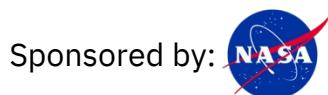


GLOBE Learning Session: Overview of GLOBE's New Data Collection eTraining Modules

13 January 2026

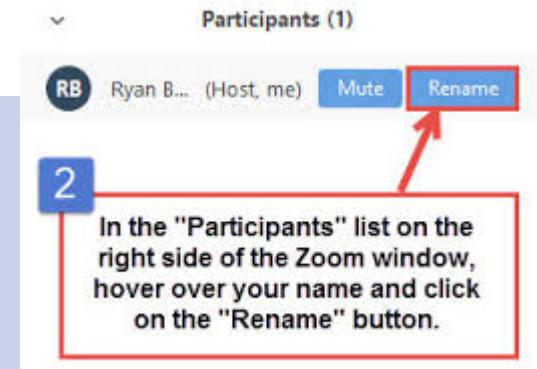
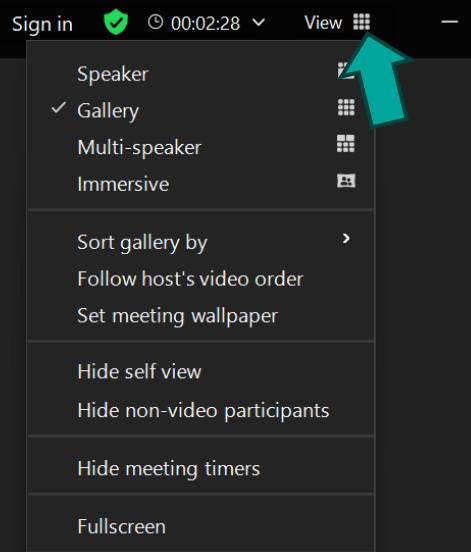


Reminders As You Join Us Today

zoom
Workplace

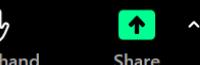
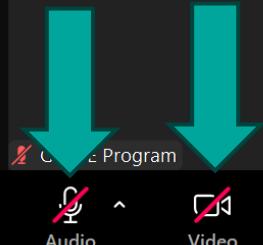
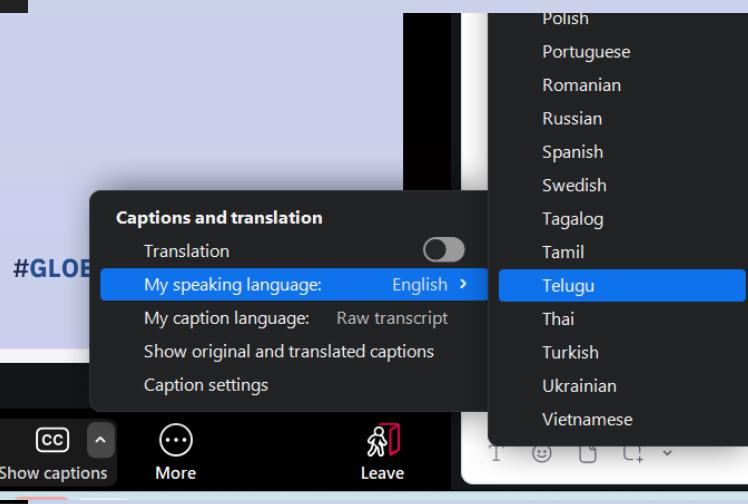
Having tech issues?
Send a private chat message to
Pilar Miranda or Carol Musallam
or
Email meetings@nasaglobe.org

**Say Hello in
the Chat!**



**Rename Yourself:
Name, Country or
Org, Role**

**Activate
Captions or
Translations**



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



#GLOBEMeeting2025



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



#GLOBEMeeting2025



Agenda

Overview of data collection eTraining modules

Christi Buffington

Alison Mote

Cassie Soeffing

Breakout rooms

Debrief and wrap up



GLOBE NETWORK



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



Systematic review of all GLOBE materials, including protocols, eTraining slides and learning activities

Selection of Mighty for Learning Management System; Presented “wire-frames” of tutorials that could be done “on-the-fly” for quality **data collection**

Selected 10 protocols that had NASA Mission connections; Adapted & Updated Field Guides; Conducted review & beta testing. Updated Powerpoints.

Ongoing feedback and continual improvement. Help build the GLOBE Network!

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

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

Beta Testers

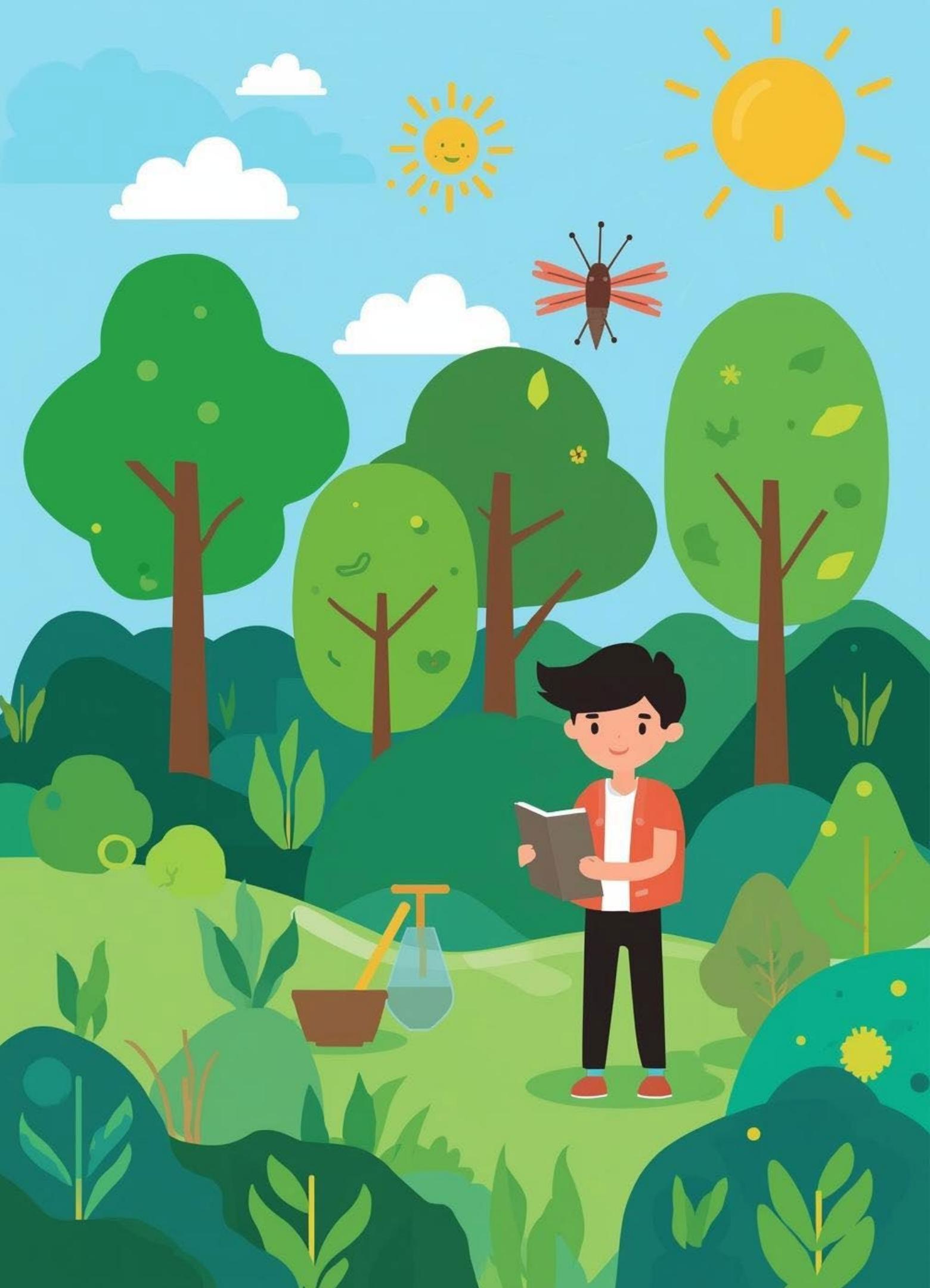
Brianna Lind
Rusty Low
Becky Boger
Gillian Bayne
Dinorah Hudson
Lucy Robins
Larisa Schelkin
Haley Wicklein
Jennifer Bourgeault
Jodi Haney
Brendan O'Connor

Pedagogy Guidance

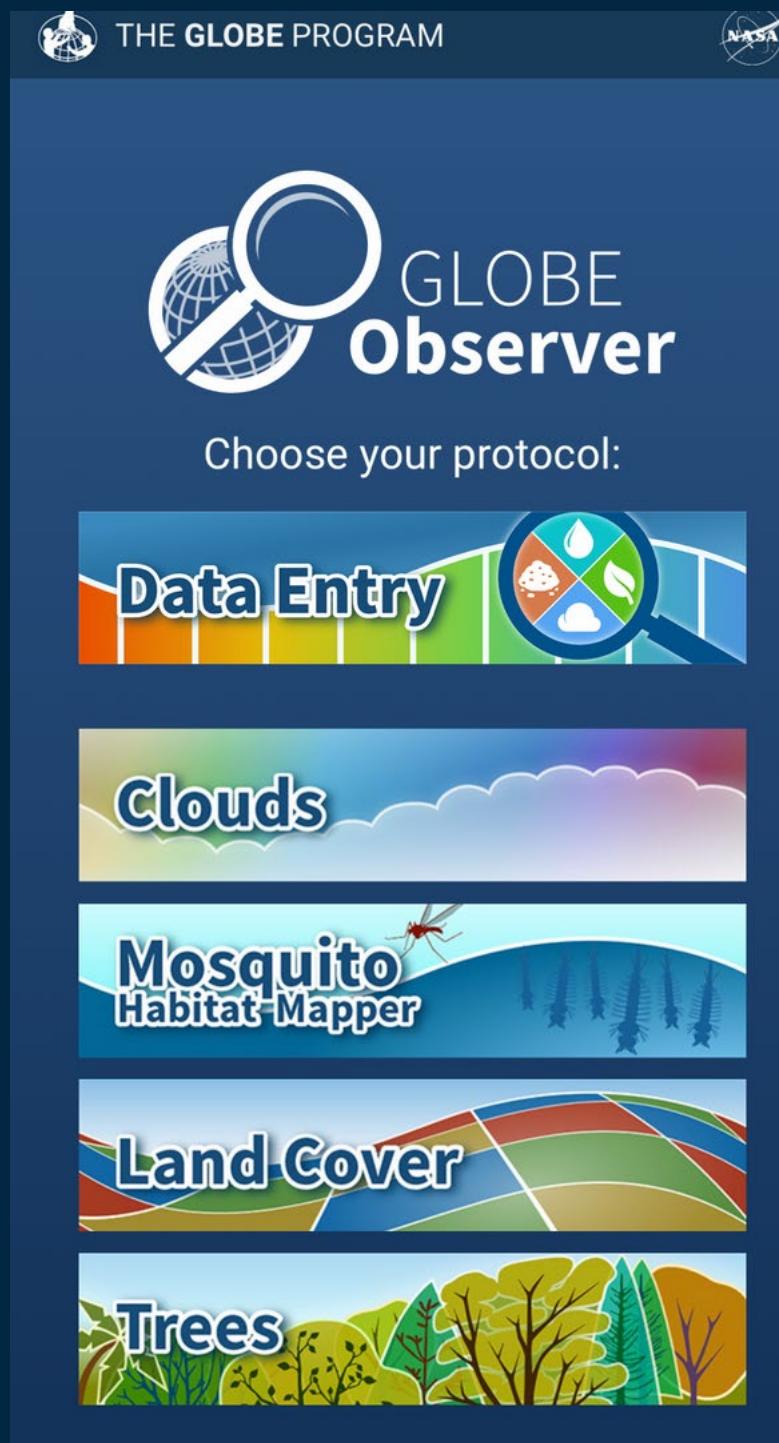
Gillian Bayne
Dinorah Hudson
Lucy Robins
Cassie Soeffing
Alison Mote
Christi Buffington

