



Reconstruction of paleobasins of large lake systems of the southeastern periphery of the Scandinavian ice sheet in the late Pleistocene

Nikolai Anisimov (1) and Mariia Minina (2)

(1) Herzen State Pedagogical University of Russia, St. Petersburg, Russian Federation (nvanisimov1@gmail.com), (2) Herzen State Pedagogical University of Russia, St. Petersburg, Russian Federation (maria.minina@mail.ru)

Reconstruction of postglacial lakes systems and relief development in the Late Pleistocene and Holocene for periglacial territories is a topical problem of modern paleogeography. It's necessary for forecasting future development of these territories. The fundamental scientific problem of this work is reconstruction of the development and the dynamics of levels and configuration of the Ladoga and Onega lakes system, what helps us to understand regional and general patterns of landscape evolution in Northern Europe.

The work is based on GIS-technology includes the systematization of spatio-temporal datas and studies transformation of the paleogeographic situation within Ladoga and Onega lakes basins; reconstruction of the changes in the boundaries of large periglacial water bodies as a result of deglaciation, glacioisostatic and neotectonic movements and, in a result changes in the direction of river flow systems.

A digital relief model (DEM) of the research area was developed and based on open sources. Paleo-levels of reservoirs were constructed in different historical periods, taking into account isostatic and peat deposits. The work is focused on the principals periods in the history of the territory development which associated with the changes in the direction of the watercourses: the runoff from Onega lake to Ladoga lake one the Oyat river, from Onega lake to Ladoga lake on the Svir river, from Ladoga lake to the Baltic sea along the Vuoksa river and the formation of the Neva river and catching area was analyzed. Calculated territory, volume and some morphometric characteristics of the lakes.

The next step in this research will be calculating of the main morphometric characteristics of lakes - volume and the average depth for each of the considered historical periods and placement of the research results on the Internet. The results of the work will be used in the paleolandscapes reconstruction and development modeling of natural processes in Northern Europe.