



SESSIONS EUCOP6_ 2023

Session title: Processes in cold rocky landforms

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Summary: The debris mantle of cold rocky landforms like rock glaciers or undercooled talus slopes insulates and cools the landform, creating relatively stable ground thermal conditions that are remarkably colder than in the surrounding terrain. Such landforms are favourable for azonal, low-altitude mountain permafrost, might persist as warming-resilient habitat islands for cold-loving species, and store subsurface ice. However, knowledge about the unique cooling processes like air circulation and geophysical expertise to estimate the ground ice content are fragmented between different scientific disciplines. Also, our quantitative process understanding of heat transfer across the porous debris mantle is still limited. This hampers projections of the future response of these landforms to climate change and the assessment of their hydrological behaviour. With this session, we encourage contributions from geomorphologists, permafrost hydrologists, ecologists, micro-climatologists, and geophysicists alike to foster the exchange of various research disciplines working on cold rocky landforms.