



GLOBE Mission EARTH:

Adapting to a Changing GLOBE

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The GLOBE Mission EARTH Team:

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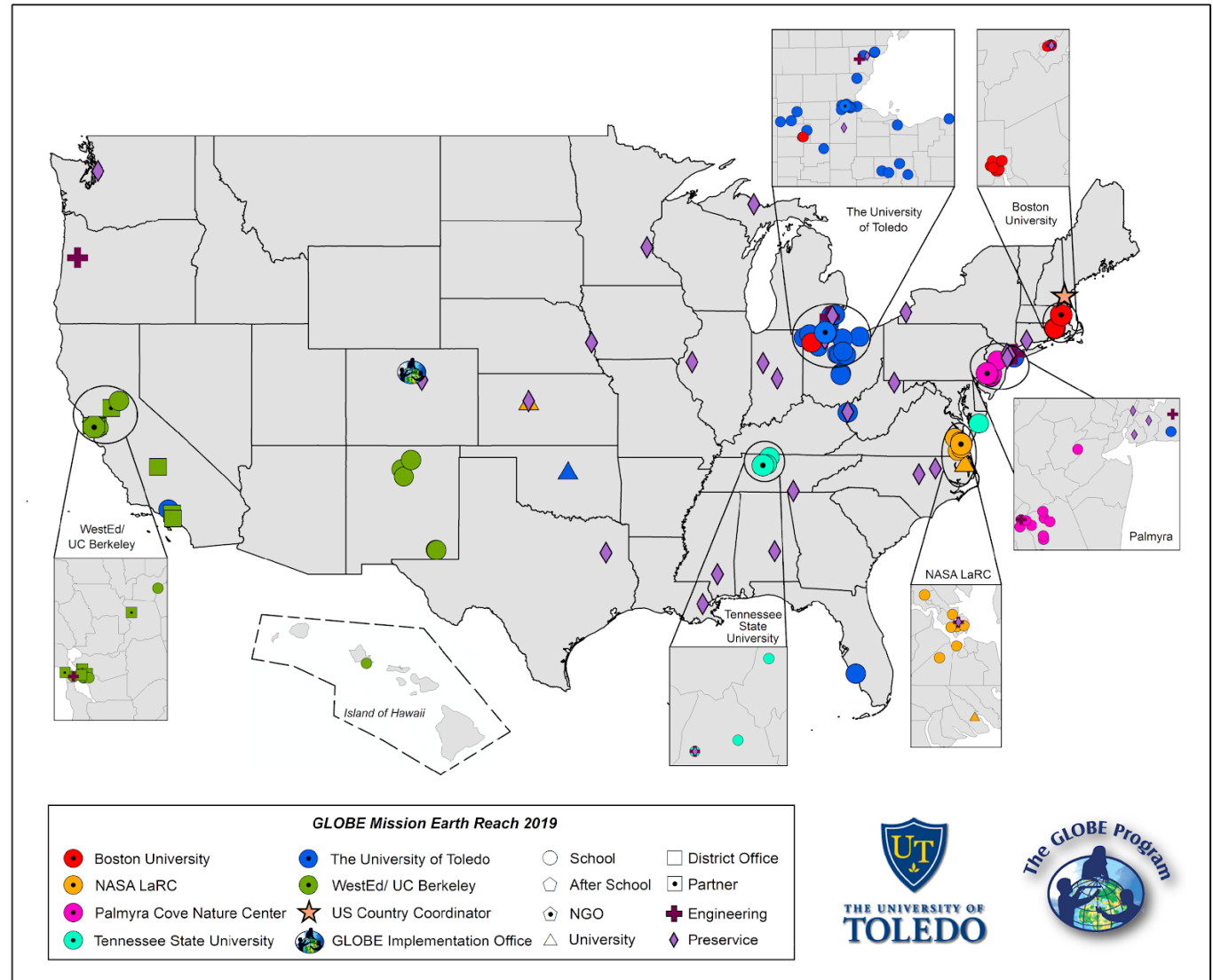


GLOBE Mission EARTH (GME) has continued engaging teachers and students in GLOBE and utilizing NASA assets, even during the past difficult year, via the following:

- Virtual and Hybrid PDs
- Virtual Science Symposia
- Adapting Resources to an Online Environment
- SMEs Engagement (virtual and otherwise)

The following slides show just some examples of these efforts.

