

Permafrost Observatory Project: A Contribution to the Thermal State of Permafrost in Norway and Svalbard

Project manager: Hanne Christiansen, UNIS

Project summary

The key goal of TSP NORWAY will be to develop a spatially distributed set of observations on present status of permafrost temperatures, active layer thicknesses and periglacial activity in Svalbard and Norway. Two new boreholes will be drilled and equipped giving new information on permafrost temperatures and thicknesses in unexplored areas. Many potential environmental and socioeconomic impacts of climatic change are associated with permafrost. Permafrost degradation may affect slope stability, thus we will study how permafrost affect geohazards. The TSP NORWAY project will leave a legacy of two long-term Permafrost Observatories, monitoring the thermal state, distribution and permafrost landform activity in northern Norway and in Svalbard. During the project a permanent database with all permafrost data from Norway and Svalbard will be established, containing the project data. This Norwegian permafrost database, NORPERM, shall contribute data as requested in the international IPY data protocol and the international TSP project to the international Global Terrestrial Network on Permafrost (GTN-P), and to all Norwegian institutions or industry interested, such as e.g. the coal-company Store Norske in Svalbard. The database will be part of the Norwegian national borehole database in the Norwegian Geological Survey. We will train 2 new permafrost post.docs; develop a new international university permafrost course and permafrost school modules. The 18 TSP NORWAY participants constitute together all the Norwegian university (UNIS, UiO and NTNU), Norwegian Geol. Survey, Int. Centre for Geohazards, Norwegian Met. Institute based scientists and a geotechnical engineer (Opticon Instanes Svalbard) working with permafrost in Norway and Svalbard. This scientist network focussing on the climatic control on permafrost landscapes, establishes a nationally improved research competence in permafrost in Norway, positioning Norway as a leading nation in permafrost research in Europe.