

**Subproject: Case Study: Seasonal transition of Geophysical Parameters of Different Ice Types present in Young Sound**

Actual field dates: May 1 – July 3, 2014  
 Field site: Daneborg, Young Sund, North-East Greenland  
 Number of man-days in the field: 130

**Summary:**

During this project, we monitored the progression of the geophysical and thermodynamic processes occurring at the ocean-sea ice-atmosphere (OSA) interface as the snowmelt began, as melt ponds evolved and just before sea ice breakup occurred. We chose two sites in the fjord: one towards the mouth of the fjord, Hans (Figure 1), representing younger sea ice (as a result of a polynya) and the second further inside the fjord, Gael (Figure 1), representing thicker first year ice (FYI). We focused on the geophysical properties of snow with density and temperature profiles at both sites, sea ice with temperature and salinity profiles at both sites and combined this with coincident meteorological data measured from the met site (Figure 1) including temperature, wind speed, direction, humidity, pressure and albedo.

Changes from atmospheric forcing at the sea ice surface, such as solar heating, are manifested as physical property changes, such as snow melt, surface flooding and melt pond formation. These changes can be detected using satellite active and passive microwave data. The physical data collected from this field campaign will be used with coincident remote sensing data, which will ultimately lead to increased knowledge of how remote sensing signatures respond to various features in young ice types during the seasonal transition into summer.

**Photos:**

Fig.1: Map displaying two study sites (Hans and Gael), the met tower site, and the Daneborg Research Station. Credit: Geoff Gunn

Fig. 2: “Team Awesome” physically sampling sea ice - Nix Geilfus (ARC), Alexis Burt and Kerri Warner (CEOS). Credit: Bruno Delille

Fig. 3: “Home Sweet Home” at the Daneborg Research Facility, North-East Greenland. Credit: Kerri Warner

**Participants:**

David Babb (CEOS), Satwant Kaur (CEOS), Geoff Gunn (CEOS), Kerri Warner (CEOS), David Barber (CEOS)

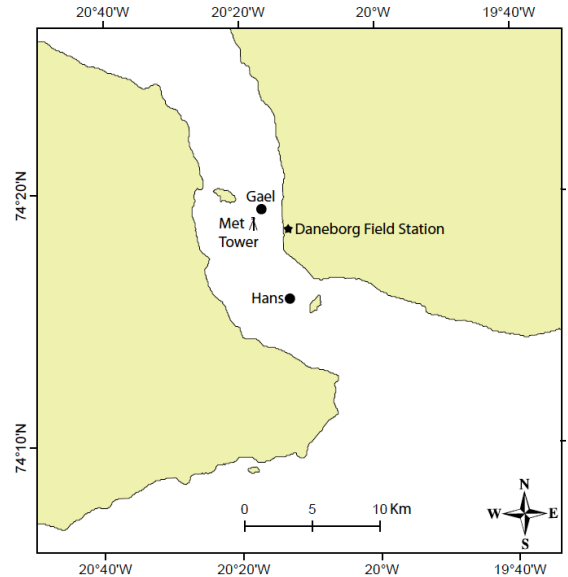


Figure 1

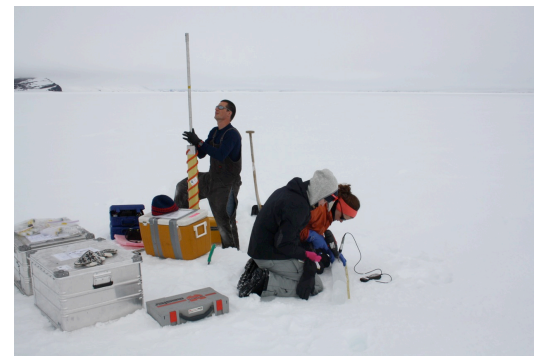


Figure 2



Figure 3

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