

nwmo

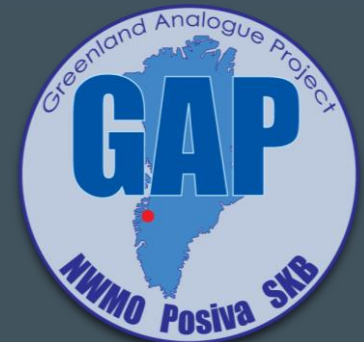
NUCLEAR WASTE
MANAGEMENT
ORGANIZATION

SOCIÉTÉ DE GESTION
DES DÉCHETS
NUCLÉAIRES

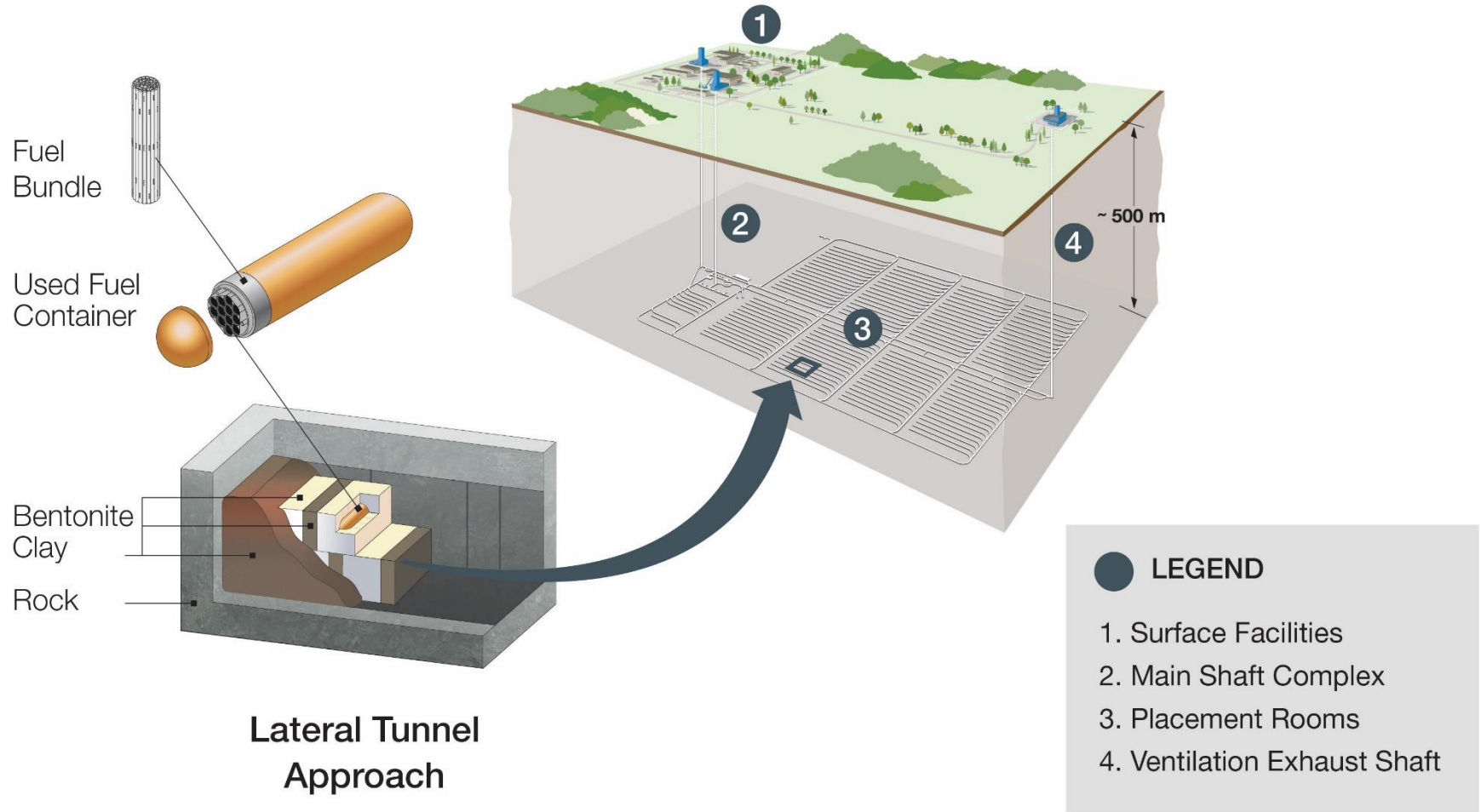


