



**GEO-ACADEMY**

GEO-Hub for teachers in Europe

**Innovative digital GEO-Tools for  
enhancing teachers' digital, green and  
spatial skills towards an effective STEAM  
Education for Sustainability Development**

# **Strengthening students' spatial, digital, and green skills**

Nikolaus Albrecht  
**University College of Teacher  
Education Tyrol, Austria**

Co-funded by the  
Erasmus+ Programme  
of the European Union



# Our offer

Today you will see ...

a selection of what **GEO-Academy** has to offer ...



# Geo-Academy Tour

This quick tour can only give you a rough overview.



# Geo-Academy Tour

If you are interested in pursuing a topic further ...



# Geo-Academy Tour

simply register on our website and gain access



# Geo-Academy Tour

to our extensive range of resources



# Geo-Academy Tour

and e-learning modules for teachers.



# Website

Main GEO-Academy website:

<https://portal.geoacademy.eu/>





The screenshot shows the homepage of the GEO-OBSERVE platform. At the top left is the GEO-ACADEMY logo. The navigation menu includes: [Maison](#), [Ressources et outils](#), [Groupes](#) (with a dropdown arrow), [Modules électroniques](#) (with a dropdown arrow), [Événements](#), [Contact](#), [Se connecter](#) (with a dropdown arrow), and a search icon. The main banner features a 3D topographic map of a landscape with a white compass rose icon in the center. The text on the banner reads: **Bienvenue sur la plateforme GEOOBSERVE**. Below the banner, a paragraph states: **Le centre névralgique de la GEO-Académie hébergeant des GEO-Hubs, des outils et ressources pédagogiques, des formations, des événements et bien plus encore !** This is followed by: **Une communauté de pratique d'éducateurs pour le développement durable en Europe.** A large yellow arrow points downwards from the banner area. Below the text is a blue button with a white compass rose icon and the text **Devenez membre**. At the bottom, there are two buttons: **Vous découvrez Geobserve ?** and **Explorez la plateforme**. On the right side, there is a language selector showing the French flag and the text **FR >**.

# Gain FULL access

[Home](#) [Resources and Tools](#) [Groups](#) [E-modules](#) [Events](#) [Contact](#) [Login](#)



**Welcome to the GEOBOSERVE Platform**



# Gain FULL access

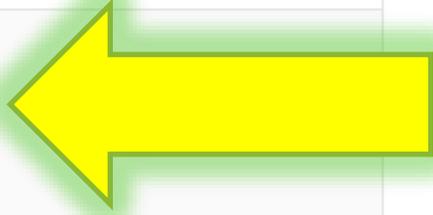
## Login

Email or Username

Password 

[Login](#) [Register](#)

[Forgot Password?](#)



# Resources and Tools

[Home](#) [Resources and Tools](#) [Groups](#) [E-modules](#) [Events](#) [Contact](#) [Login](#) 



# E-learning Modules

[Home](#) [Resources and Tools](#) [Groups](#) [E-modules](#) [Events](#) [Contact](#) [Login](#)



# Groups

[Home](#) [Resources and Tools](#) [Groups](#) ▾ [E-modules](#) ▾ [Events](#) [Contact](#) [Login](#) ▾ 



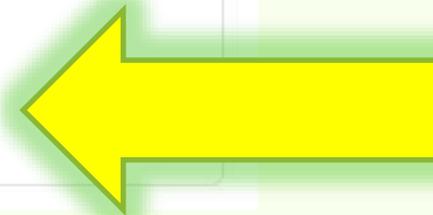
# Groups

## GEO-Hub France



Bienvenue sur la plateforme française Geo-Hub ! Dans ce groupe, vous pouvez interagir avec des enseignants et professeurs français, partager vos bon...

Join Group



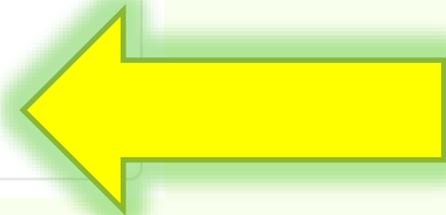
# Groups

## Eratosthenes Hub

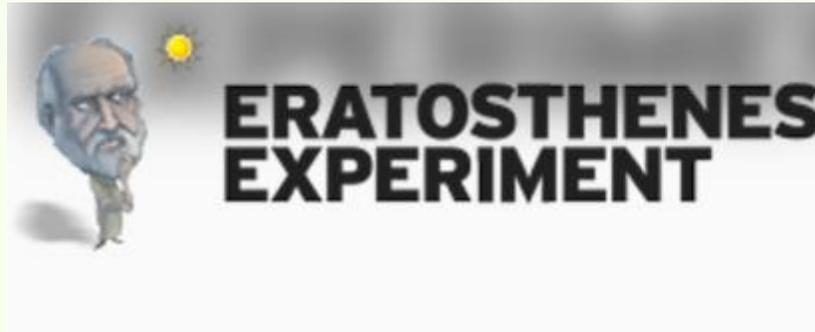


Welcome to the Eratosthenes Experiment Hub on Geo-Academy Portal. This hub is meant to collect feedback from the users that have participated in the Ex...

Join Group



# The tour starts here ...



# Eratosthenes Experiment



How did Eratosthenes measure the circumference of the Earth



# Eratosthenes Experiment



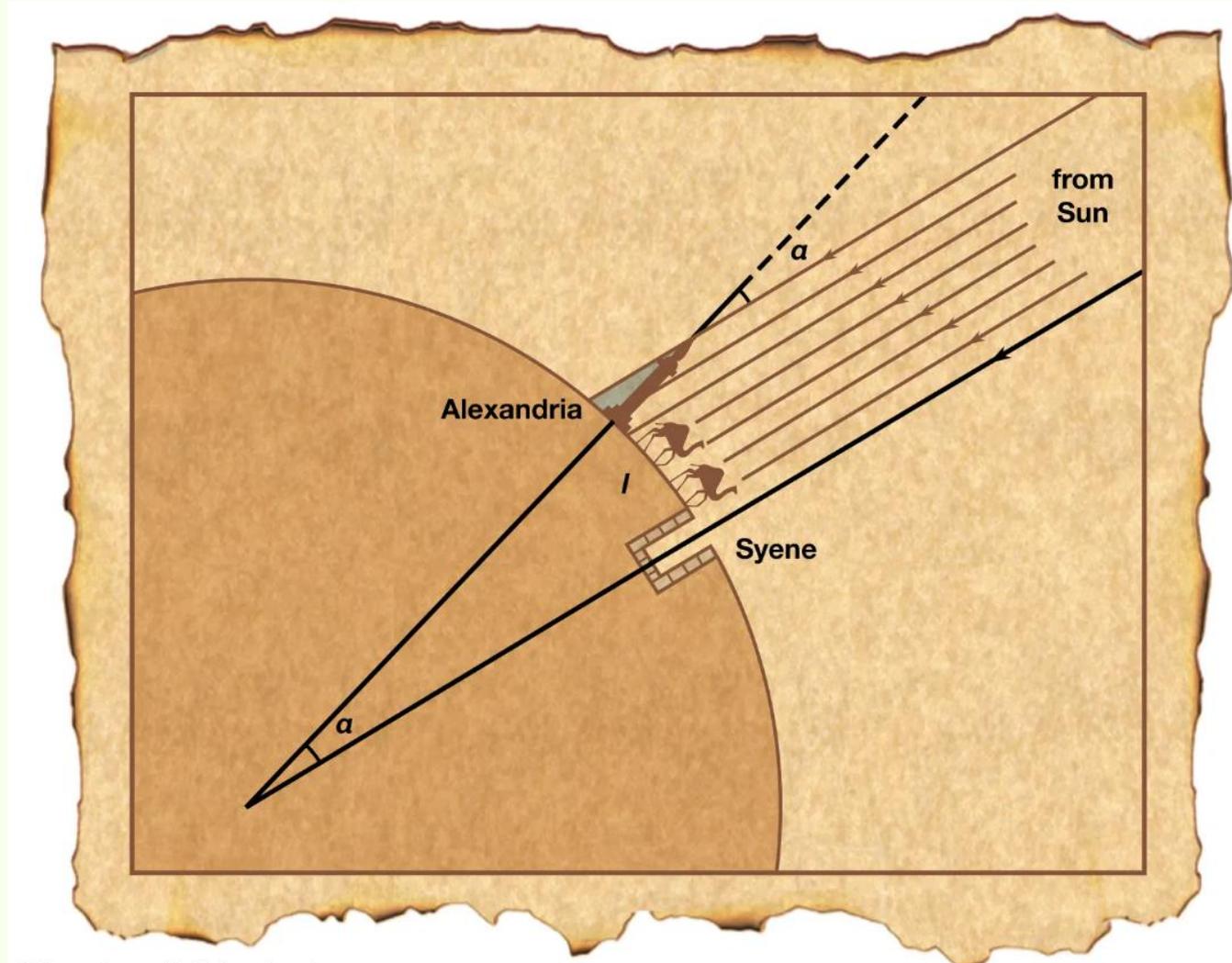
# Eratosthenes Experiment

© Website Name: Encyclopædia Britannica

Publisher: Encyclopædia Britannica

URL: <https://www.britannica.com/biography/Eratosthenes>

Access Date: November 23, 2025

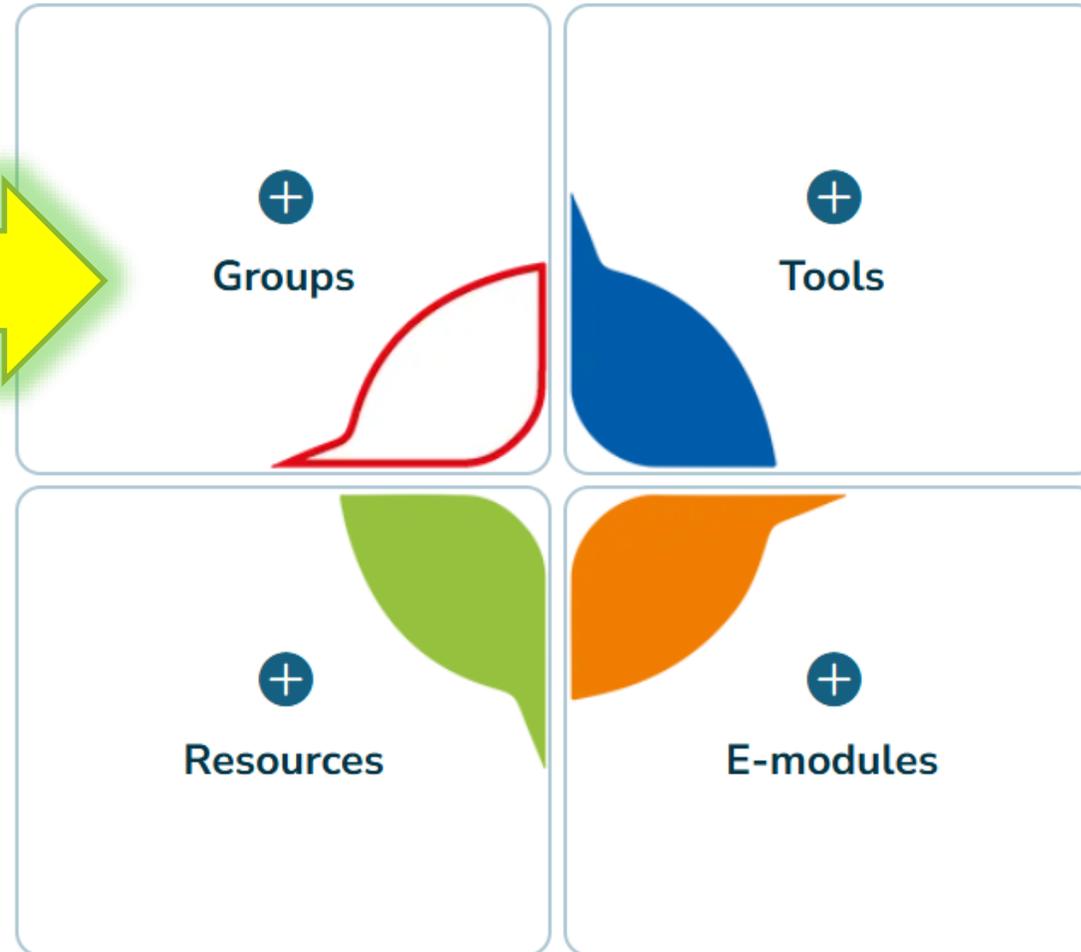
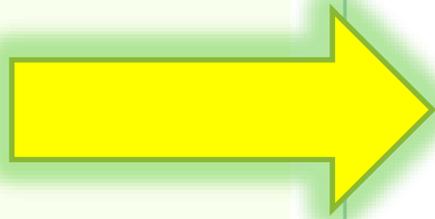


