



From the Tropics to the Arctic: My Journey to Community and Citizen Science in the Far North

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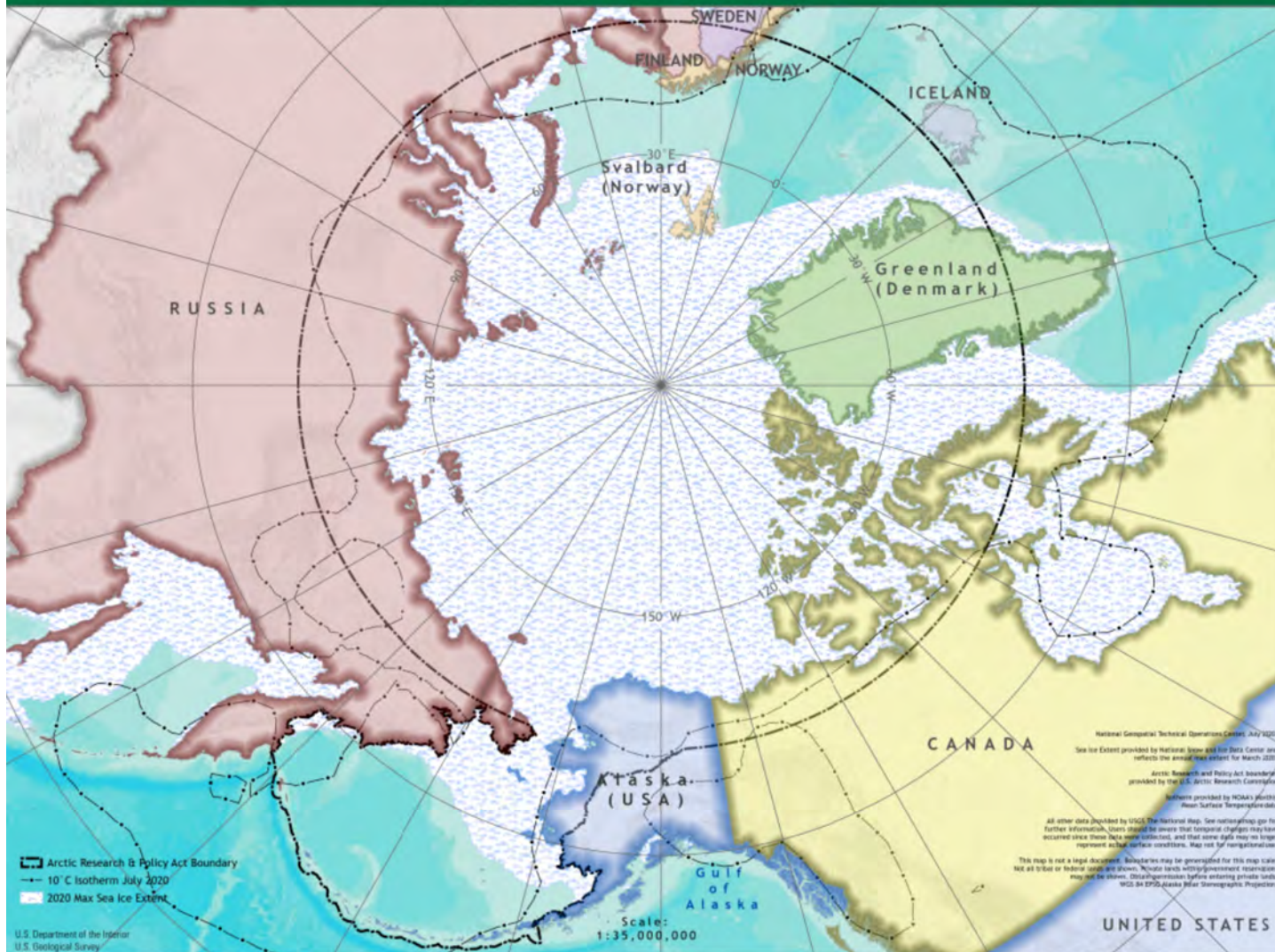
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Arctic Boundaries as defined by the Arctic Research & Policy Act (ARPA)

All United States and foreign territory north of the Arctic Circle and all United States territory north and west of the boundary formed by the Porcupine, Yukon, and Kuskokwim Rivers; all contiguous seas, including the Arctic Ocean and the Beaufort, Bering and Chukchi Seas; and the Aleutian chain. (Note: The Aleutian chain boundary is demarcated by the 'Contiguous zone' limit of 24-nautical miles.)



