

ROC2024

TOTAL SOLAR ECLIPSE

Preparing for the 2024 Total Solar Eclipse

Dan Schneiderman - Eclipse Partnership Coordinator @ RMSC

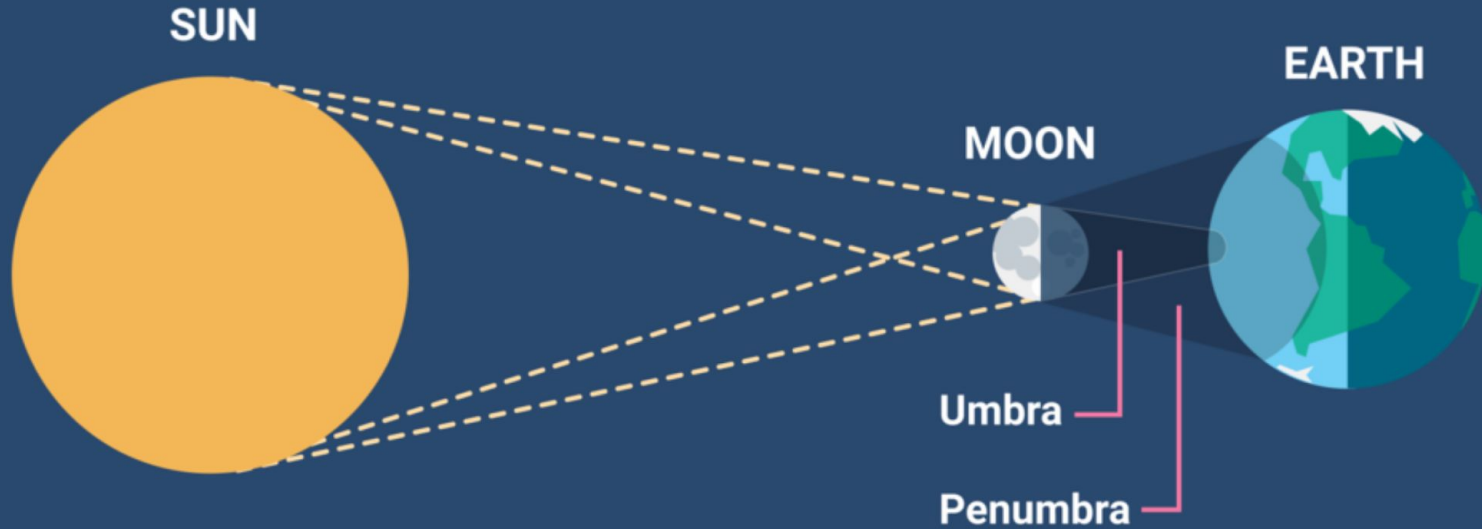


THE TOTAL SOLAR ECLIPSE IS LESS THAN 1 YEAR!

