



The **GLOBE** Program

GLOBE Visualization System “Vis”

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How to access GLOBE Data

- Visualize Data – “GLOBE Vis”
 - See Data on the map
 - <https://vis.globe.gov>
- Retrieve Data – Advanced Data Access Tool (ADAT)
 - Save Data into a spreadsheet
 - <https://datasearch.globe.gov>
- My Observations
 - Shows you just your observations
 - Can be shared with others
- GLOBE API – “API-Out”
 - More for programmatic connections
 - Fast for retrieving larger amounts of data into GeoJSON format
 - <https://api.globe.gov/search>



Visualize and Retrieve your Data

- Used for mapping data
- Focus is on one site, or possibly comparing 2-3 sites
- Simple X/Y charts available

Demonstration Topics – Visualization – vis.globe.gov

- Navigate to the visualization system
- The pieces of the visualization system
 - Layers, Dates, Filters, Legend, Graphs
- How to view data from a specific protocol on the map
- How to graph and retrieve data for a specific protocol
- Advanced Features
 - How to use data counts to find schools that are active in a given protocol
- Your Turn
 - Activities for you to try with “vis”



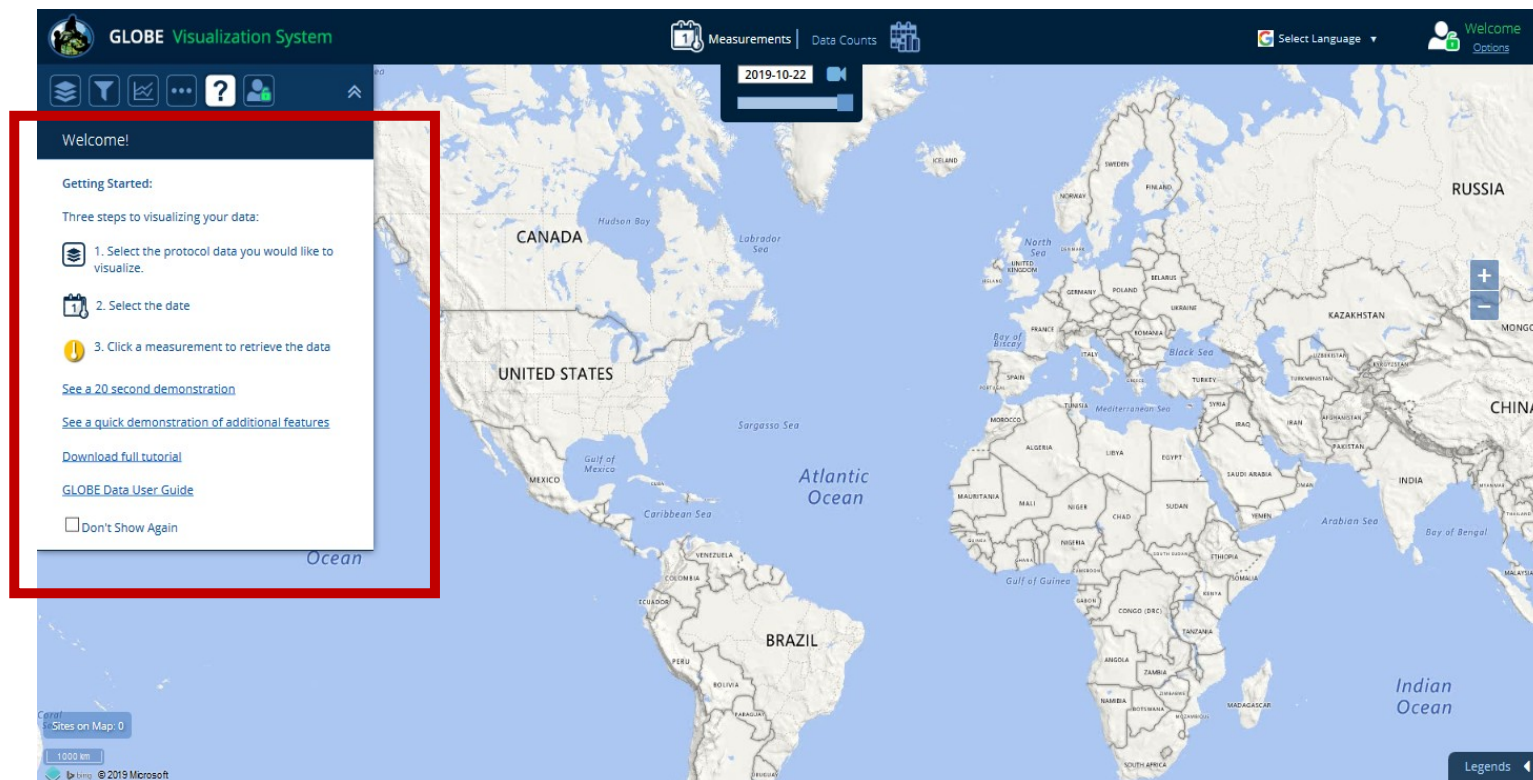
The Basics of the Visualization System

- Select Go to -> from the top and “Visualize Data”
 - Or Go to the homepage and select “Visualize Data”
 - Or <http://vis.globe.gov>



