

Besides, the authors used the organic carbon to the organic nitrogen ratio (C_{org}/N_{org}) as additional organic-geochemical indicator. The sapropels of the small lakes of Transbaikalia were found to have the lowest C_{org}/N_{org} ratios (5,7–7,0), which marks the autochthonic phytoplanktonic component of the OM. The West-Siberian lake have higher C_{org}/N_{org} ratios in the sediments and represent both autochthonic (water macrophytes) and allochthonic (mosses) OM sources [Melenevsky et al., 2015; Leonova et al., 2018].

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REFERENCES

1. Korde N.V. Biostratification and typology of Russian sapropels. – Moscow: USSR Ac. Sci. – 1960. – P. 219.
2. Leonova G.A. Sapropels: treasures from lake bottoms // Science in Russia. – 2014. – № 1. – P. 28–35.
3. Leonova G.A. Geochemistry of diagenesis of organogenic sediments: an example of small lakes in Southern West Siberia and Western Baikal area // Geochemistry International. – 2018. – № 4. – P. 344–361.
4. Melenevskii V.N. The organic matter of the recent sediments of Lake Beloe, West Siberia (from data of pyrolytic studies) // Russian Geology and Geophysics. – 2011. – Vol. 52. – № 6. – P. 583–592.
5. Melenevskii V.N. Transformation of Organic Matter in the Holocene Sediments of Lake Ochki (South Baikal Region): Evidence from Pyrolysis Data // Geochemistry International. – 2015. – № 10. – P. 903–921.

PALEOLIMNOLOGY INVESTIGATIONS OF THE ANZERSKY ISLAND, THE SOLOVETSKY ARCHIPELAGO, THE WHITE SEA

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A complex study of bottom sediments of lakes on different hypsometric marks allows reconstructing the shoreline moving and environmental changes in the Late Pleistocene and Holocene for the White Sea region. (Subetto, 2009; Kolka *et al.*, 2013). The method of isolated basins is used in the research. The lakes of the Solovetsky Archipelago and Onega Peninsula were investigated in numerous expeditions before (Subetto *et al.*, 2012, Leontev *et al.*, 2015, 2016).

In 2015 paleolimnological field research on the Anzersky Island (the Solovetsky Archipelago, the White sea) were held in the course of complex expedition on board of Northern Water Problems Institute scientific ship «Ecolog». The participants of expedition present Herzen State Pedagogical University (St-Petersburg); Northern Water Problems Institute Karelian Research Centre RAS (Petrozavodsk); Institute of Limnology RAS (St-Petersburg); Geological Institute Kola Science Centre RAS (Apatity), Moscow State University.

The field research included reconnaissance, study of the position of reservoirs, selection and visual inspection of the lakes, specification marks the water's edge and threshold runoff, bathymetric survey, sampling of modern sediments, sampling of selected lakes bottom sediments from the platform with using russian peat corer (for subsequent pollen, diatom, chironomid, grain size analysis, determining the weight of loss on ignition and radiocarbon dating), lithological description of the sediment cores.

With the aim of paleogeographic reconstruction the lakes were chosen at different hypsometric levels: Nadbannoye (21 m ASL), Bannoye (14 m ASL), Golgofskoye (11 m ASL) and Kaporskoye (6 m ASL) (Fig. 1).

The lithological analysis of the Anzersky Island lakes sediments allow to preliminarily attribute limno-glacial, marine, transition and contemporary lake sediments. The first results of the laboratory analysis and radiocarbon dating will be presented at the conference.

