



## **Preliminary stratigraphic and geochemical results on a 54-m long sediment core from Lake Bolshoye Shuchye in the north-western Polar Urals**

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The project 'PLOT – Paleolimnological Transect' is a collaborative project between German and Russian research institutes. Within the scope of the PLOT project five lacustrine climate archives, which are located along a longitudinal transect of >6000 km across the Eurasian Arctic, are investigated with a multi-disciplinary geoscientific approach in order to reconstruct the environmental and climatic history during the Late Quaternary. A pilot study at Lake Ladoga near St. Petersburg was conducted in summer 2013. Field work at Lake Bolshoye Shuchye (Polar Urals), Lake Levinson-Lessing, Lake Taymyr (both Taymyr Peninsula) and Lake Emanda (Verkhoyansk Range), with seismic profiling and sediment coring, was carried out from April 2016 to August 2017. Seismic data processing is carried out by the University of Kiel, whereas the analytical work is done by the University of Cologne, the AARI St. Petersburg/St. Petersburg State University and the AWI Potsdam, supplemented by paleoclimate modelling at the AWI Bremerhaven.

The 2016 coring campaign at Lake Bolshoye Shuchye yielded a 54-m long sediment core (Co1321). It has built on an extensive seismic survey and first sediment coring that had been conducted by the Norwegian-Russian project CHASE (Climate History Along the Arctic Seaboard of Eurasia). Stratigraphic and geochemical analysis as yet conducted at the new sediment core include XRF (X-Ray Fluorescence) scanning, MSCL (Multi-Sensor Core Logger) measurements, determination of water content, analysis of TIC, TOC, TN, and TS contents as well as grain size analysis. An initial age model based on OSL and <sup>14</sup>C dating, pollen data, the identification of cryptotephra and varve counting propose a bottom age dating back to MIS2. We present an overview of representative data from core Co1321 alongside with initial interpretations of the lake ecology compared to known paleoclimate changes.