ASP Report from Group 3. Ice discharge, ice proxies, tracers

(Responsible scientists: Dorthe Dahl-Jensen, Jørgen Peder Steffensen, Fei Wang, Julienne Stroeve, Ryan Galley, CJ, Lotte Sørensen, Marianne Glacius, Tim Papakyriakou, Søren Rysgaard)

1. Standardize a sampling list for contaminants, stable isotopes, tracers, TA (Total Alkalinity) and TIC (Total Inorganic Carbon) for glacier ice, sea ice and water samples. Recommend standard protocols.

2. Develop cheap moorings for measurements of radiation, temperature, and methodology. Include up looking and down looking under ice sensors to look at sea ice. Coordinate upward looking sonar installation with group 1 for the tops of moorings.

3. Sample sea ice parameters (freeboard, snow properties, salinity, temperature in sea ice…)

4. Sample aerosols

5. Drilling an ice core on Muellers Ice Cap

6. Focus on glacier ocean interactions in Nuuk, Peterman & 79fjorden.

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1. Standardize a sampling list for contaminants, stable isotopes, tracers, TA (Total Alkalinity) and TIC (Total Inorganic Carbon) for glacier ice, sea ice and water samples. Recommend standard protocols.

Need to follow up on this – task group

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Søren Rysgaard and Claus Melvad has been very active here – news?

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3. Sample sea ice parameters (freeboard, snow properties, salinity, temperature in sea ice…)

MOSAiC

Professor Stroeve and Dr Michel Tsamados (UCL Earth Sciences) will investigate the depth and density of the layer of snow which covers arctic sea ice to see if the radar technology used by satellites, such as the European Space Agency (ESA)'s CryoSat-2, is accurately measuring sea ice thickness from space. Understanding how far the radar actually penetrates into the overlying snow cover will improve data on sea ice thickness and density, which currently relies on information collected in the 1980s.

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4. Sample aerosols

A strong program at EGRIP on the Greenland ice sheet

CFA measurements on the EGRIP deep ice core (2650 m ice core reaching more than 80.000 years back in time)

Air sampling from drone

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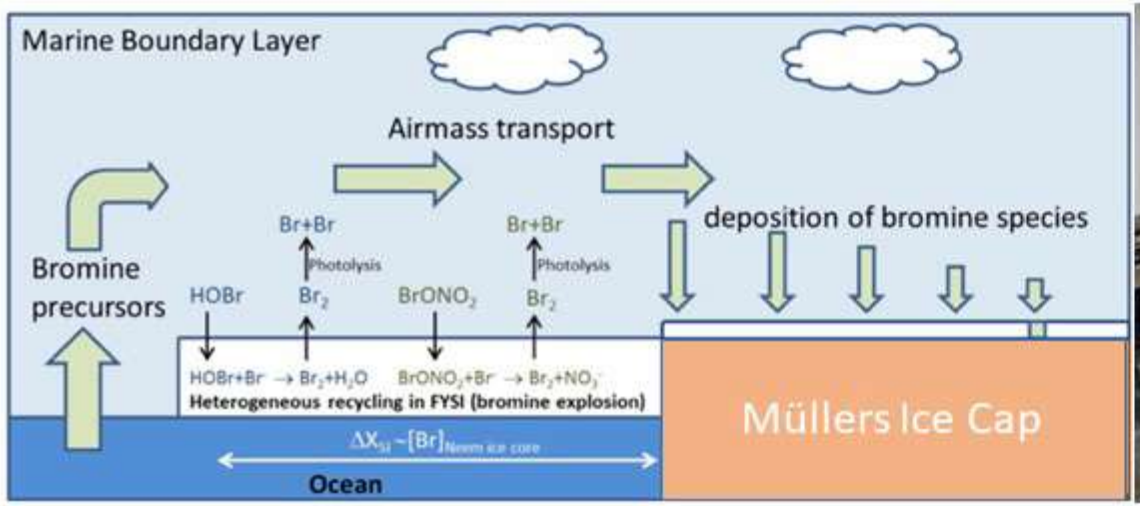
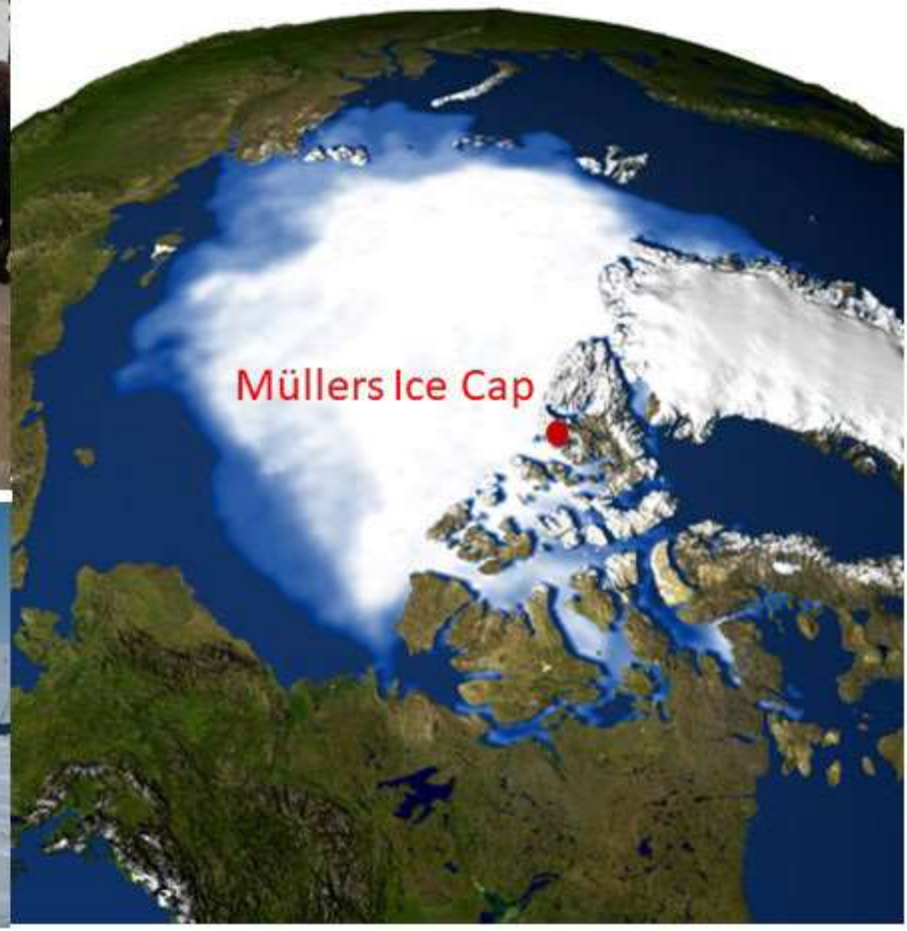
5. Drilling an ice core on Muellers Ice Cap





