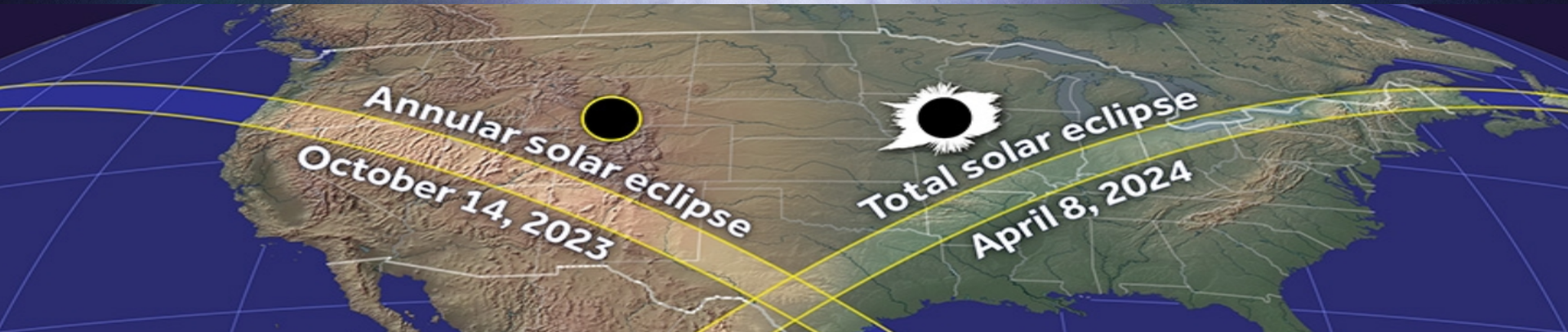


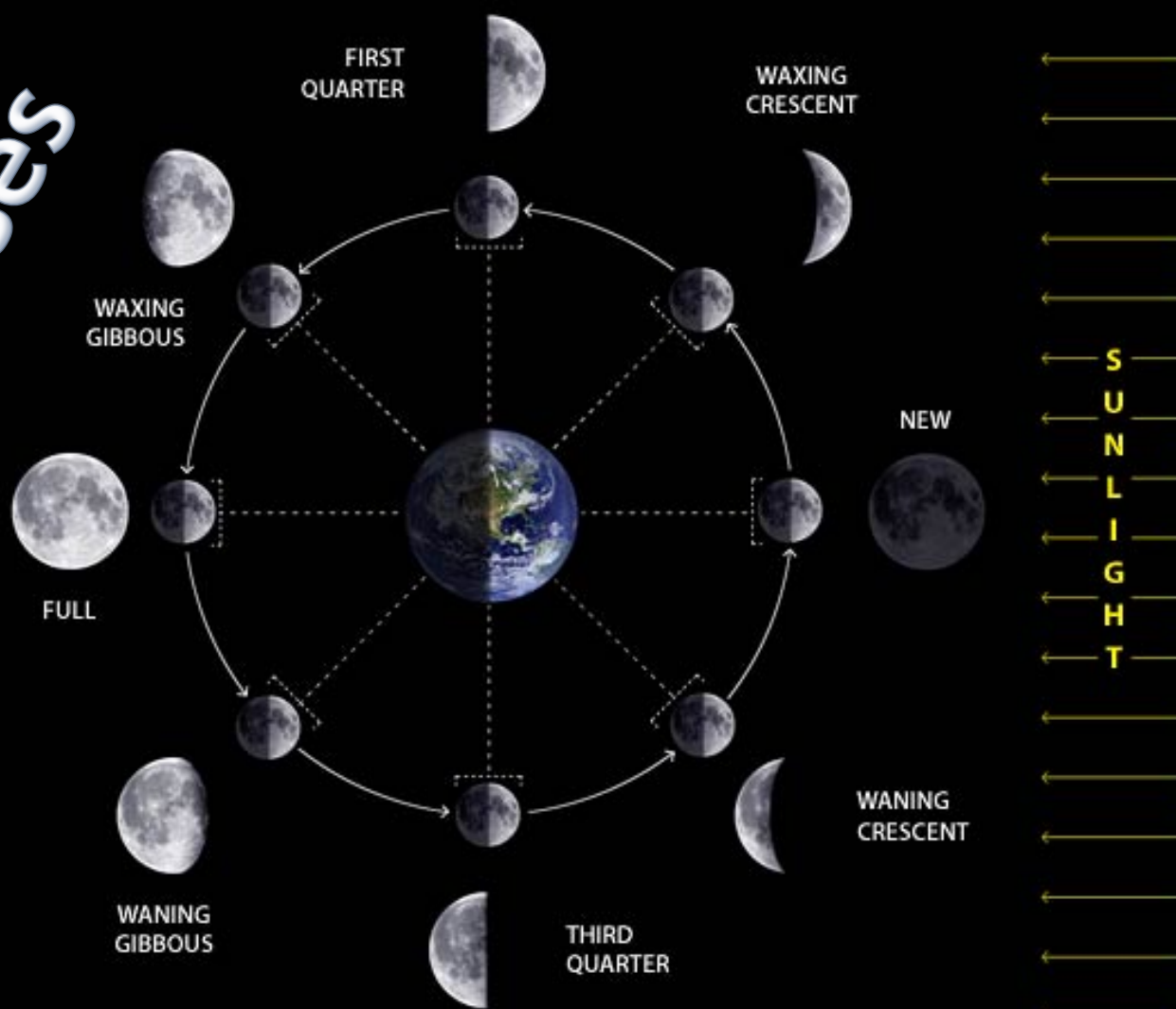
Eclipses Over The Hill Country



Annular solar eclipse
October 14, 2023

Total solar eclipse
April 8, 2024

Lunar Phases



Plane of the Ecliptic



NO SOLAR ECLIPSE



NO LUNAR ECLIPSE

MOST MONTHS

SOLAR ECLIPSE



LUNAR ECLIPSE

