

SUMMARY

To secure future conservation and enhancement of the adaptability to the global changes of the Earth's ecosystems and their functions, component analysis and definition of indicators for the state of the sensitive polar ecosystems from the region of Livingston Island will be undertaken.

The project aims to bring together the efforts of a multidisciplinary team to summarize and update the current database, knowledge and experience in the polar ecosystems research. The project places specific focus on the updating and completeness of the information on the climate change impact on polar soils from Livingston Island. This objective of the project will be achieved through the development of a monitoring system of the soil characteristics and by introducing innovative methods for analyses.

By applying a comparative approach, the investigation of the polar soils 25 years after the first analyses obtained, will allow to take into account the dynamics within a set of soil characteristics and properties and to assess the climate change impact. The manner soils are affected by global changes will be studied through comparison of their chemical and physical properties, quality of soil organic matter and presence of pollutants. The GIS analysis will be used for spatial visualization and to map the dynamics in the soil characteristics, thus ensuring the inclusion of innovative approaches to the biomonitoring system. The aim of the project is to investigate the state of the polar soils on the territory of Livingston Island and to assess the dynamics of change in soil characteristics and properties in climate change context.

The discussions within the project will focus on scientific tasks related to the study of flux dynamics in polar ecosystems in relation to the environmental changes. The locations (observation plots), equipment and resources available in the monitoring network as well as the available database will be documented. An information system for the polar area research will be established and will be available in GIS.

In addition, project website will be created, participation in one polar expedition of 1 participant will be carried out, exchange of experience, organization of meetings and presentation of the results is planned to be undertaken too.

The development of a Soil Monitoring Guide in polar ecosystems will help to set up biomonitoring network. The overall summary of project results will contribute to the program's main objectives for achieving sustainable and responsible management of natural resources in Polar Regions and for expanding the work on the issues related.