



Trilateral Cooperation on Environmental Challenges in the Joint Border Area (TEC 2012-2014)

The border areas between Norway, Russia and Finland have unique natural qualities and are rich on natural resources. Transport and industries in the area are rapidly developing, creating the need to enhance the monitoring of environmental effects in order to predict and reduce any harmful impacts of the growing activity. Global climate change also represents a challenge in the northern areas.

The areas of Finnish Lapland, Kola Peninsula and Finnmark County are under growing economic interests due to their mineral resources and the proximity to the Arctic region.

This Trilateral Cooperation on Environment Challenges in the Joint Border Area (TEC) addresses potential environmental effects and challenges related to these new scenarios. The project is a follow-up of an earlier monitoring project, the Pasvik Programme, which recommended the implementation of a joint monitoring programme in order to harmonize the monitoring methods used by the three countries in the border area.

Aims of the project

The project aims to harmonize and further develop common environmental monitoring methods in the joint border area, taking into account climate change, long-range transboundary pollutants, emissions of heavy metals, water level regulation, introduction and invasion of non-native species and human health.

It also aims to jointly develop and standardize tools used by environmental authorities and researchers when assessing the impacts of airborne emissions, regulations of waterways, and climate change. The tools include environmental monitoring, research, meteorological, hydrological and ecological models.



The Project Area and Background

Industrial activity requires environmental monitoring

The Pechenganikel industrial complex near the Russian border represents the main threat to aquatic and terrestrial environments in the joint Finnish, Norwegian and Russian border area. Emissions from this complex includes high levels of sulphur dioxide, dust and a wide range of toxic heavy metals, primarily copper and nickel.

There are several nature conservation areas in this region which need special protection because of their recognized natural, ecological and cultural values.

Air quality and environmental impacts have been monitored in the Pasvik-Inari area for a long time. Sulphur dioxide measurements were implemented in the Kirkenes area and in Svanvik already in 1974, and close to the smelters in Nikel in 1980. Former monitoring projects have identified the need of a common monitoring system in the border area, and the TEC-project takes into consideration earlier recommendations from these monitoring projects.

Climate and climate change

The climate in the area is dry, with cold winters and relatively warm summers. Global climate change may have several effects on the Arctic areas. Warming means changes in snow cover, increasing melt of ice, more rainfall, changes in river flows, rising of sea level, shifting vegetation zones and expansions of new species through natural invasions or translocations – while native species suffer from a changed climate. To avoid such a development we need to reduce emissions from the industry, but also to develop adaptation strategies and counteractive initiatives on regional and local levels, due to the varying severity and nature of climate impacts between regions.

Financing

The project is partially founded nationally and by the European Union, from the European Neighbourhood and Partnership Instrument. Funding shall be granted to joint projects operating in line with the strategy and priorities jointly agreed by the Finnish, Norwegian and Russian partners.

The project continues and promotes cross-border cooperation between the countries in the North Calotte and northeast Russia.



Activities and expected results

1. Develop a model to estimate airborne pollutants to assess possible climate change. This will provide improved meteorological data and observations which quantify changes in the climate.
2. Based on a comparison and evaluation of different national and international classifications of ecological state, a set of reliable and comparable limit values and indicators will be used to harmonize the monitoring activity in the joint border area.
3. Establish a method for revealing the influence of climate parameters and heavy metal pollutants from long time series in small rivers, using shells of fresh water mussels. By comparing growth and concentration of heavy metal in shells we will be able to evaluate the influence of climate variation and pollution in small rivers. Recommendations based on data from freshwater pearl mussels in pollution control system, especially in salmon and trout rivers in the joint border area, will be developed.
4. Measure the effects of water regulation and the impact of hazardous substances on the ecological condition in the Pasvik River system and Lake Inari by sampling and collecting biological and chemical data from the main channel and major lakes of the Pasvik River and reference areas. By analysing these samples we will obtain valuable knowledge from a heavily modified river system in order to better manage modified water bodies at national and international cross-border levels.
5. Re-evaluate and update the existing monitoring network in the Pasvik River catchment area by full-scale monitoring of water chemistry and biological variables in selected lakes in order to improve the knowledge of the ecological state and document the possible impacts of climate change. Based on monitoring and evaluation of chemical and ecological analyses of water, sediments and fish, a recommendation for how to conduct a cost-effective and economically realistic monitoring programme for lakes in the Pasvik River catchment area will be developed.
6. Active communication and dissemination of information to the general public and decision makers on the project activities and results gained.





Russia:

- Kola Science Centre – INEP
- Hydromet – Murmansk
- Pasvik Zapovednik



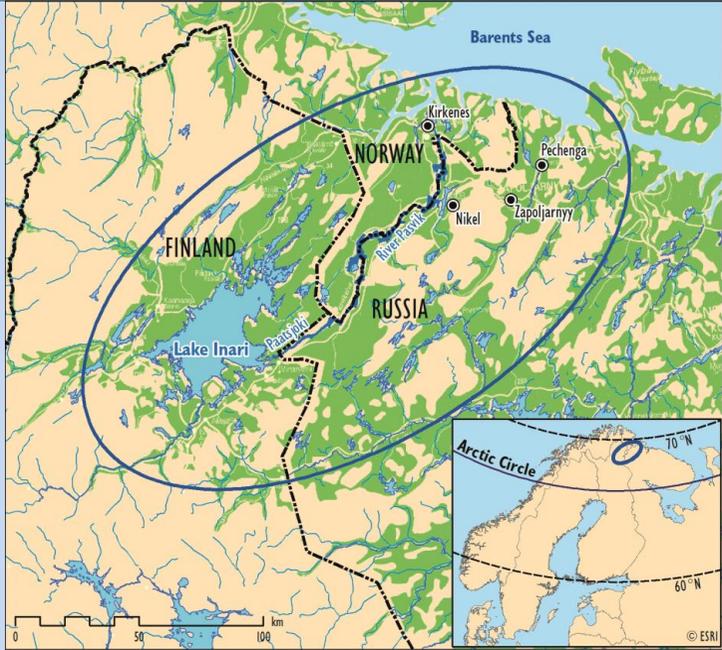
Finland:

- Lapland ELY- centre (Lead Partner)
- Finnish Environment Institute - SYKE



Norway:

- The County Governor of Finnmark
- Institute for Air Research (NILU)
- Akvaplan-niva/ NIVA
- University of Tromsø
- Bioforsk Svanhovd



Kolarctic
ENPI CBC | CROSS-BORDER COOPERATION

Contact

Ilona Grekelä: +358 400 740 253, ilona.grekela@ely-keskus.fi

Nikolay Kashulin: +7 815 55 79378, nikolay@inep.ksc.ru

Helén Andersen: +47 789 50 362, helen.andersen@fylkesmannen.no



Elinkeino-, liikenne- ja ympäristökeskus



County Governor of Finnmark