**Nodes Aligned
- Eclipse Season -**



**Nodes Not Aligned
- No Eclipses -**

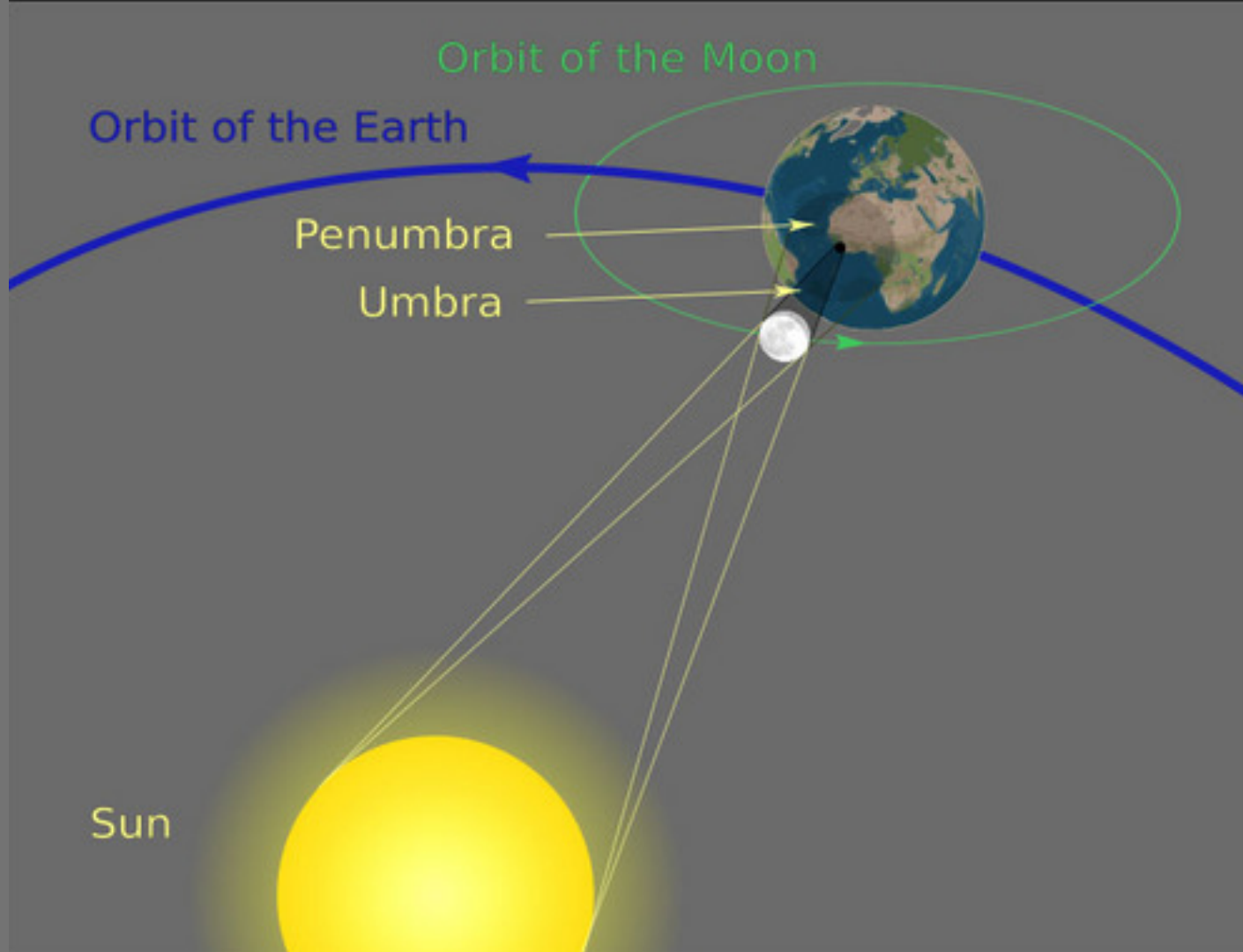


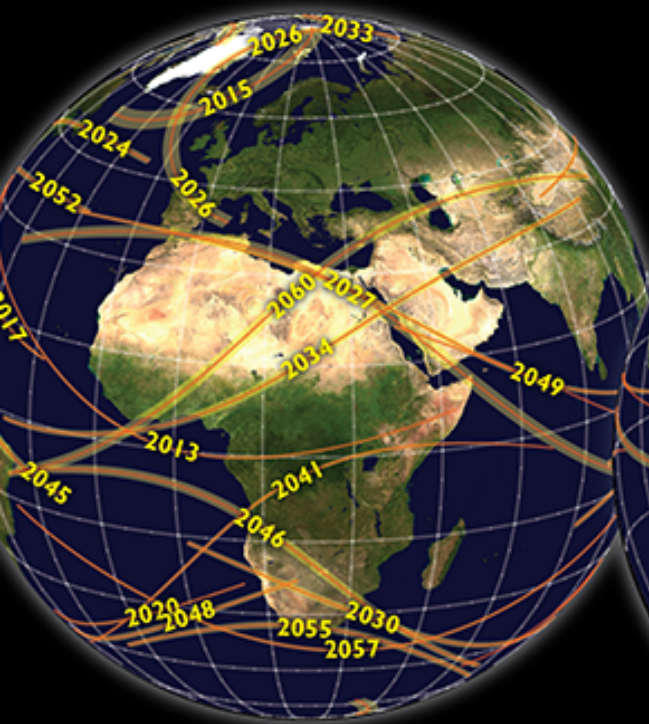
**Nodes Not Aligned
- No Eclipses -**



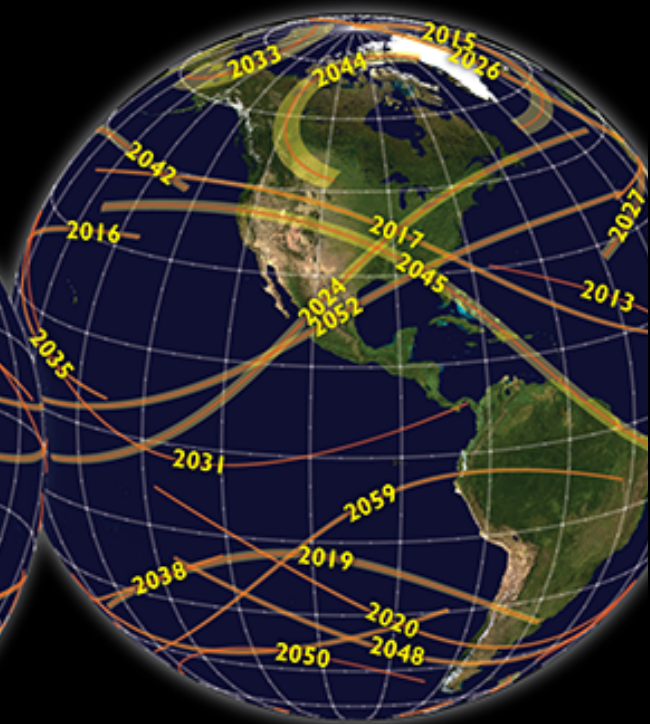
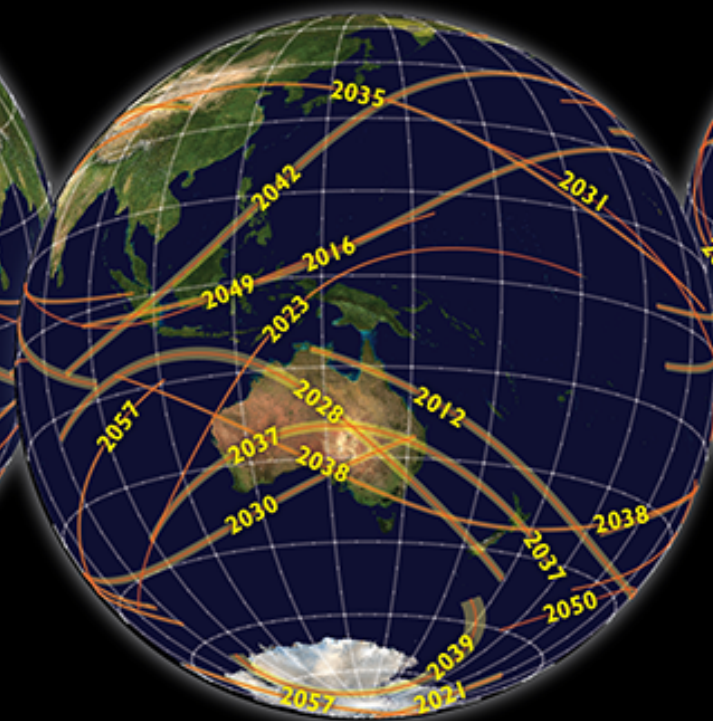
**Nodes Aligned
- Eclipse Season -**



