

# AAS Eclipse Conference

30 Sep 2023 – San Antonio, TX

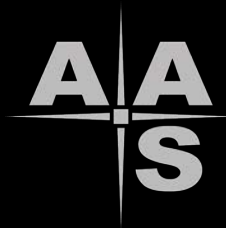
*What do we do AFTER...*

## The Opening Act!

*Saturday, 14 October, 2023*

## The Main Event!

*Monday, 8 April, 2024*



# Legal Stuff

The statements made herein reflect the best effort of Dan McGlaun, the presenter of this presentation (the “Presenter”) to offer in good faith, suggestions for event planners and scientists in organizing, planning, educating, and otherwise hosting eclipse-viewing activities for the annular solar eclipse of October 14, 2023 and the total solar eclipse of 8 April 2024 (collectively, the “Events”); these statements are intended to be anecdotal rather than consultative, based on the Presenter’s actual experience in having successfully observed a large number of solar eclipses. The Presenter, and eclipse2024.org, along with their sponsors, business partners, vendors and suppliers, and heirs and assigns, cannot be held liable for weather, or for actions of any third party, and will therefore not accept responsibility for personal injury, property damage, lost revenue or any other damage or alleged damage, resulting from the actions or inactions of any person or organization with regard to the Events. Persons participating in the Events are advised that this participation, as well as planning for the Events (including the acquisition of knowledge through this presentation or from the Presenter at any time) requires that they agree to hold harmless both the Presenter and Eclipse2024.org, and their sponsors, vendors and suppliers, heirs and assigns, from any and all legal action and/or claim for damages of any kind, which result or are alleged to result from such participation and/or preparation.

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Presented by

**Dan McGlaun**

*Clayton IN, USA*





# Eclipse2024.org

All the features from Eclipse2017.org, plus "MUCH MORE FOR '24"!



Everything is available in English, Spanish and French.

Detailed eclipse information for :  
Educators • Local Governments • General Public  
Eclipse Chasers • Media • Chambers of Commerce



Eclipse2024.org has all the standard eclipse education and eye safety information, PLUS these unique features:



## ECLIPSE VIEWING INFORMATION

### Eclipse viewing blogs

- Available for 75 major regions along the path
- Answers the questions "Where? When? What? How?"
- Eye safety
- Travel considerations
- Select local viewing locations
- Interactive map showing eclipse times and phases

The perfect place for everyone to plan eclipse viewing!

[eclipse2024.org/viewing-blogs/?lang=en](https://eclipse2024.org/viewing-blogs/?lang=en)



## ECLIPSE SIMULATOR

### Incredibly realistic eclipse simulation

- Shows the 2023 / 2024 eclipses from any location
- Realistic prominences and chromosphere
- Full-disk Baily's Beads (generated with LRO data)
- Sun / Moon outlines • Stars and Planets
- Sunrise / Sunset effects • Eye Safety warning
- Library of foregrounds and coronas
- Many other realistic details!  
(Contact Dan for a personal tour of all the features)

\* 2023 Annular-Total eclipse now also available! \*

[eclipse2024.org/eclipse-simulator/?lang=en](https://eclipse2024.org/eclipse-simulator/?lang=en)



## ECLIPSE SIMULATION VIDEOS

### The easiest way to preview the eclipse!

- Extracted from the Eclipse Simulator
- >2,200 cities in North and Central America!
- 2023 and 2024 eclipses are included
- Now available for viewing on YouTube

Eclipse sequence videos are available for official use by Educators / Tourism / Government / Media (Attribution requested)

- Search directly in YouTube -OR - Visit the Eclipse2024.org video landing page
- Searchable city list / Detailed selection map

[eclipse2024.org/eclipsevideos/video.html?lang=en](https://eclipse2024.org/eclipsevideos/video.html?lang=en)



## ECLIPSE VIEWING INSTRUCTIONS

### Simple eclipse viewing instruction booklet

- Great resource for everyone
- FREE to download and use
- Perfect for eclipse outreach
- Easy-to-understand style
- Accurate and detailed
- Available in English, French and Spanish

[eclipse2024.org/instructions/translations/English.pdf](https://eclipse2024.org/instructions/translations/English.pdf)



## LOCAL ECLIPSE CIRCUMSTANCES

### Collection of location-specific eclipse information

Celebrating the eclipse viewing experience of EVERY locality in North America!