When the Glaciers Return

Monique Hobbs, Ph.D., P. Geo
Siting Project Coordination Manager
NWMO



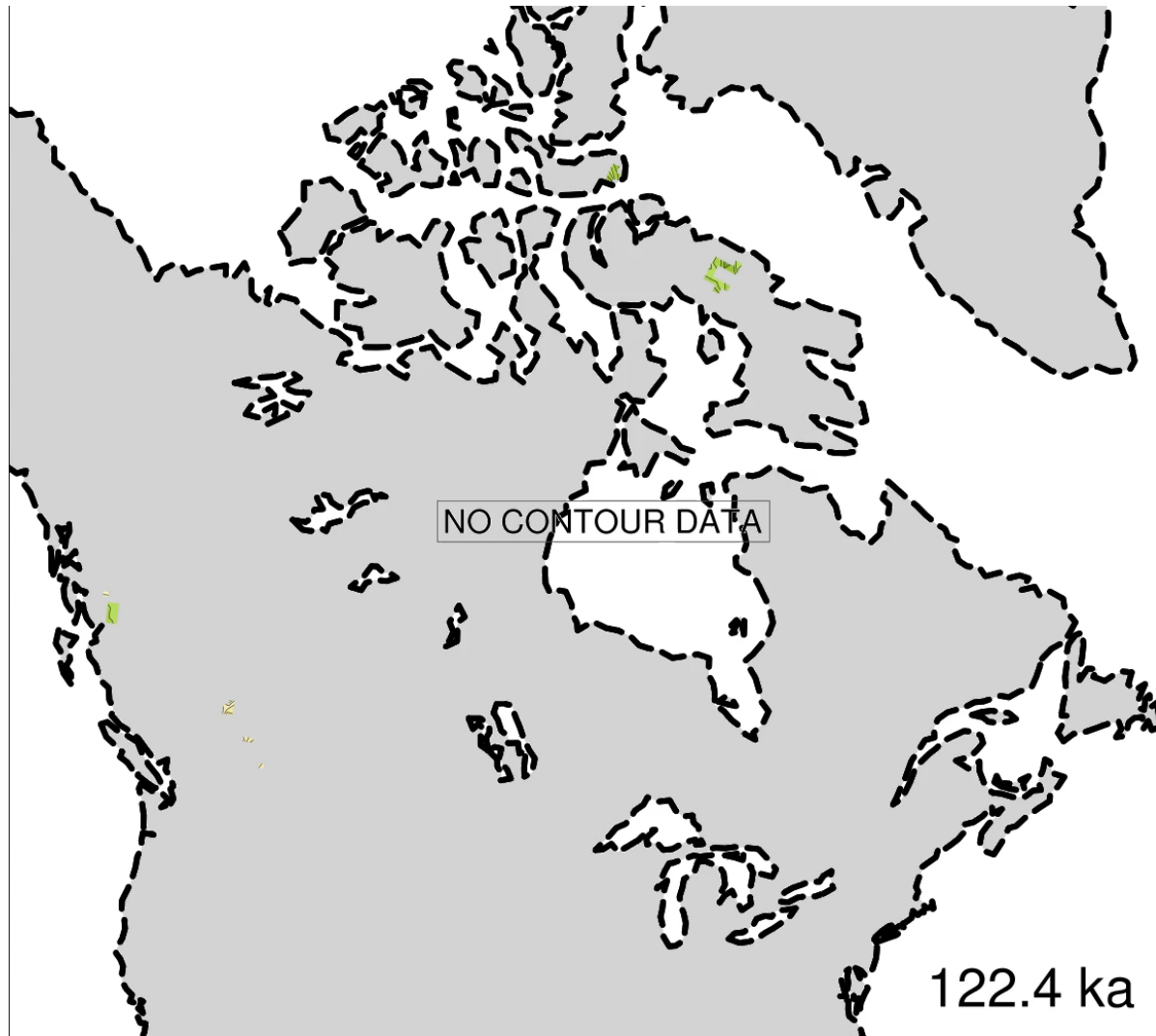
Deep Geological Repository (DGR)