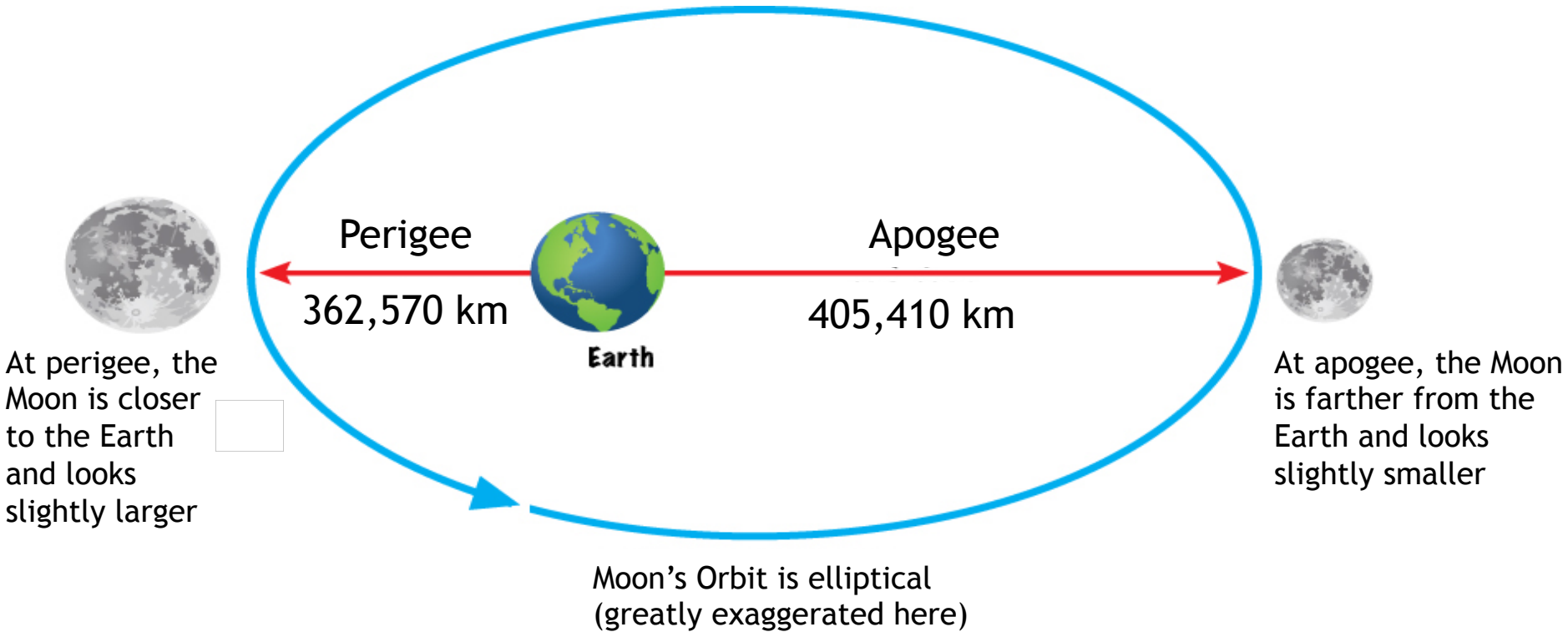




Total and hybrid solar eclipses



2010 to 2060



Aphelion
(Jul 4)

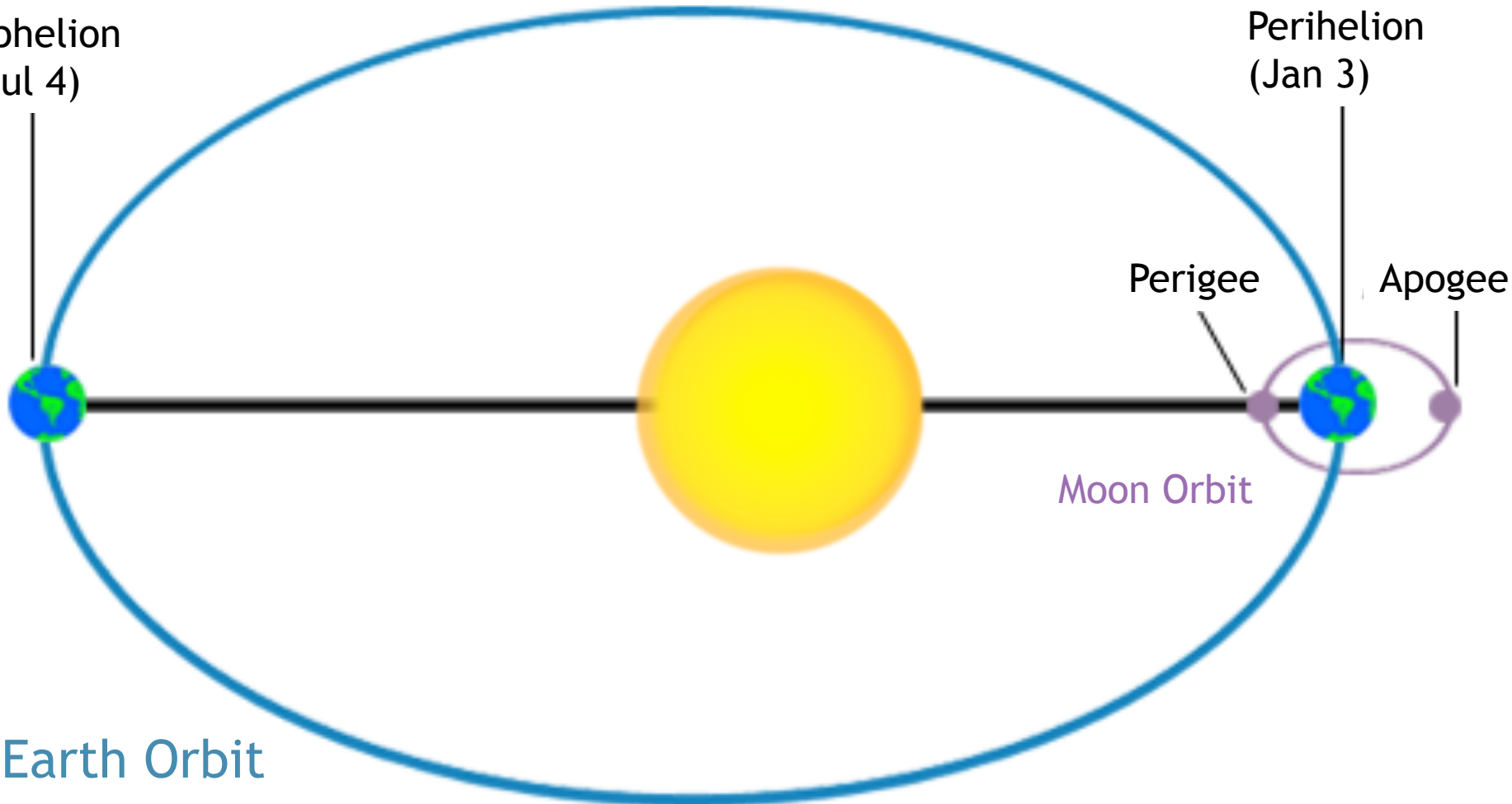
Perihelion
(Jan 3)

