FAQ: GLOBE Eclipse for Libraries

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FAQ: GLOBE Eclipse Libraries

This FAQ is designed to answer common questions from library staff about the GLOBE Eclipse Library Kit and the GLOBE Observer App. Questions or comments? Contact libraries@strategies.org.

Eclipse Questions

Q. My team is having a discussion of Time of the Event. According to Google the Event will happen here in AZ.10:29 am MDT Oct 14, 2023. The time here is currently on Pacific time and AZ does not change time. Will the time in AZ for Annularity starting be 9:30 am or 10:29 am? Some of our libraries that are participating open at different times.

A. Time and Date has a great map that shows local time. Go to the following link, click on any point on the map or enter a location in the search box and it will show local time for that point: https://www.timeanddate.com/eclipse/map/2023-october-14

Q. As time gets closer to the eclipses, can the path change? All along, we were in the 80-85% range and today we discovered we're in the 71% range. I've had this site bookmarked for several months and this is where we got our info: https://eclipse2024.org/2023eclipse/eclipse-cities/city/23973.html?searchqry=Starkville+Mississippi%2C+USA

A. Eclipses and their paths can be accurately predicted long in advance. It's hard to know why the information changed on the page bookmarked. Because it was bookmarked several months ago perhaps there was a problem with the search that was fixed. Other websites (e.g., Time and Date) also show Starkville, MS, in the 71% magnitude for the 2023 annular eclipse, so the current information that you have (71%) is accurate.

GLOBE Observer App

Q. When will the GLOBE Observer Eclipse button be open in the app to start adding eclipse data?

A. GLOBE Eclipse is In Live Mode beginning April 1. Volunteers can submit Eclipse data to GLOBE between April 1 and April 8. It moves to review mode on April 9. Volunteers can still see and submit their data in the Eclipse tool. The Eclipse tool will be retired on May 8 (won't see it in the app). Data will still be available under My Observations, or if unsubmitted, in the queue to submit. To find your queue of unsubmitted data, click on the "graph" icon at the bottom left of the screen.

Q. What was practice mode?

A. In practice mode (March 22-31, 2024), air temperature data entered was not sent to the GLOBE database, but your clouds and land cover observations submitted were. This was a great opportunity to practice taking observations with your air temperature thermometer. On April 1 air temperature entry went live and all data submitted will go into the GLOBE database.

Q. Why isn't the GLOBE Observer app updating on my device with the Eclipse tool?

A. If the app is not updating with the Eclipse tool, try the following:

- **Check for updates to your device's operating system.** If there are updates, install them and try opening the app again. You may need to do a hard close of the app or close and re-start your phone before it triggers the update to show the eclipse tool.
- Check your device's settings**: location services should be turned on and enabled to be used by GLOBE Observer** (shown in the alphabetical list of apps under "Observer"). The Eclipse tool is geographically bounded to only show up in the areas where the eclipse will be visible, roughly North and South America for the 2023 and 2024 eclipses, if your device is not correctly sharing your location it could interfere with the eclipse tool being displayed.
- If neither of the above work, try deleting and reinstalling the app.
- If none of the above work, contact https://observer.globe.gov/about/contact-us:
    - Describe the problem.
    - Include your device's model and operating system version (e.g., iPhone 11 Pro, iOS 16.6.1).
    - Identify the app version and build number. Find this by clicking on the ? at the bottom of the screen, scroll down to the bottom to the light gray text. The first line is version and build (e.g., Version 3.0.0, Build 6210945).

Q. What can people collect through the app in the weeks before and after the eclipse? And what info will people collect during the eclipse?

A. People can take observations now using the GLOBE Observer Clouds and Land Cover tools, which are always available. When the Eclipse tool opens, it includes the same observations as GLOBE Observer Clouds and Land Cover, plus air temperature. It's recommended to practice taking at least a few observations using the Eclipse tool when it opens so that you can become familiar with the tool and how to take and enter air temperature observations.

