



A new varved late Glacial and Holocene sediment record from Lake Jelonek (North Poland) – preliminary results

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Anually laminated (varved) lake deposits are suitable natural archives for reconstructing past climatic and environmental changes at seasonal resolution. A major advantage of such records is that varve counting allows constructing robust and independent chronologies, a key challenge for paleoclimate research. Recently, a new annually laminated sediment record has been obtained from Lake Jelonek, located in the eastern part of the Pomeranian Lakeland in northern Poland (Tuchola Pinewoods). The lake is surrounded by forest and covers an area of 19,9 ha and has a maximum depth of 13,8 m. Three overlapping series of 14,3 m - long sediment records have been cored with an UWITEC 90 mm diameter piston corer from the deepest part of the lake. A continuous master composite profile has been established comprising the entire postglacial lacustrine sediment infill. Preliminary analyses including micro-facies analyses on thin sections from selected intervals as well as X-ray fluorescence element scanning (μ -XRF) reveal that the sediments are to a large part annually laminated. Here we present detailed varve models for different sediment intervals and discuss high-resolution geochemical variation in the entire sediment record. A preliminary age model based on radiocarbon dating and major biostratigraphical boundaries based on pollen data will be presented as well. These data will form the fundament for the planned multi-proxy study for detailed reconstructions of climatic and environmental variability during the late glacial and Holocene in the southern Baltic.

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