

# GLOBE Learning Session: Overview of GLOBE's New Data Collection eTraining Modules

13 January 2026



# Reminders As You Join Us Today

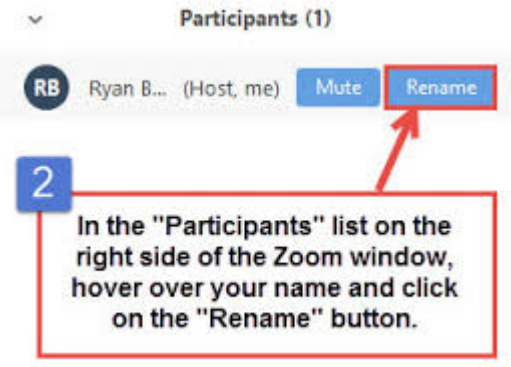
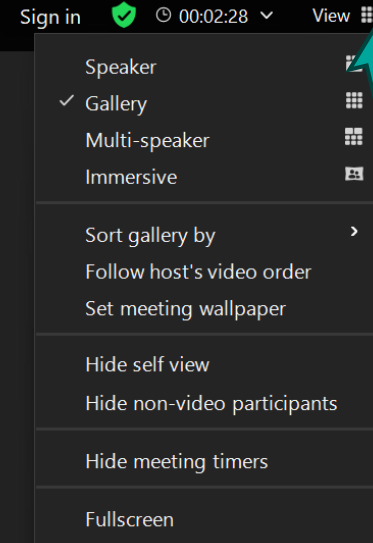
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Pilar Miranda or Carol Musallam  
or  
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Ryan B... (Host, me)

Mute

Rename

2

In the "Participants" list on the right side of the Zoom window, hover over your name and click on the "Rename" button.

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Romanian

Russian

Spanish

Swedish

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Tamil

Telugu

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Captions and translation

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My speaking language: English

My caption language: Raw transcript

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# GLOBE Learning Sessions

## Goals

- Build on the July 2025 Annual Meeting and 30th Anniversary to **celebrate the GLOBE community**
- Continue to **strengthen the connections** across the GLOBE community
- Provide opportunities for GLOBE members to **learn from each other**
- Enhance **engagement with Earth Systems Science**
- Provide ideas and **opportunities to sustain GLOBE** in all regions



## GLOBE Learning Sessions—Upcoming Sessions

- Follow the [GLOBE Website](#) (2025 Annual Meeting) and postings in Mighty Networks
- Upcoming sessions:
  - **UN Institute for Training and Research (UNITAR) Global Diplomacy Fellows:** 18 February 2026
  - **GLOBE Alumni Session 3: Actionable Alumni Engagement Resources and Strategies:** February 2026 (TBD)
  - **Lake Observations from Citizen Scientists and Satellites (LOCSS):** TBD



# Agenda

## **Overview of data collection eTraining modules**

Christi Buffington

Alison Mote

Cassie Soeffing

## **Breakout rooms**

## **Debrief and wrap up**





# Data Collection eTraining Overview

Presenters:

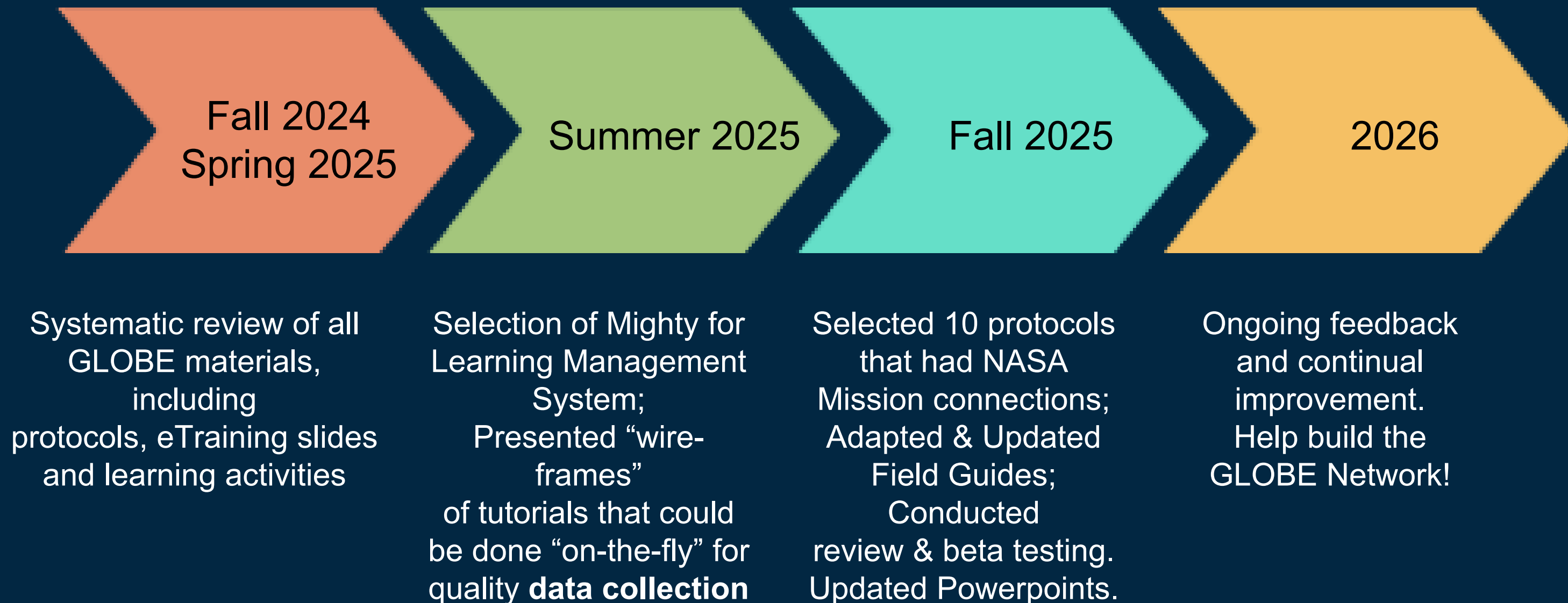
Christi Buffington, Alison Mote, Cassie Soeffing

January 13, 2026. GLOBE Implementation Office



# GLOBE Data Collection eTraining

Understanding its significance and process



# GLOBE Data Collection eTraining

## Thank you

### Reviewers

Kerry Ouellet  
Leana Nordstrom  
Kevin Czajkowski  
Rusty Low  
Cheryl Williams  
Kyra Beneke  
Brendan O'Connor  
Abigail Haas  
Hannah Mair

### Reviewers

Guljemal Toshieva  
Dave Overoye  
Joe Wieclawek  
Cornell Lewis  
Haley Wicklein  
Jennifer Bourgeault  
Jodi Haney  
Brian Campbell  
Brianna Lind

### Beta Testers

Brianna Lind  
Rusty Low  
Becky Boger  
Gillian Bayne  
Dinorah Hudson  
Lucy Robins  
Larisa Schelkin  
Haley Wicklein  
Jennifer Bourgeault  
Jodi Haney  
Brendan O'Connor