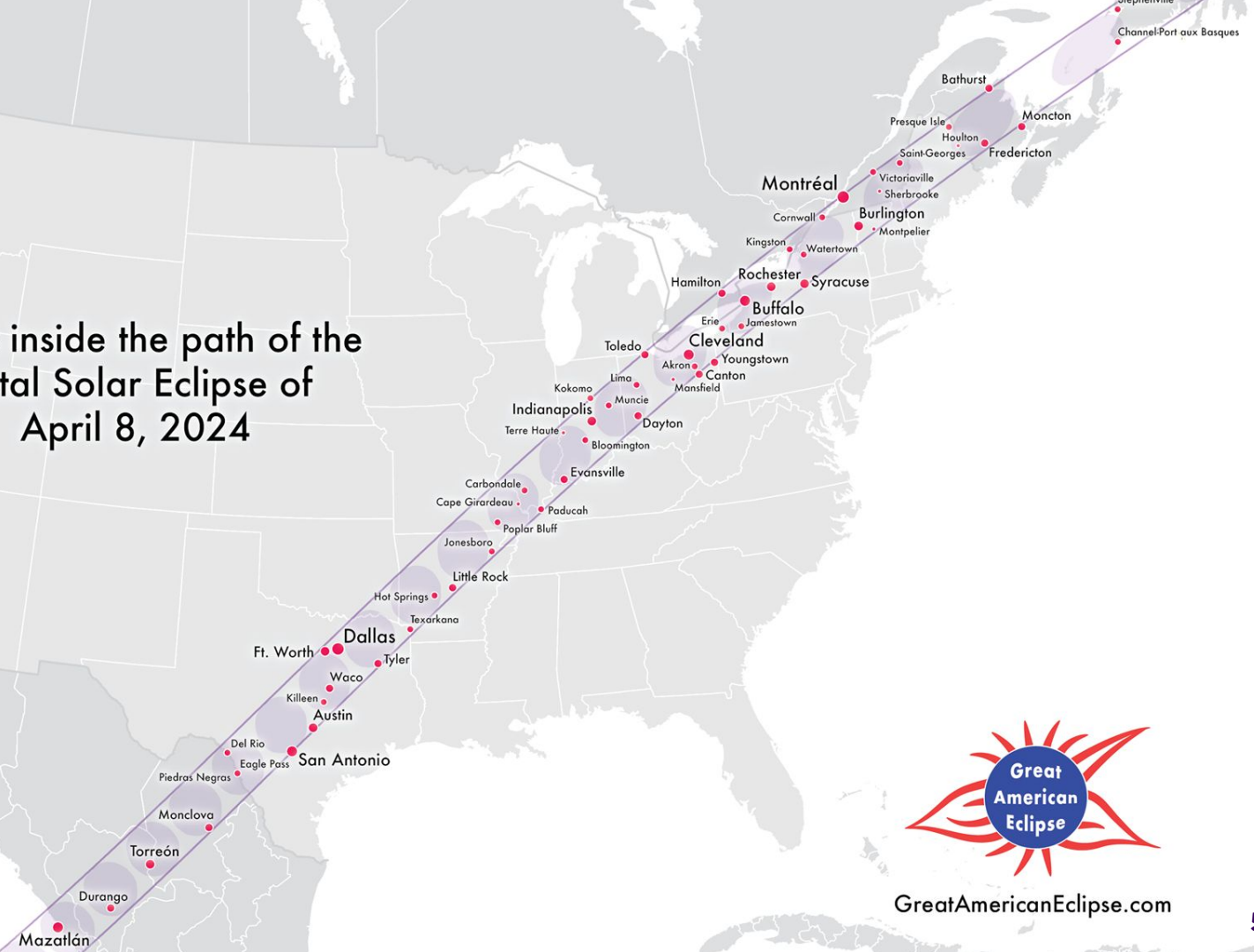
**(276 DAYS AWAY)
9 MONTHS & 1 DAY**

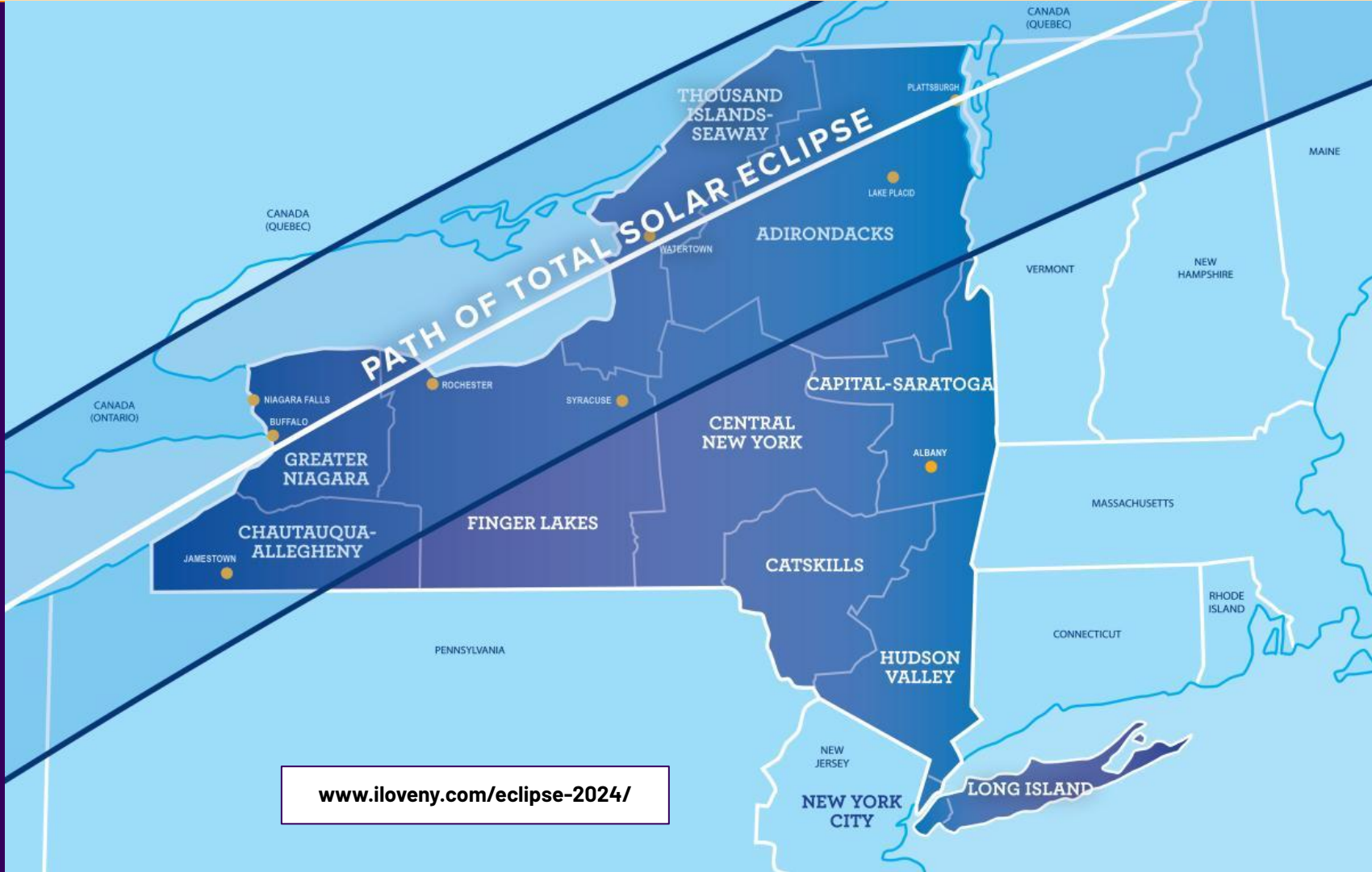


Eclipse Basics

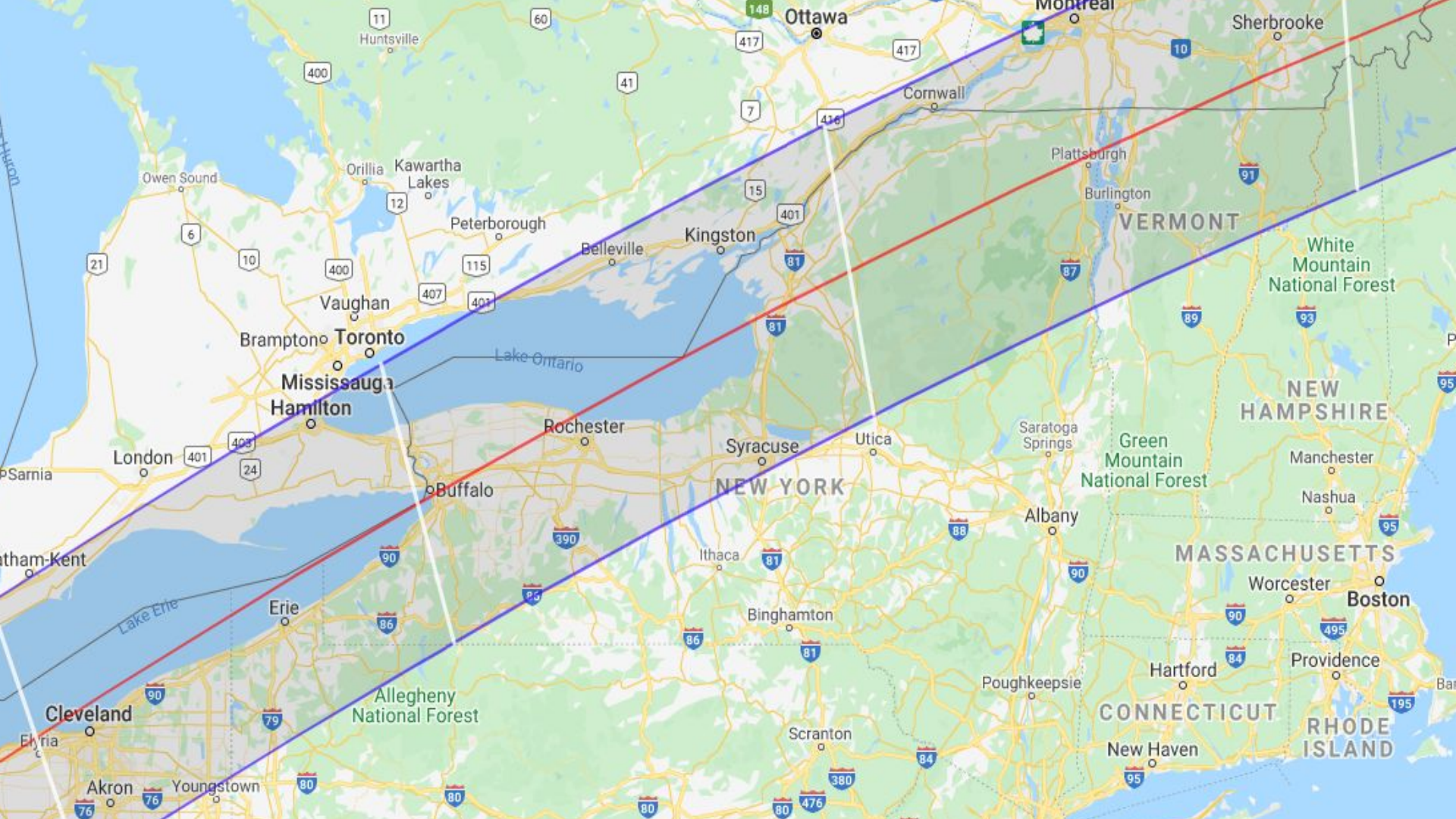


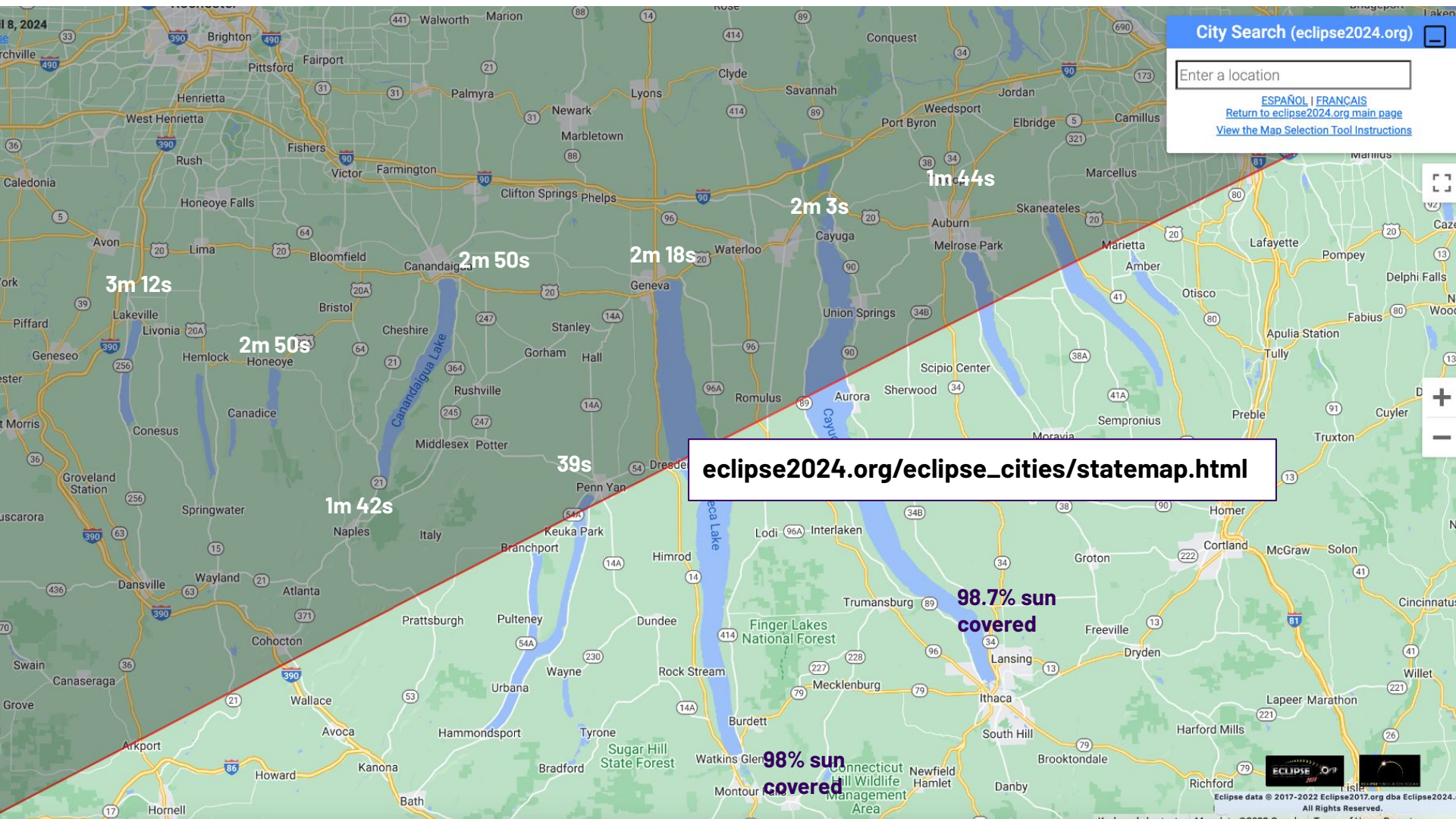
Cities inside the path of the Total Solar Eclipse of April 8, 2024





www.iloveny.com/eclipse-2024/





Enter a location

[ESPAÑOL](#) | [FRANÇAIS](#)
[Return to eclipse2024.org main page](#)
[View the Map Selection Tool Instructions](#)

eclipse2024.org/eclipse_cities/statemap.html

April 8, 2024 - Total Eclipse of the Sun in Canandaigua!

Begins: 2:07pm*

Totality: 3:20:50–3:23:41 pm*

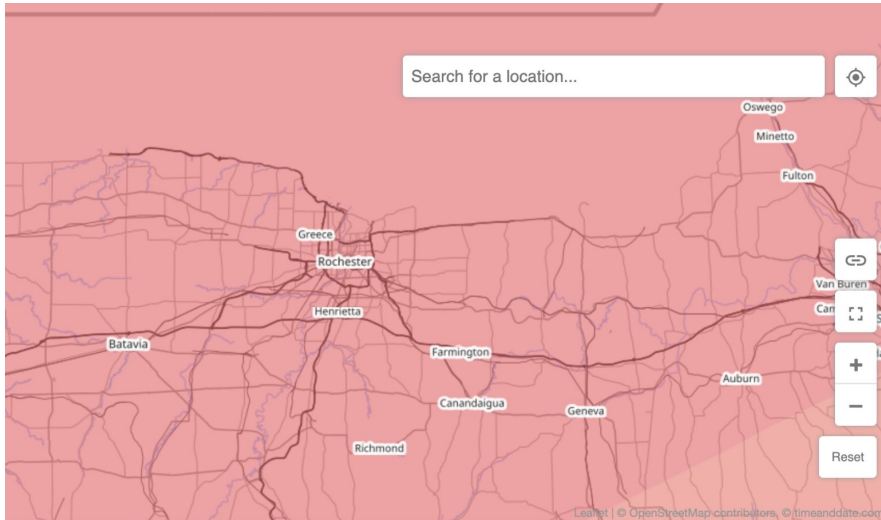
(2 minutes 51 seconds)

