QGreenland

A Greenland GIS Research & Education Tool with Impact

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QGreenland.org

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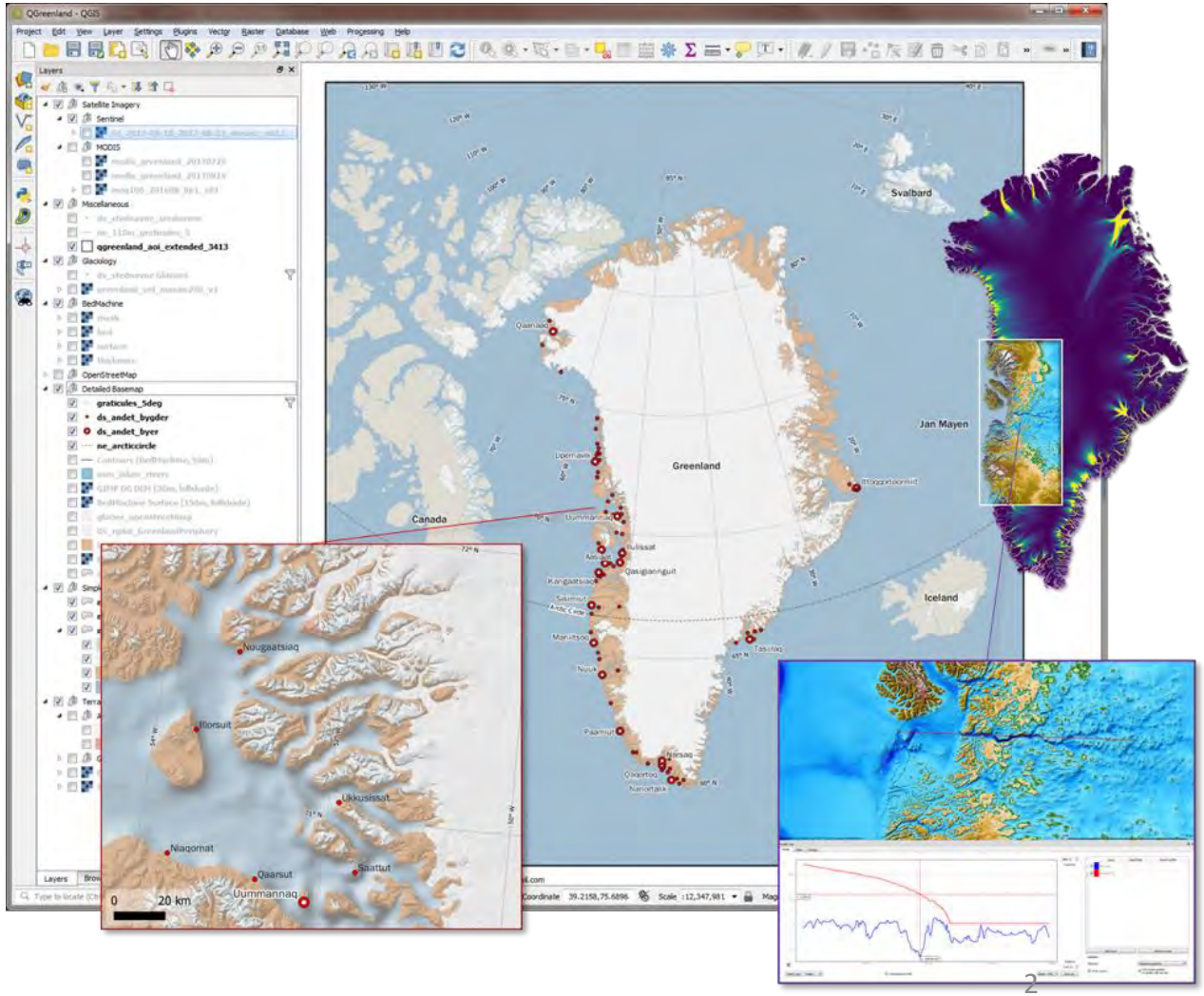
QGreenland:

Enabling Science Through Open GIS

- A **free & open data package** for interdisciplinary Greenland-focused research, learning, decision making, and collaboration
- Organize and style **publicly-archived** geospatial datasets, **region-wide to local,** into a **unified, all-in-one GIS environment for offline and online use** with **QGIS,** free & open source, **cross-platform** software
- Leverage **open source tools and methods** for **reproducible package creation**



