

Permafrost refreeze: The Reindeer factor

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Film screening and discussion

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Permafrost thaw plays a major role in climate change, as global warming leads to massive amounts of greenhouse gases being released from the permafrost into the atmosphere. While the negative impacts of these feedback loops are generally acknowledged, the non-human animals involved in mitigating permafrost thaw are less known. The project consists of a science-inspired speculative snow compacting experiment that explores the so-called Zimov hypothesis. According to the hypothesis, large herbivores such as reindeer and horses could prevent permafrost thaw as they compact the snow while grazing on vast taiga and tundra, keeping the ground colder.

This project has been conducted at the Ars BioArctica Residency in January 2022 at the Kilpisjärvi Biological Station of the University of Helsinki, in subarctic Finland. By utilizing the science lab and temperature measuring devices at the station, the artist develops a novel performative-audiovisual method to test the impacts of snow stomping on the underlying ground temperature. The resulting "science fiction" short film Refreeze demonstrates the steps in this experiment, such as the usage of "thermologgers" and quadrants, method of snow stomping, data analysis, and preliminary results of the four-day test period.