GLOBE eTraining:

Protocol eTraining and GLOBE Data Collection eTraining



GLOBE eTraining Options Available on GLOBE.gov

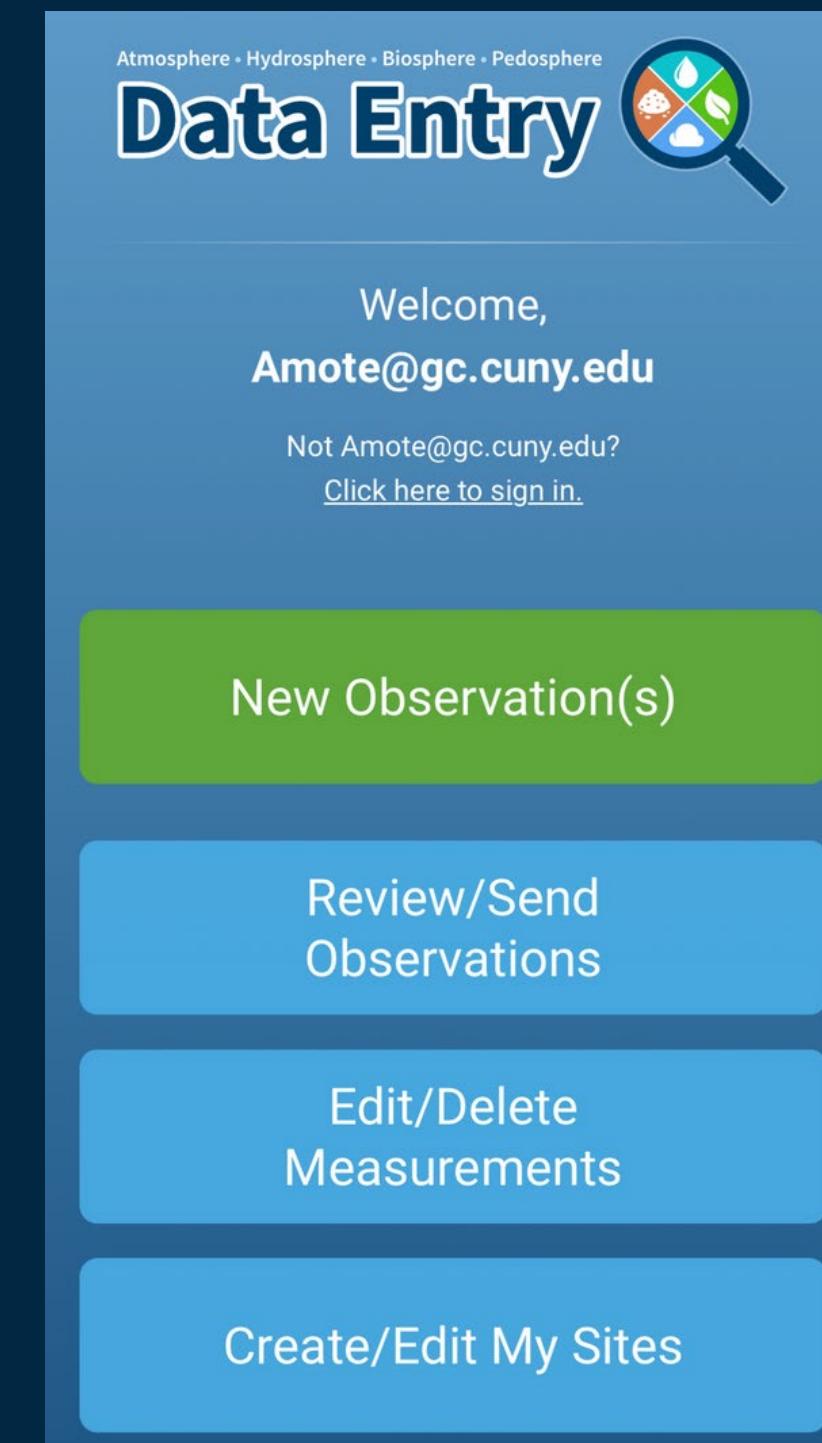


THE GLOBE PROGRAM 

GLOBE Observer

Choose your protocol:

- Data Entry** 
- Clouds** 
- Mosquito Habitat Mapper** 
- Land Cover** 
- Trees** 



Atmosphere • Hydrosphere • Biosphere • Pedosphere

Data Entry

Welcome, Amote@gc.cuny.edu

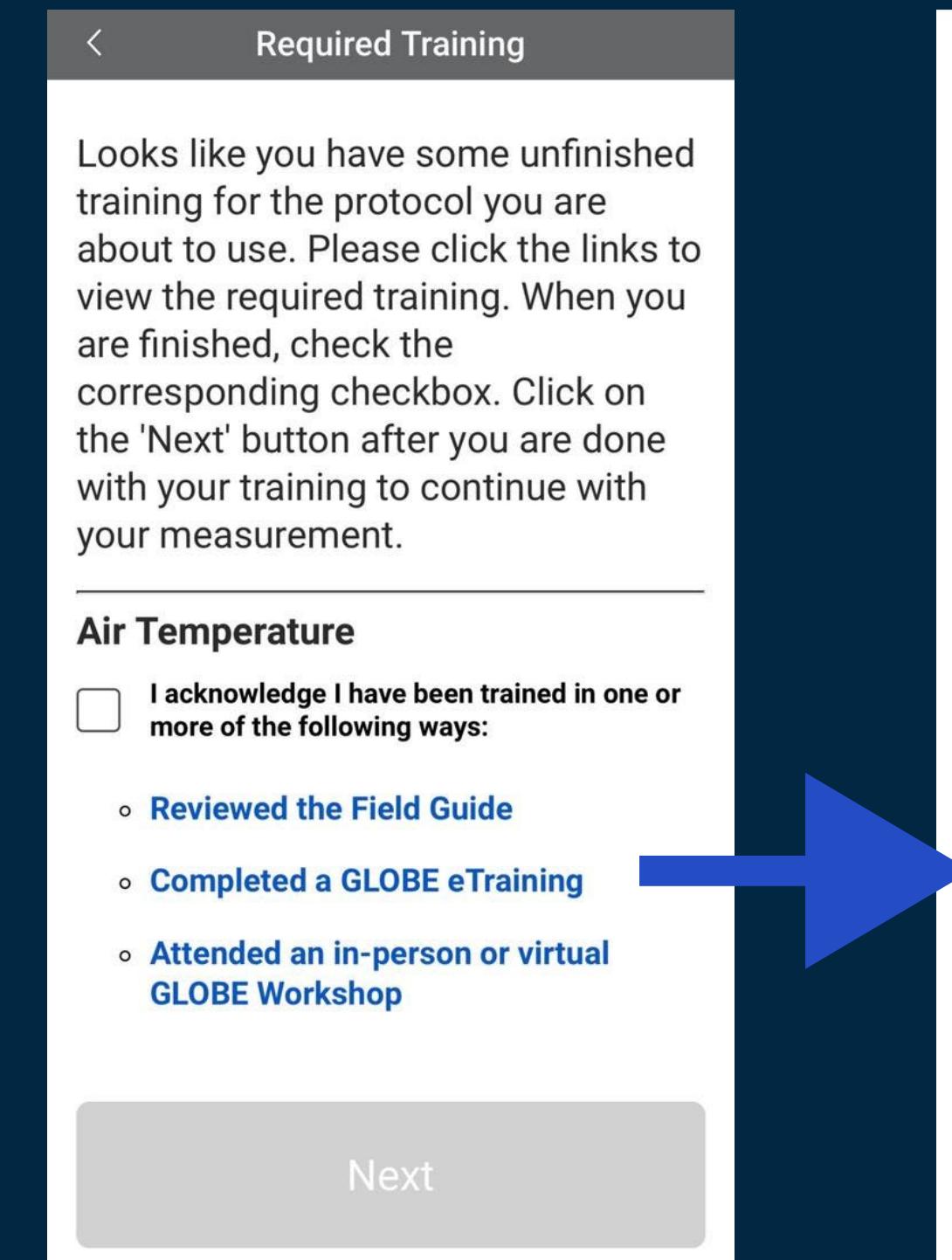
Not Amote@gc.cuny.edu? [Click here to sign in.](#)

New Observation(s)

