

Effect studies and adaptation to climate change

The Top-level Research Initiative

The sub-programme **Effect studies and adaptation to climate change** aims to improve knowledge about the effects of climate change, about society's capacity for adaptation, and about the risks and opportunities that the effects of climate change may entail to the Nordic region.

The sub-programme operates with two specific funding instruments to achieve its goals: the «Nordic Centres of Excellence (NCoE)» and the «Nordic Networks» grant schemes.

An NCoE or Nordic Network within this sub-programme is expected to cover thematic areas relating to one or several of the following keywords:

- adaptation supported by effect studies
- adaptation to the consequences of climate change concerning land, coastal areas, or cities
- opportunities that climate change might open for the Nordic countries

Effects of climate change can include impacts on nature, ecosystems, society and the economy. The sub-programme is a combination of natural/technical science and social science/humanities, and interdisciplinary applications will be encouraged. Representatives of industry, policy makers and societal actors should be included in the NCoE/network when relevant. Societal impact is important.

Nordic Networks

Each network under the Nordic Networks scheme has a total budget of up to NOK 900 000 divided over three years.

NORDCLAD-Net

Network name: NORDic CLimate change ADaptation research Network

Duration: 2010 - 2013

Aim: NORDCLAD-Net will combine viewpoints and skills from the top members of the Nordic research community to examine adaptation to climate change. The network will organize two major conferences and carry out new and innovative training for young researchers.

Participating institutions: Stockholm Environment Institute (SE), National Environment Institute at Aarhus University (DK), The Coordination Unit for Research in Climate Change Adaptation (DK), Finnish Environment Institute (FI), MILEN (NO), Vestlandsforskning (NO).

Project leaders: Katarina Eckerberg and Annika Nilsson, Stockholm Environment Institute (SE).

NONAM

Network name: Nordic Network on Adaptive Management in relation to climate change

Duration: 2010 - 2013

Aim: The network aims to strengthen Nordic research capacity and to ensure that research is aligned with society's needs, particularly in relation to the preparation and implementation of adaptation policies in public and private organizations. The primary thematic areas are risk management and decision support with respect to adaptation policy development and related investments, especially with regard to infrastructures of various kinds and overarching planning activities as well as the management systems that set the context in which these systems are designed and operated.

Participating institutions: The Geological Survey of Denmark and Greenland (DK), HUGURAX (IS), Icelandic Meteorological Office (IS), Finnish Meteorological Institute (FI). Associated partners: CRES, FIVA, SYKE, VATT, TKK, VTT, HENVI, Reykjavik University, CICERO, FOI, IVL + 4 additional stakeholders.

Project leader: Adriaan Perrels, Finnish Meteorological Institute (FI).

N-CMAEP

Network name: Nordic Climate Mitigation, Adaptation and Economic Policies: establishing an interdisciplinary strategic approach for addressing solutions to the changing climate

Duration: 2010 - 2013

Aim: The purpose is to establish an interdisciplinary strategic approach for addressing solutions to the changing climate by concretely addressing adaptation to climate change mitigation policies through a core transdisciplinary Network of Nordic researchers. The goal is to define a core Network for the development of a Nordic climate competence that can identify common challenges in an integrated and cost-effective way, thus addressing the need to identify impacts and overall costs for adaptation as it relates to climate mitigation policy at the local level.

Participating institutions: National Environment Institute, Aarhus University (DK) (several groups and departments), University of Iceland (IS), Norwegian School of Economics and Business Administration (NO), Norwegian University of Science and Technology (NO).

Project leader: Michael Goodsite, Aarhus University (DK).

Coastal Adaptation and Climate Change

Network name: Coastal Adaptation and Climate Change

Duration: 2010 - 2013

Aim: The anticipated climate change with global warming is expected to cause a rise in the sea level and a change in storm conditions. The higher water level and potentially stronger storms will intensify coastal erosion problems, increase the risk of breaching of dikes, dunes and other measures for protection against flooding, and expand the areas affected by flooding from the sea. The Nordic countries have strong traditions in research and engineering in coastal areas, and research activities on climate adaptation have recently been initiated. The aim is to establish a Nordic network that can bring together Nordic researchers working in this field through meetings, seminars and courses.

Participating institutions: The Geological Survey of Denmark and Greenland (DK), University of Copenhagen (DK), Danish Coastal Authority (DK), Danish Hydraulic Institute (DK), Icelandic Maritime Administration (IS), Norwegian University of Science and Technology (NO), Lund University (SE).

Project leader: Sanne Lina Niemann, DHI (DK).

Statistical Approaches to Regional Climate Models for Adaptation

Network name: Statistical Approaches to Regional Climate Models for Adaptation

Duration: 2010 - 2013

Aim: The Network will seek to promote sound, lasting interaction between statistics and climate researcher communities in the Nordic countries. The following activities will be covered: workshops relevant to data, climate models and determination and display of uncertainty; Nordic Conference on Statistical Climatology; summer schools for climate scientists in statistics and for statisticians in climate science; funds available for doctoral students to travel to the nodes of the network; meetings between small groups of researchers.

