

CASTING LIGHT ON THE GREAT NORTH AMERICAN ECLIPSE OF 2024

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Wayne High School
Huber Heights, Ohio USA



OUTLINE

- I. Introduction
- II. Background Information
- III. JPL/NASA/STAR Resources
- IV. Ways to View the Eclipse
- V. NGSS and the Eclipse
- VI. *Great North American Eclipse of 2024
Miami Valley Survey*
- VII. *Share-Out*

INTRODUCTION

- Geography and Science Teacher
- JPL Solar System Ambassador
- Six eclipse events in three counties
- Author of two commentary pieces on the Great North American Eclipse of 2024



A screenshot of the Taylor & Francis Online article page for "Commentary: Planning for the Great American Eclipse of 2024" by Kurtz Miller. The page shows the article title, author name, and publication details. It also includes a "Related research" section with a link to "Editor's Corner: Solar Eclipses From Other Points of View" and a "Notes on contributors" section for Kurtz Miller, who is identified as a science teacher at Huber Heights City Schools in Huber Heights, Ohio. The page layout includes a navigation bar at the top, a search bar, and various interactive elements like "Cite this article" and "Read this article".

ECLIPSE RESOURCES

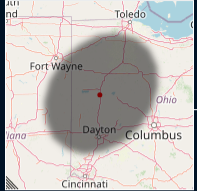
The Total Solar Eclipse of April 8, 2024

■ Glare ■ Stars and Planets ■ Outlines ■ Study Baily's Beads ■ Study Shadow

40.46783N 84.18050W
Botkins, OH

Scene Corona round1 Instructions

Select Location
Select Another Eclipse
Return to Eclipse2024.org

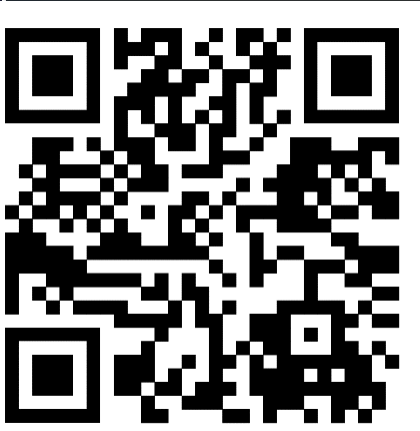


Shadow Map
60°

Zoom: 1.0



The main simulation area shows a total solar eclipse over a dark horizon. The sun is a small white circle with a dark ring. The sky is dark blue with some stars. The horizon has 'S' and 'W' markers. At the bottom, there are two horizontal sliders for 'Time' and 'Mag/Obs'. The 'Time' slider is at 3:11:26pm EDT. The 'Mag/Obs' slider shows 102.6% Mag and 100% Obs. A 'Standard' button and an 'EDT' dropdown are also present.



Eclipse2024.org Simulator

ECLIPSE RESOURCES

40° 22' 54.63" N <-> 40.38184° 3m 58.0s (total solar eclipse)
84° 23' 11.07" W <-> -84.38641° 3m 58.5s (lunar limb corrected)

Umbral depth : 99.93% (91.0km)
68m (222ft)

Path width : 182.0km (113.1mi)
292.0m (959ft)

Observation : 100.00%

Magnitude at maximum : 1.02659
Moon/Sun size ratio : 1.05342
Umbral vel. : 0.921km/s (2060 mph)

| Event (AI=69.1s; alt.=292m) | Date | Time (UT) | Alt. | Azi | P | V | LC |
|-------------------------------|------------|------------|-----------------------|--------|------|------|-------|
| Start of partial eclipse (C1) | 2024/04/08 | 17:54:01.6 | +57.0° | 186.8° | 230° | 04.5 | |
| Start of total eclipse (C2) | 2024/04/08 | 19:09:05.6 | +51.6° | 217.6° | 051° | 11.2 | -0.5s |
| Maximum eclipse (MAX) | 2024/04/08 | 19:11:04.8 | 51.6° with refraction | | | | +0.0s |
| End of total eclipse (C3) | 2024/04/08 | 19:13:03.6 | | | | | |
| End of partial eclipse (C4) | 2024/04/08 | 20:25:36.5 | +40.6° | 246.1° | 053° | 11.6 | |



Google Map Eclipse Viewer

ECLIPSE RESOURCES

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Resources

Eclipses

NASA studies solar eclipses from the ground, in our atmosphere, and in space, influencing solar and Earth science.



total solar eclipse!