An international Editorial Board provides data and user community input

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Collaborations expand our data and user knowledge

- Greenland Ecosystem Monitoring Program
- Asiaq
- Pinngortitaleriffik
- Isaaffik

- Norsk Polarinstitutt

- U.S. Polar Geospatial Center
- Greenland Ice Sheet Ocean Science Network
- N.S.F. Polar Computing RCN
- N.S.F. Arctic Data Center
- National Snow & Ice Data Center

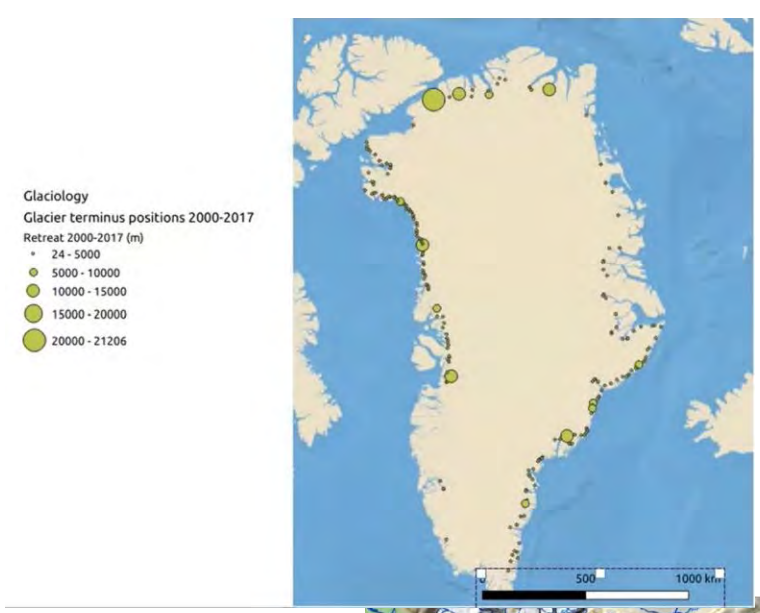
Your data!

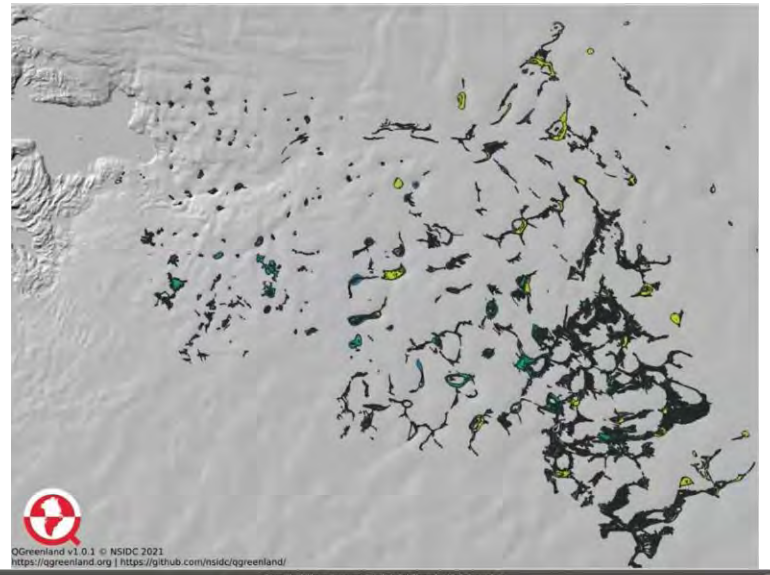
- De Nationale Geologiske Undersøgelser for Danmark og Grønland
- Danmarks Tekniske Universitet
- Danmarks Meteorologiske Institut
- WWF-Danmark

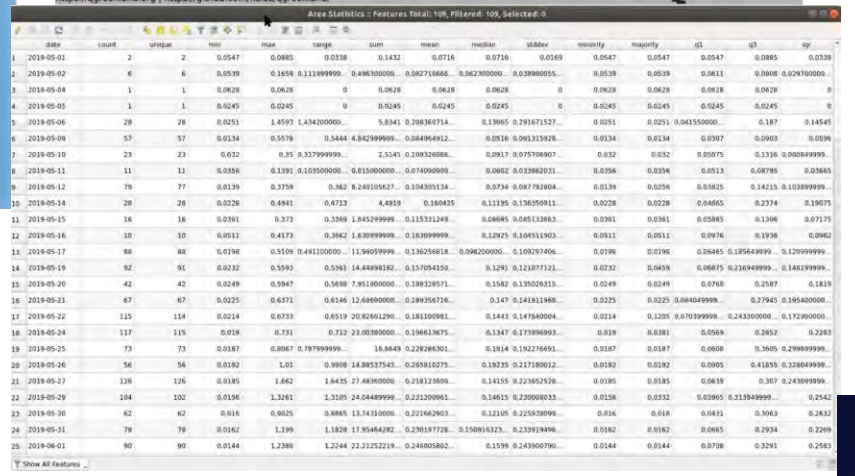
- Arctic Data Committee
- International Arctic Science Committee

