

Subproject: Mooring retrieval and redeployment.

Actual field dates: April 3 – April 15, 2016

Field site: The landfast ice within ~40 km radius around the VRS

Number of man-days in the field: 43

Summary:

In May 2015, two co-located ice mass balance buoys and ice tethered moorings were deployed at two positions on the multiyear landfast sea ice to measure the seasonal changes in temperature, salinity and currents beneath the ice, ice growth and melt processes, and various surface atmospheric variables (air temperature, pressure, winds and snow depth). In April 2016, both moorings were successfully recovered.

The CTDs, ADCPs and ice tethered profiler all worked well and collected a reliable data. All the records are still to be processed and scrupulously analyzed, but we can report that a full one year long time series of oceanographic/ice/atmosphere records has been successfully obtained in this region for the first time ever. To extend our understanding of local physical processes we additionally deployed one new mooring ~50 m off the Flade Isblink glacier terminus before we left. The acoustic current profiler and an ice-tethered CTD profiler will provide high resolution observations on the thermohaline conditions along the front of the glacier and will likely capture the release of freshwater over the course of the year. We also deployed a time-lapse camera at this mooring site that will provide observations of calving events that may be related to fresh water releases observed below.

Photos:

Fig. 1: The Sentinel-1 C-SAR image showing the sea ice condition in the study area in March 23, 2016. White circles show the positions of CTD stations, and blue and red squares correspond to recovered and deployed moorings, respectively. The location of Villum Research Station (VRS) is shown as a yellow star. Credit: Sergey Kirillov

Fig. 2: Installing the photo camera (at the front) and the mooring deployment (at background) in the front o terminus of the Flade Isblink Ice Cap. Credit: Kunuk Lenert

Fig. 3: Drilling a hole for CTD cast through the multiyear ice in the front of glacier terminus. Credit: Kunuk Lenert

Participants:

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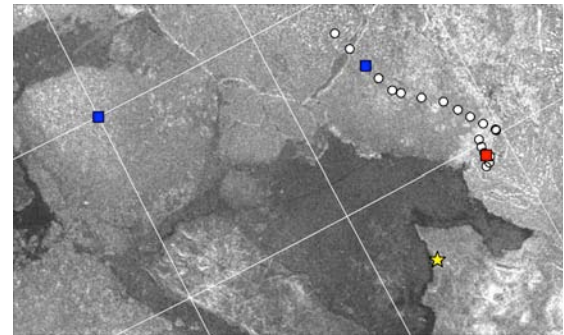


Figure 1



Figure 2

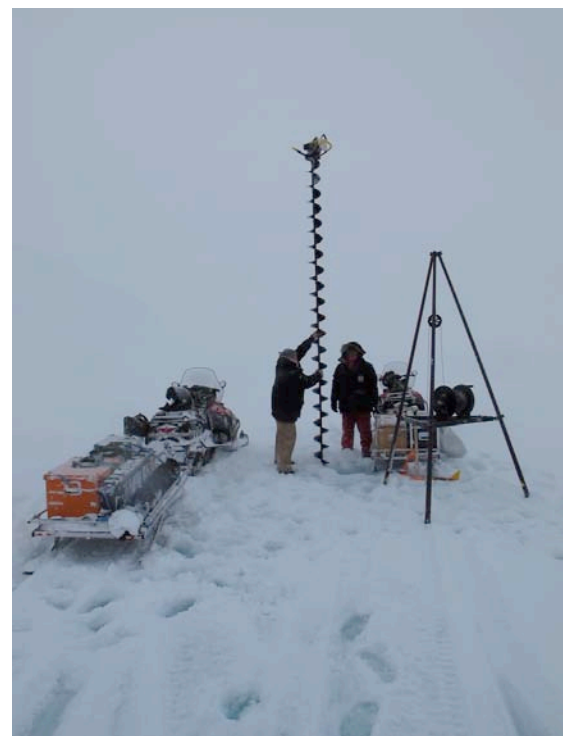


Figure 3

Acknowledgements:

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