

## Subproject: Surface Exchange: Greenhouse gas exchange and the carbon cycle in the Arctic coastal area

Actual field dates: May 1 – June 27, 2014

Field site: Young Sound, Northeast Greenland

Number of man-days in the field: 63

### Summary:

Team focus was air-ice-ocean CO<sub>2</sub> exchange in a fast-ice system typically overlain by a thick snow cover. The site conditions provided a contrast to ice and surface conditions usually observed in the CAA and as such provided the opportunity to examine the influence of deep snow on the surface limb of the sea ice carbonate system. Two flux towers were installed on land-fast fjord ice in Young Sound. Each system was plagued with early issues that prevented the acquisition of good early season flux data. By legs two and three the system were running providing a record of air-ice CO<sub>2</sub> and heat exchange, in conjunction with surface meteorological elements. The data set extended into the period of advanced surface melt. Data have undergone processing by MSc student Wickström, and a publication is in preparation to meet the requirements of Wickström's MSc program. Preliminary results have been presented at the 2014 ArcticChange Conference in Ottawa (December).



Figure 1

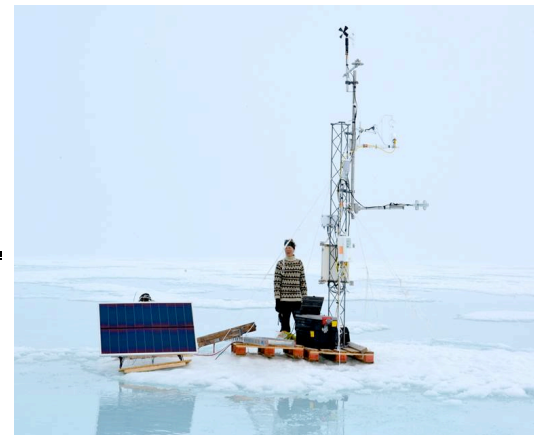


Figure 2

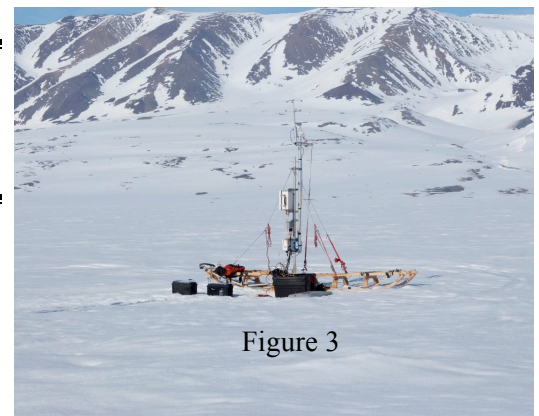


Figure 3

### Photos:

Fig.1: Field site: tower coordinates

Credit: Bjarne Jensen

Fig.2: Photo showing fixed eddy covariance tower during late melt.

Credit: Siiri Wickström

Fig. 3: Photo showing mobile eddy covariance tower.

Credit: S. Wickström

### Participants:

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