



Acoustic investigations of lakes as justification for optimal core drilling and sampling location in paleomagnetic study

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Lacustrine sediments contain a long, high-resolution record of sedimentation processes associated with changes in the environment. Paleomagnetic studies of the sediments properties provide a detailed trace of changes in paleoenvironment. However, there are factors such as landslides, earthquakes, and the presence of gas in sediments affecting the distributing sediment stratification. Seismic profiling allows investigating in details the bottom relief and getting information about the thickness and structure of deposits, which makes this method ideally suitable for determining the configuration of the lake basin and the overlying lake sediment stratigraphy. Most seismic studies have concentrated on large and deep lakes containing a thick sedimentary sequence, but small and shallow lakes containing a thinner sedimentary column located in key geographic locations and geological settings can also provide a valuable record of Holocene history. Seismic data is crucial in choosing optimal core sampling location. Thus, continuous seismic profiling should be used regularly before coring lake sediments for the reconstruction of paleoclimate. We have carried out seismic profiling on lakes Balkhash (Kazakhstan), Yarovoye, Kangrykyl, Aslykul, Kisigach, Plescheevo, Sunukyl and Chebarkul (Russia).