



Detection gas presence in lakes bottom sediments based on seismic investigations.

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Seismic investigations are used for various tasks, such as the study of the bottom sediments properties, finding sunken objects, reconstruction the reservoir history, etc. Detailed seismic investigation has been carried out in the southern part of Lake Bol'shoe Yarovoe (Altai Krai), Lake Sunukul (Chelyabinsk region), Lake Kisegach to map the bottom sediments and features associated with the presence of gas. The obtained results demonstrate that various types of gas can be recognized in lakes sediments, such as pockmarks, acoustic turbidity, gas flares, seeps. These features, on the one hand, prevent the reconstruction of sequence stratigraphic patterns and, on the other hand, contribute to understanding of the processes of gas formation and migration in the sediments, possible impacts of these processes on the formation of sediments enriched in the organic matter. Also, it helps to recognize these processes in the ancient sediments. The paper points out the importance of studying the formation of methane in lake sediments, because it plays an important role in the climate change. The work was carried out according to the Russia Government's Program of Competitive Growth of Kazan Federal University, supported by the grant provided to the Kazan State University for performing the state program in the field of scientific research, and partially supported by the Russian Foundation for Basic research (grant nos. 16-35-00452).