Q. How do I create a GLOBE Observer account?

A. Here are the steps to create an account using the app. You can also create an account on the GLOBE website.

1. You need to be connected to wifi to download the app and create an account, and to upload observations. Wifi is not needed to take observations, which are stored in your phone and can be uploaded when connected to wifi.
2. Download the app to a smart phone or tablet at the Apple App store (iOS) or on Google Play (Android).
3. Open the app and create an account. You can select whether you want to create a citizen scientist or an educator account. Read about the different accounts here. If you pick "citizen scientist" for your account type, you can always change this later to an educator account.
4. To activate your account, you will need to verify your email. You will receive an email with a link that you need to click to verify your email. Note: The email is sent immediately when you create an account, so you will need access to your email to activate the account. This is important to remember if you have patrons create their own accounts during a program - they will need to access their email to activate their account.
5. Use the email and the password associated with your account to login to GLOBE Observer. The same email and password are used to login to the GLOBE website at https://www.globe.gov/

Q. Is the GLOBE observer app available for non-Apple phones or tablets?

A. Yes, you can download the app in Google Play, as well as in the App Store for iOS.

Q. We're fortunate to have four tablets. Would it be possible/desirable to have the app open on more than one device to let more kids make observations?

A. Yes, you can have the app signed in with the same account on more than one device! The only possible conflict is if the observation timestamp is the exact same minute by the same user account at the same site - the database will treat that as the same observation, and will not accept both sets of data/photos into the database. But if the observations are staggered, even if by only a few minutes, it shouldn't be a problem.

Q. How do I change settings for my GLOBE Observer account?

A. Open the app and scroll down to the bottom of the screen. Click the “gear” button where you can make updates related to:

- Login/Logout: Logout and Login to a different account, forgot/change password, create a new account, request deleting an account
- App Settings: Opt-in/opt-out for notifications (including receiving a matching satellite image for 1cloud observations), change the app language (14 languages), and connect GLOBE Observations to a SciStarter account.
- GLOBE Teams: Join a GLOBE Team. To join the GLOBE Eclipse Libraries team use the following referral code: GLIDFJS3.

GLOBE Eclipse

GLOBE Eclipse Observations

Q. What is GLOBE Eclipse?

A. 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 a solar 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.

Q. What is being observed with GLOBE Eclipse and how?

A. 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. Go to the GLOBE Eclipse Overview page for more details.

Q. Is there a video showing how to take the observations?

A. Yes! There are several resources at https://observer.globe.gov/eclipse. These include a short video overview (less than 1 minute) on How to Observe Eclipses with GLOBE (Watch this video in English and Mira este video en español.) with GLOBE

Tips for Observing the Sky

Q. What tips do you have for taking GLOBE Clouds observations?

A. Following are some great ways to get started, and you can find a slide deck with Cloud Observation Tips for Libraries to download or make a copy. Don't worry about being perfect - NASA wants your best answer, and having data from multiple people is where the "crowd" in crowd-sourcing data comes in.

- **Safety first!** Never look directly at the sun. Select a safe location for making sky observations (e.g., away from traffic). Always be aware of your surroundings and look around before you look up at the sky.
- **Use the GLOBE Observer app.** The app tutorial and step-by-step protocol are designed to include everything you need to know and ensure everyone is following the same steps so that consistent data is collected. The Clouds tool also includes a Guided Cloud Identification Wizard, which is useful for new cloud observers. Observing is a skill; the more you practice, the better you will get.
- **Describe your sky.** Looking up, what do you see? Find the deepest shade of blue: what color is the sky? Are there clouds? If not, there is a category of "no clouds" that is important to report. If there are clouds, what are some words you might use to describe their shapes (e.g., fluffy, puffy, wispy, curly, layered, flat). Can you see through any of the clouds in your sky? Are they more transparent or more opaque? Check out more questions and suggestions for observing clouds in the GLOBE Clouds Family Guide.
- The **Sky Window included with your GLOBE Eclipse Library kit** is a field guide that you can use to practice observing the sky. Tips: Observations of the full sky are wanted, but can be overwhelming. Punch out the middle section of the sky window and focus on one section of the sky at a time. Laminate a small number of sky windows to make them more sturdy and keep them at the library to re-use for programs. Link to, download, and print additional copies in English and Spanish.
- The book, **Do you know that Clouds Have Names**, also included in your GLOBE Eclipse Library kit, is a great primer/introduction to clouds, with notes for adults, educators, and caregivers. This is part of the Elementary GLOBE science storybooks, and the Clouds book can also be linked to and downloaded as a PDF or eBook, and in several languages (English, Spanish, Arabic, French, German, and Norwegian).