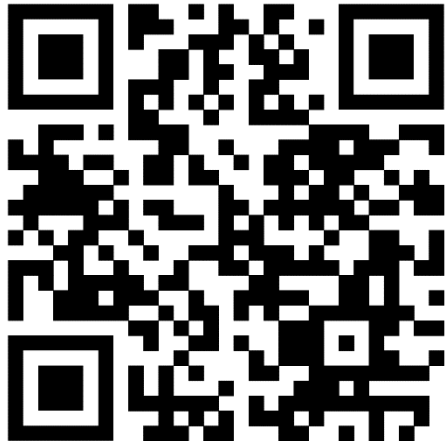
JPL & NASA Sites

ECLIPSE RESOURCES

2024 Solar Eclipse



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[Frequently Asked Questions](#)
[Guidance for Solar Eclipse Day](#)
[Resources for Administrators and Educators](#)

...e the site of a total solar eclipse. While many portions of the
...rience totality, even those outside the path of totality will
...visions for safe viewing of this once in a lifetime eclipse
...tion.

Workforce has created this page as a resource for educators and
...irricular approaches to educating students and the community
... Ohio on April 8, 2024.

 Department of Education Sign up for Email Updates 

Sign up for our Education Updates

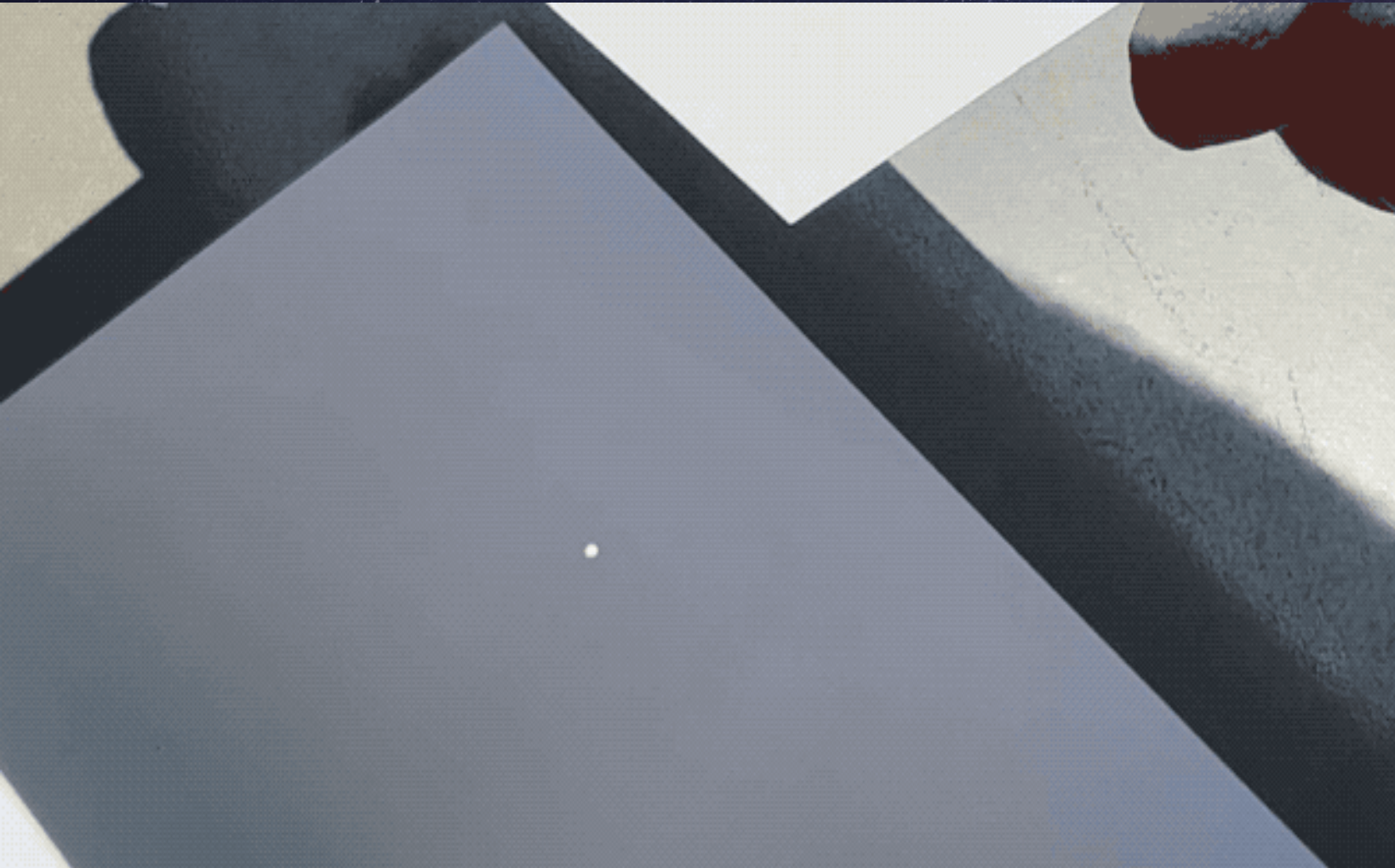
[No Thanks](#) [Remind Me Later](#)

