

Permafrost Discovery Gateway










An online platform for big geospatial
data and knowledge generation

Anna Liljedahl, Matt Jones, Kenton McHenry, Chandi Witharana, Ingmar Nitze, Robyn Thiessen-Bock, Juliet Cohen, Wenwen Li, Elias Manos, Amal Shehan Perera, Luigi Marini, Todd Nicholson, Kastan Day, Guido Grosse, Michael Brubaker, Jason Cervenec, Angie Garcia, Jennifer Moss, Ben Jones, Mike Brook, Gala Wind, Brendan Rogers, Yili Yang, Helene Genet

The importance of Arctic datasets in a warming climate

JUNE 29, 2022 **EVENT**

Sudden lake draining event

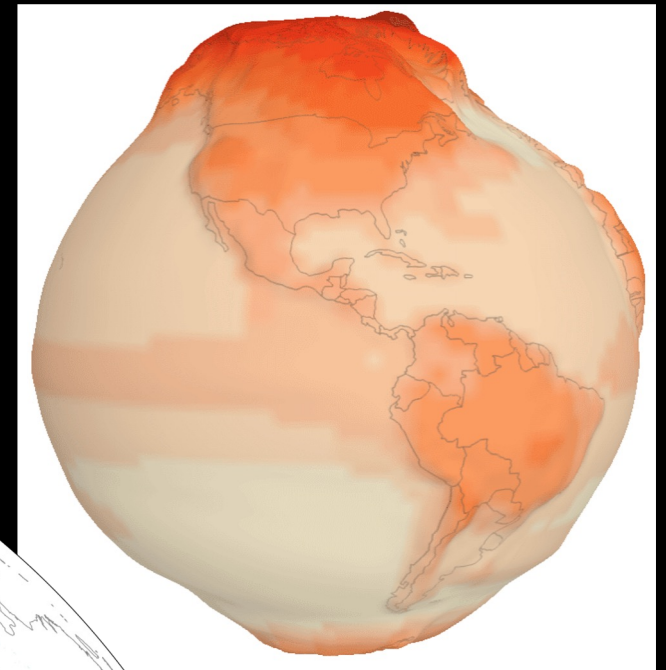
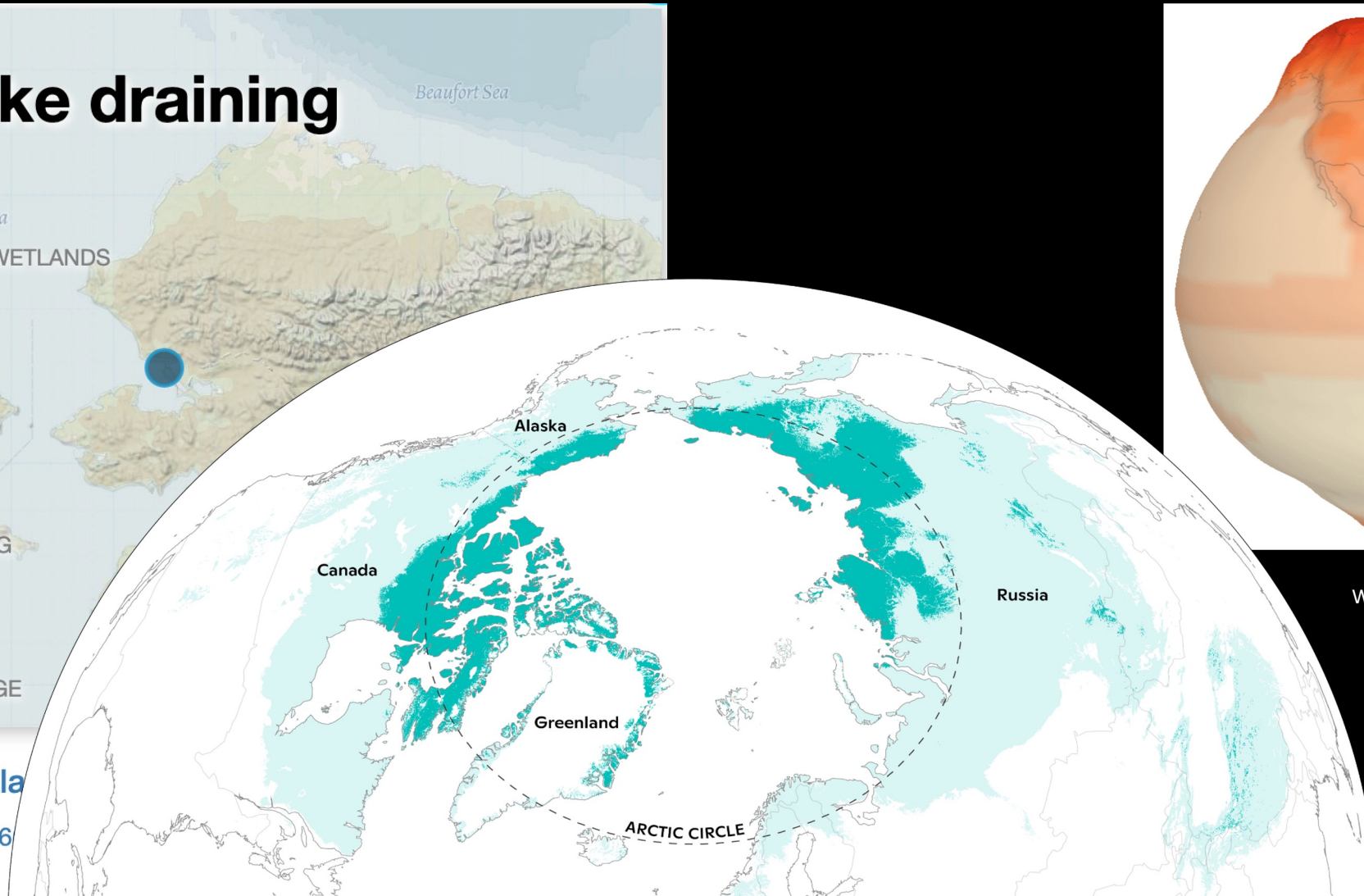
-  SURFACE WATERS / WETLANDS
-  INVERTEBRATES
-  CULTURAL IMPACT
-  WATER SECURITY
-  FLOODING / DRAINING
-  EROSION
-  PERMAFROST CHANGE