Ends: 4:33pm*

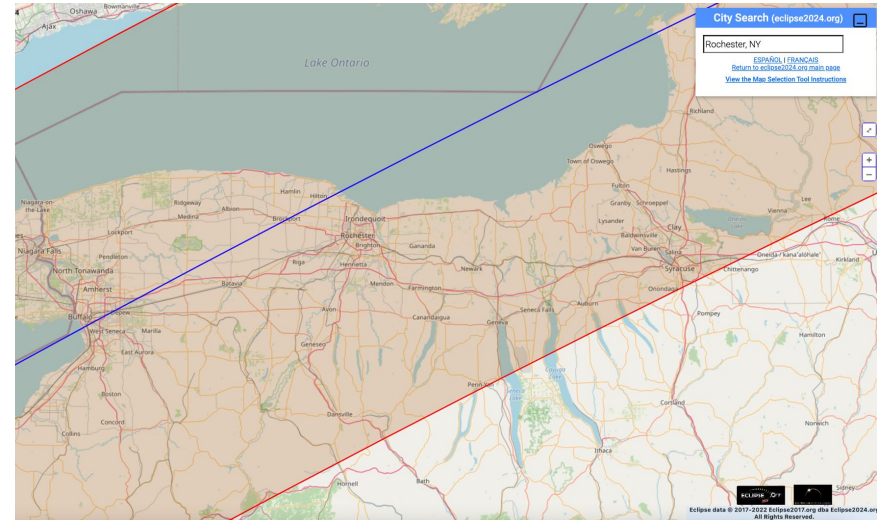
*Zip 14424

How to Find Length of Totality - Interactive Maps

TimeAndDate.com

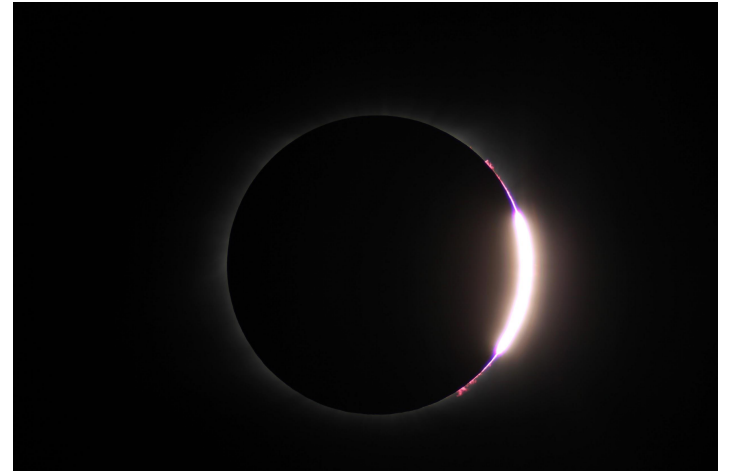


Eclipse2024.org



What Will You Observe in the Sky

- Moon blocking out the sun!
- 360 degree sunset
 - Deep dusk
- Planets
 - Jupiter & Venus should be easy to spot
 - Saturn and Mars
- Brightest of Stars visible
- Diamond Ring Effect
- Baily's Beads



Diamond Ring Effect



Rick Fienberg, AAS

Bailey's Beads



Reinhold Wittich, AAS

What Will You Observe on Earth

- Temperature drops ~10 degrees F
- Animal and plant behavior acts if it was nightfall
 - Birds back to nests
- Sharpening of shadows
- Shadow Bands
 - thin, wavy lines of alternating light and dark that can be seen moving and immediately before and after totality
 - refraction by Earth's atmospheric turbulence
- Eerily still
- Sense of Wonder and Awe



