

Arctic Natural Climate and Environmental Changes and Human Adaptation: From Science to Public awareness

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Project summary

SciencePub aims to answer two critical questions in current Arctic climate research: What characterizes natural climate change in the Arctic, and how did early pioneer immigrants relate to climate change? By studying natural climate archives in terrestrial and marine sediments from Svalbard, N Norway, NW Russia and adjoining seas we will advance the knowledge on processes operating during non-glacial and glacial periods. We will use this to reconstruct past changes in the climate, and the physical environment during the last interglacial-glacial cycle. This will be used to gain new insights into human immigration and adaptation strategies at the end of the last glaciation. Our cross-institutional and multidisciplinary team will use both new and well-established methods to extract quantitative and qualitative paleoclimate data to explore the interplay between the Arctic land, ocean, ice sheets and early human settlement. We will investigate modern and past land-ocean environments, including: 1) variability in the influx of warm Atlantic Water and its implications for growth and decay of ice sheets and ice streams; 2) fresh water flux to the ocean through outbursts of ice-dammed lakes and re-routing of NW Russian rivers; 3) early human responses to rapid changes in sea-level and temperatures at the end of the last glaciation, and 4) models of the human pioneer adaptations and settlement. SciencePub will strive to leave a lasting legacy of increased public awareness of the natural environmental system of the Arctic through outreach activities. These will include networking information officers from all partner institutions, training of science journalists, and by developing visualizations and mobile exhibitions. This project will strengthen Arctic competence and expertise by training young PhD- students and post docs, networking Norwegian institutions, build broader international networks, and strengthen cooperation with Russian scientists and institutions.