GLOBE Mission EARTH Reach Map





Virtual and Hybrid Professional Development (PD)




University of Toledo Great Lakes B-WET Hybrid PD:
Mornings were spent online learning GLOBE via Zoom.



Afternoons were spent at local parks throughout the Great Lakes region collecting GLOBE data in a socially-distanced, safe manner.



Virtual Science Symposia


Global Learning and Observations to Benefit the Environment

Can a plant grow without soil?
Ms. Aguirre

Jonathan Grave, Keily Duenas, Ashley Lux, Dubraska Morente, Estephani Muñoz, Aysha Baide

Grade 5 Bilingual - Frank Spaziano

Soil...Yes, No, or Maybe?


What soil conditions do plants need to grow, thrive and produce?


An investigation conducted by the students at:

Anthony Carnevale Elementary School
Grade 2 Inclusion, Room 201

Mr. Tramonti/Mrs. Tavares, Classroom Teachers




COUGARS


Global Learning and Observations to Benefit the Environment

Do tree characteristics and location affect where squirrels will nest?

Isabella Iniguez and Classroom
Mrs. Barboza
8th Grade
Nathan Bishop Middle School

GLOBE Mission EARTH partner Boston University (BU) received 25 project submissions from 5 different classrooms for their 3rd annual Providence Science Symposium (virtual). Projects were submitted from one 2nd grade inclusive class, students in one 4th grade bilingual class, students in two 5th grade bilingual classrooms, and thirteen 8th grade students.



Resources Adapted to an Online Environment

Visibility

1. The images represent cups of water with different amounts (number of units) of the mystery substance.
2. Drag the cups under the matching numbers below the line. The cups should cover the horizon.

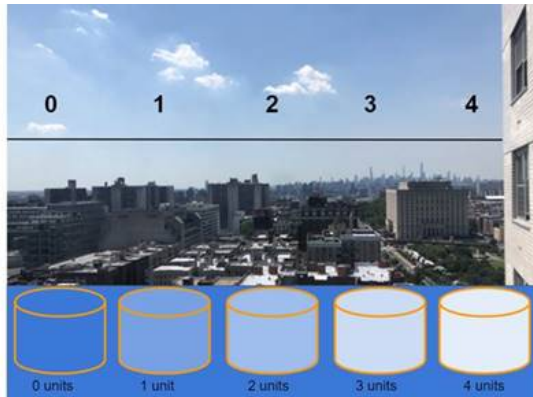


Image Credit: Samantha Adams

LEFT: GLOBE Mission EARTH Partner NASA Langley Research Center (LaRC) converted the GLOBE Atmosphere Activity "Visibility" into an online interactive mini-lesson. You can view the activity here:

<https://mydasdata.larc.nasa.gov/mini-lesson/sky-color-and-visibility-student-activity>

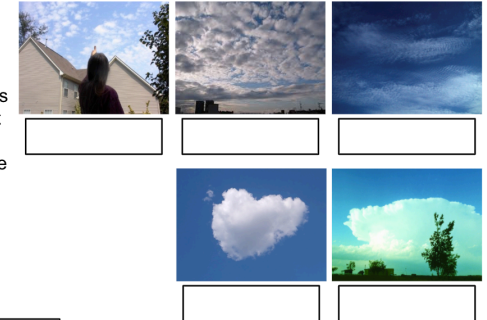
RIGHT: They also created an interactive Cloud Sort Activity to help students learn about clouds.

You can view the activity here:

<https://mydasdata.larc.nasa.gov/mini-lesson/cloud-sort-activity>

Cumulus Sort

Each of the pictures shows a type of cumulus cloud. You have learned about how clouds are named. It is also important to know that the clouds higher in the sky will look smaller. Use this information to drag the names of the clouds into the boxes under the pictures.



altocumulus

stratocumulus

cirrocumulus

cumulus

cumulonimbus



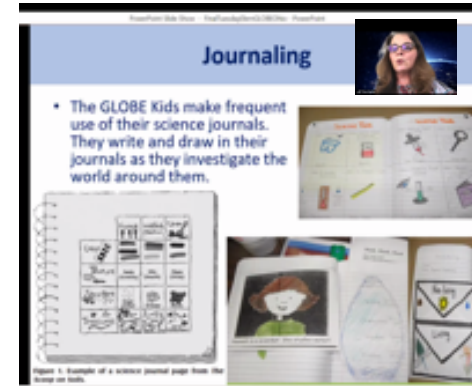
GLOBE Mission EARTH Partner WestEd/University of California at Berkeley conducted an online Data Literacy PD to assist teachers in developing strategies for distance learning. They also sent out over 200 GLOBE Tool Kits to local teachers so that 450+ students could collect GLOBE data while at home.