Perigee

Apogee

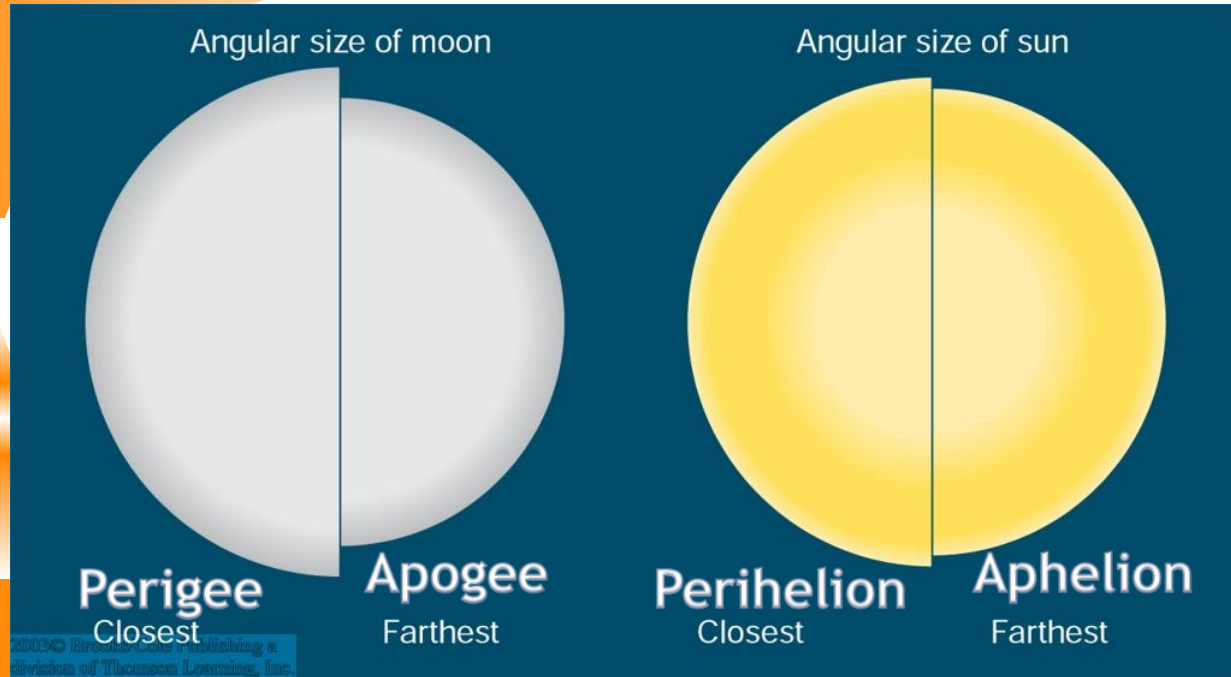
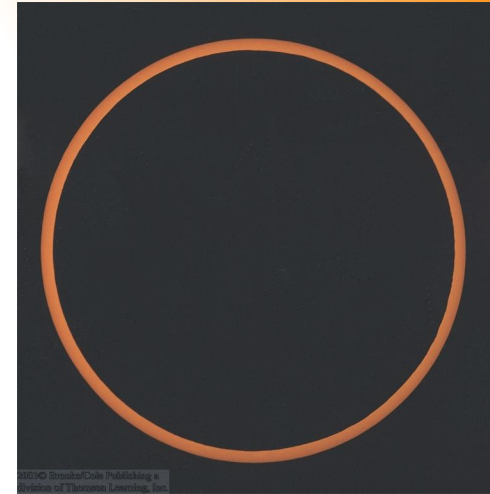
Moon Orbit

Earth Orbit



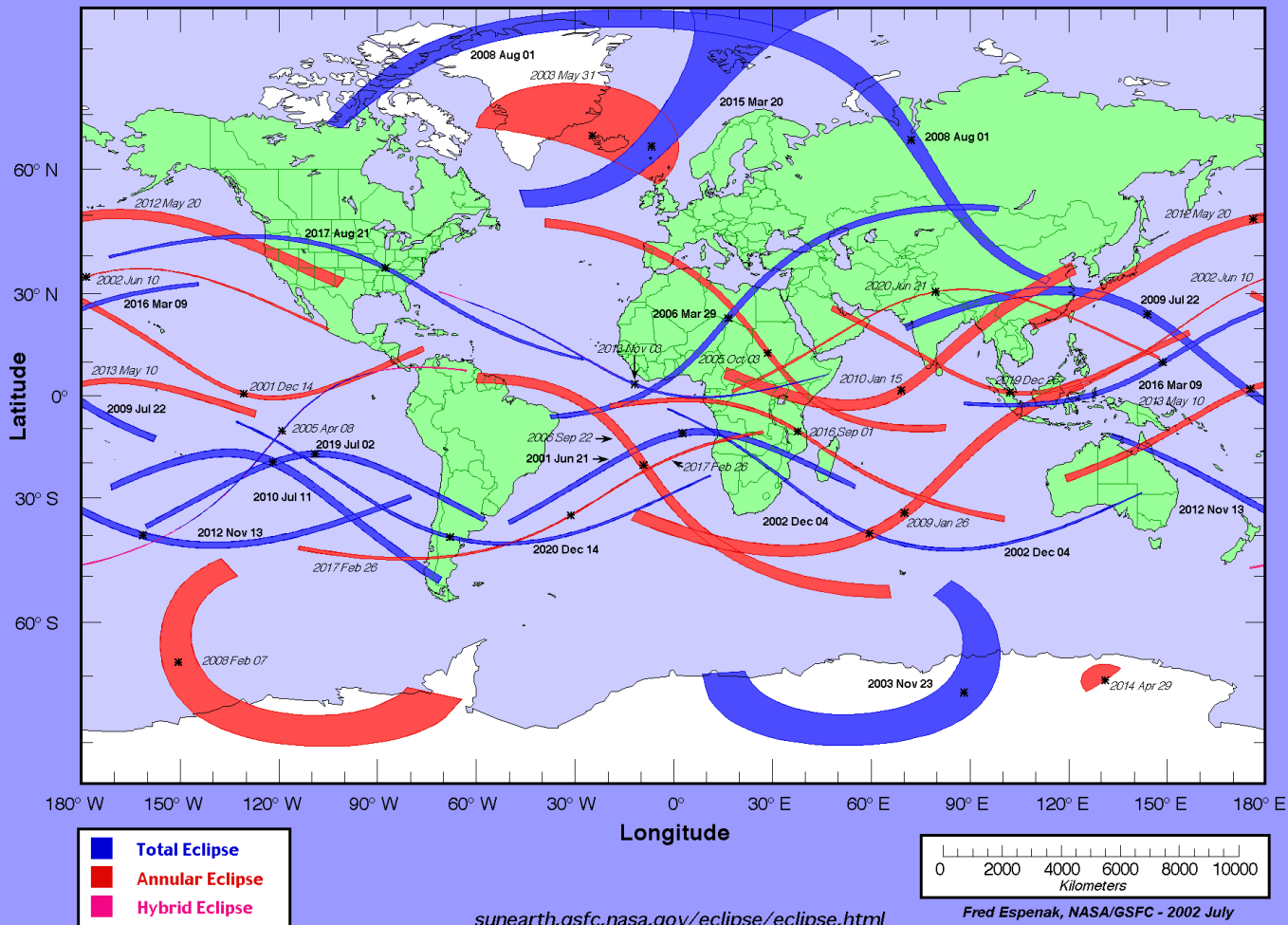
Annular Solar Eclipses

When Earth is near perihelion, and the moon is near apogee, we see an annular solar eclipse.