Review/Send Observations

Edit/Delete Measurements

Create/Edit My Sites



Required Training

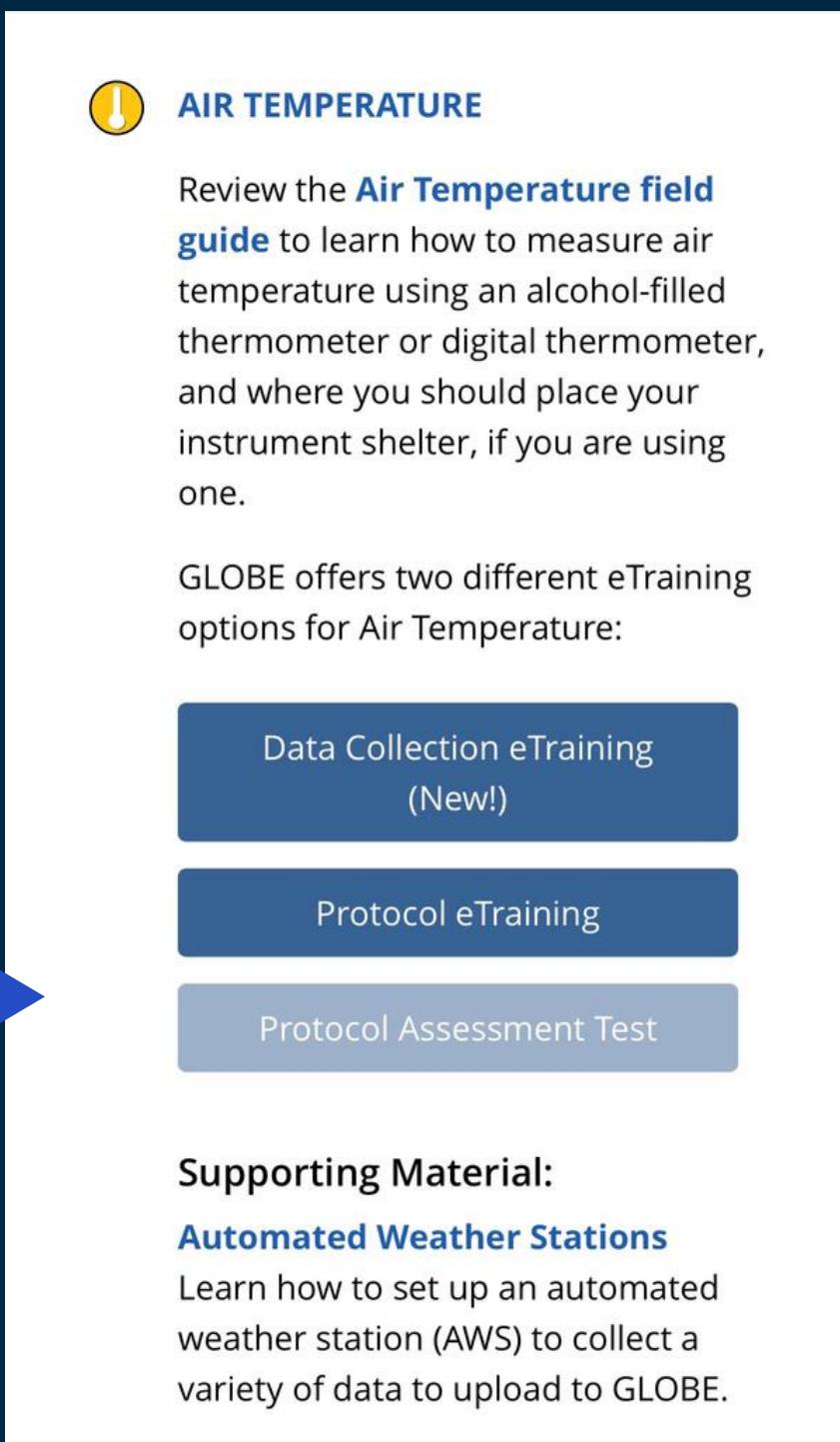
Looks like you have some unfinished training for the protocol you are about to use. Please click the links to view the required training. When you are finished, check the corresponding checkbox. Click on the 'Next' button after you are done with your training to continue with your measurement.

Air Temperature

I acknowledge I have been trained in one or more of the following ways:

- Reviewed the Field Guide
- Completed a GLOBE eTraining
- Attended an in-person or virtual GLOBE Workshop

Next



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:

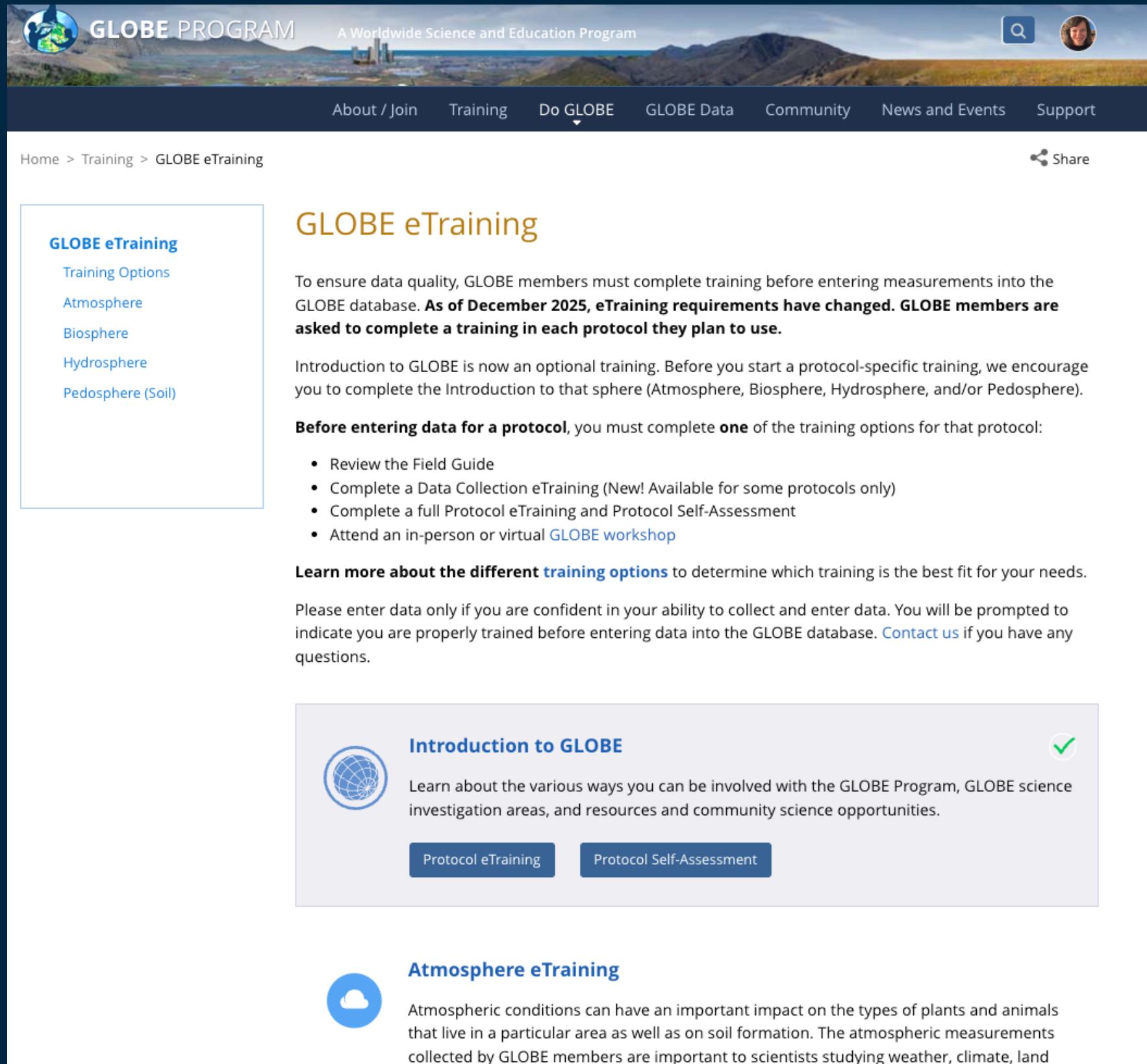
Automated Weather Stations

Learn how to set up an automated weather station (AWS) to collect a variety of data to upload to GLOBE.

Updated Requirements for Data Entry:

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

GLOBE eTraining Options Available on GLOBE.gov



The screenshot shows the GLOBE Program website with a banner featuring a landscape image and the text "A Worldwide Science and Education Program". The main navigation menu includes "About / Join", "Training", "Do GLOBE", "GLOBE Data", "Community", "News and Events", and "Support". A search bar and user profile icon are also present. The "Training" menu item is currently selected, leading to the "GLOBE eTraining" page. The "GLOBE eTraining" page header includes a "Share" button. The main content area is titled "GLOBE eTraining" and contains the following text:

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.

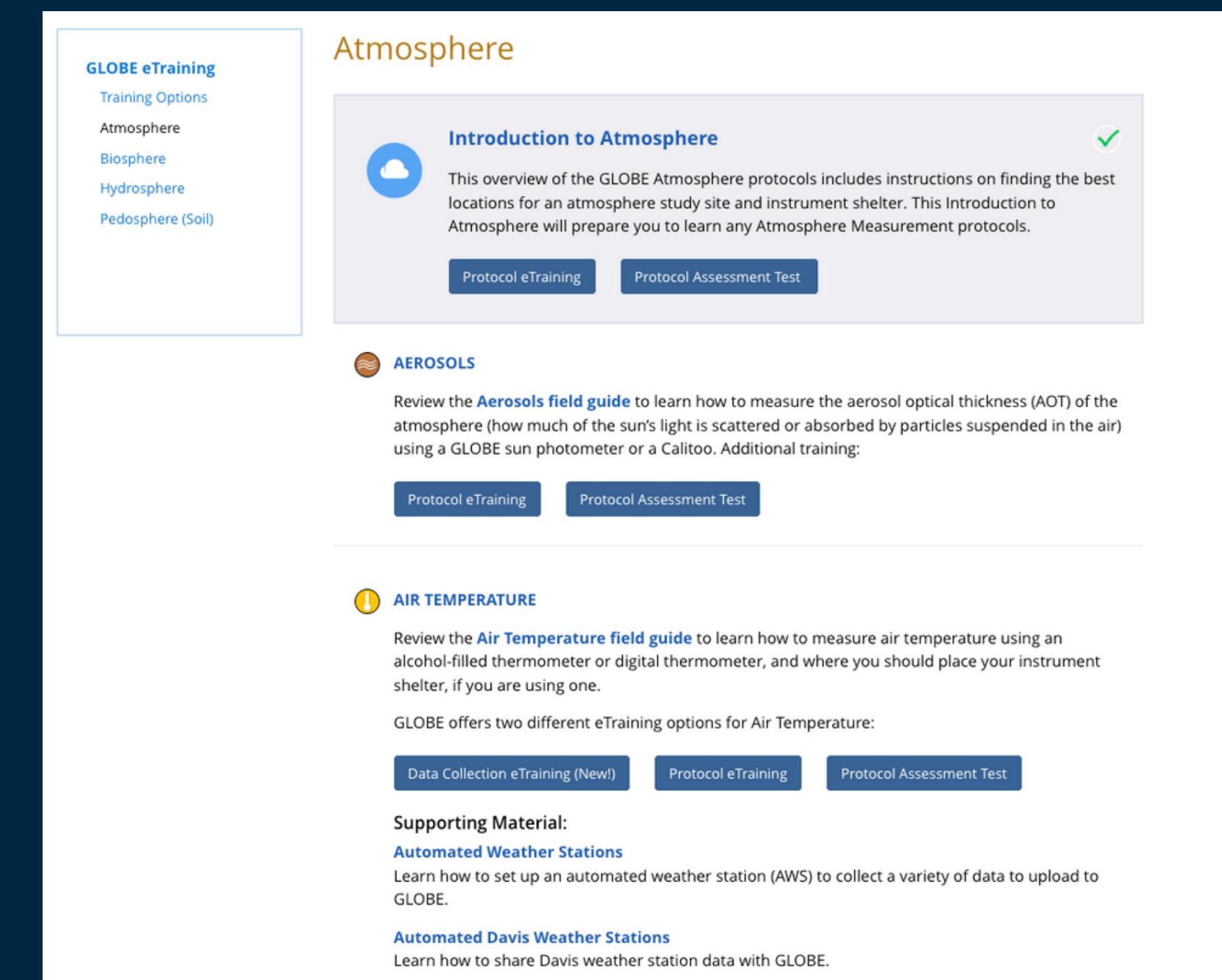
Introduction to GLOBE

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



The screenshot shows the "Atmosphere" section of the GLOBE eTraining page. The sidebar on the left lists "GLOBE eTraining", "Training Options", and categories for "Atmosphere", "Biosphere", "Hydrosphere", and "Pedosphere (Soil)". The main content area is titled "Atmosphere" and contains the following sections:

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 SelfAssessment
- 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.