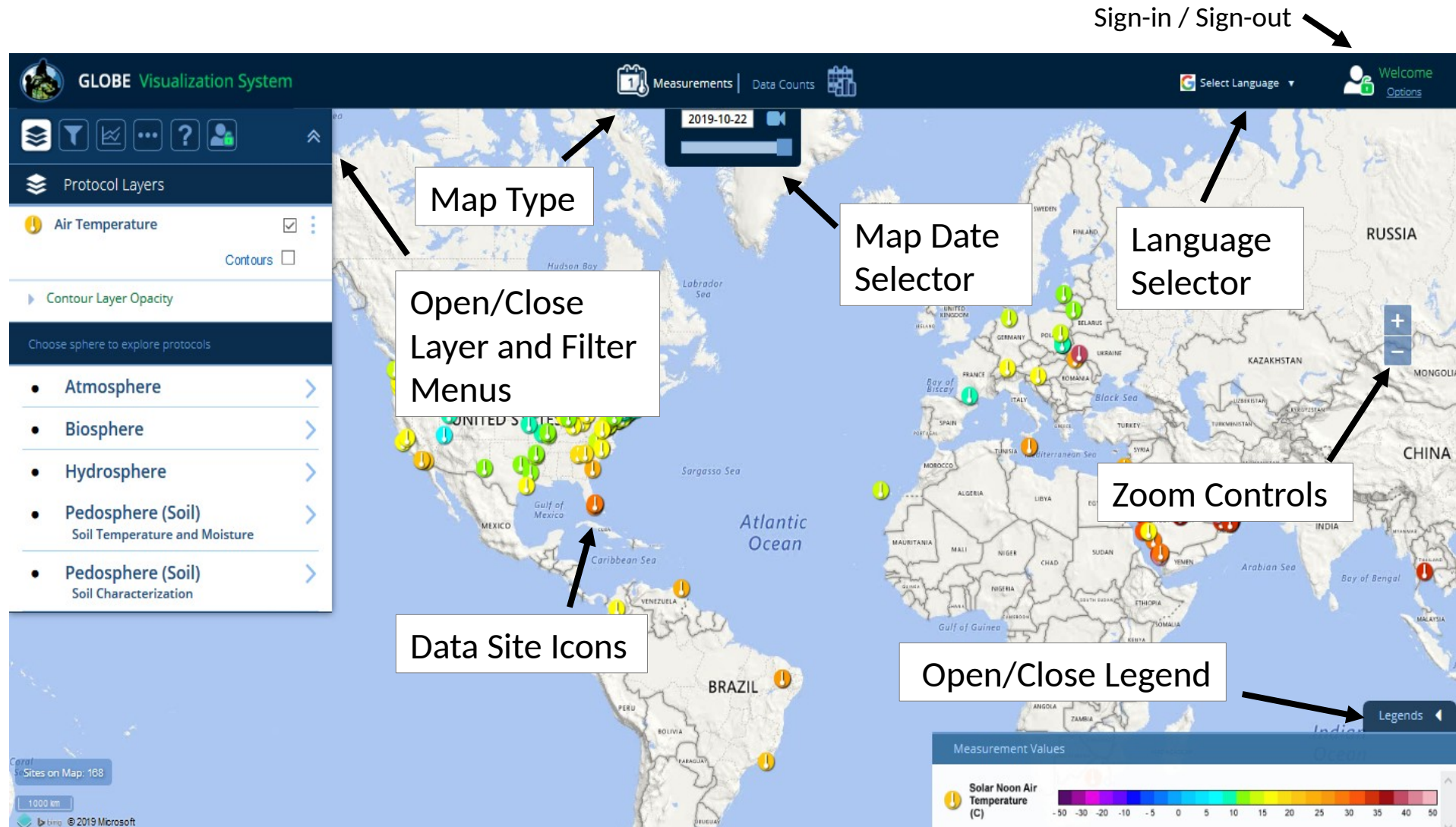
The Basics of the Visualization System

This is the GLOBE Visualization Landing Page. The help tab is the default tab when you first come to Vis. There are getting started steps, links to quick demonstrations and this complete tutorial. Check the 'Don't show again' to default to the layer screen for future visits.



