



Project acronym: CSOMFAS

Project title: Composition of Soil Organic Matter Fractions from the Arctic and the Subarctic

Project leader: Isabel Prater, Technische Universität München, Germany

Discipline: Earth Sciences & Environment: Ecosystems & Biodiversity

Station(s): NIBIO Svanhovd Research Station (Norway), Czech Arctic Research Station of Josef Svoboda (Petuniabukta) (Svalbard/Czech Republic)

I sampled soils of different types from the continuous permafrost in Svalbard (CARS) and from palsas peats and palsas in Finnmark (NIBIO Research Station). On Svalbard, wet and dry tundra soils, a flood plain and a well developed soil were sampled around the Nostoc field camp in the Petunia Bay, Billefjorden. In Finnmark, two palsas were sampled close to Varangerbotn and Karlebotn, one palsa peat close to Skrotnesmyren and one peat close to the station in Svanvik. All samples were taken following the same sampling approach. The project includes the investigation of basic soil properties of the bulk soils (elemental analysis, bulk density etc.). The planned fractionation of the soils according to density and grain size and the examination of the obtained soil organic matter fractions will only be performed on selected samples as most samples were obtained from primarily organic horizons. The samples and the obtained soil organic matter fractions will be analyzed for their chemical composition using elemental analysis, ¹³C NMR and the extraction of lipid biomarkers in order to assess the quality of the specific SOM fractions and their resilience when global warming continues and thawing of the permafrost soils increase. As additional project, samples from initial soils were taken on Svalbard that developed on different parent material (8 sites, 3 samples each) and were covered by the same vegetation (*Dryas octopetala*) - the objective is to determine if differences in the soil organic matter caused by the different parent material can be determined.