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# Community

## Explore the Platform



# Tour ... next stop

## GEO-Academy e-learning modules



### Cartography & Spatial Thinking

Cartography, map literacy and development of spatial skills



### GIS for Earth Sciences

Geographical Information Systems (GIS), tools and techniques



### EO, RS & Sat Apps

Remote sensing (RS), Earth Observation (EO) and applications



### Map Storytelling

Visualisation and synthesis of information through map storytelling



### Coding for Urban Sustainability

STEAM education, robotics and coding



# EO, RS & Sat Apps

## GEO-Academy e-learning modules



### EO, RS & Sat Apps

Remote sensing (RS), Earth  
Observation (EO) and  
applications



# EO, RS & Sat Apps



## CODAP

CODAP (Common Online Data Analysis Platform) is a free, web-based app designed to support students in learning and doing data science. CODAP (Common Online Data Analysis Platform) is a web-based tool designed for exploring and analyzing data, particularly in...

[read more](#)



## World Forest Map

Global Forest Watch is a valuable tool for anyone interested in forest conservation, environmental protection, and sustainable development.

[read more](#)



<https://codap.concord.org/>

**Announcing CODAP V3 Beta**

CODAP V3 is designed to propel data education into the future. Test the new, faster CODAP beta release now.

[Try Beta](#)



# CODAP (overview)

**CODAP = Common ...  
Online Data Analysis Platform**



# CODAP (along a storyline)

## Data records made up out of (thin) air

For someone who has respiratory problems, the question of air quality can be important. A forest fire close to home could have an impact on air quality. But how can we find out?



# CODAP (along a storyline)

We will analyse the air quality during and after the Bighorn Wildfire (5 June to 23 July 2020) in the nearby city of Tucson, Arizona.

To be able to do this at all, we need data.



# CODAP (along a storyline)

<https://firms.modaps.eosdis.nasa.gov/map/>



# CODAP (along a storyline)

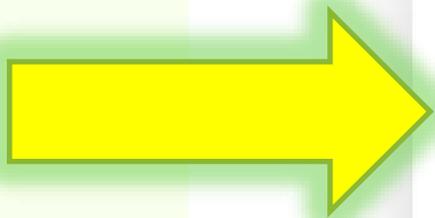
Home Resources and Tools Groups ▾ E-modules ▾ Events Contact Logout ▾



## Data Science – youcubed

"Big Ideas from Data Science" is a framework developed by YouCubed to help students and educators engage with key concepts in data science. It highlights six foundational ideas, such as recognizing variability, understanding data structures, and interpreting patterns,...

[read more](#)



## FIRMS

<https://firms.modaps.eosdis.nasa.gov/map> The FIRMS website is a tool provided by NASA's Fire Information for Resource Management System. It provides near real-time information on active fires around the world based on satellite data. Users can view and analyse global...

[read more](#)



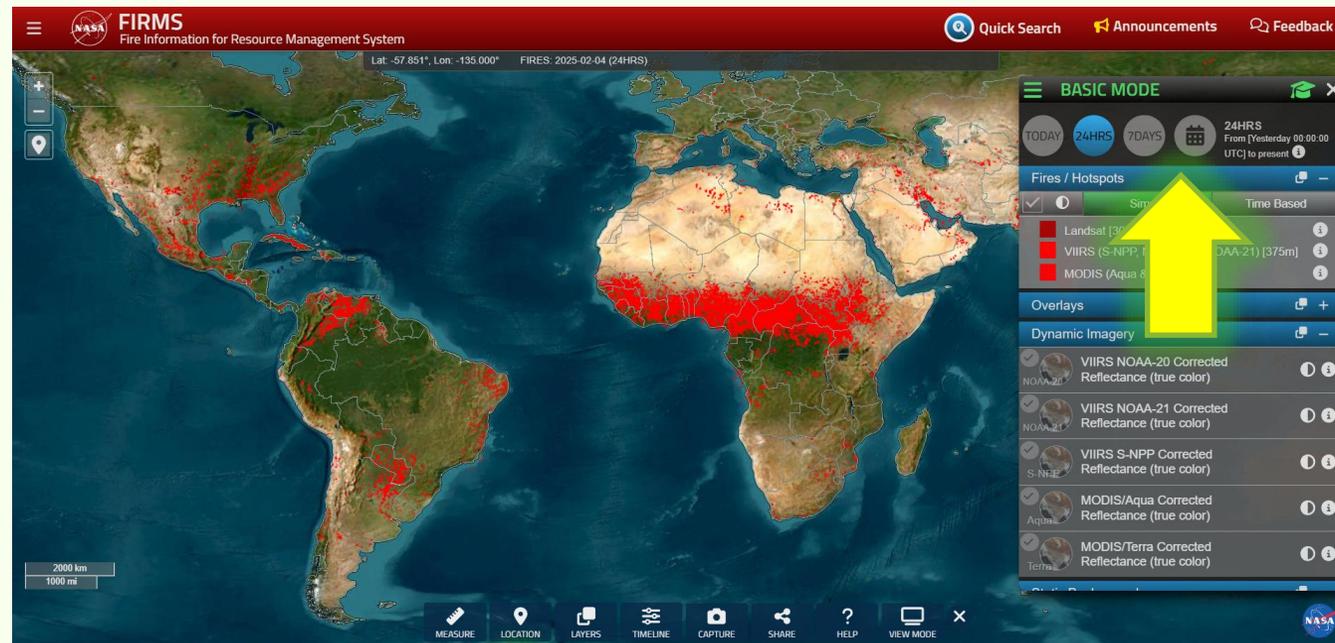
# CODAP (along a storyline)

<https://firms.modaps.eosdis.nasa.gov/map/>



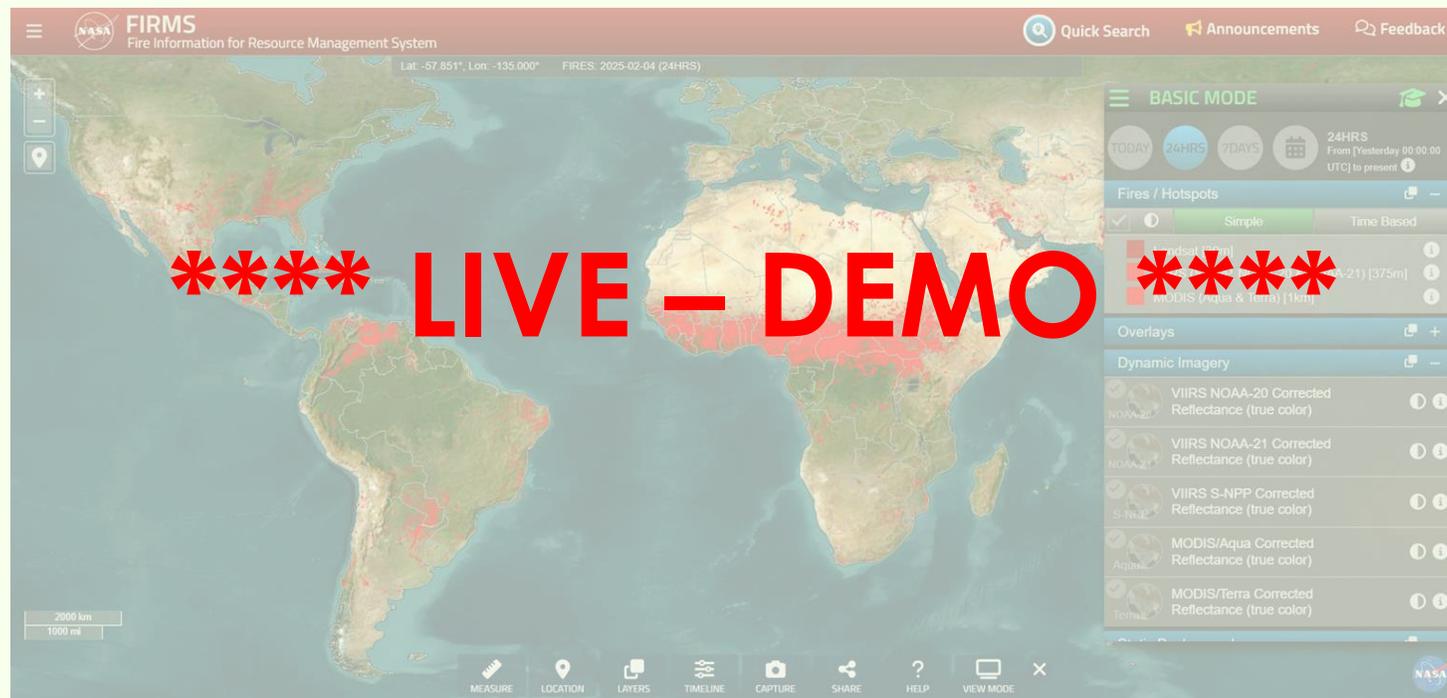
# CODAP (along a storyline)

5 June to 23 July 2020, Tucson, Arizona



\*\*\*\* LIVE – DEMO \*\*\*\*

<https://firms.modaps.eosdis.nasa.gov/map/>



\*\*\*\* LIVE – DEMO \*\*\*\*



# CODAP (along a storyline)

We found the fire—but ...  
How can you find out about air quality?



# CODAP (along a storyline)

The data were collected by NASA's Terra satellite and accessed through the [myNASAdata](#) website.



# CODAP (along a storyline)



## my NASA data

My NASA Data is an educational platform designed to make NASA's Earth science data accessible to students, educators, and lifelong learners. The website offers a wealth of resources, including interactive tools, lesson plans, and real-world data sets, to support the...

[read more](#)



## TERRA

Terra is a key NASA mission dedicated to studying Earth's systems from space, providing vital data for understanding our planet's climate, environment, and natural processes. Launched in 1999, the Terra satellite carries a suite of advanced scientific instruments that...