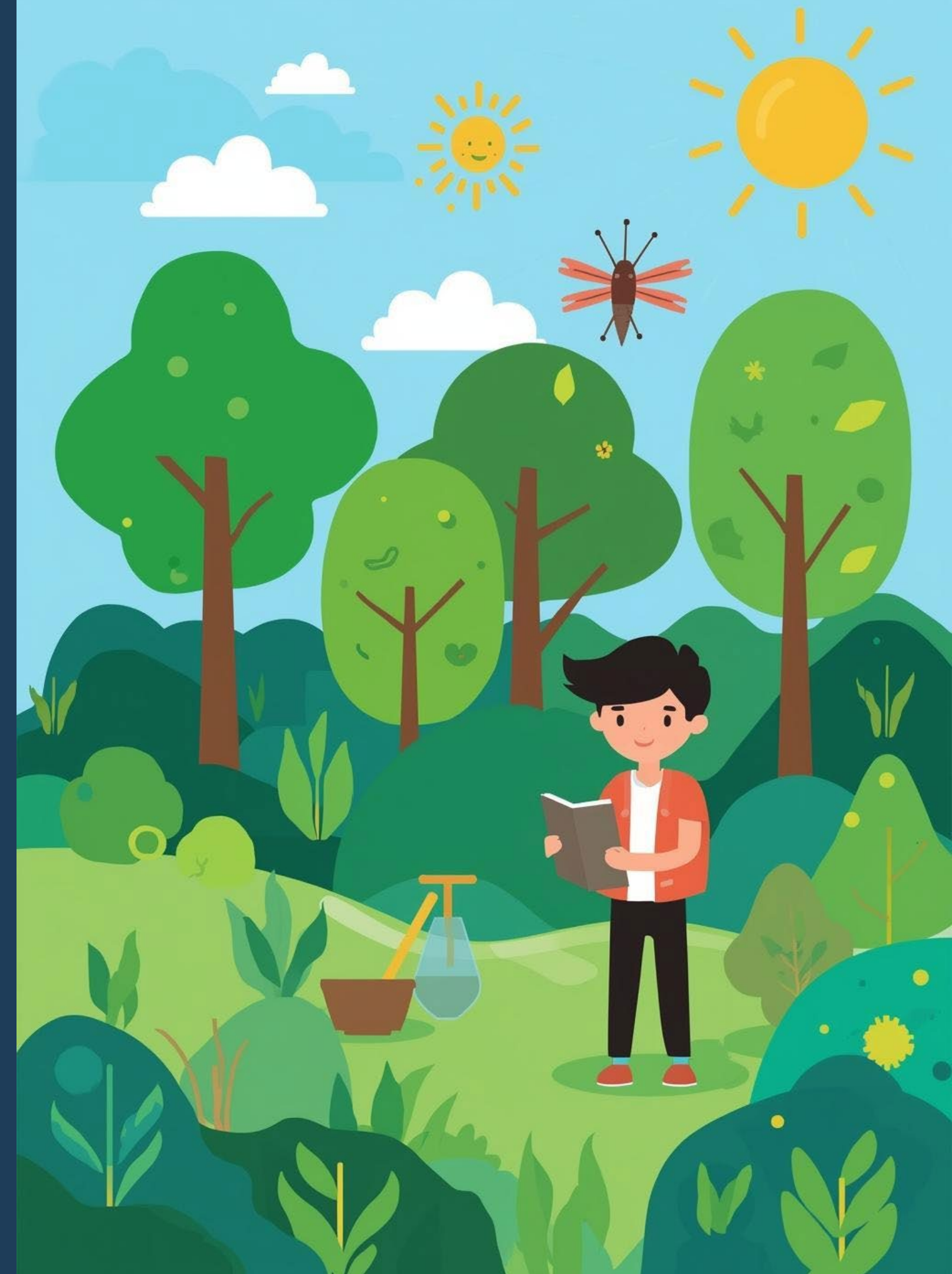
### Pedagogy Guidance

Gillian Bayne  
Dinorah Hudson  
Lucy Robins  
Cassie Soeffing  
Alison Mote  
Christi Buffington



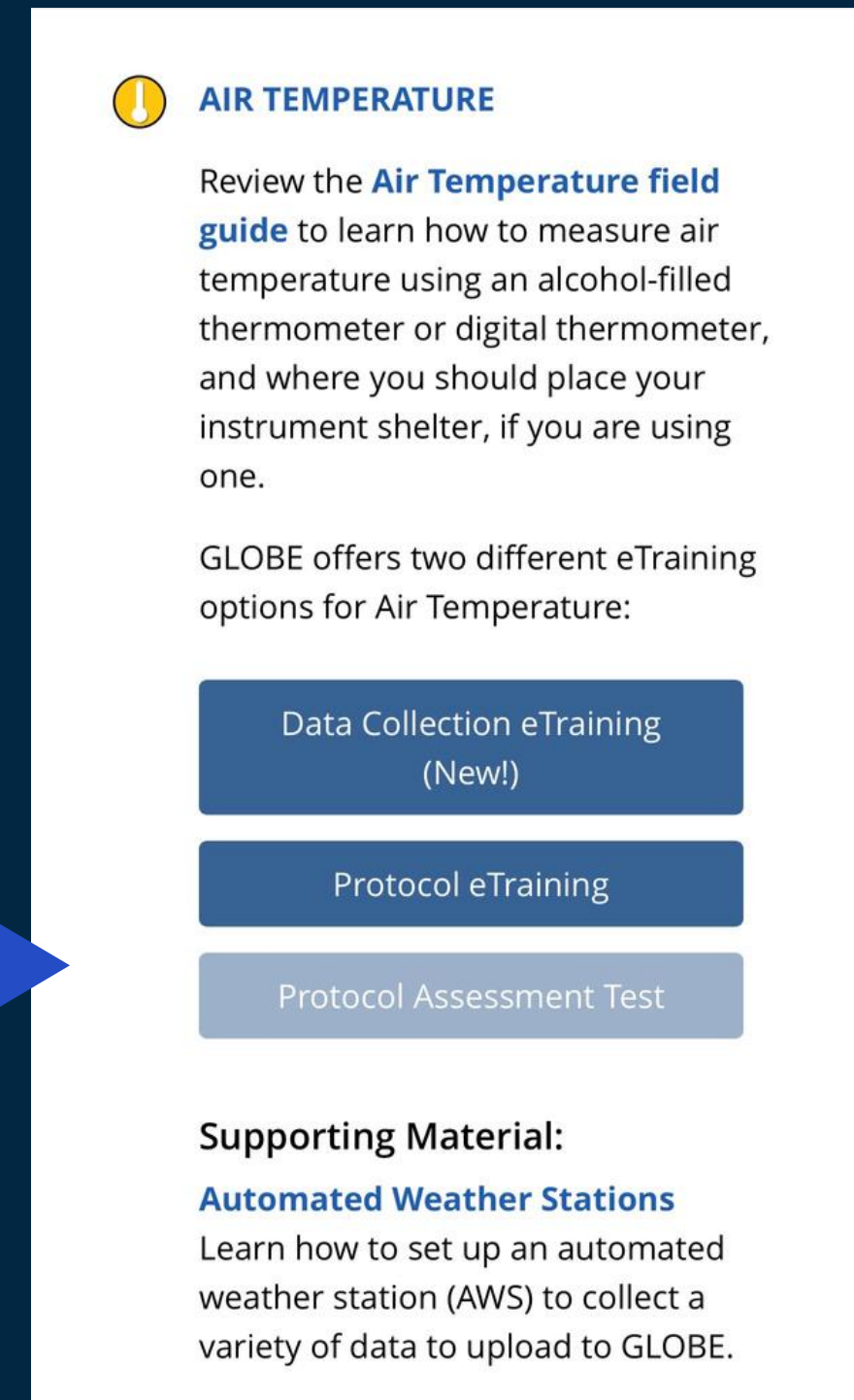
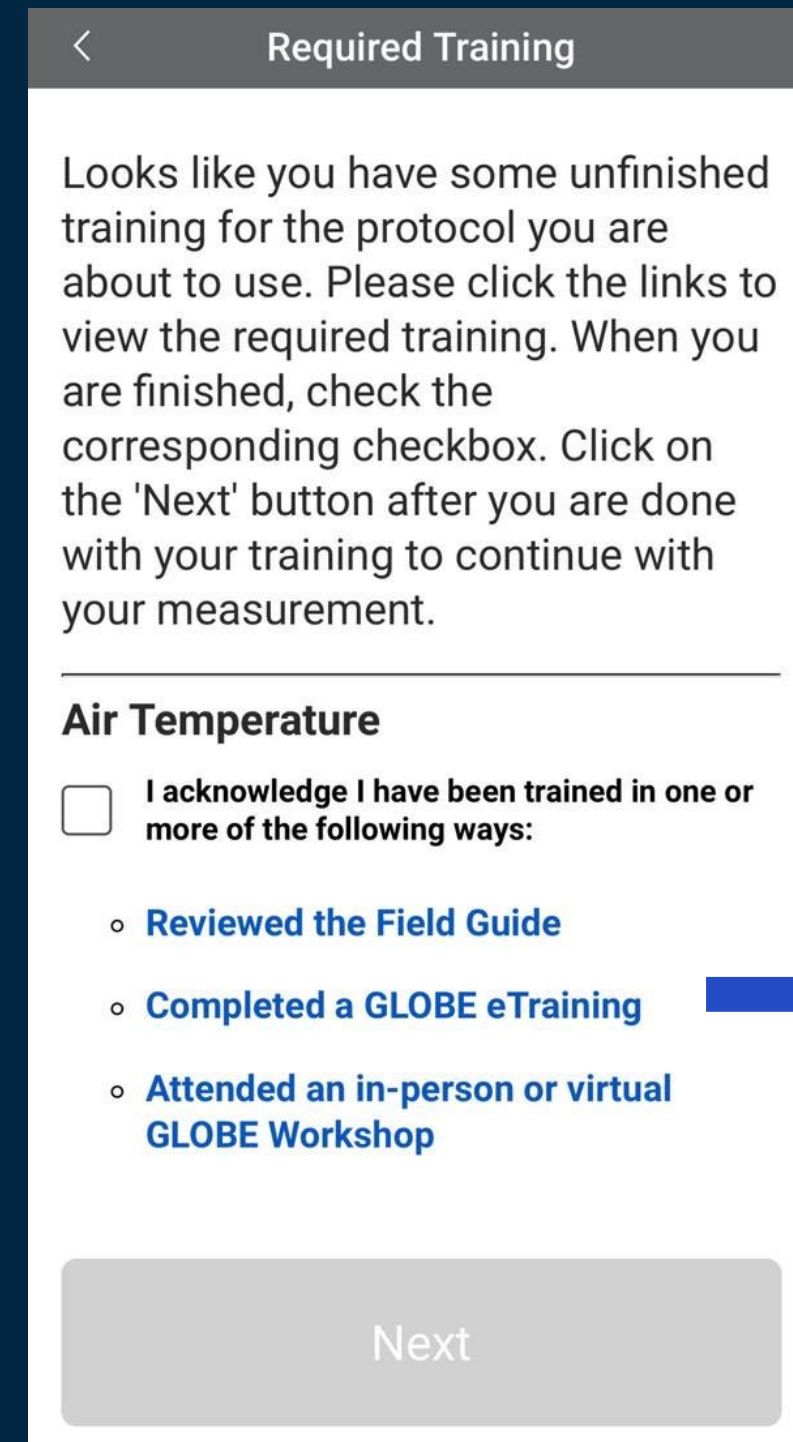
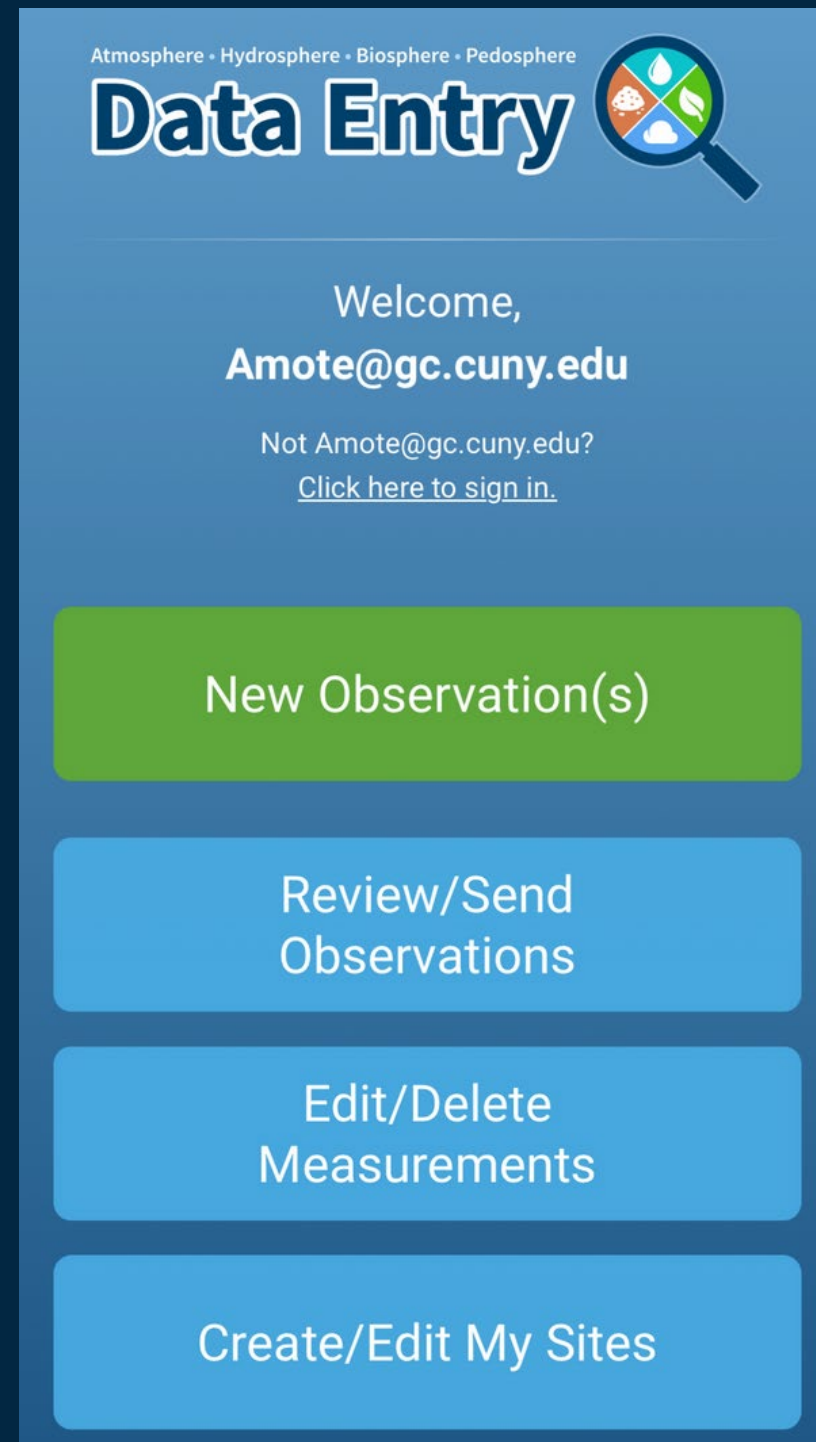
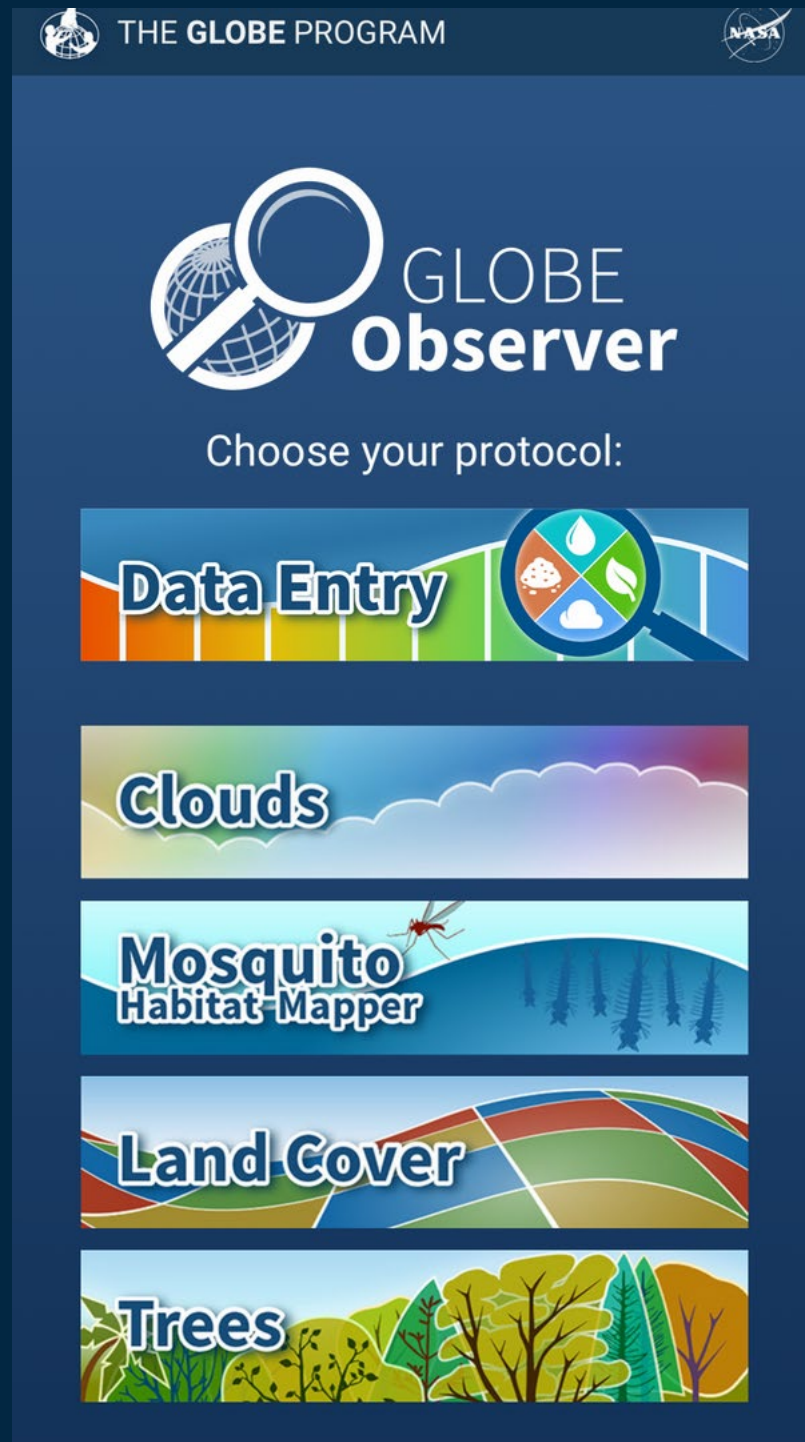
GLOBE eTraining:

Protocol eTraining and GLOBE  
Data Collection eTraining





# GLOBE eTraining Options Available on GLOBE.gov




## Updated Requirements for Data Entry:

- Review the Field Guide
- Full Protocol eTraining and Self-Assessment
- Data Collection eTraining in the GLOBE Network (available for a selection of protocols)



# GLOBE eTraining Options Available on GLOBE.gov

 **GLOBE PROGRAM**  
A Worldwide Science and Education Program

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**GLOBE eTraining**  
[Training Options](#)  
[Atmosphere](#)  
[Biosphere](#)  
[Hydrosphere](#)  
[Pedosphere \(Soil\)](#)

## GLOBE eTraining

To ensure data quality, GLOBE members must complete training before entering measurements into the GLOBE database. **As of December 2025, eTraining requirements have changed. GLOBE members are asked to complete a training in each protocol they plan to use.**



Introduction to GLOBE is now an optional training. Before you start a protocol-specific training, we encourage you to complete the Introduction to that sphere (Atmosphere, Biosphere, Hydrosphere, and/or Pedosphere).


**Before entering data for a protocol**, you must complete **one** of the training options for that protocol:

- Review the Field Guide
- Complete a Data Collection eTraining (New! Available for some protocols only)
- Complete a full Protocol eTraining and Protocol Self-Assessment
- Attend an in-person or virtual [GLOBE workshop](#)

**Learn more about the different [training options](#)** to determine which training is the best fit for your needs.



Please enter data only if you are confident in your ability to collect and enter data. You will be prompted to indicate you are properly trained before entering data into the GLOBE database. [Contact us](#) if you have any questions.


