



Introducing the User Guide for GLOBE Data

Report Out

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THANK YOU

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What is it?

Purpose:

The User Guide is a technical document intended to help scientists and researchers understand, access, and use available GLOBE data

Audience:

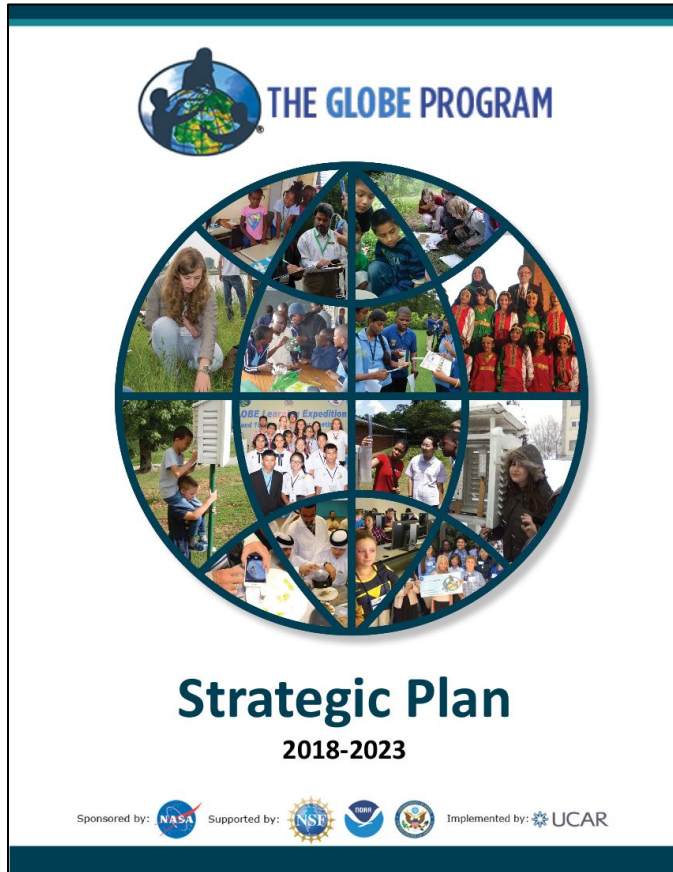
Scientists and researchers using GLOBE data

Update schedule:

Annually (approximate)



Why?



Science Goal 3
Increase the number of publications and citations using or referencing GLOBE data

<https://www.globe.gov/about/strategic-plan>



Reactions

“This is AMAZING!!!”

“[This] document is fabulous”

“THANK YOU for your work on this. I’m really pleased to see significant progress on enhancing the ability of the science community to use GLOBE data.”

“We need this.”



What's in it?

Table of contents

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Citation for GLOBE Data

Data Characteristics

Data Variables & Metadata

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Data & Photo Access

Example Data

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Appendix 2. Data Variables,
Units, & Definitions

Appendix 3. MUC Code
Derivation



What's in it?

Example 1

Table of GLOBE data variables

Variable	Units	Definition
org_name		The name of the reporting school or other institution.
latitude	decimal degrees north	The latitude of the site where data were observed. Range: [-90, 90]
longitude	decimal degrees east	The longitude of the site where data were observed. Range: [-180, 180]
elevation	meters above sea level	The elevation of the site where data were observed
aerosols:aerosol_optical_thickness	unitless	Aerosol optical thickness per wavelength for each time stamp



What's in it?

Example 2

Range & logic checks

Time of Measurement:						
Entry	Min	Max	Units	Missing	Data Type	Notes
<u>*Year</u>	1995	Current Year	None	N/A	Date	
<u>*Month</u>	January	December	None	N/A	Date	
<u>*Day</u>	1	31	None	N/A	Date	
<u>*Time</u>						
Hour	0	23	None	N/A	Date	UT
Minute	0	59				
Second	0	59				
Other Checks:						
<ul style="list-style-type: none"> • Cannot be a future time 						