- Complete 2023 and 2024 eclipse circumstances
- >140,000 cities in North / Central / South America
- Links to maps, blog posts, simulator, videos and community information.

[eclipse2024.org/eclipse\\_cities/?lang=en](https://eclipse2024.org/eclipse_cities/?lang=en)  
[eclipse2024.org/2023eclipse/eclipse\\_cities/?lang=en](https://eclipse2024.org/2023eclipse/eclipse_cities/?lang=en)



## COMMUNITY PAGES

### FREE resources for official community plans

- ALL 140,000 communities have a community page!
- Back by popular demand from 2017
- Communities can host eclipse-weekend plans COMPLETELY FREE!
- 2023 and 2024 eclipse sections
- NOT just for cities in the path!

[eclipse2024.org/communities/?lang=en](https://eclipse2024.org/communities/?lang=en)  
[eclipse2024.org/2023eclipse/communities/?lang=en](https://eclipse2024.org/2023eclipse/communities/?lang=en)

All of the above resources are summarized for your community in one convenient location! Visit [EclipseResources.Solar](https://EclipseResources.Solar) to find YOUR community's information and resources!



# ECLIPSE2024.ORG'S ECLIPSE SIMULATOR



## WHAT WILL THE ECLIPSE LOOK LIKE FOR YOUR

PATRONS / VISITORS / MEMBERS  
STUDENTS / AUDIENCE?

Show them with the **FANTASTIC  
Eclipse Simulator**  
from Eclipse2024.org!



(Featured in leading publications!)

BEADED ANNULAR



BAILY'S BEADS



Accurate, Ultra-Realistic Simulation of the  
**Annular Eclipse of October 14, 2023**  
and the  
**Total Eclipse of April 8, 2024**

See all the great effects that occur during totality and annularity!  
Preview the eclipses from any location, to help you plan for eclipse day!  
Shows the eclipse experience from inside, outside, or at the edge of the path!  
Comprehensive instructions help you learn (or teach) about eclipses!

SHADOW MAP



LUNAR OUTLINE



REFRACTION

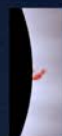


TOTALITY!



Eclipse circumstances are calculated for any location  
Accurate eclipse times are displayed in local time or user-selectable time zone  
Baily's Beads preview uses LRO LOLA data for complete realism  
Calculations are performed using latest values of Besselian Elements and  $\Delta T$   
Eye protection requirements are prominently displayed  
Real-time clock shows the eclipse's progress with user-selectable speeds

Atmospheric refraction and sunrise/sunset effects  
Chromosphere, diamond ring, and accurate full-limb Baily's Beads  
Stars and Planets displayed during totality  
User-selectable coronas and foregrounds  
Limb darkening, solar glare, prominences and orange horizon glow  
Aerial shadow preview and eclipse shadow outline map



STARS AND PLANETS



DIAMOND RING



VISIT: [simulator.eclipse2024.org](https://simulator.eclipse2024.org)

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**EclipseSimulator.Solar**

# Update Requests

Weather

USB fan :-)