[read more](#)



# CODAP (along a storyline)



my NASA  
data

Atmosphere

Biosphere

Cryosphere

Geosphere

Hydrosphere

Earth as a System

Visualize Data

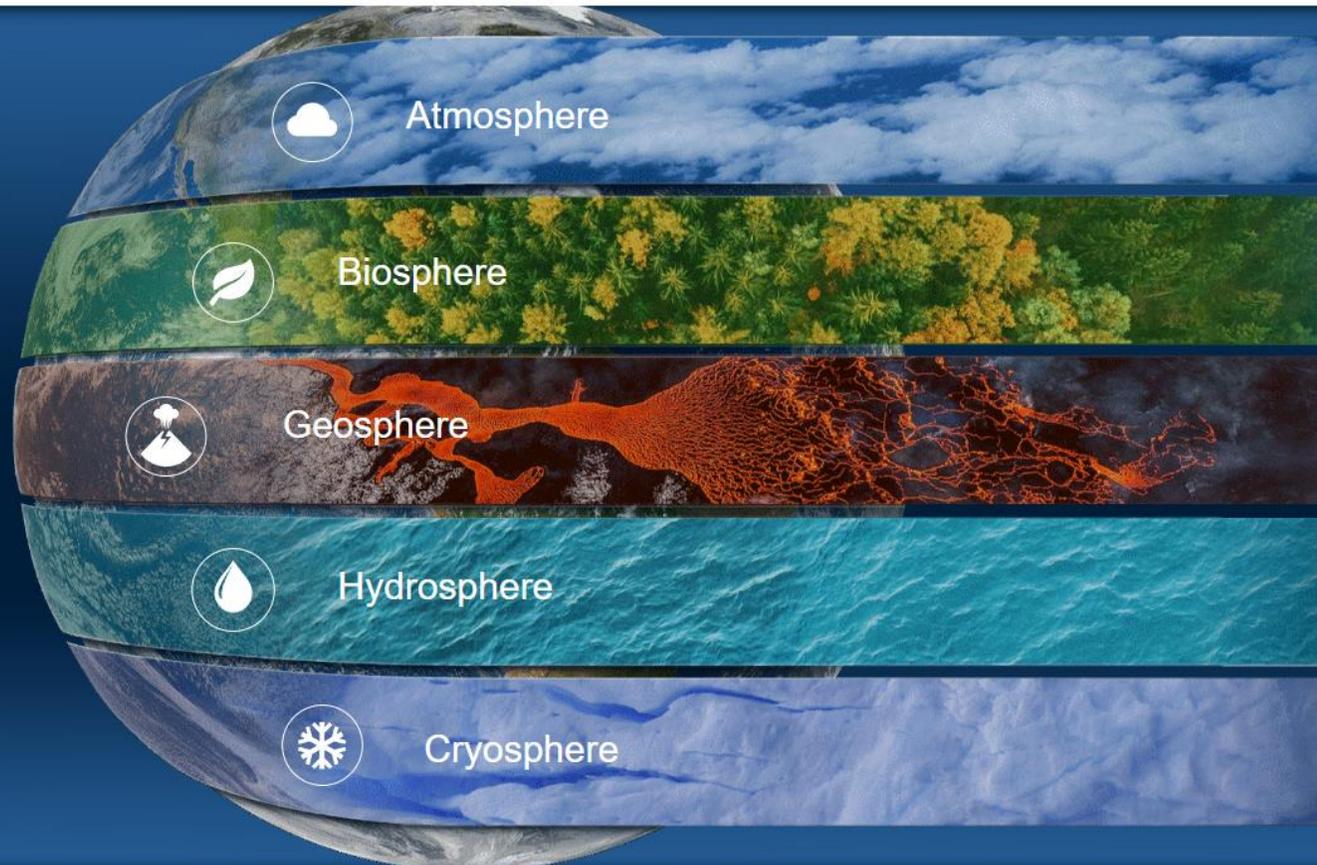
Resources

Search

Learn How to Visualize Data with  
the Earth System Data Explorer

My NASA Data, a NASA Langley Research Center Science Directorate project, supports the use of authentic NASA Earth data for educators and learners in grades 3-12.

The NASA Earth data is curated, aligned to Next Generation Science Standards, organized by Earth system sphere, and packaged in a variety of learning resources (Mini Lessons, Interactives, and Lesson Plans) and a user-friendly data visualization tool.



GEO-ACADEMY

GEO-Hub for teachers in Europe



# CODAP (along a storyline)

Data we are looking for ...

Aerosol Optical Depth (AOD)

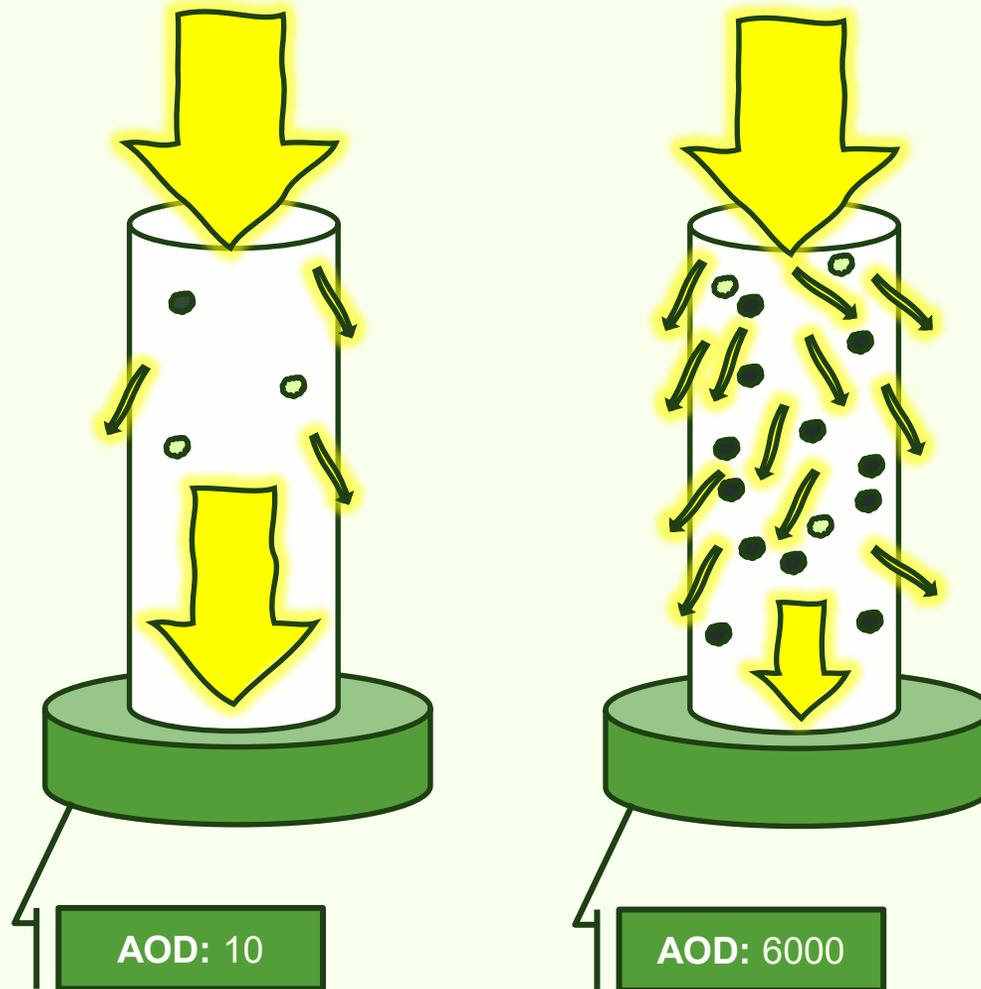


# CODAP (along a storyline)

Aerosol Optical Depth (AOD) is a value calculated via satellite measurements of aerosols (e.g., urban haze, smoke particles, desert dust) distributed within a column of air from Earth's surface to the top of the atmosphere.



# CODAP (along a storyline)



# CODAP (along a storyline)

**Download the data** and save the file on your computer (for later use)



Data.csv

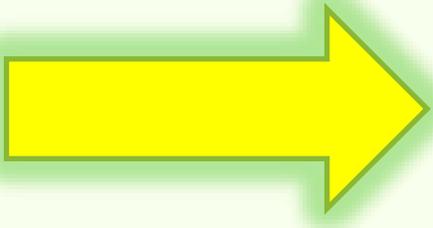


# CODAP (along a storyline)

## CODAP gets the data talking

Visit the following site:

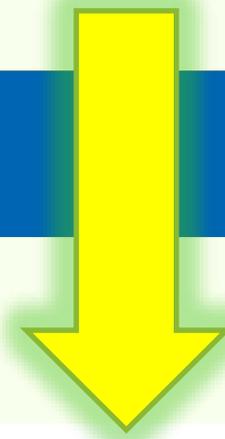
Common Online Data Analysis Platform (CODAP)



<https://codap.concord.org/>

# CODAP (along a storyline)

Launch CODAP ...



**CODAP**

Get Started Educators Developers Researchers Community Help About [Launch CODAP](#)

## Common Online Data Analysis Platform (CODAP)

CODAP is a free, web-based app designed to support students in learning and doing data science, and as a tool for curriculum developers and education researchers.

[Learn More](#)



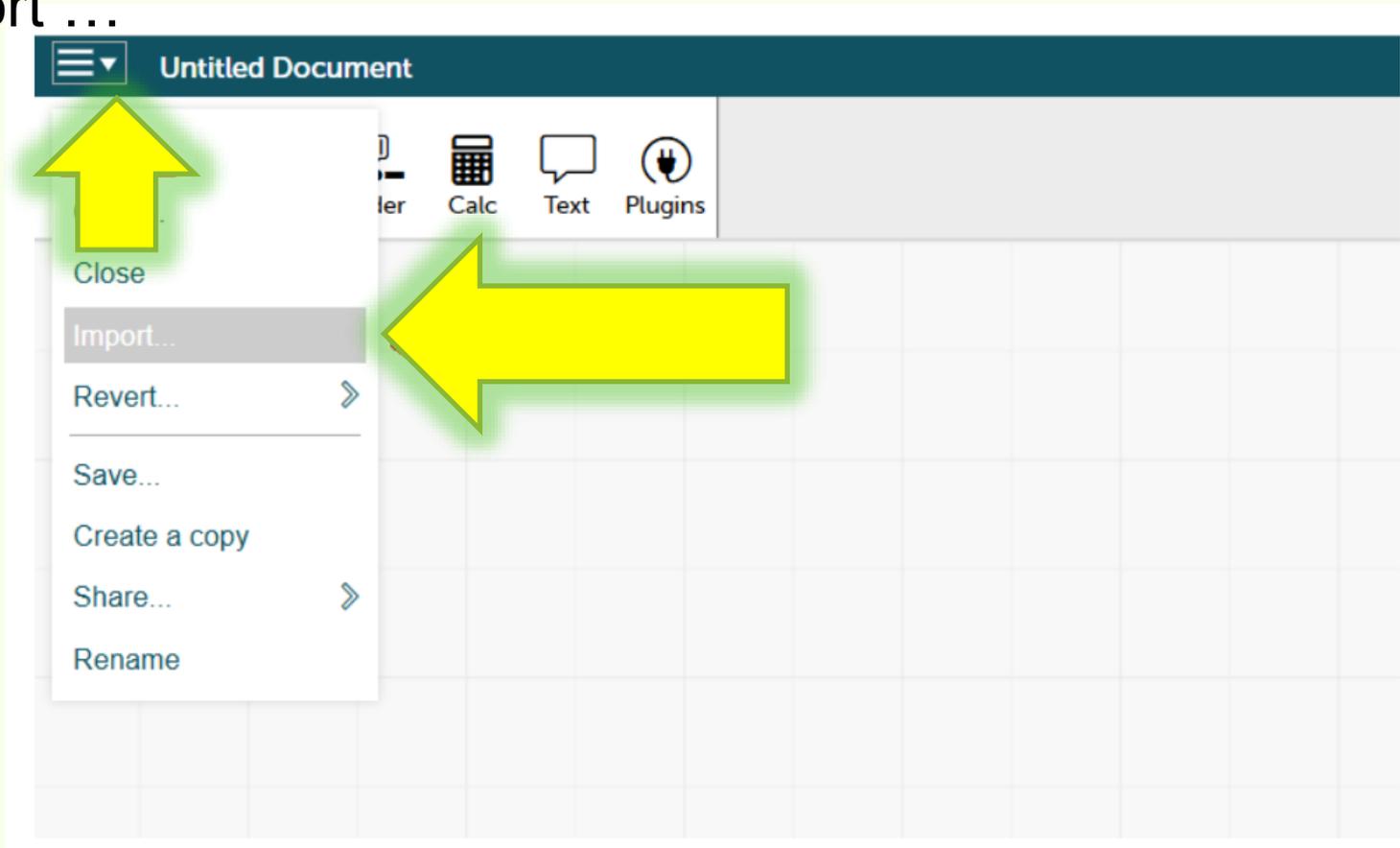
# CODAP (along a storyline)