Background image: Google Earth

Impact: Exploration…digitally







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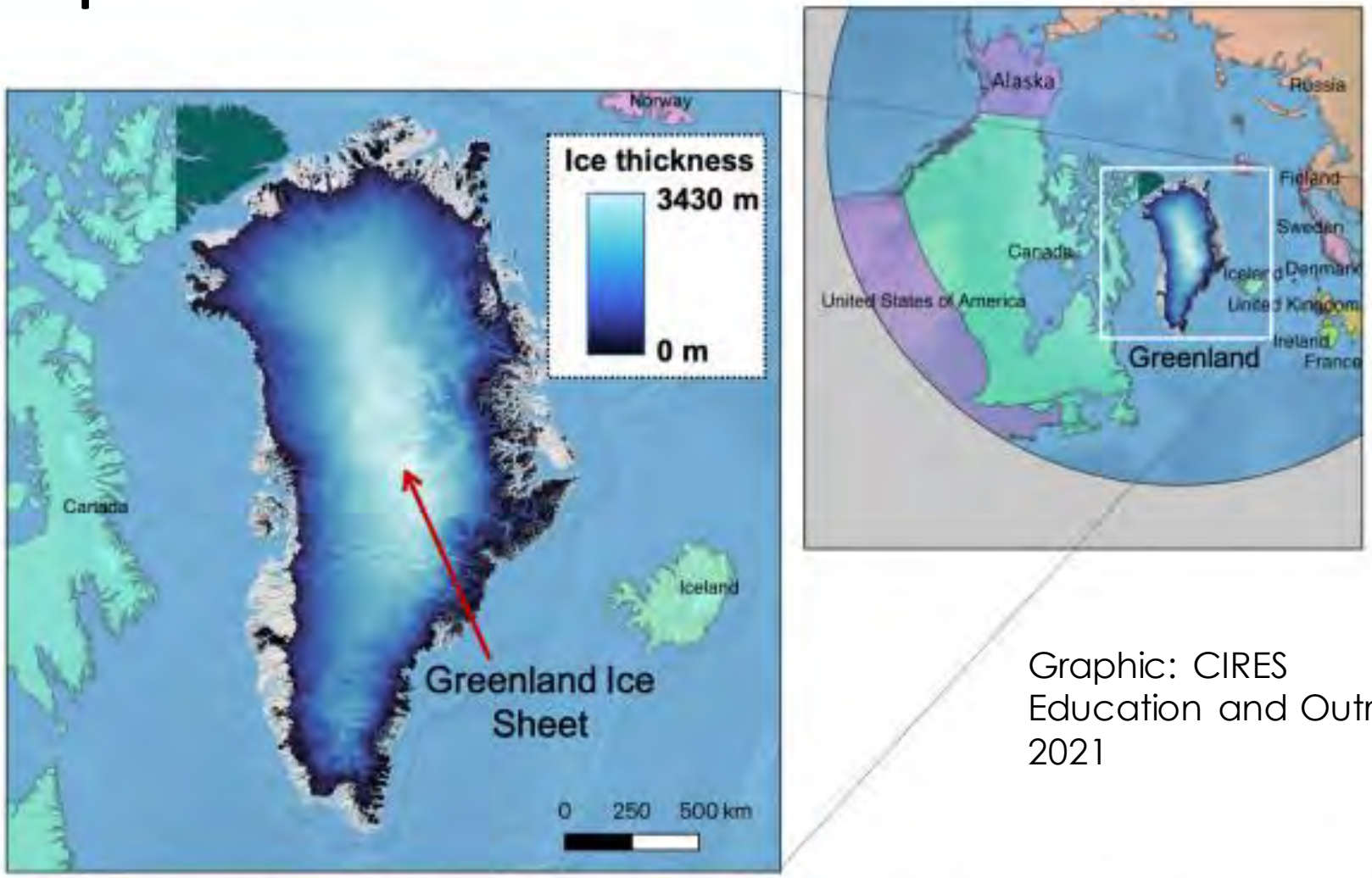
Impact: Education – Data Puzzle

