PROJECT SUMMARY REPORT - 2014 CAMBRIDGE BAY CAMPAIGN

Subproject: Halogen chemistry across the ocean-sea ice-atmosphere interface

Actual field dates: March 1-21, 2014
Field site: Cambridge Bay, Nunavut
Number of man-days in the field: 8

Summary:
Samples of first-year sea ice, underlying seawater and overlying snow were taken every two days over a 12-day period from March 7 to March 18. Some auxiliary data, including weather conditions, air and snow temperature and salinity were also collected. The concentrations of halides (Cl^- and Br^-) and Na^+ in the snow, ice and seawater were analyzed by using ion chromatography. Our measurements show vertical distribution profiles of halides across the seawater-sea ice-snow interface, which will provide more information about the biogeochemical cycling of halides. Moreover, by using Na^+ as a reference, the behaviors of Br^- and Cl^- in springtime bromine explosion events (BEEs) are studied. The results will contribute to the understanding of the mechanism of BEEs, the role of snow and ice in halogen chemistry, and the cycling of mercury.

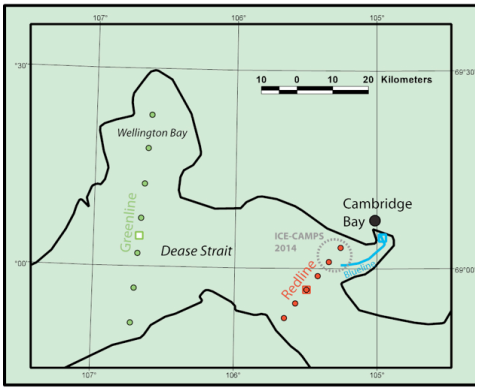

Figure 1

Figure 2

Photos:
Fig.1: Study area and sampling sites.
Credit: CJ Mundy
Fig. 2: Wen Xu (CEOS) taking snow temperature readings
Credit: Wen Xu

Participants:
Wen Xu (CEOS); Dr. Feiyue Wang (CEOS)

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