## CREATE NEW DOCUMENT ...



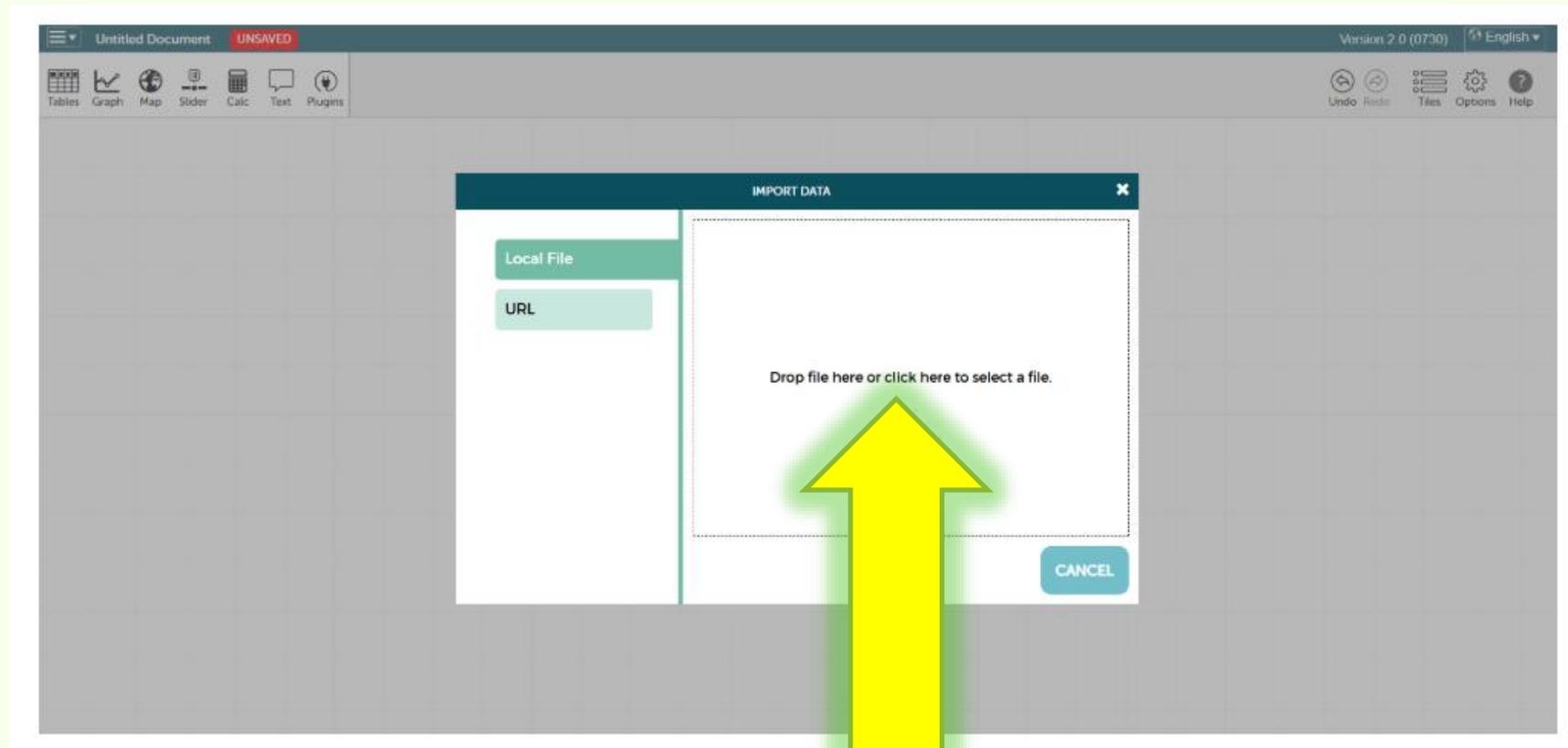
# CODAP (along a storyline)

Drop-down menu in the top left-hand corner and then select 'Import ...'



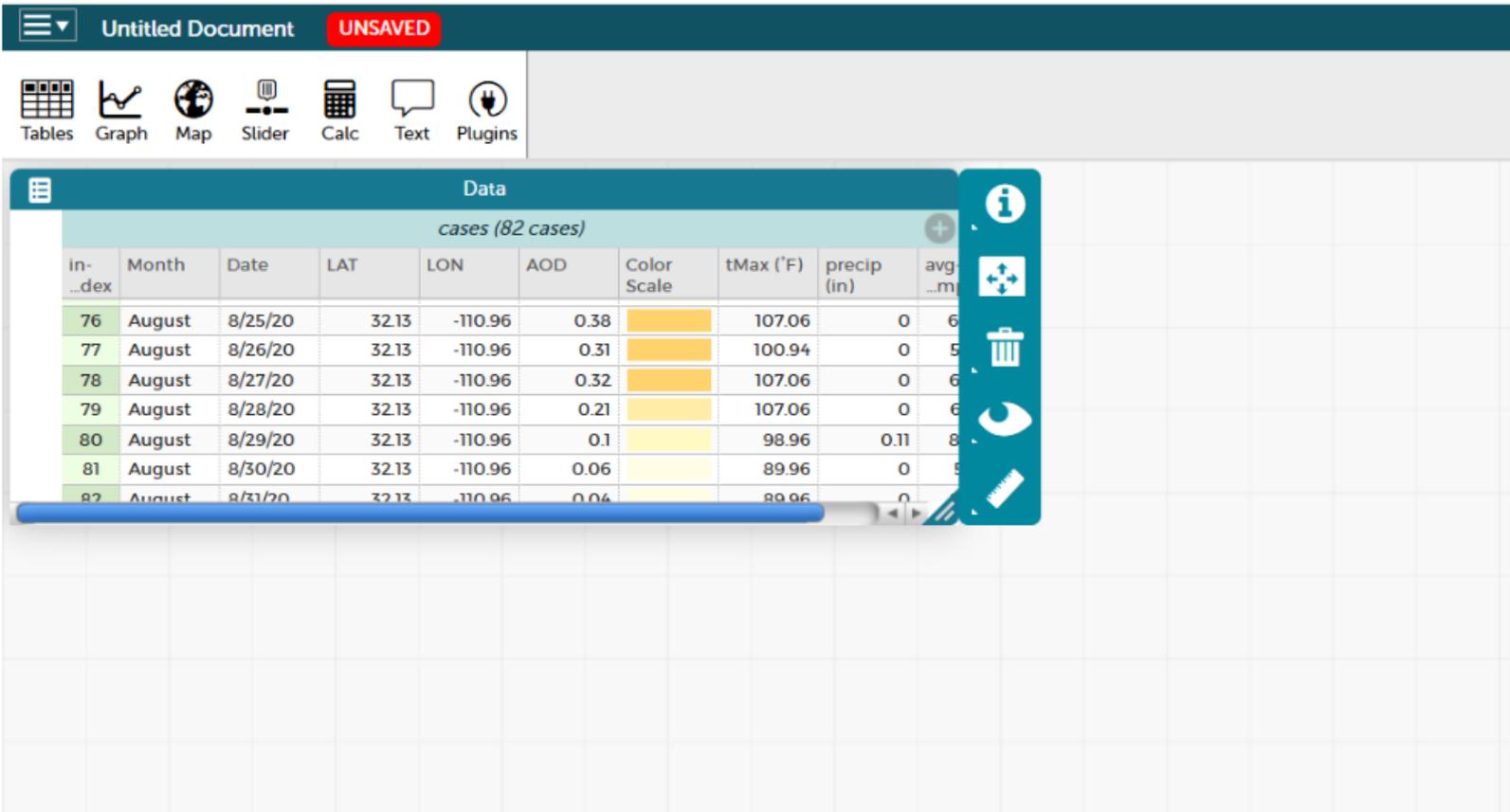
# CODAP (along a storyline)

Select the data file previously downloaded ...



# CODAP (along a storyline)

If everything went well, the data set will now appear in the programme...



The screenshot shows the CODAP software interface. At the top, there is a title bar with 'Untitled Document' and a red 'UNSAVED' indicator. Below the title bar is a toolbar with icons for Tables, Graph, Map, Slider, Calc, Text, and Plugins. The main area displays a data table titled 'Data' with a subtitle 'cases (82 cases)'. The table has the following columns: in-index, Month, Date, LAT, LON, AOD, Color Scale, tMax (°F), precip (in), and avg...m. The data rows show dates from August 25, 2020, to August 31, 2020, with corresponding values for AOD, temperature, and precipitation. A vertical toolbar on the right side of the table contains icons for information, refresh, delete, and zoom.

in-index	Month	Date	LAT	LON	AOD	Color Scale	tMax (°F)	precip (in)	avg...m
76	August	8/25/20	32.13	-110.96	0.38		107.06	0	6
77	August	8/26/20	32.13	-110.96	0.31		100.94	0	5
78	August	8/27/20	32.13	-110.96	0.32		107.06	0	6
79	August	8/28/20	32.13	-110.96	0.21		107.06	0	6
80	August	8/29/20	32.13	-110.96	0.1		98.96	0.11	8
81	August	8/30/20	32.13	-110.96	0.06		89.96	0	5
82	August	8/31/20	32.13	-110.96	0.04		89.96	0	5

# CODAP (along a storyline)

## Juggling with data

The 'Graph' menu item initially shows us the entire, unorganised 'data cloud'.

