

Subproject: Retrieval of advanced melt season parameters over first-year sea ice using satellite remote sensing

Actual field dates: May 15 – June 30, 2014

Field site: Cambridge Bay, Nunavut, Canada

Number of man-days in the field: 46

Summary:

A Parks Canada Canon EOS-1 camera and mounting equipment configured for helicopter-based aerial surveying were used to collect time-lapse photographs of sea ice melt pond coverage in the vicinity of Cambridge Bay during advanced melt. Equipment was mounted to a Bell 206 LR and two successful aerial surveys were conducted on 22 and 23 June. Surveys flight lines were set to cover an area encompassing both on-ice field study locations and the coverage of coincident Radarsat-2 SAR satellite image acquisitions. Six fully-polarimetric Radarsat-2 images were collected over the study area during advanced melt. Four images were collected leading up to the surveys, and two were collected nearly coincident in time to the surveys.

These data are being used to assess the utility of polarimetric SAR for estimating melt pond fraction and supporting dedicated sea ice process studies.

Photos:

Fig. 1: Map of aerial survey waypoints in vicinity of Cambridge Bay

Credit: Randy Scharien

Fig. 2: Aerial photograph of melt pond covered sea ice and an open water lead

Credit: Randy Scharien

Fig. 3: Aerial photograph of melt pond covered sea ice including the on-ice equipment. Credit: Randy Scharien

Participants:

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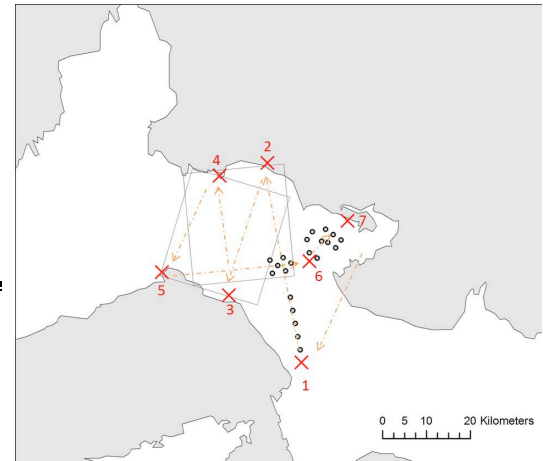


Figure 1



Figure 2

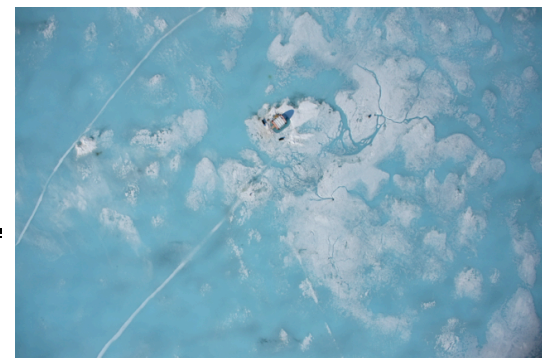


Figure 3