Protect people & the environment ~ one million years



Changes in the past



**U of T Glacial
Systems Model**

Partners in Research



Sweden



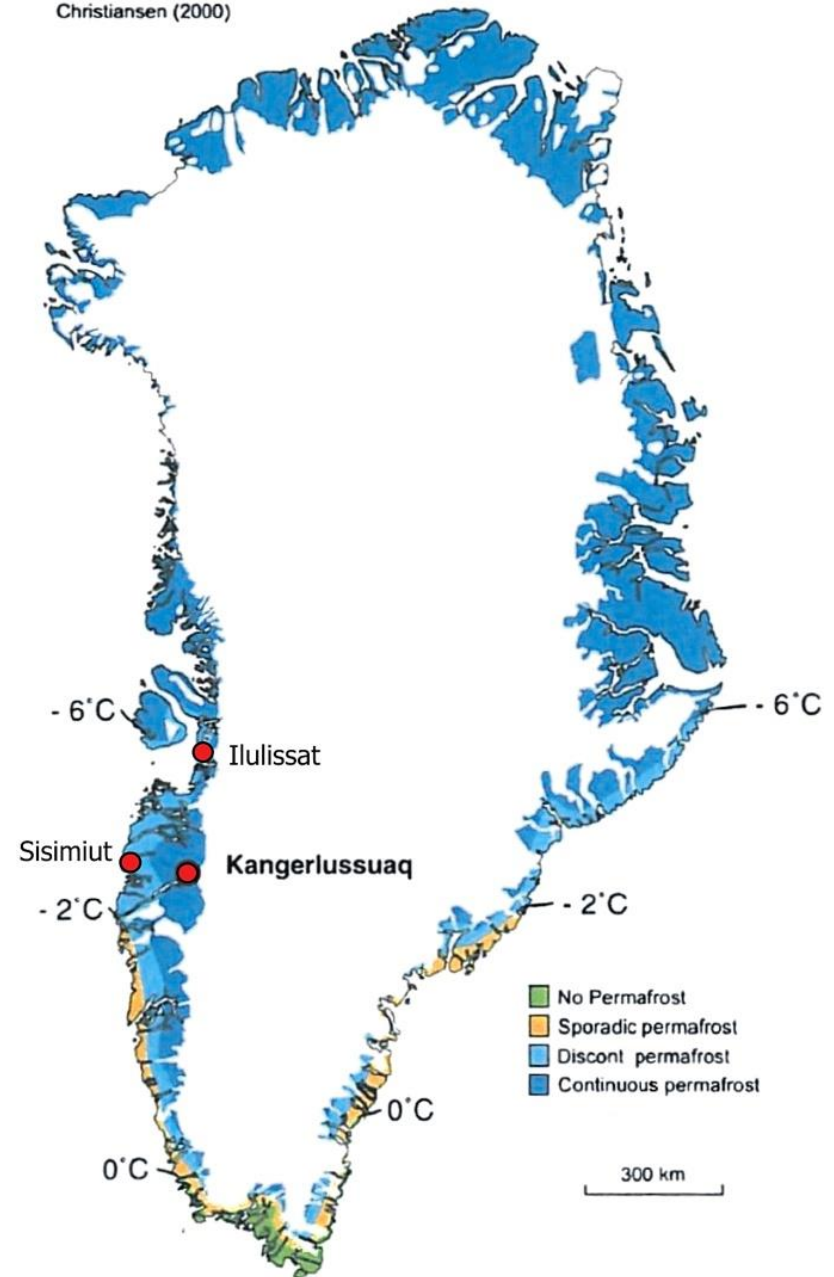
Finland



Canada

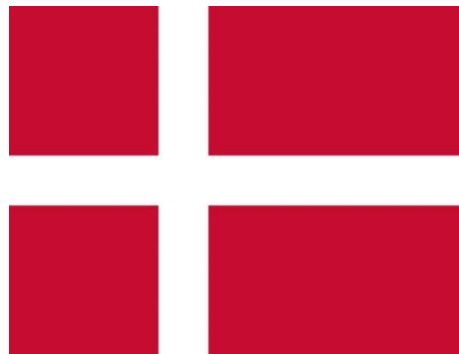
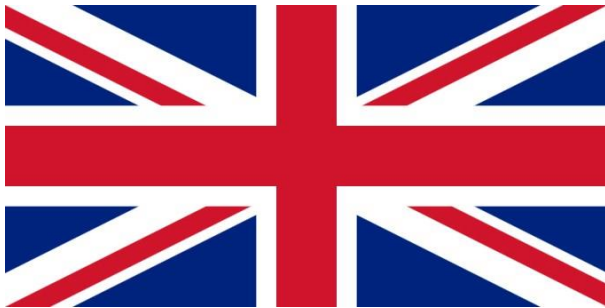
2008-2013

Christiansen (2000)

