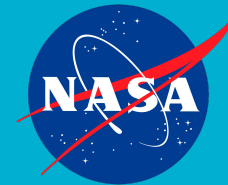


“Telling Your Stories”



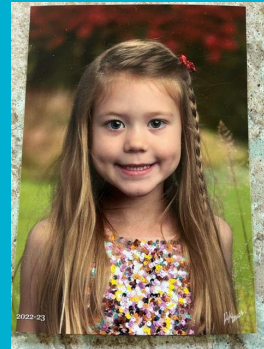
STEM 60+

September 28, 2023



Introduction

- Outreach Coordinator for NASA's Global Precipitation Measurement (GPM) mission
- LLL Lead for GLOBE Observer efforts
- Former public school educator (30 years!)
- Mom of three sons- "Nana" to four little people
- Lifelong Learner Institute Professor
- Lifelong Learner- 65 years young



“Best Practices” document

- Research review
- Advisory Group
- Surveys/Interviews



Engaging and Sustaining our Lifelong Learners!



Perspectives:

- The global population is getting older, and projections indicate that over 21% of people worldwide will be over the age of 60 by the year 2050. This large and voting portion of society is often left out of science outreach and should be invited to participate as we face the mounting and complicated issues across the globe.
- Being engaged in citizen science efforts also serves to improve both mental and physical health for this audience. Retirement can lead to social isolation, which has been linked to health problems including heart disease and early death.
- Motivations are more related to personal benefits, such as increasing their own background knowledge and holding values which lead them to being involved in

Real world impacts of precipitation= Stories

NASA's GPM
Data

Seasonal
Precipitation Data



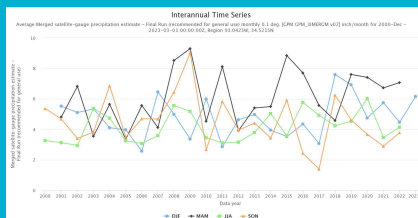
Citizen Science
Observations

Clouds or Tree
observations



Lifelong Learners

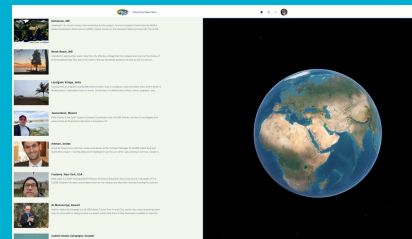
Tell Your Story!