Following are links to several FAQs related to sky observations and GLOBE Eclipse.

GLOBE Clouds Family Guide: Includes information and tips for observing clouds with families, or groups of different ages. Learn about satellite matches, find hands-on activities, and short videos of scientists talking about clouds and their research, and career connections.

GLOBE Eclipse FAQ (scroll to the bottom of the page for the FAQs).

Making Cloud Observations: Tips and Tricks Using the GLOBE Observer App

Q. We have had clear skies for the past week and haven't been able to take cloud observations. Is there another way to practice taking observations?

A. No clouds (clear skies) is data, so please submit observations of your clear skies! You will observe sky conditions, which includes sky color and visibility, as well as cloud cover (how much of the sky is covered by clouds), cloud type, and cloud height.

Q. What happens if I make a mistake or identify the wrong cloud type?

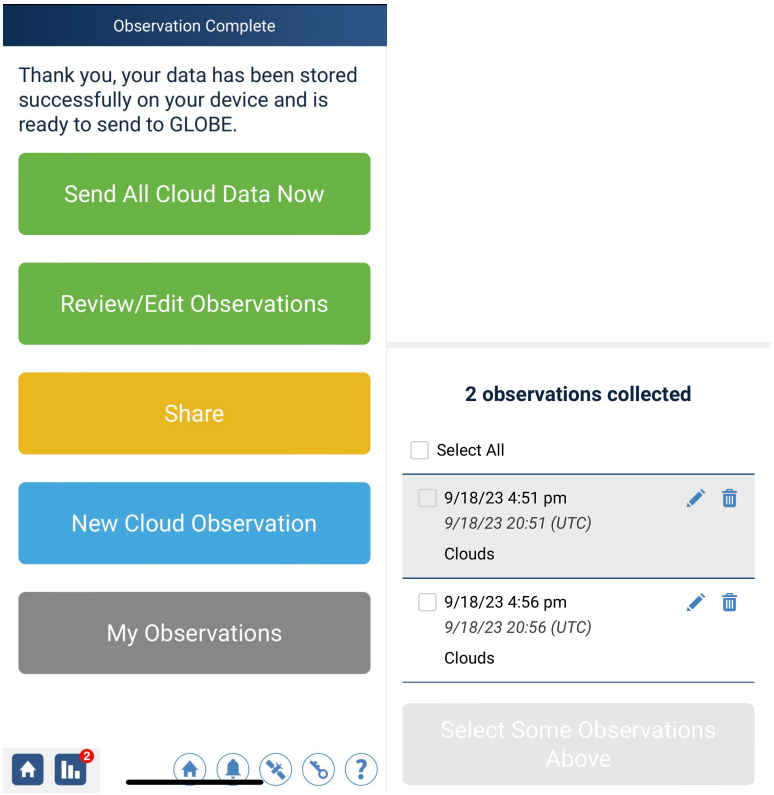
A. Don't worry about being perfect - NASA wants your best answer, and having data from multiple people is where the "crowd" in crowd-sourcing data comes in. And remember, observing is a skill and the more you observe the better you will get at taking observations.

If you realize that you need to make a correction to an observation that is stored on your device and not yet submitted, you can edit that observation. You can get to the edit observation page by clicking the "bar graph" icon when you scroll to the bottom of your screen (next to the next to the home button). If there is a number next to the graph, that indicates how many observations are saved but not submitted.