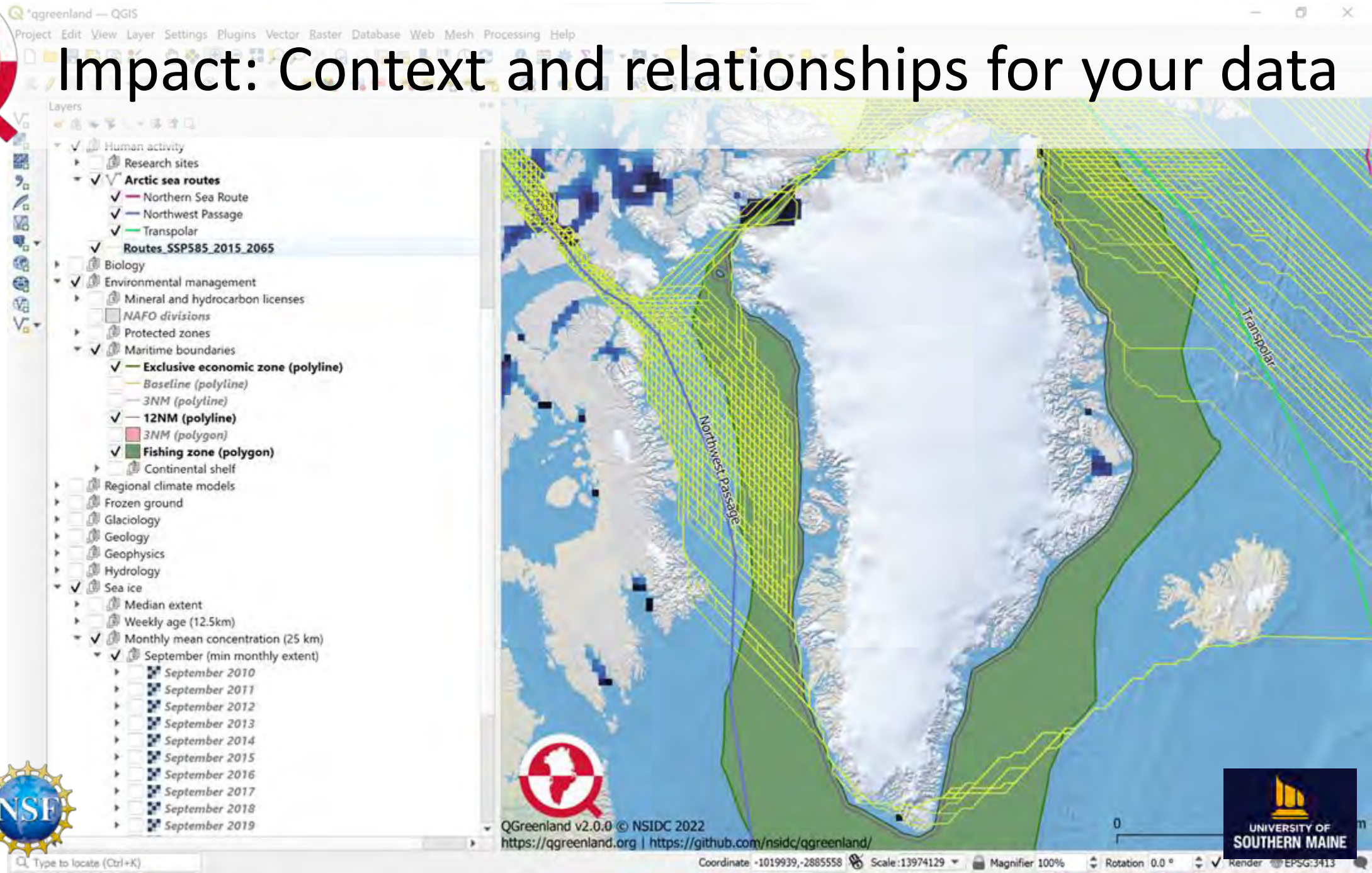


Graphic: CIRES Education and Outreach 2021

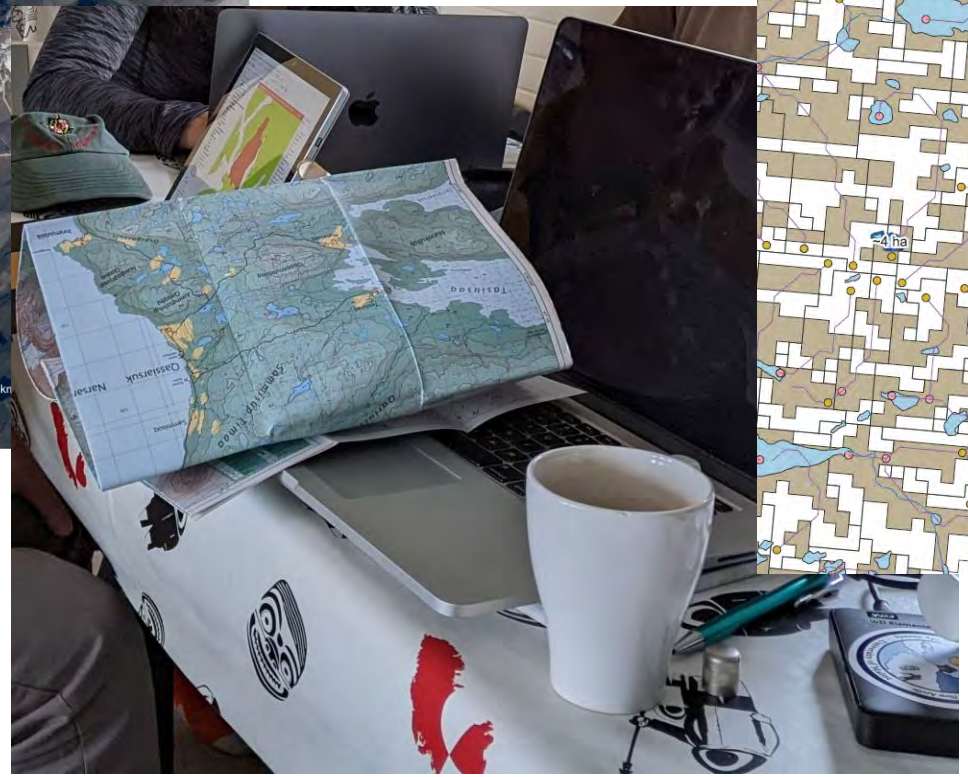
The Greenland Ice Sheet covers 79% of the surface of