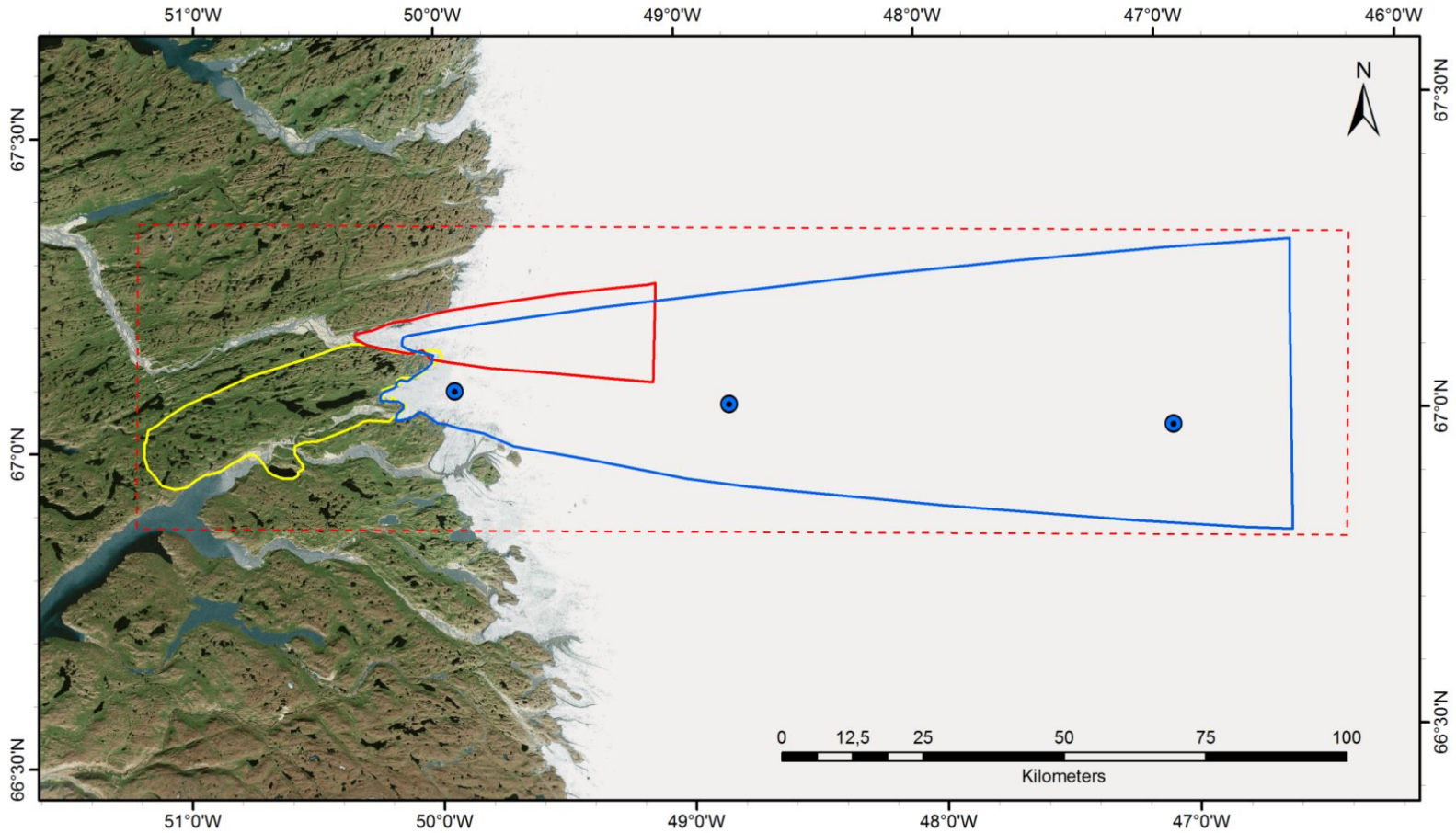




Scientists, Engineers, Technical Specialists...

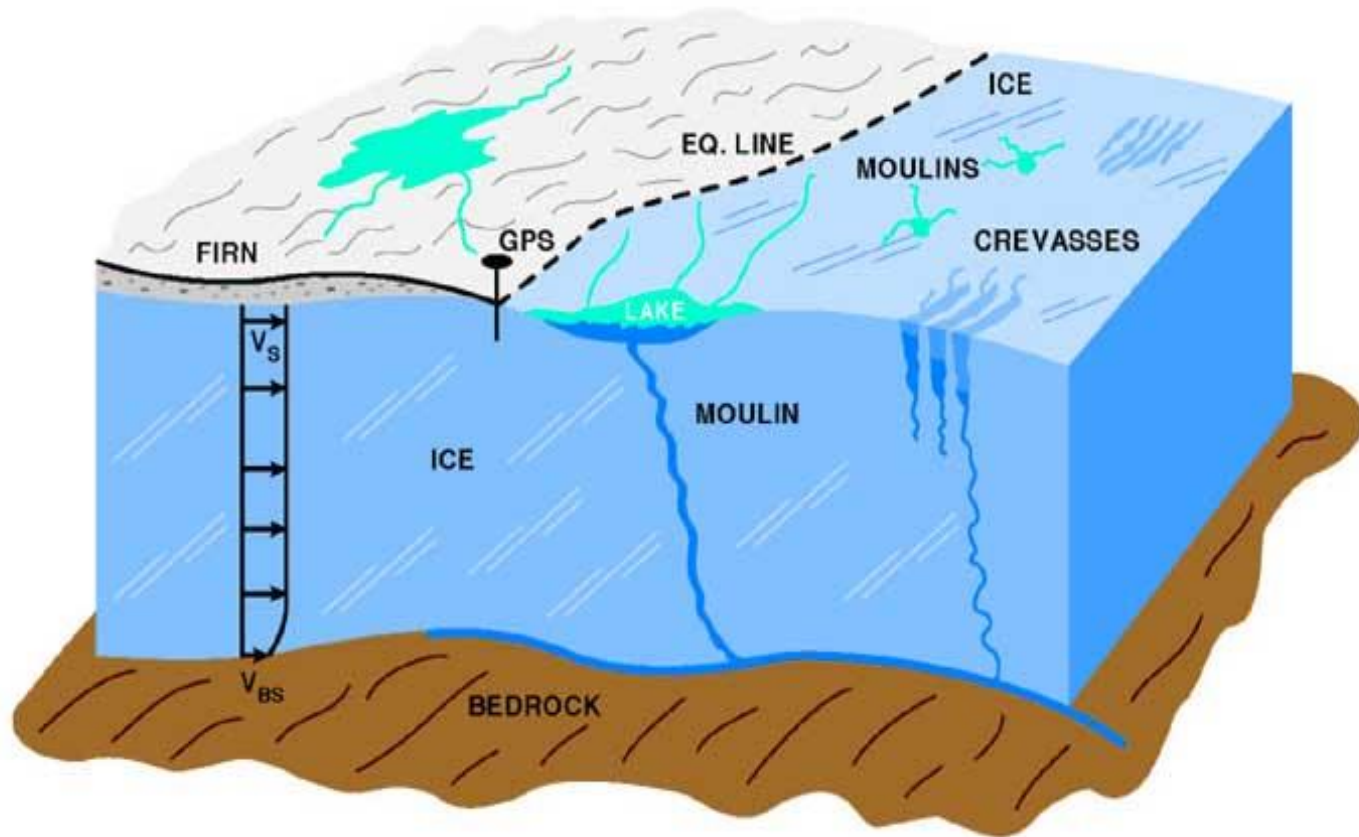


GAP Study Area



- Surface based ice sheet studies
- Geosphere studies
- Ice drilling & direct studies of basal conditions
- Automatic Weather Stations (AWS)