10:35

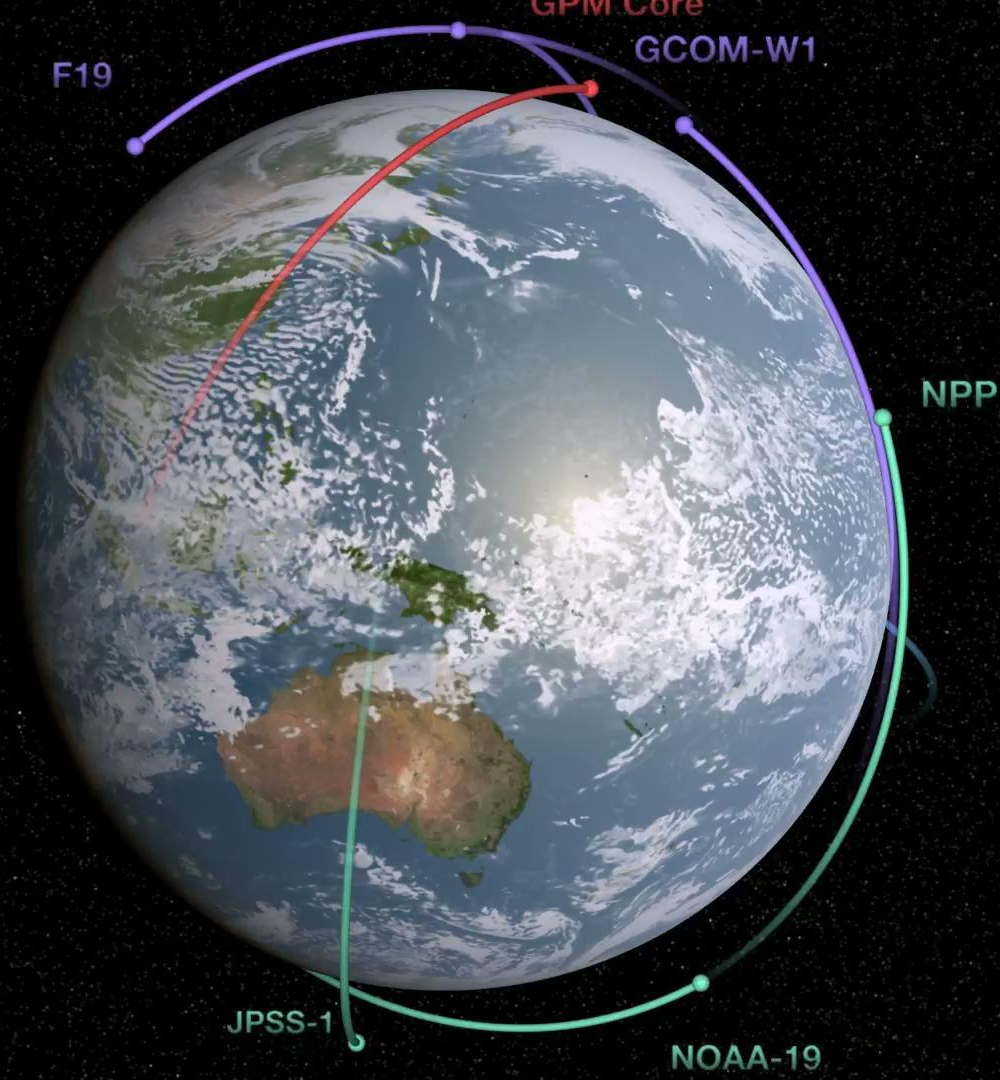
| | |
|--------------------|---------------------|
| Measured Date: | 2023-07-04 |
| Organization Name: | GPM Satellite |
| Site ID: | 193178 |
| Site Name: | 18SUJ102471 |
| Latitude: | 39.292471 |
| Longitude: | -77.199625 |
| Elevation: | 182.3m |
| Measured At: | 2023-07-04T15:43:00 |
| Solar Measured At: | 2023-07-04T10:29:00 |
| Cloud Cover: | scattered |