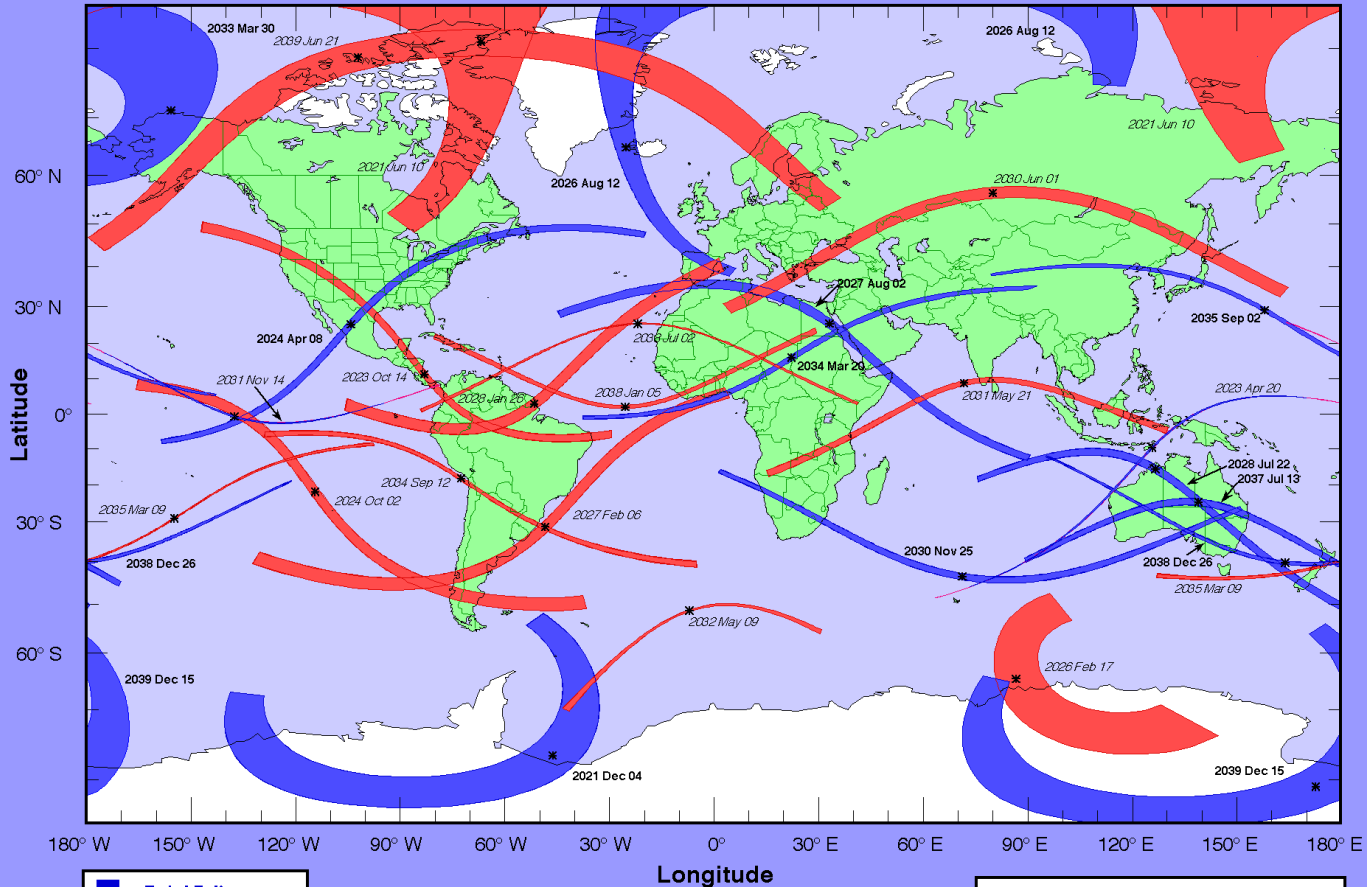


The angular sizes of the moon and the sun vary, depending on their distance from Earth.

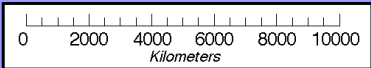
Total and Annular Solar Eclipse Paths: 2001 – 2020

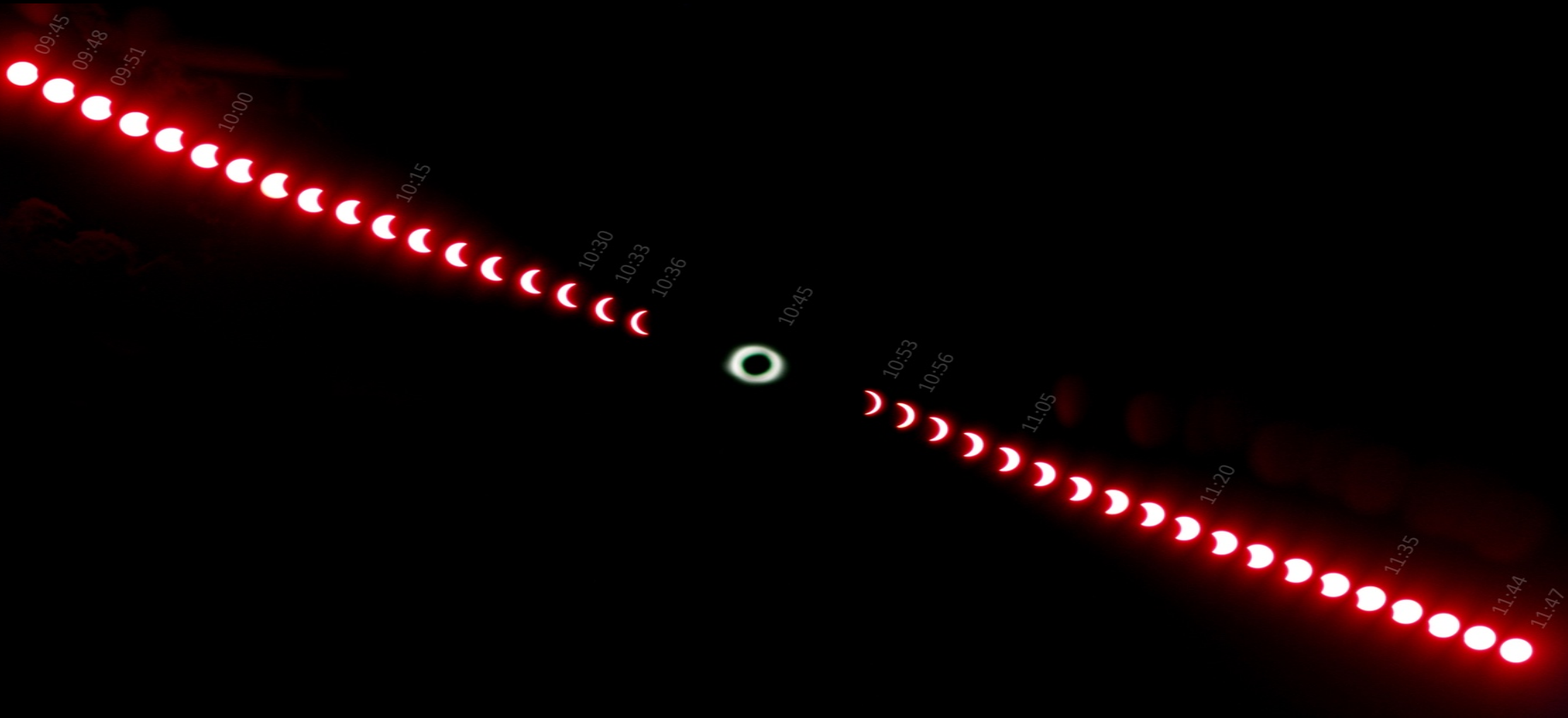


Total and Annular Solar Eclipse Paths: 2021 –2040

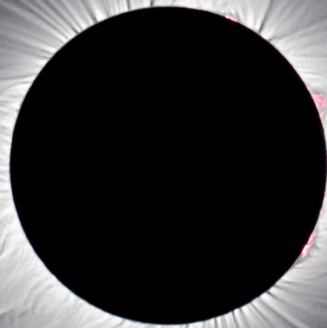


Total Eclipse
Annular Eclipse
Hybrid Eclipse









CREDIT: Rick Fienberg
(AAS Press Officer)