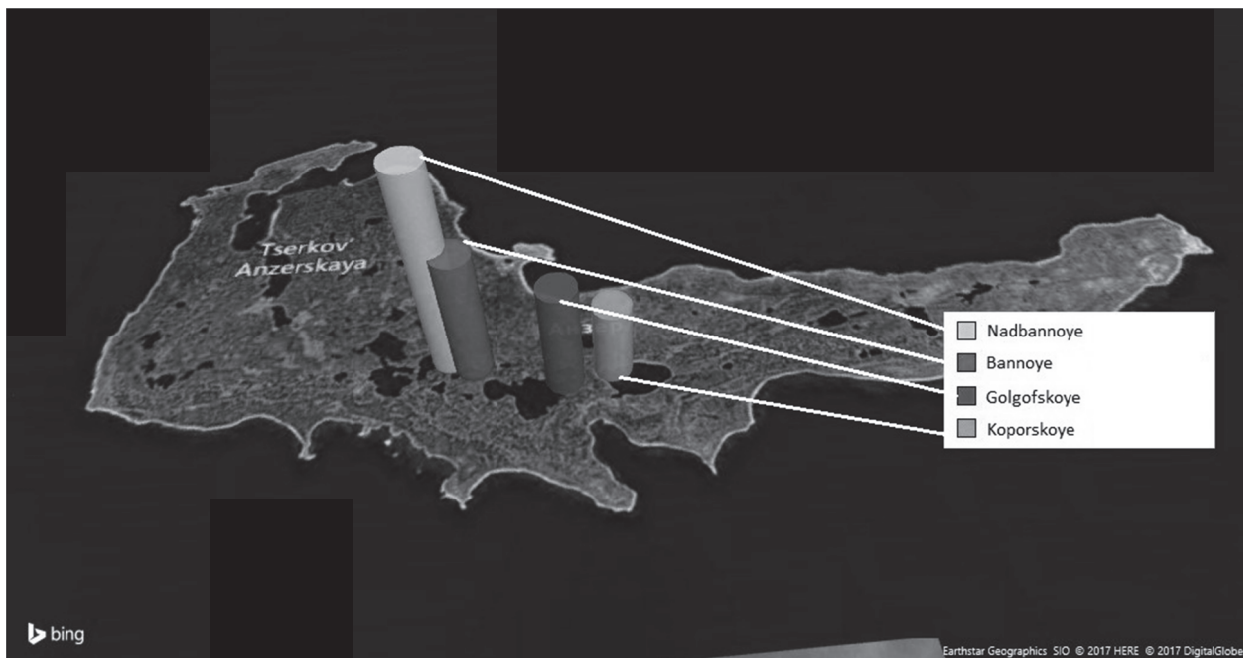


Fig. 1. Investigated lakes hypsometric position

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REFERENCES

1. Subetto D. A. Bottom sediments of lakes: paleolimnological reconstructions / D. A. Subetto // Saint-Petersburg: RGPU Herzen. – 2009. – P. 344.
2. Kolka V.V. Navigating the sea level in the Late Pleistocene-Holocene stratigraphy and bottom sediments isolated lakes on the southern shore of the Kola Peninsula, in the region of the village Uмба / Kolka V.V., Evzerov V.Y., Moeller Y.A., Corner D.D. // *Izvestiya RAN. Geographical Series.* – 2013, № 1. – P. 73–88.
3. Leontev P.A. Reconstruction of the rapid transformation of climatic environments during the Late Pleistocene and Holocene, based on research palaeolimnological lakes Onega Peninsula, White Sea / Leontiev PA, Kuznetsov D.D., Subetto D.A. // *Fundamental problems of quarters. The results of the study and the main directions of further research: Proceedings of the IX All-Russian Conference on Quaternary Research (Irkutsk, 15-20 September 2015).* - Irkutsk: Institute of Geography Publisher them. VB Sochava SB RAS. – 2015. – P. 271.
4. Leontev P.A. Paleolimnology study of lake Konyukhovskoye (Onega Peninsula). Preliminary data / Leontev P.A., Subetto D.A., Kuznetsov D.D., Kolka V.V., Ludikova A.V., Sapelko T.V., Syrykh L.S., Tolstobrov D.S. // *Geology of seas and oceans: Proceedings of the XXI International Scientific Conference (School) on Marine geology.* – Vol. 1. – M.: GEOS. – 2015. – P. 172–175.
5. Leontev P.A. Palaeolimnological research on the Onega Peninsula, White Sea / Leontiev P.A., Subetto D.A., Kuznetsov D.D., Kolka V.V., Grekov I.M., Ludikova A.V., Sapelko T.V., Syrykh L.S., Tolstobrov D.S. // *Marine Research and Education: MARESEDU-2015: book of abstracts of IV International scientific-practical conference (Moscow, 19-24 October 2015).* – Moscow: Theoria. – 2015. – P. 455–456. – URL: <http://www.maresedu.com> (reference date 26/03/2016).
6. Subetto D.A. Chronology lakes Solovetsky archipelago and speed of modern lacustrine depositional / Subetto D.A., Shevchenko V.P., Ludikova A.V., Kuznetsov D.D., Sapelko T.V., academician Lisitsyn A.P., Evzerov V.J., P. van Beek, M.Suo (M. Souhaut), Subetto G.D. // *Reports of the Academy of Sciences, Series "Geology".* – 2012. – Vol. 446, № 2. – P 183–190.
7. Leontev P.A. Paleolimnological investigations in the Onega peninsula, the White sea / Leontev P.A., Subetto D.A., Grekov I.M., Kuznetsov D.D., Kolka V.V., Ludikova A.V., Sapelko T.V., Syrykh L.S., Tolstobrov D.S. // *Paleolimnology of Northern Eurasia. Experience, Methodology, Current Status: Proceedings of the International Conference. Yakutsk, 22–27 August, 2016 / Eds. : S. Levina, R. Gorodnichev, I. Yadrikhinski, P. Davydova.* – Yakutsk: North-Eastern Federal University, 2016. – P. 27–30.