From the Tropics: the Philippines



Newly wed and 50 years later







Summer Flowers

Sparrows with
their first born
son and Lola

Eric and
Emmalisa



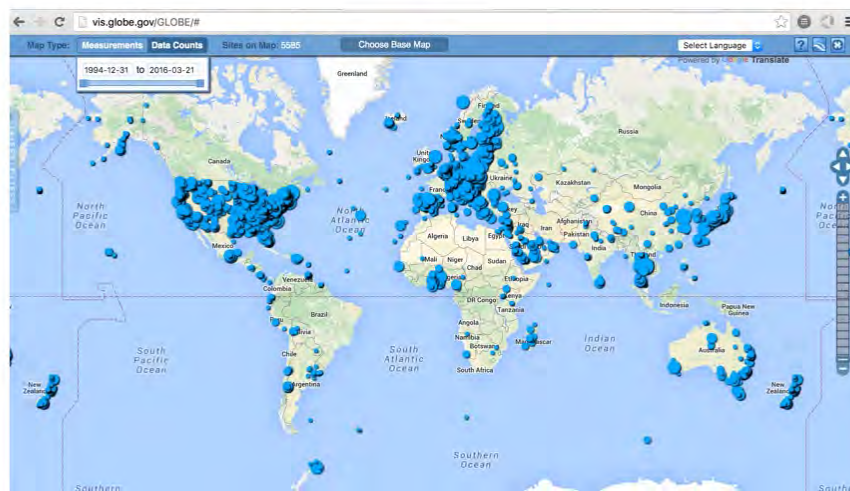


Welcome to GLOBE: Global Learning and Observations to Benefit the Environment

- GLOBE is a science and education program that connects a network of students, teachers and scientists from around the world to better understand, sustain and improve Earth's environment at local, regional and global scales.
- To date, more than 130 million measurements have been contributed to the GLOBE database, creating meaningful, standardized, global research-quality data sets that can be used in support of student and professional scientific research.
- It's easy to get started! You'll find out how in this module!



And share their data with other students as well as research scientists around the world.

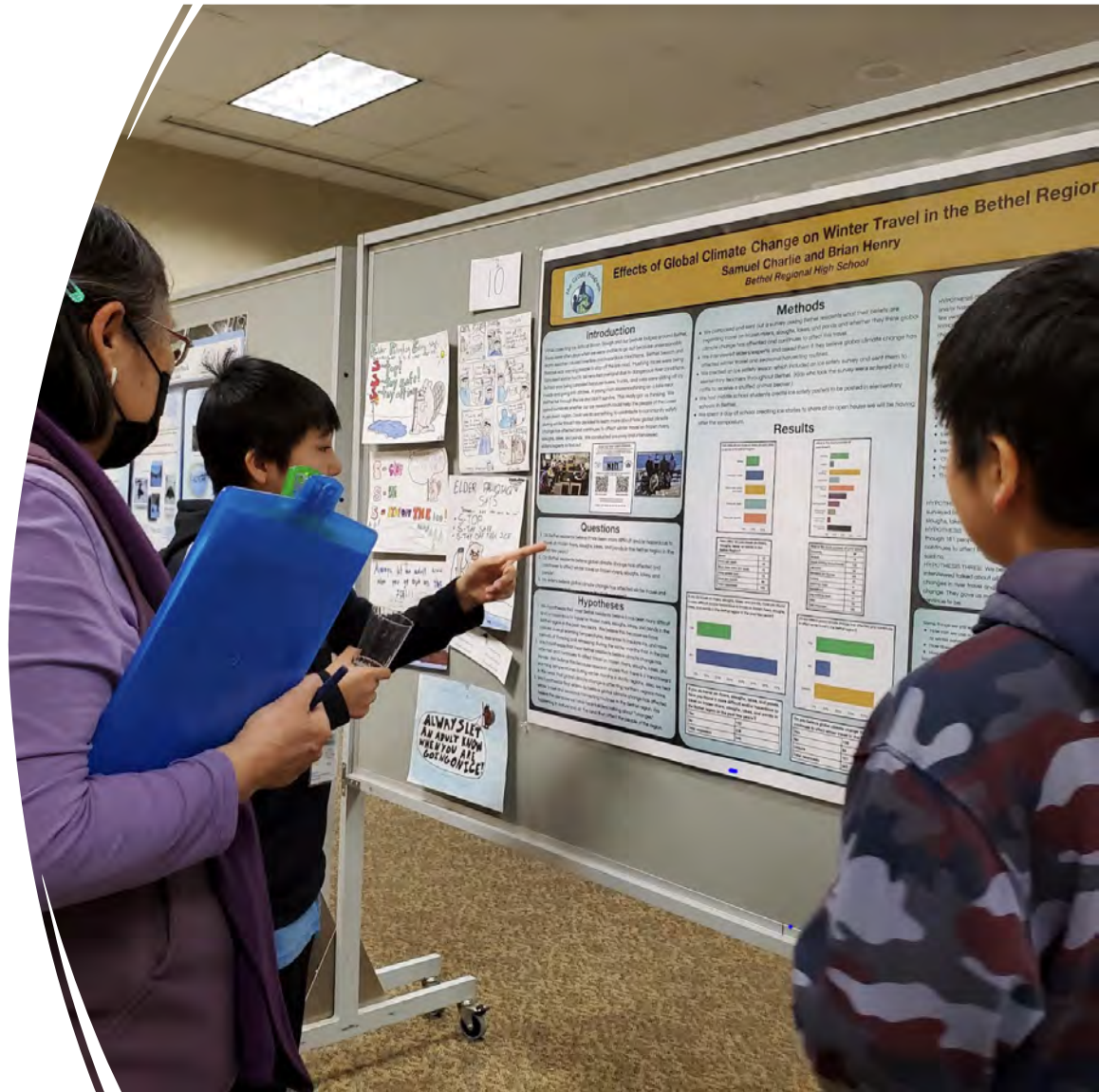


[GLOBE's Data Visualization System](#) shows where students have uploaded water temperature data. The GLOBE database contains more than **20 years of data collected by students at more than 25,000 schools** around the world.