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.

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

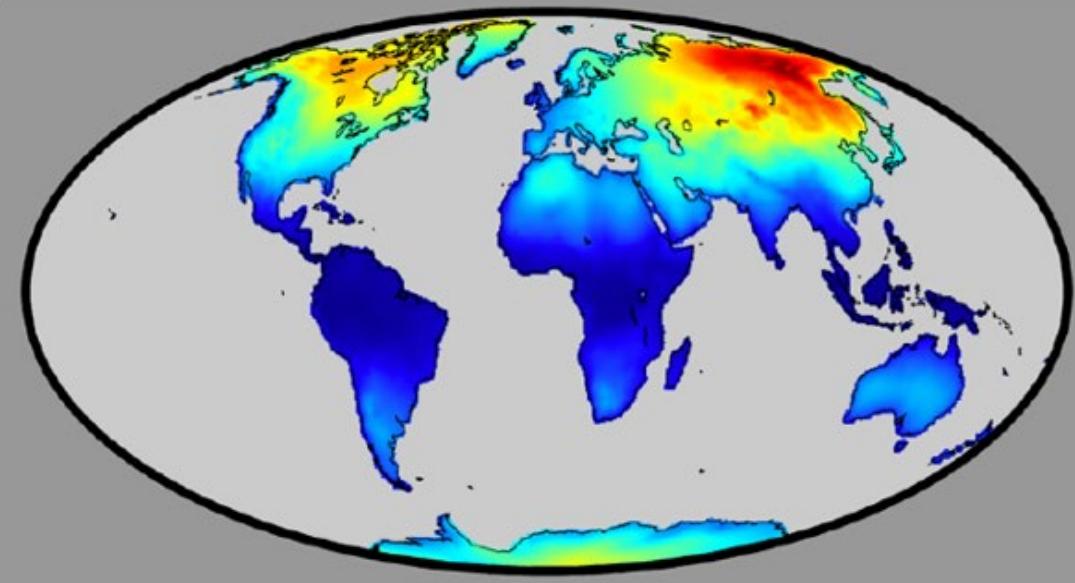
Full Protocol eTraining and SelfAssessment (Traditional Protocol eTraining)

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

 Atmosphere • Air Temperature

Protocol Training Slides Air Temperature

Seasonal Temperature Range



Seasonal Difference (°C)

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

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:

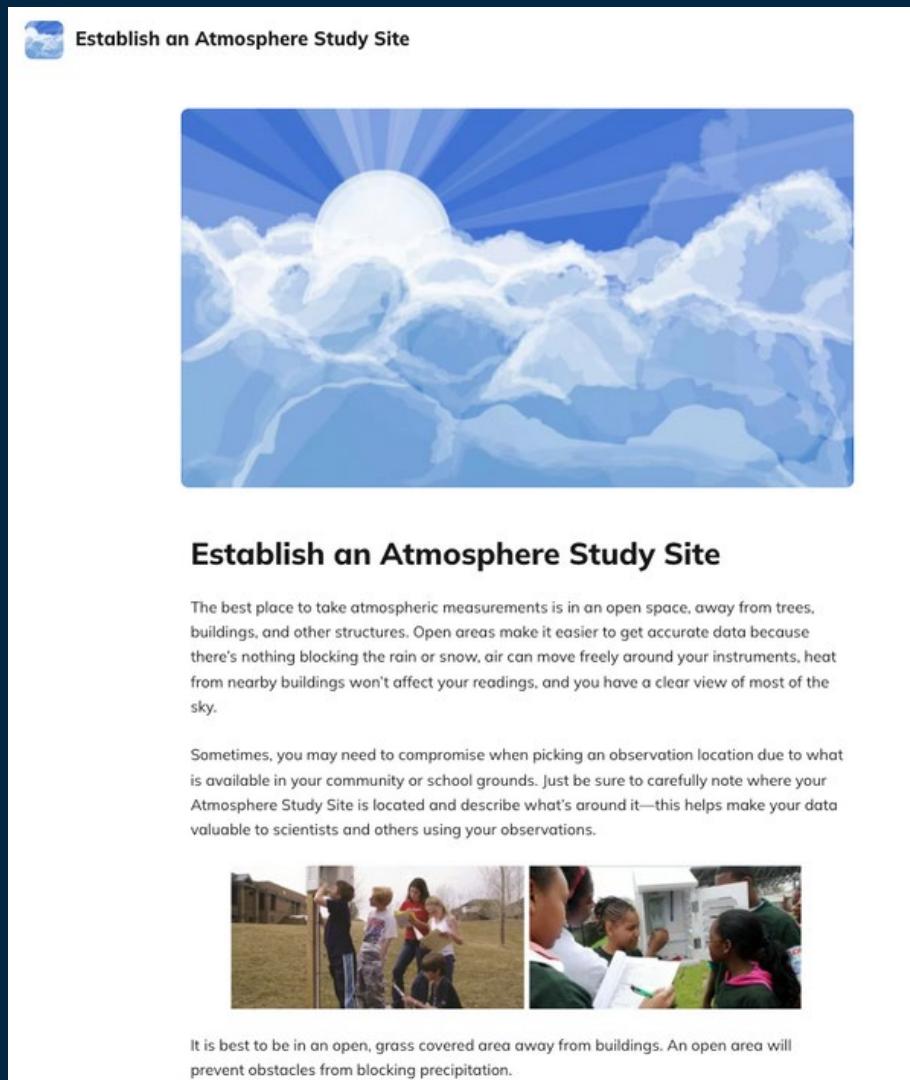
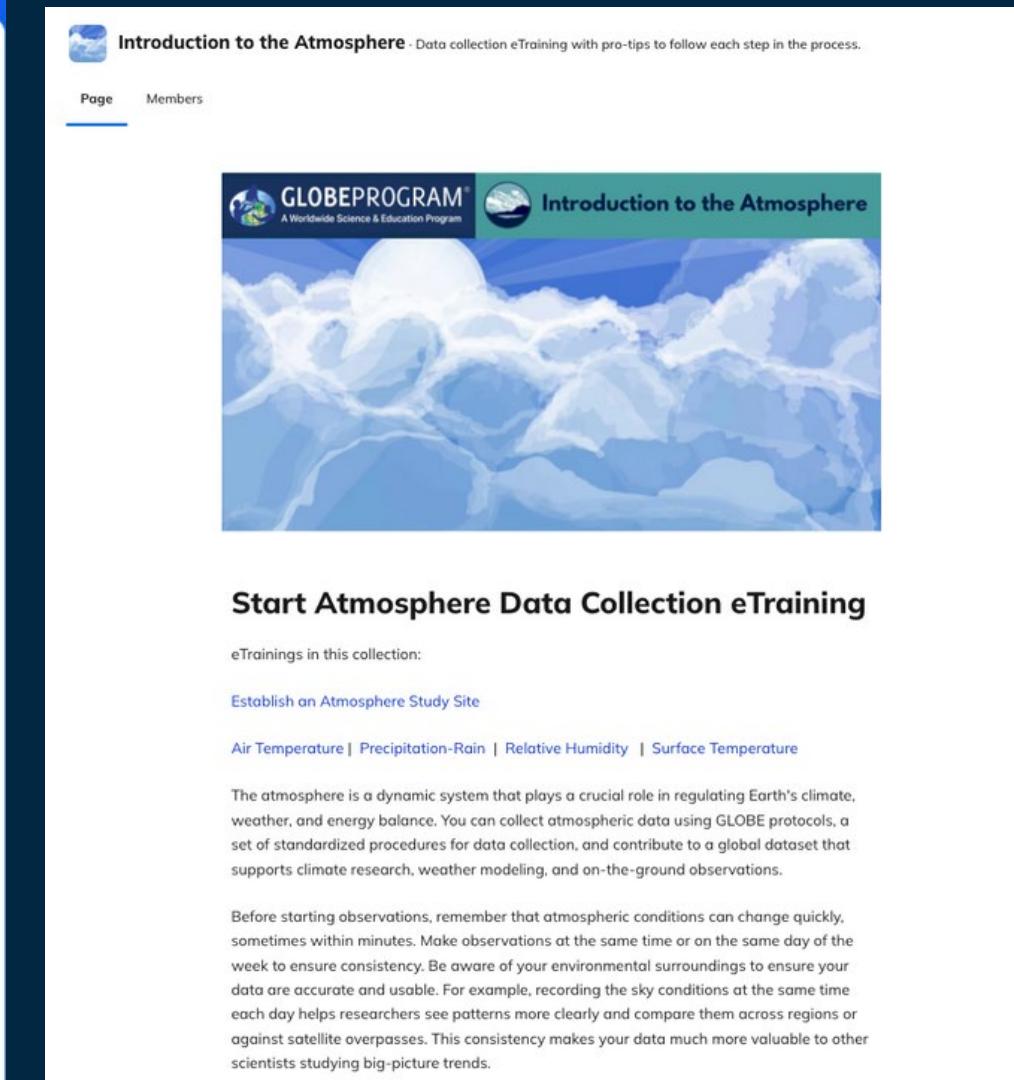
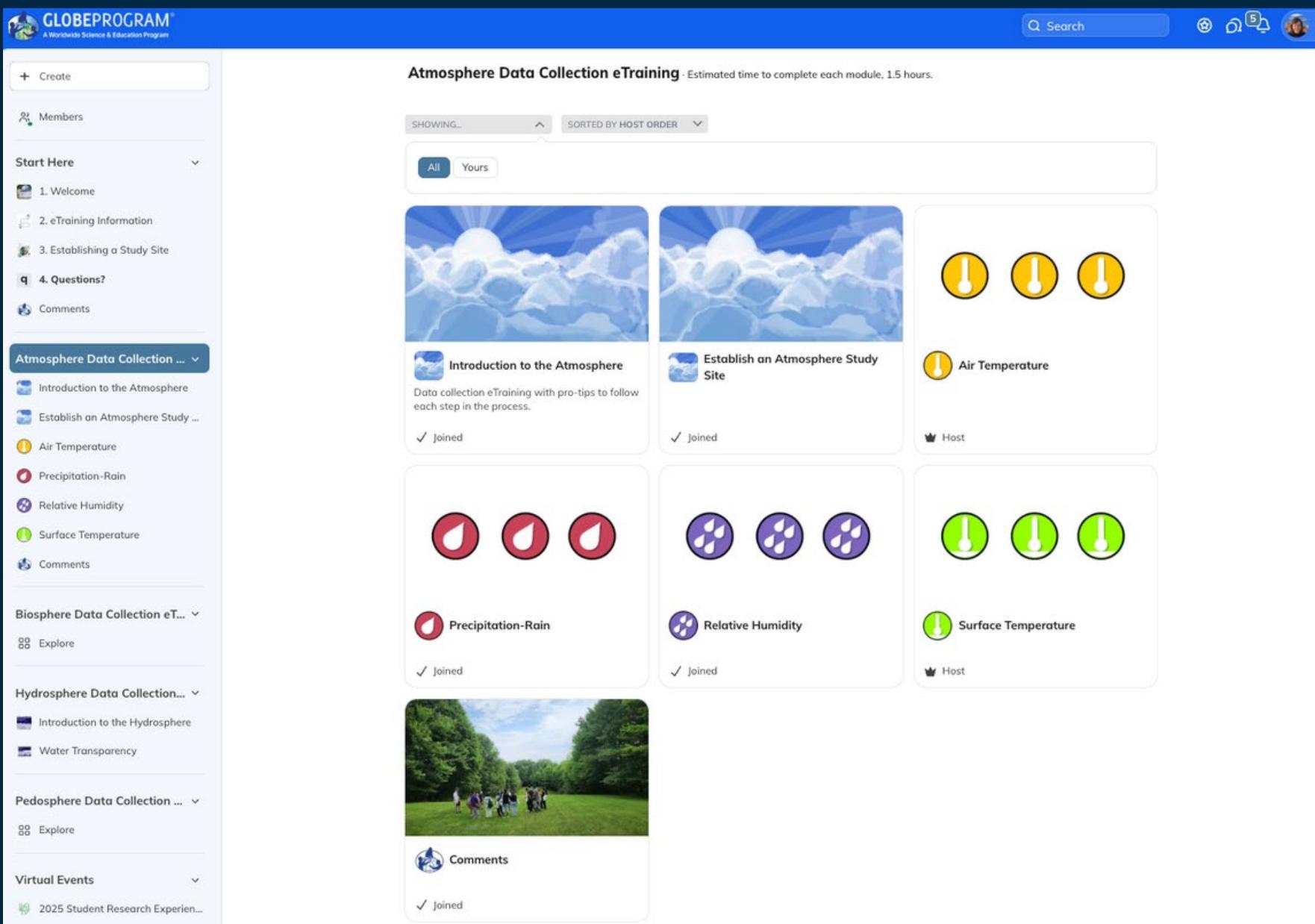
- Describe what air temperature is
- List reasons why it is important to collect air temperature data
- Determine the correct locations to take air temperature readings
- Upload data to the GLOBE website
- Visualize data using GLOBE Visualization Site and formulate your own questions about weather

