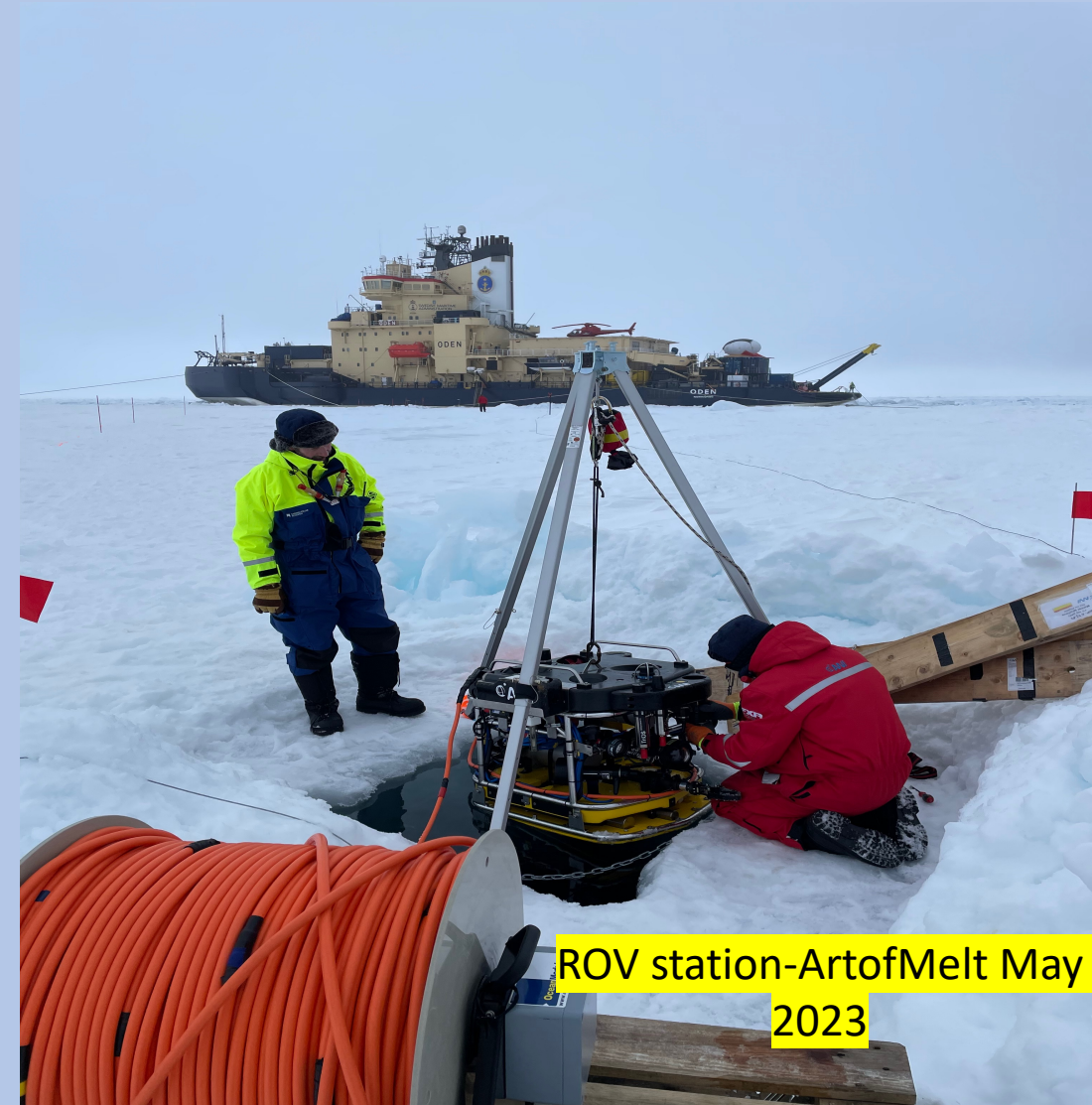


IB Oden & N Greenland

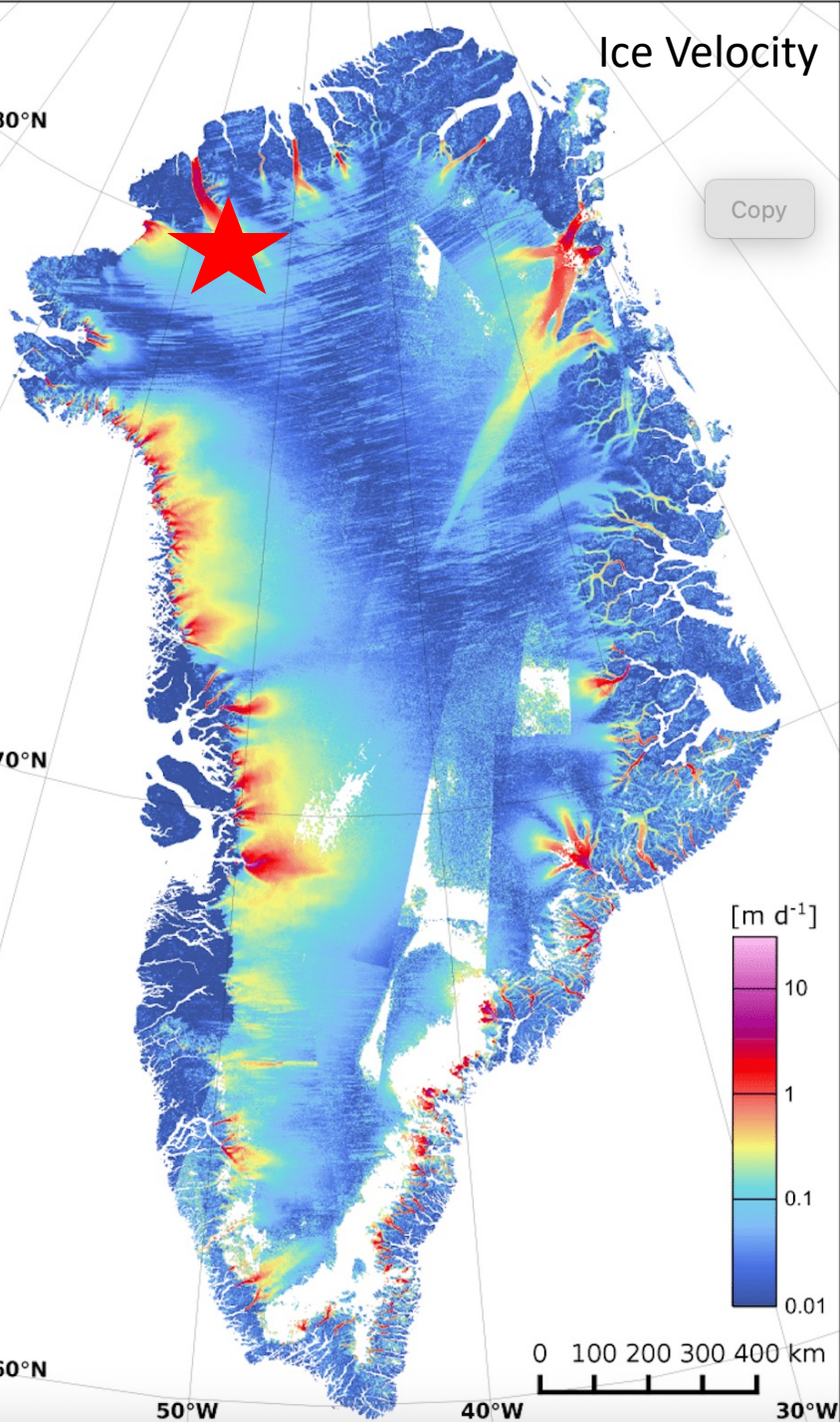
Swedish Polar Research Secretariate

- A bit of background
 - Petermann Experiment 2015
 - Ryder Glacier 2019
 - GEOEO 2024

Jeff Welker, UArctic Research Chair
University of Alaska Anchorage and University of
Oulu, Finland
Former AICC member

