

Genesis and history of the development of soils in Kuiavia

The soil is often referred to as "the mirror of landscape". This is because soil has the ability to record in its properties different characteristics of the environment in which it originated and functioned as well as its transformation. The aim of this project is to reconstruct history of soils dominating in the Kuiavia region (N-Central Poland), on the basis of information recorded in modern, fossil and relic features of the soil cover. Selection of the study area is reasoned by contrasting diversity of environmental conditions and large scale areal land use forms and also by its representativeness of the entire zone of Polish and Central European lowlands.

Black Kuiavia is an area of one of the most fertile soil types in Poland occurrence called "black earths" (Mollic Gleysols or Phaeozems). Contemporarily that region is one of the most important agricultural areas in the country. White Kuiavia is an area occupied by podzolic soils and rusty soils (Podzols and Arenosols). These soils are characterized by a very low agricultural suitability, but they constitute a basis for forest management.

The comparison of these two separate but adjacent areas will enable the formulation of regularities of their functioning, which will greatly allow to better understand man-environment relationships in the landscape structure of Polish and Central European lowlands.

However, the project, is based on studies of the soil cover, it has an interdisciplinary character, considering issues of paleopedology, paleogeography and geoarchaeology, as well as the studies on functioning and evolution of the landscape. Cartographic methods (GIS, review of archaeological documentation in respect to environmental conditions), field methods (documentation of objects, sampling) and laboratory analyses (determination of basic and diagnostic properties of soils, radiocarbon dating, micromorphology, palaeobotanical research) will be applied in the project.