Greenland. Greenland is located north of Canada and the United States. *Map credit: QGreenland*

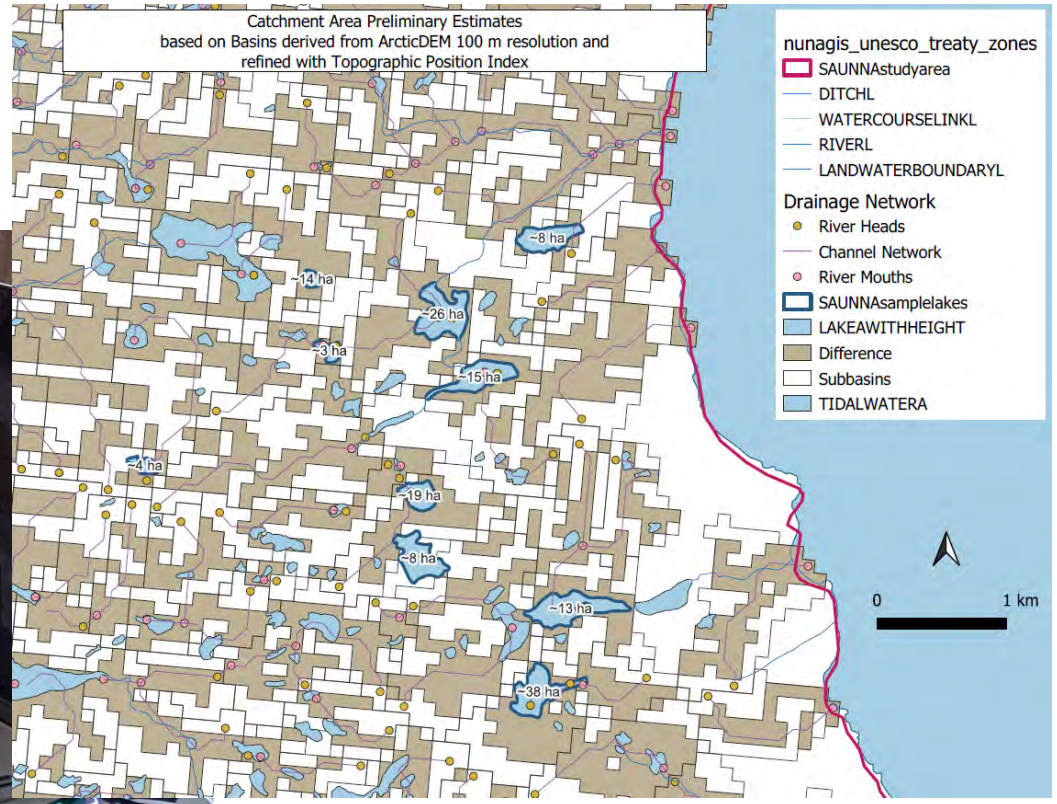
Impact: Context and relationships for your data