The screenshot displays the CODAP interface. At the top, there is a menu bar with 'Untitled Document' and 'UNSAVED'. Below the menu bar is a toolbar with icons for 'Tables', 'Graph', 'Map', 'Slider', 'Calc', 'Text', and 'Plugins'. A yellow arrow points to the 'Graph' icon. The main area is divided into two panes. The left pane, titled 'Data', contains a table with the following data:

Index	Month	Date	LAT	LON	AOD	Color Scale	tMax (°F)	precip (in)	avg- _mph
1	June	6/1/20	32.13	-110.96	0.04		100.94	0.04	7.61
2	June	6/2/20	32.13	-110.96	0.03		104	0.01	7.38
3	June	6/3/20	32.13	-110.96	0.04		105.08	0	5.82
4	June	6/4/20	32.13	-110.96	0.05		107.96	0	5.82
5	June	6/6/20	32.13	-110.96	0.03		93.92	0	7.38
6	June	6/7/20	32.13	-110.96	0.03		93.92	0	9.17
7	June	6/8/20	32.13	-110.96	0.03		89.96	0	9.17
8	June	6/9/20	32.13	-110.96	0.04		93.02	0	5.14
9	June	6/10/20	32.13	-110.96	0.03		102.02	0	6.71
10	June	6/11/20	32.13	-110.96	0.04		105.08	0	6.26
11	June	6/12/20	32.13	-110.96	0.05		107.96	0	8.05
12	June	6/13/20	32.13	-110.96	0.05		105.98	0	10.29
13	June	6/14/20	32.13	-110.96	0.05		102.92	0	8.28
14	June	6/15/20	32.13	-110.96	0.04		104	0	6.49
15	June	6/16/20	32.13	-110.96	0.03		102.92	0	10.96

The right pane, titled 'cases', shows a scatter plot of orange dots representing the data points. A vertical toolbar on the right side of the graph contains icons for zooming, panning, and other graph manipulation tools. Text prompts 'Click here, or drag an attribute here.' are visible on the graph area.

# CODAP (along a storyline)

If we drag the 'Month' attribute onto the horizontal axis with the mouse, our pile of data already looks tidier.

The screenshot shows the CODAP interface with a data table and a dot plot. The data table is titled 'Data' and contains 13 rows of weather data for a specific location. The dot plot, titled 'cases', shows the distribution of data points for each month: August (13 points), July (13 points), and June (13 points). The word 'Month' is highlighted in blue below the dot plot.

in- dex	Month	Date	LAT	LON	AOD	Color Scale	tMax (°F)	precip (in)	avgWind (mph)
40	July	7/13/20	32.13	-110.96	0.05		105.08	0	6.71
41	July	7/14/20	32.13	-110.96	0.05		107.96	0	7.61
42	July	7/15/20	32.13	-110.96	0.03		104	0	9.62
43	July	7/16/20	32.13	-110.96	0.03		105.98	0	10.07
44	July	7/17/20	32.13	-110.96	0.07		102.92	0	6.71
45	July	7/18/20	32.13	-110.96	0.03		100.94	0	6.26
46	July	7/20/20	32.13	-110.96	0.04		104	0	8.05
47	July	7/21/20	32.13	-110.96	0.05		102.92	0	7.61
48	July	7/27/20	32.13	-110.96	0.04		102.92	0	9.62
49	July	7/28/20	32.13	-110.96	0.04		107.96	0	6.49
50	July	7/29/20	32.13	-110.96	0.02		107.96	0	7.83
51	July	7/30/20	32.13	-110.96	0.03		109.94	0	7.16
52	July	7/31/20	32.13	-110.96	0.02		109.94	0	7.61
53	August	8/1/20	32.13	-110.96	0.03		107.06	0	9.84
54	August	8/2/20	32.13	-110.96	0.05		105.08	0	6.71



# CODAP (along a storyline)

Let's drag another attribute onto the horizontal axis:

The screenshot displays the CODAP interface. At the top, there is a menu bar with 'Untitled Document' and a red 'UNSAVED' indicator. Below the menu bar is a toolbar with icons for Tables, Graph, Map, Slider, Calc, Text, and Plugins. The main area is divided into two panes. The left pane, titled 'Data', contains a table with 15 rows of data. The right pane, titled 'cases', shows a scatter plot of orange dots on a grid. The horizontal axis is labeled 'AOD' and has tick marks from 0 to 0.4. The vertical axis is labeled 'cases' and has tick marks from 0 to 15. A vertical toolbar on the right side of the plot contains icons for adding, deleting, and editing data points.

in- dex	Month	Date	LAT	LON	AOD	Color Scale	tMax (°F)	precip (in)	avg- mph
1	June	6/1/20	32.13	-110.96	0.04		100.94	0.04	7.61
2	June	6/2/20	32.13	-110.96	0.03		104	0.01	7.38
3	June	6/3/20	32.13	-110.96	0.04		105.08	0	5.82
4	June	6/4/20	32.13	-110.96	0.05		107.96	0	5.82
5	June	6/6/20	32.13	-110.96	0.03		93.92	0	7.38
6	June	6/7/20	32.13	-110.96	0.03		93.92	0	9.17
7	June	6/8/20	32.13	-110.96	0.03		89.96	0	9.17
8	June	6/9/20	32.13	-110.96	0.04		93.02	0	5.14
9	June	6/10/20	32.13	-110.96	0.03		102.02	0	6.71
10	June	6/11/20	32.13	-110.96	0.04		105.08	0	6.26
11	June	6/12/20	32.13	-110.96	0.05		107.96	0	8.05
12	June	6/13/20	32.13	-110.96	0.05		105.98	0	10.29
13	June	6/14/20	32.13	-110.96	0.05		102.92	0	8.28
14	June	6/15/20	32.13	-110.96	0.04		104	0	6.49
15	June	6/16/20	32.13	-110.96	0.03		102.92	0	10.96

# CODAP (along a storyline)

How can you find out about air quality?



Aerosol particles vs time

# \*\*\*\* LIVE – DEMO \*\*\*\*



# CODAP (second example)

## Earthquakes



# CODAP (second example)

## Earthquakes

Data we are looking for ...

<https://earthquake.usgs.gov/earthquakes/search/>



# CODAP (second example)



Earthquake Hazards Program

← Earthquakes

Latest Earthquakes

Lists, Maps & Statistics

Special Earthquakes, Earthquake Sequences, and Fault Zones

Earthquake Photo Collections

Search Earthquake Catalog

Real-time Notifications

Information by Region

Home

Earthquakes

Hazards

## Search Earthquake Catalog

Search results are limited to 20,000 events. To get URL for a search, click the search button, then copy the URL from the browser address bar.

- [Help](#)
- [ANSS Comprehensive Earthquake Catalog \(ComCat\) Documentation](#)
- [Developer's Corner - Library of functions and wrapper scripts for accessing and using tools for the NEIC's ComCat data](#)
- [Significant Earthquakes Archive](#)

### Basic Options

#### Magnitude

- 2.5+
- 4.5+
- Custom

#### Date & Time

- Past 7 Days
- Past 30 Days
- Custom

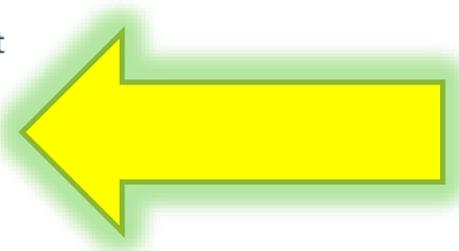
#### Geographic Region

- World
- Conterminous U.S.<sup>1</sup>
- Custom



# CODAP (second example)

Science	Minimum	Start (UTC)
Products	<input type="text" value="2,5"/>	<input type="text" value="2025-11-16 00:00:00"/>
Monitoring	Maximum	End (UTC)
Education	<input type="text"/>	<input type="text" value="2025-11-23 23:59:59"/>
Data	<input type="checkbox"/> <b>Advanced Options</b>	
Maps	<input type="checkbox"/> <b>Output Options</b>	
Multimedia	<b>Format</b>	
Publications	<input type="radio"/> Map & List	
Web Tools	<input checked="" type="radio"/> CSV	
Software	<input type="radio"/> KML	
News		



# CODAP (second example)

## Earthquakes

Data Set is here:

[earthquakes.csv](#)



# CODAP (second example)

Firstly: Import data

The screenshot displays the CODAP interface with a table of earthquake data and a map. The table, titled "IEB\_export (1)", shows 100 cases with columns for index, year, month, day, time, latitude, longitude, depth, magnitude, and region. The map shows the Mediterranean region with red dots indicating earthquake locations.

index	Year	Month	Day	Time	Lat	Lon	Depth	Mag	Region
92	2024	8	18	18:15:19	39.27	41.12	10	4.1	9 km
93	2024	8	17	18:32:46	37.69	19.99	51.4	4.1	69 km
94	2024	8	16	10:15:36	35.07	37.04	10	4.8	6 km
95	2024	8	15	03:33:35	42.82	17.61	10	4	7 km
96	2024	8	15	22:51:37	35.46	-5.62	10	4.1	37 km
97	2024	8	13	06:43:05	46.19	16.64	10	4.5	5 km
98	2024	8	13	01:35:40	34.79	24.98	10	4.4	28 km
99	2024	8	13	00:28:38	35.14	37.06	4.8	4.5	14 km
100	2024	8	12	20:55:59	35.12	37.01	7.6	5.2	12 km

# CODAP (second example)

Then: Organise the pile of data

The screenshot displays the CODAP interface with three main views: a data table, a dot plot, and a map. The data table is titled "IEB\_export (1)" and contains 10 rows of earthquake data. The dot plot, titled "cases", shows the distribution of "Mag" (Magnitude) values. The map, titled "Map", shows the geographical locations of the earthquakes across the Mediterranean region.

r	Month	Day	Time	Lat	Lon	Depth	Mag	Region	Timest amp
2024	10	19	07:08:29	34.73	26.24	15.6	4.8	51 km S...	1729321
2024	10	18	00:37:07	38.48	20.51	54.2	4.5	21 km N...	1729211
2024	10	17	08:39:08	39.66	37.36	10	4.3	21 km S...	1729154
2024	10	17	08:29:57	39.66	37.36	8.8	4.5	21 km S...	1729155
2024	10	16	07:46:32	38.31	38.83	10	6	17 km ...	1729064
2024	10	15	16:54:21	35.53	28.71	23.2	4.6	88 km S...	1729011
2024	10	15	11:17:01	38.85	37.51	10	4.2	13 km W...	1728991
2024	10	16	09:01:40	33.17	-5.14	10	4.6	22 km S...	1728946
2024	10	14	21:05:51	38.37	39.17	5.8	4.3	13 km E...	1728936
2024	10	13	00:14:33	38.79	30.45	10	4.1	9 km W...	1728776



# CODAP (second example)

What happens when you drag the 'Mag' attribute to the Map with the mouse?

The screenshot displays the CODAP interface with three main components:

- Table:** A table titled "IRL\_export (1)" with columns: Month, Day, Time, Lat, Lon, Depth, Mag, Region, and Timestamp. The 'Mag' column is circled in red.
- Map:** A map of the Mediterranean region with red dots representing earthquake locations. A legend below the map, titled "Mag", shows a color gradient from light green (value 4) to dark green (value 6). A red arrow points from the circled 'Mag' column in the table to this legend.
- Dot Plot:** A dot plot titled "cases" showing the distribution of earthquake magnitudes. The x-axis is labeled "Mag" and ranges from 4 to 6.2. The y-axis represents the number of cases, with dots stacked vertically for each magnitude bin.