Crowd noise

Animals / Insects



**Most Likely**

**360° view**

**Double Diamonds**

**Movable center (zenith)**

**LRO data manipulation**

# Nice to Have

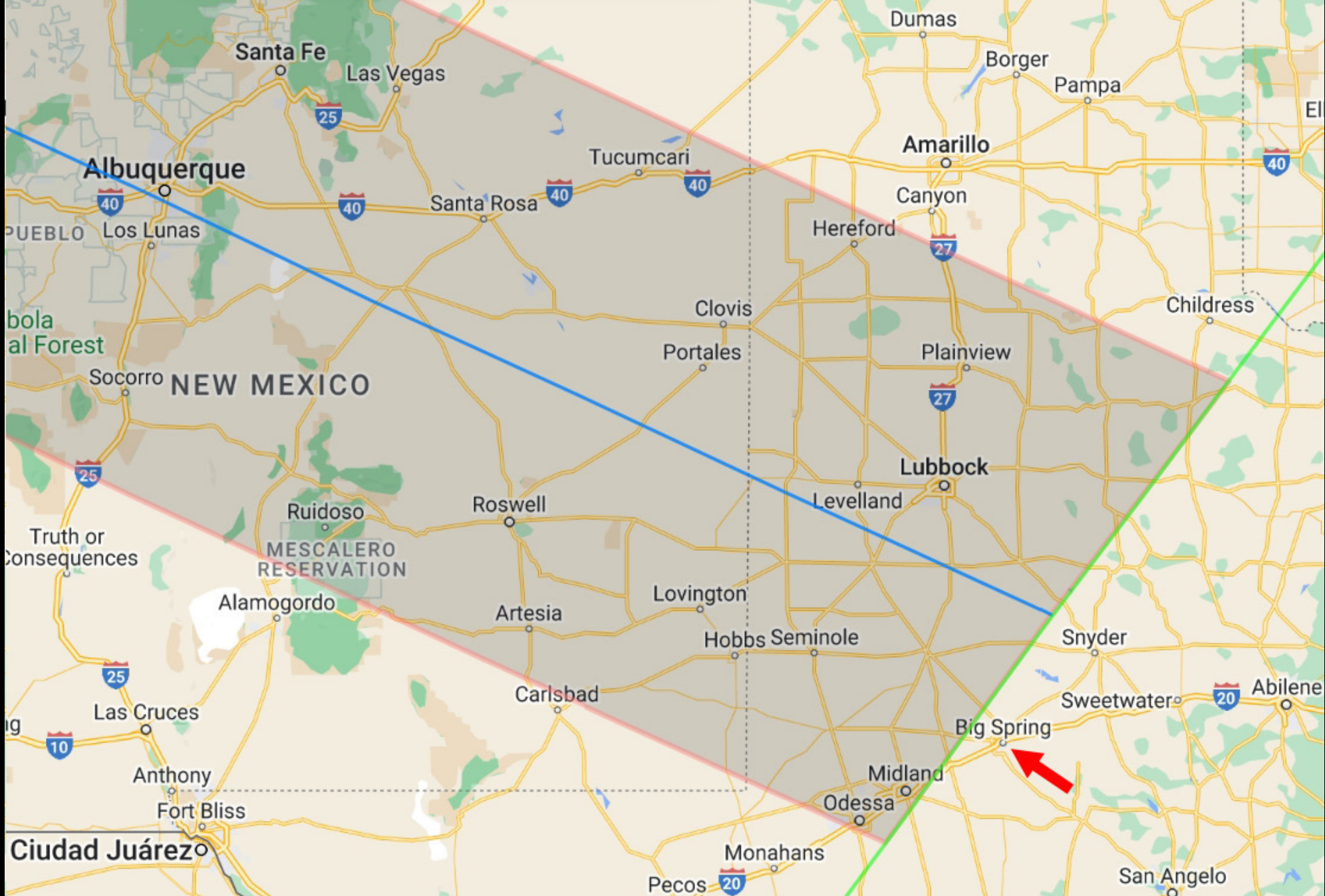
Solar radius

Oblateness

Calculations Mentee

# Comments on Oz and 2045

**May 20, 2012**



Map by Xavier Jubier







# How to Predict...

# Refraction!

Alt: 12.7°  
Az: 286.1°

7:32:18pm GMT-5



Refraction  
Big Spring, TX

© 2023 Eclipse2024.org



Alt: 12.7°  
Az: 286.1°

7:32:18pm GMT-5