Participating institutions: Danish Meteorological Institute (DK), Finnish Meteorological Institute (FI), University of Iceland (IS), Icelandic Meteorological Office (IS), Norwegian Computing Center (NO), University of Oslo (NO), Norwegian University of Science and Technology (NO), Lund University (SE), Swedish Meteorological and Hydrological Institute (SE).

Project leader: Peter Guttorp, Norwegian Computing Center (NO).

CBIO-NET

Network name: The Nordic Network on Climate and Biodiversity

Duration: 2010 - 2013

Aim: The Network's major objective is to increase the understanding of the effects of climate change on ecosystems and biodiversity, viewed from a Nordic perspective. This will better equip society to foresee the impacts of a changing climate on ecosystem services such as ecosystem carbon dioxide storage capacity and ecosystem water retention capacity, and on biodiversity services as well as recreational values. Knowledge-based ecosystem models and predictive models make up an important part of the CBIO-NET activities.

Participating institutions: Aarhus University (DK), University of Copenhagen (DK), Central Denmark Region (DK), Aarhus Miljøcenter (DK), University of Helsinki (FI), Finnish Environment Institute (FI), University of Tromsø (NO), University of Bergen (NO), Swedish University of Agricultural Sciences (SE), Lund University (SE).

Project leader: Christian Damgaard, Aarhus University (DK).

People and ecosystems in a changing environment

Network name: People and ecosystems in a changing environment

Duration: 2010 - 2013

Aim: The goal is to arrange three Nordic Ph.D. student training courses back-to-back with international seminars in different Nordic locations. The multidisciplinary research training will be based on current research projects on adaptation of people and ecosystems to climate change and existing cooperation.

Participating institutions: University of Aalborg (DK), University of Roskilde (DK), University of Greenland (GD), Centre for Health Education Greenland, University of Lapland (FI), University of Helsinki (FI), University of Oulu (FI), Stefansson Arctic Institute/ University of Akureyri (IS), University of Tromsø (NO), Sámi University College (NO), International Centre for Reindeer Husbandry, Umeå University (SE), Abisko Research Station (SE).

Project leader: Arja Rautio, University of Oulu (FI).

NORCAM

Network name: Nordic Network for Climate Change, Adaptation, and Multilevel Governance

Duration: 2010 - 2013

Aim: The overall objective of the network is to improve and disseminate knowledge about the local and regional effects of climate change, as well as the consequences of this for adaptation and multilevel governance

in the Nordic countries, in the context of international concerns of global warming and the current global economic crisis. Specific goals are: i) to evaluate the capacity of Nordic communities to develop adaptation and coping strategies to climate change consequences; and ii) to elucidate and analyse the methods by which northern communities and regions develop such strategies to meet the challenges posed by long-term anthropogenic climate change.

Participating institutions: University of Lapland (FI), Stefansson Arctic Institute (IS), Umeå University (SE) and CICERO Center for International Climate and Environmental Research (NO)

Project leader: Grete Hovelsrud, CICERO Center for International Climate and Environmental Research (NO).

NOWAC

Network name: Nordic Waterbirds and Climate Network

Duration: 2010 - 2013

Aim: Migratory waterbirds span the globe by annual movements between breeding and overwintering habitats. They are a shared resource of considerable societal, financial and administrative importance yet we lack basic knowledge about how climate change may affect hunting revenues, effectiveness of protected areas, emerging disease transmission and population change. The Network will link the highest-quality research groups in the Nordic countries and elsewhere to synergise current research and research training on waterbird ecology and the effects of climate change.

Participating institutions: Aarhus University (DK), Dansk Jagtakademi (DK), Åbo Akademi University (FI), Finnish Museum of Natural History (FI), Finnish Game and Fisheries Research Institute (FI), University of Helsinki (FI), University of Iceland (IS), Verkis (IS), Kristianstad University (SE), Lund University (SE), Svenska Jägareförbundet (SE).

Project leader: Anthony David Fox, Aarhus University (DK).

Interdisciplinary research: theories and applications in urban climate change adaptation

Network name: Interdisciplinary research: theories and applications in urban climate change adaptation

Duration: 2010 - 2013

Aim: The focus of the network is on climate change adaptation in the context of urban planning and urban policies. The topic of the network will contribute actively to the emerging discourse on urban resilience. Drawing on the participants' own research the network will focus on two broad fields of knowledge development: The sustainability merits of different adaptation strategies within a Nordic context and conditions for implementing sustainable adaptation strategies. The network will draw on recent developments in philosophy of science on the ways in which different metatheoretical positions may facilitate or discourage interdisciplinary research and relevant combination of methodologies.

Participating institutions: Aalborg University (DK), Aalto University (FI), CICERO (NO), Oslo University College (NO), Swedish Defence Research Agency (SE), Örebro University (SE).

Project leader: Karl Georg Høyer, Oslo University College (NO).

Nordic Centres of Excellence

A call for «Nordic Centres of Excellence» was launched in December 2009. The call has a total budget of NOK 90 million. The proposals are presently being reviewed. The results of the evaluation process are expected in October 2010. The new NCoEs will start their activities 2010/2011 and run for five years.

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