Done



NASA's Global Precipitation Measurement Mission





F19

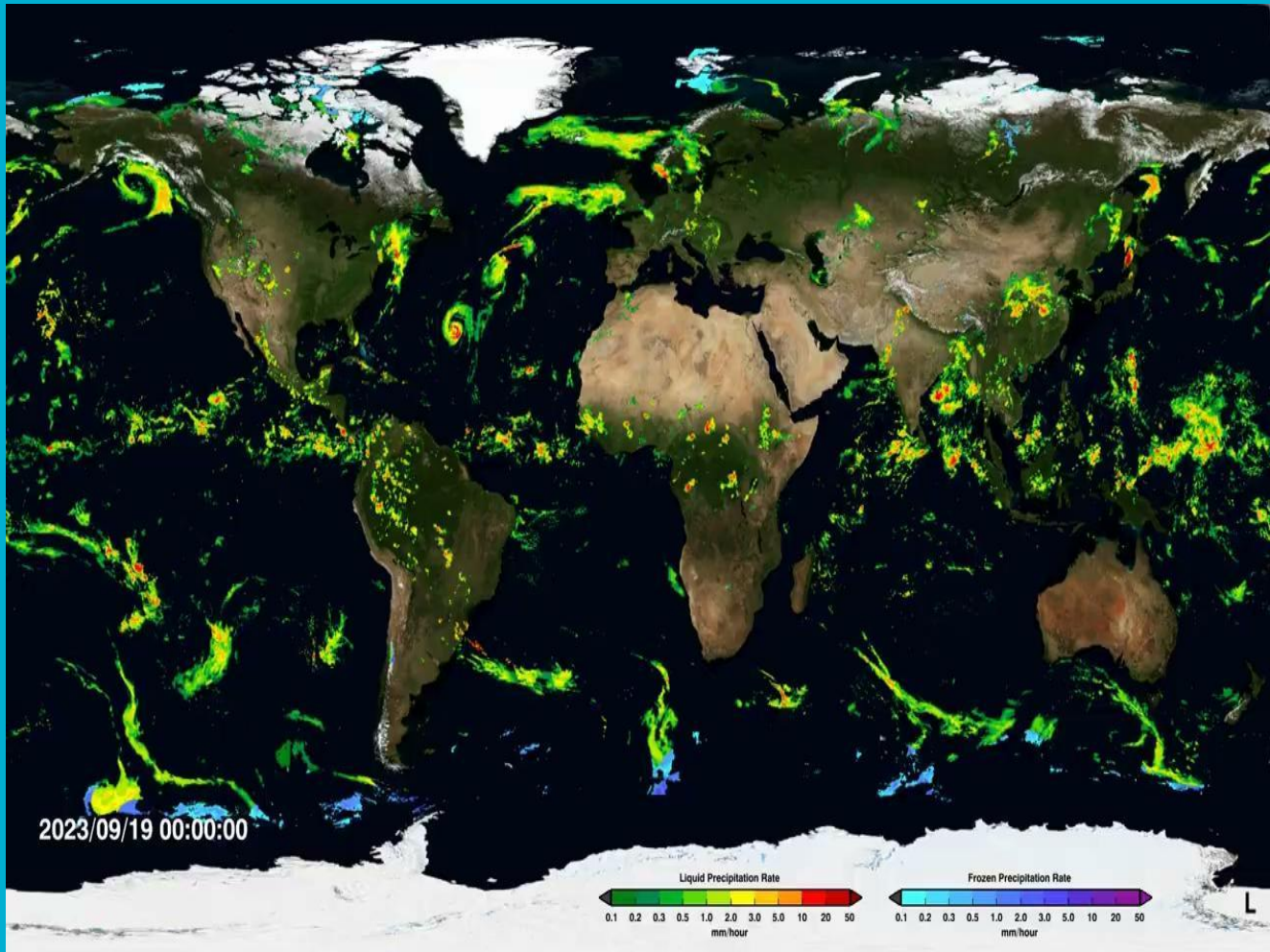
GPM Core

GCOM-W1

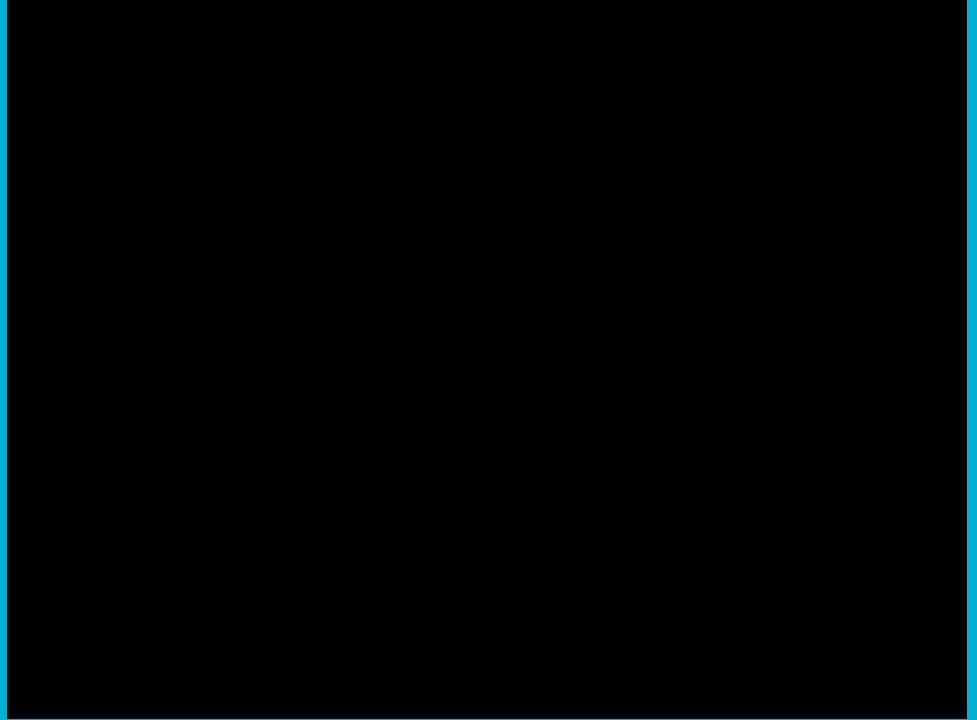
NPP

JPSS-1

NOAA-19

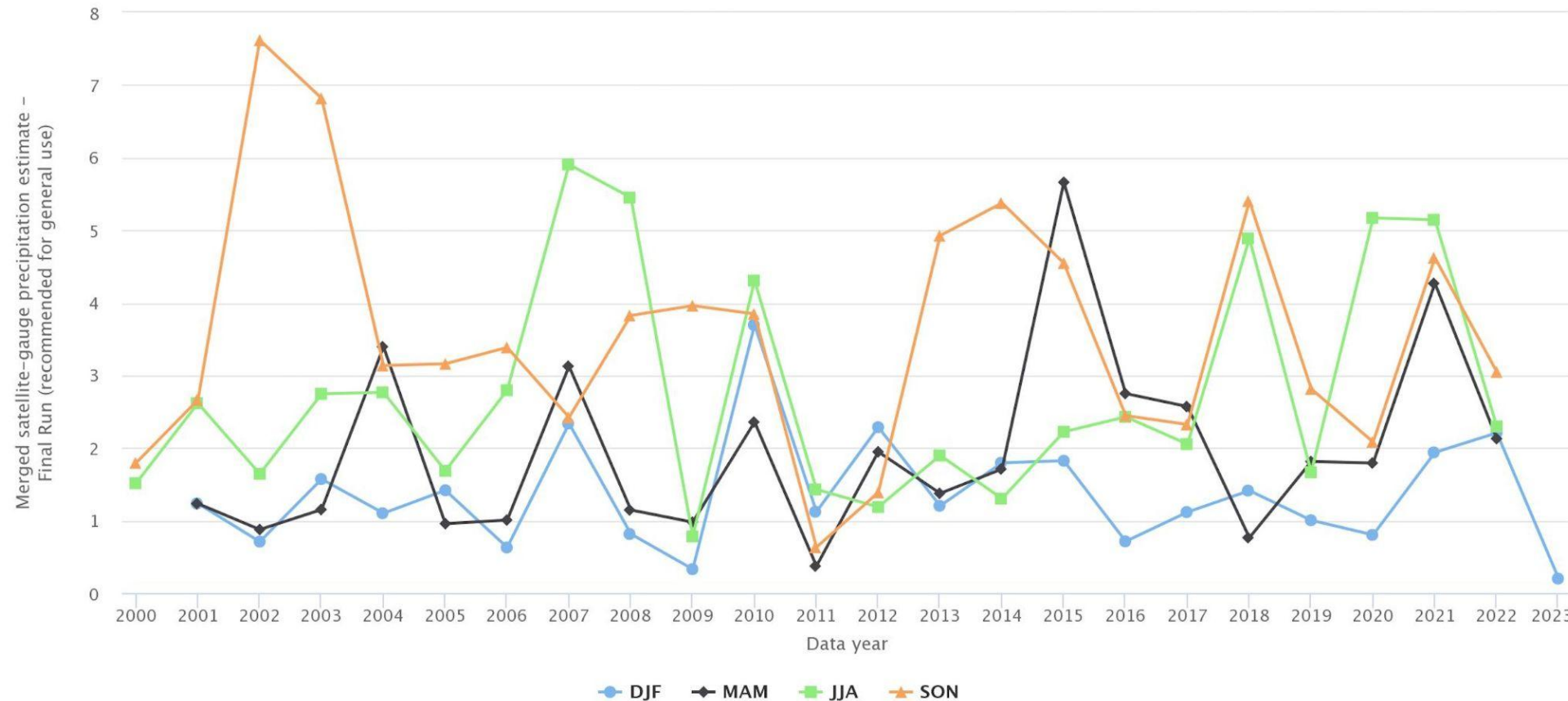


Last weekend's storm!



Interannual Time Series

Average Merged satellite-gauge precipitation estimate - Final Run (recommended for general use) monthly 0.1 deg. [GPM GPM_3IMERGM v07] inch/month for 2000-Dec - 2023-03-01 00:00:00Z, Region 97.4483W, 26.5363N



GLOBE Observer App



Precipitation and Trees



Figure 1 How trees use water

Following rainfall, water is intercepted by the forest canopy and directly evaporated back to the atmosphere

Tree species vary in their ability to control water loss via their stomata; water is lost through these open pores on the leaf surface during transpiration