 **Introduction to GLOBE**   
Learn about the various ways you can be involved with the GLOBE Program, GLOBE science investigation areas, and resources and community science opportunities.  
[Protocol eTraining](#) [Protocol Self-Assessment](#)


 **Atmosphere eTraining**  
Atmospheric conditions can have an important impact on the types of plants and animals that live in a particular area as well as on soil formation. The atmospheric measurements collected by GLOBE members are important to scientists studying weather, climate, land

**GLOBE eTraining**  
[Training Options](#)  
[Atmosphere](#)  
[Biosphere](#)  
[Hydrosphere](#)  
[Pedosphere \(Soil\)](#)

## Atmosphere


 **Introduction to Atmosphere**   
This overview of the GLOBE Atmosphere protocols includes instructions on finding the best locations for an atmosphere study site and instrument shelter. This Introduction to Atmosphere will prepare you to learn any Atmosphere Measurement protocols.  
[Protocol eTraining](#) [Protocol Assessment Test](#)

 **AEROSOLS**  
Review the [Aerosols field guide](#) to learn how to measure the aerosol optical thickness (AOT) of the atmosphere (how much of the sun's light is scattered or absorbed by particles suspended in the air) using a GLOBE sun photometer or a Calitoo. Additional training:  
[Protocol eTraining](#) [Protocol Assessment Test](#)

 **AIR TEMPERATURE**  
Review the [Air Temperature field guide](#) to learn how to measure air temperature using an alcohol-filled thermometer or digital thermometer, and where you should place your instrument shelter, if you are using one.  
GLOBE offers two different eTraining options for Air Temperature:  
[Data Collection eTraining \(New!\)](#) [Protocol eTraining](#) [Protocol Assessment Test](#)  
**Supporting Material:**  
**[Automated Weather Stations](#)**  
Learn how to set up an automated weather station (AWS) to collect a variety of data to upload to GLOBE.  
**[Automated Davis Weather Stations](#)**  
Learn how to share Davis weather station data with GLOBE.

- Full Protocol eTraining and Self-Assessment
- Data Collection eTraining in the GLOBE Network

# Choosing the eTraining Pathway to Fit Your Needs

 **AIR TEMPERATURE**

Review the [Air Temperature field guide](#) to learn how to measure air temperature using an alcohol-filled thermometer or digital thermometer, and where you should place your instrument shelter, if you are using one.

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**Supporting Material:**

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[Automated Davis Weather Stations](#)  
Learn how to share Davis weather station data with GLOBE.

## Data Collection eTraining (New!):


- Preparing to collect data in the field in a streamlined way
- Reviewing field procedures and data entry steps
- On-the-go and self-paced


## Full Protocol eTraining:

- Developing conceptual knowledge
- Working with students to provide background knowledge
- Stimulate ideas for research questions



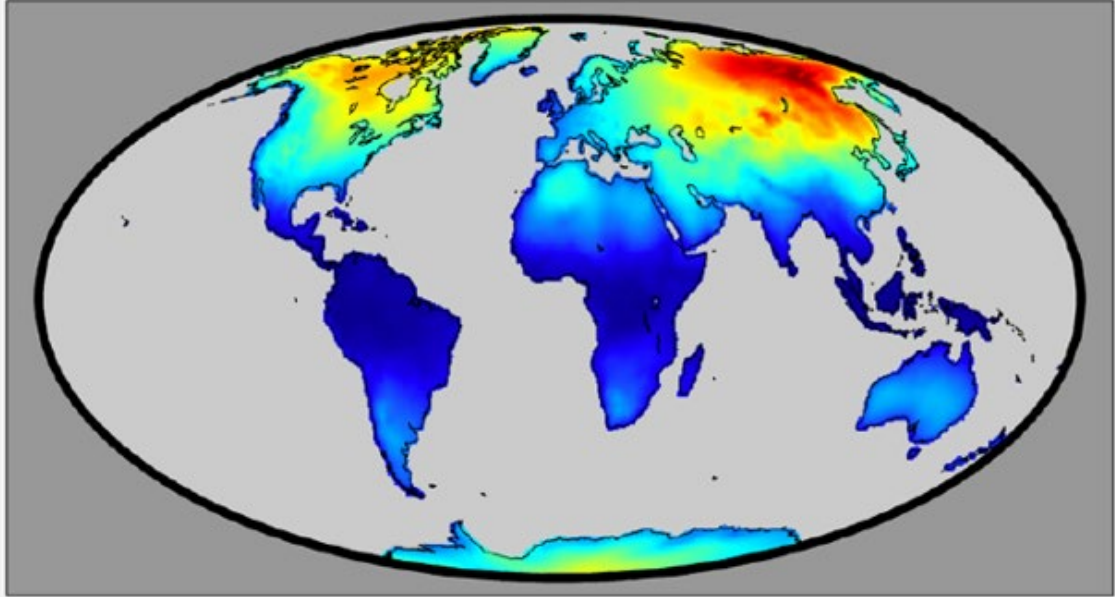
# Full Protocol eTraining and SelfAssessment (Traditional Protocol eTraining)

 **GLOBEPROGRAM®**  
A Worldwide Science & Education Program

 **Atmosphere • Air Temperature**

## Protocol Training Slides Air Temperature



Seasonal Temperature Range



Seasonal Difference ( °C )

60  
54  
48  
42  
36  
30  
24  
18  
12  
6  
0

Provides a broad conceptual foundation of the protocol and sphere, including potential research questions.

 **Atmosphere**  **Air Temperature Protocol**

## Overview and Learning Objectives

**A. What is air temperature?**

**B. Why collect air temperature data?**

**C. How your measurements can help!**

**D. How to collect your data.**

**E. How to report data to GLOBE.**

**F. Understand the data.**

**G. Quiz yourself!**

**H. Further resources.**

**Overview**  
This module:

- Describes how to take air temperature observations
- Provides instructions on how to enter your data using the GLOBE Observer Data Entry system

**Learning Objectives**  
After completing this module, you will be able to:

- Describe what air temperature is
- List reasons why it is important to collect air temperature data
- Determine the correct locations to take air temperature readings
- Upload data to the GLOBE website
- Visualize data using GLOBE Visualization Site and formulate your own questions about weather

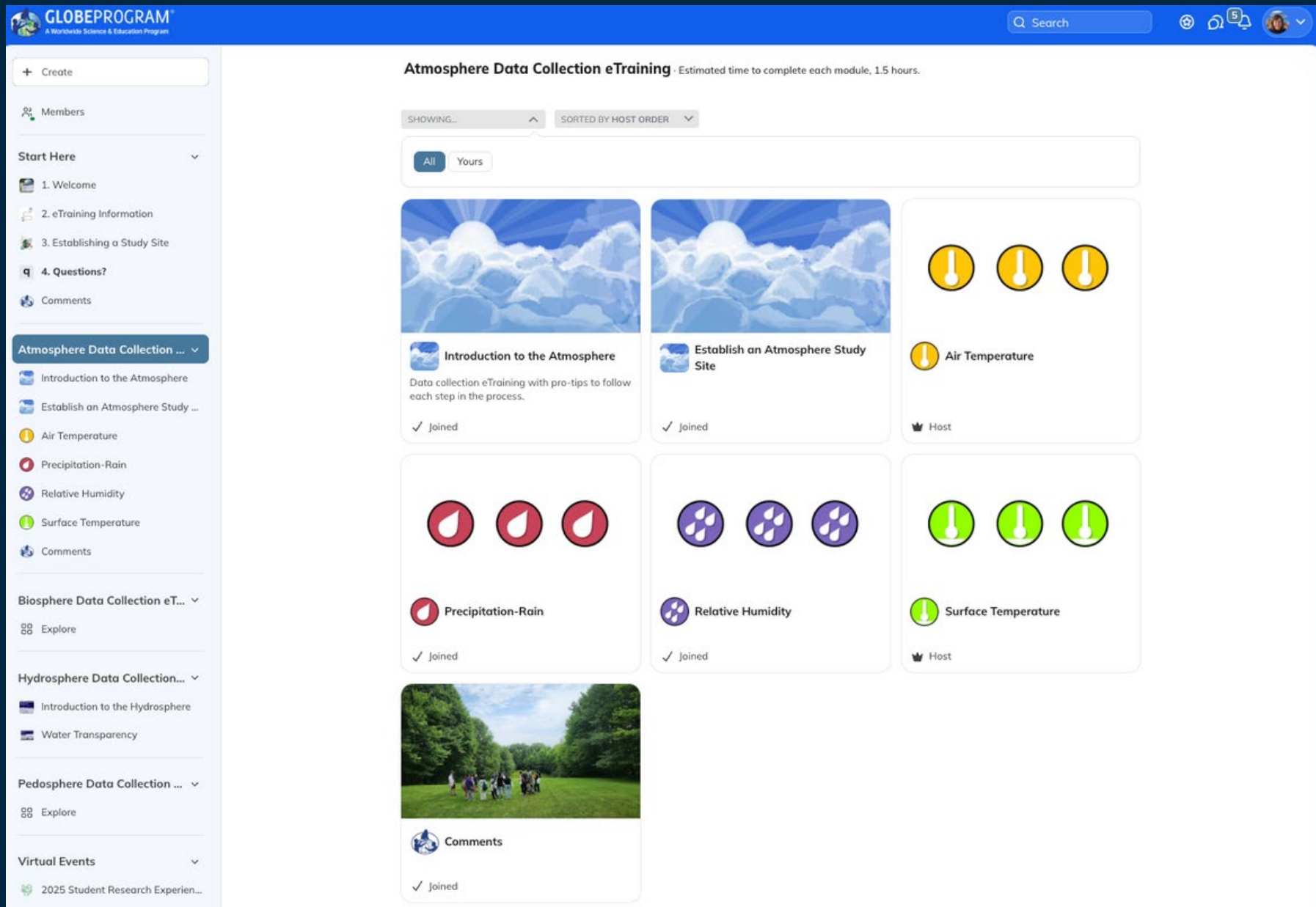
Estimated time to complete module: 1 hour