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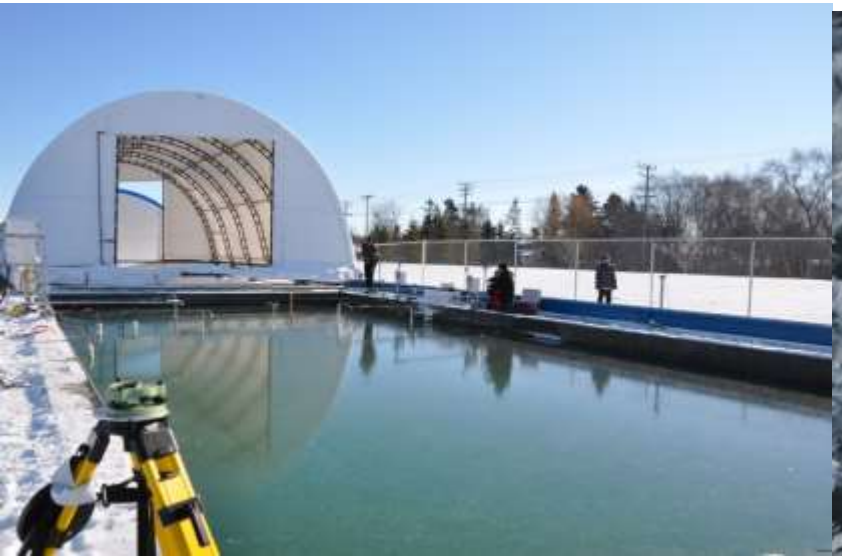
4. Sample aerosols