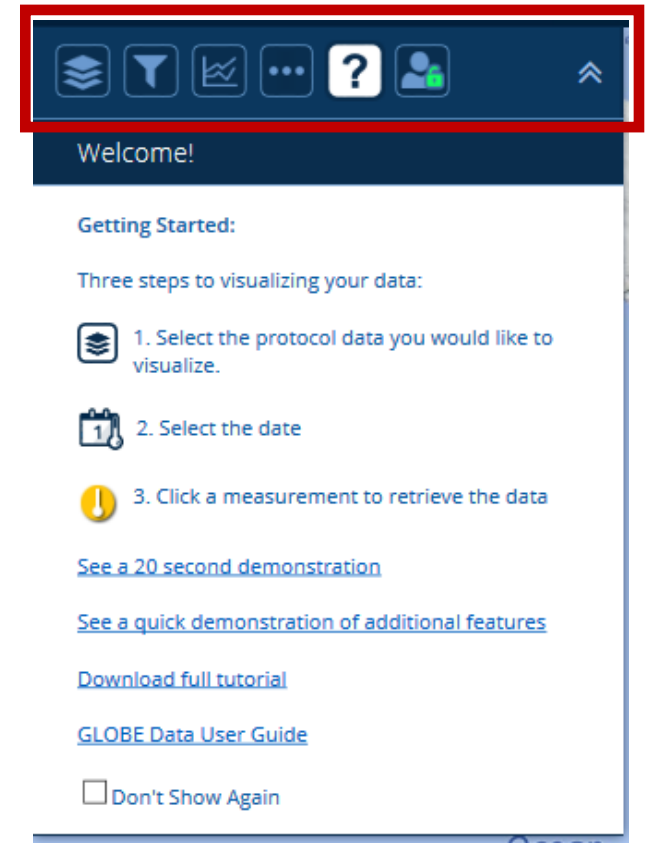
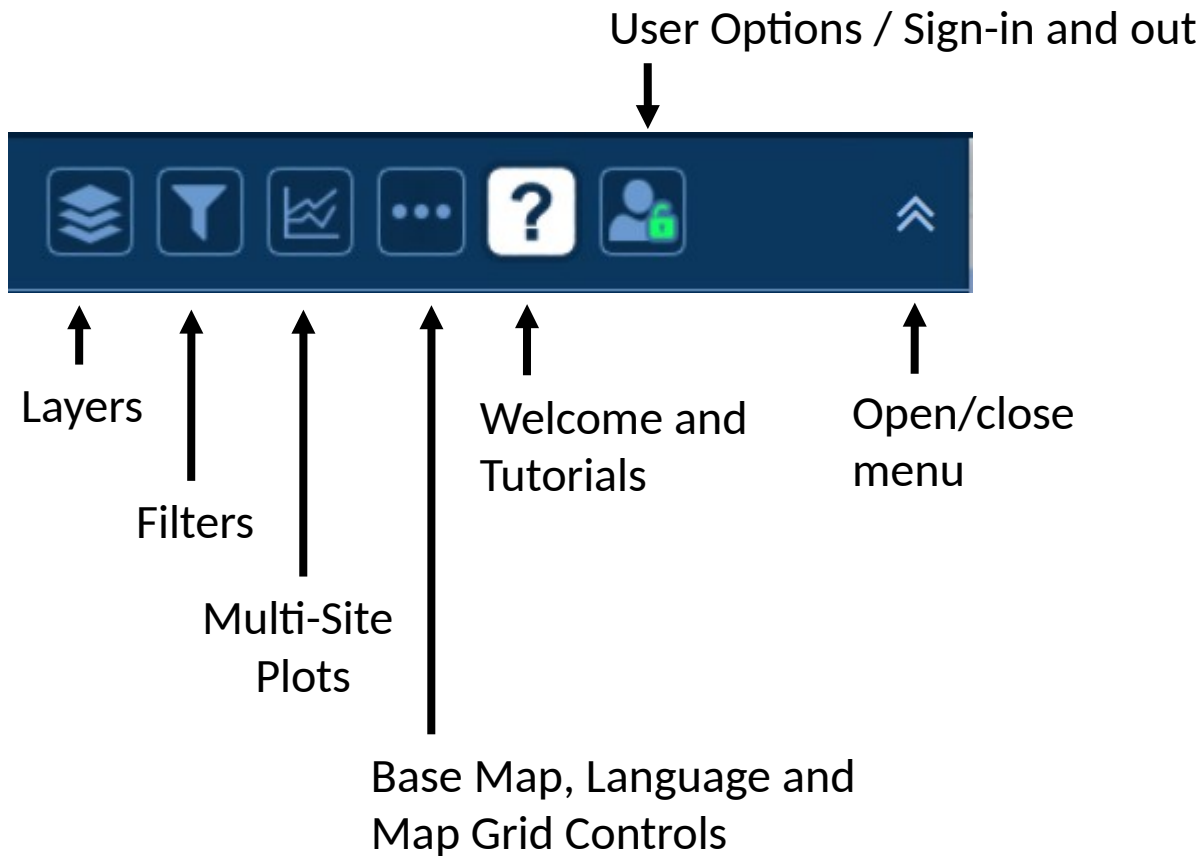


The GLOBE Program





Layer and Filter Menu Icons





The Basics of the Visualization System

- Three Steps to Visualize your Data:
 1. Select the protocol data you want to see (Add Layers)
 2. Select the Date you want to see the data for
 3. Click on a data point on the map to receive table and graph information



Step 1 – Add Data Layers

GLOBE Visualization System

Measurements | Data Counts

2018-11-05

Protocol Layers

Choose a Sphere below to see protocols. From there, open each protocol to see the available data layers that can be added to the map.

Choose sphere to explore protocols

- **Atmosphere**
- Biosphere
- Hydrosphere
- Pedosphere (Soil)
Soil Temperature and Moisture
- Pedosphere (Soil)
Soil Characterization

Sites on Map: 0

2000 km

1. Select Which Data to Plot
Start by selecting the Protocol Layers icon, then the sphere your data is in



Step 1 – Add Data Layers

GLOBE Visualization System

Measurements | Data Counts

2018-11-05

Protocol Layers

Choose a Sphere below to see protocols. From there, open each protocol to see the available data layers that can be added to the map.

< Check to select Protocols **SUBMIT**

- ☒ **Solar Noon Temperature Dailies**
- ☐ Maximum Daily Temperature
- ☐ Minimum Daily Temperature
- ▶ Air Temperature Monthlies
- ▶ Air Temperature Noons
- ▶ Air Temperature
- ▶ Aerosols