Min

0

Max



Refraction  
Big Spring, TX



© 2023 Eclipse2024.org



Alt: -0.4° (0.28° apparent)  
Az: 294.4°

8:38:07pm GMT-5



Horizon



Refraction  
Big Spring, TX

© 2023 Eclipse2024.org



Alt: -0.4° (0.28° apparent)  
Az: 294.4°

8:38:07pm GMT-5

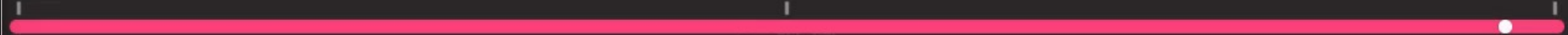


Horizon

Min

0

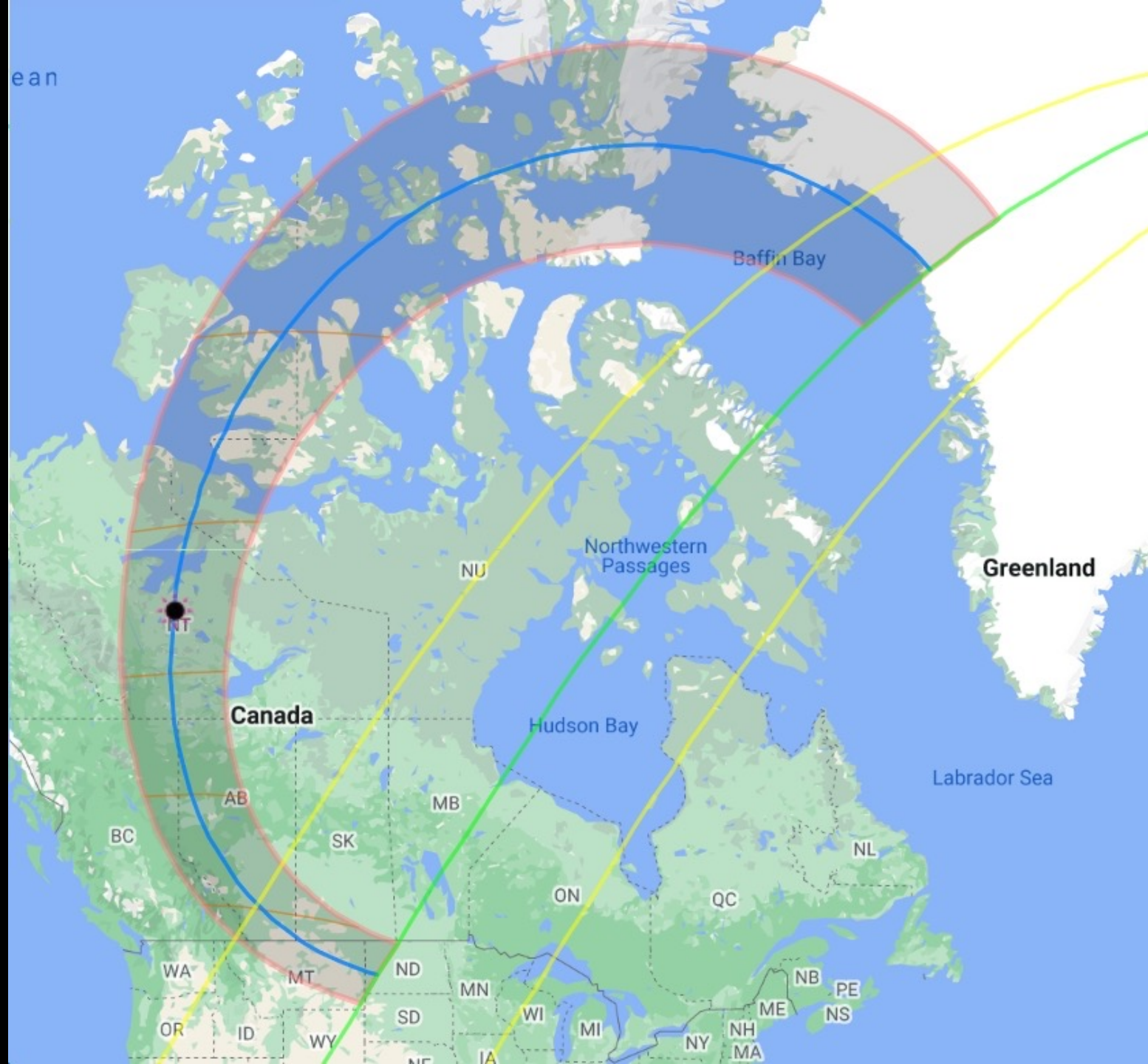
Max



Refraction  
Big Spring, TX

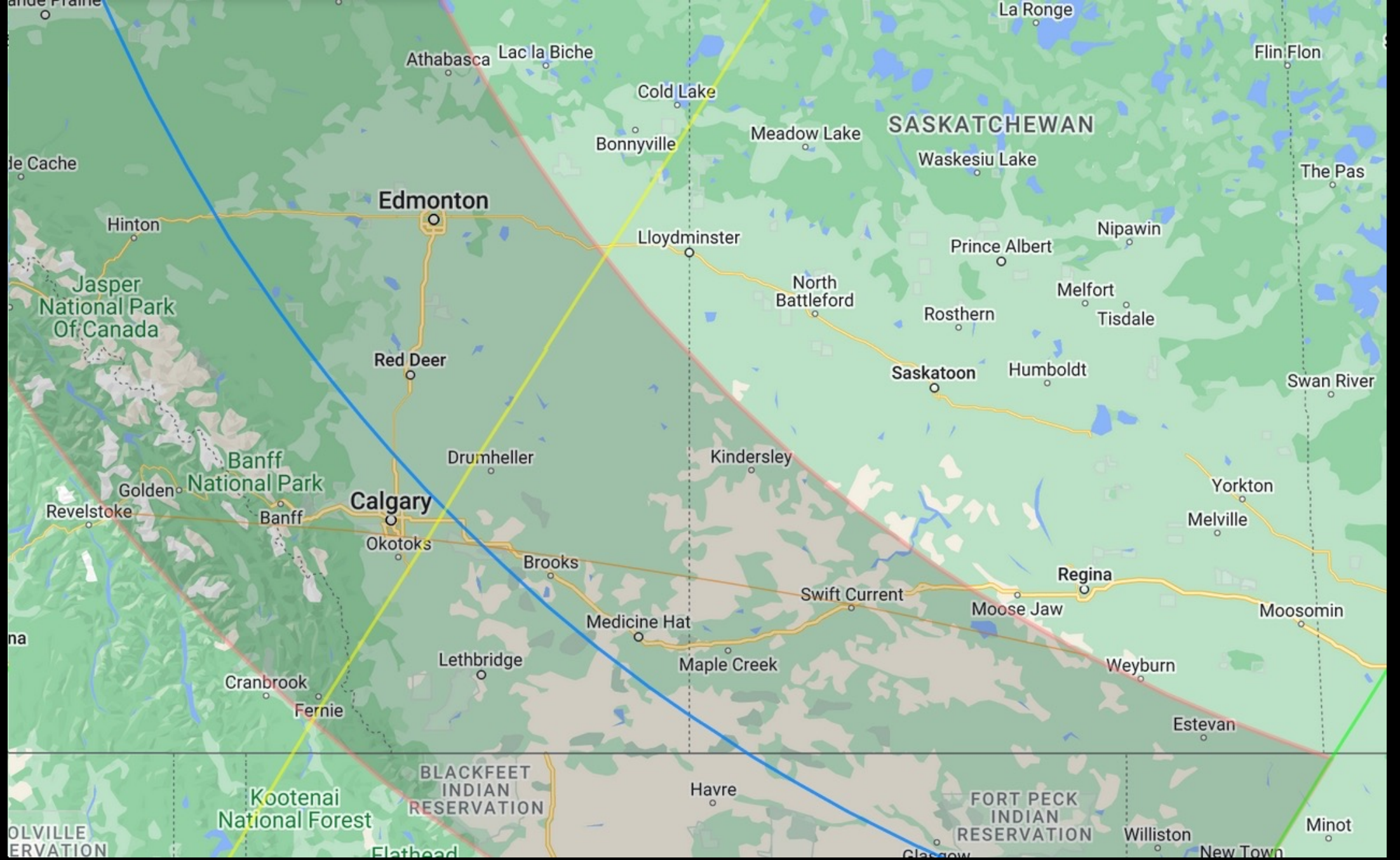


© 2023 Eclipse2024.org



Map by Xavier Jubier