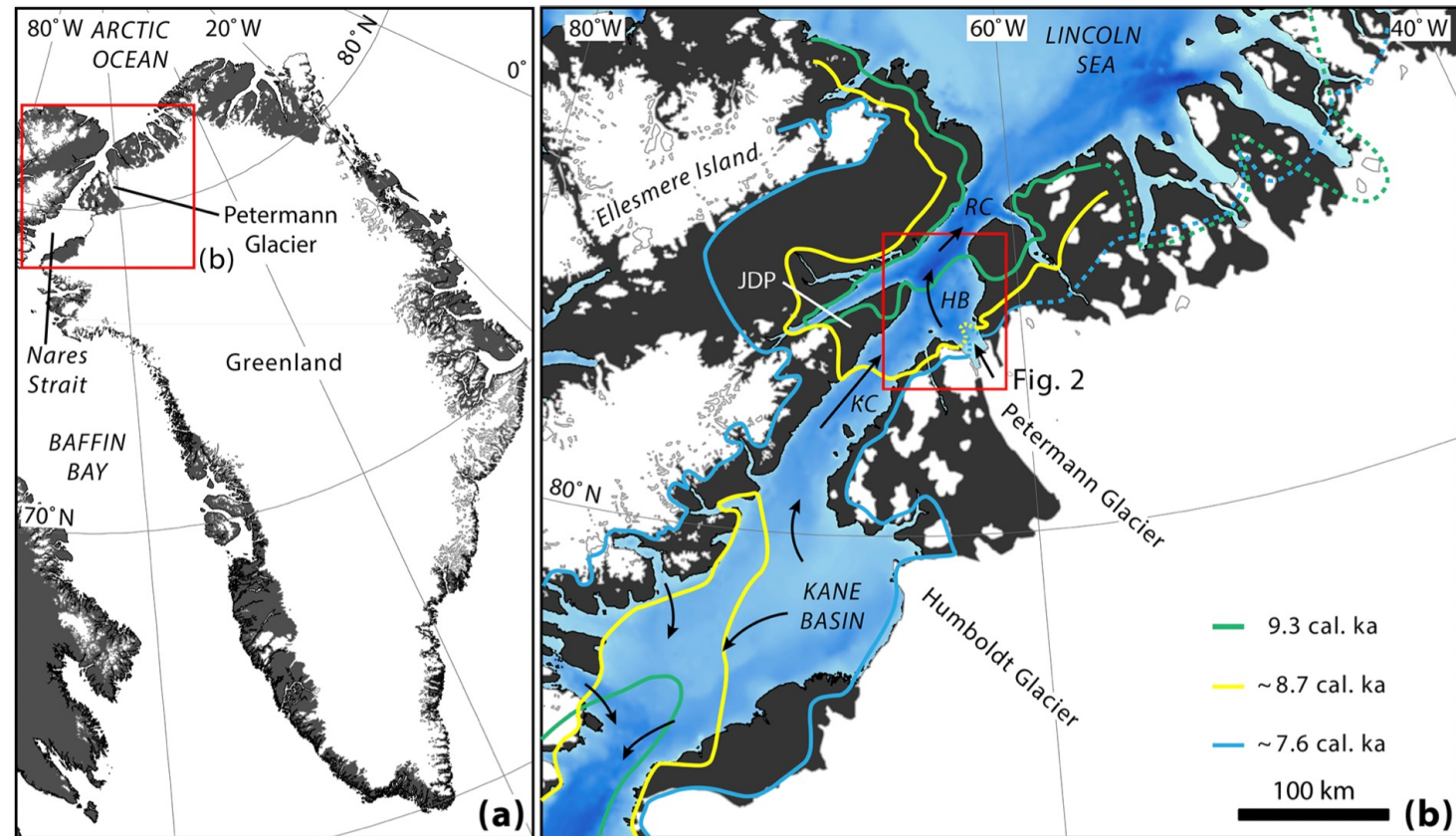


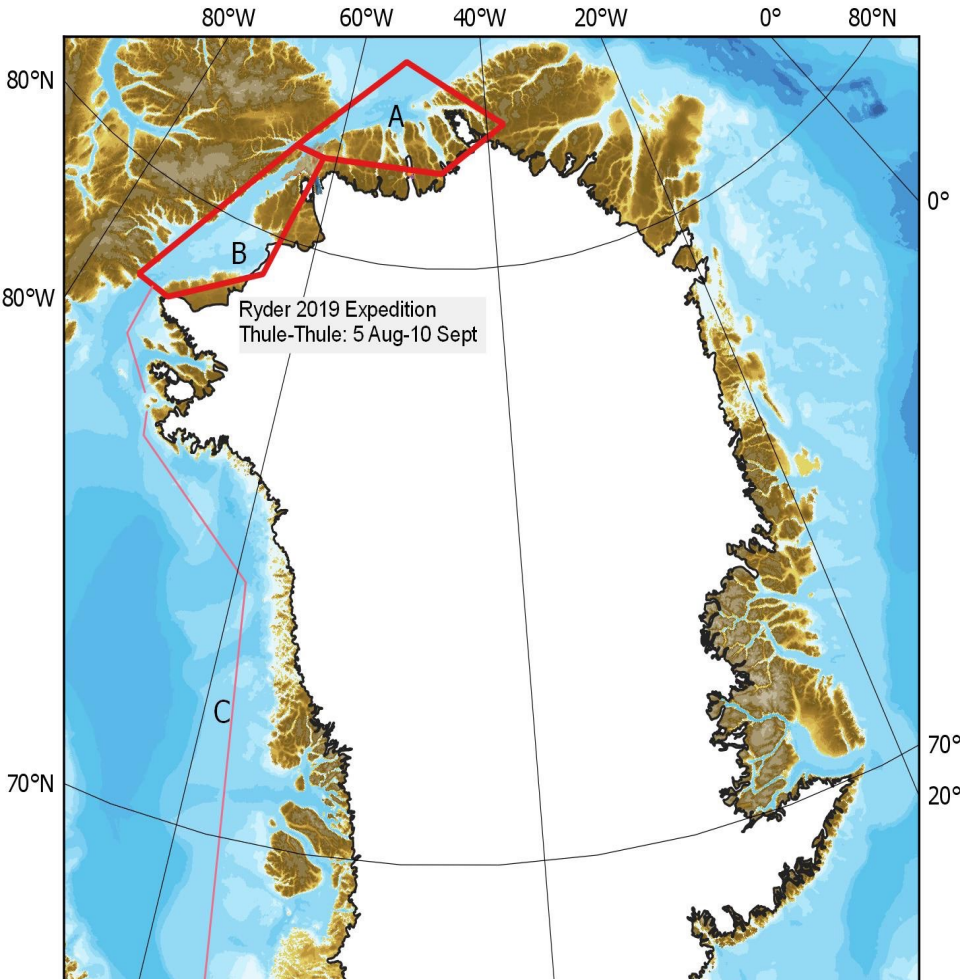
ROV station-Art of Melt May
2023



The Petermann Glacier Experiment NW Greenland-2015

The Petermann Glacier Experiment was a comprehensive study on land, ocean, and ice in Northwest Greenland, staged from Swedish Icebreaker Oden in 2015 as a collaboration between the US, Sweden, UK, and Denmark.





Ryder Glacier 2019 Expedition. Photo: Lars Lehnert

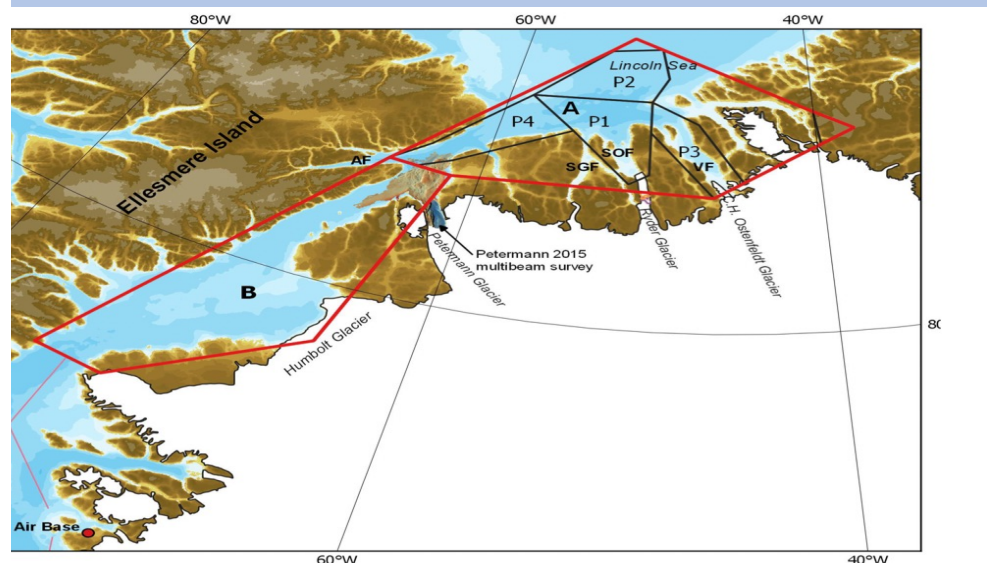


Figure 02. Overview of study area A, which is subdivided into P1–P4, with P1 being top-priority. AF=Archer Fjord; SGF=Sankt George Fjord; SOB=Sherard Osborn Fjord; VF=Victoria Fjord.

Ryder 2019 Scientific motivation

One of the primary scientific motivations of the expedition is related to the role of outlet glaciers, such as Ryder Glacier, draining the Greenland Ice Sheet into the ocean. The dynamics of Greenland's outlet glaciers represent an essential, but poorly constrained, part of our understanding of future sea-level rise in a warming climate. Critical to their stability are the roles of sea ice, floating ice tongues, bedrock and the shape of the seafloor.

NORTHERN GREENLAND
RYDER 2019 EXPEDITION



GEOEO North of Greenland 2024 (& 2025?)

Swedish Polar Research Secretariate

The expedition forms a part of the theme **GEOEO** (North Greenland Earth-Ocean- Ecosystem Observatory), addressing scientific questions focused on understanding the marine cryosphere's dynamic history and response to future climate change, including implications for marine and terrestrial ecosystems in North Greenland and the adjacent Arctic Ocean.

GEOEO builds on the legacy of international research expeditions, projects and networks over the past decade, specifically the *Petermann 2015* and *Ryder 2019* expeditions with I/B Oden to North Greenland. The *GEOEO - North of Greenland 2024* expedition will take place August-September 2024

October 2024-University of Stockholm
Planning and Implementation Meeting

