



Project acronym: KOPPS2

Project title: KOLA Peninsula Plant Success 2 (KOPPS2)

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Discipline: Earth Sciences & Environment: Global change & Climate observation

Station(s): Khibiny Educational and Scientific Station (Russia)

The Arctic has seen the most rapid climate change anywhere on Earth, with associated environmental changes including altered geographical ranges of vegetation biomes. The KOPPS2 project will study the impact of these changes on plant success and how to best remotely monitor their effects on vegetation distribution in the Russian Arctic. It is based in the Khibiny Mountains as this region provides marked changes in elevation and thus a range of vegetation types, from forest to tundra. It follows and expands upon the INTERACT-funded KOPPS and ECAPS projects. KOPPS2 comprises two principal work packages (WPs). In WP1 we will deploy four climate monitoring stations along an upslope transect in the Polar Alpine Botanic Garden-Institute (PABGI) in Kirovsk, which encompasses different biomes and ecotones. Local mountain-rescue personnel will be employed to transport the equipment up the steep terrain. WP1 forms the start of a long-term study with PABGI, analysing the relationships between plant success and local meteorological conditions, in particular snow cover. In WP2 we will observe the changing forest parameters along the upslope transect through the PABGI: we will measure the forest structure, Leaf Area Index (LAI) and forest cover transmittance. These measurements will also be related to the wider Khibiny region through comparisons with new sites and the KOPPS measurements. Subsequently, these estimates of forest cover will be scaled up to compare with satellite derived LAI products, and related to the meteorological data collected in WP1 and existing regional climatic data sets.