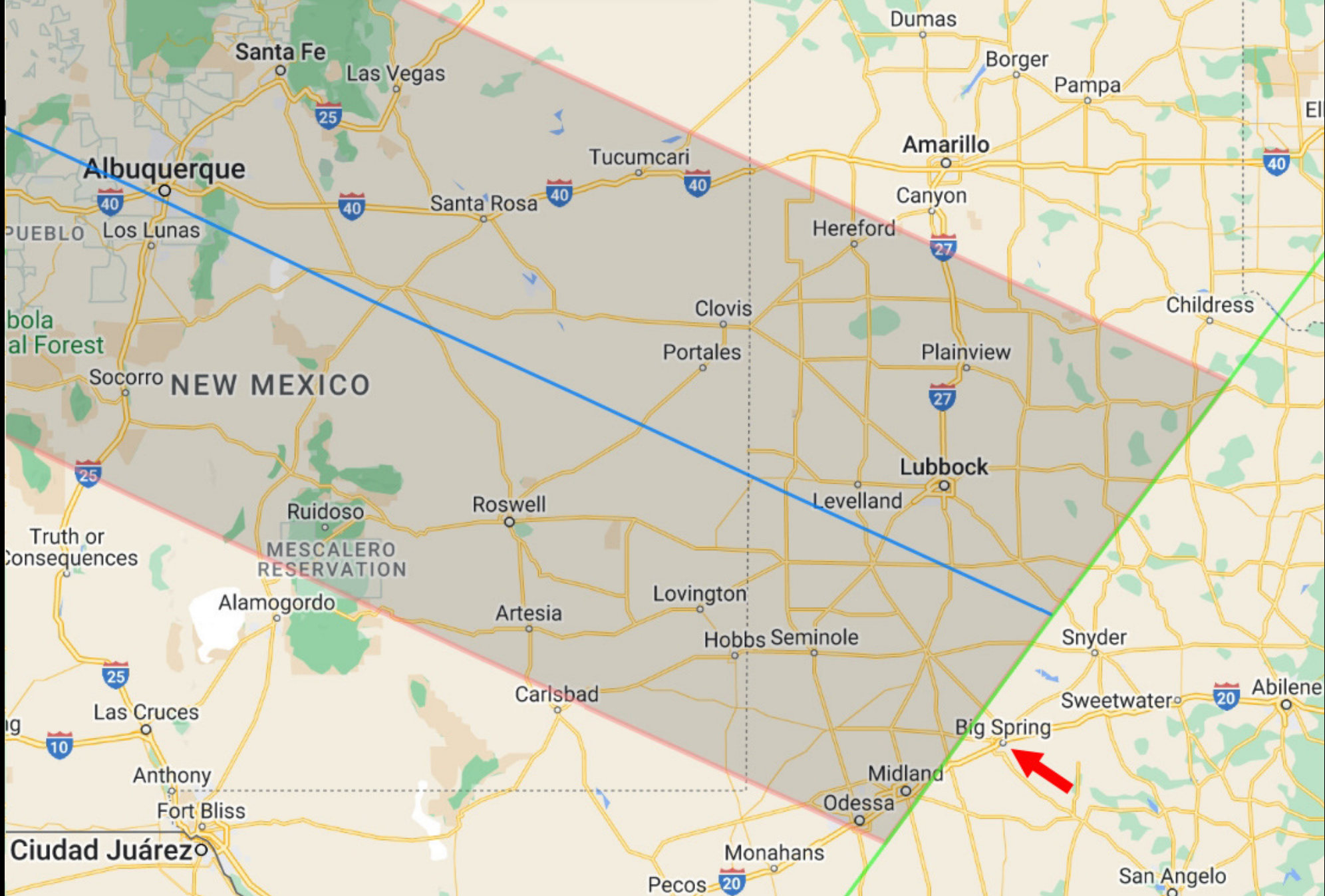




Map by Xavier Jubier







Map by Xavier Jubier



Alt: 8.8° (8.88° apparent)  
Az: 277.2°

6:50:15pm GMT-6



© 2023 Eclipse2024.org



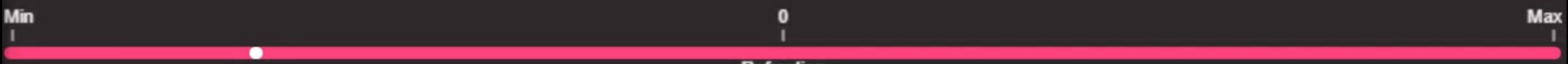


Alt: -0.1° (0.31° apparent)  
Az: 286.7°

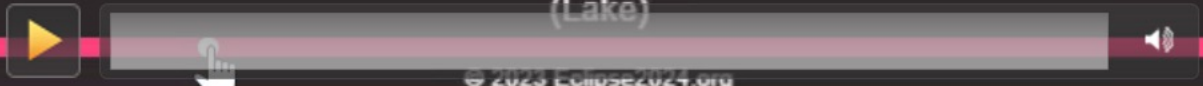
7:39:25pm GMT-6



Horizon



Refraction  
(Lake)

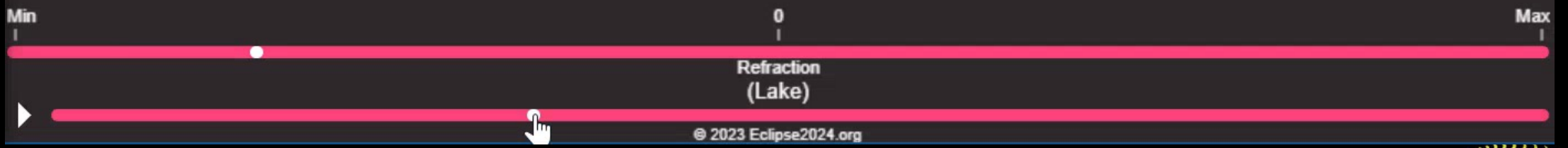


Alt: -0.1° (0.31° apparent)  
Az: 286.7°

7:39:25pm GMT-6



Horizon



One more view

