



## **Environment and human migrations in the Lake Ladoga area during the Holocene: new palaeolimnological and archaeological data**

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Our multidisciplinary investigations were focused on the lakes of the Karelian Isthmus, located along the former Ladoga-Baltic water-system connection. Several lakes: Lamskoye, Makarovskoye, Uzlovoye, Volojarvi, and Laurinlampi on the Puutsaari Island (Northern Ladoga) have been paleolimnologically studied, with the use of lake sediment coring, lithostratigraphical description, pollen and diatom analyses, geochemistry and radiocarbon dating. Reconstructed environmental data have been correlated with the archaeological evidence on Stone Age and Early Metal Age sites. The objectives of our investigations: - development of high-resolution radiocarbon-based chronology of the studied sites; - correlation of archaeological sites with environmental changes; - reconstruction of the dynamics of main waterways in Karelian Isthmus and their impact on the initial settlement and early development of human groups in that area; - to assess the impact of waterways on the formation and interaction of main ethnic entities in north-eastern Europe. - identification of the main stages in the development of the Ladoga and its relation to the Saimaa lake system and the Baltic Sea; - assessment of the impact of the changes in the hydrology and configuration of lakes and rivers on the early human settlements and trade links on the Karelian Isthmus; -

assessment on the early human impact on the environment in that area. The connection between the Ladoga Lake and the Baltic Sea in the northern lowland of the Karelian Isthmus, NW Russia had been established after the ice-sheet retreat ca 14,000-12,000 cal BP. At that time, prior to the catastrophic dropping of the Baltic Ice Lake (BIL) water-level that occurred ca 11,500 cal BP, the Ladoga Lake was a deep easternmost bay of the BIL. During ca 8000 years following 11,500 cal BP a river-like strait existed in the northern part of the Karelian Isthmus. The earliest evidence of human settlement in north-eastern Baltic Area is attested at Antrea-Korpilahti (11,200-10,250 cal BP) where artifacts were found in the deposits of a channel between the Ancyclus Lake and the Ladoga Lake. The influx of fresh water and the tectonic uplift caused a rise of the water level of the Ladoga Lake known as the 'Ladoga transgression'. This transgression culminated around 4000-3000 cal BP when a new outflow - the River Neva, was formed and the waterways of the entire area were completely reshaped. New results of the paleolimnological and archeological studies obtained in the area of the Ladoga-Baltic connection in the frames of the INTAS project "Waterways and Early Human Movements in NW Russia" (N03-51-4261) and in the running RFBR project "Lake Ladoga: environment history and human adaptation" (N07-05-01115) will be reported at this Conference.