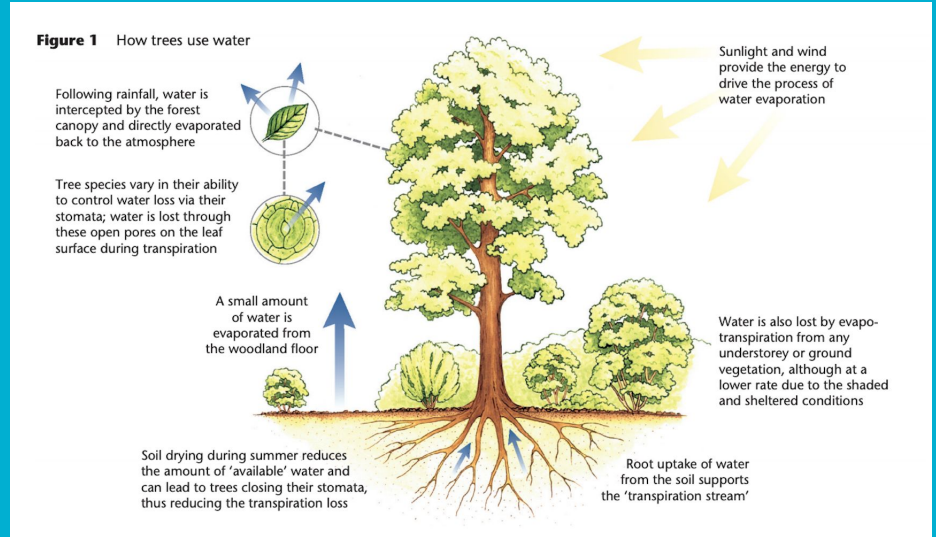
A small amount of water is evaporated from the woodland floor

Soil drying during summer reduces the amount of 'available' water and can lead to trees closing their stomata, thus reducing the transpiration loss

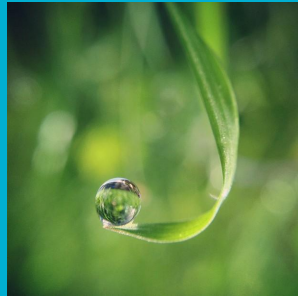
Sunlight and wind provide the energy to drive the process of water evaporation

Water is also lost by evapotranspiration from any understorey or ground vegetation, although at a lower rate due to the shaded and sheltered conditions

Root uptake of water from the soil supports the 'transpiration stream'



Precipitation and Clouds



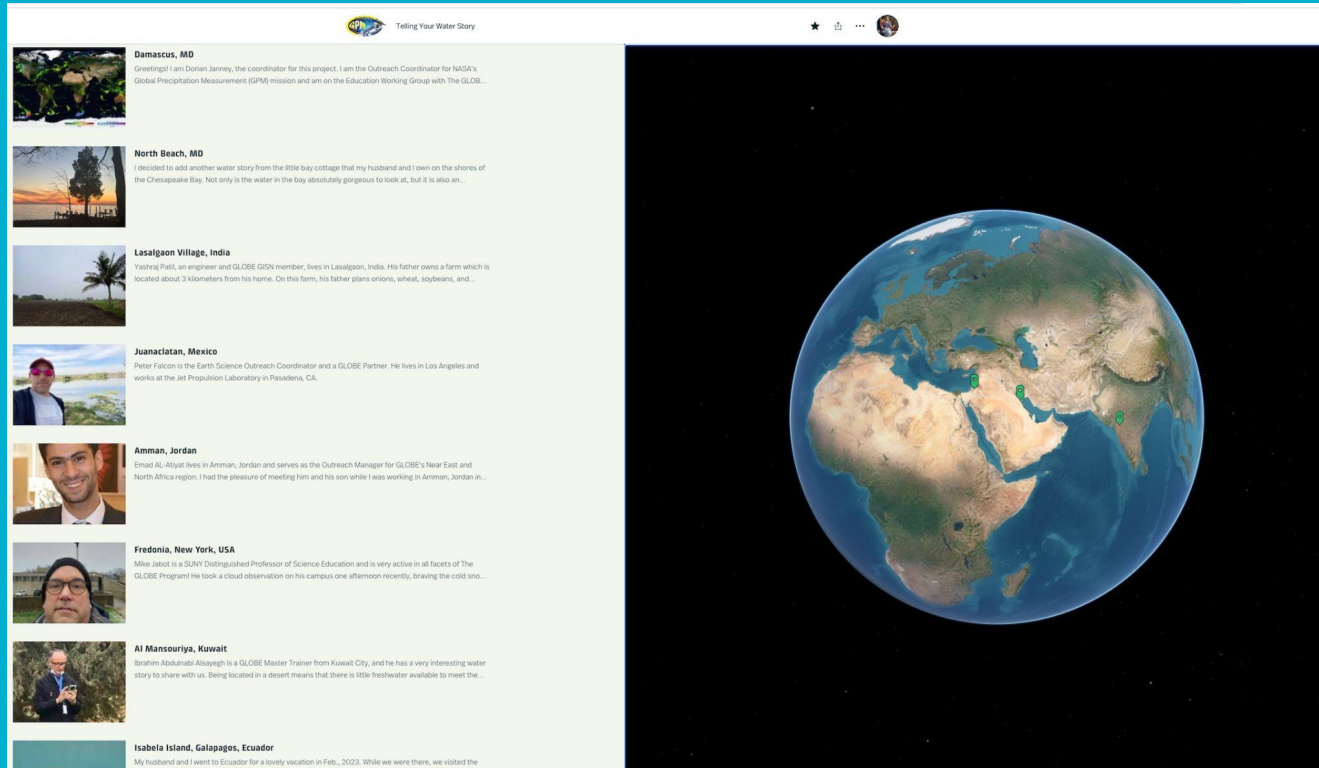
Easy to “Tell Your Story”!