Meltwater – where it forms, where it goes

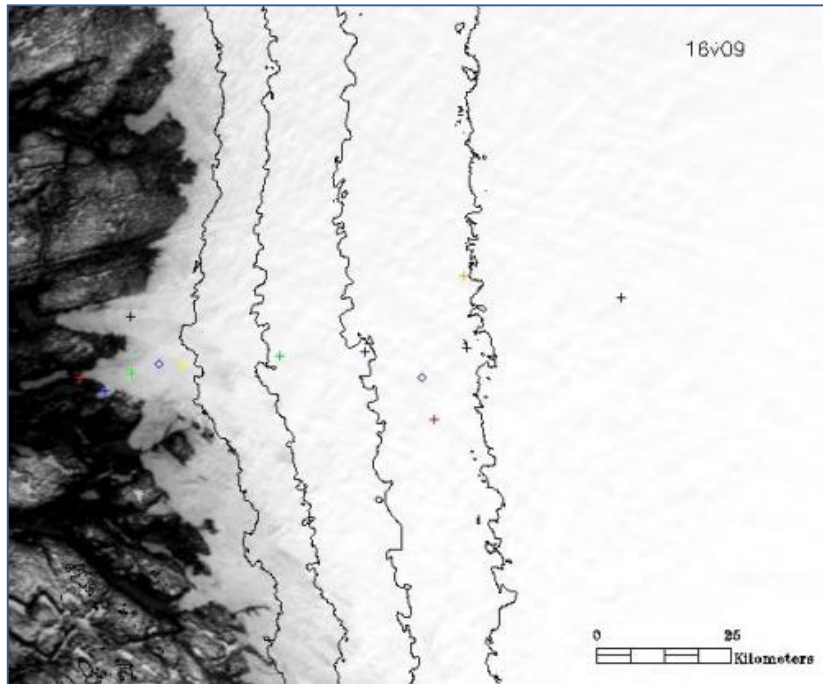


At the ice sheet surface

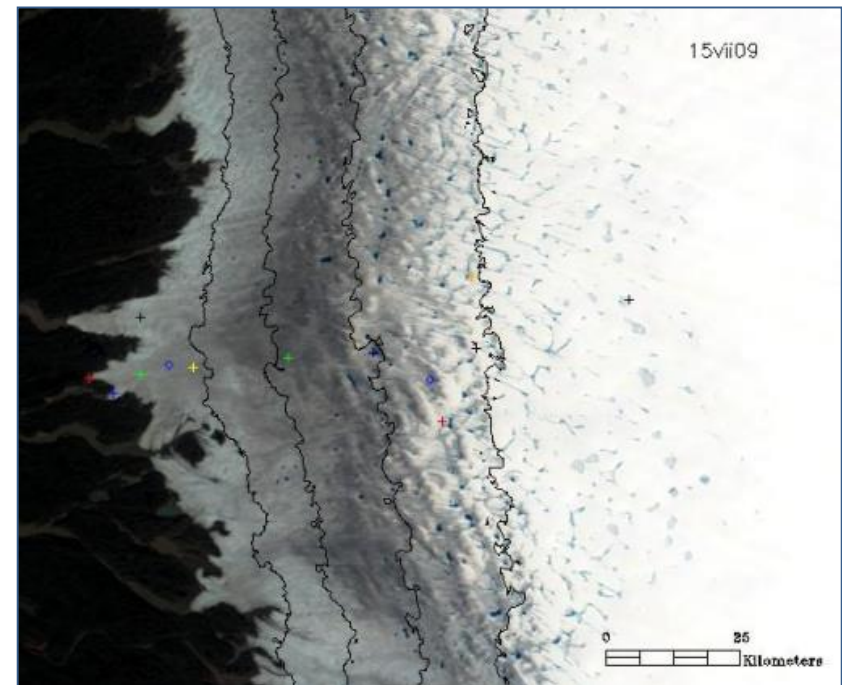


Lakes form on top of the ice sheet

Spring



Summer

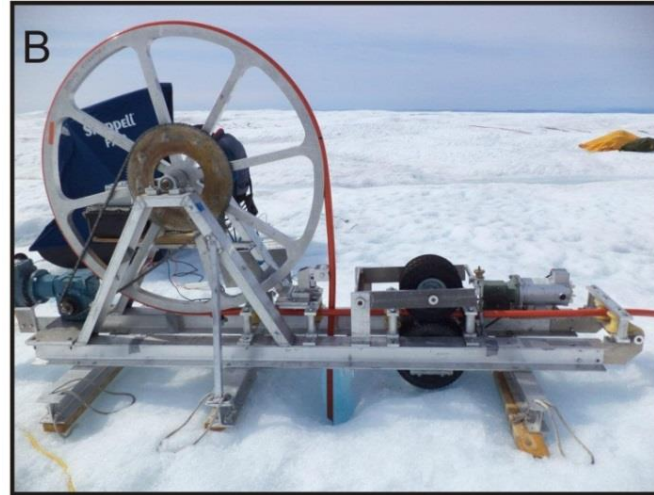
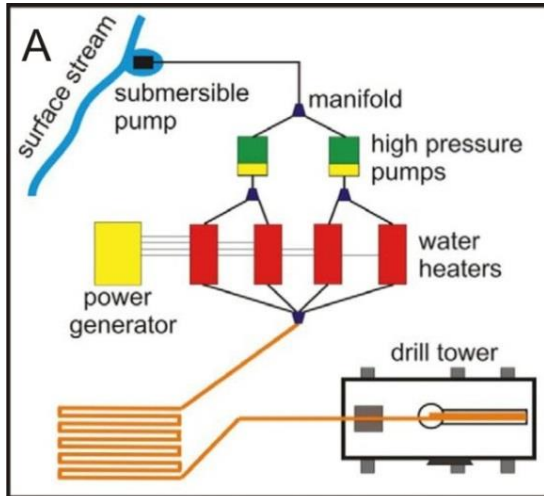