1. Select Which Data to Plot
Select your protocol and "SUBMIT"



Step 2 – Select the Date

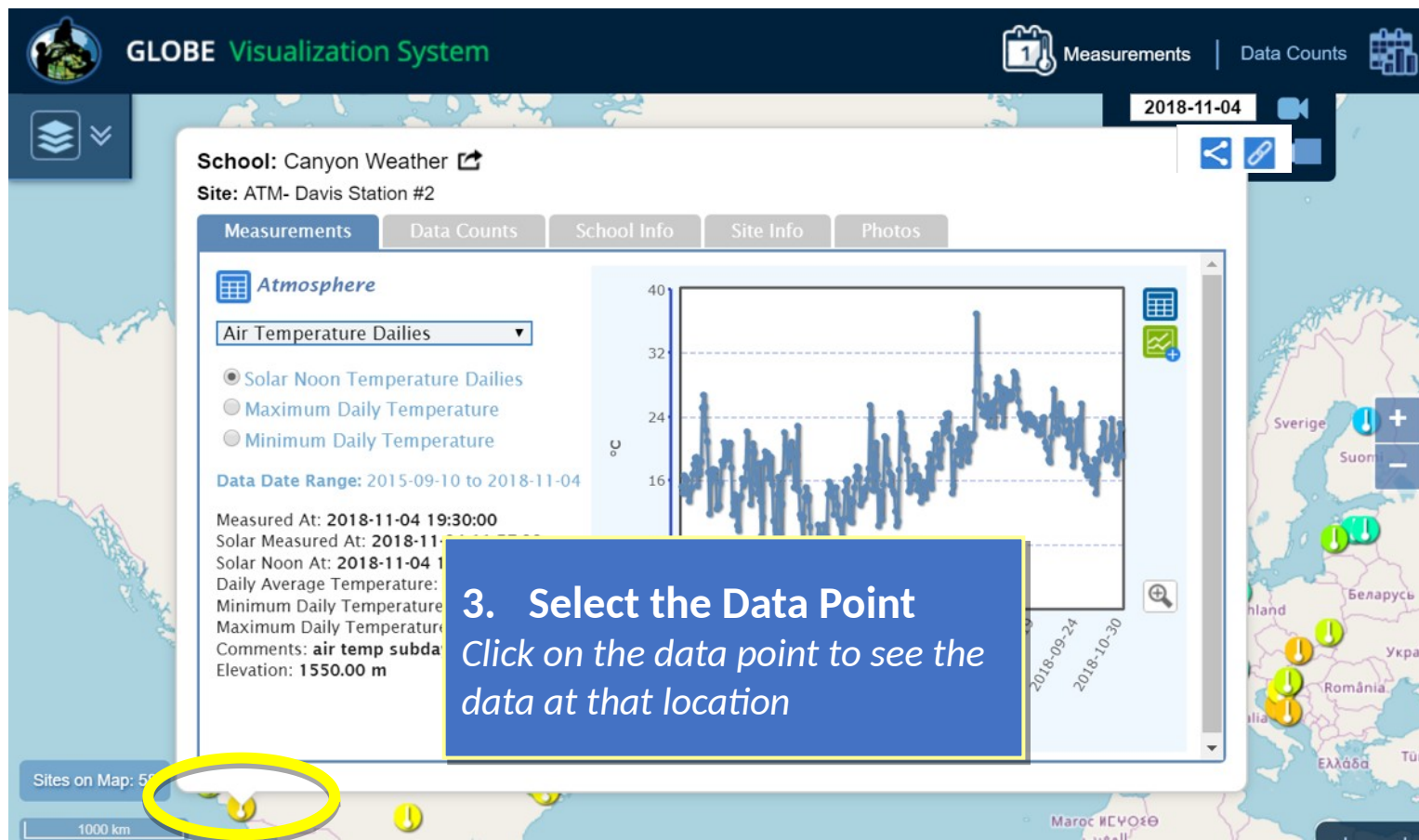
The screenshot shows the GLOBE Visualization System interface. On the left, there's a sidebar with 'Protocol Layers' and a list of protocols including 'Solar Noon Temperature Dailies'. The main area displays a map of South America with a calendar overlay for November 2018. A yellow circle highlights the date '2018-11-05' in the calendar. A blue text box with a yellow border is overlaid on the calendar, containing the text: '2. Select the Date' and 'Days which have data will have a small data icon on them'. Below the calendar, a note states 'Icons indicate the actual measurement date'.

2. Select the Date
Days which have data will have a small data icon on them

Icons indicate the actual measurement date

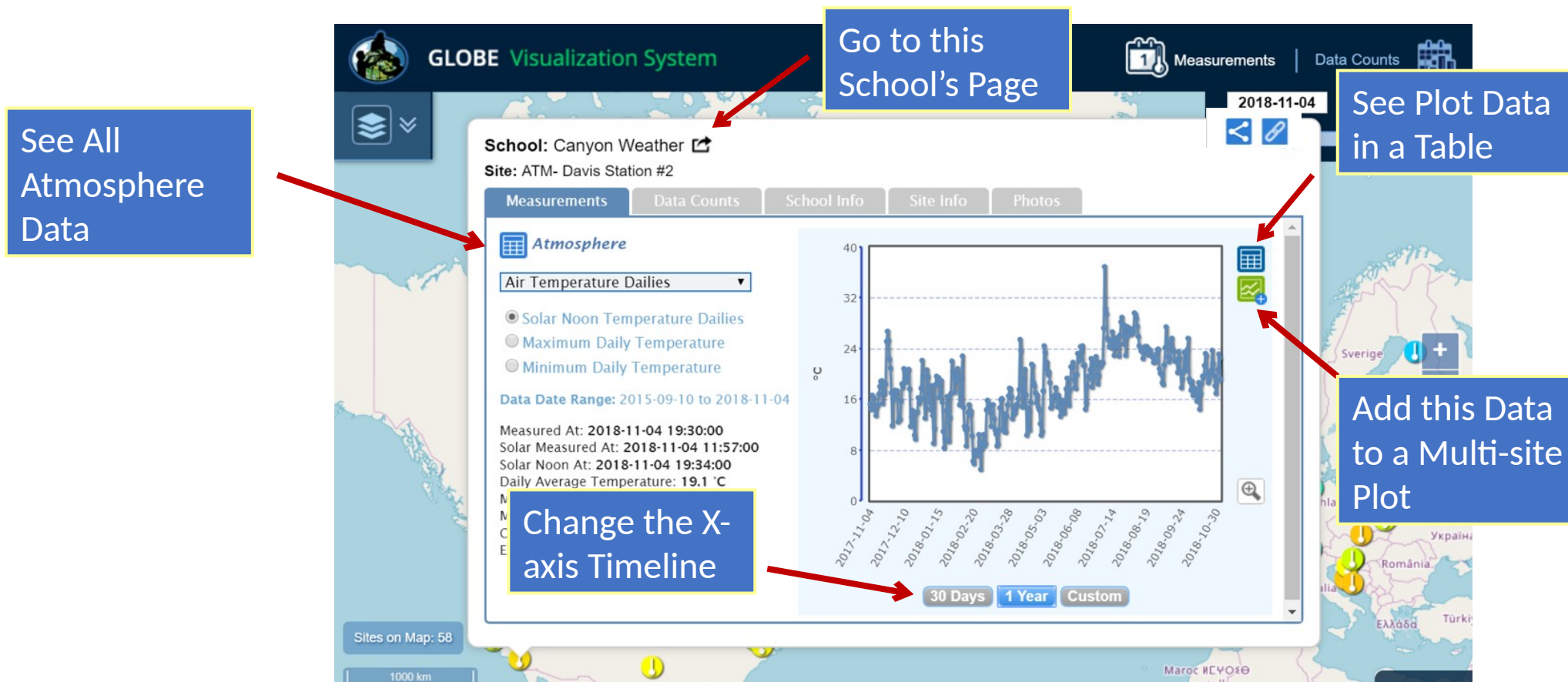


Step 3 – Select the Data Point





Vis system popup window





Advanced Features

- Use Filters - Location/Site/Elevation to find specific locations – school, country, city etc.
- Create an animation
- Use the graph with the + icon to select multiple data sets to graph
 - Allows you to overlay data from multiple sites
- Export layers to KMZ format for using with Google Earth and other similar tools