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!)



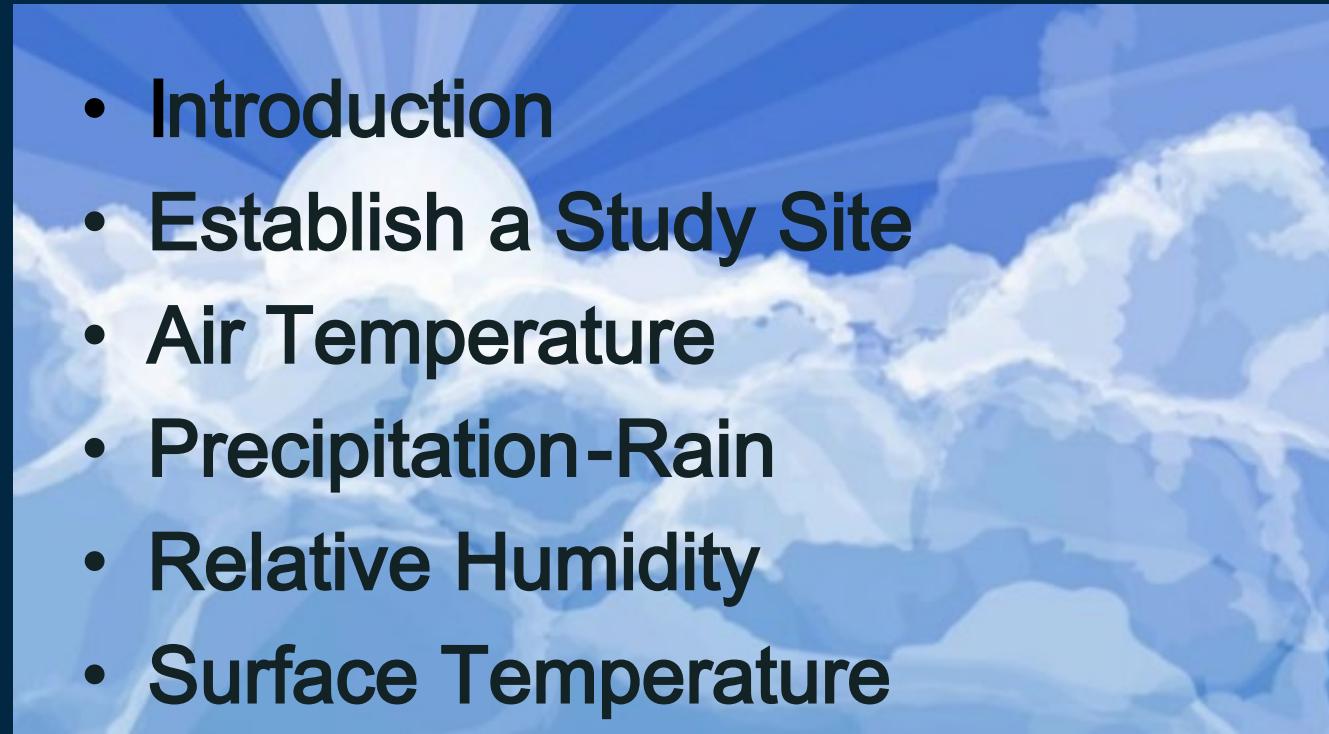
Provides a focused training to prepare for data collection and data entry.

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

Data Collection eTraining

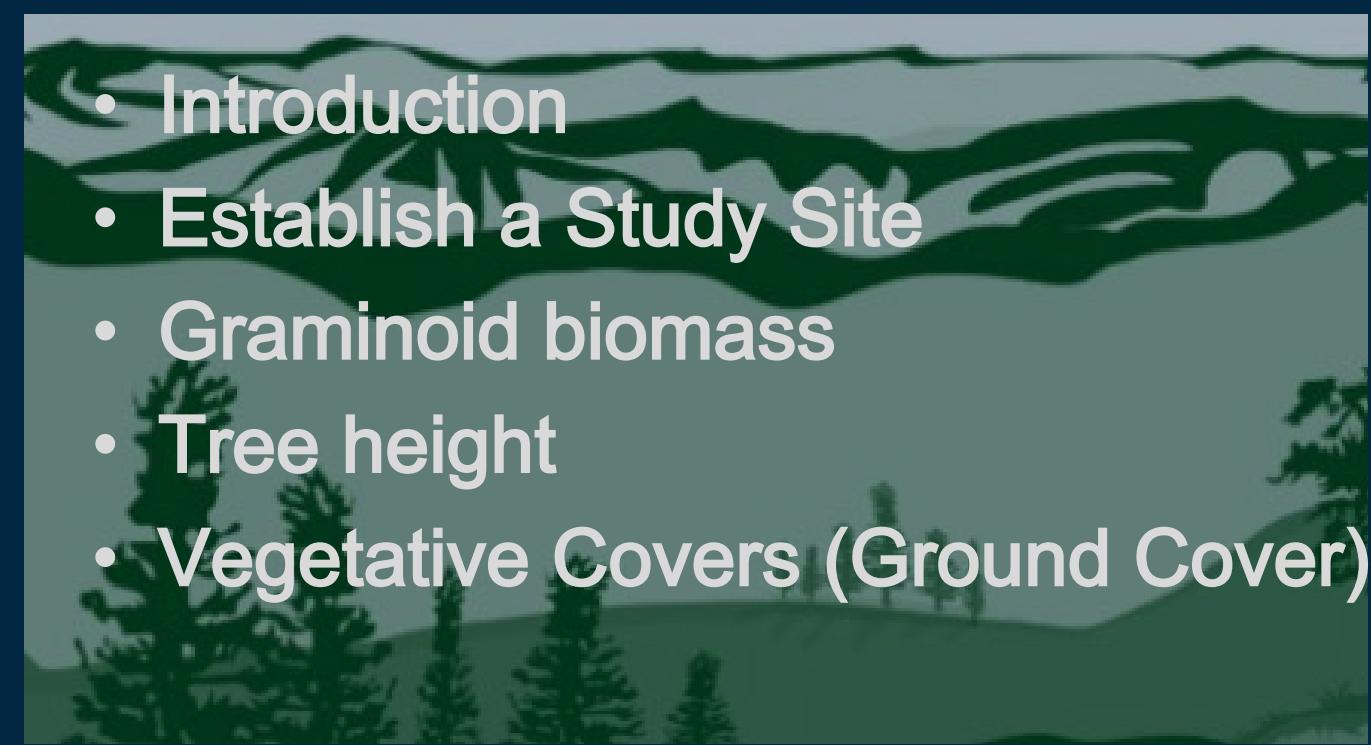
Atmosphere:

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



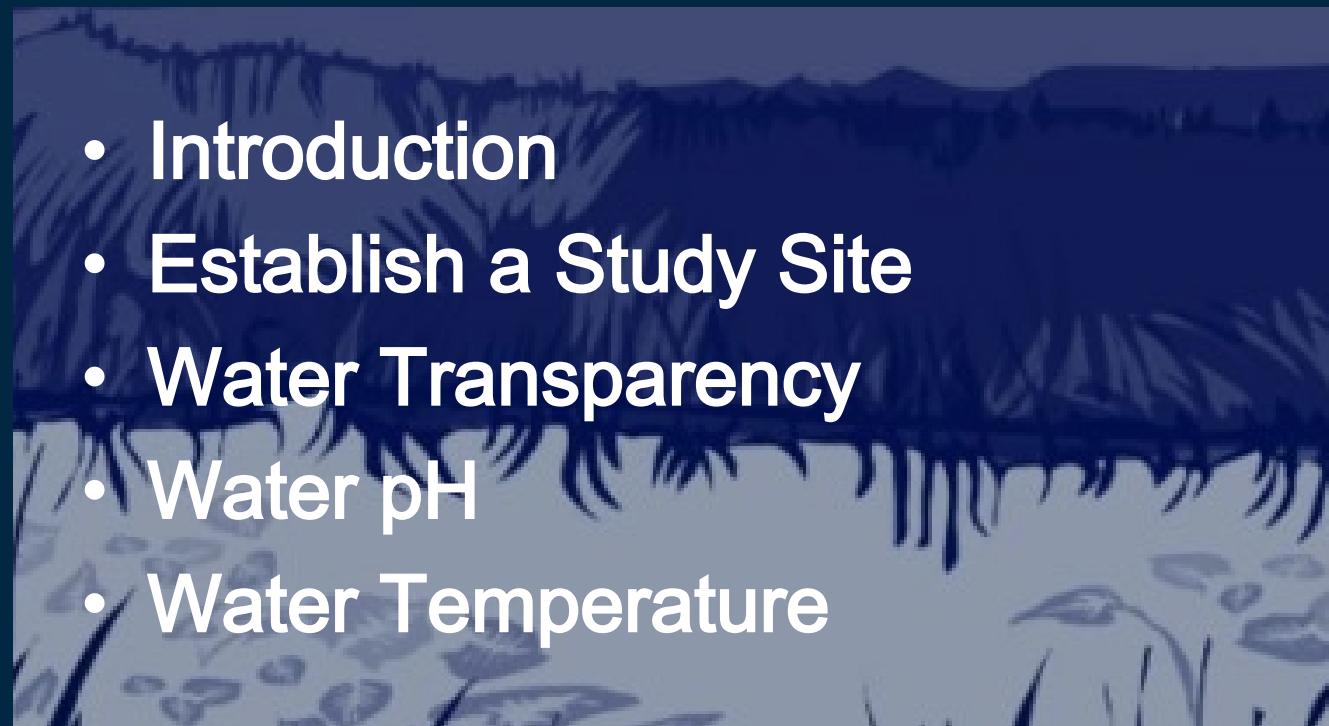
Biosphere:

- 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:

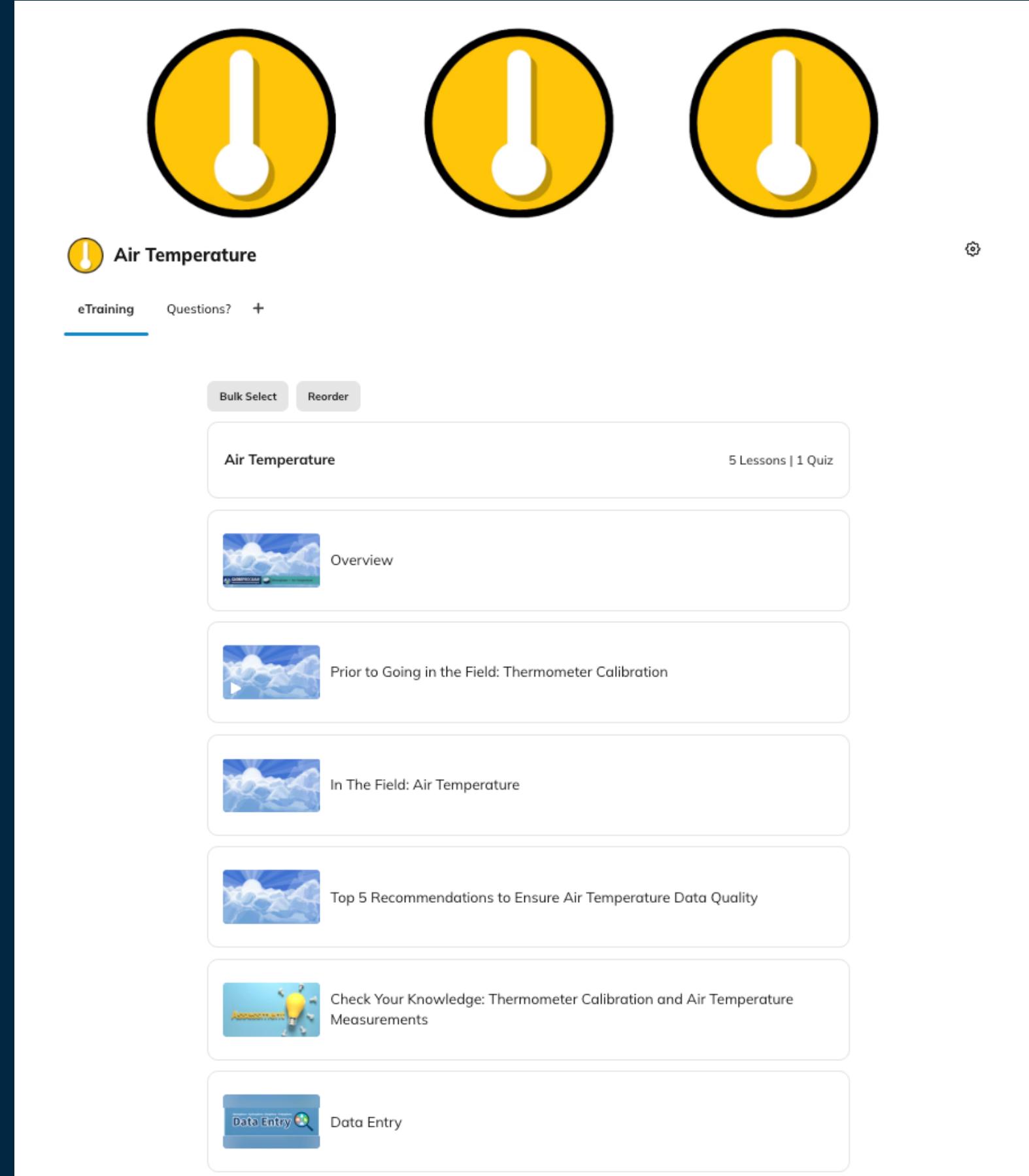
- Introduction
- Establish a Study Site
- Soil Moisture-Gravimetric
- Soil Temperature



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 shows the GLOBE eTraining interface for 'Air Temperature'. At the top, there are three yellow circular icons with white thermometers. Below them is the title 'Air Temperature'. The interface includes a navigation bar with 'eTraining' (underlined), 'Questions?', and a plus sign. There are also 'Bulk Select' and 'Reorder' buttons. The main content area displays a list of lessons:

- Air Temperature** (Overview, 5 Lessons | 1 Quiz)
- 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**
- Data Entry**

Each lesson item includes a small thumbnail image and a play button icon.

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°C and $+0.5^{\circ}\text{C}$.
5. If the thermometer reads less than -0.5°C , check to make sure that there is no salt in your ice-water bath.

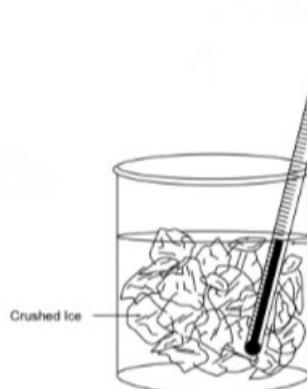
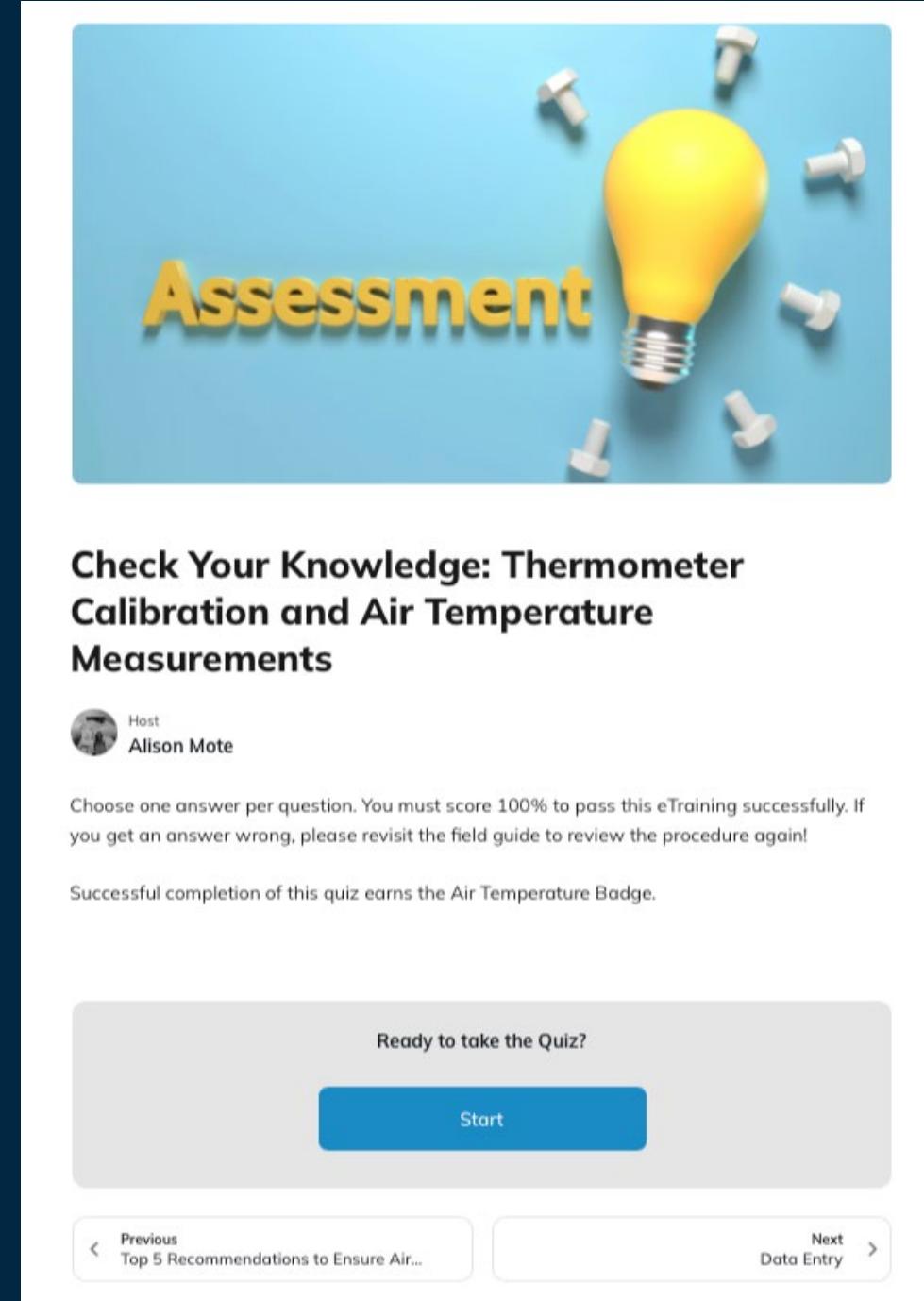


Figure 1. Thermometer placed in an ice water bath. Add more ice than water and let the thermometer sit in the ice bath for at least 10 minutes. Add more ice if needed.