Remote sensing images

Within & below the ice sheet

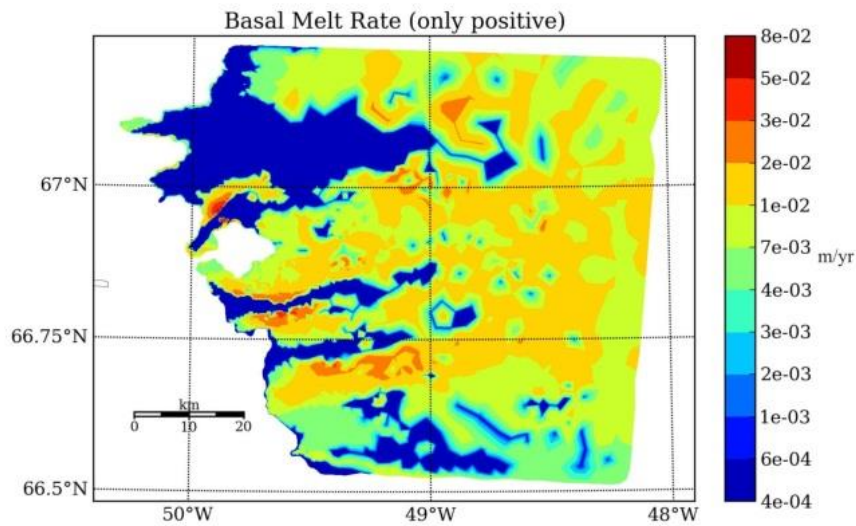


Drilling through the ice sheet

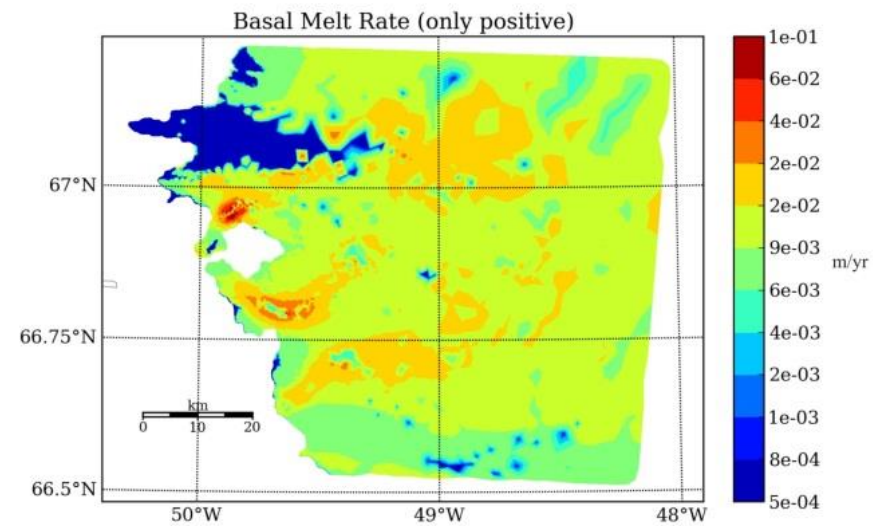


