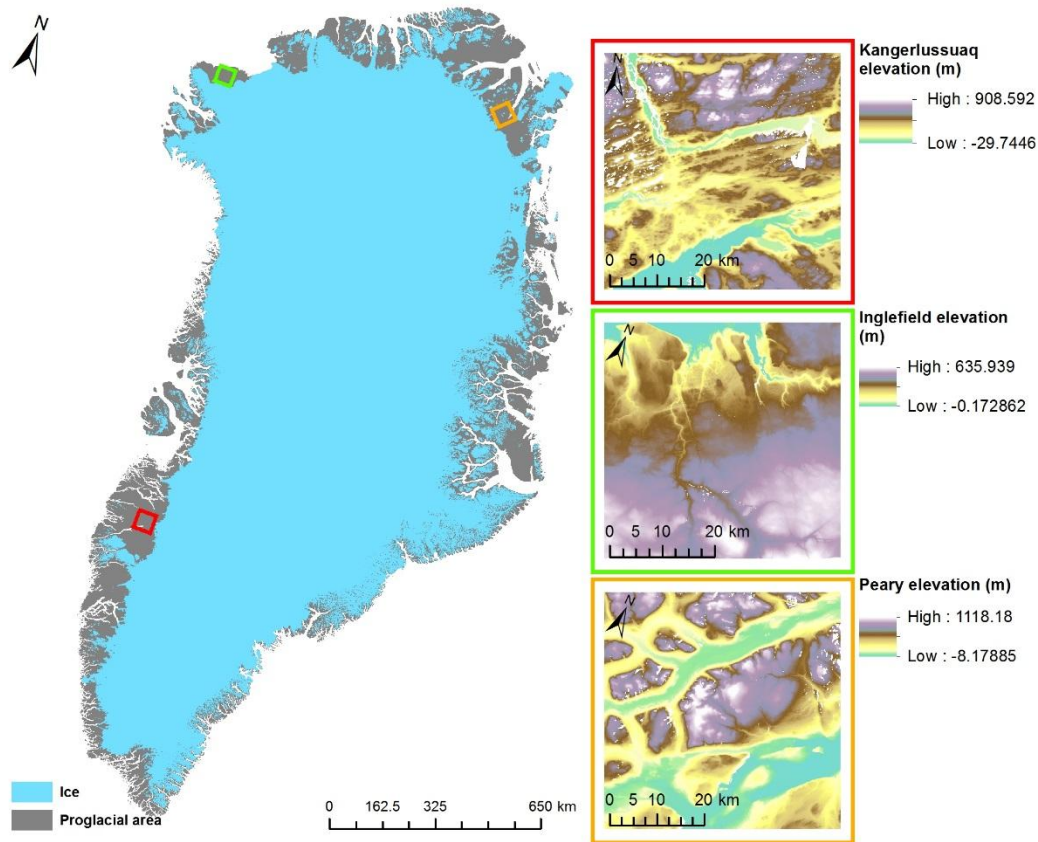


Olly Bartlett, PhD researcher at the University of Exeter @IceOlly_



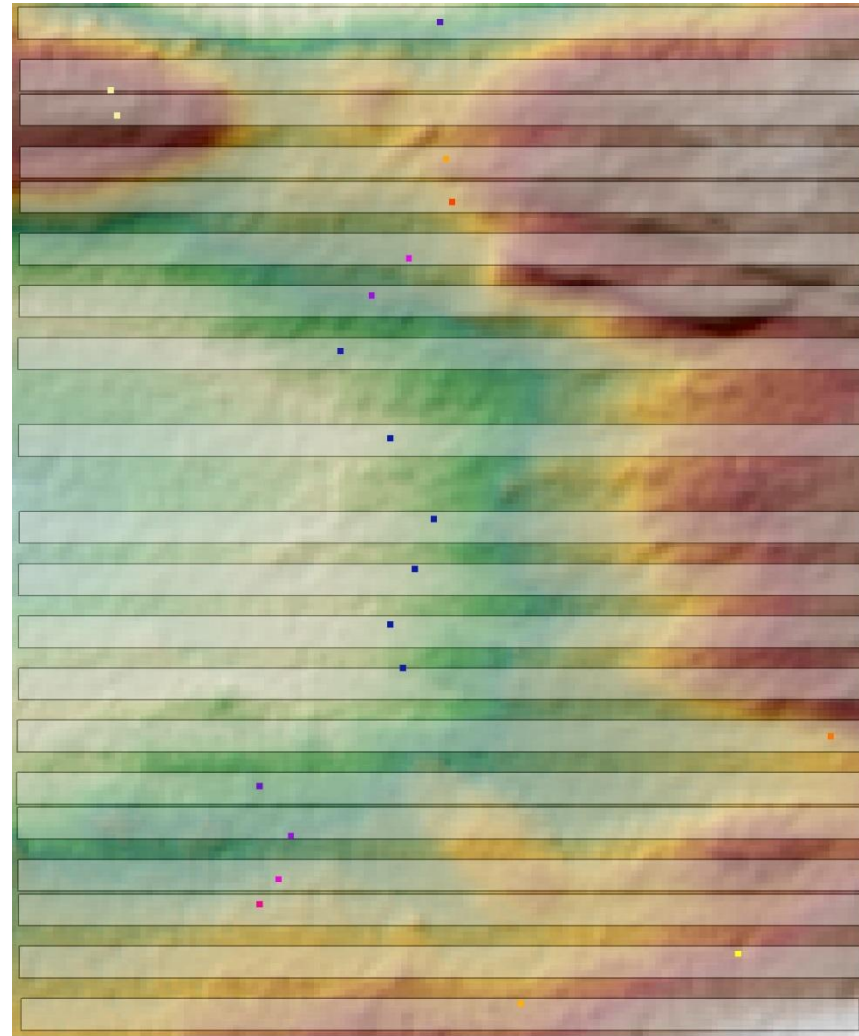
My PhD: Optimising airborne radar surveying



Developed in collaboration with



Stanford Radio Glaciology



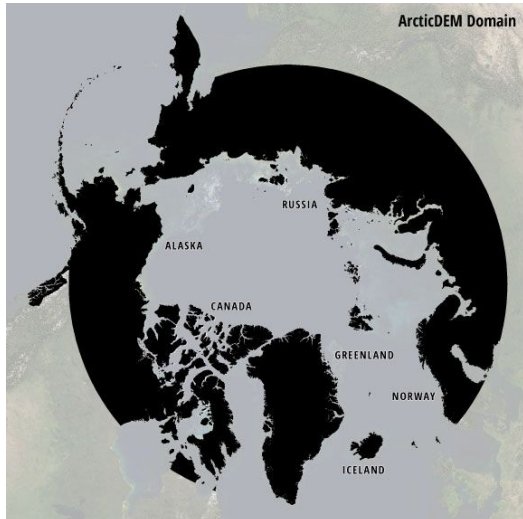
- Ice sheet thickness is largely measured by airborne radar
- This method has some inherent uncertainty which carries through to estimating ice thickness
- By simulating surveys over areas where ice used to be we can assess how accurate our models of ice thickness may actually be
- Important for sea level contribution of ice sheets and for mapping conditions of ice sheet beds

My PhD: UAV surveying of glacial environments

- Investigating how much more can UAV surveying tell us about glacial landscapes now high resolution DEMs widely available
- Mapping high-altitude, debris-covered glacier surfaces and their temperatures
- Teach and supervise the use of UAVs for photogrammetry
- Implications for researching ice sheet history, water resource prediction from high-altitude glaciers



My UAK Research School Project idea



<https://www.pgc.umn.edu/data/arcticdem/>



GREENLAND TSUNAMI

In a rare event, a massive landslide in a Greenland fjord in June 2017 caused one of the biggest tsunamis in recorded history.

500 km

• Nuugaatsiaq

A landslide into the Karrat Fjord created a tsunami that hit the village of Nuugaatsiaq.

GREENLAND

Nuuk

©nature



- Identify settlements across the Arctic possibly susceptible to slope related hazards
- Take one settlement as a case study and develop tools in ArcGIS for mapping present and future slope risk
- Develop a methodology which can be used outside of academia for mapping these hazards
- Once refined, try to migrate methods to QGIS so they are open source compatible