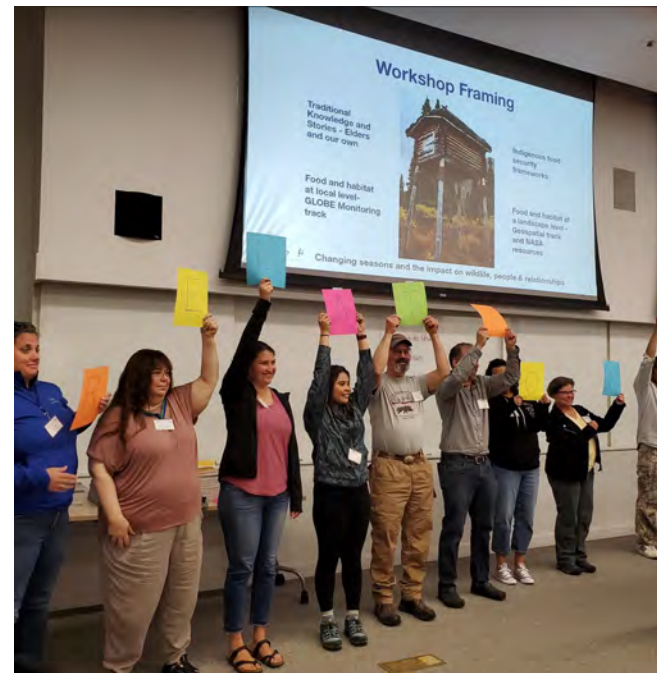
GLOBE Students

- Present their project:

Effects of Global Climate Change on Winter Travel in the Bethel Region



Climate Change and My Community – Food Security Workshop



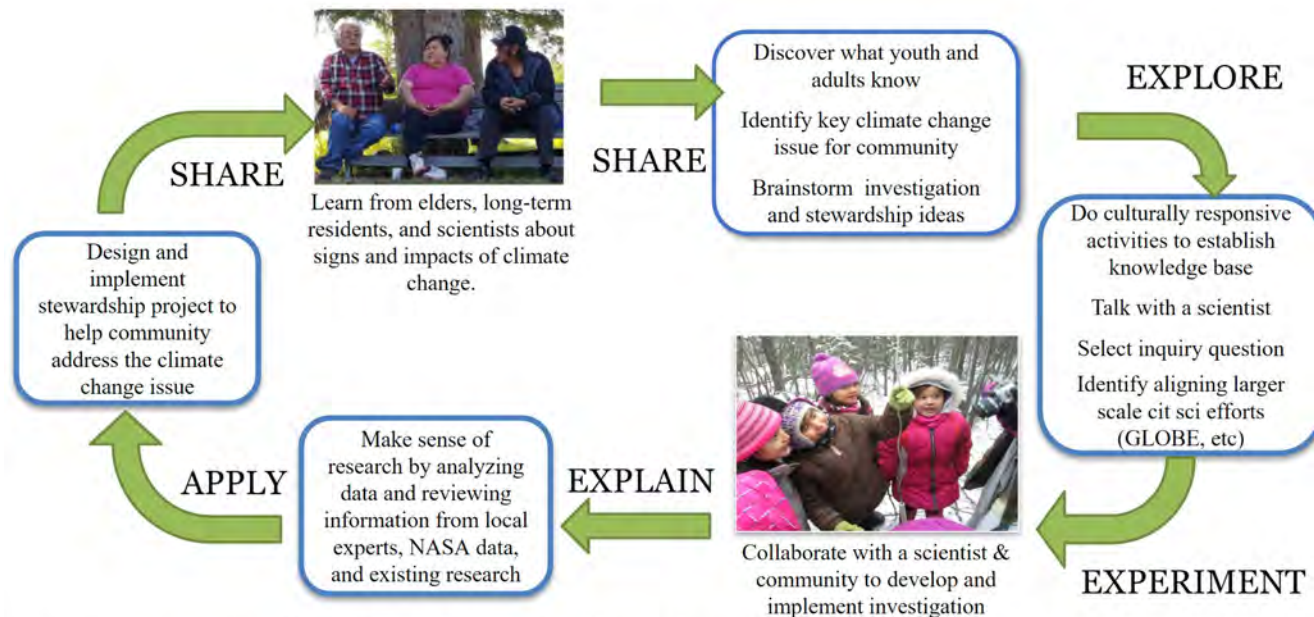
GLOBE Learning Expedition

Kwethluk Students with their Elder and Teacher and me



The Arctic and Earth SIGNs Learning Framework

Using Indigenous knowledge, GLOBE and NASA assets to make STEM learning actionable and relevant



Spellman et al. 2018. *Connected STEM Learning* (figure modified from Stephens 2003 and OLCG 2002)



Alaska Native Youth

Thank You

