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Geochemical sensitivity of lacustrine ecosystems of Yamal Peninsula (Russian Arctic) to climate change

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Yamal Peninsula is one of the significant region which terrestrial and aquatic landscapes are sensitive to the climate change. Geochemical processes in lakes can show impact of climate variability on hydrochemical and biological specific, trophic and ecological status. During 2012-2013 and 2018-2020 several Yamal lakes were observed during the summer field investigations. Water samples and sediment cores were taken and analyzed. Distribution of hydrochemical data is wide and cover Yamal coastal zone and central part of the peninsula including several anthropogenic changed ecosystems. Sediment cores were taken in river terraces of Yuribey, Erkuta, Pysedeyakha rivers, marine terraces of central Yamal (Neitinskie Lakes), and small core from Belyi island (North part of Yamal). Main ions and trace elements in lakes will be presented in a report as well as TOC/TC, grain-size, dating and paleoecological description of sediments. In order to reconstruct recent environmental and ecological changes half-core MSCL logging (physical properties, 0.5 cm spacing) and half-core XRF scanning (chemical composition, 0.1 cm spacing) have been applied for cores from Neitinskie Lakes (central part of Yamal). The first results of scanning and the statistic will be presented in the report. Comparison of aquatic ecosystem geochemistry for different parts of Yamal peninsula allow to explain the climate impact in different landscapes. Studies supported by RFBR 18-05-60291. MSCL logging and XRF scanning have been done in Shirshov Institute of Oceanology of RAS by Geotek MSCL-XYZ instrument using.