DESCRIPTION FOR THE GENERAL PUBLIC

The main aim of the project is indicate the correlation of settlement phases in prehistoric (Neolithic, Bronze Age and Iron) and early medieval times with the natural environment changes in the area of Warmia and Mazury on the basis of a comprehensive analysis of lake sediments, which as the preliminary studies have shown, constitute a unique archive of environmental change as well as the record of the antropogenic impact. The research and thereby specifying the phases of settlement is based mainly on the analysis of archaeological material during excavations. In the case of the Warmia and Mazury region, reconstruction of particular stages of the former settlement is hindered not only the lack of written sources but also fragmentary archaeological data. The results of the excavations done so far allow merely for approximating the moments of intensive settlement in the researched area. In order to understand the former man's activity, to get to know the impact it had on the environment (anthropopressure) and gain insight into the issues like environmental and climate change and how they stimulated or inhibited the settlement processes, plans are made to read the rich and hitherto little-used archives, i.e. the lake sediments in the Warmia and Mazury region.

The ultimate goal of the project is to reconstruct the precise scenario of environmental changes in the region of Warmia and Mazury and relate them to the settlement phases.

Researching lake sediments is the best way to present climate change. The advantages of lacustrine sediments are: a high sedimentation rate from 0.3 to a few millimetres per year, which enables studying changes in sediments with an accuracy of months; good conditions for the formation of undisturbed deposits, sometimes with a marked annual layer of lamination; relatively high ease in obtaining cores of fossilized lacustrine sediments; the ability to perform comprehensive testing of these deposits, starting from paleontological to geochemical ones, which provides an opportunity to capture the smallest changes in the environment and climate. The leading examples of studies of lacustrine sediments are the ones conducted in Holzmaar, in Crator Lake, Germany (Lottermoser et al. 1993), or Gościąż Lake in Poland (Różanski et al. 1992, 1998). One of the most interesting studies showing the interdependence of the lake sedimentation and antropogenic impact is the work by Zolitschka et al. (2003), which shows the anthropogenic impact in twelve sites over the last 5,000 years.

Using the method of a lake sediments analysis to archaeological sites located close to a lake will recreate not only the moments (phases) of settlement, but also their intensity and length. Further, it will present the exact chronology of the settlement area of the Warmia and Mazury region. To illustrate the mutual relationship between environmental changes and sediment changes, and then to prepare a cumulative chronostratigraphic correlation for the whole region, it is planned to retrieve cores from five selected lake reservoirs, near which large settlement sites (settlements, refugia, etc.) are located, which would characterize at least two phases of settlement (the Middle Ages and the iron age or bronze age). This task is going to be much easier in fact as a relatively large area of the whole Warmia and Mazury region with a range of archaeological sites has already been examined during the archaeological exploratory studies carried out by the IA UKSW under the direction of one of the main contractors of the project, professor Z. Kobyliński.

The project plans to use a range of research methods, including geochemical, geophysical, paleontological and sedimentological, which will allow to fully read the records and contribute to presenting the next phases of the settlement based on the framework of radiocarbon chronology

The former results of the archaeological research carried out by the IA UKSW in the area of the Warmia and Mazury region clearly demonstrate that a majority of large defence objects and settlement sites were located near lakes and rivers, which raised not only their defensive qualities but also allowed unrestricted access to water and traffic routes. The research performed previously and the studies of the former historical settlement of the Warmia and Mazury region faced the basic difficulty, i.e. determining the duration and intensity of the settlement phases in this area, which not only has an impact on the reconstruction of people's mobility, but also creates a problem in interpreting the use of the studied archaeological artefacts.

The defence and settlement sites located close to small, septic lakes, presently in secluded, unpopulated and not degraded areas, are of prime significance for the planned project. Such sets, i.e. a site and a lake, must have interacted significantly with each other, which will be reflected in the anthropogenic record of the accompanying site.