**Optimizing Sustainable Management of Natural Resources, Enhancing Water Security, and Ecosystem Resilience in the Lower Danube Basin Affected by Climate Change and Anthropogenic Interventions**

This project aims to develop integrated solutions for the sustainable management of natural resources in the Lower Danube Basin, ensuring both water security and the resilience of river ecosystems in the context of climate change and pressures from anthropogenic interventions. The main objectives are: i) adapting to and mitigating the effects of climate change through effective measures, ii) reducing anthropogenic impacts and improving the ecological quality of the Danube River, iii) optimizing navigation conditions to support economic activities, and iv) ensuring equitable and sustainable access to water resources across various sectors.

To achieve these goals, the project will conduct a series of quantitative and qualitative assessments, as well as advanced projections to estimate the impact of climate change and human interventions on freshwater resource availability. These analyses will be complemented by studies on the risks associated with societal, ecological, and economic sectors in the region.

The project's activities are designed to provide a detailed understanding of the current vulnerabilities of the Lower Danube Basin, contributing to the development of innovative strategies to enhance the resilience of these ecosystems. By promoting sustainable resource use practices, the project aims to support the transition towards integrated resource management, reducing environmental pressures and balancing economic needs with the protection of the ecological functions of the river.

Description of achievements:

* description of the Danube’s sectors studied: water quality assessment based on the results obtained in previous activities;
* spatial delimitation of river areas suspected of pollution or polluted;
* state of the art of environmental quality with direct effects on characteristic ecosystems;
* monitoring pollution and studying the impact on the Danube;
* completing the database;
* realization of cartographic documents (geological - sedimentological, geo-ecological, bathymetric maps) and studies dedicated to the complex problems related to the Danube river;
* Phase report elaboration.