Melt water formed under the ice sheet

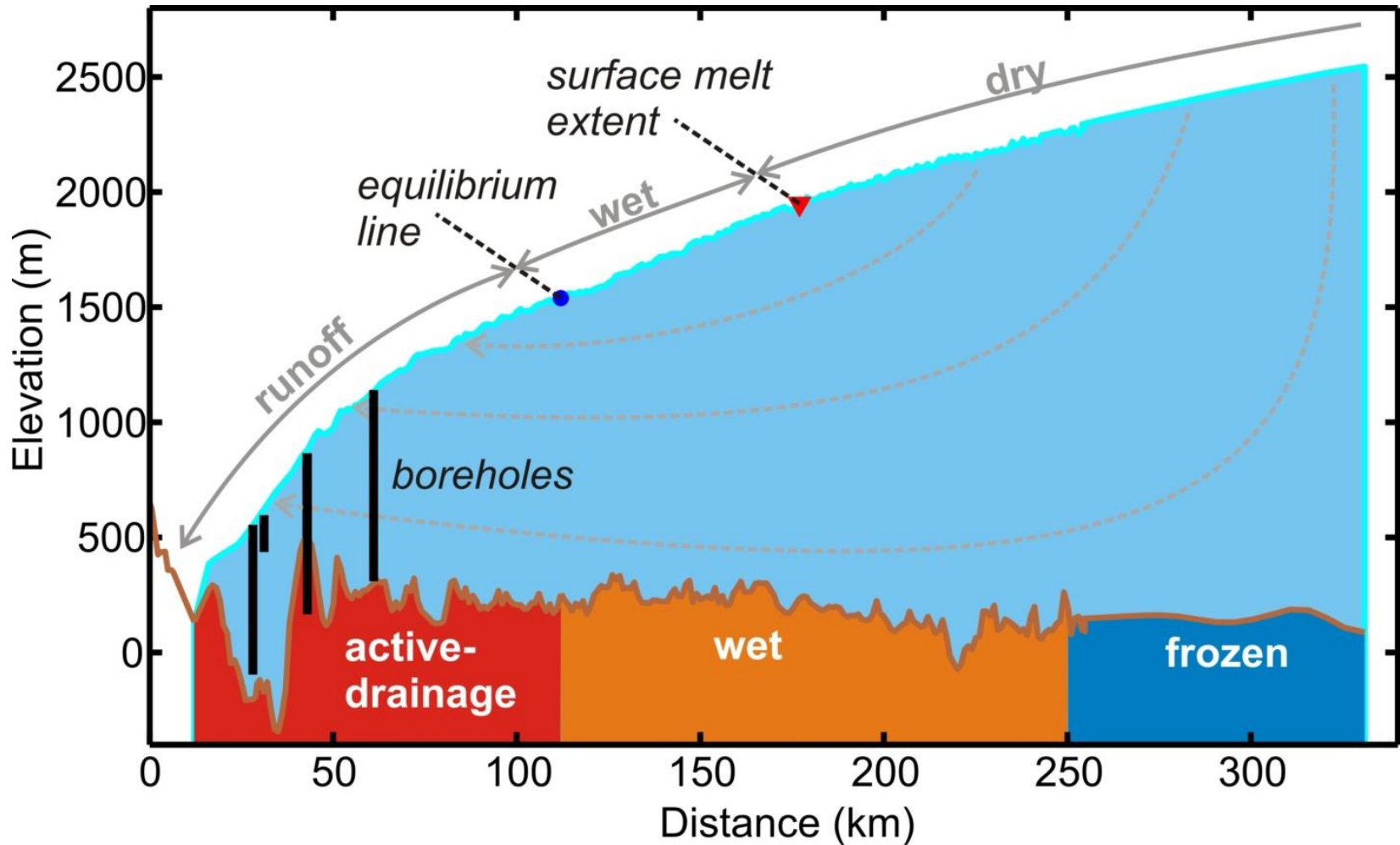
A



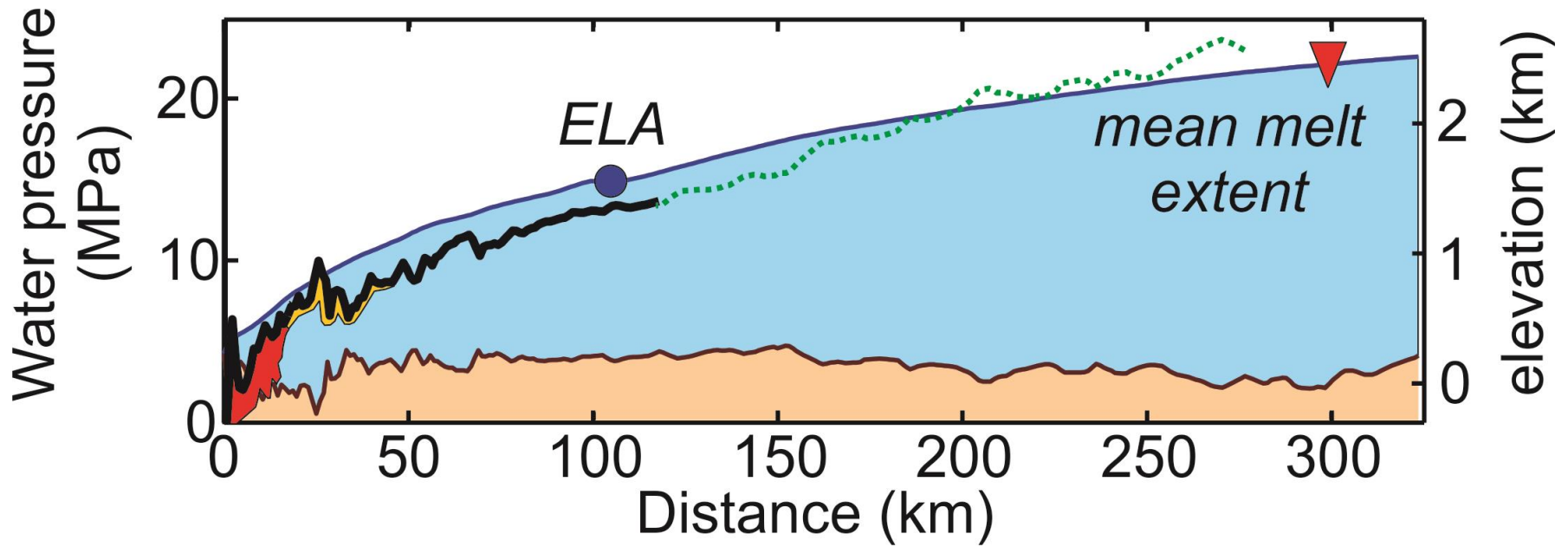
B



Under the ice sheet



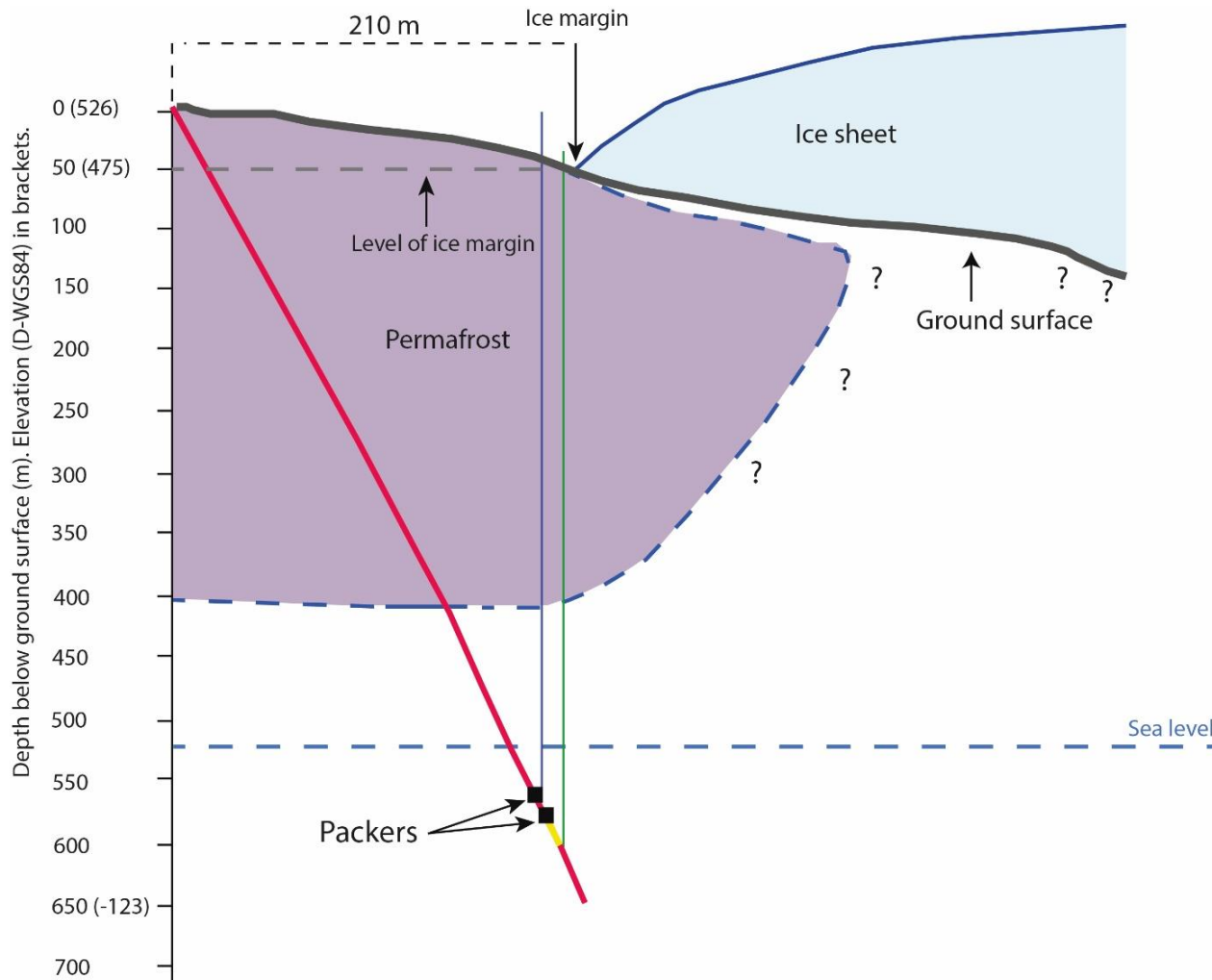