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



Assessment

Check Your Knowledge: Thermometer Calibration and Air Temperature Measurements

Host Alison Mote

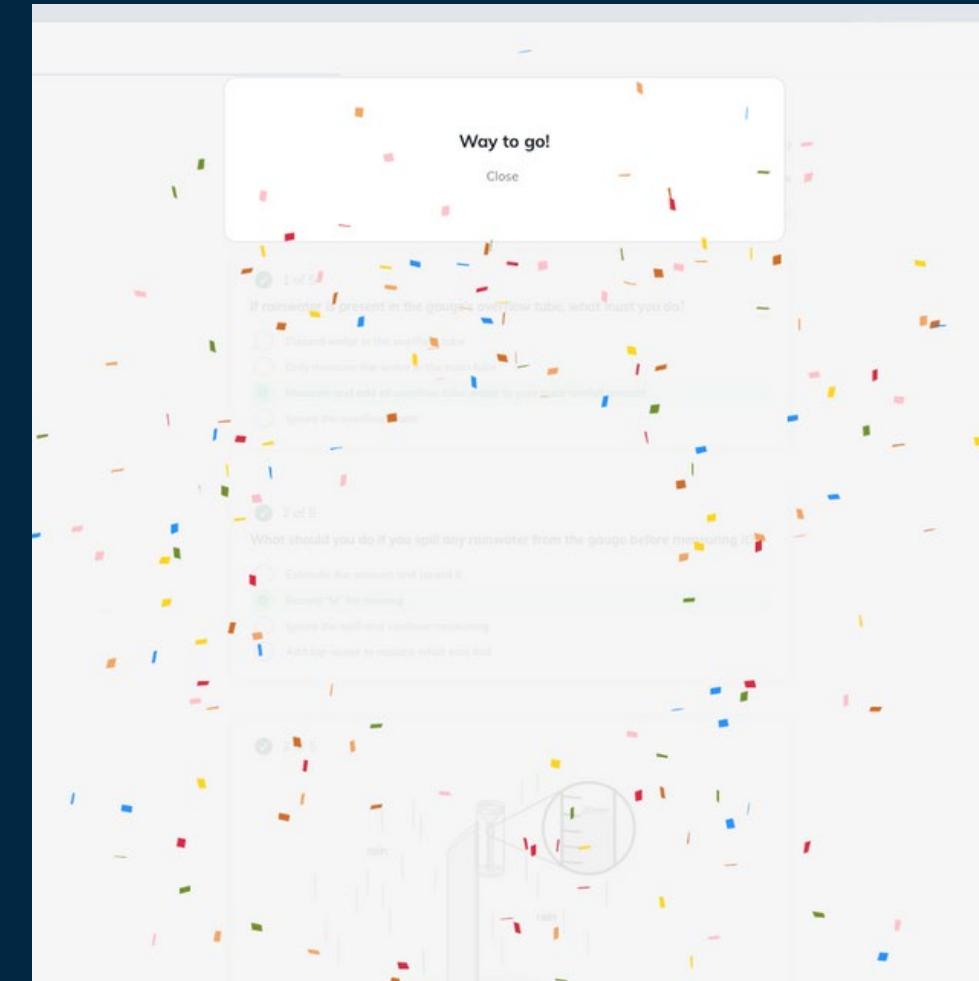
Choose one answer per question. You must score 100% to pass this eTraining successfully. If you get an answer wrong, please revisit the field guide to review the procedure again!

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



Way to go!

Close

1 of 8: If a thermometer is present in the gauges on your flow tube, what must you do?

Only measure the water in the flow tube

Measure and add ethylene oxide to the flow tube

Leave the thermometer

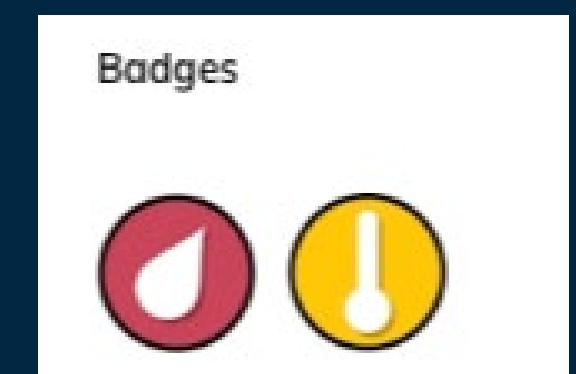
2 of 8: What should you do if you spill any roomwater from the gauges before measuring?

Estimate the amount and record it

Record "0" for the reading

Leave the spill and continue measuring

Add tap water to replace what was lost



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

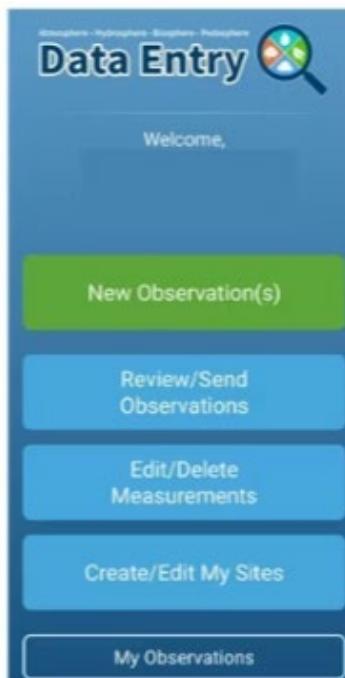
Alison Mote

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".

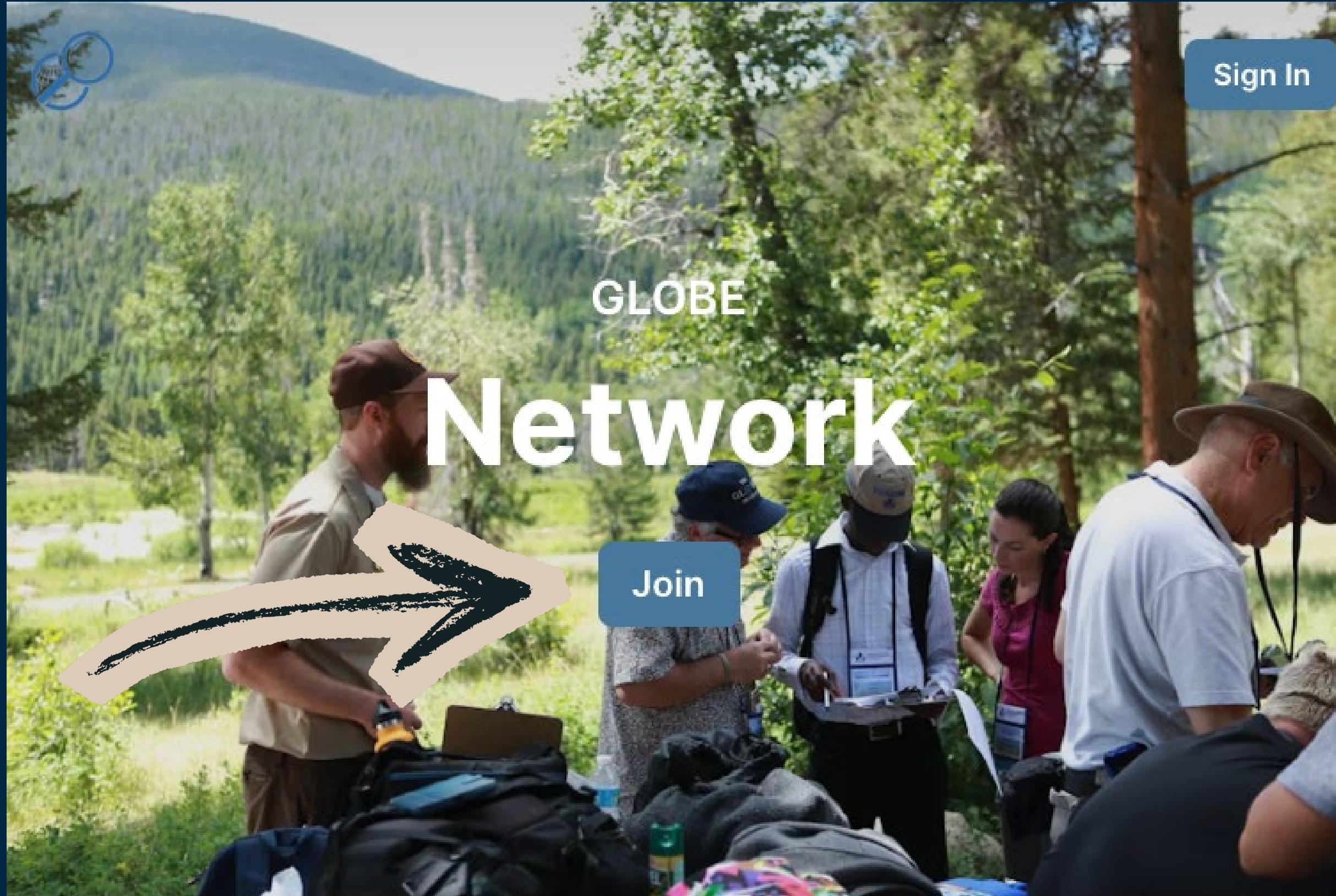
3. Click "Continue" at the bottom of the screen. You will then be prompted to enter the site location (latitude, longitude, and elevation). Choose an existing site or identify a new site by clicking "+ New Site Location" to add a new site.

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

 **GLOBEPROGRAM**
A Worldwide Science & Education Program

+ Create

 Members

Start Here

 Explore

Atmosphere Data...

Biosphere Data C...

Hydrosphere Data...

Pedosphere Data...

Virtual Events

Virtual Science S...

 GLOBE.gov Training

Search    

Virtual Events

SHOWING...  SORTED BY HOST... 

All Yours


2025 GLOBE Annual Meeting
14 - 15 July 2025 | Virtual
30 Years of GLOBE: Understanding the Past, Present, and Future
#GLOBEMeeting2025


2025 GLOBE Annual Meeting
Joined



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

New user view

check your email to verify your email address.

 GLOBE PROGRAM®
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+ Create

 Members

Start Here

Explore

Atmosphere Data...

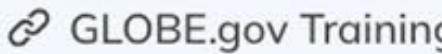
Biosphere Data C...

Hydrosphere Data...

Pedosphere Data...

Virtual Events

Virtual Science S...