Data: Lynch, Norchi, Li 2022 PNAS



Impact: Fieldwork preparation, conduct, and use





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Impact: Meetings and publications

FOGSS

Future of Greenland ice Sheet Science
fogss-workshop.org

- QGreenland used as a meeting tool to share, see, and discuss Greenland field project plans

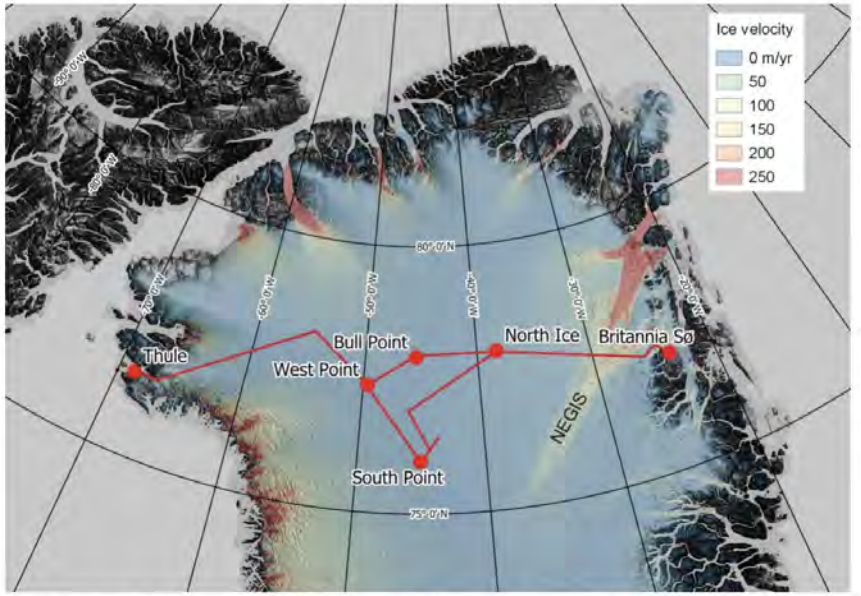

Figure 1. Map of the major field localities (red dots), including the BNGE bases at Britannia Sø and North Ice, and the approximate traverse route (red lines) of the British North Greenland Expedition (adapted from Hamilton 1956). North East Greenland Ice Stream (NEGIS) is indicated. Base map is a multidirectional hillshade of the 100 m Arctic DEM (25x vertical exaggeration) overlain by the ITS LIVE 120 m ice velocity dataset. Both basemap datasets were accessed via https://qgreenland.org/ [credits: Neil Ross]

- QGreenland provides many useful basemaps and background data to create insightful data sharing and science communication

Impact: Testimonials

"…preference for using QGreenland for presentations because it is **presentation quality already** compared to using raw data"

"Being able to use QGreenland at our field station was **critical to our research process**! We were able to calculate lake surface area and watershed size… These resources helped **guide our field days** and **find the best lakes to help answer our questions**."

"A QGreenland **project** is currently **being written up for publication.**"

"project has been **successful in locating field sites** in Greenland using QGreenland"

"QGreenland is making the sum of the vast spatial data productions of the international research community **easily available to researchers and educators in Greenland and internationally**."

"In Greenland, people are often asking, 'how can we **find the data the foreign scientists bring back from Greenland**?' Now we can directly utilize much of it."

Thank you

QGreenland.org

github.com/nsidc/qgreenland/

Contact – qgreenland.info@gmail.com