Water pressure under the ice sheet



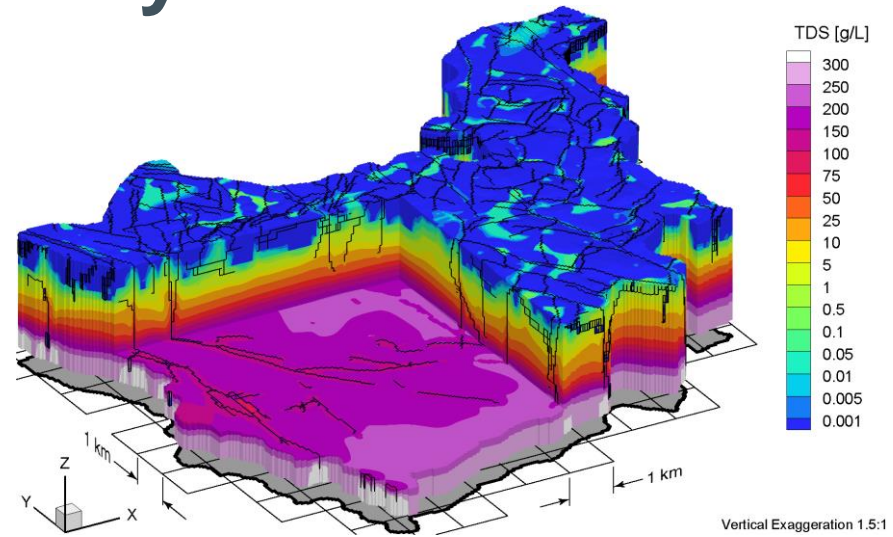
Through the rock & underneath the ice



Depth of frozen ground (permafrost)



Building a case for safety



Thank you!