Filter your results

Select Filter Icon
Filter by teacher, school, country, lat/long or other options

The screenshot displays the GLOBE Visualization interface. At the top, a dark blue header bar contains the GLOBE logo and the text "GLOBE Visualization". Below this, a row of icons is shown, with the filter icon (a funnel) highlighted by a yellow circle. To the right of the filter icon, a blue box contains the text "Select Filter Icon" and "Filter by teacher, school, country, lat/long or other options". Below the filter icon, a dropdown menu is open, showing a list of filter options. The options are: "Find a Site: None Selected", "Find Multiple Sites: None Selected", "Elevation: -3492 - 7051m", and "Observer: (For Clouds data only) All Observations". The dropdown menu is divided into two sections: "Find a Site:" and "Find Multiple Sites:". The "Find a Site:" section includes "Choose Site", "Choose Site by School", and "Choose Site by Teacher". The "Find Multiple Sites:" section includes "None Selected", "Elevation: -3492 - 7051m", and "Observer: (For Clouds data only) All Observations". The background of the interface shows a map of Europe with several location pins. A date range selector at the top right shows "2018-11-04".

Find a Site:
None Selected

Find Multiple Sites:
None Selected

Elevation:
-3492 - 7051m

Observer: (For Clouds data only)
All Observations

Find a Site:
None Selected

- Choose Site
- Choose Site by School
- Choose Site by Teacher

Find Multiple Sites:
None Selected

Elevation:
-3492 - 7051m

Observer: (For Clouds data only)
All Observations

Find a Site:
None Selected

Find Multiple Sites:

- By Partner
- By School or Schools
- By Place
- By Lat/Lon Range
- By Drawing on Map

Elevation:
-3492 - 7051m

Observer: (For Clouds data only)
All Observations



Export Layer

GLOBE Visualization System

Measurements | Data Counts

2018-11-04

Protocol Layers

- Solar Noon Temperature Dailies** (Selected) [Vertical Ellipsis Menu]
- Contour Layer Opac

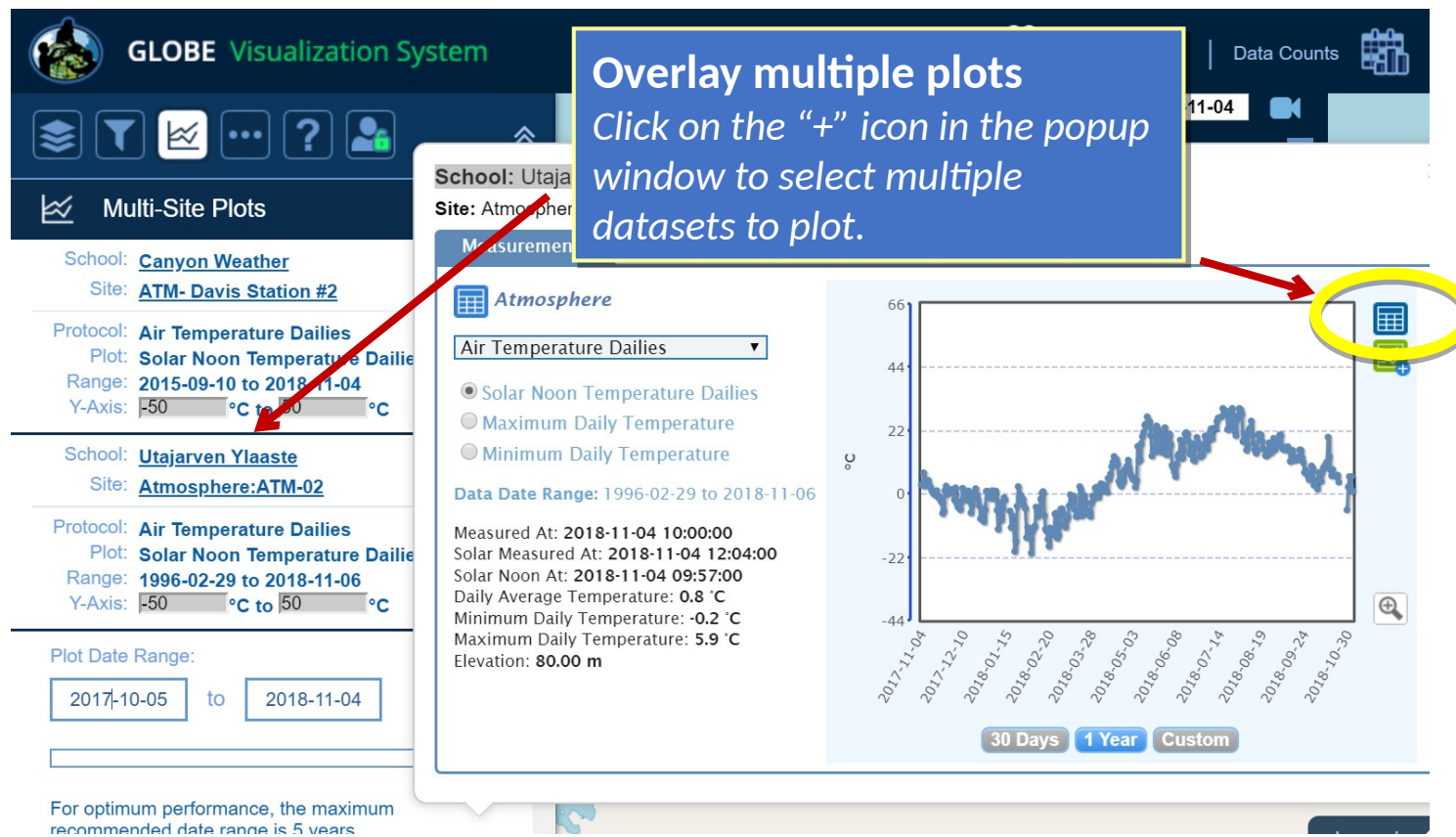
Choose sphere to explore protocols

- Atmosphere
- Biosphere
- Hydrosphere
- Pedosphere (Soil)
Soil Temperature and Moisture
- Pedosphere (Soil)
Soil Characterization

Select Vertical Circles
Any Data Layer can be exported as a table, or downloaded as a KMZ file.