AMERICAN SOLAR ECLIPSES

- TOTAL SOLAR ECLIPSE OF
2017 AUGUST 21
- ANNULAR SOLAR ECLIPSE OF
2021 JUNE 10
- ANNULAR SOLAR ECLIPSE OF
2023 OCTOBER 14
- TOTAL SOLAR ECLIPSE OF
2024 APRIL 8





PATH OF TOTAL SOLAR ECLIPSE

Total solar eclipse of April 8, 2024



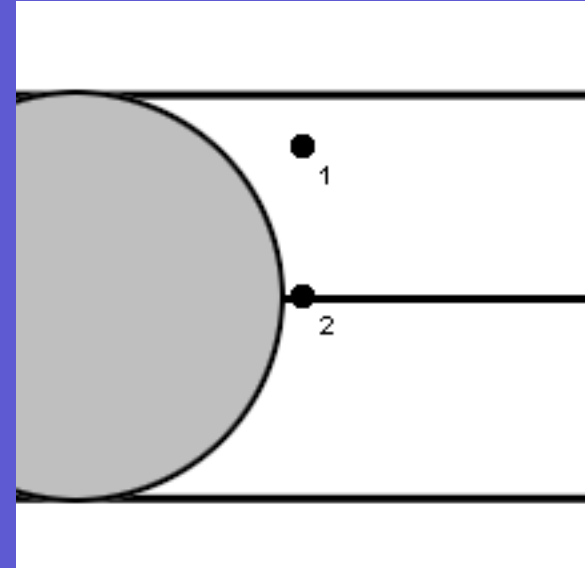
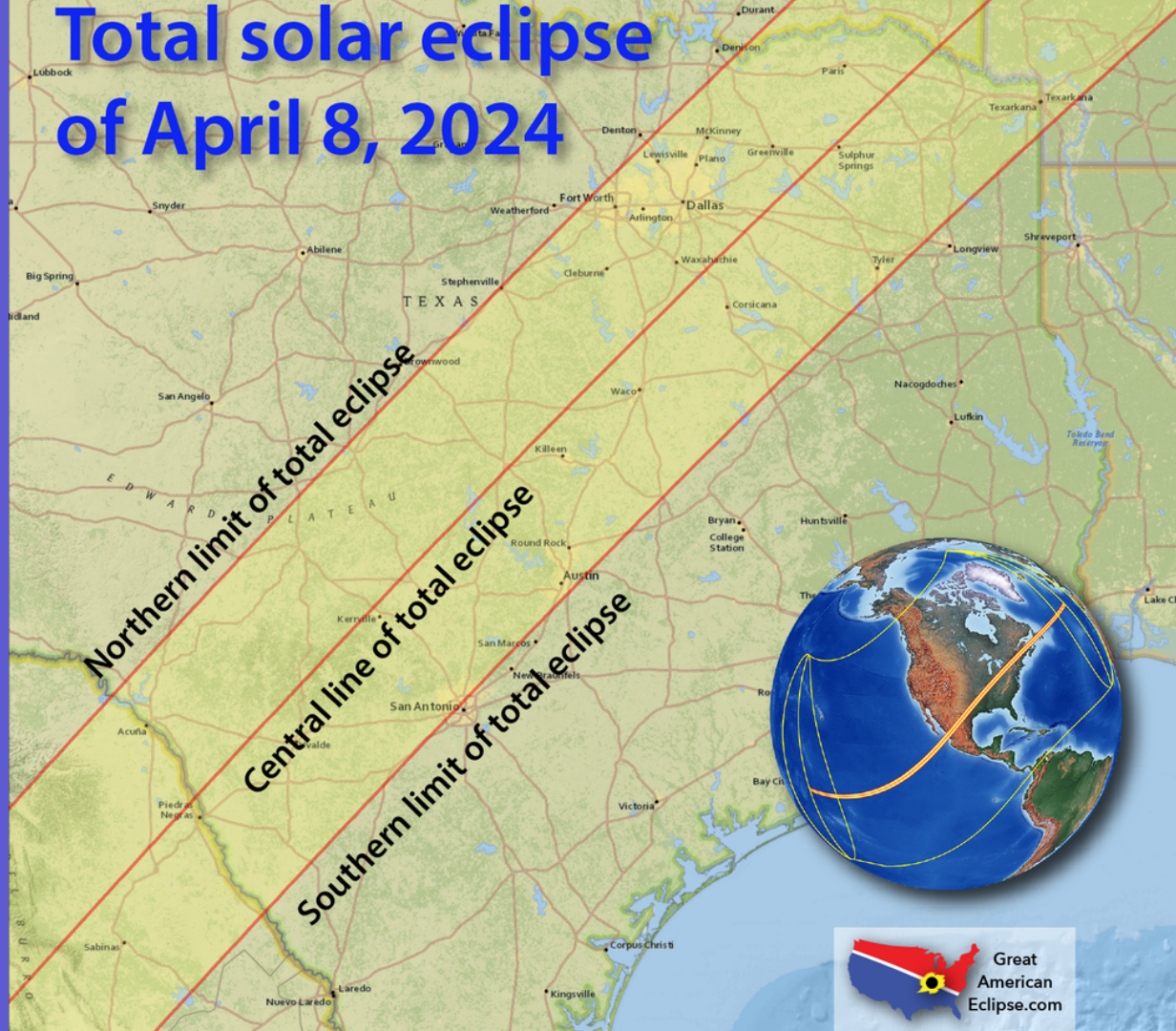
After an interval of seven years since 2017, a total solar eclipse visits North America again. This is truly nature's most spectacular sight. To see the beauty of the Sun's corona in the suddenly darkened sky, you must travel to the path of total solar eclipse.

Durations of total solar eclipse are given inside the path of totality. The gray oval shapes show the Moon's shadow at key moments. Times of greatest eclipse are shown in local time along the purple curves. Degrees of partial eclipse (obscuration) are shown along the orange curves.