- Download free GLOBE Observer app
- To Tell a Water Story: use Clouds tool
- To Tell a Tree Story: use Trees tool
- Email me a screenshot of your data that includes the latitude and longitude
- I will send you your seasonal GPM “IMERG” data for that location, and send you some questions to consider as you “tell your story”.



| | |
|---------------------------|-----------------------|
| Measured Date: | 2023-07-04 |
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| Solar Measured At: | 2023-07-04T10:29:00 |
| Cloud Cover: | scattered |

Take a deeper dive into “Water Stories”



Telling Your Water Story

Damascus, MD
Greetings! I am Doran Jarney, the coordinator for this project. I am the Outreach Coordinator for NASA's Global Precipitation Measurement (GPM) mission and am on the Education Working Group with The GLOBE...

North Beach, MD
I decided to add another water story from the little bay cottage that my husband and I own on the shores of the Chesapeake Bay. Not only is the water in the bay absolutely gorgeous to look at, but it is also an...

Lasaigaoon Village, India
Yashraj Patil, an engineer and GLOBE GSN member, lives in Lasaigaoon, India. His father owns a farm which is located about 3 kilometers from his home. On this farm, his father plans onions, wheat, soybeans, and...


Juanacatlan, Mexico
Peter Falcon is the Earth Science Outreach Coordinator and a GLOBE Partner. He lives in Los Angeles and works at the Jet Propulsion Laboratory in Pasadena, CA.

Amman, Jordan
Emad Al-Abayeh lives in Amman, Jordan and serves as the Outreach Manager for GLOBE's Near East and North Africa region. I had the pleasure of meeting him and his son while I was working in Amman, Jordan in...

Fredonia, New York, USA
Mike Jabot is a SUNY Distinguished Professor of Science Education and is very active in all facets of The GLOBE Program! He took a cloud observation on his campus one afternoon recently, braving the cold sno...

Al Mansouriya, Kuwait
Ibrahim Abouhabi Alsayegh is a GLOBE Master Trainer from Kuwait City, and he has a very interesting water story to share with us. Being located in a desert means that there is little freshwater available to meet the...

Isabela Island, Galapagos, Ecuador
My husband and I went to Ecuador for a lovely vacation in Feb., 2023. While we were there, we visited the



Give it a try- Tell Your Story!

Telling Your Tree Story



Telling Your Water Story



Fuhufjellet Mountain, Finland
"Old Tikko is a 9330 year old Norway spruce, located on Fuhufjellet mountain in the Dalarna province of Sweden. Old Tikko was once thought of as the "world's oldest tree." Later it was determined that it is a "clone" tree that has reproduced new trunks, branches and roots over millennia rather than an individual tree of great age. Old Tikko is recognized as the oldest living "clone tree" and the world's oldest known "clone tree." (from Wikipedia)

Here is the graph showing twenty years of precipitation data for the location of Old Tikko. Click on the graph to make it larger and use the data to answer the questions below.

- Quinnipiac, MD**
- North Beach, MD**
- Lehigh Valley, PA**
- Jamaica, NY**
- Ames, IA**
- Proctor, NY**
- At Maunabo, HI**
- Yakima River, WA**

Feel free to reach out to me!

dorian.w.janney@nasa.gov

