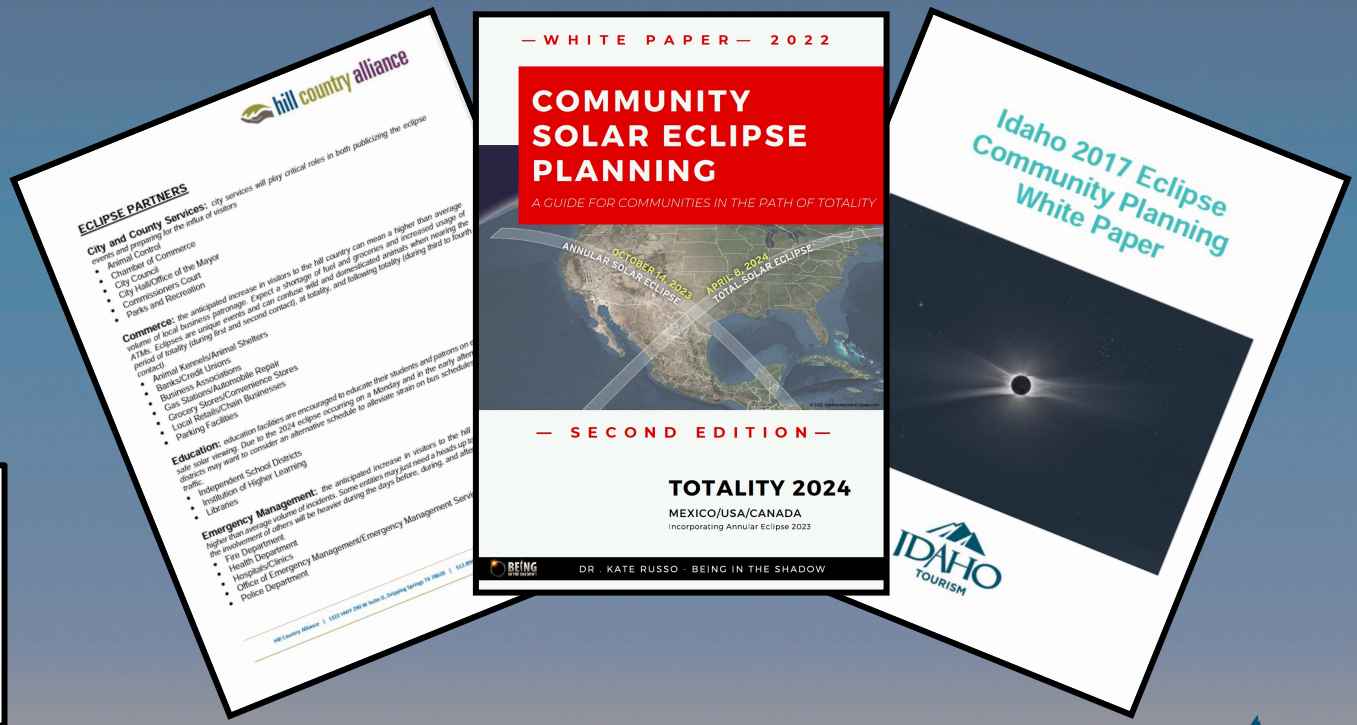
Hill Country Eclipse Portal

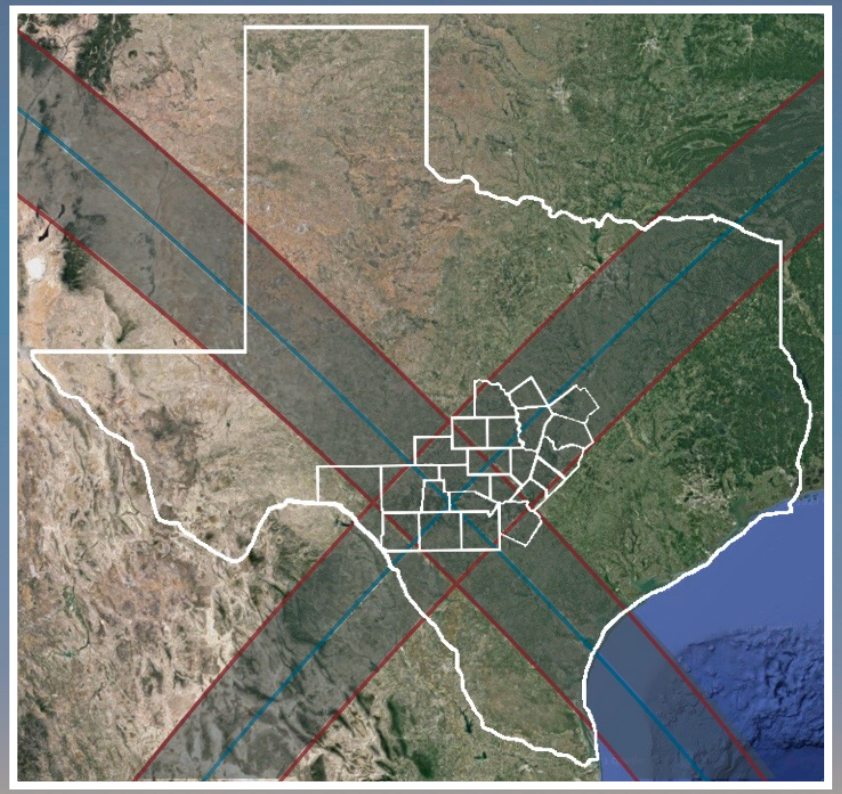
Resources



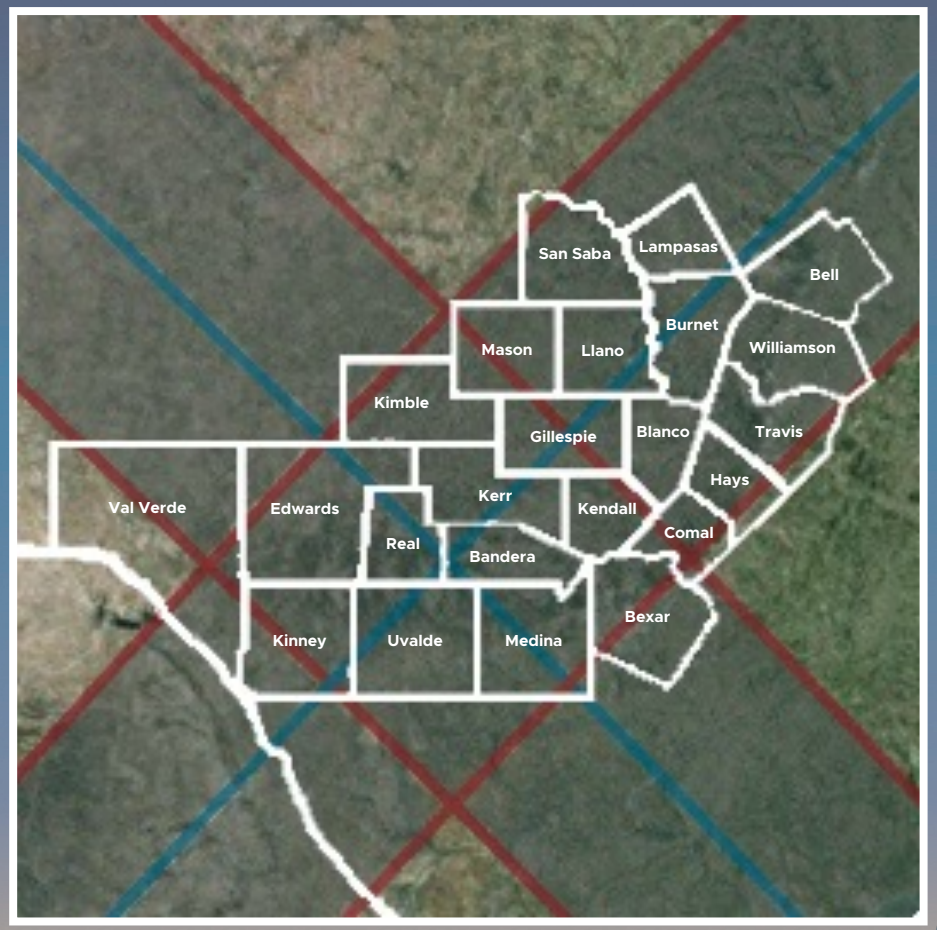


City of San Saba
Town Hall Information Meeting

Hill Country Eclipse Team
Regional Participation



Map data ©2022 Google, INEGI Imagery ©2022 NASA, TerraMetrics,
http://xjubier.free.fr/en/site_pages/solar_eclipses/TSE_2017_GoogleMapFull.html



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http://xjubier.free.fr/en/site_pages/solar_eclipses/TSE_2017_GoogleMapFull.html

Hill Country Eclipse Team
Regional Participation – Counties & Cities

COUNTY	CITIES
Bandera	Bandera, Lakehills, Medina Pipecreek, Vanderpool
Bell	Belton, Harker Heights, Killeen, Nolanville, Temple
Bexar	Fair Oaks Ranch, San Antonio
Blanco	Blanco, Hye, Johnson City, Round Mountain, Stonewall
Burnet	Bertram, Burnet, Marble Falls
Comal	Bulverde, New Braunfels, Spring Branch
Edwards	Rocksprings
Gillespie	Albert, Fredericksburg, Harper, Stonewall

COUNTY	CITIES
Hays	Driftwood, Dripping Springs, San Marcos, Wimberley