# \*\*\*\* LIVE – DEMO \*\*\*\*

Then: Organise the pile of data

The screenshot displays a software interface with a top toolbar containing icons for Tables, Graph, Map, Slider, Calc, Text, and Plugins. The main workspace is divided into three panels:

- Table Panel (IEB\_export (1)):** A table titled "cases (100 cases)" with columns: r, Month, Day, Time, Lat, Lon, Depth, Mag, Region, and Timest amp. The data includes 10 rows of earthquake records from October 2024.
- Graph Panel (cases):** A bar chart showing the distribution of earthquake magnitudes. The x-axis is labeled "Mag" and ranges from 4 to 6.2. The y-axis is labeled "Click here, or drag, to rotate here." The bars are colored orange and blue.
- Map Panel (Map):** A map of the Mediterranean region showing earthquake locations as orange and blue dots. Countries like France, Italy, Turkey, and Greece are visible.

Overlaid on the center of the screenshot is the text "\*\*\*\* LIVE – DEMO \*\*\*\*" in large red font.



# Tour ... next stop

**GEO-Academy e-learning modules**

## Round the Eiffel - Tower

<https://portal.geoacademy.eu/courses/the-numbers-beneath-the-map/lessons/round-the-eiffel-tower/>



# Tour ... next stop

## Round the Eiffel Tower

The following exercise is intended to familiarise students with **the meaning of decimal places** and the effect of rounding numbers in connection with longitude and latitude.

Open the page:

<https://www.arcgis.com/apps/mapviewer/index.html?webmap=fce1f5d41bbf4eafbbc5757a57a01cfe>

The following graphic shows us where we end up when someone tells us the position of the Eiffel Tower – and always simply omits more and more decimal places for the longitude and latitude.



**Legend**

**Decimals and Precision Activity Eiffel Tower**

- ▲ Five
- ▲ Four
- ▲ None
- ▲ One
- ▲ Six
- ▲ Three
- ▲ Two

Map data © OpenStreetMap contributors, Microsoft, Facebook, Inc. and its affiliates, Esri Community Maps contributors, Map layer by Esri

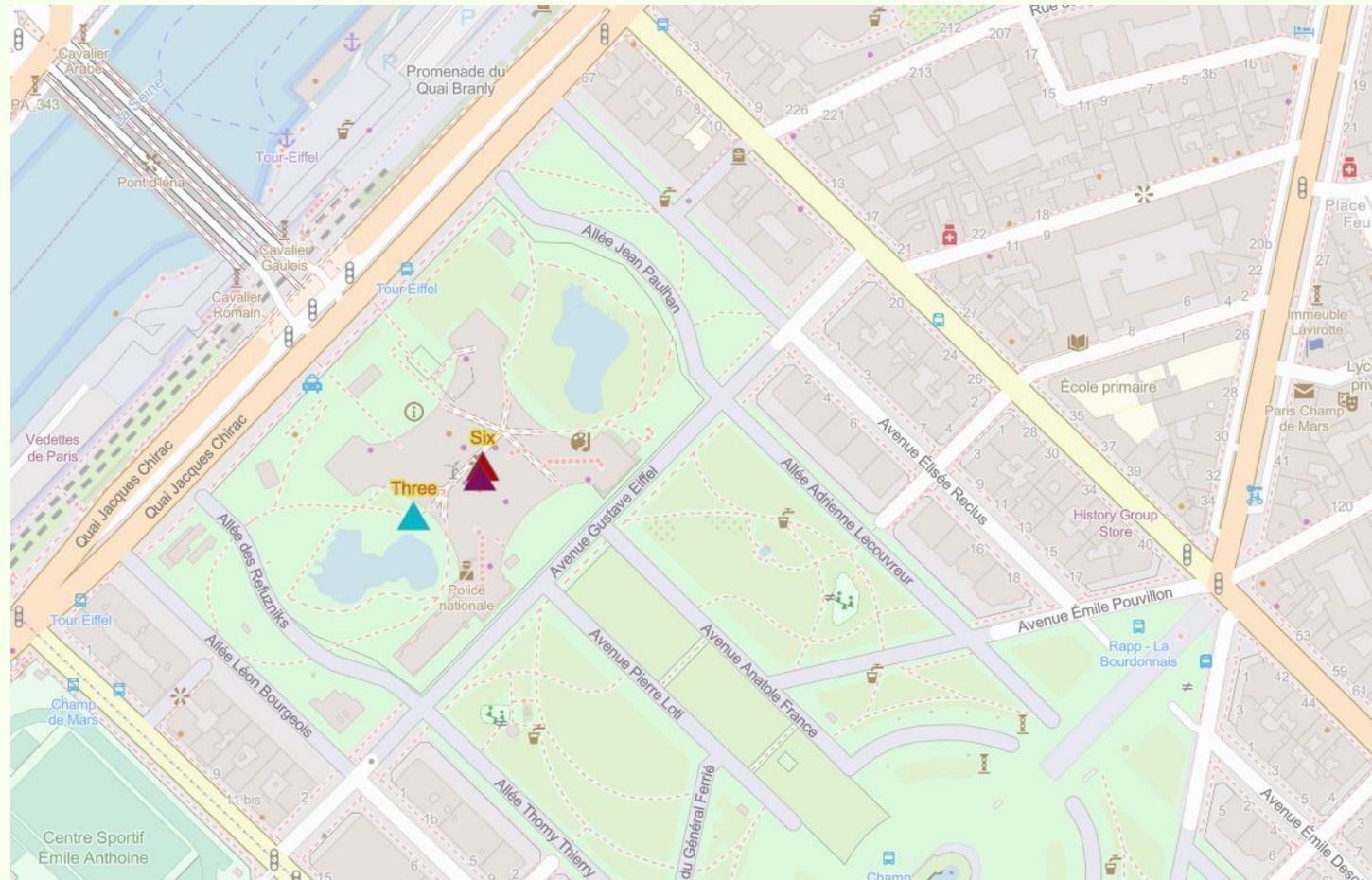
Powered by Esri



Accuracy (discarding decimal places and their visible effect on a map):

Decimalplaces	Longitude	Latitude
6	2,294524	48,858260
5	2,29452	48,85826
4	2,2945	48,8582
3	2,294	48,858
2	2,29	48,85
1	2,2	48,8
0	2	48

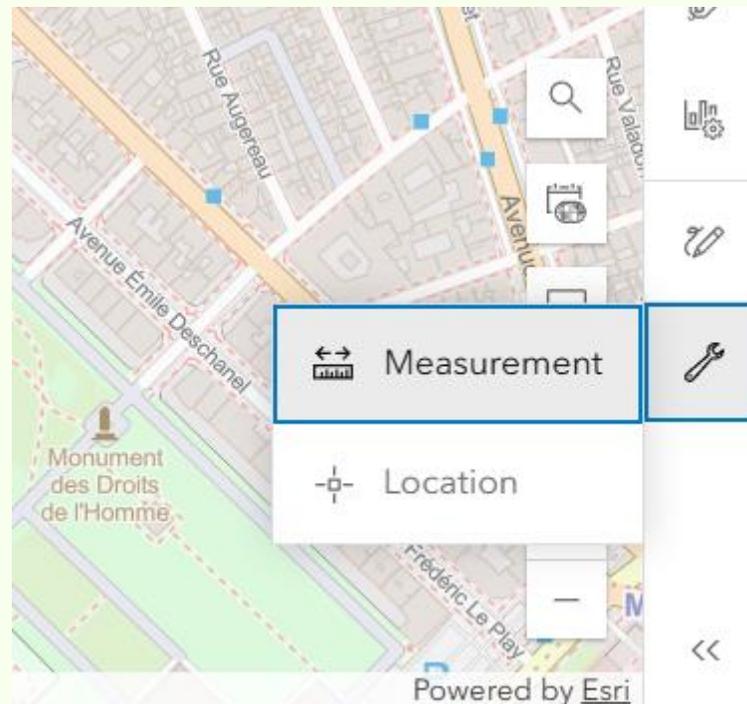
To recognise the more minor effects, we need to zoom in on the map:



We see similar (but not identical) effects if we round the longitudes and latitudes mathematically correctly. To do this, we need to activate the visibility of another layer of the map (menu navigation on the left):

Decimalplaces	Longitude	Latitude
6	2,294524	48,858260
5	2,29452	48,85826
4	2,2945	48,858 <b>3</b>
3	2,29 <b>5</b>	48,858
2	2,29	48,8 <b>6</b>
1	2, <b>3</b>	48, <b>9</b>
0	2	4 <b>9</b>

To measure the difference between the individual position coordinates, we use the distance measurement tool. This can be found on the left-hand side:



# ArcGIS

The screenshot displays the ArcGIS Map Viewer interface. On the left, the 'Layers' panel is open, showing a 'Get started' section with instructions and a link to 'Learn more about Map Viewer'. Below this, there are two layers: 'Rounding Eiffel Tower Layer - Rounding Eiffel Tower Layer' and 'Decimals and Precision Activity Eiffel Tower'. An 'Add' button is visible at the bottom of the layers panel. The main map area shows a street map of Paris with the Seine river. A measurement line is drawn between two points labeled 'Two' (pink circle) and 'Three' (yellow circle). The distance is shown as '380.42 m'. A pop-up window on the right shows the 'Unit' set to 'Metric' and a 'New measurement' button. The map includes various landmarks like the Tour Eiffel, Champ de Mars, and several bridges. The bottom of the map has a copyright notice: 'Map data © OpenStreetMap contributors, Microsoft, Facebook, Inc. and its affiliates, Esri Community Maps contributors, Map layer by Esri' and 'Powered by Esri'.



# \*\*\*\* LIVE – DEMO \*\*\*\*

The screenshot displays a web mapping application interface. On the left, a 'Layers' panel is visible, containing a 'Get started' section with instructions and a list of layers including 'Rounding Eiffel Tower Layer' and 'Decimals and Precision Activity Eiffel Tower'. The main map area shows a street view of Paris with a measurement line drawn between two points labeled 'Two' and 'Three'. The distance is displayed as '380.42 m'. On the right, a measurement tool panel shows the unit set to 'Metric' and a 'New measurement' button. A large red watermark '\*\*\*\* LIVE – DEMO \*\*\*\*' is overlaid on the map. The bottom of the map shows copyright information: 'Map data © OpenStreetMap contributors, Microsoft, Facebook, Inc. and its affiliates, Esri Community Maps contributors, Map layer by Esri' and 'Powered by Esri'.



