



Community

1B - Applied Permafrost Geomorphology in Support of Northern Communities

Louis-Philippe Roy¹, Sarah Gauthier², Robin McKillop³, Pascale Roy-Léveillé²

¹Yukon University, ²Université Laval, ³Palmer Environmental Consulting Group

Permafrost-related geohazards are increasingly impacting people living in the North. Thaw-induced changes in ground conditions affect property, damage infrastructure and can even pose hazards to human life. Such changes can also compromise traditional subsistence activities and food security by altering ecosystems and releasing contaminants. Permafrost geomorphology, the study and characterization of permafrost-related processes and landforms, provides northern communities, stakeholders, researchers, and consultants with important information about surficial materials, ground ice and associated thaw sensitivity. Permafrost geomorphology can inform the assessment of permafrost-related geohazards, development of adaptive and mitigative measures, planning of suitable land uses, and design or remediation of infrastructure.

This session focuses on the application of permafrost geomorphology to the identification, characterization, and communication of potential or ongoing permafrost-related threats to the safety and sustainability of northern communities, including their infrastructure, industries, traditional activities, and cultures. It welcomes applied projects of any scale that support the identification, mapping and monitoring of permafrost-related geohazards, the assessment and mitigation of associated risks, or the development of adaptation initiatives aimed at improving northern resilience under a changing climate. Projects involving advancement of geomorphological knowledge, cross-disciplinary and cross-sectorial collaborations, or communication about geomorphological findings to northern communities, are welcome. Any perspectives or experience in the application of the newly published Canadian standard, Risk-based Approach for Community Planning in Northern Regions, would also make valuable contributions.

Keywords: Geomorphology, Geohazards, Communities

Contact: Louis-Philippe Roy: lroy@yukonu.ca