

National Aeronautics and  
Space Administration



# EXPLORE SCIENCE

**Data Literacy Experiences in the Earth Sciences for Preservice STEM Teachers**

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My NASA Data, GLOBE Mission Earth

4/20/2020

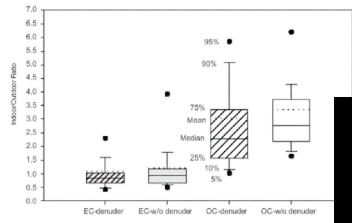


# Data Literacy Experiences in the Earth Sciences for Preservice STEM Teachers

During the spring of 2020, Elizabeth Joyner of LaRC's My NASA Data collaborated with The College of New Jersey (TCNJ), The University of Wisconsin, and Dataspire to coordinate and provide a series of virtual experiences focused on Data Literacy in the Earth Sciences for 20 STEM pre-service teachers at TCNJ.

The four-part series started with students being trained in GLOBE's Urban Heat Island (UHI) Campaign protocols by Palmyra Cove's Institute for Earth Observations in February. In March, students engaged with their individually-collected data, to learn and test data analysis techniques with Kristin Hunter-Thomson of Dataspire. Thirdly, students learned how to access and visualize professionally-collected NASA data through My NASA Data's Earth System Data Explorer where they continued their exploration of UHI data. Students' final experience was held on 4/15/2020 where they learned from 12 NASA SME's from LaRC, GISS, and GSFC (including Dr. Gavin Schmidt, GISS Director) who presented the importance of data, as well as how the NASA community interacts with data to solve practical problems. This final event was made possible by a collaboration among My NASA Data and NASA's Office of STEM Engagement at GISS and GSFC.



Box Plot – Good for Comparing Distributions






"Most scientists have the aesthetic Sense of a gnat"


John Brockman

## Data Visualization Tools

**Python Coding**  


**GIS Data Visualization**  


**Google Sheets/Excel**  


**Tip #3: Tools in the toolbox:**  
Keep your data visualization tools handy and sharp: find a good data visualization site, coding skills!



Figures show content shared by SMEs.



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