1

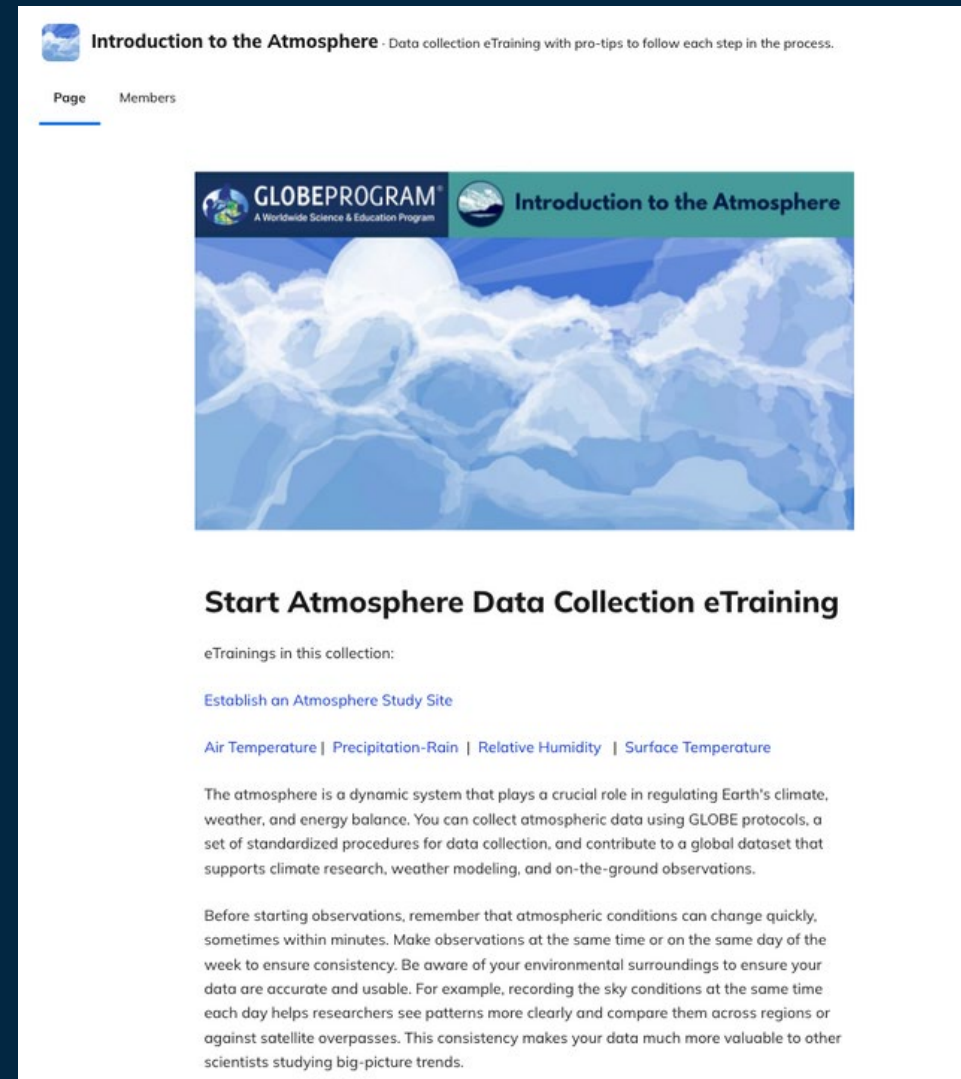
- PowerPoint slides
- PDFs of slides (508 compliant) Coming soon!
- Corresponding assessment test
- Available for all protocols



# Data Collection eTraining in the GLOBE Network (NEW Option!)



The screenshot shows the GLOBEPROGRAM website interface. The top navigation bar includes the GLOBEPROGRAM logo, a search bar, and user profile icons. The left sidebar contains a 'Start Here' section with links to '1. Welcome', '2. eTraining Information', '3. Establishing a Study Site', '4. Questions?', and 'Comments'. Below this is a section for 'Atmosphere Data Collection eTraining' with a dropdown menu showing 'Introduction to the Atmosphere', 'Establish an Atmosphere Study Site', 'Air Temperature', 'Precipitation-Rain', 'Relative Humidity', and 'Surface Temperature'. The main content area displays a grid of training modules under the heading 'Atmosphere Data Collection eTraining - Estimated time to complete each module, 1.5 hours.' The modules are arranged in a 3x3 grid, each with a title, a brief description, and a 'Joined' status. The modules are: 'Introduction to the Atmosphere', 'Establish an Atmosphere Study Site', 'Air Temperature', 'Precipitation-Rain', 'Relative Humidity', and 'Surface Temperature'. Each module has a 'Joined' status and a 'Host' icon.



The screenshot shows the 'Introduction to the Atmosphere' eTraining page. The page has a header with the GLOBEPROGRAM logo and the title 'Introduction to the Atmosphere'. Below the header is a large image of a sun rising over clouds. The main content area includes a section titled 'Start Atmosphere Data Collection eTraining' with a sub-section 'eTrainings in this collection:' and a link to 'Establish an Atmosphere Study Site'. Below this is a paragraph explaining the importance of the atmosphere and the GLOBE protocols for data collection. The text states: 'The atmosphere is a dynamic system that plays a crucial role in regulating Earth's climate, weather, and energy balance. You can collect atmospheric data using GLOBE protocols, a set of standardized procedures for data collection, and contribute to a global dataset that supports climate research, weather modeling, and on-the-ground observations.' It also mentions that observations should be made at the same time or on the same day of the week to ensure consistency.



The screenshot shows the 'Establish an Atmosphere Study Site' eTraining page. The page has a header with the GLOBEPROGRAM logo and the title 'Establish an Atmosphere Study Site'. Below the header is a large image of a sun rising over clouds. The main content area includes a section titled 'Establish an Atmosphere Study Site' with a paragraph explaining the best place to take atmospheric measurements. The text states: 'The best place to take atmospheric measurements is in an open space, away from trees, buildings, and other structures. Open areas make it easier to get accurate data because there's nothing blocking the rain or snow, air can move freely around your instruments, heat from nearby buildings won't affect your readings, and you have a clear view of most of the sky.' It also mentions that sometimes you may need to compromise when picking an observation location due to what is available in your community or school grounds. Below the text is a small image showing a group of people standing in an open field, and another image showing a group of people looking at a map. The text concludes with: 'It is best to be in an open, grass covered area away from buildings. An open area will prevent obstacles from blocking precipitation.'


Provides a focused training to prepare for data collection and data entry.

Each eTraining follows a similar format, beginning with an Introduction to the sphere and how to establish a study site.