Subject Matter Experts (SMEs) Engagement



GLOBE Mission EARTH Partner Tennessee State University (TSU) engaged a NASA SME, Dr. Claire Grove (MD), a FAA-Licensed Unmanned Aerial Vehicle (UAV) Pilot. Here, she is shown test-flying a DJI Mavic 2 UAV for TSU GME faculty and students. Only four percent of FAA Licensed UAV Pilots are women! Dr. Grove serves as an excellent role model for women and young people from groups underrepresented in the STEM disciplines.



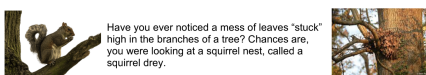
Tina Harte from GME Partner NASA LaRC showed Ohio Teachers student journaling during an online PD.

Let's meet Mario Molina and find out how he helped heal the hole in the ozone.



Name: _____ Class: _____

Is there a perfect squirrel tree? – Investigating tree size and squirrel dreys



Have you ever noticed a mess of leaves "stuck" high in the branches of a tree? Chances are, you were looking at a squirrel nest, called a squirrel drey.

INSIDE:

Watch a citizen scientist explain about squirrel dreys here: <https://www.youtube.com/watch?v=9nX7ZwHkbuY>

1. Write down three ideas you learned about squirrels and their dreys that you want to share and discuss with your class.

GLOBE Mission EARTH Partner Boston University (BU) engaged in multiple classroom visits, including a reading of the book "Mario and the Hole in the Sky" by Elizabeth Rusch. This included a subsequent activity and discussion with the 5th grade bilingual class. The team also met with an 8th grade classroom to learn about their GLOBE Project involving Tree height and Squirrel Nests.

My NASA Data Presents Strategies for Incorporating NASA Data in Instruction



My NASA Data's (MND) Elizabeth Joyner presented to 11 teachers from McDaniel College on April 19, 2021. In Joyner's presentation, "Working with Data in the Classroom: Insights from an Earth Science Context," she addressed the importance of including data literacy skills and strategies across the K-12 continuum and how MND and NASA resources can be used to develop these skills.

The Problem: There is an emerging opportunity to integrate cutting-edge data science practices and tools into K-12 instruction in science classrooms. These practices engage students with real world data through authentic tools to work on meaningful and relevant problems of the 21st century. Further, recent shifts in expectations of science instruction place a much higher emphasis on having students engage in authentic practices of scientists, including data analysis and interpretation. To meet the calls for integrating data skills into K-12 instruction, teachers must be supported to make this transition. However, to date, such training is neither happening effectively nor on a large scale, leaving many teachers either unprepared to use computing and data effectively in their teaching, or computationally and data illiterate themselves. (For references, please contact Elizabeth Joyner.)

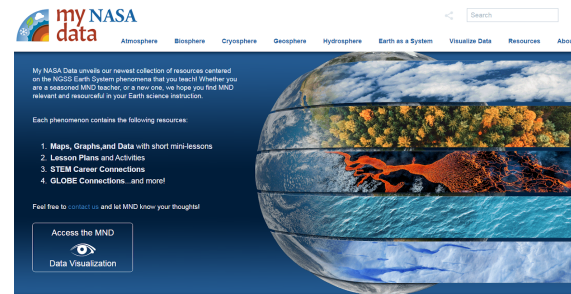
The teacher participants of the My NASA Data presentation are enrolled in a course titled, "Technologies Impact on Learning," at McDaniel College which aims to address some of these needs in K-12 education.

