The Earth Science Angle: Study eclipses as a volunteer observer with GLOBE

The Earth is solar-powered. The temporary blocking of the Sun’s light during an eclipse has an impact on the atmosphere that we can observe with our senses and simple instruments.

During an eclipse, you as a volunteer scientist are able to:

• Observe how the eclipse changes atmospheric conditions near you

• Contribute to a citizen science database used by scientists and students to study the effects of eclipses on the atmosphere

• Provide comparison data even if you are not in the path of maximum eclipse

Far left: Example graph of data collected by a single observer via the GLOBE Observer app during the eclipse on 21 August 2017. (Credit: GLOBE)
Left: Aggregate data from volunteer scientists in Casper, WY on that date.
How can you help collect data?

• GLOBE Eclipse uses the platform of the GLOBE Observer app, part of the long-standing Global Learning and Observations to Benefit the Environment (GLOBE) Program. 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.

• For the eclipses in 2023 and 2024, we are also looking to add observations of wind speed and direction. Visit the GLOBE Observer Eclipse page for more details about equipment needed, how to take observations, and answers to frequently asked questions.

Top left: A mobile phone, solar viewing glasses, and a simple thermometer ready for observing the 2020 eclipse in Argentina. (Credit: Marta Kingsland) Right: The landing screen for the GLOBE Eclipse tool. Bottom left: Taking clouds observations with the GLOBE Observer app. (Credit: GLOBE Clouds Team at NASA LaRC)
Who can participate?

Anyone in a GLOBE country is able to collect data using the GLOBE Observer app. We encourage participation by:

• Interested individuals
• Families
• Schools
• Informal educators hosting programs at libraries, museums, nature centers, etc.

Questions? Visit the GLOBE Observer Eclipse page or contact us for more information.