

Recognition of traces left by earthquakes in Pleistocene sediments affected by glacio-isostatic rebound in the Baltic Sea Basin (GREBAL)

Fluctuations in the extent of the ice sheet had and still have consequences for the occurrence of earthquakes, and thus also for natural hazards. The thick ice cap causes high pressure on the mineral substratum, resulting in crustal subsidence during rapid ice accretion and in uplift during melting of the ice masses. It is well known from e.g. Scandinavia, Ireland, Germany and North America, that disturbances of the Earth's crust can be induced by ice-sheet loading/unloading cycles.

The overall objective of this project is **to refine the palaeoenvironmental consequences of the – primarily southern – Baltic Sea Basin countries on the basis of reconstructions of glacio-isostatic rebound resulting from retreat of the Scandinavian Ice Sheet**. Isostatic rebound led to earthquakes that, if the conditions were suitable, left traces in the form of specific deformations (seismites). **We suggest that the more rapidly deglaciation occurred, the larger the number of and the stronger the magnitudes of the earthquakes resulting from the glacial rebound.**

One of the specific objectives of this project is deepening the insight into the apparent discrepancy between the tectonic reaction of the earth crust during ice advance and ice retreat; establishing better hazard analyses for the possibly ongoing ice-retreat and the related earthquakes and mitigation of the negative consequences of damage caused by rebound-related earthquakes.

The results will be published in international and domestic journals, present during international, German and Polish conferences and on the website of project.