## Copernicus browser

Open the page:

<https://browser.dataspace.copernicus.eu/>



# Tour ... next stop

**Copernicus BROWSER** EN [Login](#)

**VISUALISE** SEARCH

Wildfires

Sentinel-2 L1C

**COMPARE:** Effect: Split

[Remove all](#) [Share](#) [Add all pins](#)

	Wildfires in Funchal (Pierre Markuse script) Date: 2016-08-17 Lat/Lon: 32.73, -17.04   Zoom: 12 Split position: <input type="range"/>
	Sentinel-2 L2A: True color (Default) Date: 2021-08-16 Lat/Lon: 32.75, -17.14   Zoom: 12 Split position: <input type="range"/>

Map labels: ER 105, Estrada Regional 105, Estrada Regional Taberna da Moura, ER 209, Sítio do Pinheiro, Estrada do Restolho, Rio Cafes e Charda

Map controls: Go to Place, 3D, +, -

Footer: v1.32.5 Leaflet | © OpenStreetMap contributors - Disclaimer, © Sentinel Hub Lat: 32.72463, Tuesday, 24 February 2026



# Tour ... next stop

The screenshot shows the Copernicus Browser interface. On the left, there is a sidebar with the following elements:

- Logo: Copernicus BROWSER
- Language: EN, Login
- Buttons: VISUALISE, SEARCH
- Category: Wildfires
- Data: Sentinel-2 L1C
- COMPARE: Effect: Split
- Actions: Remove all, Share, Add all pins
- Item 1: Wildfires in Funchal (Pierre Markuse script), Date: 2016-08-17, Lat/Lon: 32.73, -17.04 | Zoom: 12, Split position: [slider]
- Item 2: Sentinel-2 L2A: True color (Default), Date: 2021-08-16, Lat/Lon: 32.75, -17.14 | Zoom: 12, Split position: [slider]

The main map area displays a satellite view of a landscape with a vertical split. The left side shows a darker, more textured image (likely the wildfire-affected area), and the right side shows a clearer, true-color image. A red watermark "LIVE - DEMO" is overlaid across the center of the map. The map includes labels for roads (ER 105, ER 209) and locations (Site do Pinheiro). The bottom of the interface features logos for the European Union, Copernicus, ESA, and Leaflet, along with the text "© OpenStreetMap contributors - Disclaimer, © Sentinel Hub". The bottom right corner shows the coordinates "Lat: 32.72463" and the date "Tuesday, 24 February 2026".



# Tour ... last stop

**GEO-Academy e-learning modules**

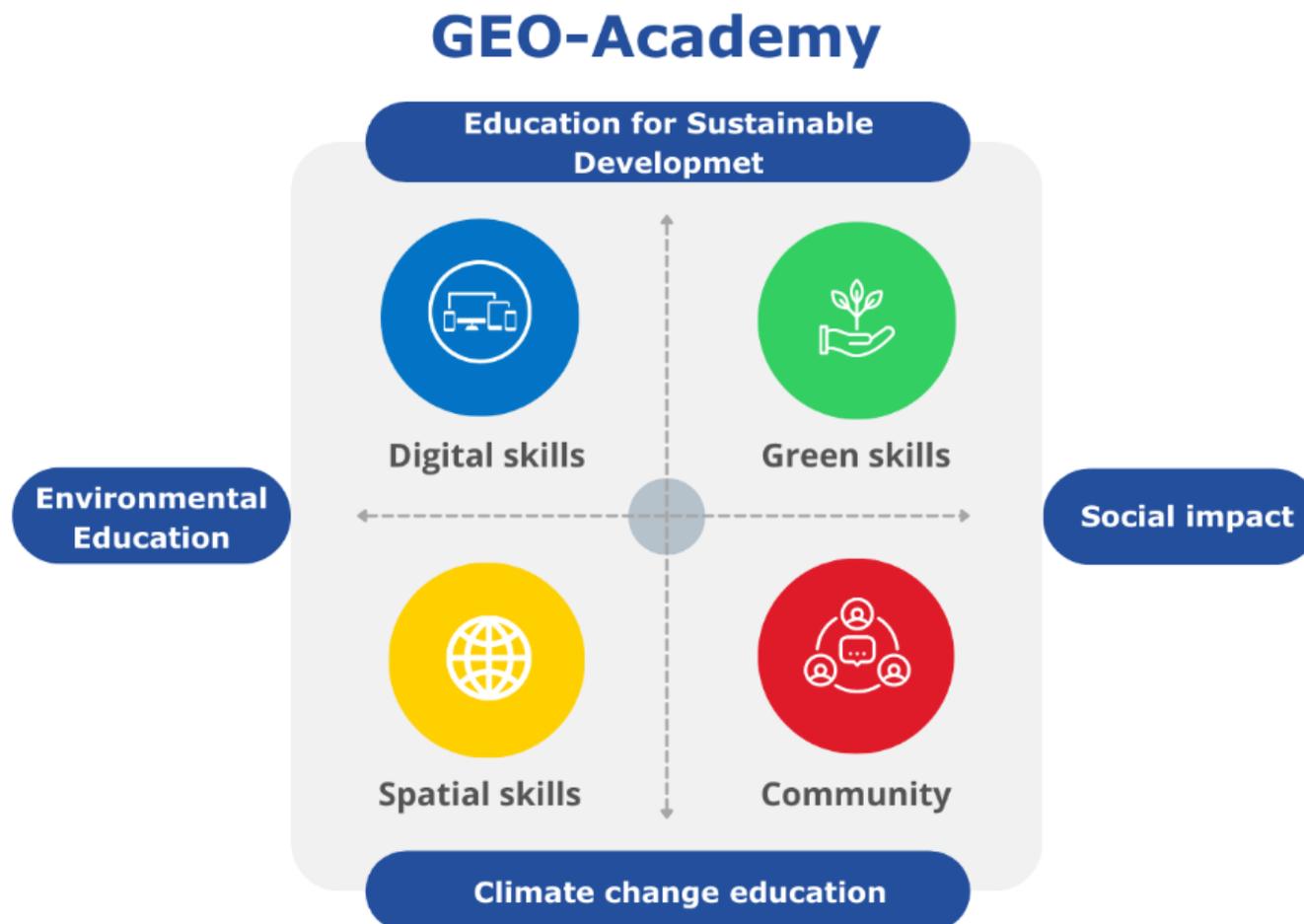
## Gapminder

<https://portal.geoacademy.eu/courses/the-gap-and-the-mind/>



# Tour ... last stop

## GEO-Academy e-learning modules



**GEO-ACADEMY**

GEO-Hub for teachers in Europe

Co-funded by the  
Erasmus+ Programme  
of the European Union



# Tour ... last stop

Search



GAPMINDER

Donate

Resources

About

Log in

## You are probably wrong about



Domestic work



Global warming



Plastic in oceans



Life satisfaction



Global  
collaborations



Extreme poverty

We have tested thousands of people and they were systematically wrong about all this.



**GEO-ACADEMY**  
GEO-Hub for teachers in Europe



# Tour ... last stop

The screenshot shows the GAPMINDER website interface. At the top, there is a search bar, the GAPMINDER logo, and navigation links for 'Donate', 'Resources', 'About', and 'Log in'. The main content area features a purple background with the headline 'You are probably wrong about'. Below this, a horizontal carousel displays six white boxes, each with a colored circular icon and a text label: 'Domestic work' (red icon with a female symbol and a plus sign), 'Global warming' (green icon with an eye and a globe), 'Plastic in oceans' (blue icon with a fish and waves), 'Life satisfaction' (green icon with a heart and a pulse line), 'Global collaborations' (dark blue icon with three interlocking circles), and 'Extreme poverty' (red icon with a family silhouette). Navigation arrows are visible on either side of the carousel. Below the carousel, a line of text reads: 'We have tested thousands of people and they were systematically wrong about all this.'

<https://www.gapminder.org/>



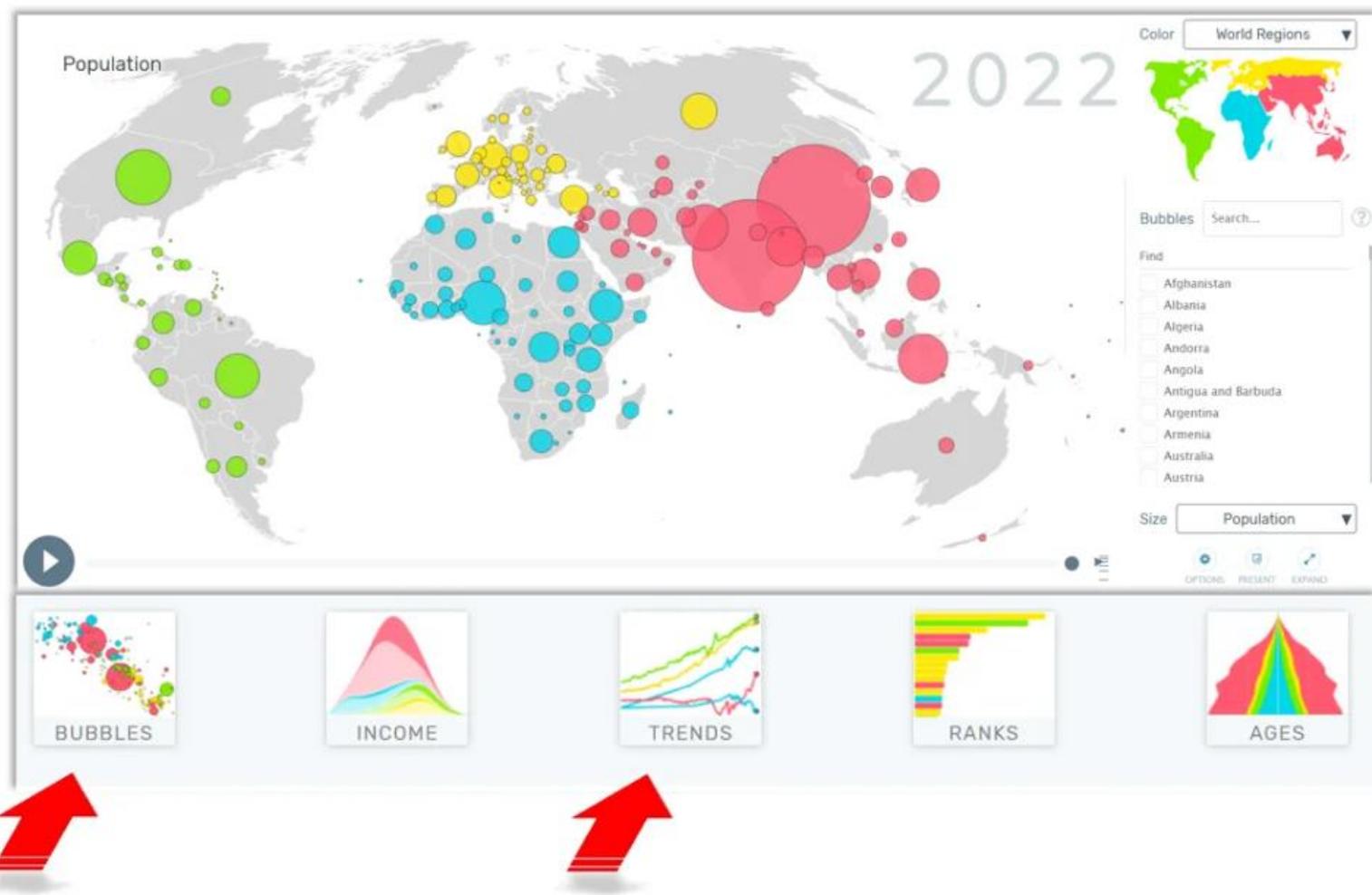
# Tour ... last stop

## What data visualisations are there?

Try out the different **visualisations** and find out what they each mean.

