REKONSTRUKTION KLIMAABHÄNGIGER UMWELTVARIABLEN MITTELS DIATOMEEN IN EINEM HOCHALPINEN SEE DER ZENTRALALPEN (OBERER LANDSCHITZSEE, NIEDERE TAUERN)

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The reconstruction of climate-dependent environmental variables for the the Holocene period (11.500 years before present) was achieved using diatoms as indicators. For this purpose, a sediment-core of 3.45 m length was extracted from Oberer Landschitzsee (Niedere Tauern, Austria). In total 230 Diatom-taxa were differentiated, of which 88 taxa appeared with a relative abundance of more than 1% in at least one subsample of the core. Transfer functions of a local and a European calibration dataset were used to reconstruct environmental variables such as alkalinity, pH and water-temperature (average for July) from the diatom-assemblage of the sediment core. The water-temperature (average for July) during the early Holocene was approx. 6 to 7°C , until 7.200 years before present, where it increased by approx. 2.5°C. pH reconstructed from the regional dataset steadily decreased from a high (pH 7,8) in the early Holocene to present values of pH 7. Differences to pH reconstructed from the european dataset are due to the relative abundance of Fragilariaceae in the early Holocene. Shifts in the Diatom assemblage during a mid Holocene warm-period indicate changes in DOC. In general our studies indicated significant influence of climat on a high alpine lake during the early Holocene.