



Distribution of diatoms and development of diatom-based models for inferring salinity and nutrient concentrations in the southern Baltic coastal lakes

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The transfer function method has been developed as a useful tool for reconstruction of the past environmental changes. It is based on the assumption that the modern species, which ecological requirements are known, can be used to quantitative reconstructions of the past changes.

The aim of the study was to gather test sets and to build diatom-based transfer function which can be used to reconstruct changes in the trophic state and salinity in the coastal lakes on the Polish Baltic coast. In the previous years there were several attempts made to reconstruct these parameters in lagoonal waters on the Baltic coasts in Germany, Denmark, Finland, Netherland, Sweden and Norway. But so far there is no diatom test set and transfer function built for the Polish coastal lakes.

We sampled diatoms from 12 lakes located along the polish Baltic coast. At the same time we monitor the physical-chemical conditions in the lakes, which includes: lake water chemical composition (chlorides, phosphorous and sulphur), pH, salinity, conductivity, temperature, dissolved oxygen. We collected samples, few times per year (2012-2014) from the lakes as well as from the Baltic Sea and we analysed the whole phytoplankton composition. However the special focus in put on diatoms.

In this poster we present new data from the Southern Baltic coastal lakes and quantify relationships between surface sediment diatom assemblages and present day environmental conditions. These relationships are then used to develop

diatom-based transfer functions that will be applied to future studies of environmental change on the Polish Baltic coast.

The results of the analysis show seasonal changes in the chemical and physical water properties. The diatom assemblage composition and species frequency also changed significantly.

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