



Permafrost Geomorphology & Hazards

4C - Rock Slope Stability in Mountain Permafrost Environments

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Permafrost can be found in many mountain regions around the world and for numerous rock faces, sub-zero conditions are essential for maintaining their stability. Unstable mountain permafrost slopes, however, are a critical issue that can affect the safety and stability of various infrastructure projects and communities residing in such regions, impacting the livelihood of many. In order to address this issue, it is essential to understand the complex interplay between permafrost, its degradation and rock slope stability.

The purpose of this session is to bring together experts from multiple backgrounds to present and discuss recent advances in the understanding of rock slope stability in mountain permafrost environments under a changing climate. We invite researchers to present their most recent findings from numerical modelling, laboratory testing or field experiments; practitioners to highlight real-world problems and solutions; as well as infrastructure owners or public sector representatives to discuss their challenges. The multidisciplinary presentations should contribute to the advancement of our understanding of rock slope stability in mountain permafrost environments under a changing climate, and provide valuable insights and information for all participants working in this field.

The session accepts a wide range of topics, including rock mechanics, frozen soil engineering, hydrogeology, geothermal modelling, risk assessment, mitigation design, monitoring, climate change or the impact of human activities, with the objective of contributing to the advancement of our understanding of rock slope stability in mountain permafrost environments and reducing risk for vulnerable locations. Specifically, we are also encouraging the presentation of case studies.

Keywords:

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