

Since the early days of human settlements, human activities have significantly increased the stress on the environment. From ancient times, the environment has controlled where and how we live, and people are used to living close to the river's catchment area, which is ideal for their agricultural practices and other essential needs. As the human population increased, people utilized more resources, which had a significant impact on nature. This led to major changes in vegetation cover by cutting off many forests and the introduction of new plant species, demonstrating the close connection between human activity and environmental change.

The sediments transported via river to the sea help us learn about ancient human settlements and their impact on the environment. These sediments contain information on past environments, vegetation, and human activities such as agriculture and deforestation. By examining the layers of sediment, researchers can discover how ancient communities interacted with and changed their surrounding environment. This can help us to better understand the history of human impact on the environment and could guide us to take the most appropriate actions to sustain modern nature.

Vistula River covers a large part of the Polish landscape, including mountains and lowlands. This river supplies a huge amount of sediment to the Baltic Sea. As a record of the past, the sediments transported by the Vistula are an extremely valuable source of information about the surrounding environment and thus contain a lot of information about environmental fluctuations to which sediments bear witness. Moreover, these sediments keep the associated changes in the character of the vegetation, indicating the changes in human settlement, their impact on the land, and the natural variability of climate on a regional scale.

Our project goal is to understand and assess the past environmental changes induced by ancient human activities from marine sediments taken from the Gulf of Gdansk (Baltic Sea). This approach offers a unique pathway to understanding how human activities, particularly the emergence and evolution of ancient communities in modern Polish territories, influenced their surrounding environment in a scale of the Vistula catchment area. By analysing marine sediment records using various methods of environmental reconstruction, we aim to study how human responses to different environments have changed over time, up to the last few centuries. Our research will provide a better understanding of the connections that exist between the environment, climate, and human activities. It's like solving a puzzle that reveals the balance and interaction between changing environments and human settlement.