Project acronym: SnowVeg

Project title: Global snow and vegetation survey at climate stations in cold biomes: a novel approach to understand drivers of snowmelt, biodiversity and ecosystem functioning

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Discipline: Earth Sciences & Environment: Ecosystems & Biodiversity

Station(s): Kilpisjärvi Biological Station (Finland), Oulanka Research Station (Finland), Research Station Samoylov Island (Russian Federation), Arctic Station (Greenland/Denmark), Greenland Institute of Natural Resources (Greenland/Denmark)

We aim 1) at analyzing changes in temperatures and snow cover in cold environments and 2) at analyzing snow and temperature effects on vegetation. That way we can estimate how ongoing and future temperature and snow changes may change Arctic and alpine vegetation. We plan to carry out one vegetation relevé per climate station plus (more time consuming) plant trait measurements (e.g. plant height, leaf area index etc.) of all occurring species. Ideally, the climate station 1) should at least have recorded air temperature on a daily basis (min and max) since 5 or more years and 2) have information about the time when snowmelt occurs, either by direct measurements (e.g. from ultrasonic sensor or manual measurements) or indirectly by recording soil temperature. An already existing field protocol describes the methods in all detail. In short, we will record all plant species and their abundance and some plant height measurements within a 150 cm radius directly under a snow sensor or as close to the climate station as possible.