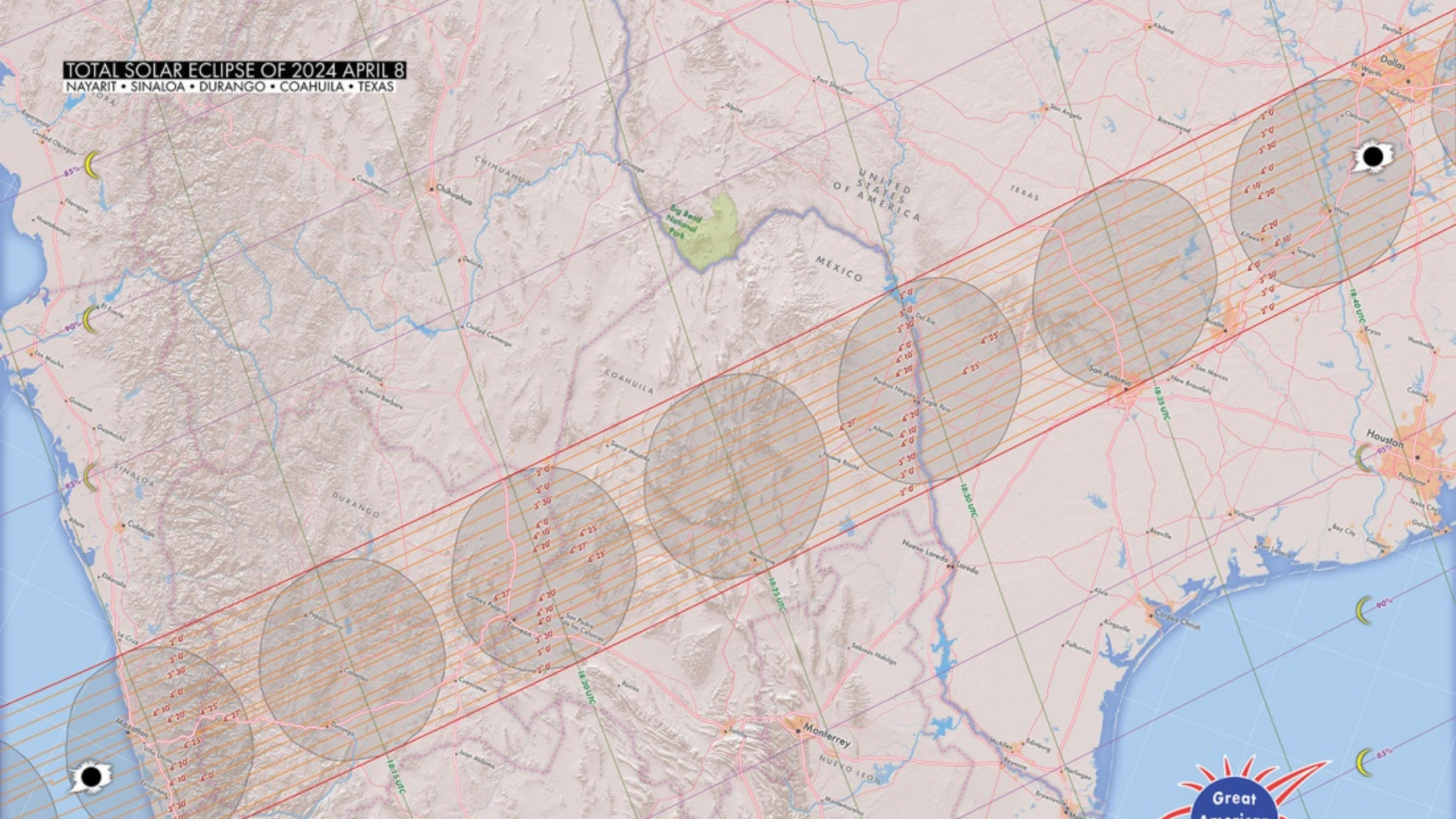
Made by Michael Zeilek, CreativeCommons.org/licenses/by/4.0/
 Eclipse computations by [Solar Center, solar-center.com](http://www.solar-center.com)
 Eclipse predictions by [Fred Espenak, espenak.com](http://www.fred Espenak, espenak.com)

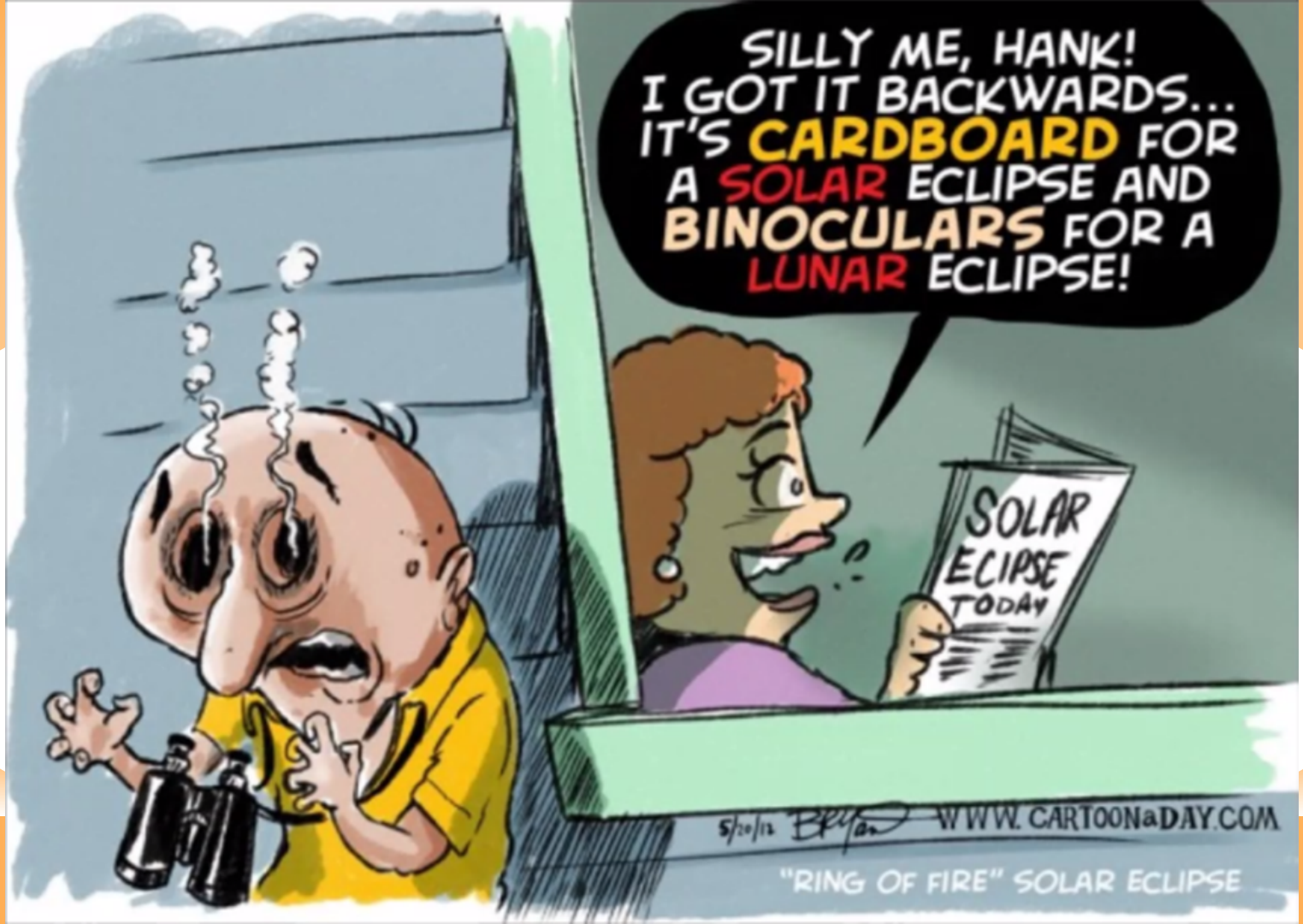
Total solar eclipse of April 8, 2024



TOTAL SOLAR ECLIPSE OF 2024 APRIL 8

NAYARIT • SINALOA • DURANGO • COAHUILA • TEXAS





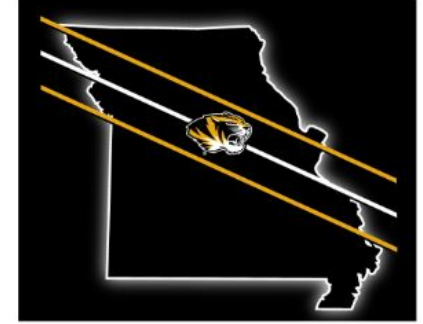
SILLY ME, HANK!
I GOT IT BACKWARDS...
IT'S **CARDBOARD** FOR
A **SOLAR** ECLIPSE AND
BINOCULARS FOR A
LUNAR ECLIPSE!