Q. How can I tell that my observations have been uploaded/submitted to the GLOBE database?

A. When you submit your observation a confirmation message is displayed in the app that your observation was successfully uploaded. You can also click on "My Observations" in the app and see your submitted observations.

One way to tell if you have observations saved in the app, but not yet submitted - scroll to the very bottom of the screen. The icon next to the home screen button is a bar graph (see below) that will show a number next to it if you have saved observations that need to be submitted. Clicking on the icon takes you to a page where you can select an observation and either edit, delete, or submit it.



Above: screenshots from the GLOBE Observer app. Left - The bar graph icon at the bottom of the screen, has the number "2" in red next to it. Clicking on the icon takes you to a screen (right) where you can select an observation to submit, edit, or delete.

Frequency of Observations

Q. How frequently should observations be made on eclipse day?

A. Following is an ideal schedule. The app will have popup reminders according to this schedule, but don't worry if you miss an observation. And don't take observations during maximum or totality - please experience this event!
   - For two hours before and after totality or maximum eclipse: air temperature every ten minutes; Clouds every 30 minutes.
   - In the 30 minutes before and after totality or the maximum eclipse: increase observations to 5 minutes for air temperature and 15 minutes for clouds.

Thermometers

Q. What kind of thermometer should I use to take air temperature measurements?

A. Libraries that received the GLOBE Eclipse Library Kit received a Taylor 1441E digital thermometer for taking air temperature measurements. (Note: Libraries selected in July 2023 by application to receive the kit; the application is now closed, but a virtual kit is available in the GLOBE Observer Library Guide) We chose that thermometer because a library could potentially use it to do additional investigations beyond the eclipse. For example, the 1441E includes two sensors, which can be used to measure air, water, or soil temperatures; it also records daily maximum and minimum temperatures for up to 7 days. If you are interested in going further with GLOBE, you can complete additional GLOBE Atmosphere training to take and submit air temperature (7 day max/min and current air temperature).

However, there are a variety of thermometers that can be used for taking air temperature measurements for GLOBE Eclipse. The simplest is a liquid-filled thermometer, but inexpensive digital thermometers are also available. Ideally, you should look for a thermometer designed for measuring weather conditions. You do not want to use a medical thermometer, but those advertised as instant-read for cooking may work, especially if they have a digital display. There are also a number of temperature data loggers and external sensors that plug into smartphones, at a variety of price-points. If you have a hand-held weather meter or a mounted weather station at your site, those can also be used for data collection.

Q. Is a liquid-filled thermometer the same as wet bulb temperature?

A. No. Wet-bulb temperature is the lowest temperature to which an object can cool down when moisture evaporates from it. It's calculated using data on air temperature and humidity.

Q. How do I use the Taylor 1441E digital thermometer?

A. The Taylor 1441E thermometer has two sensors with each sensor at the end of a 3 meter/9.9 foot cord. To take air temperature observations for the eclipse, pick one sensor (left or right) and toggle the corresponding left or right "On" button to turn it on or off. Select Celsius or Fahrenheit scale, by clicking on the small button marked ^{o}C/^{o}F (you can use the end of one of the sensors to click the small button). The LCD display will display the current temperature. The display will turn off after 10 minutes, but the sensors will continue to measure temperature. Locate the sensor in shade (not in direct sunlight) to get the current air temperature. The Taylor 1441E digital thermometer should also include a small instruction sheet. You can find a PDF of the instructions for the 1441E in our Basecamp.

GLOBE Clouds Observations

Satellite Match Reports

Q. I received the satellite match report a few days after I submitted my observation and see that my observations match what was in the satellite report. Why does NASA need citizen scientist observations if they can get this information from the satellite?

A. Putting together the view from above (the satellite's perspective looking down at Earth) and from below (the observer's perspective looking up at the sky) gives scientists a more complete picture of the atmosphere. Our view from the bottom up to space gives us the advantage to see the bottom of clouds. It can limit our ability to see clouds at higher levels, especially if the lower-level clouds are very thick and cover almost the entire skies. Satellites, which can see the higher clouds, can note if there were clouds higher than those you reported. Does this mean your observations are wrong? Not at all! It is a great time to see if the satellite was able to detect clouds at different heights. Sometimes this is not easy for satellites to do.