WAYS TO VIEW THE ECLIPSE



Phone Pictures -- FREE

WAYS TO VIEW THE ECLIPSE



WAYS TO VIEW THE ECLIPSE



1:25 PM

Author, Nikon camera

Phone Camera -- FREE

WAYS TO VIEW THE ECLIPSE



reiff@rice.edu, used with permission

Eclipse Glasses -- <\$1-\$3

WAYS TO VIEW THE ECLIPSE



richardsont@cofc.edu

Safe Solar Viewer (SSV) -- <\$10

WAYS TO VIEW THE ECLIPSE



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Solar Binoculars -- <\$500

WAYS TO VIEW THE ECLIPSE



Author, Nikon camera at 30X zoom

Advanced Digital Camera -- <\$500

WAYS TO VIEW THE ECLIPSE



NO COMMERCIAL ENDORSEMENT

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SunSpotter -- <\$600

NGSS AND THE ECLIPSE



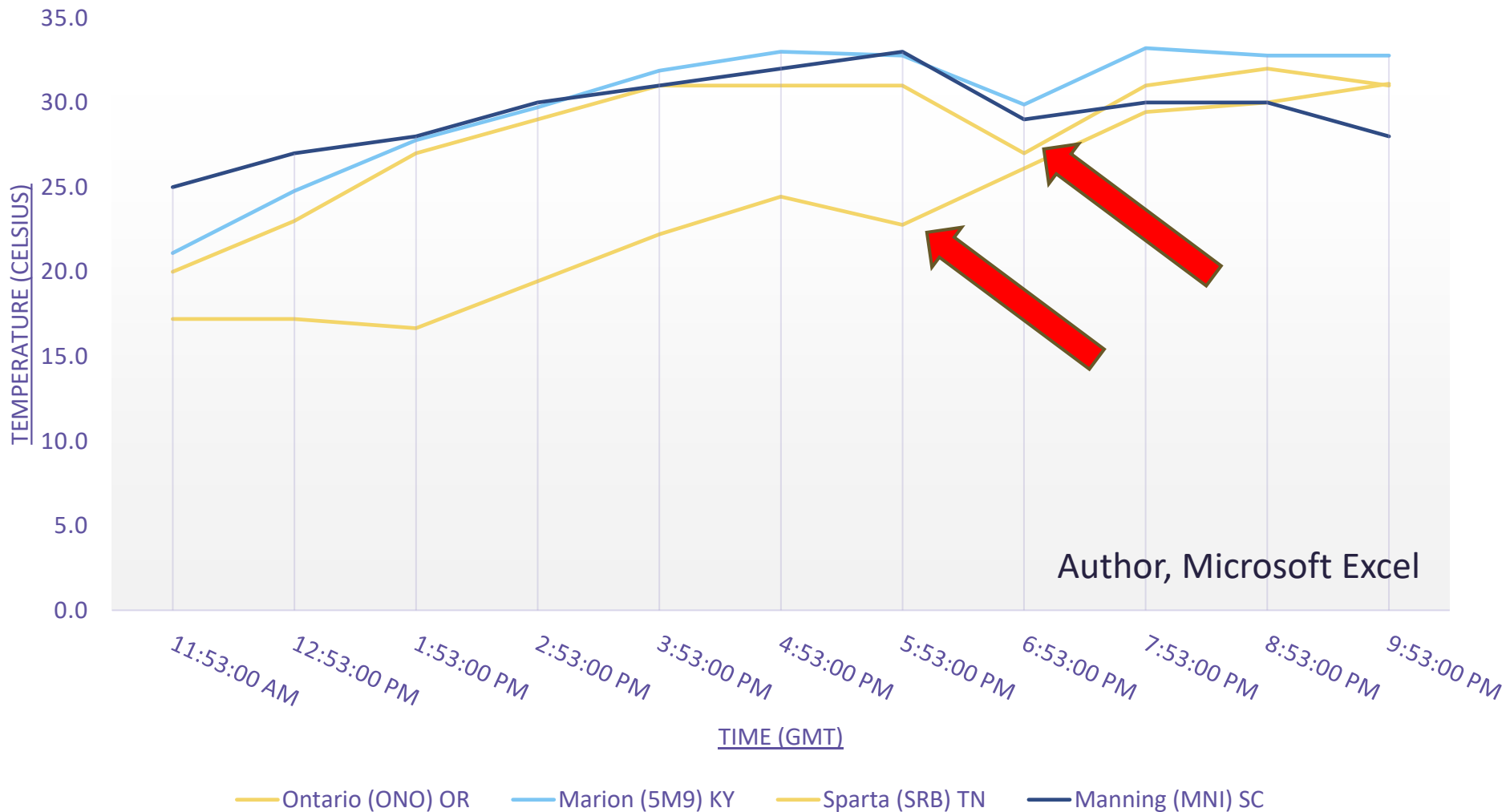
Coronado Solar Telescope
-- \$900-\$7,000