Image Caption: Progression of Data-Savvy Citizenship Development



FUTURE PLANS for GLOBE Mission EARTH

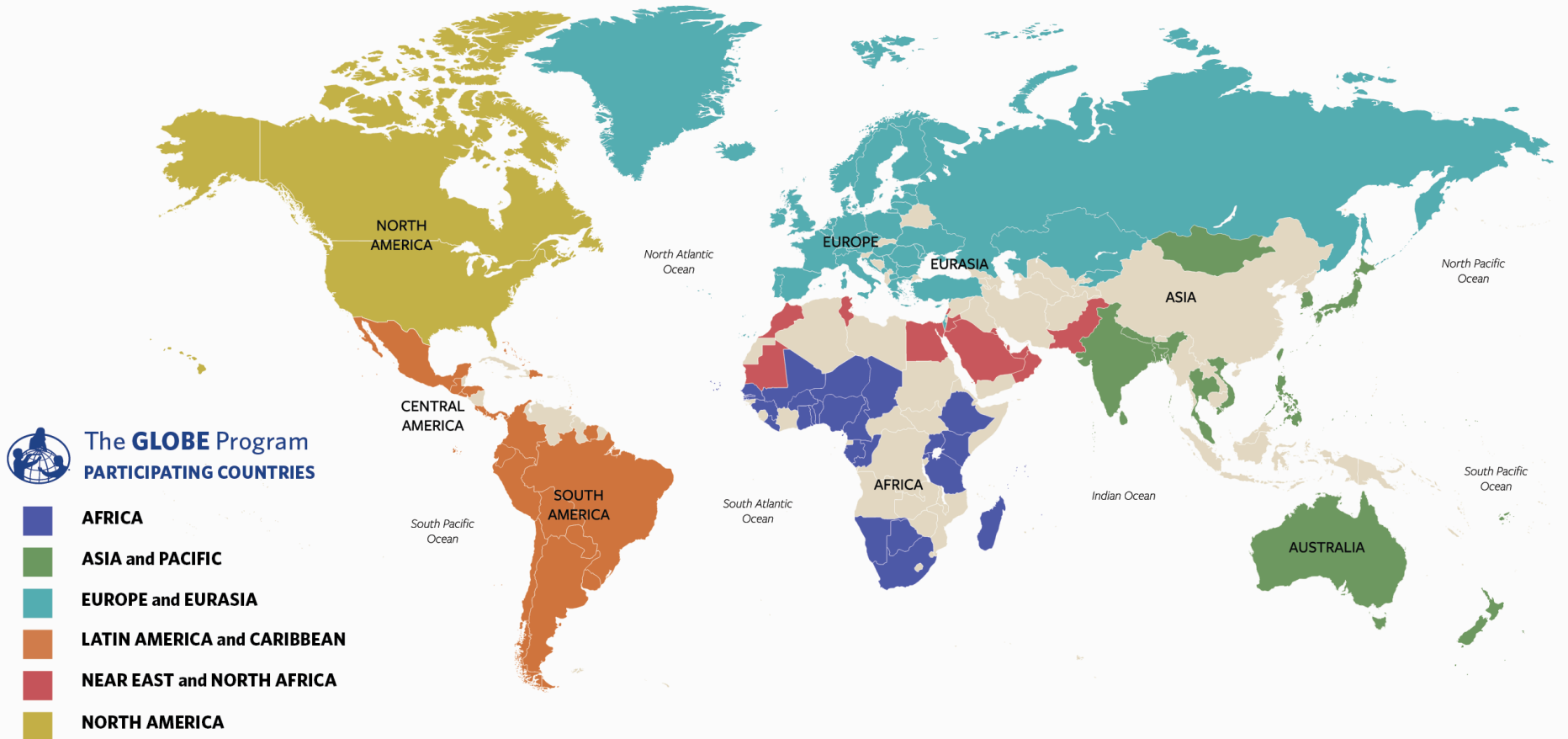
- Continue to strengthen relationships with district and state education personnel.
- Engage more NASA Subject Matter Experts (SMEs) with students.
- Develop additional My NASA Data materials and disseminate them to more teachers for implementation in the classroom (virtual and in-person).
- Include more interactive functionality in My NASA Data and GME website resources so they are easily imported into Google Classroom.
- Continue to assist SSAI and the GLOBE Technology Working Group with development of the future GLOBE User Dashboard for the GLOBE website.
- Continue to assess and revise our content based on recommendations from GLOBE's Diversity, Equity and Inclusiveness (DEI) Task Force.
- Develop the engineering working group further and inform the GLOBE community of the opportunities available to students.
- Continue to build collaborations with other SciAct Partners.

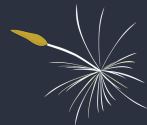




THE GLOBE PROGRAM

#GLOBEMeeting2021





THANK YOU!

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