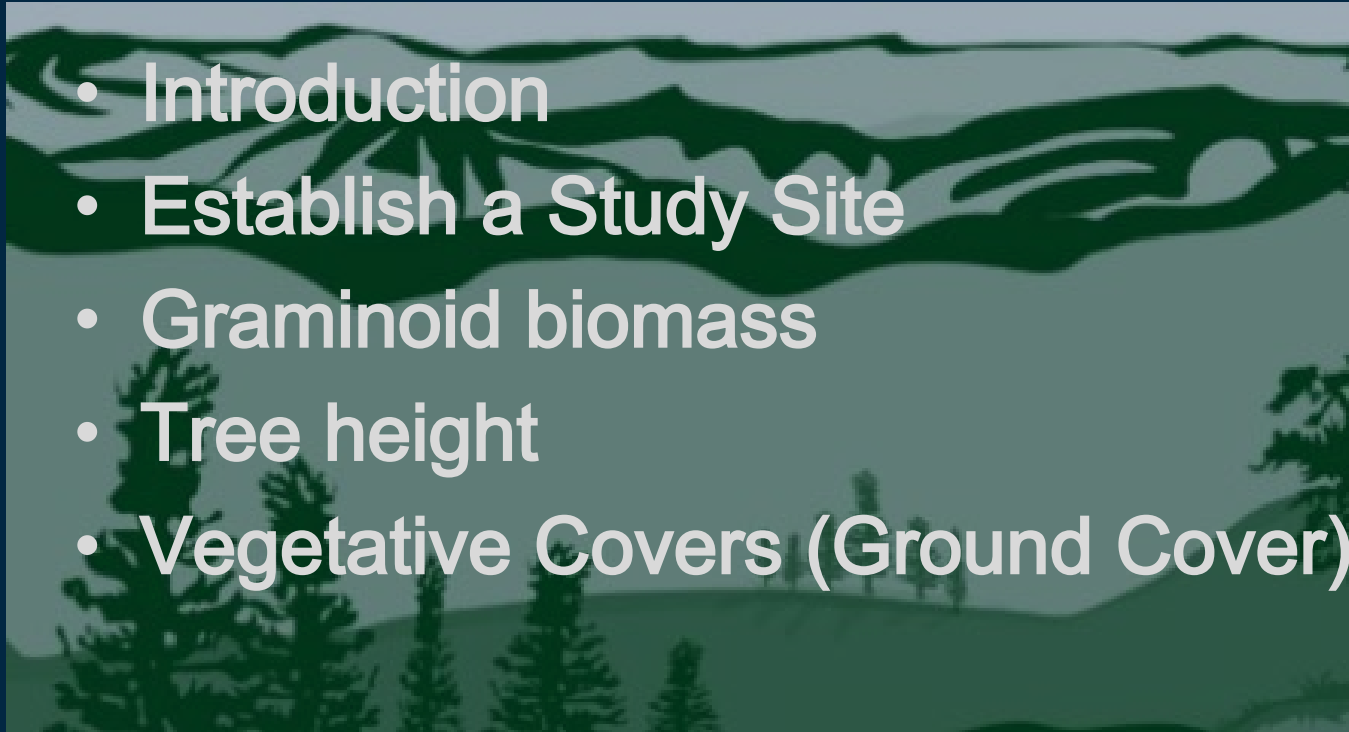


# Data Collection eTraining

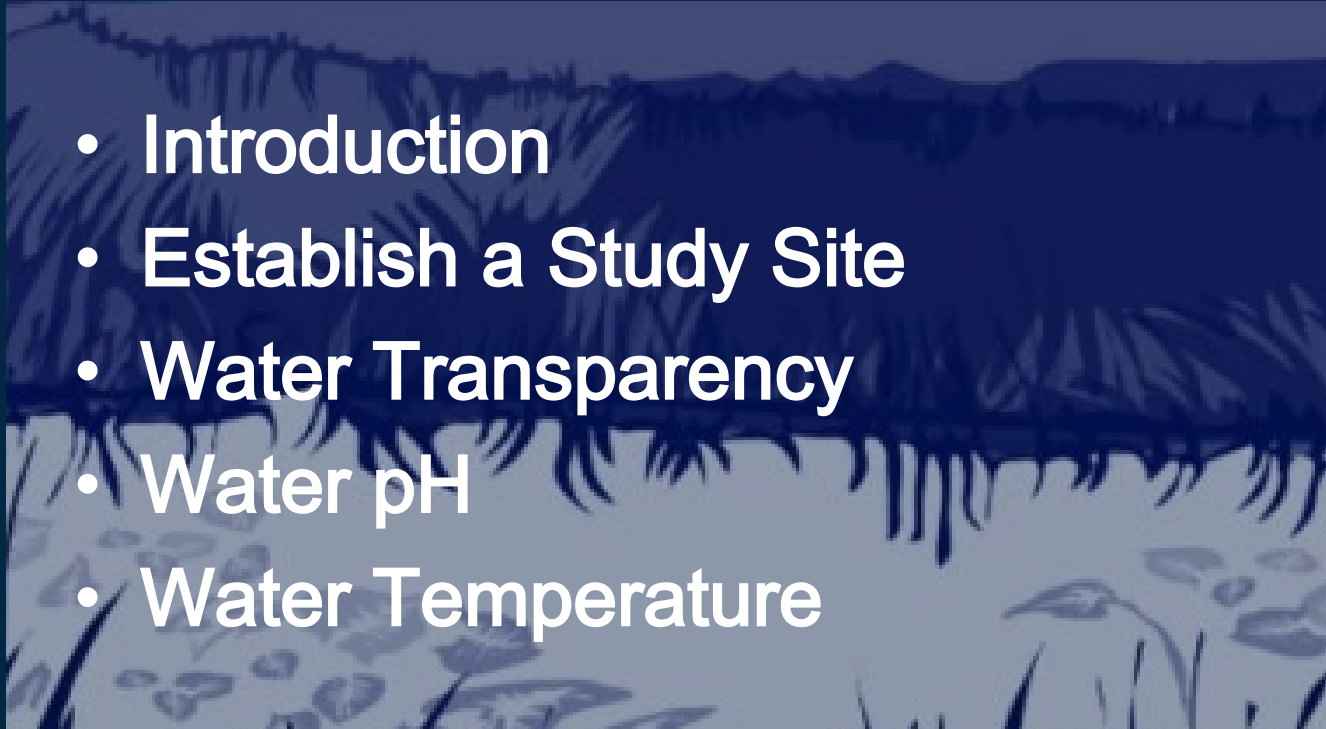
## Atmosphere:

- 
- Introduction
  - Establish a Study Site
  - Air Temperature
  - Precipitation-Rain
  - Relative Humidity
  - Surface Temperature

## Biosphere:

- 
- Introduction
  - Establish a Study Site
  - Graminoid biomass
  - Tree height
  - Vegetative Covers (Ground Cover)

## Hydrosphere:

- 
- Introduction
  - Establish a Study Site
  - Water Transparency
  - Water pH
  - Water Temperature

## Pedosphere:

- 
- Introduction
  - Establish a Study Site
  - Soil Moisture-Gravimetric
  - Soil Temperature

# Data Collection eTraining in the GLOBE Network

## Data Collection eTraining format:

- Protocol overview
- What to do before going in the field
- How to collect data in the field
- Top 5 recommendations to ensure data quality
- Quiz
- Data entry steps

The screenshot displays the 'Air Temperature' eTraining module. At the top, there are three yellow circular icons, each containing a white thermometer. Below these, the title 'Air Temperature' is shown next to a small thermometer icon. A navigation bar includes 'eTraining' (underlined), 'Questions?', and a plus sign. On the right, there is a gear icon for settings. Below the navigation bar, there are two buttons: 'Bulk Select' and 'Reorder'. The main content area lists the training components: 'Air Temperature' (5 Lessons | 1 Quiz), 'Overview', 'Prior to Going in the Field: Thermometer Calibration', 'In The Field: Air Temperature', 'Top 5 Recommendations to Ensure Air Temperature Data Quality', 'Check Your Knowledge: Thermometer Calibration and Air Temperature Measurements', and 'Data Entry'. Each item has a small thumbnail image to its left.

# Earn Badges for Each eTraining Completed!

## Procedure

1. Prepare a mixture of fresh water and crushed ice with more ice than water in your 250-mL container.
2. Place the thermometer bulb into the ice-water bath.
3. Allow the ice-water bath and thermometer to sit for 10–15 minutes.
4. Read the thermometer. It should read between  $-0.5^{\circ}\text{C}$  and  $+0.5^{\circ}\text{C}$ .
5. If the thermometer reads less than  $-0.5^{\circ}\text{C}$ , check to make sure that there is no salt in your ice-water bath.

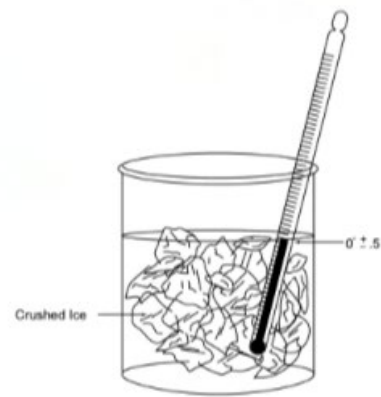


Figure 1. Thermometer placed in an ice water bath. Add more ice than water and let the thermometer sit in the ice bath for at least 10 minutes. Add more ice if needed.

Troubleshoot: If the reading is outside this range, double check that you followed the instructions carefully and repeat the process. If the thermometer repeatedly does not capture the known value of ice, replace the thermometer. Please delay recording your data until you are able to acquire a properly functioning thermometer.

Ready to move on to the next Lesson?

Mark as Complete



## Check Your Knowledge: Thermometer Calibration and Air Temperature Measurements

Host  
Alison Mote

Choose one answer per question. You must score 100% to pass this eTraining successfully. If you get an answer wrong, please revisit the field guide to review the procedure again!

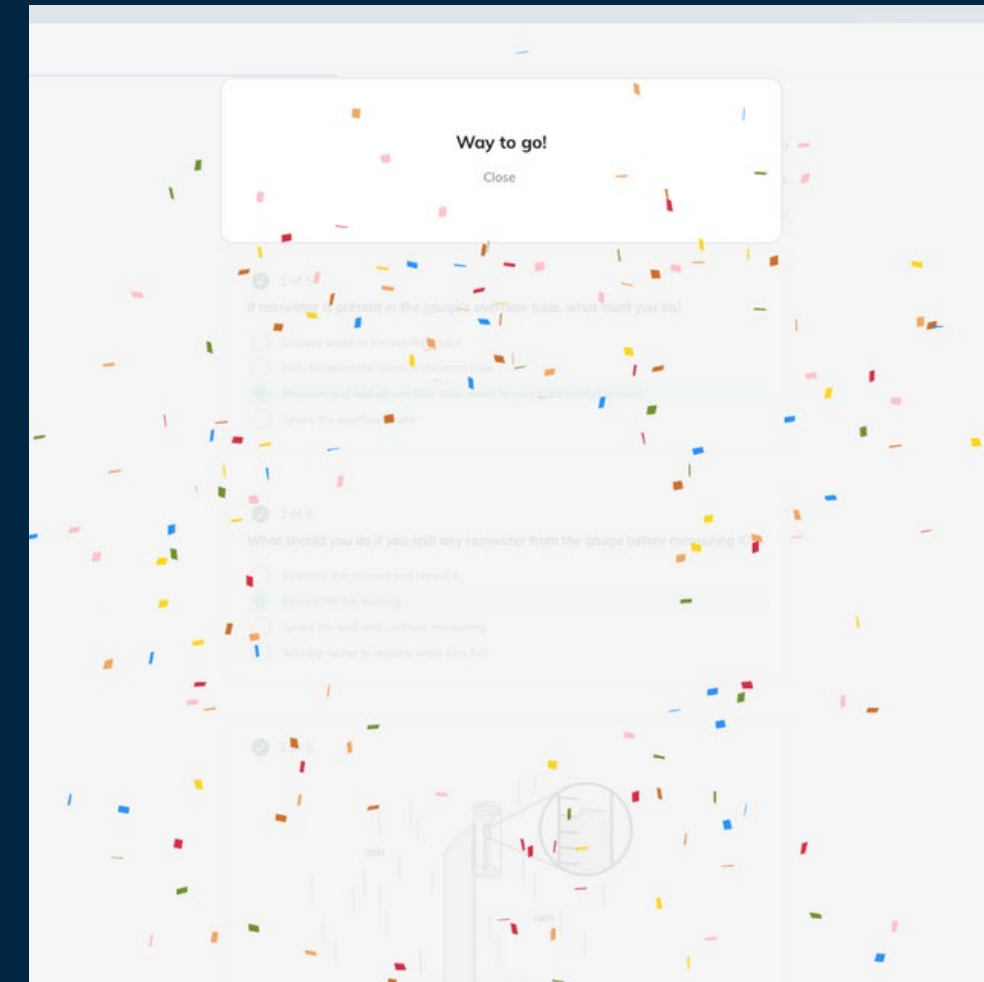
Successful completion of this quiz earns the Air Temperature Badge.