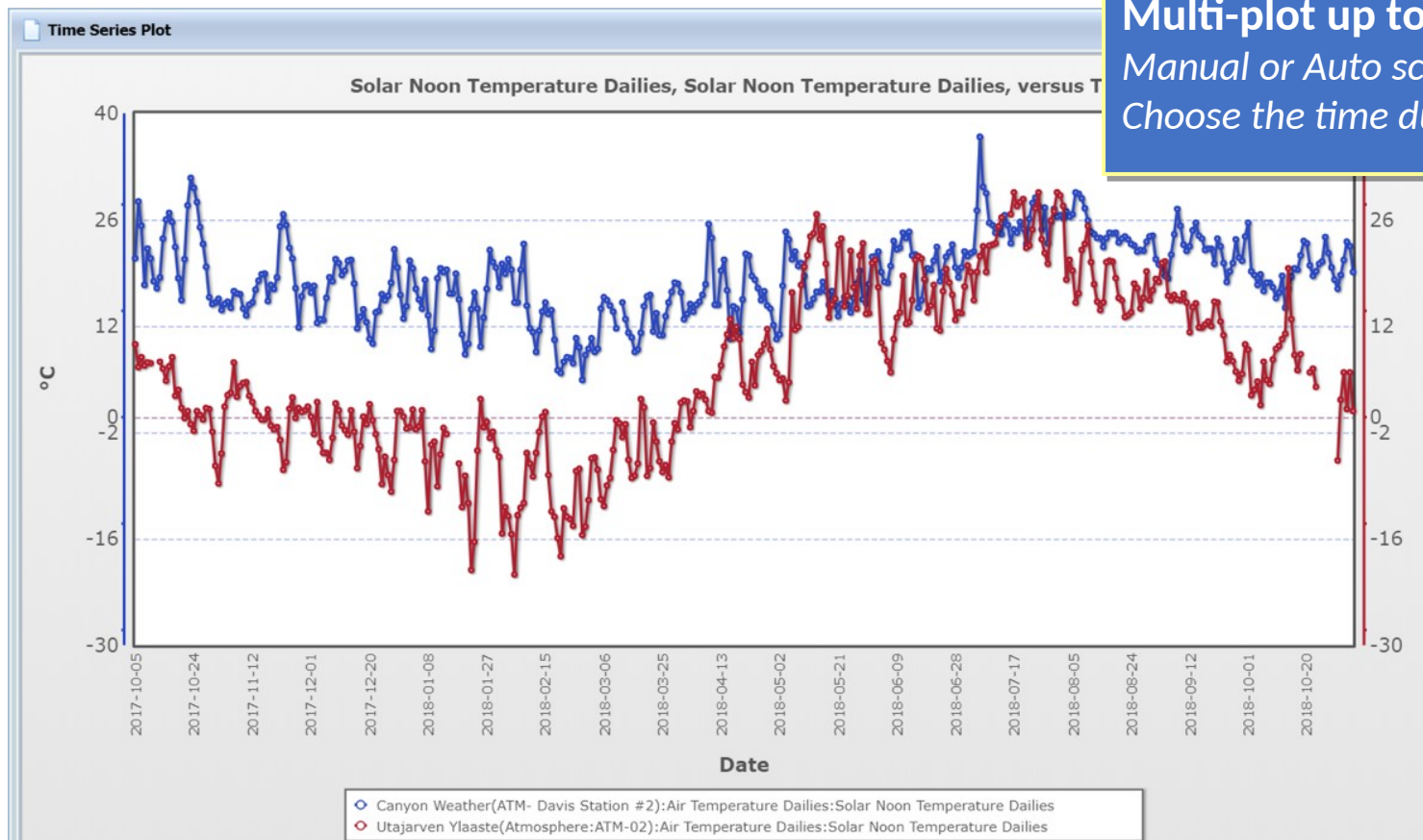


Setup Multi-Site Plot





Setup Multi-Site Plot



Multi-plot up to 6 data sets
Manual or Auto scale
Choose the time duration you want



Save Your Filters / Protocols

My Vis
Select "My Vis" to show all of my sites, filter the display by my measurements, or share/save/load a set of filters and protocols

Show My ▾
☒ Sites ☐ Measurements
Filter Sets: [Share](#) [Load](#) [Save](#)

Protocol Layers
Solar Noon Temperature Dailies
Contour Layer Opacity

Choose sphere to explore protocols

- Atmosphere >
- Biosphere >
- Hydrosphere >
- Pedosphere (Soil) >
Soil Temperature and Moisture
- Pedosphere (Soil) >
Soil Characterization



Animating Vis

1) Click on the camera icon to create an animation

2) Use the sliders to adjust the date range

3) Press Play or use the record icon to save your animation

The interface includes a top navigation bar with 'Measurements' and 'Data Sets' tabs. A date range '2018-11-04' is displayed above the map. The map shows data points across North and South America. A bottom control bar features a play button, a record button, a date range selector, and a timeline view showing months from June to November 2018.



Why use Data Counts?

- The Data Counts tab tells you how much data a given location has entered in a particular period of time for a given protocol.
- Looking for someone to collaborate with? Looking for the most current data? Use Data Counts.