Source: NASA/Dominic Hart

Jupiter

Saturn

Venus

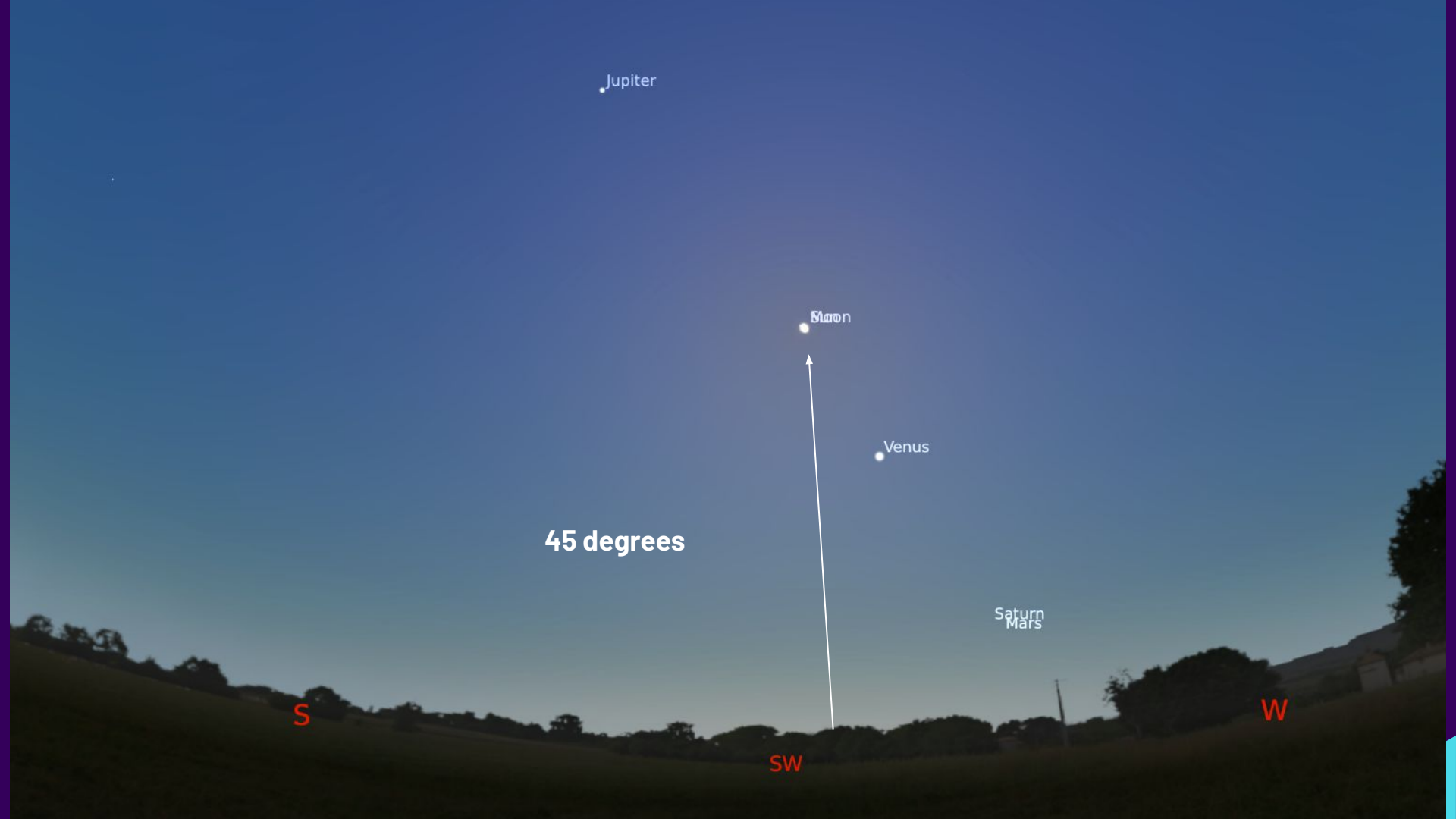
Saturn
Mars

45 degrees

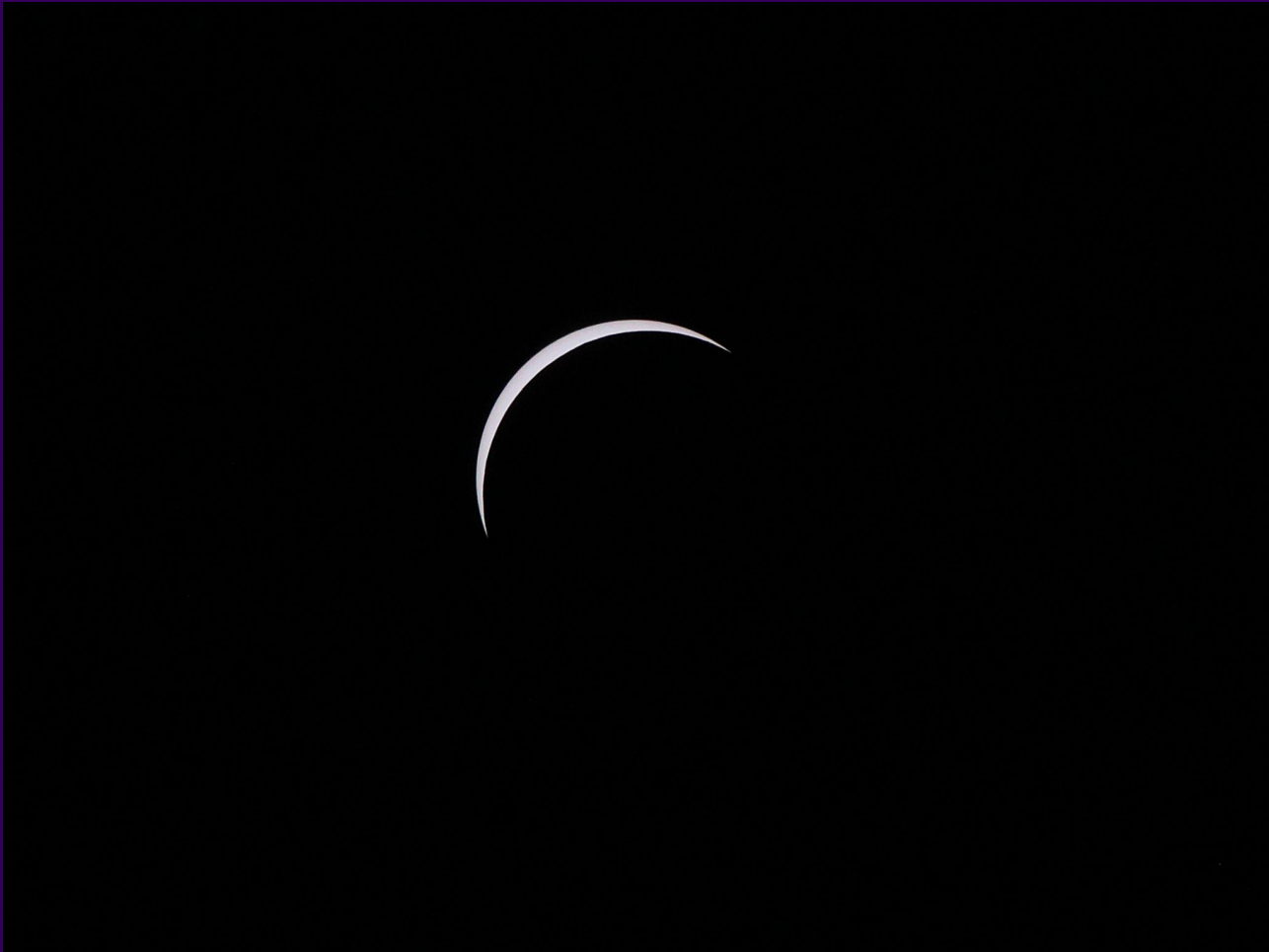
S

SW

W



**99.9% Coverage of the
Sun is NOT Totality**

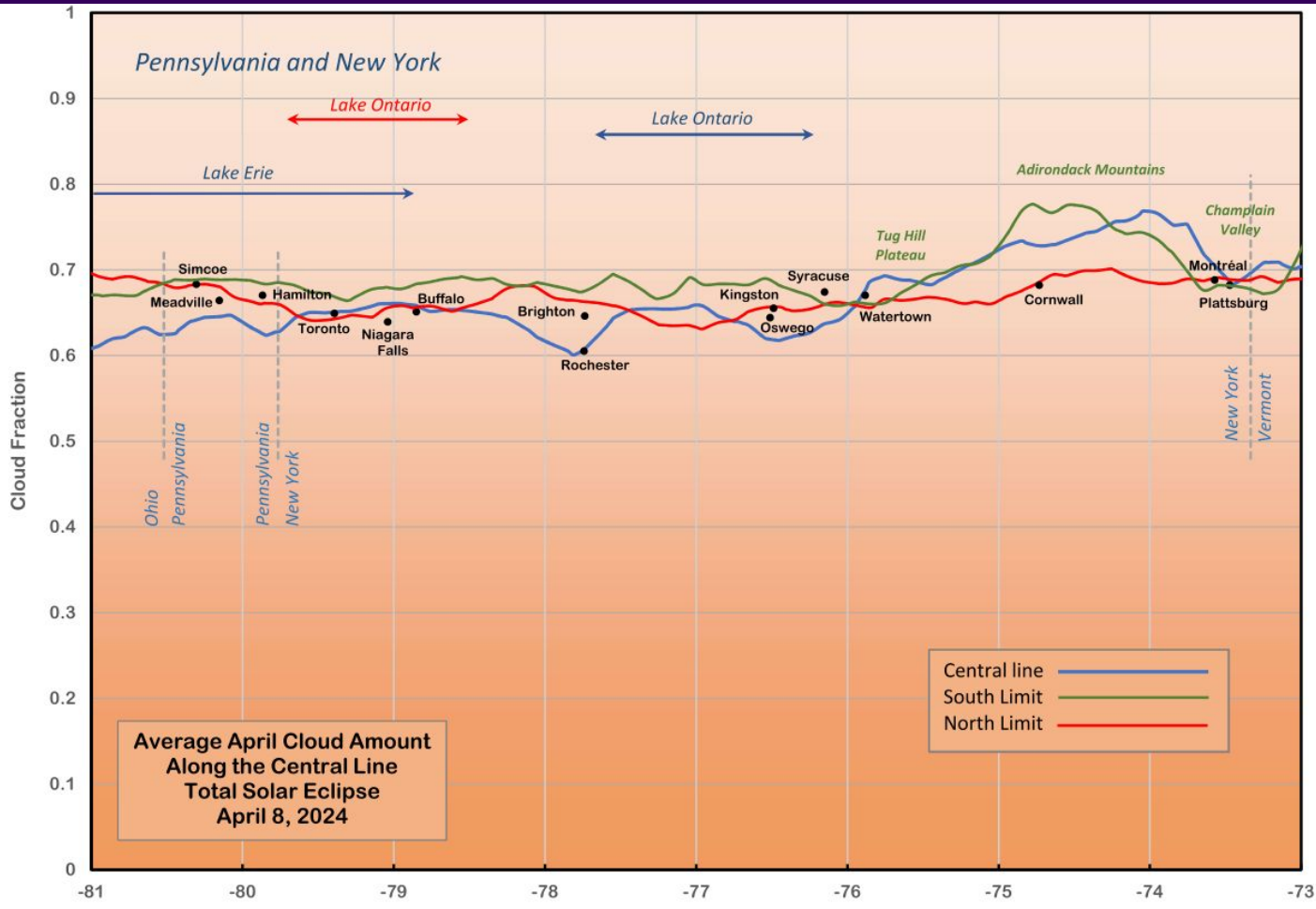


The Moon covers 95% of the Sun's diameter and about 94% of its area. Credit: Rick Fienberg

What Happens if it is Cloudy?

What Happens if it is Cloudy?

It will still get dark!





1806 Total Solar Eclipse – Included Rochester

June 16th, 1806

Last Total Solar Eclipse in Rochester & NYS

January 24, 1925

Last Total Solar Eclipse in United States

August 21, 2017

69.72% coverage of Sun

Next Total Solar Eclipse in US

August 12, **2045**

(21 years from 2024 Eclipse)

50.34% of the Sun Covered

Next Total Solar Eclipse in NYS

May 1, **2079**

(55 years from 2024 Eclipse)

Next Total Solar Eclipse in Rochester

October 26, **2144**

(120 years from 2024 Eclipse)

Totality will only be 46 seconds

**EXPECTING CONSERVATIVELY
375K-500K VISITORS TO GREATER
ROCHESTER REGION
4 MILLION NYS RESIDENTS IN PATH**

Why Is It Important

- **Science**
 - Spark a passion for science, STEAM, and astronomy
 - Chance to study sun's corona from Earth
- **Tourism**
 - Past total solar eclipses in other cities have drawn hundreds of thousands, if not millions, of people. We expect the same turnout for NYS
- **Economy**
 - Potential to bring hundreds of millions of dollars of revenue to the area through eclipse-driven tourism and programming.
 - Industries including restaurants, media, and retail will all reap the benefits of an increased consumer base.
 - \$200 million expected.
- **Culture**
 - The eclipse will touch every part of our lives from music, art, TV, movies, current events, news, podcasts, and more!
- **Cultural and Spiritual**
 - For some cultures, eclipses can play a big part of their history and customs
- **Uniting All of Us**
 - Positive shared experienced after we all shared a negative experience
 - Think of the last time everyone experienced something positive
- **Different for everyone**

Schools

- April 8th, 2024 is the **Monday after what is typically Spring Break**
- Don't want kids to miss experience due to being on bus
- Worried about kids getting stuck after totality
- Due to Task force efforts, **school has been canceled that day for most of the schools in Greater Rochester Region**
 - Local Spring Break will now lead into (and include) eclipse Monday

NATION NOW

What will the solar eclipse mean for drivers? A coast-to-coast traffic nightmare

Ashley May USA TODAY

Published 3:45 p.m. ET Aug. 18, 2017 | Updated 3:53 p.m. ET Aug. 18, 2017



Solar eclipse could be tricky for drivers

The Federal Highway Administration is calling the event one of the largest driver distractions in years. Video provided by Newsy Newslook

**NO KID SHOULD BE LEFT
INSIDE!**

How To Prepare

Safety

Eye Safety

You **MUST** wear Solar viewing Glasses (“Eclipse glasses”) to directly view the Sun and most of the eclipse.

- Sun glasses do NOT work.
- **Never look directly at the sun!**
- There are other methods to observe the eclipse while not looking at the sun (pinhole projectors, shadows)
- ISO 12312-2:2015
- Don’t look through a viewfinder on a camera
- **Counterfeit glasses from Amazon were problematic in 2017 and already for 2024**



2017 Total Solar Eclipse, AAS



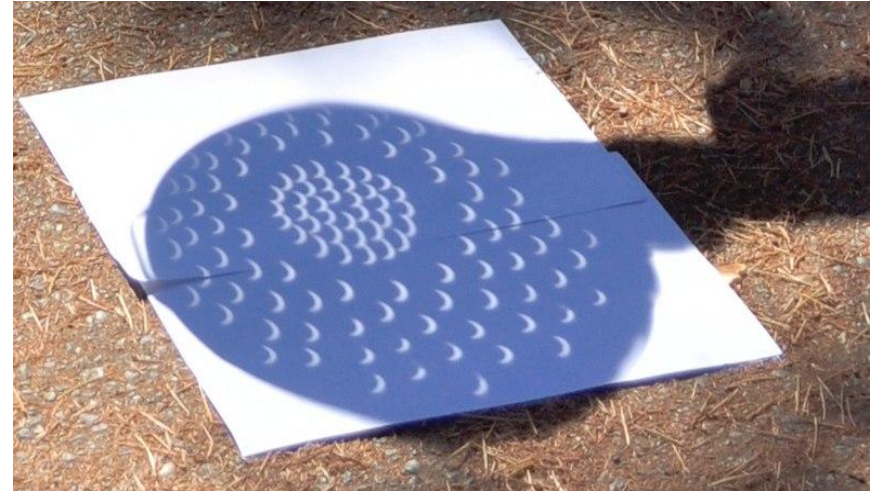
Eclipse Safety Continued

It is safe and extraordinary to view an eclipse using proper techniques like:

- Pinhole viewers
- Colanders
- Ritz Crackers
- Shadows from Trees
- Projecting onto a surface
- Solar viewing glasses
- In 2017, some schools banned students and teachers from going outside to observe the eclipse.

Ordering Glasses?

- Solar Eclipse Activities for Libraries (SEAL)
- www.rainbowsymphony.com
- www.thousandoaksoptical.com
- www.eclipseglasses.com



Other safety considerations

- Mass gathering/crowds
- Closed streets and bridges (event related)
- Construction/Lane Closures
- Planned emergency routes for Police, Fire, EMS
- Unsafe driver behavior
 - Distracted driving
 - People stopping in travel lanes
 - Pulling over in non designated areas
- Overloaded cell towers impact on emergency communications
 - Use of COWs (Cell on Wheels)
- Weather/environmental related issues
 - Wind, heat, cold
 - Flooding
 - Mud related issues (cars and/or people stuck)
- **Misinformation will occur!**

DON'T USE SUN GLASSES!



SUNGLASSES DON'T PROTECT YOU DURING AN ECLIPSE!