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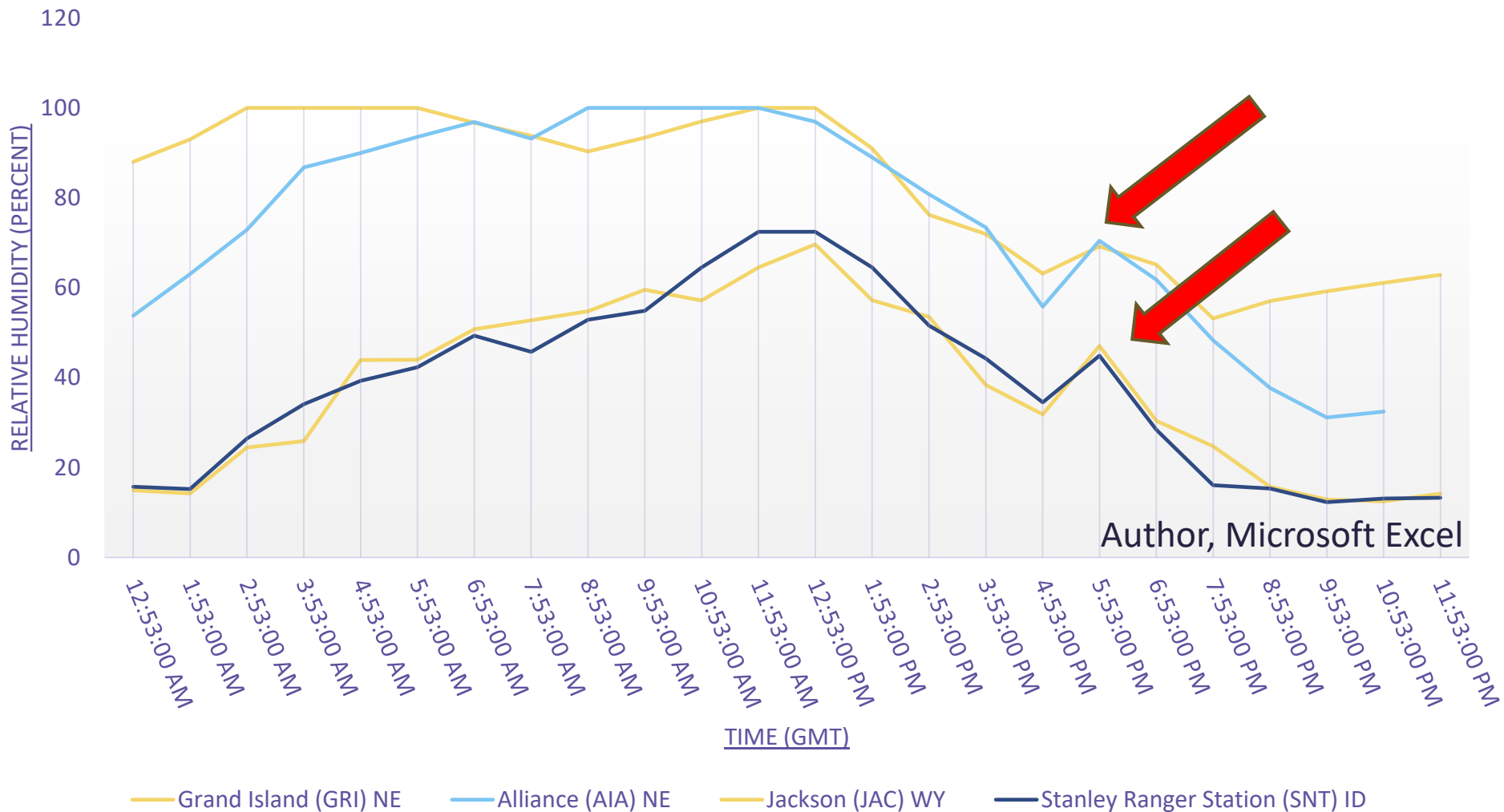
ECLIPSE TEMPERATURE CHANGES