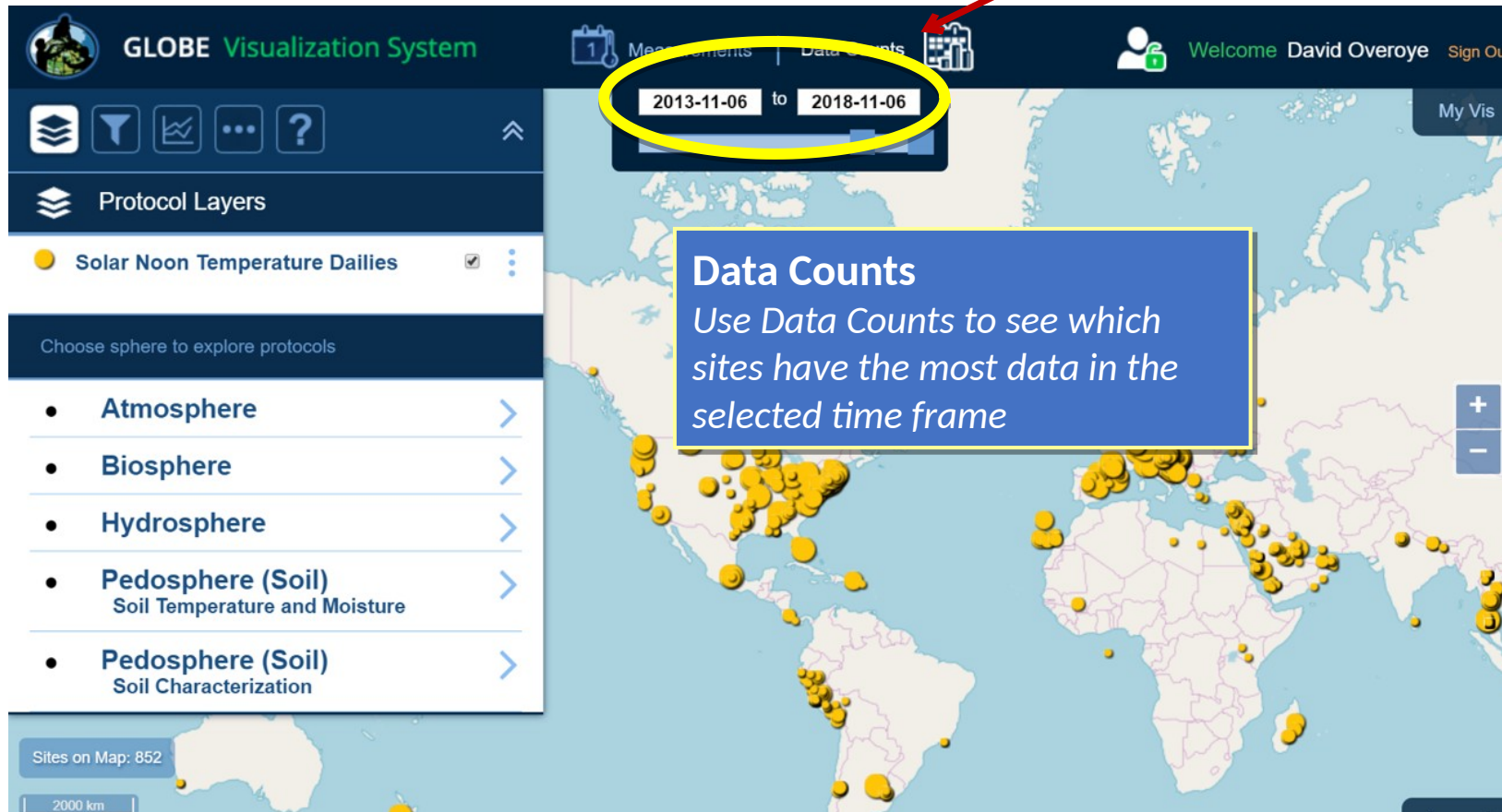
How to Use Data Counts

- Select Data Counts on the top menu of the vis system
- Select the protocol(s) you are interested in (ie Solar Noon Temperature Dailies)
- The map will show the total number of measurements which have occurred at any location since the beginning of the GLOBE program.
- Use the Date Range Filter to adjust the date range
- Select a site which has data
 - You can find the school and teacher if you are interested in collaborating.



Data Counts

Select Data Counts
and a Time Range



Data counts show how much data was entered at any site for the selected period of time.

Bigger dots = More Data



Demonstration

- Select Air Temperature – Daily Average Temperature
- Let's find who's been entering a lot of data in Africa in the last 5 years.
- Go to Data Counts
- Select the school in Ghana - Westphalian Senior H.S. Very active from 2019-2021.
- Switch to Measurements and select Oct 2020.
- Select the school again
- Enlarge the Daily Average Temp graph



Demonstration

- Expand to 1 year
- Show how to get the data
 - View plot data in a table, export to .csv
 - Click the enlarge icon
 - Click share links
- Go to the school.
- Add this school to the multi-site plot (we'll come back to this later)



