Stable isotopes in lake sediments from Lake Żabińskie, northeastern Poland, for temperature reconstruction during the last 120 years

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The period of the last 1000 years provides information about the changes that have occurred in European modern climate. This information is the key for understanding the natural variability of European climate and can be used to create a model of climate changes in the future.
North-eastern Poland is the one of the best locations for create a model of climate changes, because reflects the variability of winter temperature for the European land areas. CLIMPOL project is aimed at quantitative reconstruction quantitative temperature series for northern Poland for the past 1000 years. The key site for project studies is Lake Żabińskie, located in the Masurian Lakeland. The sediments of this lake are annually laminated providing a basis for high-resolution reconstructions.

One of the project tasks is quantitative summer temperature reconstruction at annual and subdecadal resolution and validation with early instrumental and documentary data. For this purpose the set of samples comprising the last 120 years have been subsampled with yearly resolution, and the results will be used as training set for calibration-in-time.

The results of stable carbon and oxygen isotope composition of carbonate from uppermost 120 years will be presented and their preliminary potential and a temperature proxy.

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