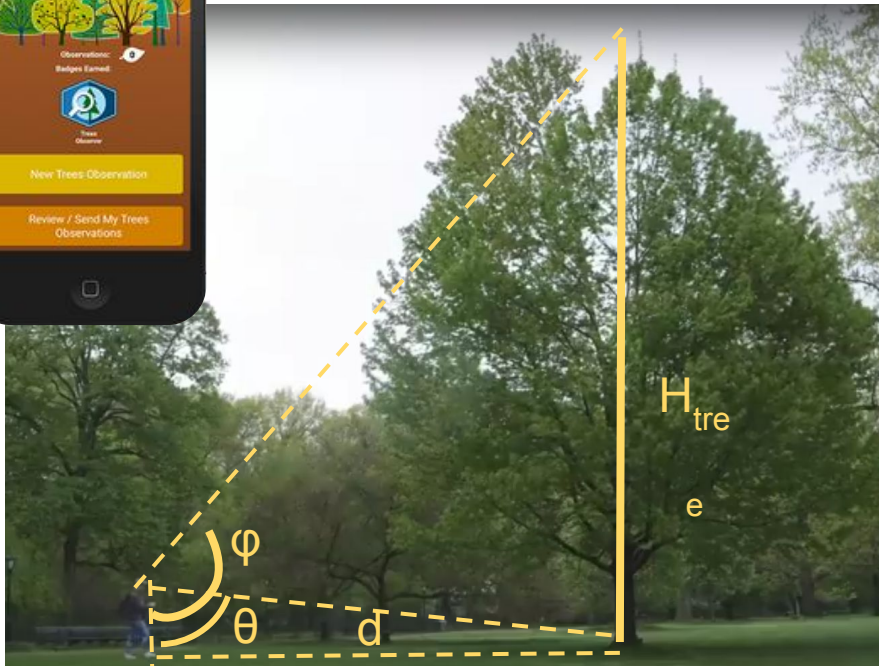
<https://www.globe.gov/web/guest/do-globe/globe-teachers-guide/data-validations>



What's in it?

Example 3

Derivations from GLOBE Observer app



$$\phi = \text{radians}(90 - \beta)$$

$$\theta = \text{radians}(90 - \alpha)$$

$$\lambda = \arctan(h_c / (nL)) - \phi$$

$$h_1 = \tan(\theta)$$

$$h_2 = \tan(\phi)$$

$$d = nL \cos(\lambda)$$

$$H_{\text{tree}} = d(h_1 + h_2)$$

Watch full video from *The Verge* [[link](#)]



Where is it?

The screenshot shows the GLOBE Data website. The browser address bar displays <https://www.globe.gov/globe-data>. The header features the GLOBE logo, the text "THE GLOBE PROGRAM", and "A Worldwide Science and Education Program". A language dropdown menu is set to "ENGLISH". The navigation menu includes: About, Get Started, Get Trained, Do GLOBE, GLOBE Data, Community, News & Events, and Support. The main content area shows "Home > GLOBE Data" and a "Share" button. On the left, a sidebar lists: GLOBE Data, Data Entry, Visualize Data, Retrieve Data (ADAT), Science Honor Roll, and GLOBE Data User Guide (highlighted in red). The main image shows three students outdoors; one is using a handheld weather station while another looks at a notebook. Below the image is the text "GLOBE Data".



Where is it?

https://www.globe.gov/globe-data

https://observer.globe.gov/get-data

THE GLOBE PROGRAM

helen.m.amos@nasa.gov

View My Observations

Get the App Do GLOBE Observer Lead a Program **Get Data** News, Events, and People Publications About

GLOBE Observer / Get Data /

Share

Data Access and Use

WEB CONTENT DISPLAY

This page contains resources for how to access, cite, and use GLOBE Observer data.

Stay Updated

GO-Sci@lists.nasa.gov is an email list for researchers and scientists who want to keep up with news, conferences, publications, data, and other science updates from GLOBE and GLOBE Observer.

To subscribe or unsubscribe to the listserv, visit <https://lists.nasa.gov/mailman/listinfo/go-sci>

Get the data

Display GLOBE Observer data on a world map using the Visualization System.

Query and download GLOBE Observer data in a csv file from the Advanced Data Access Tool.