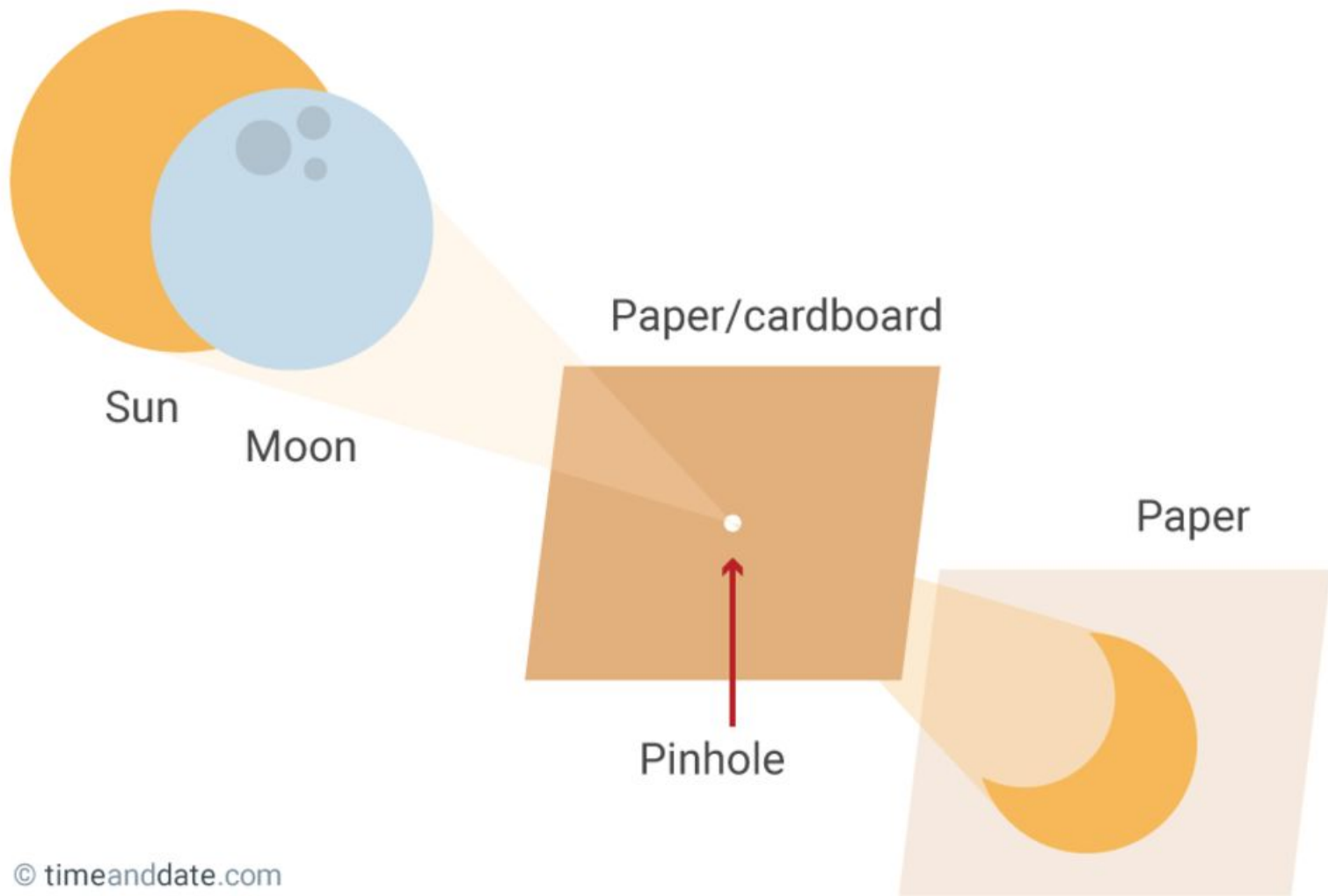
If you see someone using them, please tell them (kindly)

Tips for Run Your Own Eclipse Viewing Event!

- Have Solar Viewing Glasses available
- **Turn off your automatic lights** (building, parking lot, etc)
- Hands on-activities
 - Create your own pinhole viewer
 - Moon phase calendar
 - String art
 - Button Making
- Telescope with solar filter for viewing
- “Expert” to answer questions about the eclipse
- Facilities
- Speakers related to space
- Area dedicated to those photographing the eclipse
- Projectors/TVs to watch livestream of eclipse locations before Rochester
- **Backup plans for multiple weather possibilities**
- Space themed music playlist
- **Timekeeper to tell people when to take glasses off and put back on for totality**

Think about the experience you personally want!

ACTIVITIES





Eclipse Chalk Art

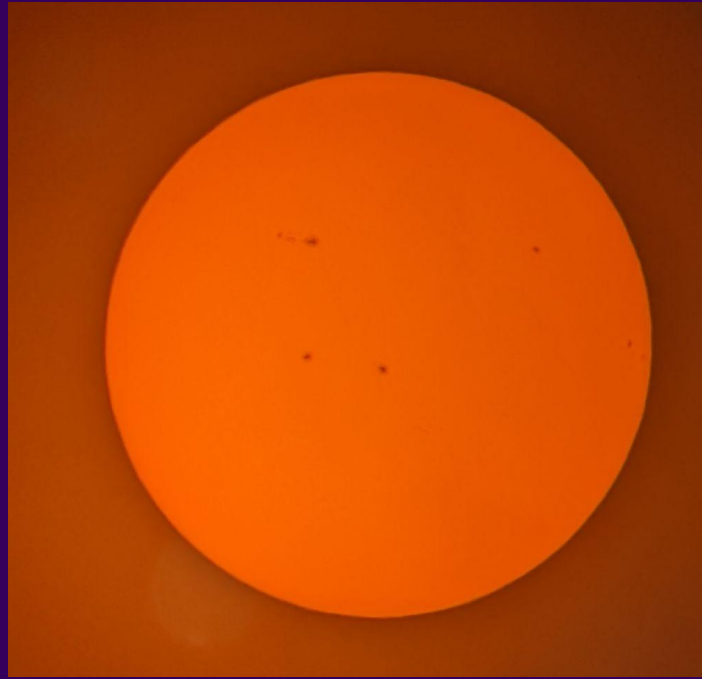
Planet Survey

What Is Your Favorite Planet/Celestial Body?

Mercury	Venus	Earth	Moon	Mars

What Is Your Favorite Planet?

Jupiter	Saturn	Uranus	Neptune	Pluto <small>(and all others!)</small>



Solar Viewing
***Solar Filter Required**



SEND A POSTCARD TO SPACE

Earth is finite. To protect our gem of a planet and enable a future of abundance and growth, Earth needs space. Write or draw your vision on a postcard for what you think the future of life in space will look like—or any other message you'd like to send to space. Send your postcard to Club for the Future, we'll launch it to space and back on a New Shepard rocket, and return it to you stamped "Flown to Space." Send us as many postcards as you'd like—we'll fly them all.

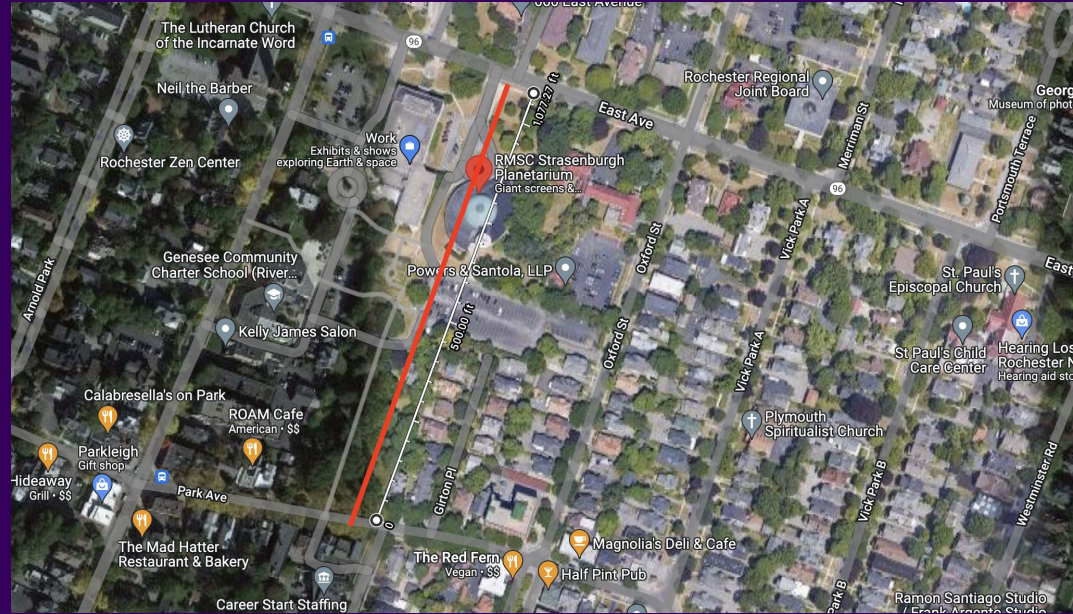
<https://www.clubforfuture.org/missions/>