Watch these videos to learn more about satellite matches:

- In this video update from August 2022, the GLOBE Clouds science lead, Marilé Colón Robles, **talks about the importance of citizen scientist observations of clouds.** The link should take you directly to her presentation, which is at 3:21. In this update Marilé is talking about this research paper: Do Citizen Science Intense Observation Periods Increase Data Usability? A Deep Dive of the NASA GLOBE Clouds Data Set with Satellite Comparisons.
- NASA scientists Marilé Colón Robles, Tina Rogerson, and GLOBE Observer designer and science writer Heather Mortimer who **share why satellite matches to GLOBE cloud observations are important and how to read a satellite match table.**

Read more about satellite matches:

- How to Compare My Cloud Observations with Satellite Data
- https://www.globe.gov/web/s-cool/home/family-cloud-resources/questions-to-consider-as-you-observe-the-clouds-in-your-sky
- How to read the satellite match table: https://www.globe.gov/web/s-cool/home/satellite-comparison/how-to-read-a-satellite-match

Library Programs and Resources

GLOBE Teams

Q. How do I join the GLOBE Eclipse Libraries Team?

A. Login to the app, scroll to the bottom of the screen, click the small gear in the bottom right, and select "Join a GLOBE Team." Enter referral code GLIDFJS3. You can see a map of all our team members at: https://www.globe.gov/web/globe-eclipse-libraries.

Q. Where can I learn more about GLOBE Teams and how to set up a team for my library?

A. Go to: https://observer.globe.gov/do-globe-observer/do-more/teams. After you set up a team, keep a record of the referral code, which is on your team page:

- You can select your team name, the referral codes is automatically generated. Referral codes all start with the letters "GLID."
- If you create a Public team (anyone can join), the referral code is on the team page. Search for team pages at: https://www.globe.gov/globe-community/globe-teams/find-a-globe-team)
- If you create a Private team, the team manager (the person who set up the team) needs to provide the referral code for people to join. To find the code, the team manager can go to Find a Team, login to their GLOBE account (same login used for GLOBE Observer app) and find their team. The team page includes the referral code (**see image - below, which shows for referral code to join the GLOBE Eclipse Libraries Team**).
- Invite your patrons to join your team: Provide patrons with your library team referral code and invite them to join your library team (e.g., on promotional materials, handouts, signs, social media). From the time they join a team, any data entered using the GLOBE Observer app is added to the team's measurements page. They can also create their own teams (e.g., a family team or neighborhood team).
- Click the "gear" icon in the bottom right-hand side of the screen, which opens settings.
- Scroll down and select "Join Team"
- Enter the team referral code

Resources

Q. Are we permitted to make copies of toolkit documents, specifically the cloud guide, for our patrons to promote the program?

A. Yes! There are lots of resources in the GLOBE Observer Toolkit for Informal Educators, and you are strongly encouraged to look at resources under the Clouds and the Eclipse section of the toolkit for resources, printables, and promotional items. There is also a Library Guide, which includes examples of library programs for each of the 5 GLOBE Observer tools (Clouds, Eclipse, Land Cover, Mosquito Habitat Mapper, and Trees).

Promotion

Q. I am advertising the program as collecting data for NASA. Please tell me that is ok to do.

A. Yes! The GLOBE Program is sponsored by NASA, and also supported by NSF, NOAA, and U.S. Department of State. GLOBE Observer is the app of The GLOBE Program. GLOBE Observer citizen science and the GLOBE Eclipse Libraries project are additionally supported by NASA as part of the Science Activation (SciAct) Program.

Webinars

Q. Where can I find recordings of webinars for GLOBE Eclipse Libraries?

A. Recordings and slides are all included in the Archives: Recording and Documents section of our BaseCamp. You should have received an email with a link to join Basecamp. Following are links to access the recordings, slides, and chats. These are also included in a video playlist on YouTube.

