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Snow, permafrost and atmospheric observations in Canadian Arctic

Arctic permafrost is thawing, with the potential of releasing large amounts of CO_2 and CH_4 from the decomposition of frozen organic matter. Projections of the rate of thawing and gas release are uncertain because of poorly understood feedbacks. Monitoring of snow, permafrost and atmosphere are used to understand processes and detect feedbacks.

The observing sites include Kuujjuarapik and Umiujaq in southeastern Hudson Bay and Bylot Island in northern Baffin Island. The stations could not be visited in 2020 due to COVID-19m but data from 2019 and earlier were analyzed.

The data from these sites contributes to the monitoring of Arctic climate change. Holistic snow, atmosphere and permafrost data sets are invaluable for model forcing and evaluation.

Data are stored in the Nordicana D repository:

www.cen.ulaval.ca/nordicanad/

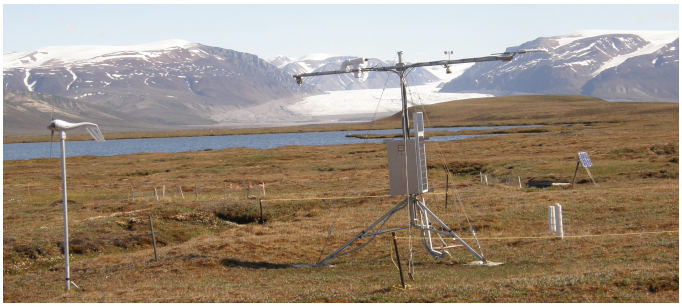

Figure 2. Photo of the observing station at Bylot Island

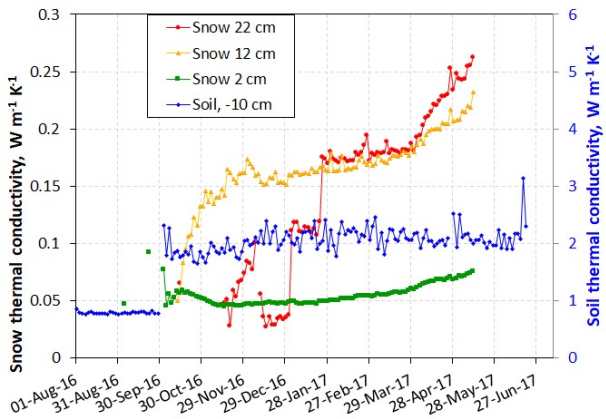

Figure 3 (right). Snow and soil data from Bylot Island

INTAROS has received funding from EU's Horizon 2020 research and innovation programme - Grant Agreement No 727890