



PROJECT SUMMARY REPORT - 2015 STATION NORD CAMPAIGN

Subproject: Quantification of ikaite

Actual field dates: 10 April – 3 May

Field site: Landfast ice within 50 km of Station Nord, NE Greenland

Number of man-days in the field: 4 (Heather Kyle)

Summary:

At Station Nord, 5 ice cores were collected from 4 different sites on land-fast first year ice and 2 ice cores were collected from one multi-year ice site. These cores were processed in the lab at the Villum Research Station (VRS). An additional 3 ice cores, one multi-year and two first-year sites, were collected and shipped whole to Winnipeg for processing in the lab at CEOS. At VRS, each ice core was cut into 10 subsamples and image analysis was done to determine ikaite concentration. Each subsample was melted in a refrigerator set at 2°C to ensure that ikaite did not dissolve during melting. The melted ice was filtered and the filters were placed in exetainers filled with deionized water. The exetainers were poisoned with 12 µl HgCl₂ and shipped to Winnipeg for dissolved inorganic carbon (DIC) analysis at CEOS to determine ikaite concentration using DIC. The results from both the image analysis and DIC analysis are being compared. The low salinity and warm temperatures of the sea ice at Station Nord are not ideal conditions for ikaite precipitation, so the ikaite concentrations are low, making it difficult to compare the results from both techniques. Analysis is ongoing.

Photos:

Fig.1: Heather Kyle and Yubin Hu taking a temperature profile of a first year ice core. Credit: Jesper Hoffmann

Participants:

Heather Kyle

Acknowledgements:

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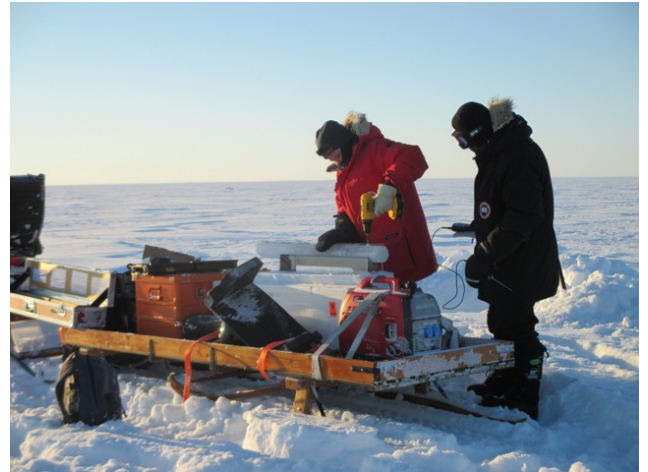


Figure 1