



Vegetation and climate changes during the Late Glacial and Holocene inferred from the Lake Ladoga pollen record

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We present pollen data from the upper 13.2 m sediment core obtained in Lake Ladoga in September 2013 within the scope of the German-Russian project PLOT by a percussion piston corer. The record documents regional vegetation and climate changes in north-western Russia over the last 14.2 cal ka. The late Glacial pollen stratigraphy are supported by Vedde ash and varve chronology, while Holocene stratigraphy based on AMS 14C and OSL dates, as well as on the comparison with regional pollen records. According varve chronology the sedimentation in the studied core 1309 started at about 14.2 cal ka. During the last Glacial time ~ 14.2 -11.3 cal. ka BP, the Lake Ladoga area experienced several climatic fluctuations and changing in vegetation cover. The increase of *Picea* in pollen spectra probably reflect the appearance spruce in the southern Ladoga area ~ 13.4 cal ka BP reflecting Alleröd climate amelioration. Spruce significantly decreased after 12.8 cal ka BP reflecting Younger Dryas climate deterioration. The sharp transition from the tundra-steppe communities to the sparse birch forests ~ 11.3 cal. ka BP coincides with the Younger Dryas and Holocene boundary. From ~ 11.3 to ~ 5.5 cal ka BP vegetation composition changes recorded, due primarily to the increasing of warm availability of the region, expressed in the appearance and widespread distribution of alder, hazel, broad-leaved species, the maximum participation of which falls on the interval from ~ 7.7 to 5.5 cal. ka BP. The permanent presence of *Cerealia* and *Secale* are recorded since ~ 0.7 cal ka BP.