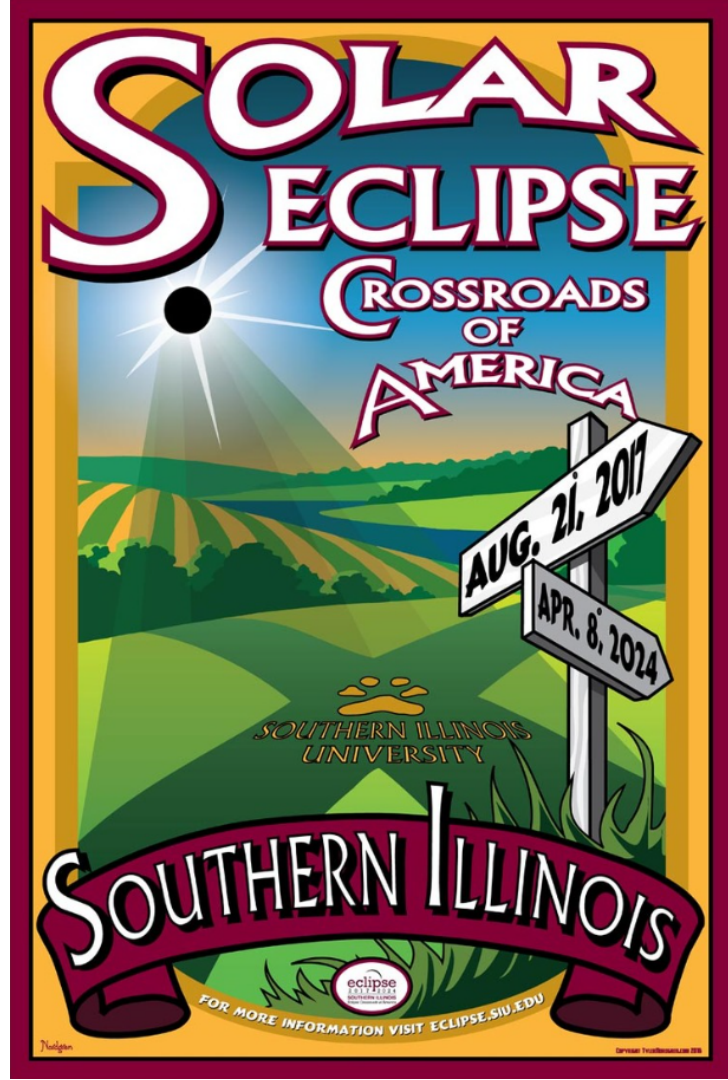
SOLAR
ECLIPSE
TODAY

5/10/12 *Blair* WWW.CARTOONADAY.COM

"RING OF FIRE" SOLAR ECLIPSE







Case Study: St Louis Eclipse Task Force

Timeline

Year	Milestone
2014	<ul style="list-style-type: none">• AAS ECLIPSE PLANNING WORKSHOP (August)• First Task Force Meeting – Eight attended (October)
2015	<ul style="list-style-type: none">• Website launched (March)• Eclipse Workshop - 60 attended (October)
2016	<ul style="list-style-type: none">• Outreach/Resource Center Launched• First order of eclipse glasses – 5,000 (April -- Debut at Airshow)
2017	<ul style="list-style-type: none">• Inexpensive Eclipse Activities by Adler – 100 attended (January)• Eclipse Expo – 5,000 attended (June)• FREE Eclipse Glasses to Schools – 163,000 glasses (June – July)• TOTAL SOLAR ECLIPSE (August 21)• Last Task Force Meeting (September)• AWB Eclipse Glasses Recycle Program - 35,000 glasses (September)

Task Force Final Results

Final Task Force Tally:

- 160 organizations
- 300 people



Eclipse Glasses:

- 500,000 through discount program
- 160,000 FREE to schools

Education:

- Workshops/Expo
- Hundreds of programs

Media: Good coverage

- 44 government (includes cities, parks, SEMA, county emergency management, law enforcement)
- 33 businesses/associations
- 33 school districts
- 25 library systems
- 11 university/colleges
- 4 media organizations
- 4 astronomy clubs

Self-Evaluation

Did well:

- ✓ Started early, persistent
- ✓ Focused, limited goals
- ✓ Large, cross-sectional team
- ✓ Significant outreach
- ✓ Workshops, “Expo”
- ✓ Solar glasses, viewing tools
- ✓ Web resource center
- ✓ Media coverage

Not so well:

- ✓ Lousy job of using social media
- ✓ Website overwhelmed in final weeks
- ✓ Task force communication system caused complaints
- ✓ Mixed bag with schools
- ✓ Lack of corporate support



AMERICAN ASTRONOMICAL SOCIETY

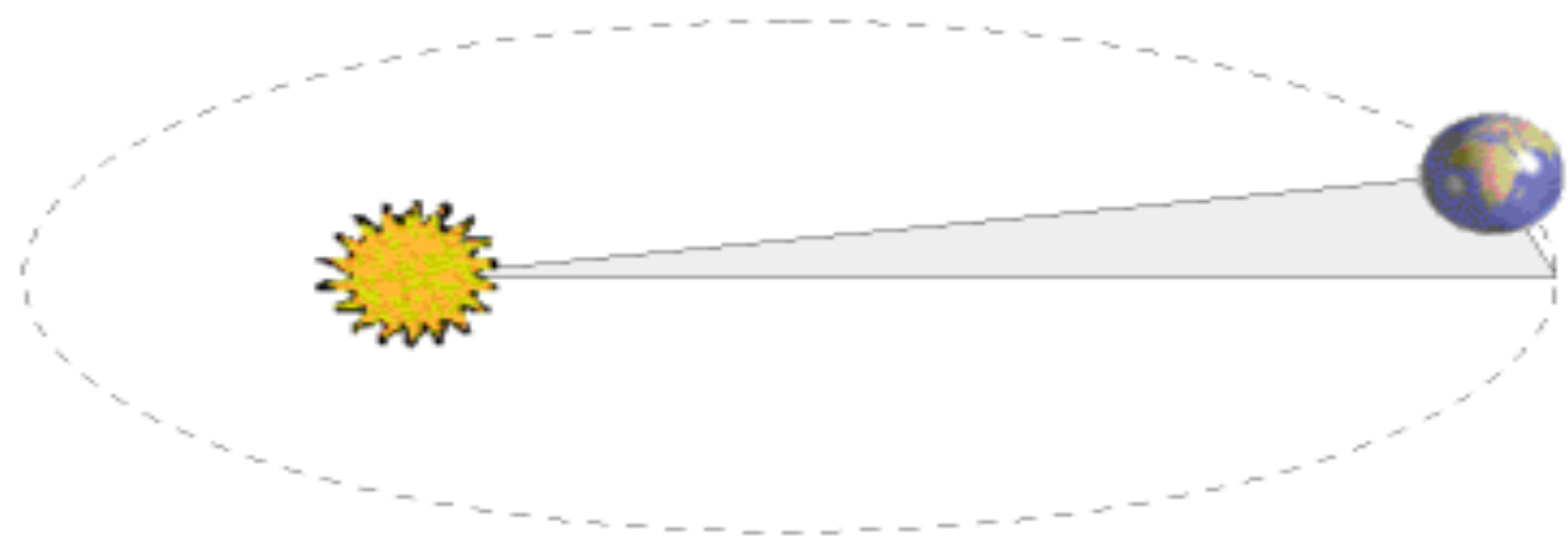
National Science Foundation



<https://eclipse.aas.org/>



Hybrid Eclipse



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