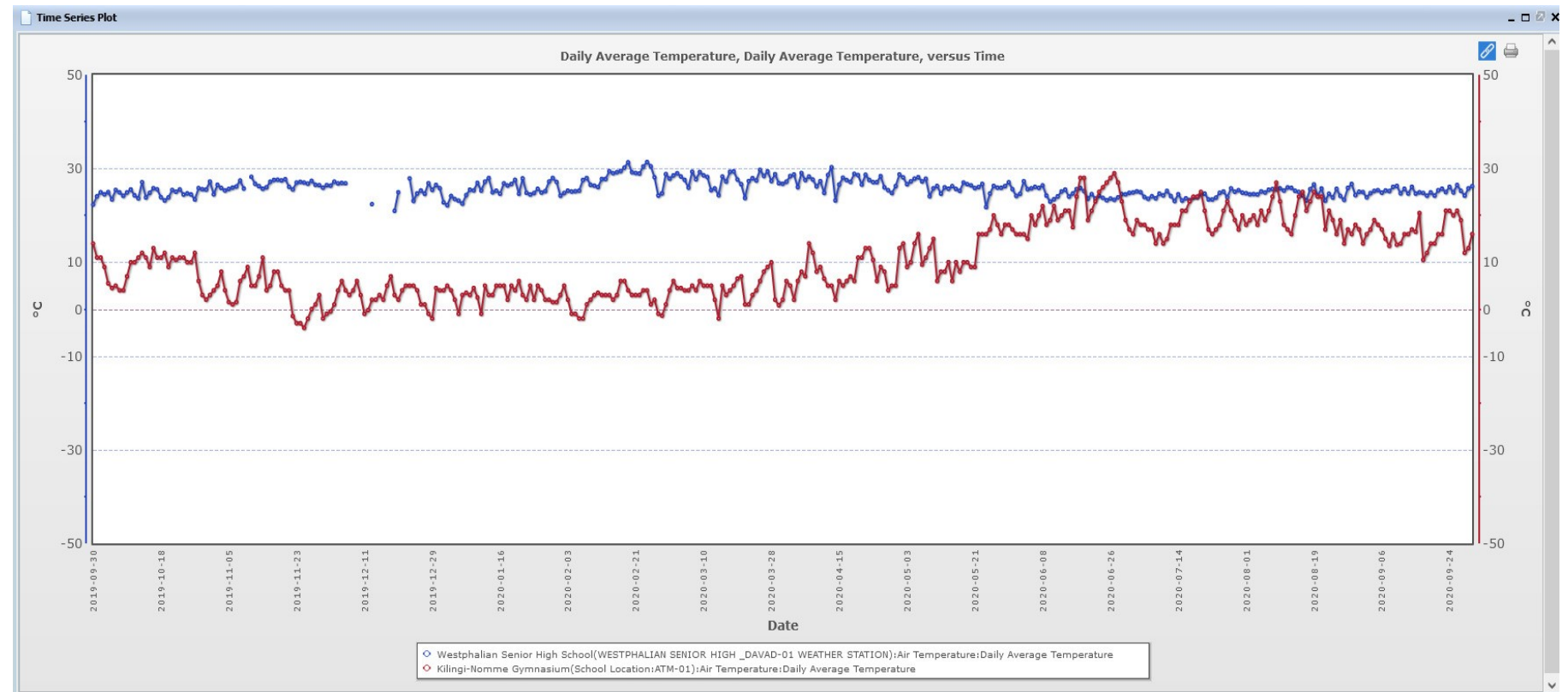
Demonstration

- Show how to switch protocols in the popup to see the data in other protocols for this school – Relative Humidities Noons
- Show data counts (large view in chart) school info, site info, site photos
- Go back to Measurements and select 2020-10-01 (if not already selected)
- Select a school in Estonia and click the Add Site to Multi-plot button (green “+”) to compare the temperature for the two schools (the one in Ghana and the school in Estonia).



Compare Estonia to Ghana

Blue=Ghana
Red=Estonia





Try This....

1. On May 2, 2024, how many schools in Saudi Arabia reported a water pH reading greater than 7?
2. Which measurement technique did the school(s) use?
3. What was the range of pH values reported for this site between Jan 1, 2023 and Dec 31, 2023?



Answers

1. One (Filter by Saudi Arabia using the place filter and date and then use the 'View Table Layer' option). Yamama School
2. meter (Clicked on the site on the map, it's the lightest color icon).
3. 4.7 – 6.9 pH. (Open the site information window and enter the custom dates in the chart and then plot. Then, view Plot Data in Table and sort by the ph column. Alternatively, enlarge the plot and select the highest and lowest values).



Vis Tutorials

- For additional training, visit the Tutorial Center to access the Vis Tutorials
- Training > Tutorial Center

The screenshot shows the 'Tutorial Center' page of the The GLOBE Program website. The header includes the program name and navigation links: About / Join, Training, Do GLOBE, GLOBE Data, Community, News & Events, and Support. Below the header, the breadcrumb trail reads 'Home > Training > Tutorial Center'. The main heading is 'Tutorial Center'. A paragraph explains that the tutorials provide step-by-step instructions for finding content or performing tasks, mentioning YouTube videos and a GLOBE Helpdesk. A yellow callout box on the right says 'Need help getting started? Visit your User Roadmap (make sure to log-in first)'. The main content area is a grid of eight tutorial cards, each with an icon and a brief description. The card for 'Data Access, Analysis & Reporting' is highlighted with a red border. The cards are: Account Creation & Settings (lock icon), Website Basics (gears icon), Protocol Training (lightbulb icon), Data Entry (download icon), Data Access, Analysis & Reporting (bar chart icon), GLOBE Teams (group of people icon), For GLOBE Educators (open book icon), and For Partners & Country Coordinators (globe icon).

THE GLOBE PROGRAM
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Home > Training > Tutorial Center

Share

Tutorial Center

Explore the tutorials below to get step-by-step instructions on how to find content or perform specific tasks on the website. Many of the tutorials are YouTube videos with audio instructions to make it easier to follow along. Have a suggestion on a tutorial? Submit your suggestion to the [GLOBE Helpdesk](#).

Need help getting started? Visit your User Roadmap (make sure to log-in first).

Account Creation & Settings  Learn how to create an account and access / update your account settings.	Website Basics  Learn how to navigate the website, use short cuts, search the website and more.	Protocol Training  Learn about how to get formal training on all GLOBE Protocols.	Data Entry  Learn about how to enter your GLOBE measurements on the website and GLOBE Observer app.
Data Access, Analysis & Reporting  Learn how to access your data, create research reports and more.	GLOBE Teams  Learn what GLOBE teams are and how to use them.	For GLOBE Educators  Learn how to use your dashboard (My Page), manage student accounts and more.	For Partners & Country Coordinators  Learn how to manage your partner or country organization, schools, workshops and more.



Questions?



The **GLOBE** Program

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For more information visit www.globe.gov

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