December 10, 2023: Two for One: Discussion with scientists Marilé Colón Robles, NASA Langley Research Center, and Trae Winter, ARISA Lab, who talked about why they are excited about library sites that will take observations of both atmospheric conditions (GLOBE Observer) and animal behavior (Eclipse Soundscapes) during the April 8 total solar eclipse. Learn why these co-located observations will make a unique contribution to science. The webinar included a discussion of strategies for program planning related to common challenges including weather and logistics of large public events and engaging citizen scientists.

Sept. 13, 2023: Topics included library plans for the October eclipse, with presentations by Oldham Public Library and North Little Rock Public Library who gave a more in-depth window on their work. There was a walk-through of the GLOBE Eclipse app in staging, overview of some promotional resources that you can use/adapt, and a walkthrough of the Taylor 1441E air temperature thermometer and how to use it.

Aug. 16, 2023: Topics included Updates, Eclipse Safety, GLOBE Eclipse tool, finding local Subject Matter Experts, additional resources for libraries.

May 4, 2023: STAR Net Libraries Webinar on Eclipse Citizen Science, which included an overview of GLOBE Eclipse and Clouds, Library Resources, and going further by taking surface temperature with an infrared thermometer.

Basecamp

Q. Why join the Basecamp?

A. The BaseCamp was set up for libraries selected to receive the GLOBE Eclipse Library Kits. This is a place for participating libraries to be part of a community of practice for GLOBE Observer citizen science. You will find a threaded discussion board (collects messages by topic), group chat (for quick questions, ideas, or news to share with the group), Archives (for webinar recordings and documents), Calendar (where you can find dates and logins for all our webinars and office hours), and also links to social media for The GLOBE Program (follow to keep up with broader news and happenings).

You can also use the Navigation menu at the top of the page to use the following tools:

Ping - Communicate with individuals

Find - Search across the Basecamp

Hey - Find all of your notifications

Activity - See what's happened across the group

My Stuff - Find all your postings, drafts, and boosts

Q. How do I join the Basecamp for GLOBE Eclipse Libraries? Can additional library staff have access to the Basecamp.

A. Participating library POCs were sent an email from Basecamp inviting you to join our project. If you can't find the email, check your spam folder. The email includes the link you need to join. Once logged in, you can change your settings by clicking on your profile at the top right of the screen (including changing your login and how often you receive notifications, update your email address, etc.). Requests to be added to the GLOBE Eclipse Libraries BaseCamp should go to libraries@strategies.org with the following information: name, email, library name and location.

Eclipse Soundscapes and Related NASA Citizen Science

Q. How can I learn about Eclipse Soundscapes and how to participate?

A. The Eclipse Soundscapes Project is a NASA citizen science project studying how eclipses affect life on Earth during the upcoming 2023 and 2024 eclipse events. They are collecting multi-sensory observations and recording sound data, and will also be recruiting volunteers to help analyze the data after the eclipses. A description of all the ways you can get involved, from apprentice to data collector to facilitator, is on their Roles Overview page. It will be especially helpful to combine your GLOBE observations with your Eclipse Soundscapes recording!

The October GLOBE Observer Connect session, NASA Langley atmospheric scientist Jason (Brant) Dodson and Henry (Trae) Winter and MaryKay Severino from NASA Eclipse Soundscapes answered questions about how an eclipse changes Earth's atmosphere and how animals respond to those changes.

Q. Why are scientists interested in getting co-located data collected for Eclipse Soundscape and GLOBE Eclipse?

A. Co-located data collection is data collected at the same place, same time. Project scientists Marilé Colón Robles (GLOBE Clouds) and Trae Winter (Eclipse Soundscapes) talk about this in our Dec 6 library webinar.

Q. What other NASA citizen science projects are related to the eclipse?

A. In addition to GLOBE Eclipse and Eclipse Soundscapes, go to https://science.nasa.gov/eclipses/citizen-science/ for a list of NASA citizen science projects related to the eclipse.