 GLOBE.gov Training

Members

Explore All Top Newest Hosts Online 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
- Log in using the same credentials as your Annual Meeting account OR create an account



2) Click on a menu option on the left

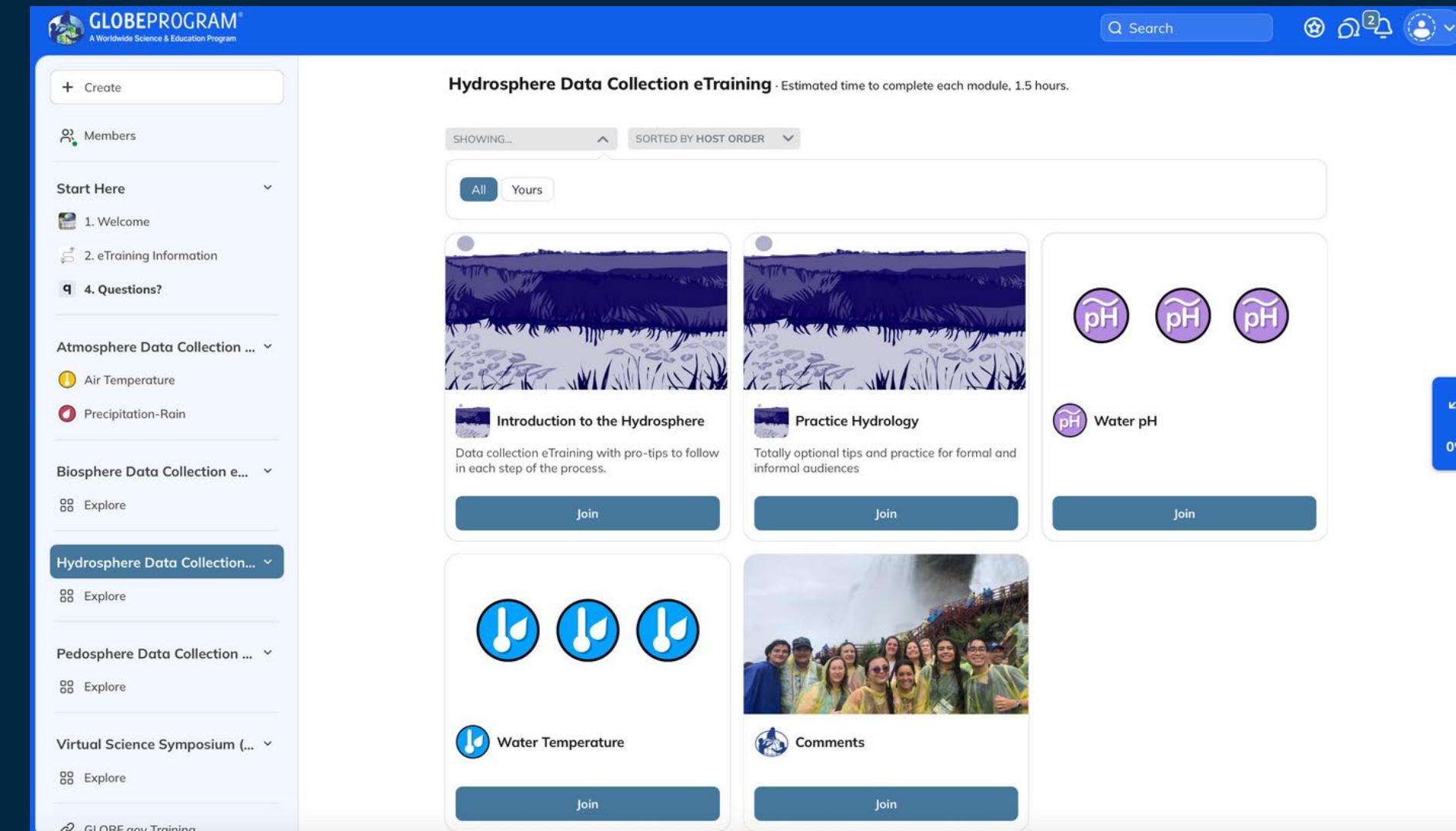
- Join an eTraining
- Explore
- Ask questions in “Start Here” → “4. Questions?”

The screenshot shows the GLOBE Network interface. The left sidebar has a 'Create' button and a 'Members' section. Under 'Start Here', there are links for '1. Welcome', '2. eTraining Information', and '4. Questions?'. The 'Hydrosphere Data Collection...' section is expanded, showing 'Air Temperature' and 'Precipitation-Rain' options. Below that is the 'Explore' section. The main content area is titled 'Hydrosphere Data Collection eTraining' and shows a grid of modules. Each module has a thumbnail image, a title, a description, and a 'Join' button. The modules are: 'Introduction to the Hydrosphere' (Data collection eTraining with pro-tips to follow in each step of the process), 'Practice Hydrology' (Totally optional tips and practice for formal and informal audiences), 'Water pH' (Water pH), 'Water Temperature' (Water Temperature), and 'Comments' (Comments).

Breakout Rooms: Discuss and Debrief

What did you discover?

What questions do you have?



The screenshot shows the GLOBE eTraining platform interface. The top navigation bar includes a search bar, a notification icon with 2 notifications, and a user profile icon. The main content area is titled "Hydrosphere Data Collection eTraining" and notes an estimated time of 1.5 hours to complete each module. The interface is organized into a sidebar and a main content area. The sidebar contains links for "Create", "Members", "Start Here" (with modules 1. Welcome, 2. eTraining Information, and 4. Questions?), "Atmosphere Data Collection" (with Air Temperature and Precipitation-Rain), "Biosphere Data Collection" (with Explore), "Hydrosphere Data Collection" (with Explore), "Pedosphere Data Collection" (with Explore), and "Virtual Science Symposium" (with Explore). The main content area displays a grid of modules: "Introduction to the Hydrosphere" (with a "Join" button), "Practice Hydrology" (with a "Join" button), and "Water pH" (with a "Join" button). Each module card features a preview image, a title, a description, and a "Join" button. The "Water pH" module also includes three circular icons with "pH" symbols.

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.

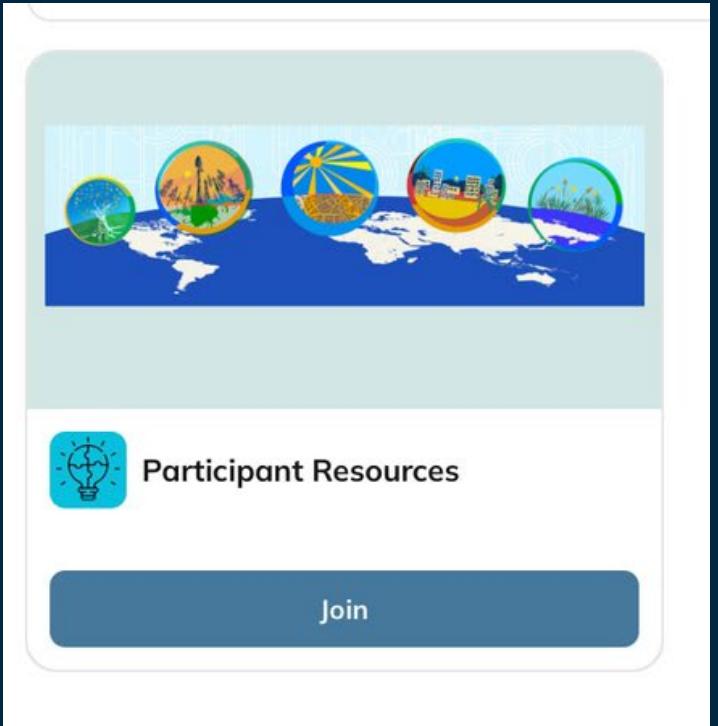
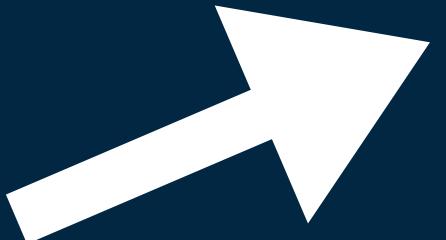
GLOBE Observer app ...



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

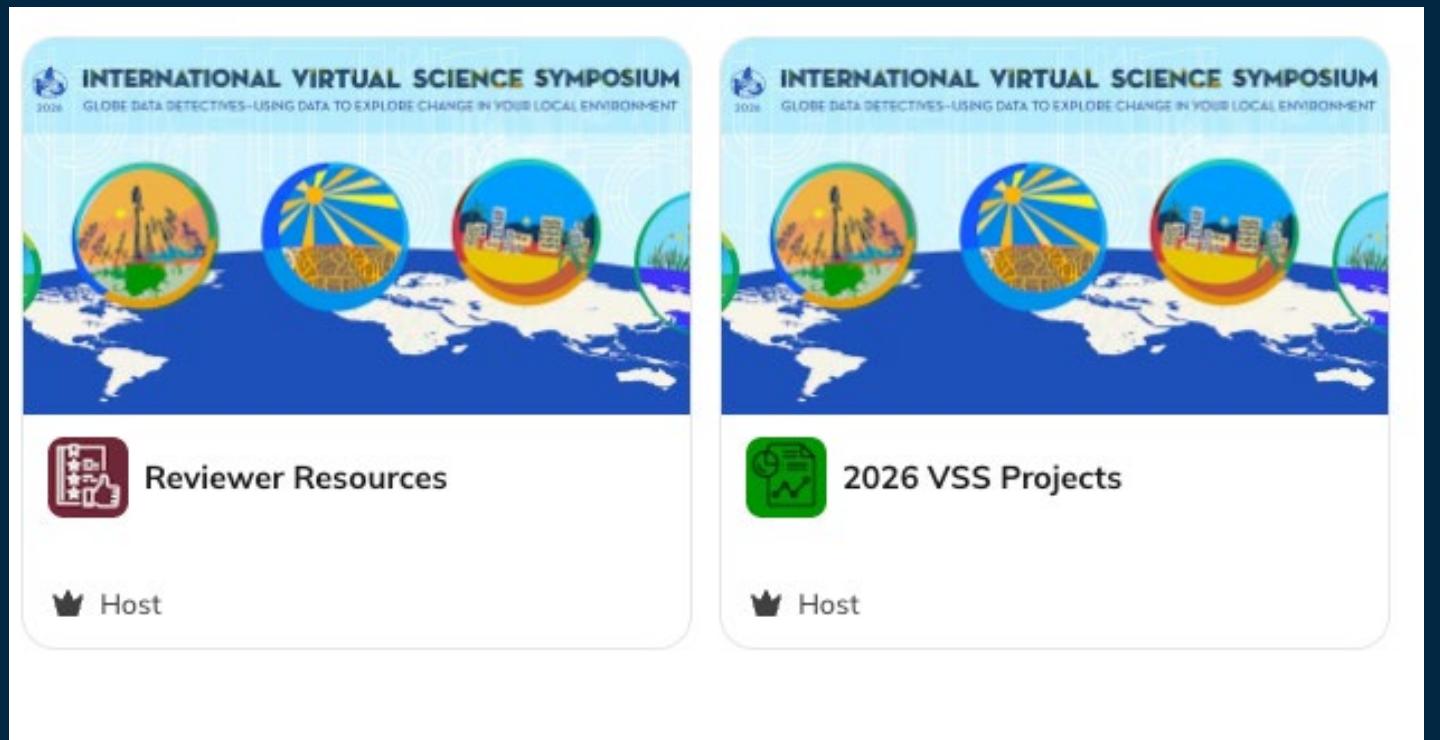


Join VSS Participant Resources now to ask questions and explore resources!



Coming soon*:

- Reviewer Resources
- 2026 VSS Projects



Deadline to submit a project is 30 January!

Please complete our feedback survey:
go.edc.org/1pgAAA

THANK YOU!