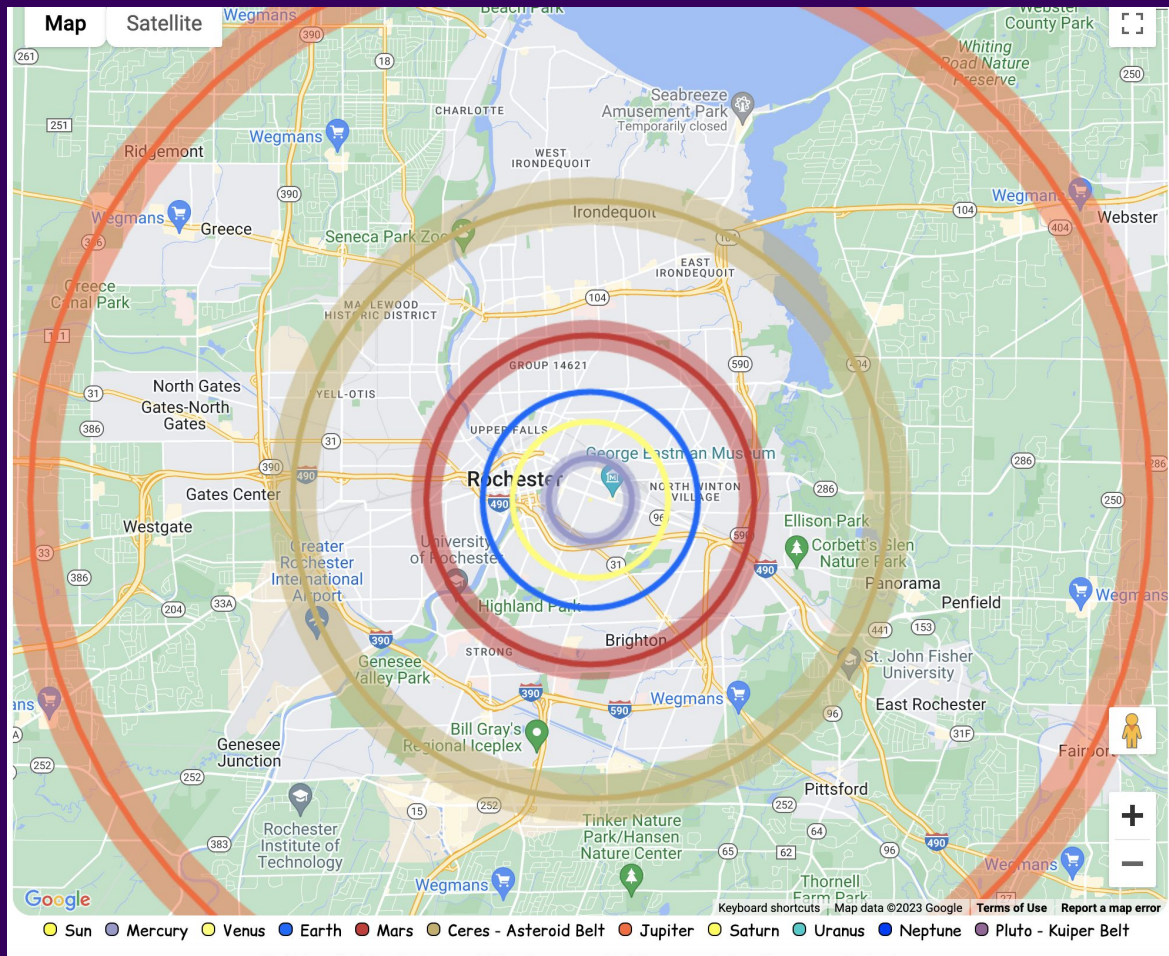
**HOW MANY WAYS CAN YOU EXPLAIN
THE RELATIONSHIP BETWEEN THE
SUN, MOON & EARTH?**



10ft Inflatable Sun
 1 inch Earth
 ¼ inch Moon

Sun to Earth: 1074ft
 Earth to Moon: 3ft





<https://thinkzone.wlonk.com/SS/SolarSystemModel.php>

[Return to StarNET home page](#)

Solar Eclipse Activities for Libraries (SEAL)

Two solar eclipses are coming to North America! An annular eclipse occurs on Saturday, October 14, 2023, and a total eclipse occurs on Monday, April 8, 2024.

It is time for librarians to prepare their patrons for the eclipses

With funding from the Gordon and Betty Moore Foundation, the Space Science Institute, through its **Solar Eclipse Activities for Libraries (SEAL) program is distributing five-million solar-viewing glasses to 10,000 libraries**, plus providing information and activities to share with library patrons. In addition, workshops for librarians are being held across the country to ensure library patrons can safely enjoy these spectacular celestial events.

Below are statistics showing how well we are doing and a map of participating libraries. If you scroll further down, you can see how you can be involved or get the latest information and activities regarding the eclipses.



<https://www.starnetlibraries.org/about/our-projects/solar-eclipse-activities-libraries-seal/>

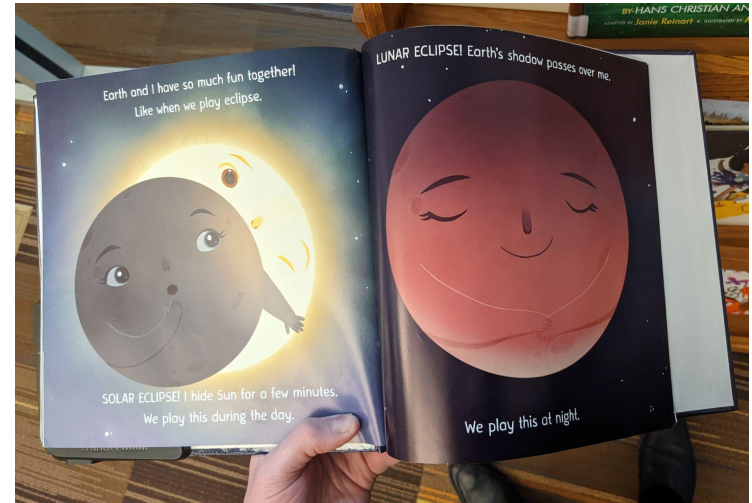
Activity Resources

- **NISENET**
 - <https://www.nisenet.org/solareclipse>
- **NASA**
 - <https://solarsystem.nasa.gov/eclipses/2024/apr-8-total/overview/>
- **American Astronomical Society**
 - <https://eclipse.aas.org/>
- **Astronomical Society of the Pacific**
 - <https://astrosociety.org/education-outreach/amateur-astronomers/eclipse-ambassadors/program.html>
- **Time And Date**
 - <https://www.timeanddate.com/eclipse/map/2024-april-8>
- **Instructables**
 - www.instructables.com



Books Related to Eclipse

- “Totality: The Great American Eclipses of 2017 and 2024”
- Mark Littmann & Fred Espenak
- “Sun Moon Earth: The History of Solar Eclipses from Omens of Doom to Einstein and Exoplanets” - Tyler Nordgren
- “American Eclipse” - David Baron
- “A Connecticut Yankee in King Arthur's Court” - Mark Twain
- “Nightfall” - Isaac Asimov
- “Moon! Earth's Best Friend” - Stacy McAnulty
- “ABCs of Space” - Chris Ferrie and Julia Kregenow



“Moon! Earth's Best Friend” - Stacy McAnulty

Pop Culture References

TV

- The Simpsons - several times
- Sesame Street
- The Owl House
- Avatar: The Last Airbender
- Craig of the Creek
- Bill Nye

YouTube

- Smarter Every Day
- NASA
- Science Communicators

Music

- Total Eclipse of the Heart
- NASA has playlists on Spotify

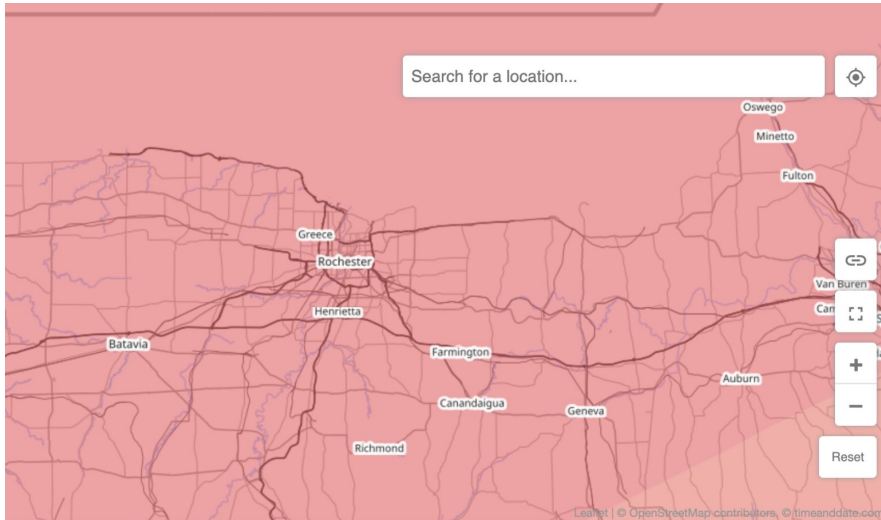


Marge vs. the Monorail - Season 4, Episode 12 of the Simpsons

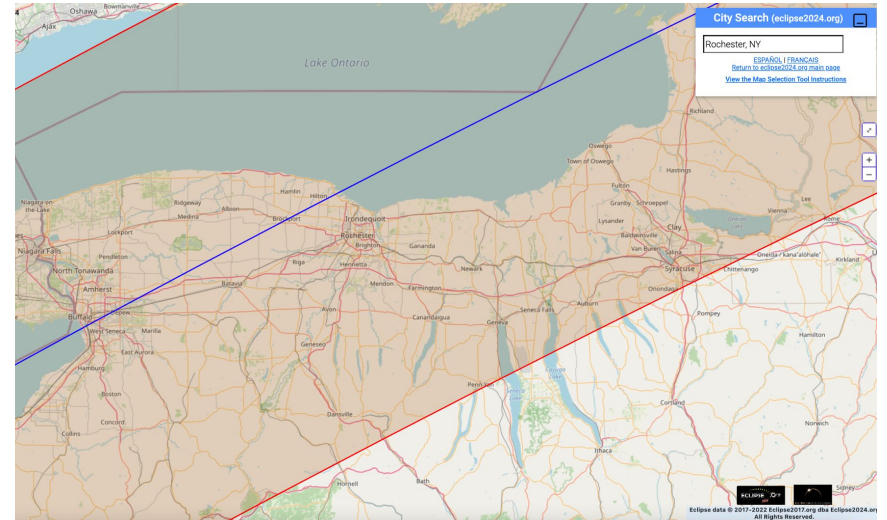
TIPS FOR SCOUTING VIEWING LOCATIONS

Interactive Maps

TimeAndDate.com



Eclipse2024.org



Tips for Scouting Eclipse Viewing Locations

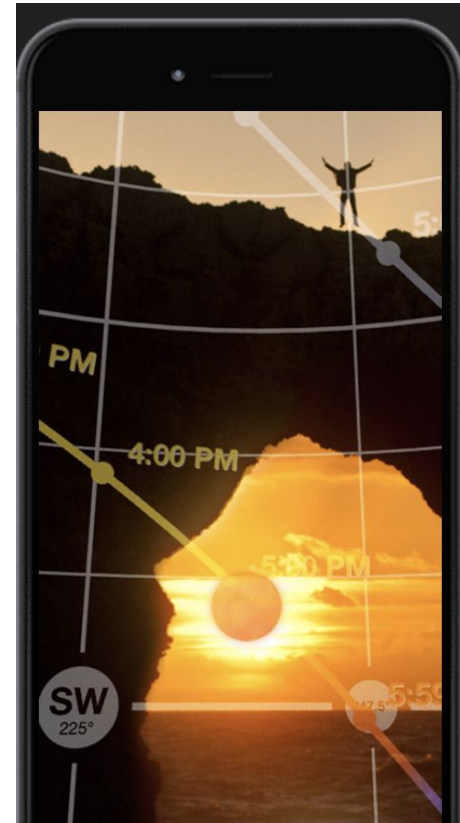
- Look at Sun in Late August/Early September at 3:20 PM
 - Sun will be in the same location
- Plan around sightlines:
 - Trees, buildings, construction equipment
 - Consider children and people sitting or using wheelchairs
 - Ability to get up and move
 - Accessibility (physical, emotional, social)
 - Facilities (bathrooms, food, parking, light pollution, areas for activities & photographers)