Quick Links

- [Plot GLOBE Observer Clouds data on a world map](#)
- [Plot GLOBE Observer Land Cover data on a world map](#)
- [Plot GLOBE Observer Mosquito Habitat Mapper data on a world map](#)

GLOBE Data User Guide



Where is it?

https://www.globe.gov/globe-data

https://observer.globe.gov/get-data

https://vis.globe.gov/GLOBE/

GLOBE Visualization System

Measurements | Data Counts | Select Language | Welcome Oozons

2019-05-02

Welcome!

Getting Started:

Three steps to visualizing your data:

1. Select the protocol data you would like to visualize.
2. Select the date
3. Click a measurement to retrieve the data

[See a 20 second demonstration](#)

[See a quick demonstration of additional features](#)

[Download full tutorial](#)

GLOBE Data User Guide

Sites on Map: 0

1000 km

OpenStreetMap contributors

Legends



Where is it?

The screenshot displays the GLOBE Data Access Tool interface. The top navigation bar includes the GLOBE Program logo, the title "Advanced Data Access Tool", and links for "Sign Out" and "Select Language". Below the navigation bar are buttons for "Apply Filter", "Clear", "Load", and "Save", along with the text "Data Last Updated: 2019-05-02" and a link to the "GLOBE Data User Guide Instructions".

The main content area is divided into two columns. The left column, titled "Select a Filter:", contains two sections: "Data Filters" and "Site Filters". Under "Data Filters", there are links for "Select Protocols", "Date Range", and "Data Count Range". Under "Site Filters", there are links for "Site Name", "Country or State/Territory", "In proximity of a lake or river:", "School/Teacher/Partner", "Elevation Range", "Lat/Long Range", and "Proximity to Lat/Long".

The right column, titled "Instructions", contains the following text:

This tool allows you to find and retrieve GLOBE data using several different search parameters. You will be presented a summary of sites that have data available based on your search parameters. From those sites you can further refine your search and/or download the data into a CSV file for detailed analysis. A summary CSV file is also available that summarizes the amount of data available for each site.

General guidelines:

- At least 1 protocol must be selected but no more than 5.
- Multiple filters are encouraged.
- Each filter type can have multiple parameters.
- The default is that all data for all sites in the site list will be included in the measurement data CSV file.
- The "-" must be used for southern hemisphere latitudes and western hemisphere longitudes.
- Save your search parameters by using the Save and Load functions above. Log-in required.

To begin, select a filter item on the left.

An image of a student in a blue shirt kneeling in a field, using a camera and a clipboard, is shown to the right of the instructions.



Where is it?

The image shows a stack of browser windows. The top window is the Swagger UI for the GLOBE Elasticsearch API. The URL is <https://api.globe.gov/search/swagger-ui.html>. The page title is "THE GLOBE PROGRAM" and the selected API group is "public-api".

GLOBE Elasticsearch API ^{1.0.0}

[Base URL: `api.globe.gov/search/`]
<https://api.globe.gov/search/v2/api-docs?group=public-api>

API for accessing GLOBE data

[GLOBE - Website](#)
[Send email to GLOBE](#)
[About the GLOBE API](#)

GLOBE Data User Guide

v-1-controller V 1 Controller

- GET** `/v1/measurement/` Find measurements by protocol, date field(range) and numeric field(range).
- GET** `/v1/measurement/pid/` Find measurements by postgres id.
- GET** `/v1/measurement/protocol/` Find measurements by protocol.
- GET** `/v1/measurement/protocol/measreddate/` Find measurements by protocol and measured date range.
- GET** `/v1/measurement/protocol/measreddate/country/` Find measurements by protocol, measured date range, and country code (ISO3).
- GET** `/v1/measurement/protocol/measreddate/country/distance/` Find measurements by protocol, measured date range, and within a country border or border plus a distance (km).



Implemented by: UCAR



How can you contribute?

Suggested updates, additions, edits, and corrections are welcome. Email help@globe.gov with:

- Suggested change (please be as specific as possible)
- Rationale
- Version number
- Section
- Page number
- Your name
- Email address
- Date
- How are you using GLOBE data?



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**SEE A DUST STORM?
SUBMIT YOUR PHOTOS
WITH GLOBE OBSERVER.**

