

Project acronym: SOC-Taiga

Project title: Soil Organic Carbon Pools in the Russian Taiga

Project leader: Juri Palmtag, Stockholm University, Sweden

Discipline: Earth Sciences & Environment

Station(s): Elgeii Scientific Forest Station (Russia), Khanymei Research Station (Russia)

The aim of this project is to conduct a detailed landscape-level SOC inventory at two Russian research stations (Khanymei and Elgeii Scientific Forest Station). The Khanymei Research Station is located in the northern taiga of West Siberia surrounded by extended peatlands within the discontinuous permafrost zone. The Elgeii Scientific Forest Station is located in the boreal light taiga within the continuous permafrost zonation. Both stations are located in ecosystems of highest uncertainties regarding the current knowledge on SOC storage and distribution. New data will fill this critical gap in the NCSCD which will improve the recent estimates for these important and vast areas considerably.

The sampling will be based on straight transects across the landscape covering all the important land cover and vegetation types. Along these transects, soil profiles will be collected at strictly equidistant intervals down to at least 1m depth. This stratified-random approach ensures that all important landscape components are sampled but prevents subjective choices in specific sampling locations. Top soil organic horizons will be sampled by cutting out blocks of known dimensions with a sharp knife. The active layer samples will be collected by digging a pit and inserting a fixed volume cylinder horizontally into the soil profile at 5 to 10 cm intervals. The permafrost soil samples will be collected by gradually hammering a 4 cm inner diameter steel pipe at 5 to 10 cm intervals into the ground. Collected soil samples will be transported and analyzed at state of the art soil laboratory in Krasnoyarsk (Russia).