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THE DATABASE PALAEO LAKE IN MODERN PALAEOGEOGRAPHICAL STUDIES

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The lake bottom sediments are often used for the palaeolimnological studies as an indicator of dynamics of lakes' physical, chemical and biological parameters and the extent of anthropogenic influence.

The database PalaeoLake (DB) was developed to systematize the data on the sediment sequences and on the genesis of lakes situated on the East European (Russian) Plain (Subetto and Syrykh, 2014; Subetto et al., 2017; Syrykh et al., 2014). DB created on base of existing data, information and maps contains the information on over 200 lakes studied using palaeolimnological methods. The metabase includes geographical (geographical coordinates, altitude, the region), morphometric (mean and maximum depths, area) and palaeolimnological (type and thickness of sediments, type of sediment sampling, dating methods, the sedimentation time interval, types palaeolimnological methods) data (Syrykh et al., 2014, Grekov et al., 2018).

The data were collected in MS Excel files that allows introducing it to different GIS-program easily. Additionally, structuring and mapping of information makes possible to perform spatial analysis of the territory on different periods of time and at the set requests. The sources of the PalaeoLake database consists of publications, references, fundamental monographs, international and national journals, proceedings of conferences, authors' own field data.

The analysis of the DB can show features of palaeoecological events on the studied territory. This research continues of the previous studies on lake zoning and on the reconstruction of the timing of

the development of lakes during the Last Glacial and changes in the level regime of lakes in northern Eurasia (Harrison et al., 1996).

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NEW DATA ON BALTIC SEA RELATIVE LEVEL CHANGES DURING HOLOCENE WITHIN HOGLAND (SUURSAARI) ISLAND, GULF OF FINLAND

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Introduction

Hogland Island (or Suursaari) is located in the center of Gulf of Finland (60.056°N 26.983°E) about 40 km away from the coast of Finland, 55 km away from Estonia and 180 km away of Saint Petersburg (Fig. 1). The island is elongated from NNW to SSE for about 11 km, its maximum width is 3 km.

The relief of the island is abnormally high among the islands of Gulf of Finland and the surrounding mainland. There are four well distinguished peaks elevated from 108 to 175 meters above present Baltic Sea level (Fig. 2). Verzilin & Oknova (2006) report some evidences of intense vertical and horizontal movements that suggested to be produced by earthquakes. But previous geomorphic investigations and geodetic levelling (Sauramo (1958)) revealed the presence of an identical set of ancient Baltic Sea shores, composed mainly of coarse well-rounded material, on the same heights throughout Hogland. Therefore, it could be supposed that Holocene coastal forms are affected only by glacio-isostatic movements.

Precambrian bedrock outcrops are exposed all over the island, therefore quaternary deposits consist generally of described ancient coastal forms and of lake and mire bottom sediments (Puura et al. (1992)), which makes them a valuable object for paleoenvironmental studying.

The first attempt to correlate ancient shorelines with Baltic Sea post-glacial stages was made by Berghell (1986), but it did not include any microfossil evidences. Thus, some more studies on diatom (Heinsalu (1997)), pollen (Veski et al., (1995)) and multi-proxy analysis (Heinsalu et al. (2000)) of bottom sediments concerning the isolation of inland water bodies from the sea were reported.

These studies included the investigation of the top-most mire and lakes. The results show that sedimentation in the mire started in the late Allerød, while the lakes were isolated during Ioldia Sea stage from around 10 to 9.5 ka BP.