Kendall	Boerne, Comfort, Kendalia, Waring
Kerr	Center Point, Hunt, Ingram, Kerrville
Kimble	Junction
Kinney	Bracketville, Fort Clark Springs
Lampasas	Kempner, Lampasas, Lometa
Llano	Buchanan Dam, Horseshoe Bay, Llano, Kingsland

COUNTY	CITIES
Mason	Mason
Medina	Castroville, D'Hanis, Hondo
Real	Barksdale, Camp Wood, Leakey, Rio Frio
San Saba	Bend, San Saba
Travis	Austin, Bee Cave, Jonestown, Lago Vista, Spicewood
Uvalde	Concan, Sabinal, Utopia, Uvalde
Val Verde	Comstock, Del Rio
Williamson	Georgetown, Round Rock

Meeting Calendar
2024

DATE	TOPIC	LOCATION
February 27	Hill Country Eclipse Lunch and Learn: Emergency Management	Virtual/MS Teams
March 12	Hill Country Eclipse Lunch and Learn: Citizen Science	Virtual/MS Teams
March 19	Hill Country Eclipse Team: Eclipse Glasses Recycling Program & Post-Eclipse Preparation	Virtual/MS Teams
March 26	Hill Country Eclipse Team: Pre-Eclipse Check-In	Virtual/MS Teams
April 16	Round Table Meeting - Total Solar Eclipse Review	Virtual/MS Teams

Thank You.

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