



Project acronym: AquaFun

Project title: Fungal contributions to the Carbon cycle of Subarctic and Arctic ponds

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Discipline: Earth Sciences & Environment: Ecosystems & Biodiversity

Station(s): Arctic Station (Greenland/Denmark), Khanymei Research Station (Russia)

This project aims to disentangle the role of aquatic fungi in the carbon cycle of ponds located in different permafrost areas in the Arctic and Subarctic regions. We are interested on how these fungal communities respond to an increase of ancient organic carbon coming from thawing permafrost. To address these questions, we combine carbon quality and quantity measurements, nutrient analyses and metagenomics of the fungal communities. Sediment samples have also been collected for culture and isolation of fungi. So far, we have sampled in Alaska (Toolik), Canada (CEN WK) and Sweden (Abisko). This project will continue sampling in other stations across the arctic circle to extend the coverage, which will allow us to generate general conclusions regarding the endemism of the fungi in such environments and their importance in recycling the ancient carbon. The additional stations to be included are located in Greenland (Arctic Station) and Siberia (Khanymei Research Station).