Seminar on

Permafrost and Climate

Department of Geosciences, University of Oslo,

5.4.2016, 9.15-11.30, Rom: SALEN, ZEB-bygningen*

9.25 – 9.30: Welcome and introduction (B. Etzelmüller)

9.30 – 10.05: Permafrost and climate change in Alaska – observations and modeling

Prof. V. Romanovsky, University of Alaska Fairbanks, Vice President of IPA

Changes in permafrost thermal state observed in Alaska during the last 35 years will be presented. A network of permafrost temperature observations was established in the late-1970s and early-1980s by Professor Emeritus T. E. Osterkamp and has been supported since then by the Permafrost Lab at the Geophysical Institute, University of Alaska Fairbanks. Most of the research sites in our network are located along an Alaskan Permafrost-Ecological Transect. This transect spans all permafrost zones in Alaska from the southern limits of permafrost near Glennallen to the Arctic coast in the Prudhoe Bay region. Most of the sites in Alaska show substantial warming of permafrost since the 1980s. The magnitude of warming has varied with location, but was typically from 0.5 to 3°C. However, this warming was not linear in time and not spatially uniform. In 2015, new record high temperatures, at 20 m depth, were measured at all permafrost observatories on the North Slope of Alaska. New approach to high-resolution permafrost modeling will also be discussed.

10.05 – 10.40: New research projects on permafrost at the University of Oslo

Dr. S. Westermann, Department of Geosciences, University of Oslo

We present an overview of ongoing and future permafrost research with respect to remote sensing (SatPerm and ESA GlobPermafrost projects), ESM representation (COUP, PermaNor), carbon cycle (LATICE, Feedback) and mountain permafrost processes (CryoWall). All projects feature a strong numerical modeling component based on the CryoGrid permafrost models.

10.40 – 11.15: Permafrost monitoring and climate change in Norway and Svalbard

Dr. K. Isaksen, Norwegian Meteorological Institute, National GTN-P responsible.

During the International Polar Year (IPY) a snapshot of permafrost thermal state for 2007-09 was developed and provided a baseline against which future change can be measured. This presentation provides an updated picture of the current thermal state of permafrost in Scandinavia and Svalbard that can be compared to measurements made during IPY. It also provides new results based on some of the latest assessments and research on climate change relevant for the Nordic permafrost regions.

Discussion until 11.30.

Blindern, 15.3.2016

Bernd Etzelmüller

*The ZEB-building is situated across the street from the Geology-building, and the room SALEN is down one floor of stairs just inside the front door. The room is well marked.