Ready to take the Quiz?

Start

< Previous  
Top 5 Recommendations to Ensure Air...

Next  
Data Entry >



## Badges



Click “Mark as Complete” at the end of each page to progress through each eTraining.



Take the short quiz at the end of each eTraining.



Earn badges for each eTraining completed!



# Data Entry: Step-by-Step Instructions

## Data Entry



Host

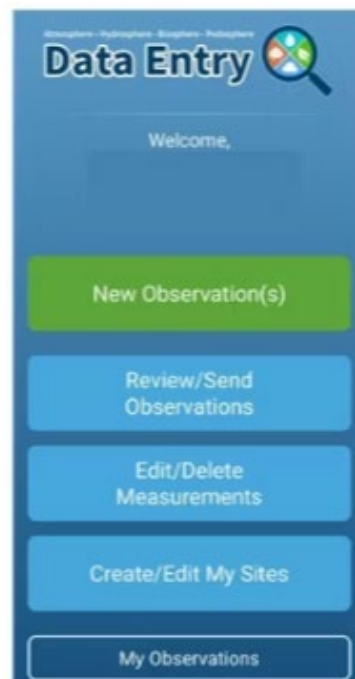
Alison Mote

Enter your observations online on the [GLOBE Observer Data Entry system](#) using your GLOBE or GLOBE Observer login.

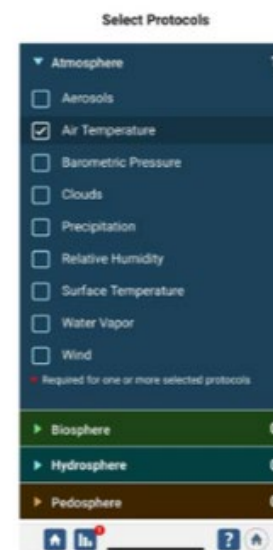


The steps below will walk you through entering your air temperature data in the GLOBE Observer App.

1. Click "New Observation(s)."



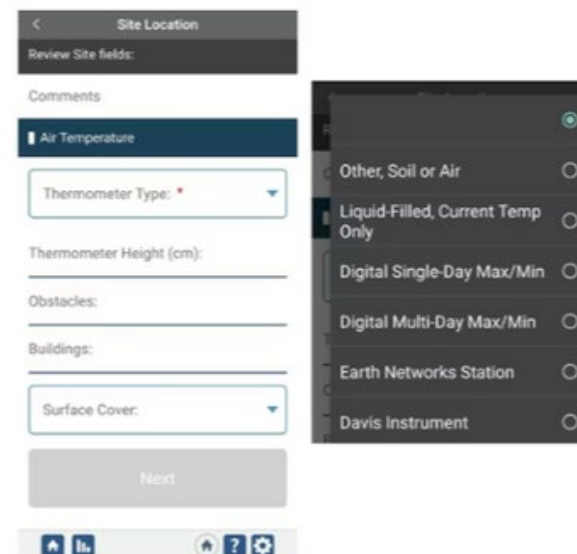
2. Click on the arrow next to "Atmosphere" and select "Air Temperature".



3. Click "Continue" at the bottom of the screen. You will then be prompted to enter the site location (latitude, longitude, and elevation). Choose an existing site or identify a new site by clicking "+ New Site Location" to add a new site.



4. Select the Thermometer Type (see figure on the right for options). Enter the thermometer height (cm) and be sure to note any obstacles or buildings near the thermometer. Select the type of surface cover (artificial turf, asphalt, concrete, etc.).



Each eTraining includes step-by-step instructions for data entry, preparing you to enter quality data.


Landing page

my-globe.mn.co







- Landing Page
- Navigating, Viewing (joining), eTraining

Returning user view



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+ Create

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Start Here

Explore

Atmosphere Dat...

Biosphere Data C...

Hydrosphere Dat...

Pedosphere Data...

Virtual Events

Virtual Science S...

GLOBE.gov Training

Virtual Events

SHOWING...


^


SORTED BY HOST...

^

All

Yours





2025 GLOBE Annual Meeting


✓ Joined







- Landing Page
- Navigating, Viewing (joining), eTraining

New user view

check your email to verify your email address.

 **GLOBEPROGRAM**  
A Worldwide Science & Education Program

Q Search



+ Create

Members

Start Here

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Atmosphere Dat...

Biosphere Data C...

Hydrosphere Dat...

Pedosphere Data...

Virtual Events

Virtual Science S...

GLOBE.gov Training

Members

ExploreAllTopNewestHostsOnline Now

Top Members

New Members



# Breakout Rooms: Time to Explore!

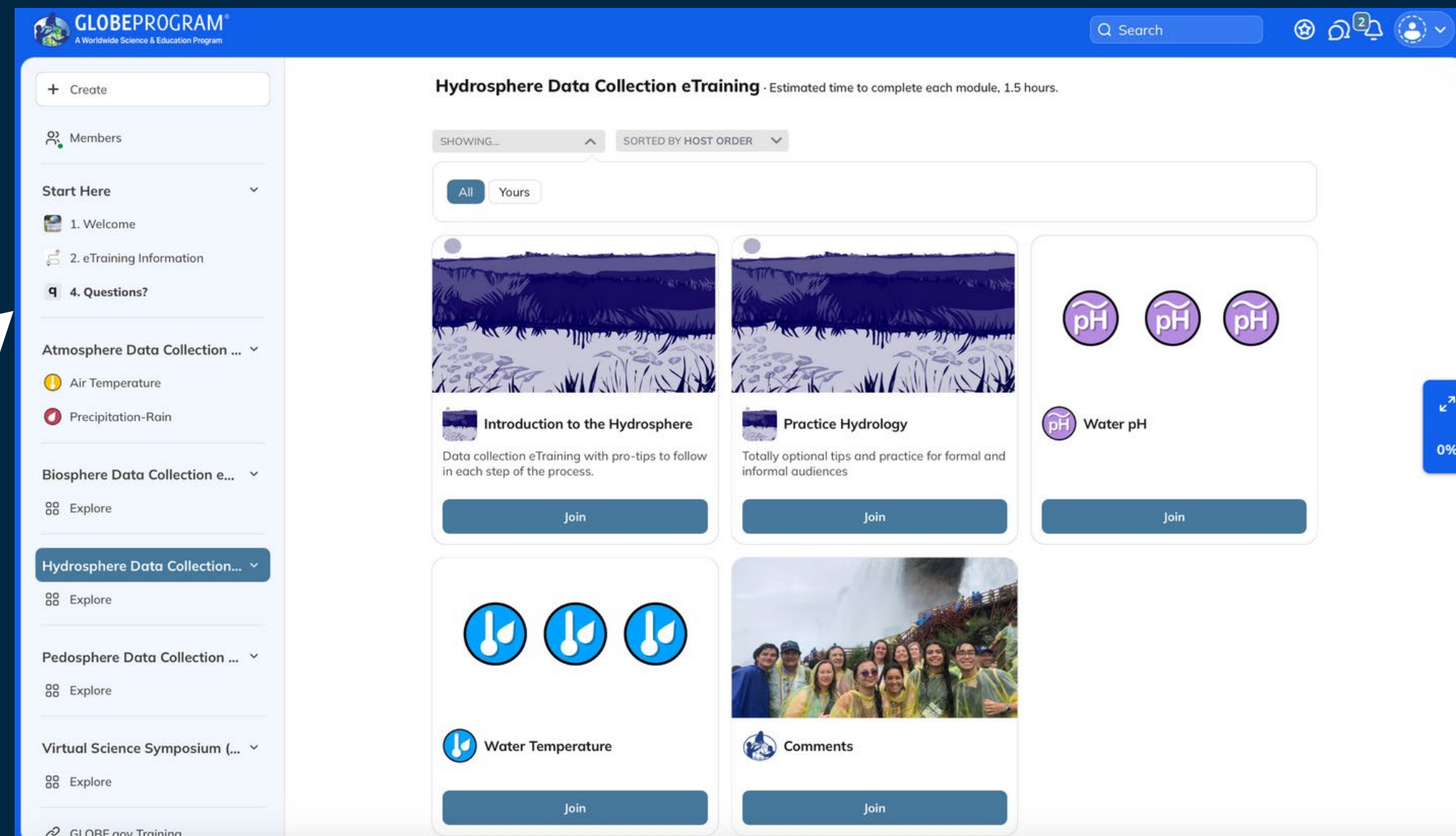
Now it's time for you to explore!

1) Log in to the GLOBE Network:

- Go to [my-globe.mn.co](https://my-globe.mn.co)
- Log in using the same credentials as your Annual Meeting account **OR** create an account

2) Click on a menu option on the left

- Join an eTraining
- Explore
- Ask questions in “Start Here” → “4. Questions?”