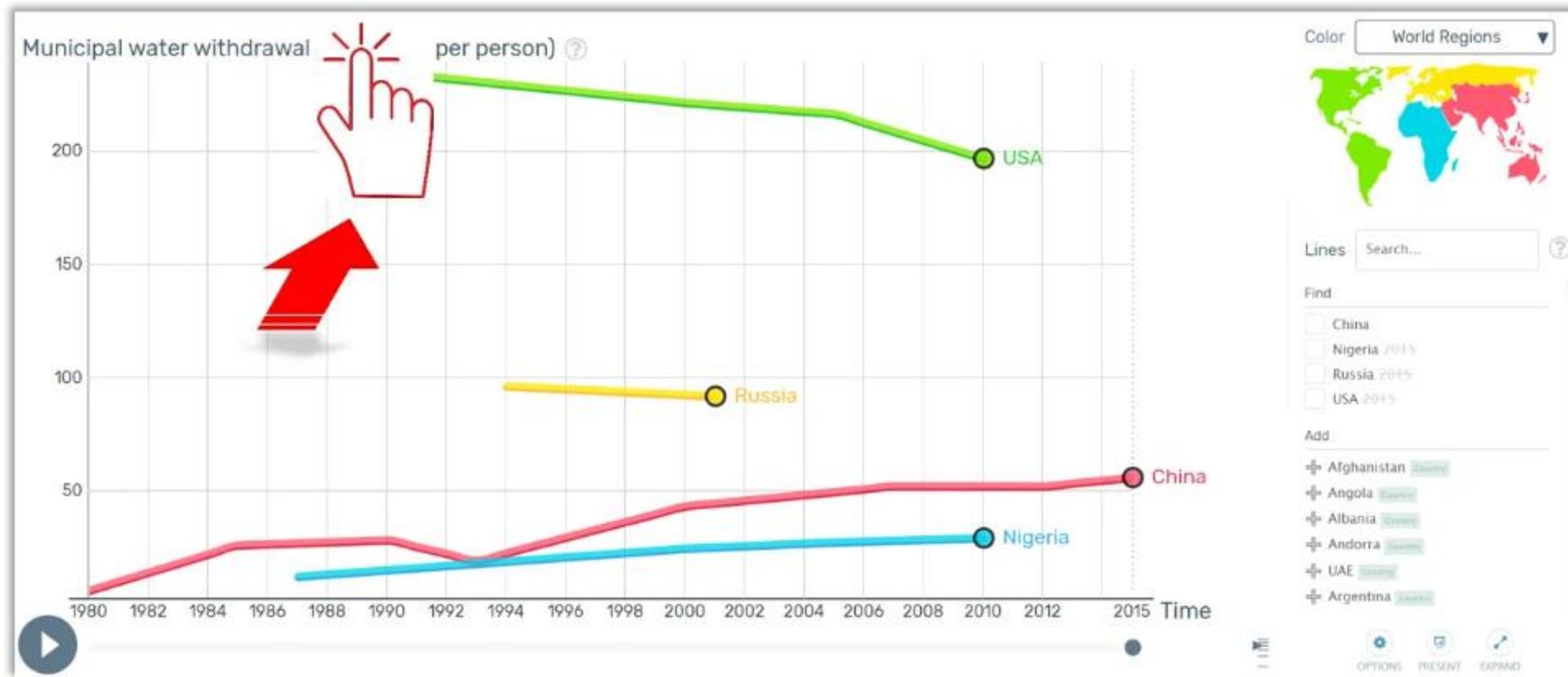


# Tour ... last stop



# Tour ... last stop

If you **click on the label** in the various visualisations, a list of all available variables will open, sorted by topic.



# Tour ... last stop

**Y axis** log linear

- Babies per woman
- CO2 Emissions per capita
- Child mortality
- Daily income
- GDP per capita
- Life expectancy
- Population
- Communication
- Economy
- Education
- Energy
- Environment
- Health

- Material footprint (tonnes)
- Material footprint per capita...
- Number of medium and lar...
- Number of oil spills (7 to 70...
- Number of oil spills (> 700 ...
- Plastic percent of waste co...
- Quantity of oil spilt per year...
- See climate change as a seri...
- See climate change as a so...
- See climate change as a thr...
- Disasters
- Emissions
- Forestry
- Geography
- Water

- Agricultural water withdrawal
- Desalinated water produced
- Industrial water withdrawal
- Internal renewable water
- Municipal water withdrawal
- Municipal water withdrawal ...**
- Renewable water
- Total water withdrawal
- Water withdrawal /person

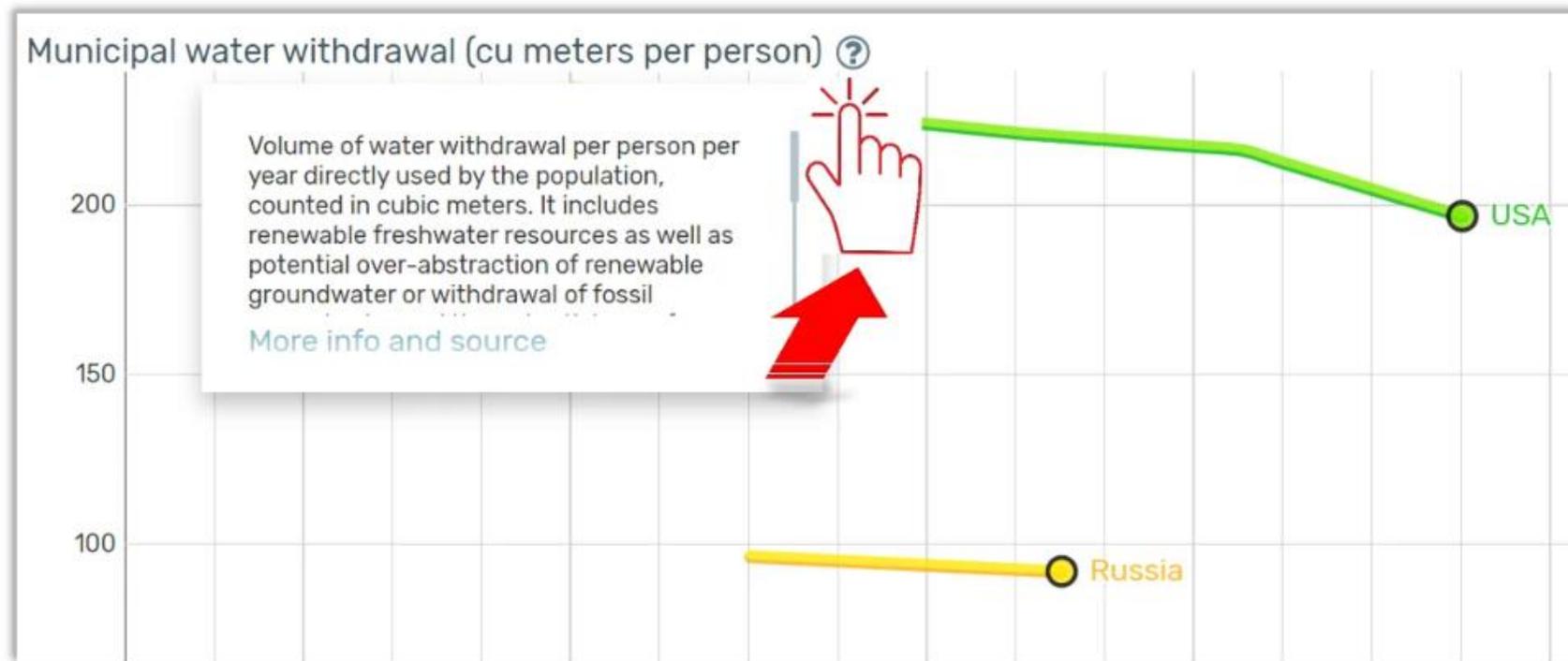
**Municipal water withdrawal (cu meters per person)**

Volume of water withdrawal per person per year directly used by the population, counted in cubic meters. It includes renewable freshwater resources as well as potential over-abstraction of renewable groundwater or withdrawal of fossil groundwater and the potential use of desalinated water or treated wastewater. It is usually computed as the total water withdrawn by the public distribution network. It can include that part of the industries, which is connected to the



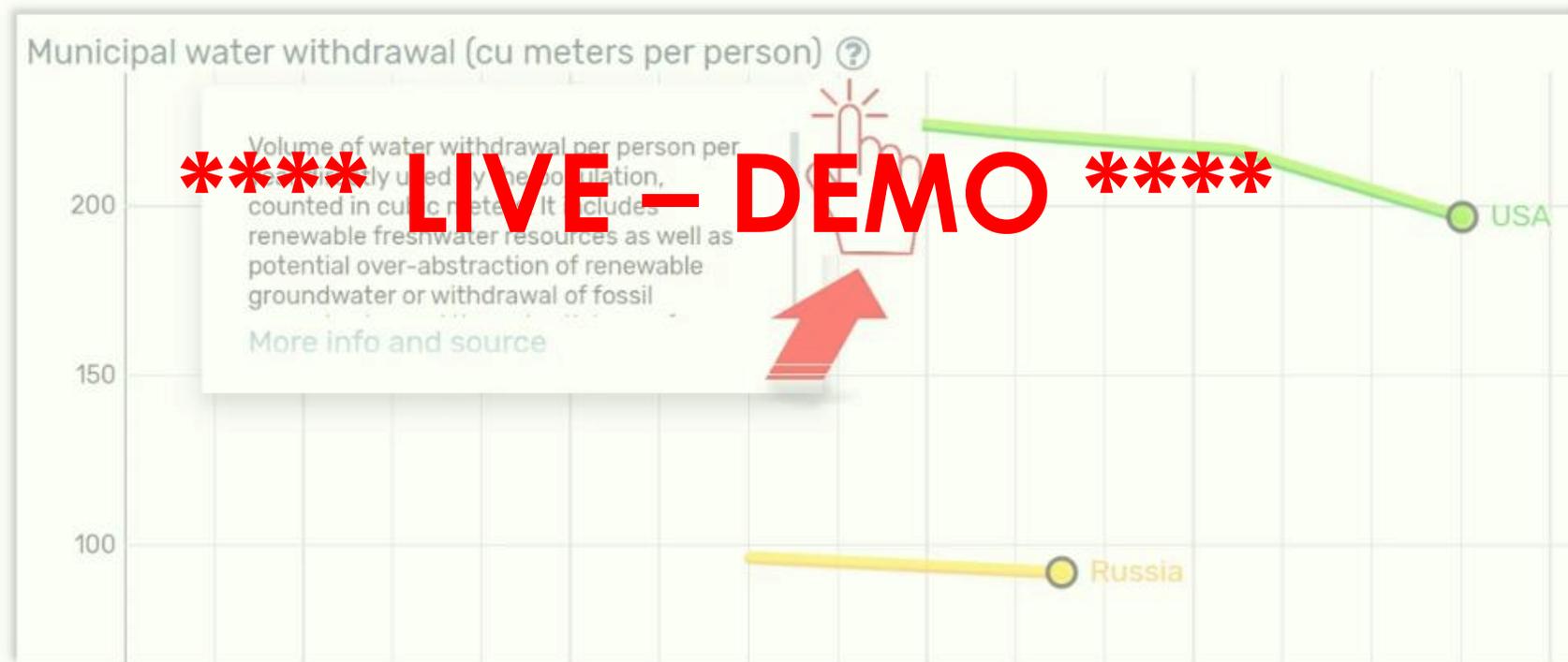
# Tour ... last stop

Select the variables that interest you and look at the visualisations. Here you will find detailed information on the corresponding variable.



# \*\*\*\* LIVE – DEMO \*\*\*\*

Select the variables that interest you and look at the visualisations. Here you will find detailed information on the corresponding variable.



\*\*\*\* LIVE – DEMO \*\*\*\*

# Thank you!

## GEO-Academy key actions

