



Tailoring climate services for impact challenges in municipalities in Northern Norway

H. O. Hygen (1), L. H. Nergaard (2), H. Hisdal (3), R. Gangstø (1), and E. Førland (1)

(1) Norwegian Meteorological Institute, Climate services, Oslo, Norway (hans.olav.hygen@met.no, +47 2296350), (2) County governor of Troms, Tromsø, Norway, (3) Norwegian Water Resources and Energy Directorate, Oslo, Norway

Northern Norway is no exception in a world facing global warming. Global climate models indicate that the global warming is enhanced in these northern regions, and downscaled projections indicate an increase in annual temperatures of ca. 3°C during this century. Annual precipitation and extreme daily rainfall are projected to increase ca. 20%. These changes imply a strong need for climate adaptation. The Norwegian Meteorological Institute (MET Norway) and the Norwegian Water Resources and Energy Directorate (NVE) have initiated a Climate Service Center focusing on serving the municipalities and decision makers in Norway. A pilot study has been established, to identify the needs for climate and hydrological information in selected municipalities in Northern Norway, and how to integrate this information in the planning procedures of the municipalities. This project is a cooperation between the Directorate for Civil Protection and Emergency Planning, NVE, MET Norway and the County Governor of Troms. The focus area includes the city of Tromsø, and the three rural municipalities Lyngen, Balsfjord and Målselv. A key finding is the need to bridge the gap between research output and the operational needs of the municipalities in climate change adaptation. The selected municipalities have identified substantial challenges in preparing for future as well as present climatological and hydrological extremes. Major issues include river flooding, urban runoff, avalanches, landslides, sea level rise and wind exposure. Much of the needed data is not available, and much of the information available is not applicable in its present form. A major challenge in the project is to establish methods to extract information from scientific results about changes in climate and hydrology that can be used in the municipality planning processes at different levels of detail.