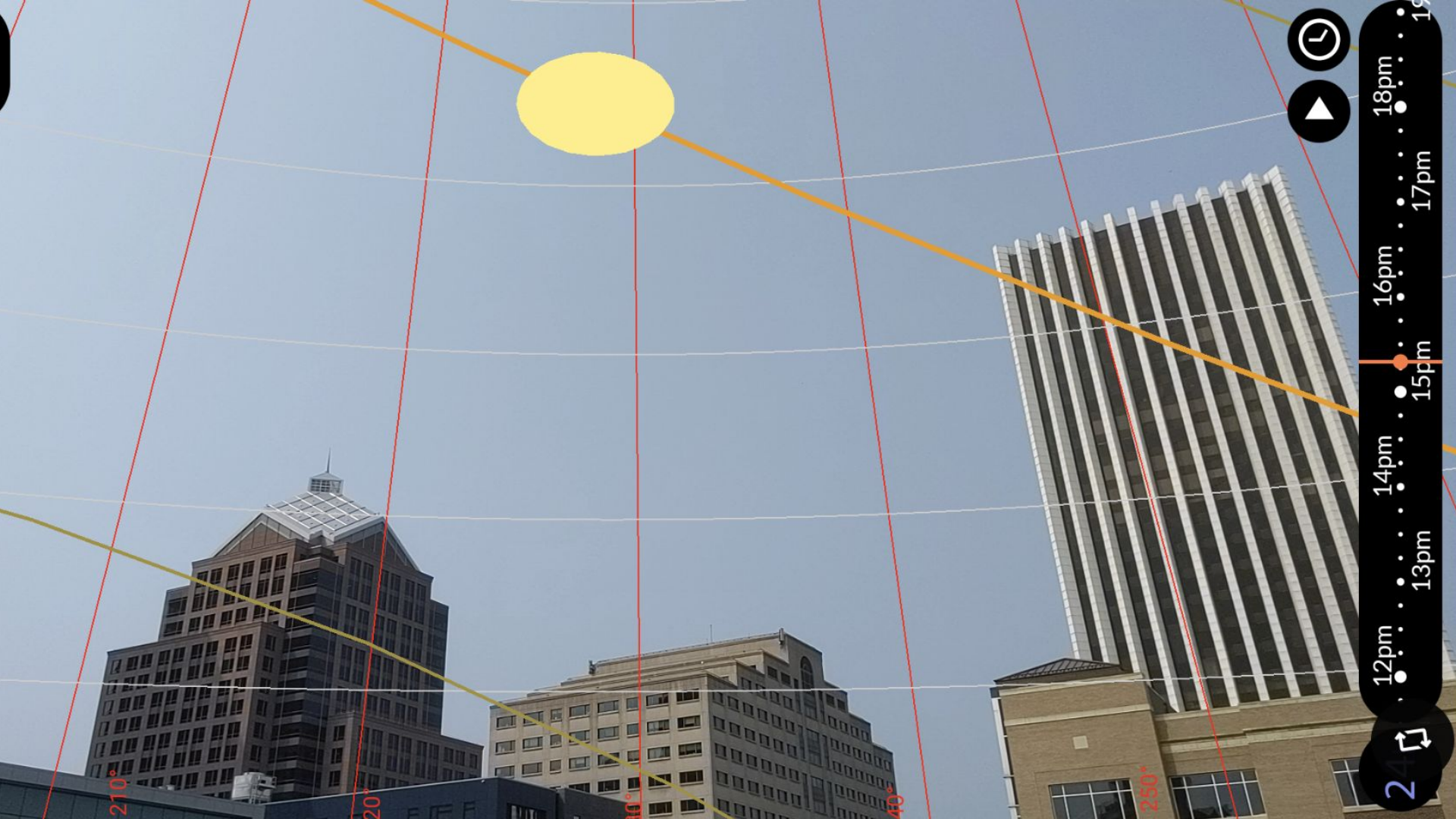


DON'T LOOK DIRECTLY AT THE SUN!

AR APPS

- Android
 - Sun Locator Pro – you can set the time, and date, and get an augmented reality view
- Apple
 - Solar Watch – with an app upgrade, you can set the date and get an augmented reality view
- Both
 - PhotoPills - augmented reality app with additional map functions





19pm
18pm
17pm
16pm
15pm
14pm
13pm
12pm

A vertical black bar containing a series of white dots representing time points. A red diamond marker is positioned at the 15pm dot. At the bottom of the bar, there is a blue square icon with a white play button symbol and a blue number '2'.

210°

20°

10°

40°

250°

Consider Hosting Lead-Up Events

- Stargazing evenings
- Concerts with space music
- Glasses distribution events
- Fundraisers
- Eclipse themed tasting events
- Art contests
- Info sessions
- Movie nights (movies or tv shows that include eclipses in them)



Eclipse Swag

- Sun/Moon/Earth themed items
- Food
 - Moon Pies
 - Sunny-D
 - Oreos (recreate eclipse phases)
 - Starburst
 - Milky Way Bars
- Eclipse themed drinks
 - Wine, Beer, Whisky
- Swag
 - Patches
 - Posters
 - Hats
 - Stickers
 - Jackets



MERCH THINGS TO CONSIDER

- Lean into the puns!
 - Can be space themed overall
- Include:
 - Total Solar Eclipse
 - YOUR LOCATION
 - April 8th, 2024
- Design
 - Play with sun and moon
 - Don't forget Earth
 - Don't mix up phases of the eclipse and phases of the moon - VERY Different
- Timing - Make sure to get the timing/date/length correct
- Clothing - Plan for both cold and warm temperatures
- Who is your audience
- Where are you selling your product
 - In person or online
 - What events to sell at
 - Save some for weekend before eclipse



Rochester's Eclipse Poster

Created by Tyler Nordgren
Ithaca Resident
www.tylernordgren.com



SEE THE Finger Lakes Eclipse

TOTALITY!

