

# Metadata Details

## Title

Characterizing Permafrost Degradation in Svalbard and its Impacts on Terrestrial Ecosystems

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## Science Keywords

Category	Cryosphere
Topic	Glaciers/Ice Sheets
Expedition Year	2019-2020
ISO Topic	Meteorology

## Summary

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### Abstract

The specific objectives are as follows: A. Characterizing Ecosystem Scale Dynamics of Permafrost Thaw: i. Identify thermokarst areas in Svalbard and Ny-Alusend areas by long-term satellite data and reconnaissance surveys. ii. Develop a database of physical characteristics of these areas on an on-going basis. iii. Develop intra and inter-seasonal characteristics of thermokarst landscape areas using a range of measurements such as atmospheric GHGs (CO<sub>2</sub> and CH<sub>4</sub>), optical surface reflectance, narrowband and broadband albedo and net energy fluxes at the surface level and various meteorological parameters. iv. Quantify aerosol transport and impacts on snow spectral albedo. B. Identifying Permafrost degradation through Geochemical Signatures: i. Establish an isotope mixing model that will quantify the variability of downstream water from glacial melt, permafrost/active layer thaw and rain over the field campaign of 2018.

### Purpose

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## Data Center