



SESSIONS EUCOP6_ 2023

Session title: Studying past environments to understand current permafrost dynamics

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Summary: Over the last several decades, permafrost regions have undergone accelerated climate and environmental changes that are modifying the biogeochemistry and the biodiversity of inland ecosystems (terrestrial and aquatic), resulting in dramatic socio-economic consequences. Permafrost degradation is predicted to continue into the coming decades as climate models project further increases in air temperatures and changes in precipitation regimes. The scarcity of long-term and spatial instrumental data hampers the study of permafrost dynamics as past responses to climate changes remain poorly understood. In this regard, lakes located in permafrost regions and their sediment records can serve as sentinels of environmental change recording and integrating signals of environmental and societal change at local and global spatial scales and annual to millennial temporal scales. Studies of these records may provide the linkage between recently observed patterns and the natural responses of terrestrial ecosystems to past and present climate variability. This session welcomes abstracts studying inland environmental archives, such as lake sediments, peatland, fluvial/alluvial, and periglacial deposits. The primary purpose of this session is to report the latest developments in understanding past environments in permafrost regions and identify gaps and areas for future research.