ASOS Temperature Data for the Great American Eclipse of 2017

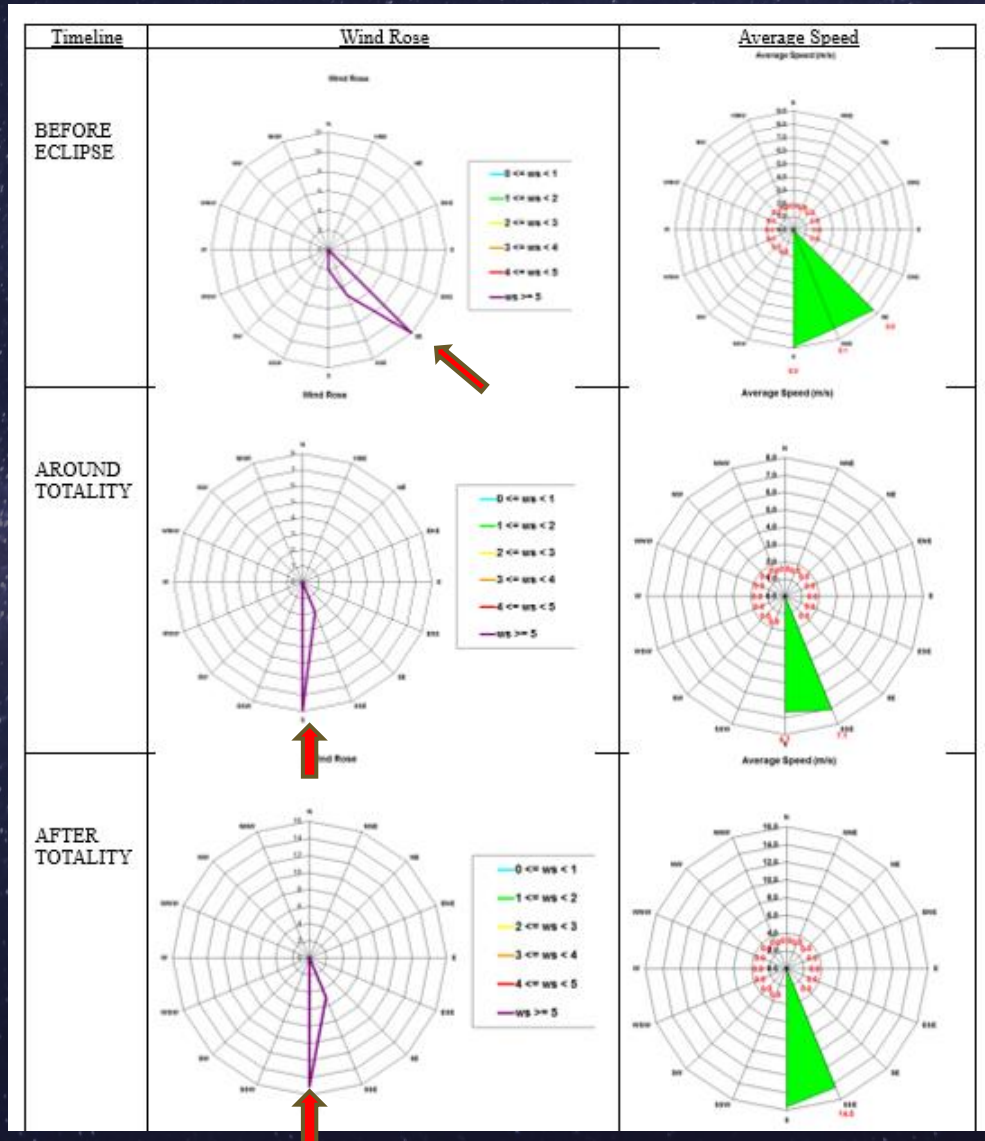


ECLIPSE TEMPERATURE CHANGES

ASOS Relative Humidity Data for the Great American Eclipse of 2017



ECLIPSE TEMPERATURE CHANGES





Choose your protocol:

- [Eclipse](#) 
- [Clouds](#) 
- [Mosquito Habitat Mapper](#) 
- [Land Cover](#) 
- [Trees](#) 



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NASA GLOBE PROJECT

 THE GLOBE PROGRAM



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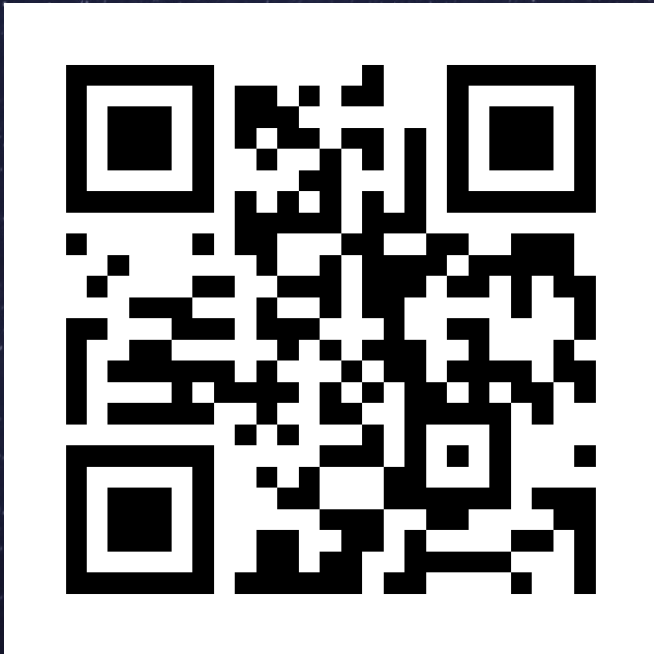
What is GLOBE Eclipse?



GLOBE Eclipse is a temporary tool in the GLOBE Observer app ([details about downloading the app](#)) that will help you document air temperature and clouds during an eclipse. The tool is not visible in the app on a regular basis, but is only opened up when a solar eclipse is happening somewhere in the world. The Eclipse tool will prompt you to take air temperature measurements using a meteorological thermometer, as well as taking regular observations of sky conditions using the [Clouds](#) tool, and an observation with the [Land Cover](#) tool to characterize the vegetation near the data collection site. For more details about equipment



MIAMI VALLEY ECLIPSE SURVEY



<https://arcg.is/bn1er0>

SHARE OUTS

- *What would you like to share?*
- *What questions do you have?*
- *What resources or materials do you plan to use?*
- *How can you involve students at home?*

THANK YOU!



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THE ANNUAL ECLIPSE OF 1994

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Canal Winchester, OH USA
Mr. David Chestnut, Physics/Chemistry