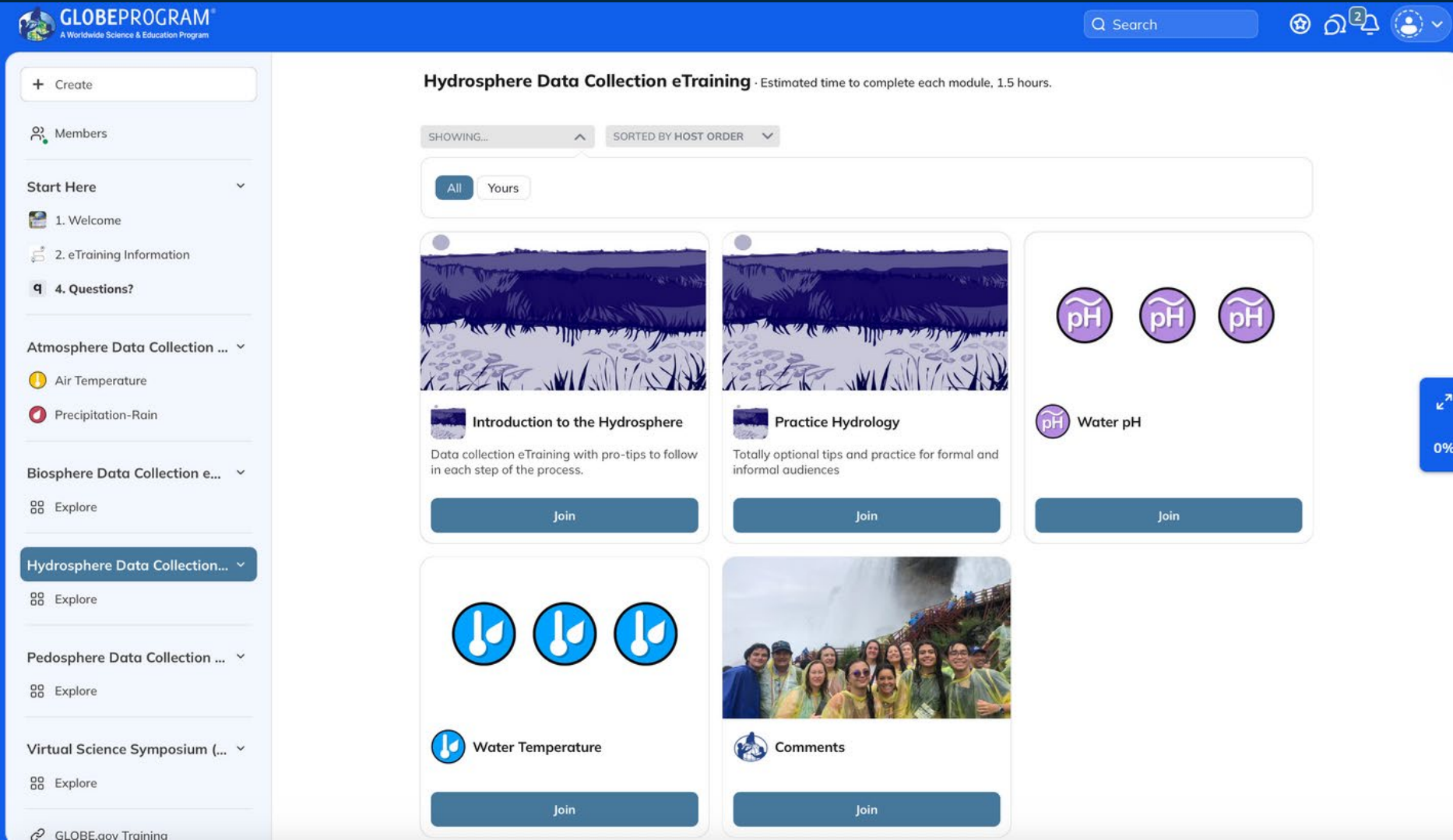




# Breakout Rooms: Discuss and Debrief

What did you discover?

What questions do you have?



# Summary

- Log in using credentials from the Annual Meeting
- Create your GLOBE Network account (we recommend using your GLOBE login and password)

Select the eTraining Sphere and Protocol of interest.

Complete the lessons and pass the quiz to earn the eTraining Badge.

GLOBE Observer app ...

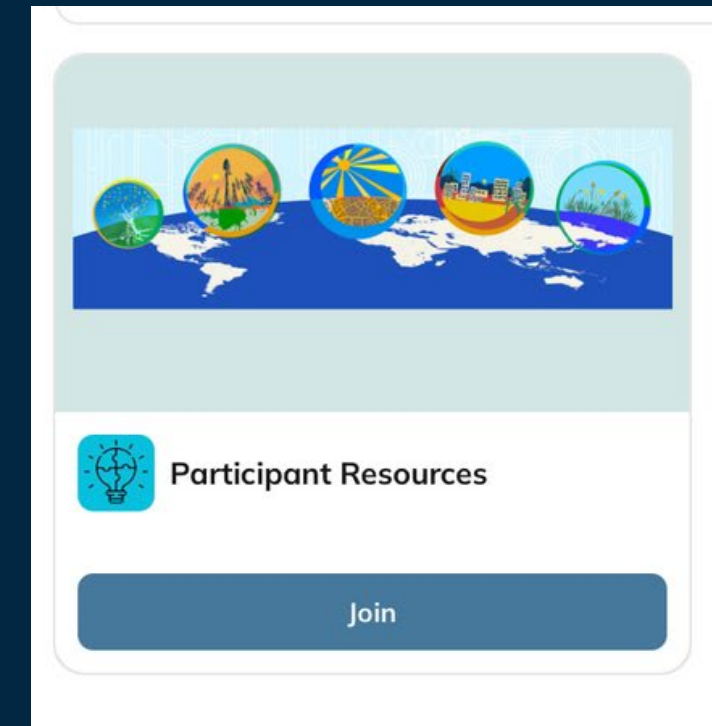
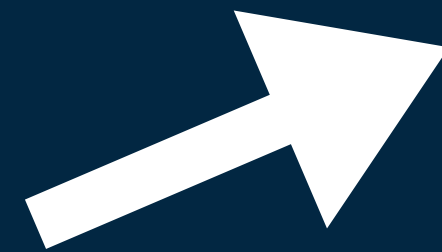




# Coming in February: Virtual Science Symposium (VSS) in the GLOBE Network

Projects submitted to the 2026 Virtual Science Symposium (VSS) will be showcased in the GLOBE Network!

- Access all projects
- STEM Reviewer feedback



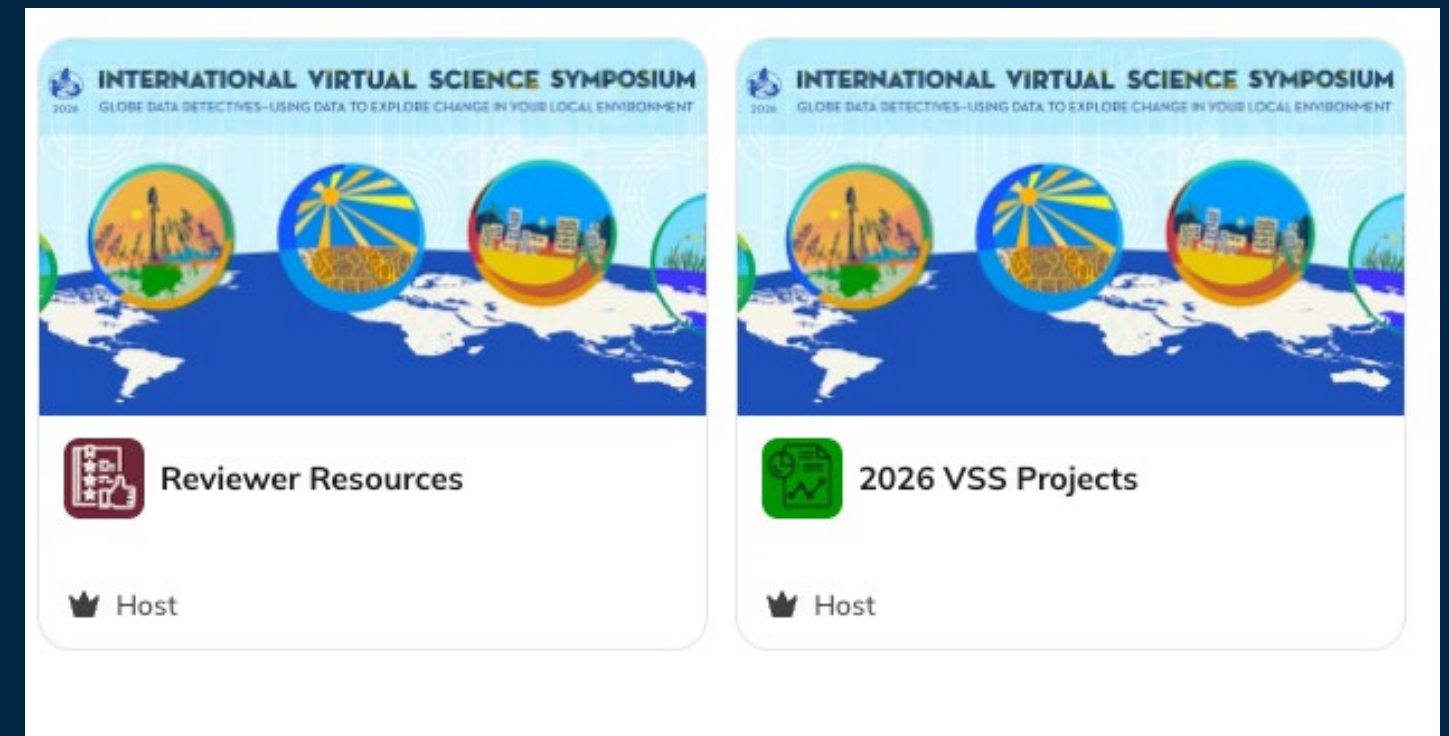
Deadline to  
submit a  
project is 30  
January!

Join VSS Participant Resources now to ask questions and explore resources!



Coming soon\*:

- Reviewer Resources
- 2026 VSS Projects



Please complete our feedback survey:  
[go.edc.org/1pgAAA](https://go.edc.org/1pgAAA)

THANK YOU!