Create Your Own Eclipse

Instructions

Zoom

+



-



Select an Eclipse

- 21 Aug 2017
- 2 Jul 2019
- 21 Jun 2020
- 14 Dec 2020
- 10 Jun 2021
- 4 Dec 2021
- 20 Apr 2023
- 14 Oct 2023
- 8 Apr 2024
- 12 Aug 2026
- 2 Aug 2027
- 22 Jul 2028
- 30 Mar 2033
- 23 Aug 2044
- 12 Aug 2045
- 11 May 2078
- 1 May 2079

Mode **3D + Hide** Reset Equator Reset Ecliptic Daylight View

- Show Penumbra
- Show Fundamental Plane - Opacity
- Hide Equator and Ecliptic
- Show Shadow Axis
- Hide Controls
- Highlight Text

Total Eclipse

Pan X Y



Reset

-0.258 R<sub>⊕</sub>



Create Your Own Eclipse

Instructions

Zoom

+

-

Select an Eclipse

- 21 Aug 2017
- 2 Jul 2019
- 21 Jun 2020
- 14 Dec 2020
- 10 Jun 2021
- 4 Dec 2021
- 20 Apr 2023
- 14 Oct 2023
- 8 Apr 2024
- 12 Aug 2026
- 2 Aug 2027
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Mode **3D + Hide**

- Show Penumbra
- Show Fundamental Plane - Opacity
- Hide Equator and Ecliptic
- Show Shadow Axis
- Hide Controls
- Highlight Text