300 km
200 mi

© Mapbox © OpenStreetMap

Kotzebue, Ala

 N 66° 54' 18.6"
 Nearby



Source: Greg Fiske,
Woodwell Climate Research Center



Lat 47.02979 Lon -146.65140



- Ice-Wedge Polygons
- Permafrost Tunnel Tour
- Local News Stories
- Communities
- Drained Lake Basins, North Slope, 2014-2019
- Surface Water Index trend 2000-2021
- Permafrost Zones
- Surface Water PREVIEW
- Lakes PREVIEW
- Bing Satellite imagery



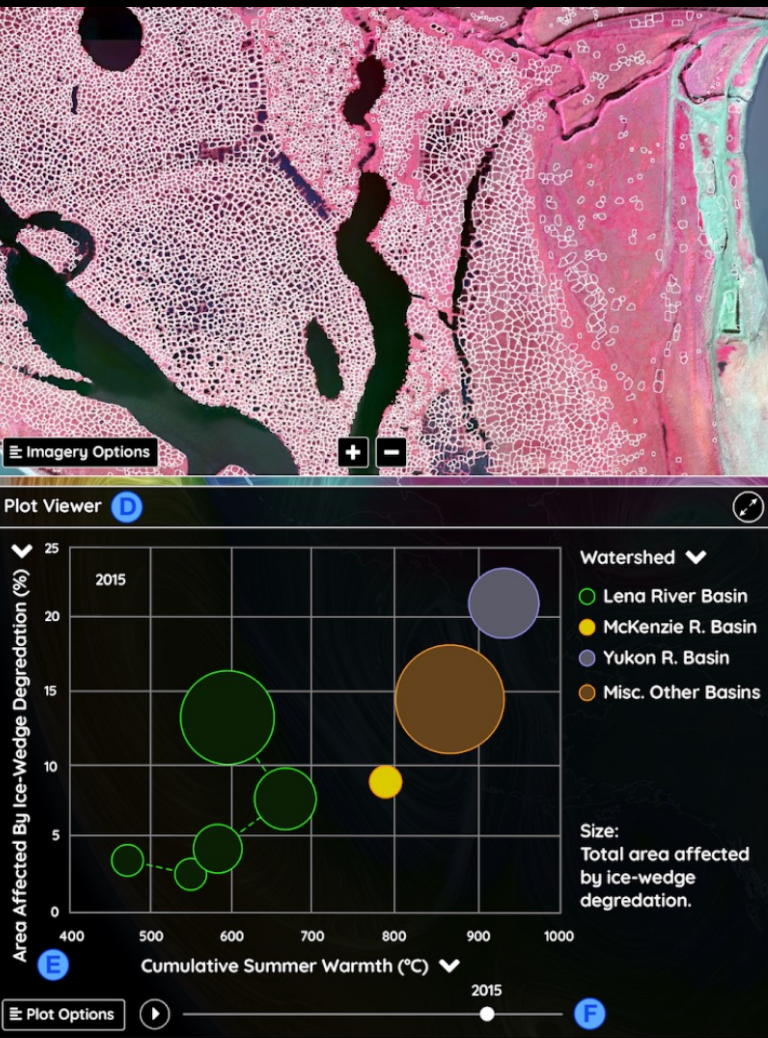
The power of combining datasets

- Ice-wedge polygons
- Lake size change
- Surface water
- Retrogressive thaw slumps
- Local news stories
- Arctic communities

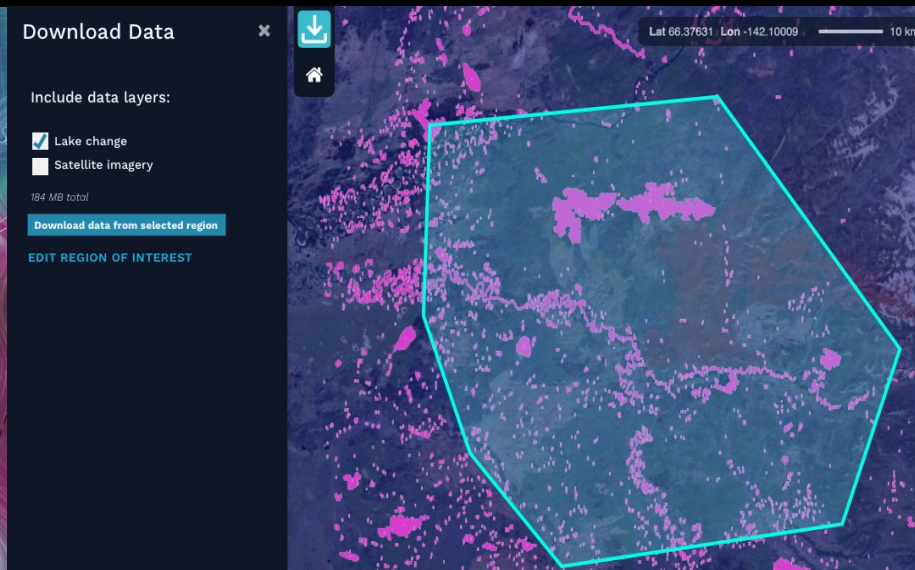


Expansion of the Permafrost Discovery Gateway

1. Plot Viewer tool



2. Download data by region



3. Publication-ready maps





Dr. Anna Liljedahl
Woodwell Climate Research Center, Lead Researcher

▶ GIF ALT

“

This funding from Google.org will help us unlock completely new technological capabilities in how we do science and, ultimately, what science itself can do.

 Woodwell Climate Research Center



Stay in touch

- Join our webinar series
- Submit your own datasets
- Explore our codebase on GitHub
- Provide user feedback
- Subscribe to our YouTube channel



<https://permafrost.arcticdata.io>