PARTIAL ECLIPSE

GENESEO 3m 13s TOTALITY

LAKEVILLE 3m 12s HEMLOCK 3m

HONEOYE 2m 52s ANANDAIGUA 2m 52s

PENN YAN 35s

GENEVA 2m 22s

SENECA FALLS 2m 14s

CAYUGA 2m 8s AUBURN 1m 50s

SKANEATELES 1m 30s

WHERE SUN & MOON ALIGN WITH YOU!
APRIL 8, 2024

Nordgren
Copyright SpaceArtTravelBureau.com 2023

276

DAYS

05

HRS

24

MINS

56

SECS

R O C H E S T E R

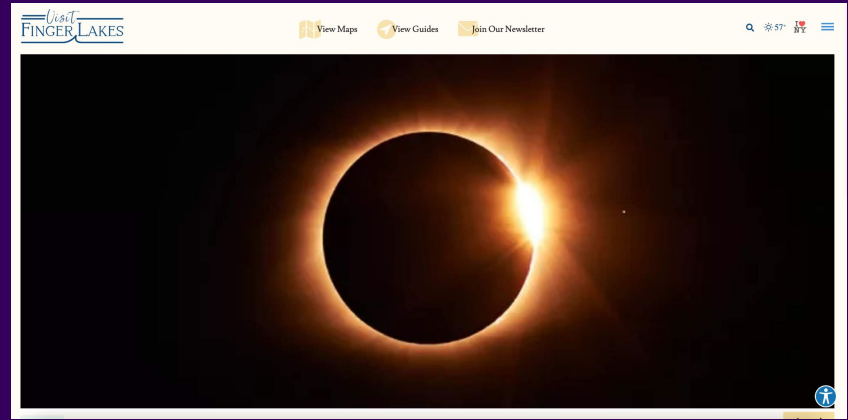
TOTAL SOLAR ECLIPSE

APRIL 8TH 2024

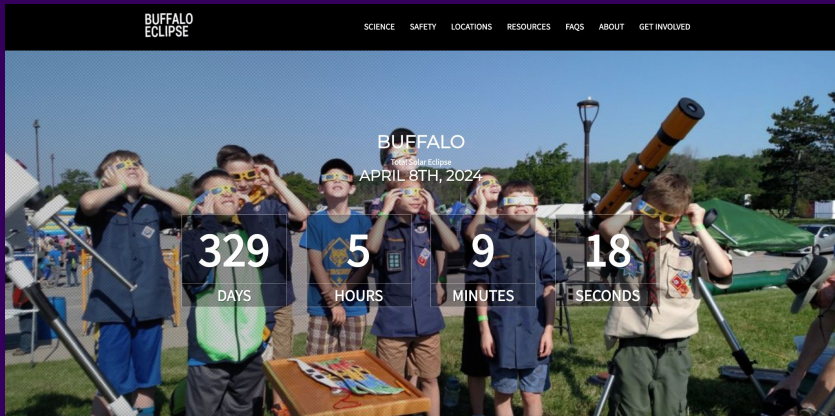
rochestereclipse2024.org



iloveny.com/eclipse



visitfingerlakes.com/eclipse-2024/



buffaloecclipse.org



visitlivco.com/livcosol/

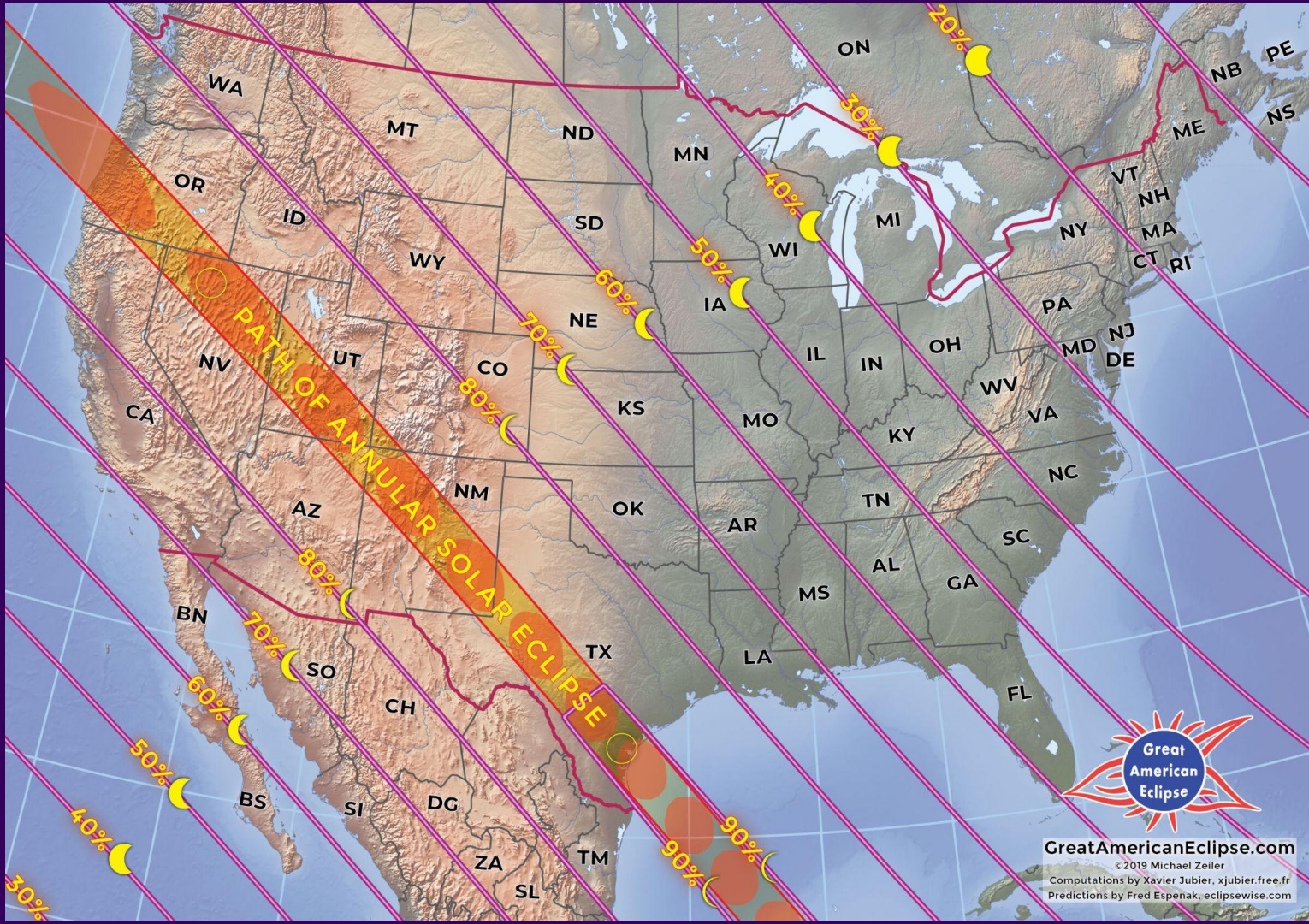


WARNING!
DO NOT LOOK AT THE SUN
THROUGH THIS TELESCOPE.
PERMANENT EYE DAMAGE WILL
RESULT FROM LOOKING AT THE
SUN THROUGH ANY TELESCOPE!

ODYSSEY 8

Save the Date
Annular Solar Eclipse
Saturday
October 14th, 2023
1:13 PM

**A great opportunity to host
events!**



GreatAmericanEclipse.com
 ©2019 Michael Zeller
 Computations by Xavier Jubier, xjubier.free.fr
 Predictions by Fred Espenak, eclipsewise.com

Rochester Eclipse Taskforce

Led by a core group 4 organizations:

RMSC, Genesee Transportation Council, Visit Rochester, and Kids Out and About

- Libraries
- Cultural organizations
- Wineries, Breweries, Distilleries
- Parks & Recreation (State, local)
- Restaurants
- Municipalities and Government orgs
- Artists
- Community Groups
- Colleges & Universities
- Event Organizers
- Service organizations



Over 400 active stakeholders and growing

- 1954
- (585) Magazine
- 21st Century Arts Inc., WOC Art Collaborative
- 540 West Main
- Abandon Brewing
- Airigami
- Al Sigi
- Allendale Columbia
- Aquinas Institute
- ASRAS
- Badfish Consulting / TEDx Rochester
- Baker August Consulting
- BE Innovations, LLC
- Birnbaum Companies
- Blue Cross Arena
- BOCES 4 Science
- Break the Ice Media
- Bristol Mountain
- Brockport Central Schools Superintendent
- Buffalo Museum of Science
- C&S Companies / NYS Fair
- Canandaigua Airport
- Casalarga
- Catalyst Consulting
- CCE Monroe County 4-H
- Central Library of Rochester & Monroe County
- City of Rochester
- City of Rochester / Sister Cities
- Common Ground Health
- Corn Hill Navigation / The Sam Patch
- Courtyard Rochester Downtown
- Delta Airlines
- Dream Finders, Inc.
- Dresden PR
- DS&MG
- Eastman Community Music School
- Empire Space
- I LOVE NY
- Imaginee Photography
- Insi8
- Irondequoit HS
- Jay Advertising
- Kids Out and About
- Laughing Gull Chocolates
- Leclair Communications LLC
- Letchworth Gateway Villages
- Lollypop Farm, Humane Society of Greater Rochester
- Long Acre Farms
- Longacre Farms
- MagnusApollo Design
- Maker Faire Rochester
- Martz-Kohl Observatory
- MCC Optics
- McQuaid Jesuit
- Memorial Art Gallery
- Mendon Public Library
- Meowchickenfish
- Monroe Community College
- Monroe County
- Monroe County
- Monroe County – Greater Rochester Int'l Airport
- Monroe County Department of Environmental Services
- Monroe County Library & Rochester Public Library
- Monroe County Parks
- Monroe County Sherrifs Office
- NASA Goddard Space Flight Center
- NASA/ADNET
- National Weather Service
- Nature Conservancy, Central & Western New York Chapter
- Nazareth College
- New York State Brewers Association
- Rochester Red Wings
- Rochester Sister Cities Committee
- Roclife LLC
- ROCtheCitywithHope
- Rolling Meadows Designs
- RRPC and NY Photonics Cluster
- Sager Beer Works
- Salinas Restaurant / NOX
- Schick Enterprises
- Scout and Cellar & Doc Popcorn
- Scouts
- Seneca Park Zoo
- Shawn Dunwoody
- Shawn Gee
- Socha Consulting
- Spencerport Central Schools
- St. John Fisher
- St. John Fisher College
- Stamp Paints
- Stamper Technology
- Stokoe Farms
- Summitt Federal Credit Union
- SUNY Brockport
- SUNY Empire State College
- SUNY Geneseo
- SUNY Geneseo – Center for Integrative Learning
- SUNY Geneseo – Math
- SUNY Geneseo – School of Business
- SUNY Research Foundation
- Teaching Artists of Rochester
- Teen Empowerment
- Tennis Club of Rochester
- Terra Science Fair
- The Autism Nature Trail at Letchworth State Park
- The Greater Rochester Area Partnership for the Elderly (GRAPE)
- The Harley School
- EMS, Fire, Police
- ES & ES Enterprises LLC
- Eutierria Wellness
- Fairport OCED
- Fairport Partnership
- Finger Lakes Community College
- Finger Lakes Instrumentation
- Finger Lakes Regional STEM Hub
- Finger Lakes Tourism Alliance
- Finger Lakes Visitor's Connection
- FIRST Robotics – Penfield
- Five By Five Music
- Floreano Convention Center
- Flower City Arts Center
- Friends of Ganondagan
- Ganondagan
- Genesee Country Village & Museum
- Genesee County & GLOW Workforce Development Board
- Genesee Transportation Council
- Genesee Valley Greenway State Park
- George Eastman Museum
- Geva Theatre Center
- Golisano Autism Center / Autism Up
- GRASA – Greater Rochester After School Alliance
- Greater Rochester Chamber of Commerce
- Greater Rochester Enterprise
- Greater Southern Tier BOCES
- Greece Central School District
- Helen Barrett Montgomery School #50
- Humphrey Nature Center at Letchworth State Park
- Nickerson LLC
- NYS Dept of Environmental Conservation
- NYSCATE
- Ontario County IDA
- Optimax
- REI
- RG&E
- RMSC
- RMSC Board
- RMSC Council
- Roberts Wesleyan College
- Roc 2025
- ROC Brewing Co.
- Roc City Coalition
- RocGrowth
- Rochester A-List / ROCConnoisseur
- Rochester Academy of Science – Astronomy Section
- Rochester Accessible Adventures
- Rochester Brainery
- Rochester City Ballet
- Rochester City School District
- Rochester Contemporary Art Center
- Rochester Film Festival
- Rochester Institute of Technology
- Rochester Institute of Technology – Photography Department
- Rochester Institute of Technology – Delta Environmental
- Rochester Institute of Technology – Museum Studies
- Rochester Institute of Technology – Saunders College of Business
- Rochester Latino Theatre Company
- Rochester Philharmonic Orchestra
- Rochester Public Library
- Rochester Public Market
- The Humane Society of Rochester
- The Nature Conservancy
- The Penthouse at One East Avenue
- The Strong
- ThinkOut
- Tipping Point Communications
- Tommyrotter Distillery
- Town of York Historical Society
- Uber Eats
- United Way
- University of Rochester
- University of Rochester – Buildings & Grounds
- University of Rochester – Institute of Optics
- University of Rochester Medical Center
- UR Medicine Golisano Children's Hospital
- Vanishing Sun
- VeRacity VRcade
- Vertical Insite
- Visit Finger Lakes
- Visit Rochester
- Watkins Glen Chamber of Commerce
- Wayne County Tourism
- Webster School District
- Western NY Astronomy FB Group
- Whitworth Ferguson Planetarium
- Wickham Farms
- WICSD
- Willow Domestic Violence Center/ Finger Lakes Community College
- WXXI
- Wyoming County Chamber of Commerce & Tourism
- XLR8
- Yale School of Management

**NEXT MEETING
JULY 13, 2023, 4PM
ZOOM**





Stay Informed!

Follow us on Social:



#RocEclipse2024

Sign up for our Newsletter



Questions?

Contact:

Dan Schneiderman: dschneiderman@rmsc.org