**Total Eclipse**

Pan X  Y

Path

-0.258  $R_{\oplus}$

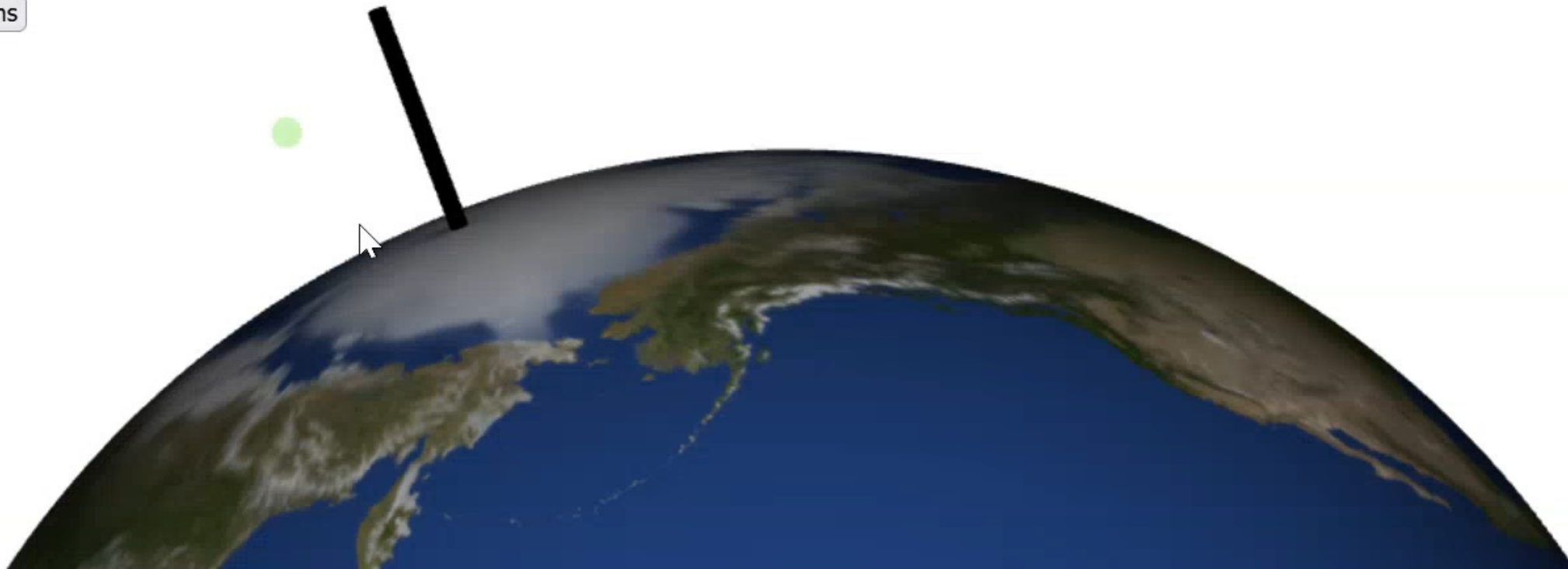
Create Your Own Eclipse

Instructions

Zoom

+

-



Select an Eclipse

- 14 Dec 2020
- 10 Jun 2021
- 4 Dec 2021
- 20 Apr 2023
- 14 Oct 2023
- 8 Apr 2024
- 12 Aug 2026
- 2 Aug 2027
- 22 Jul 2028
- 30 Mar 2033
- 23 Aug 2044
- 12 Aug 2045
- 11 May 2078
- 1 May 2079
- 14 Sep 2099
- 16 Jul 2186

Mode 3D Reset Equator Reset Ecliptic Daylight View

Show Penumbra

Show Fundamental Plane - Opacity

Hide Equator and Ecliptic

Total Eclipse

Show Shadow Axis

Hide Controls

Highlight Text

Pan X

Y

Path <<< << >> >>> Reset

-0.536 R<sub>⊕</sub>

**dan@eclipse2024.org**

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**EclipseResources.Solar**

**Videos.Eclipse2024.org**