Study of the relationship between Sea Ice and Bromine

SERF – CEOS_UM



Frost Flowers

Relation to first and multi year sea ice

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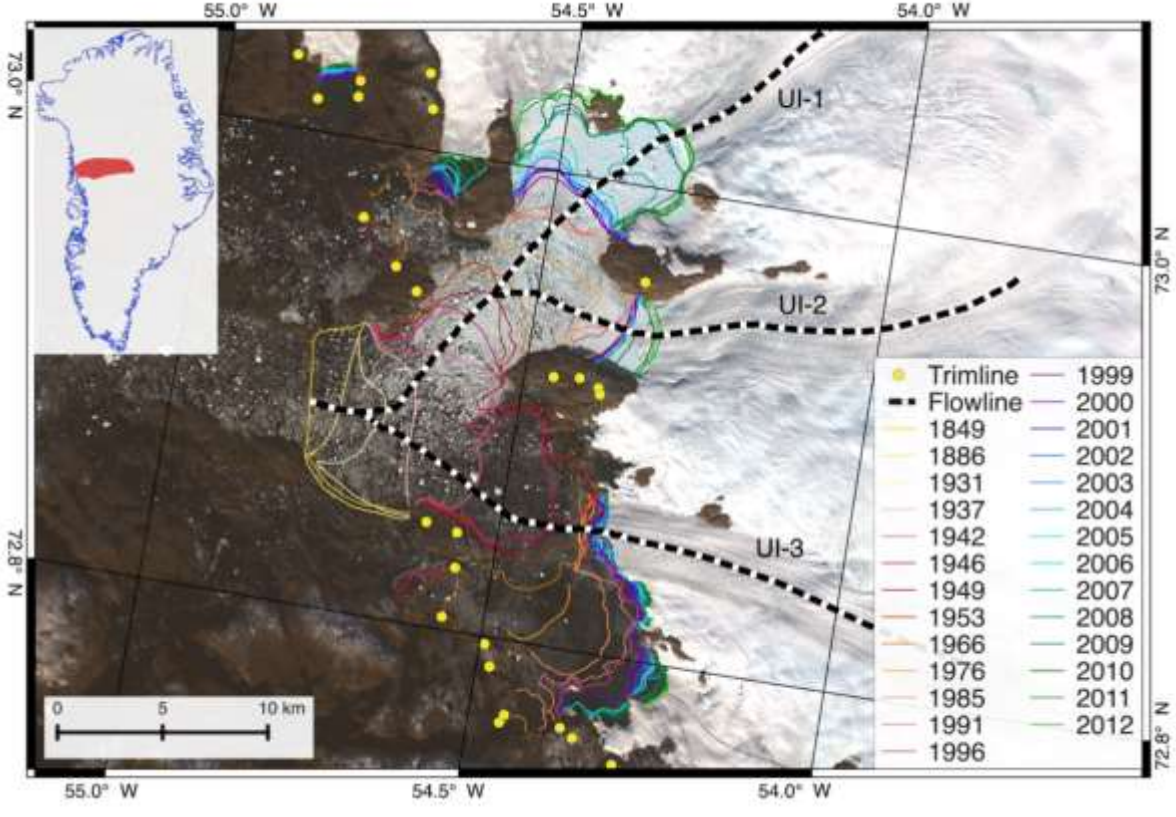
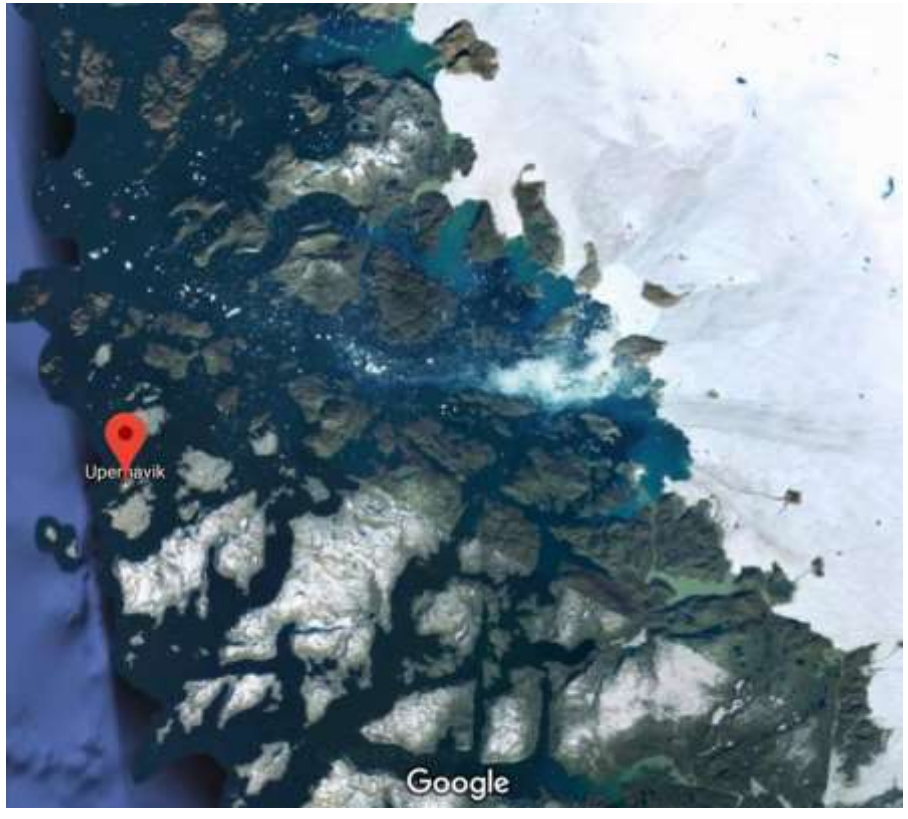
6. Focus on glacier ocean interactions in Nuuk, Peterman & 79fjorden.

AWI – study of the 79 Fjorden

Study of the Upernavik Ice Streams (Dorthe CERC program)





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Next steps

My suggestion – work more activly on join project development

From the room?